DOCUMENT RESUME

ED 030 001 VT 008 784

Microfiche Collection Of Clearinghouse Documents Reported In Abstracts of Research and Related Materials in Vocational and Technical Education (ARM), Spring 1969.

Ohio State Univ., Columbus. Center for Vocational and Technical Education.

Spons Agency-Office of Education (DHEW), Washington, D.C.

Pub Date 69

Note-6,921p.

EDRS Price MF-$25.00 HC Not Available from EDRS.

Descriptors-*Annotated Bibliographies, Clearinghouses, *Educational Research, Indexes (Locaters), Information Dissemination, Resource Materials, *Technical Education, *Vocational Education

Documents announced with VT numbers only in the Spring 1969 issue (VT 008 751) of "Abstracts of Research and Related Materials in Vocational and Technical Education" (ARM), are included in this microfiche set. Microfiche availability for these documents is shown on the ARM resume as MF AVAILABLE IN VT-ERIC SET. The microfiche set is arranged in the following sequence: (1) a Vocational Technical (VT) number index to documents in the microfiche collection, (2) the author index, the vocational and supporting services index, and the subject index from ARM, and (3) the full text of documents listed in the Vt number index. The texts are filmed continously in VT number sequence. (BS)

ED0 30001

Microfiche Collection of Clearinghouse Documents Reported in Abstracts of Research and Related Materials in Vocational and Technical Education

(ARM)

Compiled and Indexed by The ERIC Clearinghouse
on Vocational and Technical Education

SPRING 1969

This publication was prepared pursuant to a grant with the Office of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their judgment in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official Office of Education position or policy.

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INTRODUCTION

This collection of microfiche consists of the documents which are announced with VT number only in the Spring 1969 issue of Abstracts of Research and Related Materials in Vocational and Technical Education (ARM). Microfiche availability is shown in the resume as MF AVAILABLE IN VT-ERIC SET. The documents are grouped in VT number sequence and filmed continuously as a microfiche set. These documents are not available on microfiche as individual items, but are obtainable only through purchase of this set, or from agencies who have this set and have the capability of reproducing microfiche. The microfiche set includes the following sections:

1. Vocational Technical (VT) Number Index to Microfiche Collection of Clearinghouse Documents Reported in ARM, Spring 1969.

2. Selected indexes from ARM, Spring 1969.

   a. Personal and Institutional Author Index.
   b. Vocational and Supporting Services Index.
   c. Subject and Identifier Index.

   The documents identified in the indexes with an ERIC Document (ED) number are usually available as separate documents from the ERIC Document Reproduction Service (EDRS). Information about EDRS Service can be found in ARM or RIE. Items not available through EDRS will include a source of availability. The page numbers shown in these indexes refer to the location of the abstracts in ARM, Spring 1969.

3. The full text of documents listed in the Vocational Technical (VT) Number Index to Microfiche Collection of Clearinghouse Documents Reported in ARM, Spring 1969.

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VT 006 525 ED 022 056 497
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DELAWARE OCCUPATIONAL RESEARCH AND COORDINATING UNIT, DOVER
VT 006 372 ED 022 917 556
A Guide for the Preparation of Proposals in Occupational Research, Development and Training.

DELAWARE STATE DEPT. OF PUBLIC INSTRUCTION, DOVER. VOCATIONAL-TECHNICAL EDUCATION AND EXTENDED SERVICES
VT 000 900 466
Report of the Inservice Workshop-Conference on Cooperative Occupational Education Programs (Rehoboth Beach, Delaware, August 8-12, 1966).

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE, WASHINGTON, D.C.
VT 004 160 ED 016 111 540
National Conference on Manpower Training and the Older Worker. (Washington, January 17-19, 1966).
VT 006 156 ED 023 843 487
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DEPARTMENT OF LABOR, WASHINGTON, D.C.
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VT 004 160 ED 016 111 540
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VT 004 241 ED 016 119 522
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Developing Occupational Experience Programs in Agricultural Distribution.

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ILLINOIS DEPT. OF PUBLIC INSTRUCTION, SPRINGFIELD
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ILLINOIS RESEARCH COORDINATING UNIT, SPRINGFIELD
VT 005 774 546
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ILLINOIS RESEARCH AND DEVELOPMENT COORDINATING UNIT, SPRINGFIELD
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A Rationale for Research in Vocational Education.

ILLINOIS STATE BOARD OF VOCATIONAL EDUCATION AND REHABILITATION, SPRINGFIELD
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Report on the Manpower Development and Training Program, Mattoon, Illinois.

ILLINOIS STATE BOARD OF VOCATIONAL EDUCATION AND REHABILITATION, SPRINGFIELD. RESEARCH AND STATISTICS SERVICE
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An Experimental Program in Vocational Education.

ILLINOIS STATE BOARD OF VOCATIONAL EDUCATION AND REHABILITATION, SPRINGFIELD. TRADE AND INDUSTRIAL SERVICE
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Part-Time Industrial Cooperative Education in Illinois. Series B Bulletin 198.

ILLINOIS STATE UNIV., NORMAL. DEPT. OF AGRICULTURE
VT 000 983 532
Tools and Equipment Used to Make Repairs on the Farms in Central Illinois.

ILLINOIS UNIV., CHAMPAIGN. WORK EDUCATION RESEARCH CENTER
VT 003 561 ED 021 049 478
Concurrent Work-Education (Programs in the 50 States 1965-66). Initial Draft.

ILLINOIS UNIV., URBANA. DIV. OF AGRICULTURAL EDUCATION
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Semantic Differential Analysis of Teacher and Youth Communication in Vocational Agriculture.

INDIANA EMPLOYMENT SECURITY DIV., INDIANAPOLIS. RESEARCH AND STATISTICS
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VT 003 284 505
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INSTITUTE OF PERSONNEL MANAGEMENT, LONDON (ENGLAND)
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INTERDEPARTMENTAL COMMITTEE AND CITIZENS' ADVISORY COUNCIL ON THE STATUS OF WOMEN, WASHINGTON, D.C.
VT 004 632 ED 020 356 543
Progress Report on the Status of Women, October 11, 1963 through October 10, 1964.

INTERNATIONAL LABOUR ORGANIZATION, GENEVA (SWITZERLAND)
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Report to the Government of Libya on Vocational Training.

IOWA AGRICULTURE AND HOME ECONOMICS EXPERIMENT STATION, AMES
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JOINT COUNCIL ON ECONOMIC EDUCATION, NEW YORK, N.Y.
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JOINT SAFETY COMMITTEE OF THE AMERICAN VOCATIONAL ASSOCIATION AND THE NATIONAL SAFETY COUNCIL
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KENTUCKY RESEARCH COORDINATING UNIT, LEXINGTON
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Managerial Perception and Success in Farming. Research Series in Agricultural Education.

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VT 004 734 ED 020 376 524
Vocational Education Completed by East Central Wisconsin Graduates and Selected Employment Factors.

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VT 001 909 ED 019 417 560
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MAYORS COMMITTEE FOR HUMAN RESOURCES DEVELOPMENT, DETROIT, MICH.
VT 005 951 547
Adult and Youth Employment Project, City of Detroit.

MAYFIELD, W.A.
VT 001 588 ED 018 593 559
Texas Industrial Arts Student Association Handbook.

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MICHIGAN AGRICULTURAL EXPERIMENT STATION, EAST LANSING
VT 004 691 ED 023 813 512
Movement of Labor Between Farm and Nonfarm Jobs.
VT 004 692 ED 023 814 512
Multiple Jobholding by Farm Operators. Research Bulletin 5.
VT 005 647 ED 023 834 515
Project '80, Rural Michigan Now and in 1980.

MICHIGAN ASSOCIATION FOR BETTER HEARING, EAST LANSING
VT 004 065 ED 016 102 539
A Personal Adjustment and Pre-Vocational Center for Non-Feasible Deaf Adults.

MICHIGAN STATE DEPT. OF EDUCATION, LANSING. OFFICE OF VOCATIONAL EDUCATION
VT 000 986 468
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MICHIGAN STATE DEPT. OF PUBLIC INSTRUCTION, LANSING. DIV. OF VOCATIONAL EDUCATION
VT 000 937 518
Guidelines for Conducting Follow-Up Studies of Vocational and Technical Education Students. Bulletin No. 2152.
VT 000 984 467
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VT 000 986 468
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VT 001 079 468
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VT 001 108 469
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VT 001 109 469
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MICHIGAN STATE UNIV., EAST LANSING
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Teaching Vocational and Citizenship Education in Social Studies.

MICHIGAN STATE UNIV., EAST LANSING. COLL. OF EDUCATION.
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MICHIGAN STATE UNIV., EAST LANSING. SCHOOL OF LABOR AND INDUSTRIAL RELATIONS
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Economic and Social Implications of Automation.

MICHIGAN UNIV., ANN ARBOR. INST. OF LABOR AND INDUSTRIAL RELATIONS
VT 000 465 ED 021 949 466
Contributions and Costs of Manpower Development and Training. Policy Papers in Human Resources and Industrial Relations No. 5.

MICKENS, ALVIN
VT 004 216 540
Manpower Perspectives for Urban Redevelopment.

MILLS, CHESTER O.
VT 005 642 ED 022 042 570
Supervision Considerations of Student Teaching in Distributive Education.
VT 005 643 ED 022 903 570
Sources and Recruitment of Distributive Education Teachers.

MILLS, JAMES G., JR.
VT 000 866 501
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MINNESOTA RESEARCH COORDINATING UNIT IN OCCUPATIONAL EDUCATION, MINNEAPOLIS
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Summary of Studies Conducted in Minnesota, 1965-67.

MINNESOTA UNIV., MINNEAPOLIS. DEPT. OF DISTRIBUTIVE EDUCATION
VT 000 929 566
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MINNESOTA UNIV., MINNEAPOLIS. INDUSTRIAL RELATIONS CENTER
VT 001 437 ED 018 575 559
Item Analysis of the Development Pool of Items for the Youth Opinion Questionnaire. Minnesota Studies in Work Attitudes. Technical Report 1.

MINNESOTA UNIV., ST. PAUL
VT 000 561 ED 021 951 518
Investments in Education for Farmers.

MINNESOTA UNIV., ST. PAUL. DEPT. OF AGRICULTURAL EDUCATION
VT 004 315 ED 021 989 523
An Economic Study of the Investment Effects of Education in Agriculture.

MISSISSIPPI AGRICULTURAL AND INDUSTRIAL BOARD, JACKSON
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VT 003 871 510
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MISSOURI UNIV., COLUMBIA
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How Fare MDTA Ex-Trainees? An Eighteen Months Follow-Up Study of Five Hundred Such Persons.

MISSOURI UNIV., COLUMBIA. DEPT. OF INDUSTRIAL EDUCATION
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Employment Opportunities and Training Needs for Selected Service Workers in the State of Missouri with Projections through 1970.
VT 003 870 509
Employment Opportunities and Training Needs for Technicians in the State of Missouri with Projections through 1970.
VT 003 871 510
Employment Opportunities and Training Needs for Skilled Workers in the State of Missouri with Projections through 1970.

MOE, JOHN V.
VT 006 024 ED 023 841 515
A Pilot Study to Determine the Feasibility of Investigating Nationally the Impact of Licensing Practices on the Availability and Mobility of Non-Professional Manpower in Occupations Where Skill Shortages Exist.

MONROE COUNTY COMMUNITY COLL., MICH.
VT 001 079 468
A Survey of Vocational, Technical, and Adult Education Needs in Monroe County.

MONROE COUNTY INTERMEDIATE SCHOOL DISTRICT, MICH.
VT 001 079 468
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MORGAN, CAROLYN A.
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MORRILL, EUGENE L.
VT 004 926 ED 021 060 562
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MOSS, JEROME, JR.
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Measuring Creative Abilities in Junior High School Industrial Arts.

MUSKEGON AREA INTERMEDIATE SCHOOL DISTRICT, MICH. OFFICE OF VOCATIONAL EDUCATION
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Meeting Employment Needs; A Research Study.

MUSKEGON COUNTY COMMUNITY COLL., MICH.
VT 000 984 467
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NATIONAL BUSINESS EDUCATION ASSOCIATION, WASHINGTON, D.C.
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NATIONAL COMMITTEE FOR CAREERS IN MEDICAL TECHNOLOGY, WASHINGTON, D.C.
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NATIONAL COMMITTEE FOR CHILDREN AND YOUTH, WASHINGTON, D.C.
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VT 005 531 ED 022 038 546
Experimental and Demonstration Manpower Project for Recruitment, Training, Placement and Followup of Rejected Armed Forces Volunteers in Baltimore, Maryland and Washington, D.C., March 1, 1965 to June 30, 1966.
VT 006 726 ED 023 874 548
Rural Youth in a Changing Environment.

NATIONAL COMMITTEE ON HOUSEHOLD EMPLOYMENT, WASHINGTON, D.C.
VT 003 799 509
A Handbook for Leaders.

NATIONAL COUNCIL ON MEDICAL TECHNOLOGY EDUCATION, MEMPHIS, TENN.
VT 005 415 ED 021 064 569
Medical Laboratory Assistant Teacher Education Institute--Pilot Program.

NATIONAL COUNCIL ON THE AGING, NEW YORK, N.Y.
VT 004 160 ED 016 111 540
National Conference on Manpower Training and the Older Worker. (Washington, January 17-19, 1966).

NATIONAL EDUCATION ASSN., WASHINGTON, D.C. DEPT. OF HOME ECONOMICS
VT 001 969 ED 019 425 536
The Tragic Migration--School Dropouts.
VT 004 609 ED 021 056 577
Techniques for Effective Teaching.

NATIONAL INST. OF MENTAL HEALTH (DHEW), BETHESDA, MD. MANPOWER STUDIES UNIT
VT 005 564 ED 023 829 514
The Psychiatric Aide in State Mental Hospitals.

NATIONAL LEAGUE FOR NURSING, NEW YORK, N.Y. DEPT. OF ASSOCIATE DEGREE PROGRAMS
VT 005 000 482
Associate Degree Education for Nursing.

NATIONAL LEAGUE FOR NURSING, NEW YORK, N.Y. DEPT. OF PRACTICAL NURSING PROGRAMS
VT 000 810 500
Factors Affecting the Work Performance of Licensed Practical Nurses. The League Exchange No. 65.

NATIONAL MANPOWER POLICY TASK FORCE, WASHINGTON, D.C.
VT 000 465 ED 021 949 466
Contributions and Costs of Manpower Development and Training. Policy Papers in Human Resources and Industrial Relations No. 5.

NEBRASKA OCCUPATIONAL NEEDS RESEARCH COORDINATING UNIT, LINCOLN
VT 007 256 ED 023 916 556
Procedure for Determining Vocational Education Needs Through Community Analysis.

NELSON, CLIFFORD LEON
VT 004 735 ED 020 377 525
Source and Extent of Economic Commitments to Public Vocational Education in Minnesota and Their Effects on the Nature of Training Opportunities.

NELSON, HELEN Y.
VT 005 289 ED 022 030 526
Evaluation of Secondary School Programs to Prepare Students for Wage Earning in Occupations Related to Home Economics. Final Report, Vol. II, Appendix.

NELSON, ORVILLE W.
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The American Industry Project: Development and Evaluation.

NEVADA UNIV., RENO. SCHOOL PLANNING LABORATORY
VT 004 403 ED 022 000 534
Utilization of Mobile Facilities for Development of Entry Work Skills for Arkansas' Rural Unemployed and Low Income Earners. A Feasibility Study.

NEW HAMPSHIRE UNIV., DURHAM. DEPT. OF AGRICULTURAL EDUCATION
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VT 006 719 ED 023 872 489
The Function and Status by 1980 of Vocational Education.

NEW YORK AGRICULTURAL EXPERIMENT STATION, ITHACA
VT 003 310 ED 023 799 506
Viable Farmer-Worker Relationships: A Study of Selected Cases in New York State in 1966.

NEW YORK PORT AUTHORITY, N.Y.
VT 003 434 506
The Next Twenty Years; A Forecast of Population and Jobs in the New York-New Jersey-Connecticut Metropolitan Region, 1965-1985.

NEW YORK STATE COLL. OF AGRICULTURE, ITHACA. AGRICULTURAL EDUCATION DIV.
VT 002 489 ED 023 789 472
Proceedings, Regional Seminar and Research Conference in Agricultural Education.

NEW YORK STATE COLL. OF HOME ECONOMICS, ITHACA
VT 005 289 ED 022 030 526
Evaluation of Secondary School Programs to Prepare Students for Wage Earning in Occupations Related to Home Economics. Final Report, Vol. II, Appendix.

NEW YORK STATE DEPT. OF EDUCATION, ALBANY. DIV. OF PUPIL PERSONNEL SERVICES
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NEW YORK STATE EDUCATION DEPT., ALBANY
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Guidelines for Evaluating Secondary Vocational Programs in Ornamental Horticulture.

NEW YORK STATE EDUCATION DEPT., ALBANY. BUREAU OF BUSINESS AND DISTRIBUTIVE EDUCATION
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VT 004 337 ED 021 991 533
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NEW YORK STATE EDUCATION DEPT., ALBANY. BUREAU OF OCCUPATIONAL EDUCATION RESEARCH
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Significant Job Success Factors Found in Work-Study Programs in Five Major New York Cities.
VT 005 269 513
Significant Job Success Factors Found in Work-Study Programs in Five Major New York State Cities.

NEW YORK STATE EDUCATION DEPT., ALBANY. OFFICE OF NURSE EDUCATION
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NEW YORK STATE EMPLOYMENT SERVICE, ALBANY
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NEW YORK UNIV., N.Y. CENTER FOR SCHOOL SERVICES AND OFF-CAMPUS COURSES
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NEW YORK UNIV., N.Y. CENTER FOR THE STUDY OF UNEMPLOYED YOUTH
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VT 004 218 540
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VT 004 227 542
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VT 004 232 ED 023 805 542
Workshop on Problems of Planning, Recruitment and Selection for Youth-Work Programs.

NISH, DALE LEROY
VT 005 549 ED 019 512 550
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VT 004 231 480
Federal Legislation for a Comprehensive Program on Youth Employment.

NORTH CAROLINA EMPLOYMENT SECURITY COMMISSION, RALEIGH. BUREAU OF EMPLOYMENT SECURITY RESEARCH
VT 000 866 501
Manpower and Training Needs for Medical and Health Service Occupations in North Carolina.
VT 001 253 502
North Carolina Study of Manpower Needs in Selected Trade, Finance, Insurance, and Service Industries, 1963-1966.

NORTH CAROLINA STATE DEPT. OF COMMUNITY COLLEGES, RALEIGH. DIV. OF VOCATIONAL-TECHNICAL PROGRAMS
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NORTH CAROLINA STATE DEPT. OF PUBLIC INSTRUCTION, RALEIGH
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VT 003 532 477
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NORTH CAROLINA UNIV., RALEIGH, N.C. STATE UNIV.
VT 001 909 ED 019 417 560
Reasons for Selection of Expected Occupations--By Race and Sex.

NORTH DAKOTA GOVERNOR'S COMMISSION ON THE STATUS OF WOMEN, BISMARCK
VT 005 532 513
New Horizons for North Dakota Women, Report of Conference (Bismarck, North Dakota, July 17-18, 1964).

NORTH DAKOTA STATE DEPT. OF LABOR, BISMARCK
VT 005 532 513
New Horizons for North Dakota Women, Report of Conference (Bismarck, North Dakota, July 17-18, 1964).

NORTH DAKOTA STATE UNEMPLOYMENT COMPENSATION DIV., BISMARCK
VT 005 532 513
New Horizons for North Dakota Women, Report of Conference (Bismarck, North Dakota, July 17-18, 1964).

NORTH DAKOTA UNIV., GRAND FORKS. CENTER FOR RESEARCH IN VOCATIONAL AND TECHNICAL EDUCATION
VT 001 639 520
An Analysis of the Effectiveness of the MDTA Institutional Programs in North Dakota, 1962-1966.

NORTH ORANGE COUNTY JUNIOR COLL. DISTRICT, FULLERTON, CALIF. BOARD OF TRUSTEES
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OFFICE OF ECONOMIC OPPORTUNITY, WASHINGTON, D.C.
VT 004 081 ED 015 305 539
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OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.
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Education for a Changing World of Work, Report of the Panel of Consultants on Vocational Education. Appendix III.
VT 001 796 472
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VT 002 336 ED 019 438 580
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VT 003 762 479
Administration of Vocational Education, Federal Allotments to States, Miscellaneous Amendments.
VT 004 280 ED 019 474 580
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OFFICE OF MANPOWER, AUTOMATION AND TRAINING (DOL), WASHINGTON, D.C.
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OHIO STATE DEPT. OF EDUCATION, COLUMBUS. TRADE AND INDUSTRIAL EDUCATION SERVICE
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VT 003 382 ED 019 465 494
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VT 003 557 478
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OHIO STATE UNIV., COLUMBUS. CENTER FOR VOCATIONAL AND TECHNICAL EDUCATION
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VT 007 438 ED 023 937 492
Review and Synthesis of Research on the Economics of Vocational Education.
VT 008 099 ED (See Jul '69 RIE) 582
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VT 008 157 ED (See Jul '69 RIE) 582
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OHIO STATE UNIV., COLUMBUS. DEPT. OF AGRICULTURAL EDUCATION
VT 004 612 ED 021 057 496
Managerial Perception and Success in Farming. Research Series in Agricultural Education.
VT 006 627 ED 022 058 581
Summaries of Studies in Agricultural Education, Central Region, 1966-67.

OHIO UNIVERSITY, ATHENS. CENTER FOR ECONOMIC EDUCATION
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An Experimental Junior High School Course in Occupational Opportunities and Labor Market Processes.

OKLAHOMA STATE UNIV., STILLWATER
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VT 004 655 ED 023 812 496
Educational Planning for an Emerging Occupation.

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VT 006 410 ED 022 053 571
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OKLAHOMA VOCATIONAL RESEARCH COORDINATING UNIT, STILLWATER
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OREGON UNIV., EUGENE
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ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, PARIS (FRANCE)
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VT 005 442 ED 018 672 483
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VT 005 443 ED 018 673 484
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PENNSYLVANIA STATE EMPLOYMENT SERVICE, HARRISBURG. AUTOMATION MANPOWER SERVICES SECTION
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PENNSYLVANIA STATE UNIV., UNIVERSITY PARK. DEPT. OF AGRICULTURAL EDUCATION
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VT 001 901 566
State Master Plan of Inservice Education for Vocational Agriculture Teachers.

PENNSYLVANIA STATE UNIV., UNIVERSITY PARK. DEPT. OF INDUSTRIAL EDUCATION
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PENNSYLVANIA STATE UNIV., UNIVERSITY PARK. DEPT. OF VOCATIONAL EDUCATION
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PENNSYLVANIA STATE UNIV., UNIVERSITY PARK. INSTITUTE FOR RESEARCH ON HUMAN RESOURCES
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VT 007 173 ED 023 902 529
The Potential of Vocational Education: Observations and Conclusions Based on a Study of Three Selected Cities in Pennsylvania.

PENNSYLVANIA STATE UNIV., UNIVERSITY PARK. VOCATIONAL EDUCATION DEPT.
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PENNSYLVANIA UNIV., PHILADELPHIA. GOVERNMENT CONSULTING SERVICE
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A Study of Post High School Education Needs in Bucks County, 1968-1980. Phase I Progress Report.

PENNSYLVANIA UNIV., PHILADELPHIA. GOVERNMENT STUDIES CENTER
VT 005 442 ED 018 672 483
Final Report of the Study of Post High School Education Needs in Bucks County, 1968-1980. Volume I.
VT 005 443 ED 018 673 484
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PRESIDENT'S COMMISSION ON THE STATUS OF WOMEN, WASHINGTON, D.C.
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VT 004 690 ED 020 358 544
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PRESIDENT'S COMMITTEE ON YOUTH EMPLOYMENT, WASHINGTON, D.C.
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PRESIDENT'S TASK FORCE ON MANPOWER CONSERVATION, WASHINGTON, D.C.
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One-Third of a Nation, A Report on Young Men Found Unqualified for Military Service.

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VT 004 328 ED 016 139 543
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VT 004 274 ED 014 309 568
Profiles of Trade and Technical Teachers--Summary Report, 1967.

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VT 002 803 ED 021 043 567
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Tools, Equipment, and Supplies for Departments of Vocational Agriculture, 1966.

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RUTGERS, THE STATE UNIV., NEW BRUNSWICK, N.J. VOCATIONAL-TECHNICAL EDUCATION
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Recent Developments in Technical Education; Report, Summer Institute, Instrumentation, 1966.

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VT 005 833 ED 021 132 562
Effect of an Integrated Instructional Counseling Program to Improve Vocational Decision-Making of Community College Youth. Final Report.
VT 006 561 ED 023 860 498
Summer Institute to Prepare Vocational Educators in Curriculum Development.

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Report on the Manpower Development and Training Program, Mattoon, Illinois.

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VT 005 027 ED 023 819 545
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SAN FRANCISCO STATE COLL., CALIF. CENTER FOR TECHNOLOGICAL EDUCATION
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VT 003 561 ED 021 049 478
Concurrent Work-Education (Programs in the 50 States 1965-66). Initial Draft.
VT 006 911 ED 023 886 490
Concurrent Work-Education; Programs in the 50 States, 1965-66.

SCHOOL OF ADULT AND VOCATIONAL EDUCATION, CAIRO, ILL.
VT 005 774 546
Vocational Education for Disadvantaged Adults, An Experimental Project.

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SHASTA COLL., REDDING, CALIF.
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SHELLEY (E.F.) AND COMPANY, NEW YORK, N.Y.
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VT 005 801 ED 020 444 486
ES '70 News. Volume I, No. 2.

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VT 001 280 ED 017 649 536
An Experimental Program Designed to Promote a Greater Interest in Fulfilling Latent Potential in Underachieving High School Boys Through Goal Identification. Summary Report.

SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION, CLEMSON
VT 006 760 ED 023 875 548
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SOUTH-WESTERN PUBLISHING CO., CINCINNATI, OHIO
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VT 003 543 ED 021 048 538
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STANFORD RESEARCH INST., MENLO PARK, CALIF.
VT 002 912 ED 017 670 550
Technological Change and the Journeyman Electrician, An Experimental Study in Continuing Education. Volume II, Course and Supplementary Materials.
VT 002 914 ED 017 671 575
Technological Change and the Journeyman Electrician, An Experimental Study in Continuing Education. Volume I.

STANFORD UNIV., CALIF., SCHOOL PLANNING LAB.
VT 004 506 ED 022 001 534
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An Investigation to Determine if Higher Speeds are Obtained with the Diamond Jubilee Gregg Shorthand Method.

STATE UNIV. OF NEW YORK, ITHACA
VT 003 310 ED 023 799 506
Viable Farmer-Worker Relationships: A Study of Selected Cases in New York State in 1966.

STATE UNIV. OF NEW YORK, ITHACA. AGRICULTURAL EDUCATION DIV. AT CORNELL UNIV.
VT 000 066 574
An Annotated Bibliography--In-Service Training in Agricultural Education.

STEEL, DAVID T.
VT 001 110 470
Area Vocational-Technical Study.

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VT 005 762 ED 021 128 570
Inservice Training for Vocational Teachers in Utah.

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VT 007 374 ED 023 930 564
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VT 005 123 ED 022 890 580
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VT 005 242 ED 022 028 555
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SYRACUSE UNIV., N.Y. DIV. OF SPECIAL EDUCATION AND REHABILITATION
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TENNESSEE OCCUPATIONAL RESEARCH AND DEVELOPMENT COORDINATING UNIT, KNOXVILLE
VT 000 151 ED 023 782 500
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TEXAS A AND M UNIV., COLLEGE STATION. DEPT. OF AGRICULTURAL ECONOMICS AND SOCIOLOGY
VT 004 752 ED 022 014 545
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TEXAS INDUSTRIAL ARTS ASSOCIATION, DENTON
VT 001 588 ED 018 593 559
Texas Industrial Arts Student Association Handbook.

TEXAS TECHNOLOGICAL COLL., LUBBOCK
VT 004 668 ED 022 011 544
Report of Workshop for the Study of the Disadvantaged for Selected Teachers of Occupational Training (Texas Technological College, Lubbock, July 3-July 14, 1967).

THOMAS, ROBERT W.
VT 007 128 ED 023 890 490
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VT 007 129 ED 023 891 490
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VT 007 130 ED 023 892 491
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VT 007 131 ED 023 893 491
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WESTERN MICHIGAN UNIV., KALAMAZOO. DIV. OF FIELD SERVICES
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VT 005 570 ED 022 041 569
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WOMEN'S BUREAU (DOL), WASHINGTON, D.C.
VT 000 854 500
Report of Conference on Women in the Upper Peninsula Economy.
VT 005 532 513
New Horizons for North Dakota Women, Report of Conference (Bismarck, North Dakota, July 17-18, 1964).

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VT 000 151 ED 023 782 500
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WRIGHT, LUCILLE E.
VT 005 869 ED 021 137 571
In-Service Education of Office Occupations Teacher-Coordinators. Final Report.

WYOMING STATE DEPT. OF EDUCATION, CHEYENNE. VOCATIONAL-TECHNICAL EDUCATION DIV.
VT 005 480 ED 019 503 555
Progress Report of the Research Coordinating Unit, November 1, 1967-January 31, 1968.

YOUNG, ORVILLE L.
VT 000 983 532
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VT 000 534 ED 018 537 566
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VT 000 556 500
The Greenhouse Grower: Analysis of Training Needs and Career Information for Instructional Planning.

VT 000 561 ED 021 951 518
Investments in Education for Farmers.

VT 000 675 ED 018 545 466
The Future Farmer of Today is the Successful Farmer of Tomorrow.

VT 000 925 532
Tools, Equipment, and Supplies for Departments of Vocational Agriculture, 1966.

VT 000 938 518
What's Happening to Colorado's Vocational Agriculture Graduates?

VT 000 983 532
Tools and Equipment Used to Make Repairs on the Farms in Central Illinois.

VT 001 094 468
Conducting a Non-Farm Agricultural Work Experience Program in Vocational Agriculture; A Handbook.

VT 001 265 519
National Standard Vocational Agriculture Safety Inspection Check List.

VT 001 341 ED 018 566 574
Experiments in the Use of Programed Materials in Teaching an Elementary College Course in the Biological Sciences.

VT 001 634 ED 018 603 472
Supervised Training for Agricultural Employment for Students of Vocational Agriculture in Arkansas.

VT 001 901 566
State Master Plan of Inservice Education for Vocational Agriculture Teachers.

VT 001 923 ED 019 420 560
Why Students Select Agriculture as a Major Course of Study.

VT 001 924 ED 019 421 560
A Study to Compare IQ Scores of Selected South Carolina High School Freshmen Enrolled in Vocational Agriculture with Those not Enrolled.

VT 002 344 ED 022 846 575
Semantic Differential Analysis of Teacher and Youth Communication in Vocational Agriculture.

VT 002 489 ED 023 789 472
Proceedings, Regional Seminar and Research Conference in Agricultural Education.

VT 002 803 ED 021 043 567
Vocational Agriculture Teacher Morale Study.

VT 003 568 507
Competencies in Farm Credit Needed by Farmers.

VT 003 576 507
Competencies Needed by Farm Credit Agency Employees.

VT 003 578 507
Competencies in Livestock Marketing Needed by Farmers.

VT 003 580 ED 019 467 508
Factors Related to the Occupations of Iowa Farm Male High School Graduates.

VT 003 695 508
Agri-Business Competencies.

VT 003 717 479
Handbook for Organizing and Conducting Programs in Agriculture Mechanics.

VT 004 008 ED 022 860 576
Using Programed Instruction with and without Self-Instructional Practice to Teach Psychomotor Skills.

VT 004 119 510
Instituting a Vocational Major in Natural Resources.

VT 004 280 ED 019 474 580
Summaries of Studies in Agricultural Education.

VT 004 315 ED 021 989 523
An Economic Study of the Investment Effects of Education in Agriculture.

VT 004 534 ED 020 330 523
Pre-College Experiences as Preparation for College Courses in Agronomy.

VT 004 540 ED 018 652 495
A Study of Farm Mechanics Jobs Taught by Teachers of Vocational Agriculture in Missouri.

VT 004 543 ED 020 335 577
Experiments in the Use of Programed Materials in Teaching an Introductory Course in the Biological Sciences at the College Level.

VT 004 547 ED 020 339 524
The Development of an Instrument for Measuring the Understanding of Profit-Maximizing Principles.

VT 004 548 ED 020 340 561
The Educational Needs of Beginning Farm Operators in Becoming Established in Farming in New York.

VT 004 549 ED 020 341 561
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VT 004 551 ED 018 653 577
Factors Associated with Supervising Teacher Effectiveness.

VT 004 553 ED 020 342 481
The Role of Prevocational Agriculture in the Junior High Schools of New York State.

VT 004 587 568
Career Pattern Analysis of a Selected Group of Former Vocational Teachers.

VT 004 598 ED 022 010 568
Developing Occupational Experience Programs in Agricultural Distribution.

VT 004 606 ED 023 810 511
An Analysis of Occupational Titles and Competencies Needed in Off-Farm Agricultural Supplies Businesses.

VT 004 612 ED 021 057 496
Managerial Perception and Success in Farming. Research Series in Agricultural Education.

VT 004 691 ED 023 813 512
Movement of Labor Between Farm and Nonfarm Jobs.

VT 004 692 ED 023 814 512
Multiple Jobholding by Farm Operators. Research Bulletin 5.

VT 004 719 ED 020 362 496
The Development of a Farm Business Planning and Analysis Instructional Program for Ohio Young Farmers.

VT 004 725 ED 020 367 524
The Development of a Standardized Achievement Test for Small Gasoline Engine Instruction.

VT 004 726 ED 020 368 481
Input-Output Relationships Among Selected Intellectual Investments in Agriculture.

VT 004 729 ED 020 371 578
Effectiveness of the Budgetary Analysis Approach of Teaching Farm Management to Vocational Agriculture Students in the Secondary Schools of Northeastern Oklahoma.

VT 004 731 ED 020 373 524
Factors Associated with Successful Candidacy in Certain Fields of Graduate Study.

VT 004 812 ED 022 018 578
Integrating Reading Instruction into Vocational Agriculture Classes.

VT 005 286 ED 019 497 513
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VT 005 455 ED 019 501 484
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VT 005 625 ED 023 833 514
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VT 005 647 ED 023 834 515
Project '80, Rural Michigan Now and in 1980.

VT 005 741 497
Educational Opportunities for Business and Technical Careers in Agriculture and Biology.

VT 005 776 ED 021 130 547
A Study of Factors Associated with Outcomes of MDTA Agricultural Education Projects in the Somerset Area.

VT 006 472 ED 023 858 571
The Identification of Teacher Opinion Leaders: An Element in a Change Strategy for Agricultural Education.

VT 006 606 ED 023 865 572
A Study of Attitudinal Changes of Student Teachers in Agricultural Education.

VT 006 627 ED 022 058 581
Summaries of Studies in Agricultural Education, Central Region, 1966-67.

VT 006 642 ED 023 867 572
Variables Influencing Teacher Adoption of Cooperative Agricultural Occupations Curricula.

VT 006 723 ED 023 873 529
Influence of High School Vocational Agriculture on the Matriculation, Graduation, and Employment of Agricultural Engineering Graduates from the Iowa State University of Science and Technology.

VT 006 752 516
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What About Data Processing in South Central Wisconsin? Occupational Research Series No. 1.
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Suggestions for Developing a Comprehensive Awards Program for the Business Department.
VT 001 352 ED 023 785 519
Business Education; Progress Report and Programs Developed under Manpower Development and Training Act.
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Office Education--A Source of Skilled Office Personnel.
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Evaluative Criteria for Survey Instruments in Business Education.
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In-Service Education of Office Occupations Teacher-Coordinators. Final Report.
VT 007 012 ED 023 888 551
An Experimental Self-Instructional System for Introducing Gregg Shorthand.
VT 007 237 ED 023 909 491
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Supervision Considerations of Student Teaching in Distributive Education.
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The Distributive Education Curriculum as Evaluated by Businessmen and Distributive Education Students of Utah.

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VT 001 812 ED 019 405 566
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VT 003 425 476
Training for Health Service Occupations, An Answer to Training Needs of Business.
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VT 004 235 MP 000 345 542
Student Aides for Handicapped College Students.
VT 004 236 MP 000 346 576
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VT 004 252 ED 016 124 543
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Descriptions of Home and Community Occupations Related to Home Economics.
VT 002 773 533
The Home Economics Department, Its Equipment and Furnishings, Supplement.
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VT 003 799 509
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Techniques for Effective Teaching.
VT 004 689 ED 020 357 544
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VT 004 690 ED 020 358 544
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VT 004 818 ED 023 816 580
Family Relations and Child Development.
VT 005 055 ED 020 401 545
Family Patterns and Social Class.
VT 005 289 ED 022 030 526
Evaluation of Secondary School Programs to Prepare Students for Wage Earning in Occupations Related to Home Economics. Final Report, Vol. II, Appendix.
VT 006 343 497
Post-Secondary Education in Home Economics.

INDUSTRIAL ARTS EDUCATION
VT 000 942 532
Principles for Arranging, Mounting and Storing Hand Tools in Industrial Arts Shops.
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Texas Industrial Arts Student Association Handbook.
VT 002 168 ED 022 844 560
A Study of the Effect of Physical Maturity and Intelligence on the Manipulative Performance of Junior High School Students.
VT 002 862 494
The American Industry Project: Development and Evaluation.
VT 003 426 476
Industrial Arts, An Answer to Training Needs of Business.
VT 004 676 ED 022 084 577
Discimination Transfer from Scale Models and Pictorial Drawings in Learning Orthographic Projection.
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VT 000 465 ED 021 949 466
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VT 001 082 501
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VT 001 085 501
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Manpower Report of the President and a Report on Manpower Requirements, Resources, Utilization, and Training.
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North Carolina Study of Manpower Needs in Selected Trade, Finance, Insurance, and Service Industries, 1963-1966.
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The Migratory Farm Labor Problem in the United States.
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VT 003 285 505
Indiana Job Vacancies; Job Vacancies in Seven Major Indiana Areas.
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Viable Farmer-Worker Relationships: A Study of Selected Cases in New York State in 1966.
VT 003 434 506
The Next Twenty Years; A Forecast of Population and Jobs in the New York-New Jersey-Connecticut Metropolitan Region, 1965-1985.
VT 003 499 ED 023 800 506
Manpower Implications of Automation.
VT 003 706 508
Highlights from the 1966 Manpower Report.
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Handbook for Estimation of Labor Supply by Use of a Community Survey.
VT 004 152 ED 016 108 522
Manual for the USES General Aptitude Test Battery. Section IV, Norms, Specific Occupations.
VT 004 216 540
Manpower Perspectives for Urban Redevelopment.
VT 004 269 480
Proceedings of Interstate Conference on Labor Statistics, (23rd, Storrs, June 15-18, 1965).
VT 004 271 ED 023 806 510
Manpower Trends in Canada: Chartbook.
VT 005 050 ED 023 820 512
Adaptation and Training of Rural Workers for Industrial Work.
VT 005 315 ED 022 896 555
Methods of Forecasting Manpower Requirements With Special Reference to the Province of Ontario.
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The Effects of Automation on Occupations and Workers in Pennsylvania.
VT 006 024 ED 023 841 515
A Pilot Study to Determine the Feasibility of Investigating Nationally the Impact of Licensing Practices on the Availability and Mobility of Non-Professional Manpower in Occupations Where Skill Shortages Exist.
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Technical Report on Standardization of the General Aptitude Test Battery, General Working Population Norms Study for Puerto Rico.
VT 004 241 ED 016 119 522
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VT 004 245 ED 016 121 543
The San Antonio Rehabilitation-Welfare Report on Research and Demonstration Project RD 1513.
VT 004 752 ED 022 014 545
Occupational Status Orientations of Negro Youth: Annotated Abstracts of the Research Literature.
VT 005 645 ED 022 043 526
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VT 005 833 ED 021 132 562
Effect of an Integrated Instructional Counseling Program to Improve Vocational Decision-Making of Community College Youth. Final Report.

OCCUPATIONAL SOCIOLOGY
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Attitudes and Motives of MDTA Trainees: A Pilot Investigation.
VT 001 437 ED 018 575 559
Item Analysis of the Development Pool of Items for the Youth Opinion Questionnaire. Minnesota Studies in Work Attitudes. Technical Report 1.
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VT 004 632 ED 020 356 543
Progress Report on the Status of Women, October 11, 1963 through October 10, 1964.
VT 004 853 ED 019 485 525
Training Guides in Evaluation of Vocational Potential for Vocational Rehabilitation Staff.
VT 005 532 513
New Horizons for North Dakota Women, Report of Conference (Bismarck, North Dakota, July 17-18, 1964).
VT 005 723 ED 021 127 562
Interest and Intellectual Indices Related to Successful and Non-Successful Male College Students in Technical and Associate Degree Programs. Final Report.
VT 006 147 ED 023 842 515
Economic and Social Implications of Automation.
VT 006 410 ED 022 053 571
An Empirical Analysis of Role Conflict and Multiple Allegiance Among Selected Vocational Teachers in Oklahoma. Final Report.
VT 006 760 ED 023 875 548
Annotated Bibliography of Publications and Reports Resulting from Southern Regional Cooperative Research Project S-44.

TECHNICAL EDUCATION
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Vocational-Technical Education Counselor Handbook.
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Suggestions Pertaining to Space and Equipment for Post-High School Technical Programs.
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Pennsylvania Meets the Challenge of Retraining; Case Studies of a Three-Pronged Attack.
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Recent Developments in Technical Education; Report, Summer Institute, Instrumentation, 1966.
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An Experimental Program Designed to Promote a Greater Interest in Fulfilling Latent Potential in Underachieving High School Boys Through Goal Identification. Summary Report.

VT 001 283 470
Report on the Summer Institute for Administrators and Supervisors of Technical Education, 1965.

VT 001 292 470
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VT 002 801 ED 021 042 494
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VT 003 525 476
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VT 004 734 ED 020 376 524
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VT 007 438 ED 023 937 492
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VT 008 099 ED (See Jul '69 RIE) 582
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Business Education; Progress Report and Programs Developed under Manpower Development and Training Act.
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VT 002 914 ED 017 671 575
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VT 004 160 ED 016 111 540
National Conference on Manpower Training and the Older Worker. (Washington, January 17-19, 1966).
VT 004 403 ED 022 000 534
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VT 006 627 ED 022 058 581
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VT 006 760 ED 023 875 548
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VT 008 099 ED (See Jul '69 RIE) 582
Abstracts of Research and Related Materials in Vocational and Technical Education, Winter 1968.
VT 008 157 ED (See Jul '69 RIE) 582
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VT 006 603 ED 023 863 528
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VT 007 268 ED 023 918 551
In-Service Training In Computer-Assisted Instruction for Vocational Teachers.

CONFERENCE ON NEW HORIZONS FOR NORTH DAKOTA WOMEN, BISMARCK, NORTH DAKOTA, JULY 17-18, 1964
VT 005 532 513
New Horizons for North Dakota Women, Report of Conference (Bismarck, North Dakota, July 17-18, 1964).

CONFERENCE ON RESEARCH IN VOCATIONAL AND TECHNICAL EDUCATION, MADISON, WISCONSIN, JUNE 10-11, 1966
VT 003 548 ED 021 976 554
Research in Vocational and Technical Education.

CONFERENCE ON WOMEN IN THE UPPER PENINSULA ECONOMY
VT 000 854 500
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CONFERENCE REPORTS
VT 000 854 500
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VT 003 499 ED 023 800 506
Manpower Implications of Automation.
VT 003 548 ED 021 976 554
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VT 005 532 513
New Horizons for North Dakota Women, Report of Conference (Bismarck, North Dakota, July 17-18, 1964).
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VT 006 726 ED 023 874 548
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VT 007 124 490
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VT 002 142 ED 023 787 503
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VT 001 094 468
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VT 001 634 ED 018 603 472
Supervised Training for Agricultural Employment for Students of Vocational Agriculture in Arkansas.
VT 003 273 521
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VT 003 419 474
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VT 003 557 478
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VT 003 717 479
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VT 003 998 480
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COOPERATIVE PROGRAMS
VT 003 561 ED 021 049 478
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COORDINATORS
VT 003 998 480
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CORRESPONDENCE STUDY
VT 003 414 575
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VT 001 302 ED 020 301 471
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NATIONAL CONFERENCE ON RURAL YOUTH IN A CHANGING ENVIRONMENT, STILLWATER, OKLAHOMA, SEPTEMBER 22-25, 1963
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NATIONAL TRAINING CONFERENCE FOR DISTRIBUTIVE EDUCATION, MINNEAPOLIS, MINNESOTA, AUGUST 14-25, 1939
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VT 005 531 ED 022 038 546
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New York State Education Dept., Albany
New Hampshire Univ., Durham. Dept. of Agricultural Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 65 29p.

*HORTICULTURE; *VOCATIONAL AGRICULTURE; *PROGRAM EVALUATION; *PROGRAM PLANNING; *BUIDELINES; HIGH SCHOOLS

Three interstate conferences were held to develop evaluation guidelines for secondary education horticulture programs. Conference participants were representatives of operating horticulture programs in New Hampshire, Massachusetts, Pennsylvania, New York, and Connecticut. The report of their efforts is presented in three sections: (1) Planning for Organizing Programs, (2) Evaluation of Instruction in On-Going Secondary Horticulture Programs, and (3) Utilization of the Results of Program Evaluation. The first section outlines procedures for goal establishment, clientele and staff determination, organization, student selection, work experience programs, facilities, coordination, and teacher selection. Evaluation procedures are outlined for congruency of operations and goals, selection practices, instruction, work experience, facilities, and professional staff improvements. Among suggestions for utilizing results of program evaluation are outcome evaluation, data classification, emerging goal appraisal, goal establishment, and decision making. A bibliography of materials relating to the organization of horticulture programs contains lists of books, publications of the government, learned societies, and other organizations, periodicals, and unpublished material. (JM)

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GUIDELINES FOR EVALUATING SECONDARY VOCATIONAL PROGRAMS IN

ORNAMENTAL HORTICULTURE

VT000003

THE UNIVERSITY OF THE STATE OF NEW YORK/THE STATE EDUCATION DEPARTMENT/OFFICE OF RESEARCH AND EVALUATION / BUREAU OF RESEARCH IN OCCUPATIONAL EDUCATION / BUREAU OF AGRICULTURAL EDUCATION

In Cooperation With The Department of Agricultural Education / College of Agriculture / University of New Hampshire

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GUIDELINES FOR EVALUATING SECONDARY VOCATIONAL PROGRAMS IN

ORNAMENTAL HORTICULTURE

THE UNIVERSITY OF THE STATE OF NEW YORK/THE STATE EDUCATION DEPARTMENT/OFFICE OF RESEARCH AND EVALUATION / BUREAU OF RESEARCH IN OCCUPATIONAL EDUCATION / BUREAU OF AGRICULTURAL EDUCATION

In Cooperation With The Department of Agricultural Education / College of Agriculture / University of New Hampshire

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Foreword

A paper presented at the North Atlantic Regional Agricultural Education Conference at the University of Maryland, by Professor William H. Annis in November, 1964, and the subsequent discussion of its content highlighted the need for interstate cooperation in the development of program evaluation procedures and guidelines in the emerging field of ornamental horticulture.

In his paper, Dr. Annis told of an attempt to establish a new secondary horticulture program and the problems presented due to the lack of definite guidelines for the establishment and evaluation of such programs. As a result, three interstate conferences were held, one in the spring of 1965, one in the fall of 1965, and one in the spring of 1966. The purpose of these meetings was to develop evaluation guidelines for secondary horticulture programs which could be used by schools to establish new programs or measure the success of programs already in operation. The conferences were sponsored by the Department of Agricultural Education, University of New Hampshire, and the Bureau of Agricultural Education in cooperation with the Bureau of Occupational Education Research of the State Education Department of New York.

Participating in the first conference, held at the University of New Hampshire in Durham, were representatives from operating horticulture programs in New Hampshire and Massachusetts. Among those present were: Phillip S. Barton, Director of the Thompson School of Applied Science, University of New Hampshire; Robert Kennedy, Associate Professor of Plant Science, Thompson School of Applied Science; and Martin L. Mitchell, Acting Director of Agricultural Education, State Department of Education of New Hampshire. Pennsylvania State University, represented by Mr. William Brown, Instructor of Agricultural Education, was involved in the second session held at Albany, New York. In the final session, held in Durham, New Hampshire, the State of Connecticut expressed interest in the program, and in conjunction with this, Dr. Howard Martin, Chairman of the Department of Agricultural Education, University of Connecticut, made a major contribution.

Responsibility for the coordination, direction and the production of these guidelines and of the project rests with William H. Annis, Chairman of the Department of Agricultural Education, University of New Hampshire, Alan G. Robertson, Cheif, Bureau of Occupational Education Research and Frank Wolff, Associate in Agricultural Education representing the Bureau of Agricultural Education in the New York State Education Department. Recognition is extended for the direct support of Ralph C. S. Sutliff who served as Chief of the Bureau of Agricultural Education, New York State Education Department until his untimely death in May 1966 and to Joseph R. Strobel, former Assistant Commissioner for Occupational Education who provided encouragement and leadership in bringing this project to its completion.

Aside from the publication of these guidelines, this project has stimulated the development of other interstate projects between the New England States and New York in the field of Occupational Education Research.

This publication was produced with funds made available to the State of New York under Section 4(a) of the Federal Vocational Education Act of 1963.

Carl E. Wedekind
Director of Research

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I. PLANNING FOR ORGANIZING PROGRAMS

A. Establishing Goals and Objectives

1. Obtain information from local, county, regional, state, and interstate planning agencies regarding the educational needs and employment opportunities for periods ranging from 5 to 15 years from the present. Examine the data obtained in terms of population projections, housing trends, the general business outlook, and other factors which may influence decisions regarding the establishment of programs. Assuming that the need for programs exists, the examination of this data may also reveal whether the needs are greater for persons with skills in the production phases or in the services phases of the industry, or if there is apparent opportunity for both.

2. Other types of information which should be gathered and evaluated and sources to contact include:

Types of Information	Sources
a. the number and types of jobs currently available	a. the employment service
b. the number and types of jobs likely to be in demand in the future	b. ornamental horticulture producers associations (i.e. - flower growers, nurserymen, etc.)
c. the location of the jobs	c. groups of ornamental horticultural service business operators (i.e. - landscape contractors, arborists, retail garden center and florist operators, etc.)
d. the level of skill required for entry and advancement in the identified job opportunities	d. the state and county agricultural extension services
e. employers who would provide opportunities for student work experience programs	e. local and regional horticultural employers
f. employers interested in hiring graduating pupils	f. state agricultural education supervisors
	g. faculty members and administrators of post-high school institutions
	h. representatives or private trade schools and correspondence schools

3. The formation of a consultant (advisory) committee composed of representatives from the sources listed above should prove helpful in focusing upon the immediate and long-range goals and objectives of the program.

4. Programs may be designed to serve the needs of many different persons:

Secondary Level

a. those preparing for employment upon completion of high school

b. those preparing for admission to post high school training programs (including two-year colleges, four-year colleges, and other programs such as at private trade schools)

c. those pupils who because of a handicap are in need of special programs

Postsecondary Level

a. those who have completed a high school program but are available for additional full-time preemployment training

b. those who are employed but are in need of part-time training or retraining in order to hold their present jobs or to prepare for advancement

5. Programs for preemployment training should be broad enough in scope to provide the skills, competencies, and understandings needed for clusters or families of related occupations in the field.

6. Programs for those already employed may appropriately be more narrow in scope and content as is determined to be desirable.

7. The programs should complement rather than compete with existing or planned occupational education programs in the area, including those at post high school level institutions. They should also be consistent and coordinated with the state or regional master plan for providing comprehensive occupational education opportunities.

8. After careful consideration of pertinent items including the above-mentioned items, and in consultation with representatives of the sources of information listed, initial operating goals and objectives may be formulated.

9. Procedures should then be established which will provide for the periodic review and possible revision of both the immediate and long-range goals and objectives.

B. Determining the Number of Pupils to be Served and the Staff Needed

1. Use available student-interest data to estimate the likely enrollments of the various groups to be served (secondary, including those with special needs, and postsecondary, including both those requiring preemployment training and those in need of inservice training or retraining).

2. If significant data regarding likely pupil enrollment is not available, devise instruments and procedures for collecting it. Representatives of the occupational education and/or research divisions of the State Education Department, local educational research specialists, and employment service personnel should be able to provide valuable assistance in the design of instruments and in the determination of suitable data collection procedures.

3. After data is gathered it should be analyzed to determine probable initial enrollments and projected enrollments for the second and each succeeding year of operation.

4. Determination of the probable pupil enrollment and the organization and duration of the program, as well as an analysis of the predicted ancillary services to be provided by the instructional staff will make it possible to estimate the need for instructors for the first and succeeding years of operation. Guidelines for planning the needs for instructional staff may usually be obtained from the State Education Department.

C. Determining the Appropriate Organizational Pattern

1. As part of the offerings of a general high school:

   a. Where it is appropriate to do so in terms of need, likely pupil enrollments, and provision for equipment and facilities, programs in ornamental horticulture for in-school youth and out-of-school youth and adults may be organized as part of the curriculum offering of a high school.

   b. This practice is likely to be justified only in large school districts.

2. As part of the offerings of an area occupational education program:

   a. The trend toward the development of area occupational education programs to serve the need for specialized educational offerings for the residents of several school districts is having an impact on educational planning. These developments provide the opportunity to make sound, extensive programs for many different youths and adults economically feasible.

b. Ornamental horticulture programs organized on an area basis differ largely from those offered by single school district. This is usually in terms of the problems of coordination and cooperation involving the several districts being served.

3. Specialized vs. diversified agricultural education offerings

a. Most of the area occupational education programs as well as some of the single district programs will include course offerings in several areas of the field of agriculture. In such cases programs in ornamental horticulture should be organized as part of the agricultural education department. This will provide an opportunity to effect a coordinated program and enable team teaching and other innovative techniques to be used to strengthen the program.

b. In urban and some suburban areas, ornamental horticulture programs may be the only offerings in agricultural education available. In these cases, especially close coordination and cooperation will be required among the various occupational education instructors and among those representing the field of general education.

4. Planning courses and sequences

a. After a determination has been made of the needs to be met, the organizational pattern of the courses to be offered may be established.

b. Some of the factors which will affect the decisions include:

(1) the needs of the pupils to be served

(2) the amount of time available during the school day, or in after-work hours for employed out-of-school youths and adults

(3) the number of years available in which to offer occupational education to high school youths

(4) the organizational pattern of the school(s) involved

(5) restrictions imposed by transportation, instructional staff, facilities, and similar practical administrative matters

D. <u>Establishing Pupil Identification and Selection Practices</u>

1. Translate the program objectives previously determined into program and course descriptions and disseminate them through all appropriate media to pupils, parents, guidance counselors, teachers (both in the school where the program will be located and in feeder schools, if appropriate), and to potential employers and other interested groups and agencies.

2. The orientation of interested persons and groups should include descriptions of:

   a. the content of the ornamental horticulture program and how it differs from high school biology or botany and other courses

   b. the kind of jobs and educational opportunities to which the program will lead

   c. the student selection characteristics and admission requirements related to the levels of the proposed program

   d. There should be different admissions requirements for college preparatory, terminal students, and/or disadvantaged youth, respectively

3. Suggested techniques for orienting students, parents, and guidance counselors include:

   a. meeting with groups of students and parents before applications are received from feeder schools

   b. distributing samples of application forms

   c. designing and distributing descriptive brochures which will include required planned work experience programs

   d. arranging for school newspaper and commerical press review

   e. scheduling small group visitations

   f. arranging for a summer orientation program

   g. setting up a year-round calendar of events which includes guidance and public relations activities

   h. explaining how arrangements are made for conducting required planned work experience programs, both at the school laboratory and/or in commercial employment

4. Suggested criteria to be considered in selecting students:

   a. occupational interest: as evidenced by hobbies, membership in Scouts or 4-H, interests in the work of relatives employed in the field, if any

   b. physical: manipulative skills, general good mental and physical health and stamina

   c. work habits: ability to follow through, as demonstrated by previous work experiences; willingness to participate in the required planned work experience programs

d. parents: interests, influence, aspirations, and cooperation

e. reading and mathematics skills: differentiated by levels of proposed program

f. academic achievement: used primarily as an indication of pupil study habits and interests

g. recommendations: previous teachers and other acquaintences

h. interview: horticultural teacher's interview of the potential student

E. Planning the Work Experience Programs

1. Begin by identifying the criteria for the planned work experience in terms of its relationship to the program goals.

2. The consulting committee can provide valuable assistance in terms of how, when, and where experiences should take place.

3. Make provision for the wide range of student abilities and interests in arranging for jobs, in making time requirements, and in planning other aspects of this phase of the total instructional program.

4. Work as closely as possible with other agencies placing students in work-study, community action, and job corps programs when it is possible to tie in related activities.

5. Provide for as large a portion of the planned work experience programs as may be appropriate to take place at the school site. Include experiences both during the school year and in the summer.

6. Allow sufficient time for supervision during the school year and summer months. Make sure administrators understand what a vocational ornamental horticultural teacher's duties and responsibilities are in regard to the supervision of work experience programs. Provide opportunities for pupils to plan as well as carry out programs.

7. Visit and approve business and industries for work experience programs in advance. In selecting, consider employer personalities as well as on-the-job learning experience opportunities.

8. Plan for the use of a memorandum of agreement between students and employers.

9. Consult with representatives of the State Labor Department and local agencies to insure that the requirements established are not inconsistent with federal, state, and local labor laws and regulations, especially those regarding the employment of minors.

F. Planning for Needed Facilities

1. Translate the program goals and objectives into facilities needed. Include classrooms, mechanics laboratories, greenhouses, land laboratories, and other facilities necessary for the number of student stations anticipated.

2. Facilities should be planned to accommodate an optimum of 20 students per section, considering the length of the school day, the number of teachers, and other factors.

3. Make provision for future expansion in planning the initial facilities.

4. Consult with school administrators and suppliers and develop a statement of needs relative to:

   a. costs
   b. production time-tables
   c. priority in terms of facilities
   d. other needs

5. Recommended minimum space allocations for New York Schools which accommodate 20 students per section:

   a. classroom - 600 square feet
   b. mechanics laboratory - 1200 square feet
   c. greenhouse - 2600 square feet (including 600 square feet of headhouse)
   d. land laboratory - access to 5 acres

6. In planning the greenhouse it is desirable to make provisions for:

   a. adequate bench and/or bed space
   b. adequate walk space
   c. taking advantage of all potential growing area
   d. automatic heating, ventilating, and watering equipment
   e. various covering materials such as glass, plastic sheeting, solid plastic, plexiglass, etc., as may be appropriate

7. Other facility needs may include:

   a. a teachers office
   b. classroom sinks
   c. locker space
   d. lavatory facilities
   e. adequate water supplies
   f. sufficient storage space for large and small materials, equipment, combustibles, and fire prevention apparatus, and any other necessary items

8. Consideration should be given to the employment of a technical aide on either a full-time or a part-time basis. He would have, among his other duties, the responsibility for the care and maintenance of the facilities, especially during periods when school is not in session.

9. Local planners should consult with the State Education Department for assistance with facilities planning.

G. Planning for Needed Equipment and Materials

1. Equipment and materials lists should be developed which reflect the items needed to adequately conduct the planned program.

2. Assistance in developing these lists is usually available from the State Education Department, local educational personnel, individual commercial horticulturists and trade associations, the consulting committee, suppliers representatives, and other interested concerns.

3. In developing lists and planning budgets these suggestions may be helpful:

   a. order items in units in accordance with the most accurate projected needs

   b. differentiate supplies according to the program. Determine which instructional materials could better be developed locally, time permitting, as opposed to those produced commercially

   c. plan supply orders in terms of time (chronological) when used

   d. use consulting committee in making out supply lists and establishing priorities

   e. don't overlook potential local suppliers of instructional materials

   f. request the amount needed to run a quality program. Don't estimate budget on the basis of "what you can get away with"

4. For planning purposes the following estimates may be used for 2 - 3 sections of 20 pupils each:

a. initial classroom equipment and supplies	$ 2,000
b. initial mechanics laboratory and light field equipment and supplies	8,000
c. initial heavy equipment such as trucks, tractors, bulldozers, etc. which may be needed depending upon the content of the instruction program	10,000
d. annual replenishment of all supplies	2,000

H. Coordination with Other Subject Areas and Agencies

1. Inform teachers of other subjects as to your course content. Check their courses of study and lesson plans for interrelationships with ornamental horticulture. Compare with content and chronology (when taught in school year) of English, business arithmetic, distributive

education, science, industrial arts, fine arts, (drawing and design). Articulate these common or complimentary subject matter areas and inform other teachers and supervisory personnel.

2. Identify (in large schools) where related electives such as Biology or botany might be offered. Make sure that the ornamental horticulture teacher relates his instruction to these other subjects.

3. Confer with the administrator doing master scheduling. Let him know of the special instructional problems and which possible electives or "tracks" of required subjects, if any, might conflict with and detract from the horticulture program. Let "feeder schools" counselors know what electives should be included in students' programs.

4. Make sure "feeder schools" (if operating under a half-day program) holiday schedules conincide. Check transportation schedules before finalizing teaching schedule. Coordinate team sport practice days, club-days, etc., with after school horticulture program.

5. Coordinate your instructional content with that of institutions of higher education giving instruction in horticulture. Don't wait for college faculty to come to you. If possible, get a representative from higher education on the consulting committees.

6. Take an active role in civic beautification, service clubs, merchants associations, and garden clubs for public relations purposes, and as other possible sources of support for your program and future adult program.

7. Plan for an active youth leadership training program for the students of horticulture, such as the FFA.

8. Involve county agricultural agents, foresters, etc., consulting committee members, and horticultural business men as instructors in and out of class, as well as in the planning stages. Arrange for visiting lecturers - voluntary or remunerated.

I. Selecting the Teaching Staff

1. The shortage of qualified instructors could be the most severe factor inhibiting the inauguration of ornamental horticulture programs.

2. Within the guidelines or regulations established for the certification of teachers in each state, the following priority list of individuals to consider as potential instructors may be useful:

   a. graduates of four-year agricultural colleges who have had at least 12 hours of course work in ornamental horticulture and professional education courses leading to certification as a teacher of agricultural subjects

b. graduates of four-year agricultural colleges who had a major in ornamental horticulture

c. graduates of two-year agricultural colleges who had a major in ornamental horticulture and who have had at least three years of successful commerical experience in the field, preferably some of which was at the supervisory or managerial level

3. In multiple-teacher programs, steps should be taken to employ instructors whose talents and interests complement one another.

II. Evaluation of Instruction in On-Going Secondary Horticulture Programs

This section of the evaluation guidelines may be used to measure the effectiveness of on-going programs, including those which have been operating for a number of years as well as those more recently developed according to the criteria mentioned in Section I. In either event, comparison of the data derived from the section should be compared in light of the original objectives of the operating program. Where elements suggested here as points of evaluation do not coincide with the objectives of the local program, they should be disregarded.

The following are points to be considered in determining whether the program is of high quality and up-to-date.

A. Congruency of Program Operations with Stated Goals and Objectives of Local Programs.

1. To what extent and how often was planning data sought during the operating year from local, state, and regional agencies on educational and employment needs?

2. Has this data been measured against the projected numbers of student graduates during the same period?

3. How often has feedback been provided, and what techniques have been utilized in informing these data-furnishing agencies with information on the numbers and preparation of graduates and projected graduates from the program?

4. Has the program been examined to determine if significant changes in projected employment needs should warrant a re-examination of the content emphasis? (An illustration would be a switch in emphasis from greenhouse production to ornamental landscape service in the case of a local housing boom.)

5. Does an examination of admissions patterns of the program graduates identified as potential postsecondary students indicate that greater differentiation in horticulture content, unit variety (academic preparative), and time allotment should be made to provide an optimum program for both terminal and postsecondary students? Perhaps college prep students need a reduction in horticulture instruction time to permit necessary academic electives to be scheduled into their programs.

6. Have projections of students in the program been validated in terms of:

   a. enrollment

   b. holding power

   c. transfer from other courses

   What are the implications for change in your goals and objectives if the initial projections you made were inaccurate?

7. Is the content geared to the original goals of training for practical job entry presently consistent with student objectives?

8. Do program objectives need to be reevaluated in light of student achievement as opposed to teacher expectency? Does the program permit students to underachieve or is the teacher expectency level so high that students become discouraged due to complete lack of success?

9. How often and with what success were consulting committees and other resources used within the past operating year to actively review goals and objectives? Does composition of the consulting committee reflect personnel and operations people as well as executives and proprietors (particularly in large firms)?

10. Do goals and objectives have sufficient flexibility to permit achievement of short-term training needs without sacrificing the long range goal of educating for broad competencies and job mobility?

B. <u>Evaluation of Student Identification and Selection Practices in an On-Going Program.</u>

1. Are the number of student applicants from each feeder school represented in the quantities projected when the program was planned? If not:

   a. Is the information provided to counselors updated as to employment and educational opportunities provided by the program?

   b. Is counselor bias recognized, and are all media used to orient students, parents, and counselors?

2. Does the holding power of the program reflect the degree and accuracy of the pre-admission vocational counseling received?

3. Do selection practices in the feeder schools attempt to assess sincere student interest, or are certain groups "sold" on horticulture? Is the horticulture teacher involved in orienting, interviewing, and admitting prospective students before the beginning of the instructional program?

4. Are the obligations of the planned work experience program fully understood by counselors, parents, and students before application is made? To what extent are reasons for student dropout or transfer out of the program, repeated disciplinary infractions, and low achievement investigated and analyzed to provide a source of revision in guidance and student selection practices?

5. To what extent does the horticulture teacher initiate contacts with counselors and parents of students to appraise their achievement and progress in the program as a reflection of an appropriate vocational choice? Is the program sufficiently flexible to meet the individual needs and abilities of students being sent by feeder schools?

C. Evaluation of Instruction

1. Is the teacher making himself aware of continuously changing production and marketing techniques and including this in revising the content and time allotment in instruction?

2. Does the local course of study reflect current changes in production and service occupations in the area? When was it last considered for revision by a joint meeting with the teacher and advisory committee?

3. Is the course of study used as the basis for the teaching calendar and is it being followed?

4. Does the teaching calendar reflect the seasonality of local production and marketing practices? Is appropriate seasonal crop production changed as is necessary to illustrate different production and management techniques?

5. Is the teaching calendar realistic in length and depth in light of the total instructional time available?

6. Does the amount of time spent on theory and practice reflect the competencies required by employers at different job levels?

7. Are methods and materials appropriate and realistic in regard to the mode of instruction? Is there over-utilization of the lecture method? Are field visits utilized (where more appropriate than prepared samples) to illustrate materials? Is lesson preparation time spent in elaborate development of audiovisual materials when live materials are readily available? Are methods and materials appropriate to the field of horticulture being used?

8. Are appropriate clothing and equipment available? Are proper techniques used in orderly management of the facilities in order to provide for adequate health, safety, and sanitation?

9. Is instruction preplanned to provide opportunities for students to encounter and attempt to solve typical operating and managerial problems?

10. Are budget, supply, and material orders evaluated annually in terms of inventory, spoilage, and changes in program emphasis so as to provide sufficient quantities for enough practical application of theory to needed entry job skills?

11. Does evaluation measure the adequacy and appropriateness of student recordkeeping systems in detailing their planned learning activities in the work experience program?

D. Evaluation of Planned Work-Experience Program

1. Are teachers using sound methods for selecting businesses for approval as cooperating centers for student experience? (interviewing and canvassing as opposed to picking names out of the classified ads.) Is the teacher supervision regular and planned? Are cooperative arrangements mutually satisfactory to employers, parents, students, and teachers?

2. Do student school-work experiences reflect the necessity for the development of independent work values when not under close supervision as well as when a member of a crew; the reality of repetitive operations on the job; the simulation of production-oriented commercial employment; the avoiding of excess seasonal and school decorative assignments and activities?

3. Is there provision for formal assessment of the adequacy of staff and technical aides? Are these being utilized in helping to provide summer work-experience opportunities?

4. Are the instruments used to appraise student learning and progress geared to measure the learning which should take place in the planned work-experience program?

5. Is the individual planned work-experience program individually modified for each student through consultation with teacher, pupil, parent, and cooperating employer?

6. Are youth organizations of sufficient scope and direction to provide experiences in harmony with the objectives of the ornamental horticulture program?

E. Evaluation of Facitilites and Their Utilization

1. Are present goals and objectives as reflected in the operating program and enrollment coordinated to determine adequacy of space?

a. Common areas of evaluation would be: seating and board space; heating, ventilation, and plumbing; utilities and their accessibility; and lab, bench, table, and storage space.

b. Does the location, exposure, and layout of the greenhouse adequately meet program objectives?

c. Are cropping practices planned around any facilities limitations?

2. Are efforts made to keep the facilities abreast of changing technologies in the trade?

3. Are provisions made for maximum safety in the use of all facilities and equipment, especially in terms of increasing or decreasing enrollment?

4. Are day-to-day housekeeping practices, particularly in sanitation, adequate? Are daily clean-up chores regularly scheduled and assigned?

5. Are instructional materials, equipment, and supplies inventoried, classified, and stored for maximum teaching efficiency?

6. Is the year-around utilization of the facilities consistent with local practices in the trade?

7. Is the available equipment adequate in terms of existing state recommendations, trade practices, and suggestions by the advisory committee? Does the equipment inventory reflect the necessary mechanical skills which should be taught in ornamental horticulture programs?

8. Are locker, lavatory, and emergency facilities for students adequate in terms of present enrollments; is the growing trend toward enrollment of girls in horticulture programs reflected in facilities modification?

9. Do outlying horticulture buildings have signal devices, public address systems, etc. to maintain contact with main school buildings?

F. Professional Improvement and Relationships of Instructional Staff

1. Do the teachers join and support professional horticultural and community organizations?

2. Does the supply budget provide for publications which will contribute to professional growth?

3. Does the teacher evidence continuous professional growth as demonstrated by continuing education, publication contributions, and visitations to commercial establishments and other high school programs? Is professional improvement reflected in improved teaching practices?

4. Does evaluation measure effectiveness of the relationships with the advisory committee as determined by its influence on program change?

5. Does evaluation measure relationships with press, local radio, TV and other communication media, and local school administrators to inform and build public interest in and support for the programs?

III. Utilization of the Results of Program Evaluation

A. There are many factors operating which bear upon the degrees of success of the program other than those which are controlled by instruction. These factors include:

The degree of employment security in the area

Changes in job opportunity within and without the ornamental horticulture field

The educational opportunity offered by the availability of postsecondary programs

Changes in social climate in terms of employer attitudes toward different groups and current hiring practices

Changing technology within and without the ornamental horticulture field

Changes in real income levels

Changing land use patterns

Population mobility

At this stage in the evaluation we are concerned: (a) with the comparison of achievements in relation to previously stated objectives and goals, and (b) an appraisal of emerging goals through which the program may be adjusted and extended.

B. Evaluating Outcomes

1. Major Questions:

a. To what extent were graduates of the program employed in the identified fields?

b. To what extent did the program serve the entire range of student interest, abilities, readiness levels? Did it only serve a more limited one?

c. To what degree of competency did the pupils master the subject matter taught? How closely did these competencies relate to the competencies needed by employers?

d. To what extent did the pupils continue their formal education?*

e. To what extent can the school district afford to maintain follow-up activities on dropouts and graduates?

---

*At the end of the year the guidance officer and the teacher should make a list of those students going on to post high school training. The guidance office can flag the record cards of former graduates who request transcripts for college admission.

f. To what extent would each of the following influence the degree of success of the program?

(1) student identification and selection

(2) facilities

(3) materials and supplies

(4) the Work Experience Program

(5) the use of community resources

g. To what extent was the actual instructional program congruent with the expressed objectives?

h. To what extent are you satisfied with the practical and theoretical balance of instructional content?

i. To what extent is feedback from employers participating in the planned work experience program gathered, evaluated and utilized to modify and make more meaningful the classroom and laboratory instruction?

2. Getting Answers

a. Prepare a statement of what is happening to general and ornamental horticulture employment and employment trends and opportunities in your region. Agencies such as the following are suggested sources of data:

(1) Town Planning Board

(2) Chambers of Commerce

(3) Superintendent of Schools

(4) Employment Security

(5) County Agents

(6) Extension Board

(7) Zoning Boards

(8) Advisory Committee

(9) Census Data (if recent)

b. See factors listed which gear on program's characteristics as affecting outward appearance of program success. Pay attention to those changes which may have significance in relation to ornamental horticulture.

c. Suggest that this statement be prepared by an advisory board; it might be possible to use sections of county agent's annual report.

3. Suggested Techniques for gathering data:

a. determine the kind of data needed

b. set up a systematic approach for collecting and recording data throughout the year

c. get relevant data in the cheapest and easiest way. For example, through growers or trade group associations

d. data should be gathered on all former students, whether graduates or dropouts

e. utilize all available data, such as that available in the guidance office as well as from other sources. Avoid duplicating data-gathering efforts conducted by other agencies and departments of the school

f. a notation should be made of the source of all data gathered

g. design appropriate data-gathering forms

h. make other school personnel and data collecting departments aware of your data-gathering efforts so that they may assist in the effort

i. consider making the data-gathering process a co-operative effort with other ornamental horticulture departments and community colleges

j. use instructional and placement activities to provide feedback data also. Work with the alumni association. Take time while on employer interviews and field trips to jot down data which concerns course content as well as students

k. contact supply and equipment houses and salesmen at least once a year to learn about new "hardware and software" which may affect your content emphasis and methods

l. use advisory committees to suggest topics for, and to analyze final and two- or three-year comprehensive school examinations

m. call advisory committee together for an annual meeting to review course content, program emphasis, and instructional methods. Get suggestions for setting up situations for performance testing of students

n. twice a year ask current students to fill in a written list on what grads "are doing." Carry such a list around in field notebook, make notes on names of graduates you come across

o. prepare biennial summary report - follow up employers originally contacted and new ones which have since developed while program was in planning stages. Have them provide the follow-up and evaluative judgements--much of this data may be obtained through phone contacts.

C. Evaluating and Classifying Data

1. Classify data according to types of students, (graduates, dropouts) and whether they are day or evening school students.

2. Classify employment data according to job titles, occupational family clusters, or other conventional methods.

3. Record only relevant data, avoid the collection and recording of extraneous data.

4. Avoid the tendency to collect and record data which only gives a favorable image or supports the present programs. Unfavorable data can also be useful.

5. Summarize pertinent data for inclusion in annual reports for the local board of education, state agencies, etc.

D. Appraisal of Emerging Goals

1. Elements in Using Data

a. Project and analyze the net cost of the program changes your data will effect in relation to program benefit returns. Do this before initiating forces to implement these changes, and plan alternatives ahead of time. Consider those alternatives which may not at first seem feasible.

b. Analyze characteristics of all entry and recent full-, part-time, and seasonal workers in ornamental horticulture and related businesses in your employment region. Determine long- and short-term training needs as recognized by their employers against your program operating service ranges and objectives.

E. Establishing Goals and Objectives of Programs

1. Determine alternate methods of on-the-job or supplementary upgrading or entry short-term training for workers past high school age and if whether this might best be provided through the following:

a. adult education

b. school initiation

c. employment service of a manpower training project

d. co-operative program of growers or employers associations

e. Office of Economic Opportunity

f. extension service programs or two-year colleges

g. private trade schools

h. correspondence courses

2. Using data recorded regarding student characteristics, compare the characteristics of students employed in ornamental horticulture with the students who:

   a. went on to college

   b. were not employed in ornamental horticulture

   This should lead to identification of predictive characteristics regarding those who obtained employment in ornamental horticulture.

3. Attempt to determine whether your students who did not obtain employment (or go on to higher education) in ornamental horticulture were not employed because of poor preparation, poor work habits and attitudes, personality factors, or selective hiring practices in relation to certain groups.

F. Elements in Decision Making

Decision making often involves more than one person. It is well to talk with all persons who may be involved regarding the way they see the situation and the ways in which they see themselves as being involved in making decisions. For example: A teacher of agriculture usually feels that he alone should make the decision as to the conduct of the classes, whereas, other people most certainly would be involved if it were a question of adding new facilities or new courses.

1. Other areas which involve the establishment and extension of the program include:

   a. development of adult education courses

   b. co-operative programs with industry

   c. the use of a contract form of occupational experience

d. the addition of basic education courses as a foundation for an adult education program

e. changing the time allotment for give classes

f. establishing new educational standards

g. adding staff members

h. using assistance cf business education programs and student tabulating data

i. developing a co-operative program with distributive education

j. coordinating school schedules

k. developing budgets

l. providing placement service

View this as a changing process in which the following stages may usually be found: AWARENESS, INTEREST, EVALUATION, TRIAL, AND ADOPTION.

Suggestion for Implementation

Use these guidelines for ornamental horticulture program development and evaluation, not only to add needed elements to update on-going programs, but in making the difficult decision to discontinue program practices and procedures which have relatively low returns and high costs. In adding new elements to an on-going program, give priority to those which will, if adopted, enable the program to reach those students and adults not presently served.

BIBLIOGRAPHY

A. Books

Phipps, Lloyd J. Handbook on Agricultural Education in Public Schools. Danville, Illinois: Interstate Printers and Publishers, Incorporated, 1965.

B. Publications of the Government, Learned Societies and Other Organizations

California State Polytechnic College. Nursery Practices. San Luis Obispo, California: Department of Agricultural Education, The College, 1962.

Clark, Raymond, et.al. The Land Laboratory. East Lansing, Michigan: College of Education, Michigan State University, 1963.

Dillon, Roy D. Comparison of Certain Abilities Needed by Workers in Licensed Nurseries and Licensed Ornamental Horticulture Businesses. Morehead, Kentucky: Division of Applied Arts, Morehead State College, 1965.

New York State Education Department. High School Programs in Ornamental Horticulture. Albany, New York: Bureau of Agricultural Education, The State Education Department, Undated.

New York State Education Department. Suggestions for Developing a Course of Study in Ornamental Horticulture. Albany, New York: Bureau of Secondary Curriculum Development, The State Education Department, 1965.

Ohio State Board of Education. An Example of a Course of Study for Vocational Horticulture. Columbus, Ohio: Vocational Agriculture Service, Division of Vocational Education, State Board of Education, Undated.

Ohio State Board of Education. Suggested Courses of Study for Vocational Horticulture Programs. Columbus, Ohio: Vocational Agriculture Service, Division of Vocational Education, State Board of Education, Undated.

Ohio State Board of Education. Suggested Guidelines for Vocational Horticulture Programs. Columbus, Ohio: Vocational Agriculture Service, Division of Vocational Education, State Board of Education, Undated.

The Ohio State University. Supervised Practice for High School Students of Vocational Agriculture with Limited Opportunities. Columbus, Ohio: Department Agricultural Education, The University, 1961.

The Ohio State University. Course Outline for Horticulture Service Occupations. Columbus, Ohio: The Center for Vocational-Technical Education.

B. (Con't)

The Pennsylvania State University. Suggested Course of Study for Vocational Agriculture in a Suburban Community. University Park, Pennsylvania: Teacher Education Series, Volume 3, Number 2, Department of Agricultural Education, College of Agriculture, The Pennsylvania State University, 1962.

C. Periodicals

Ball, John H. "Teaching Floriculture to Girls," The Agricultural Education Magazine, XXXVII (March, 1965), 213.

Dippold, Edward C. "There's a Place for Teaching Landscape Design," The Agricultural Education Magazine, XXXVII (September, 1964), 69.

Juestrich, Anthony. "A New Jersey Department Emphasizes Horticulture and Forestry," The Agricultural Education Magazine, XXXVII (September, 1964) 62.

Kopf, Robert A. "We Adjust Our Program to Urbanization," The Agricultural Education Magazine, XXXVII (September, 1964) 62.

Utsinger, James D. "Initiating Vocational Horticulture Programs in the Secondary Schools," Ohio Agricultural Education News, XVII (July, 1965), Supplement 1-4.

Walter, John C. "If You Add Horticulture," The Agricultural Education Magazine, XXXVII (September, 1964), 64

Yetman, George H. "What Employers in Ornamental Horticulture Want," The Agricultural Education Magazine, XXXVII (March, 1965), 224.

D. Unpublished Materials

Kumpf, William A. "The Place of Ornamental Horticulture in the Secondary Schools of New York State." Unpublished Master's Study, Cornell University, Ithaca, New York, 1950

Lamb, Frank; King, William; and Finley, John. "The Vocational Competencies Needed for Greenhouse and Nursery Operations Found in Chittenden County, Vermont." Unpublished research paper.

VT 000 040
Vocational-Technical Education Counselor Handbook.

Saint Louis County Special School District, Rock Hill, Mo.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Nov66 44p.

*VOCATIONAL EDUCATION; *TECHNICAL EDUCATION; *PROGRAM DESCRIPTIONS; *COURSE DESCRIPTIONS; OCCUPATIONAL INFORMATION; *VOCATIONAL COUNSELING
SAINT LOUIS COUNTY; MISSOURI

The objective of this handbook is to provide information necessary for counseling students in the selection of vocational and technical education programs. It included information on admission requirements and procedures, student selection criteria, recommended course prerequisites, and course descriptions. Student evaluation forms and occupational information are also given. (EM)

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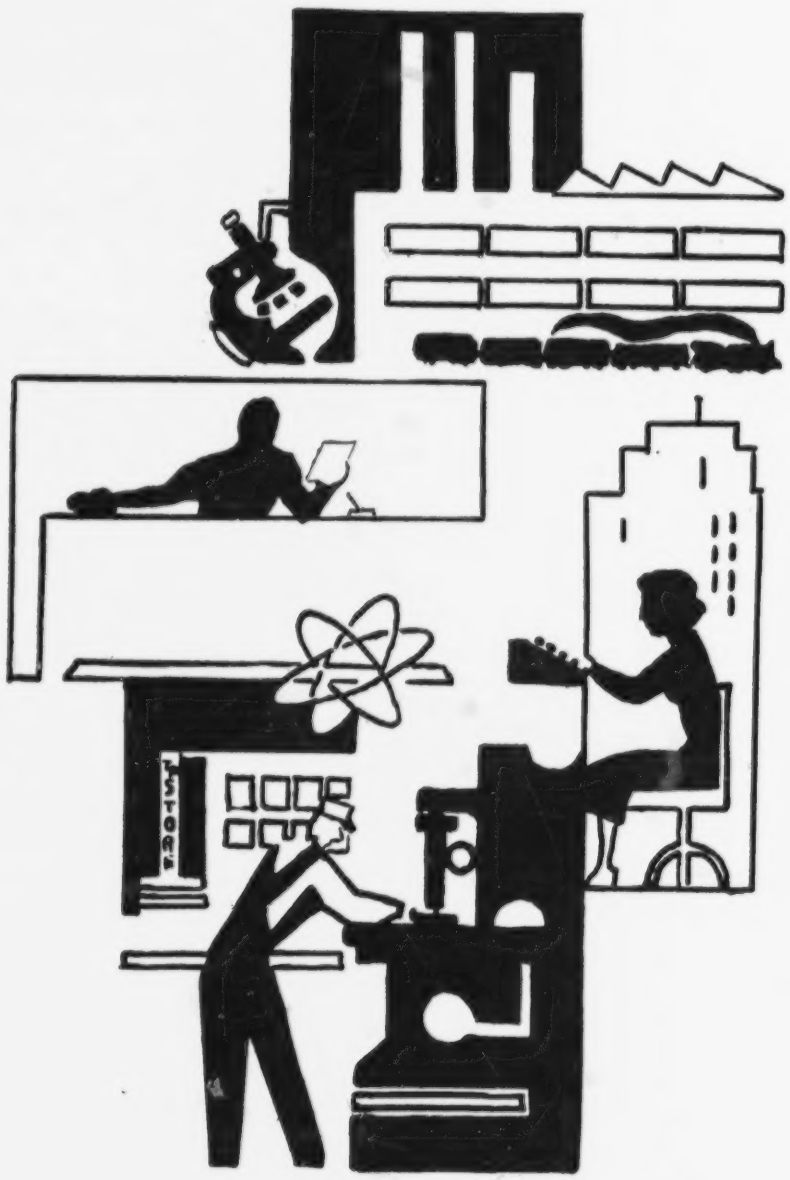
42 p

VOCATIONAL-TECHNICAL EDUCATION

COUNSELOR HANDBOOK



SPECIAL SCHOOL DISTRICT OF ST.LOUIS COUNTY

VT00040

SPECIAL SCHOOL DISTRICT of St. Louis County Missouri

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Superintendent

November, 1966

All Guidance Personnel
of St. Louis County

The Board of Education and administration of the Special School District of St. Louis County are happy to make available to the boys and girls of the County opportunities to prepare for the world of work by enrolling in the new and larger programs of vocational and technical education that will be started in September, 1967 and further expanded in September, 1968.

The degree to which the boys and girls and the employers of the area profit from this new educational program will depend, in a very large measure, on the effectiveness of the guidance programs in each of the schools. This Handbook is intended to provide the essential information needed by each counselor.

We earnestly hope that this publication will serve as a valuable tool for counseling the non-college bound students of St. Louis County.

Sincerely yours,

Oral W. Spurgeon

Oral W. Spurgeon
Superintendent

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INTRODUCTION

This handbook is intended to provide the information necessary for counseling students in the selection of Vocational-Technical Programs. It contains statements on the purpose of the programs and their objectives. It also includes the admission requirements, the selection criteria, the recommended course prerequisites, and the course descriptions for the various programs offered.

It is hoped that all counselors will become familiar with its contents and use it as a guide in planning with their counselees for admission to the specific Vocational-Technical Programs.

As stated in the Informational Bulletin, the program of Vocational-Technical Education in St. Louis County was created to fulfill an expressed public demand. The primary purpose of this program is to prepare non-college bound students for entry as advanced learners in jobs related to their training and to provide them with the incentive to improve their job competency.

To accomplish this purpose, the Vocational-Technical Programs provide boys and girls with opportunities to develop the technical knowledge, the basic skills, the attitudes, and the work habits required for the efficient worker.

THE OBJECTIVES OF VOCATIONAL-TECHNICAL PROGRAMS

The objectives of the Vocational-Technical Programs for the boys and girls of St. Louis County are:

A. To develop in each student skill to secure initial employment through:

1. Experiences dealing with the performance of skills in an occupational area for which the student has expressed an interest and is physically and mentally qualified to attain a reasonable degree of proficiency.

2. Experiences which provide the basis for understanding and use of functional technology related to the occupational area selected.

3. Experiences which tend to help students develop competency in dealing with personal and group relationships within the school and on the job.

4. Experiences in the shop, related, and other classes whereby the student has the opportunity to develop desirable work habits, ideals, and attitudes essential to job success.

5. Experiences which will enable the student to make decisions and to solve specific technical problems.

B. To develop in each student the technical knowledge, basic operational skills, and the appreciations essential to orientation to job and life situations by:

1. Describing the requirements and opportunities common to a family of allied trades or occupations.

2. Discussing working conditions, industrial organization, jobs, relationships, labor and social legislation.

3. Emphasizing the skills and facts which enable the student to interpret his natural environment and by providing information which helps him adjust himself to the group activities required to accomplish his job successfully.

4. Emphasizing the dignity and value of work as a fulfillment of a basic life need.

C. To help each student to understand his responsibility as a citizen by:

1. Helping him to understand the economic, social, and political forces that effect the stability of employment.

2. Helping him to develop the necessary ability to adapt to occupational changes brought about by changing technological developments and economic conditions.

3. Discussing civic problems related to workers as citizens.

4. Stressing the acceptance of duties relating to choosing leaders, supporting good leaders, exercising the right to vote, and holding public or organization office.

5. Studying adequately the agencies affecting the individual worker's welfare.

D. To aid each student in the development of good health habits and attitudes through:

1. A program of health instruction emphasizing industrial hygiene.

2. Emphasis on developing safety consciousness by teaching safe practices in all phases of the instructional program.

E. To develop in each student an understanding of the need for conservation of time, materials and equipment through:

1. Experiences emphasizing the value of time in the performance of work.

2. The development of an appreciation for cost of employment and materials.

ADMISSION REQUIREMENTS

Applicants for the Vocational-Technical Schools must have the following units of credit to be considered for admission:

English	- 2 units
Social Studies	- 2 units
Mathematics	- 1 unit
Science	- 1 unit
Fine Arts	- 1 unit
Health and Physical Education	- ½ unit

It is recommended that credit in algebra and geometry be included in the preparation of those applicants wishing to enter the more technical fields. These include, Electronics, Engineering Drawing and Tool Design. Priority for the selection for these programs will be given to students with these recommended course prerequisites. Similarly credits in other courses will be considered in selecting students for other vocational programs. For Intensive Business Office Education credit in typing is required.

The selection of students for Vocational-Technical programs will be based on specific prerequisites and applicants will be given priority based on criteria intended to determine those most likely to profit from the instruction and to succeed in the occupational area for which they have been prepared. In addition, each applicant must be in good standing in his home school.

The chart on the following page states the recommended prerequisites for admission to Vocational-Technical Programs at the South County Vocational-Technical School during 1967-1968.

A CHART INDICATING RECOMMENDED CREDIT REQUIREMENTS
FOR EACH OF THE VOCATIONAL-TECHNICAL PROGRAMS IS LISTED BELOW:

	STRONGLY RECOMMENDED	RECOMMENDED	RECOMMENDED UNITS OF MATH
A/C and Refrigeration		Algebra Physical Science Mechanical Drawing	1
Appliance Service		Algebra Physical Science Mechanical Drawing	1
Auto Mechanics	Above Average Reading Achievement	General Shop	1
Body & Fender Service		General Shop General Metals	1
Intensive Business & Office Education (Cr. in typing required)	Basic Business Good Language Achievement		1
Commercial Art		Art Course	1
Electronic Data Processing	Basic Business Typing	Algebra	1
Electronics	Algebra Geometry Physical Science	Mechanical Drawing	2
Engineering Drawing	Algebra Geometry Mechanical Drawing		2
Fitter Welder	General Shop Basic Math-2 Units Mechanical Drawing	-	2
Key Punch	Basic Business Typing		1
Machine Shop		Basic Math Algebra Mechanical Drawing	2
Offset Lithography	Good Reading & Language Achievement		1
Radio & TV Service		Algebra Physical Science	2
Sheet Metal	General Metals	General Shop Basic Math Mechanical Drawing	1
Tool Design	Algebra & Geometry Physical Science Mechanical Drawing		2

ADMISSION PROCEDURES

Admission to one of the Vocational-Technical Programs offered at the South County Vocational-Technical School for next year, 1967-68 will be based on completion of the following procedures:

1. The interested student must complete the pre-enrollment form (see Page 8) under the supervision of his or her counselor, indicating course preferred.

2. The counselor must complete the check list of student's personal traits on the back of the pre-enrollment form.

3. The completed pre-enrollment form together with a copy of the STUDENT'S TRANSCRIPT, reflecting his latest grades, complete test data and his attendance record should be submitted by February 15, but must be submitted by March 1, 1967, to:

   Director of Pupil Personnel
   Vocational-Technical Education
   Special School District of St. Louis County
   9820 Manchester Road
   Rock Hill, Missouri 63119

Special aptitude testing for Electronic Data Processing and Commercial Art will be scheduled during the period from March 10, to March 25, 1967. Students applying for these courses will be notified of the scheduled test dates and the places where tests will be administered.

A final list of students selected for each course will be mailed to each school principal and each guidance director by April 15, 1967. Your cooperation in providing the pre-enrollment forms and transcripts by February 15 is essential for the selections to be completed by this target date.

From all indications, the number of students applying for vocational courses next year will exceed the capacity of each program. As previously indicated, only those students with the twenty highest "selection scores" will be admitted to each class.

Also, a student selected for the Commercial Art or Offset Printing course must plan to complete the second year of the two-year program at the South County School since these courses will be offered only at this facility. In the other courses where two or more class sessions will be established during 1967-68 the student will be expected to attend his second year 1968-69 at the school nearest his home.

Arrangements are being made with administrators and guidance directors of home schools for providing specific information relating to course offerings and admission requirements. Counselors will be informed when dates for meetings with students will be held and are expected to arrange for the assembly of interested tenth graders at the scheduled time.

Students presently enrolled as juniors in the County Technical Schools will have the opportunity to transfer as full-time students at the South County Technical School next year.

Transportation will be provided and graduation diploma will be conferred by the Board of Education of the Special School District.

SPECIAL SCHOOL DISTRICT of St. Louis County
VOCATIONAL-TECHNICAL EDUCATION

SOUTH COUNTY VOCATIONAL-TECHNICAL SCHOOL
PRE-ENROLLMENT BLANK 1967-1968

NAME _____
Last First Middle

ADDRESS _____
Number Street

_____
City Zip-Code

DATE OF BIRTH _____
Month Day Year

DATE _____

HOME SCHOOL _____

COUNSELOR _____

GRADE LEVEL _____ 11th ( ) _____

(September 1967) _____ 12th ( ) _____

SEX _____ M/F _____ (circle one)

PROGRAM PREFERENCE: In the following list indicate your choice of programs. Write number (1) in front of the program you prefer most, number two (2) for your second choice and number (3) for your third choice.

SERVICE OCCUPATIONS

Air-Conditioning and Refrigeration Service _____

Appliance Service _____

Auto Mechanics _____

Commercial Art _____

Offset Lithography _____

Radio and T.V. Service _____

Body & Fender Service _____

METAL-WORKING OCCUPATIONS

Engineering Drawing _____

Fitter-Welder _____

Machine Shop _____

Sheet Metal _____

TECHNICAL OCCUPATIONS

Electronics _____

Electronic Data Processing _____

Tool Design _____

BUSINESS OFFICE OCCUPATIONS

Business Office Education (12th Grade only) _____

FOR COUNSELOR'S USE ONLY:

Probable Entrance Requirement Deficiencies _____

Counselors must complete check list of Student's Personal Traits included on the back of this form.

(over)

Please evaluate each of personal traits listed below by checking the appropriate block.

INDUSTRY, ENERGY. Energy is application to school duties day by day.	Usually indifferent	Sometimes lazy.	Average in industriousness.	Hard worker; willing to do more than assigned.	Exceptionally diligent, eager to do more than assigned.
RELATIONS WITH OTHERS. Helpfulness and cooperativeness with associates and superiors in manner and act.	Surly, troublesome indifferent.	Sometimes difficult to work with.	Usually tactful and obliging; self-control	Always congenial and cooperative.	Highly cooperative; inspires cooperation.
EMOTIONAL STABILITY. Ability to control emotions.	Loses his head easily.	Apathetic; unresponsive.	Usually well controlled	Balance of responsiveness and control.	Notable and unusual control of emotions.
LEADERSHIP. Ability to get others to cooperate.	Unable to lead.	Not usually a leader.	Sometimes displays leadership.	Leads well under most circumstances.	Displays marked ability to make things go.
APPEARANCE. Such factors as cleanliness of clothing and person including care of hair, teeth, nails, etc.	Untidy carelessly dressed.	Clean, but careless of appearance and grooming.	Average in grooming and dress.	Neat dress well groomed.	Outstanding in taste and care.
ABILITY TO LEARN. Ease in learning new methods, adapting to new situations, tasks.	Unable to learn.	Learns slowly.	Average rate of adaptation.	Above average in capacity.	Outstanding in mental ability and alertness.
DEPENDABILITY. Faithfully carries out assignments. Bears full share of responsibility.	Needs constant watching.	Sometimes unreliable.	Responsible but needs some directions.	Very dependable; needs no discipline.	Thoroughly dependable, trustworthy.
PUNCTUALITY.	Always tardy.	Seldom on time.	On time but needs some prodding.	On time most of the time.	Always on time.

INTEREST - Attention or Curiosity is particularly engaged by course selected	Counselor's Suggestion	Casual Interest	Average Concern	Above Average Curiosity	Exceptionally eager to undertake course

COUNSELOR'S COMMENT: Please include any information which might indicate student's ability or lack of ability to succeed in the course. Include the reason for student's course selection.

SELECTION OF STUDENTS

Since the student capacity of the initial programs will be less than the number of applicants meeting the units of credit requirements, selection of those to be admitted will be based on their comparative standing on multifactor criteria.

A "success prediction score" will be determined for each applicant by assigning points, plus or minus from the median (50% ile) for each of the following selection criteria:

1. Attendance

2. Reading Achievement - Percentiles on standardized achievement tests

3. Mathematics - Percentiles on standardized achievement tests

4. Scholarship - Grade point average if available or general estimate of overall scholarship

5. G.A.T.B. 1
6. G.A.T.B. 2
7. G.A.T.B. 3
8. G.A.T.B. 4

   Vocational aptitude patterns expressed in Stanine Equivalents on the General Aptitude Test Battery or other multi-aptitude test batteries--Will differ in the various programs offered.

9. Interest - Indicated or expressed by student to his counselor

10. Pre-vocational Grade: Industrial Arts, Fine Arts, or Typing I depending on course desired

11. Science Grade

The sum of the plus or minus deviations from the national, state, or local means for each factor shall be the <u>total selection score</u>. Students with the 20 highest scores will be admitted to each class with the exception of Electronic Data Processing where 21 will be admitted.

Table I shows the selection chart to be used in determining the <u>selection score</u>.

For example, a student with no absence during his previous year of attendance would be assigned a plus 50 score for the attendance criterion. If he scored at the 30th percentile in reading on most recently administered standardized achievement test, he would be assigned a minus 20 for this criterion. If his mathematics achievement was at the 70th percentile on the most recent test, he would be assigned a plus 20 for the math criterion. If his scholarship level

was average, he would receive a score of 0 since he would be considered at the median or 50th percentile for this factor.

The assignment of scores for each of the G.A.T.B. factors is based on occupational aptitude patterns on the General Aptitude Test Battery which has been determined to be the most widely used test battery in use today. On the basis of these tests, minimum aptitude scores have been determined for predicting success in each occupational area related to the Vocational-Technical Programs being offered next year at the South County Vocational School. These scores have been expressed in projected stanine equivalents derived from conversion of tenth grade aptitude scores for each of the nine measured aptitudes on the G.A.T.B. A chart identifying these aptitude patterns for each Vocational-Technical Program is shown by Table II on page 13. Also, included are interpretative categories for indicating level of attainment from lowest to highest for each Stanine Equivalent shown by Table III on page 14.

It may be noted that where the G.A.T.B. scores are not available, the specific aptitudes measured by other multi-aptitude test batteries such as the D.A.T. will be used to determine the selection criterion for each of the four aptitudes which comprise the occupational aptitude pattern for a Vocational-Technical Program.

As additional criteria for compiling the "selection" score; indicated interest in a Vocational-Technical Program noted or expressed by the student to the counselor will be measured by the same deviation technique. Also, depending on the program selected, the previous grade in Industrial Arts, Fine Arts or Typing I and Science will be considered in determining the score for these criteria.

The total selection score for each Vocational-Technical Program applicant will be compiled by the addition of the plus or minus scores for the selection criteria listed. Students selected for each program will without exception be those with the highest scores.

In those instances where there is no available data for use as a selection criterion, a score of zero will be arbitrarily assigned, and the total score will be based on the scores on the remaining criteria. Thus a student will not be penalized or benefited by any lack of data.

Provision will also be made for the administration of specialized aptitude and performance tests in electronic data processing and commercial art to determine the student's qualifications for such programs. These tests will be administered between March 10, and March 25, 1967.

Name _____
Last First Initial

Date of Birth _____

Program _____

SPECIAL SCHOOL DISTRICT of St. Louis County
VOCATIONAL-TECHNICAL EDUCATION

VOCATIONAL PROGRAM SELECTION CHART

School _____

Counselor _____

Date _____

Selection Criteria	0 10 20 30 40 50 60 70 80 90 100	Selection Score Plus	Selection Score Minus
Attendance			
Reading			
Mathematics			
Scholarship			
G.A.T.B. 1			
G.A.T.B. 2			
G.A.T.B. 3			
G.A.T.B. 4			
Interest			
Grades *			
Science Grades			
Total			

-50 -40 -30 -20 -10 0 +10 +20 +30 +40 +50

LOW BELOW AVERAGE AVERAGE ABOVE AVERAGE HIGH

Total Selection Score

* Industrial Arts, Fine Arts,
Business Education as applicable

TABLE II

APTITUDE PATTERNS AND MINIMUM STANINE SCORES PREDICTING SUCCESS IN OCCUPATIONAL AREAS RELATED TO VOCATIONAL-TECHNICAL TRAINING PROGRAMS

	G General Learning Ability	V Verbal Aptitude	N Numerical Aptitude	S Spatial Aptitude	P Form Perception	Q Clerical Perception	K Motor Coordination	F Finger Dexterity	M Manual Dexterity
Air Conditioning Refrigeration Service	4		4	4					3
Appliance Service	4		4	4					3
Auto Mechanics	4			3				4	4
Body & Fender Repair				3	4			4	4
Intensive Business Office Education	5		5		4	6			
Commercial Art	5			5	5		5		
Electronic Data Processing	5		5	5		6			
Electronics	6		5	5				5	
Engineering Drawing	5		5	5	5				
Fitter-Welder	3			4	4				5
Key Punch	4		4			4		5	
Machine Trades	4		4	4					4
Off Set Lithography	4			4	4				4
Radio & TV Service	5		5	5				3	
Sheet Metal	3			4	4				5
Tool Design	5		5	5	5				

SPECIAL SCHOOL DISTRICT of St. Louis County
VOCATIONAL-TECHNICAL EDUCATION
9820 Manchester Road
St. Louis, Missouri

TABLE III

INTERPRETATIVE CATEGORIES

FOR G.A.T.B.

STANINE SCORES *

B-1002 Norms

ATB Factor	G	V	N	S	P	Q	K	F	M	Percent Included
Highest	9	9	9	9	9	9	9	9	9	4%
High	8	8	8	8	8	8	8	8	8	7%
Above Average	7	7	7	7	7	7	7	7	7	12%
Slightly Above Average	6	6	6	6	6	6	6	6	6	17%
Average	5	5	5	5	5	5	5	5	5	20%
Slightly Below Average	4	4	4	4	4	4	4	4	4	17%
Below Average	3	3	3	3	3	3	3	3	3	12%
Low	2	2	2	2	2	2	2	2	2	7%
Lowest	1	1	1	1	1	1	1	1	1	4%

* A stanine is the unit that divides the norm population into nine groups. Except for Stanines 1 and 9, the groups are spaced in half-sigma units, with the mean at Stanine 5.

Aptitude scores on the G.A.T.B. for ninth and tenth grade students have been converted to Stanine Equivalents. This stanine equivalent has the desirable characteristics of providing a broader description of performance on the test.

AIR-CONDITIONING AND REFRIGERATION SERVICE

AIR-CONDITIONING AND REFRIGERATION MECHANIC 637.281 AND .381

The air-conditioning and refrigeration mechanic installs, services and repairs air-conditioning units and refrigeration equipment. The mechanic may install air-conditioning equipment ranging from small, self-contained units to large central-plant type systems. On large installation jobs, he must read and interpret blueprints or drawings. On small installations, he may have to prepare his own working diagrams and do simple layout work, such as measuring and cutting pipe.

In installing new air-conditioning and refrigeration equipment, the mechanic puts the motors, compressors, condensors, evaporators, and other components in proper position, following design specifications. He connects duct work, refrigerant lines, and other piping and then connects equipment to an electrical power source. After completing the installation he charges the system with refrigerant and checks the unit for proper operating performance. He adjusts the electrical controls, liquid metering devices, safety devices, and other components to obtain the most efficient performance.

In maintenance of the equipment, the mechanic regularly cleans and lubricates machinery, replenishes liquid refrigerant, adjusts valves, and examines other parts of the equipment. He uses specialized tools and common hand tools including electric drills, acetylene torches, pipe benders, hammers, screwdrivers and pliers. He also uses testing devices such as psychrometers, refrigerant gages, ohmeters, voltmeters, and thermometers.

A large portion of air-conditioning and refrigeration mechanics work for dealers and contractors that specialize in installing and repairing air conditioning and refrigeration equipment. Many are employed by construction companies; others work in department stores, hotels, restaurants and food store chains, factories, warehouses, and other establishments large enough to require full type maintenance men. Some operate their own repair shops.

The program in the vocational school is designed to prepare students for entry into this trade upon graduation. With additional on-the-job training and work experience, students who have completed these courses can qualify as skilled mechanics.

Mechanical aptitude, interest in electricity and ability to read blueprints are important for workers in this occupation. Good physical condition is also important because the lifting of heavy equipment is often required. Courses in algebra, physical science, and mechanical drawing are recommended.

The number of air-conditioning and refrigeration mechanics is expected to increase rapidly through the mid-1970's. In addition to employment growth, more than a thousand openings will arise annually from the need to replace experienced workers who are promoted, transfer to other fields of work, retire or die.

APPLIANCE SERVICE

APPLIANCE SERVICEMEN 723.381

Appliance servicemen repair portable household electrical appliances, such as fans, heaters, vacuum cleaners, toasters, and flatirons. They also repair electric and gas appliances that do not operate properly. Appliance servicemen usually specialize in the repair of either electrical or gas appliances, and of a particular type of appliance, such as washing machines, refrigerators, and small appliances. Basically, their work involves determining why appliances do not operate properly and then installing new parts, repairing parts, or making adjustments.

To check electric and gas systems, appliance servicemen use special tools and testing devices including watt-meters, ohmeters, voltmeters, and manometers; combustion test equipment and vacuum pressure gages. In replacing old parts and installing new parts, servicemen use common hand-tools, including screwdrivers, pliers, special wrenches and other hand-tools designed for use on particular appliances. Most work is done in the home except for major repairs which are done in a repair shop or in some case at the manufacturing plant.

More than half of these servicemen were or are employed by independent repair shops and firms that specialize in servicing coin-operated washing and dry cleaning machines. About a fourth are employed by retail establishments, including department and appliance stores. The remainder are employed by appliance manufacturers and wholesale distributors who operate service centers, and by gas and electric utility companies.

The vocational program prepares young men to install, maintain, repair, and service all types of electrical and gas home appliances. This involves developing skills in diagnosing malfunctions and making corrections by installing new parts, repairing parts, and making adjustments.

Applicants for training as appliance servicemen are those with mechanical aptitude, average manual dexterity, average spatial aptitude, and average numerical ability. Courses in algebra, physical science, and mechanical drawing are recommended.

Appliance servicemen must understand, in a practical way, how to use equipment that measures electricity, and how to use such measurements to determine whether electrical currents in appliances are flowing properly. Also, important in servicing electrical appliances, is a knowledge of wiring diagrams, which show electrical connections and current flow between appliance parts. A knowledge of electronics is necessary to perform some appliance repair jobs.

Employment of appliance servicemen is expected to increase by more than 50,000 during the 1965-1975 decade. In addition to the opportunities resulting from employment growth, more than 40,000 job openings will result in the need to replace experienced servicemen who retire or die. Transfers may provide other job openings.

AUTOMOBILE MECHANICS

AUTOMOBILE MECHANIC 620.281

An automobile mechanic repairs and makes adjustments on passenger automobiles and trucks using various kinds of specialized automotive hand tools and equipment, and more complex equipment such as wheel alignment devices and engine analyzers. A mechanic tests and inspects automobile parts to discover defects or malfunctions in operation before actual repair work is undertaken.

Typical repair work includes engine tune-ups, bearing adjustments, brake relining, valve grinding and replacement of piston rings. They sometimes prepare estimates of costs of repairs - labor and material - for customers before actual repair work is commenced.

Large numbers of mechanics are found in service departments of new and used car dealers. Very significant numbers are employed by or are the owners of independent garages where all kinds of repairs or a special type of repair such as radiator repair or engine overhaul is performed. Other places of employment include service stations and organizations maintaining fleets of motor vehicles, government units, bakers, dairy, and taxicab companies, truck lines and automobile rental agencies.

The program in the vocational school is designed to train men to service and repair automobiles. The training involves developing skills in inspecting and diagnosing defects or malfunctions, and the disassembly, repair and overhaul of automobile components.

Interest in automobiles, mechanical aptitude, dexterity with tools, and visualization ability are important to automobile mechanics. Courses in speech and English are definite advantages for advancement opportunities to service salesmen or service manager where customer relations are involved. Since the mechanic works constantly from Auto Service Manuals, good reading achievement is strongly recommended.

The opportunities for employment of automobile mechanics are expected to increase significantly in the years immediately ahead due to population growth and increase in numbers of automobiles sold. An estimated 10,000 job openings are expected annually in the period from 1965-1975.

BODY AND FENDER REPAIR

AUTOMOBILE - BODY REPAIRMAN - 807.381

The automobile body repairman repairs damaged bodies and body parts of autos and trucks. He examines damaged vehicles and estimates cost of repairs. The automotive body repairman must be able to take care of most any kind of damage that can occur to metal, trim, glass or upholstery, and return the car to its original condition.

The repairman must know how to use hydraulic power tools to get the body of a damaged car back into line so that doors, windows, and other parts fit and operate properly. He must know how to remove upholstery and trim to get at both sides of the damaged metal, and among other duties, he must be able to repair door latches and locks, windows, and window regulators as well as other fittings and hardware. The auto body repairman must know how to bump out body panels, doors, fenders, and deck-lids, and have the ability to restore bent, dented and warped surfaces. He must weld and solder torn and cut sheet metal, thus readying the job for the next process of painting and refinishing. High quality painting and finishing is the final mark of the body craftsman.

Most automobile body repairmen work in repair shops that specialize in repairs and painting or in the service departments of automobile and truck dealers. They start as helpers, but with additional experience can qualify as body repairman. Other employers include organizations that maintain their own fleets of motor vehicles, such as trucking companies and buslines and federal, state and local governments.

The vocational program provides training in the repair of damaged auto bodies and restoring them to their original condition. Training in the use of special alignment machines is also included. Interest, mechanical aptitude, average dexterity with tools and good physical stamina are requirements of good workers in this occupation. A boy with a "trick knee" cannot succeed in this occupation. Courses in basic shop and general metals are recommended.

Employment is expected to increase moderately during the 1965-1975 decade. However, the increased number of motor vehicles damaged in traffic accidents, are expected to provide about 1500 job openings annually.

BUSINESS AND OFFICE EDUCATION

This course is an intensive one-year program, seven periods a day for above average 12th grade students who have changed their plans for going to college. It is designed to prepare the students for jobs as secretaries, bookkeepers, office machine operators, billing machine operators, mail-preparing and mail handling machine operators, operators of tabulating machines and relating equipment, computing machine operators, bank tellers, and cashiers. Some attention is given to key punch and data processing operations, but a particular emphasis is given to office communications and office procedures.

As may be noted, people whose main job is to operate some of the more common types of office machines have job titles taken from the kinds of equipment they use. They may also do the regular clerical duties required of office workers.

Workers in this category are employed by business, professional, industrial offices, schools, government agencies and offices of all kinds. Women out number men in office, clerical and related jobs, but boys trained in this program will have excellent job opportunities particularly if they develop good shorthand and transcription skills.

Dependability, accuracy, well groomed appearance, average ability to use numbers, and good English skills are attributes of good workers. Courses in General Business and General Math are recommended. Credit in typing is required for admission.

With the increased demand by both public and private organizations for skilled office personnel, the need for workers with this type of training is expected to increase employment opportunities rapidly in the decade 1965-1975. It is estimated that more than 300,000 new positions in clerical and related operations will be added each year during this period.

COMMERCIAL ART

COMMERCIAL ARTISTS 141.081 ILLUSTRATOR

The commercial artist, illustrator, graphic artist, draws and paints illustrations for advertisements, books, magazines, posters, billboards and catalogs. Much of the advertising artist's work is in creating the concept and artwork for a wide variety of promotional items or "collateral material" including direct mail advertising booklets, folders, brochures, catalogs, and counter displays used to supplement newspaper and magazine advertisements and television commercials. They may also prepare slides, film strips and other visual aids. Some commercial artists specialize in fashion illustrations, greeting cards, book illustrations, or technical drawings for industry.

Most commercial artists are employed as staff artists on a regular salaried basis by advertising agencies, commercial art studios, advertising departments of large companies, printing and publishing firms, textile companies, television and motion picture studios, department stores, sign shops, mail-order houses, greeting-card companies, and a variety of business organizations. Many work as free-lance artists, selling their artwork to any available customers - chiefly to the same kind of organizations that employ salaried artists. Some salaried commercial artists also do free-lance work in their spare time. A number of commercial artists work for Federal Government agencies, principally in the Defense Department. A few teach in private art schools on a regular or part-time basis.

Ability to make visual discriminations, spatial aptitude and average coordination of eyes and hands are necessary attributes of the good worker. Courses in art are strongly recommended as prerequisites.

The course provides students with the fundamental knowledge and basic skills to conceive and create artwork for a wide variety of promotional items used in the advertising industry. Specialized techniques of commercial art are included in the course. Knowledge of photographic, silkscreen off-set and letter press graphic reproduction techniques will be gained. Additional development of the individual's artistic talent and creative ability then become the basis for advancement.

The upward trend in business expenditures for all kinds of visual advertising will be reflected in a growing demand for commercial artists. Television graphics, packaging design, poster and window display and greeting cards are expected to be sources of expanding employment opportunities.

ELECTRONIC DATA PROCESSING

AUTOMATIC DATA-PROCESSING-EQUIPMENT OPERATORS 213.138 .588

Personnel engaged in occupations concerned with electronic and electromechanical machines that record, store, process, and transcribe data from punchcards, paper tape, magnetic tape or other sources are included in this group. They solve mathematical, engineering or technical problems, keep records, or supply information. Operators may also operate machines that transcribe data to or from punchcards or tape for use in automatic data processing equipment.

Electronic data processing operators are chiefly employed in metropolitan centers where large business organizations and government agencies are located. A great many work for insurance companies, public utilities, wholesale and retail establishments, and manufacturing firms. A smaller number are government employees doing work related either to scientific or technical problems or to the processing of the vast amount of paper work which must be handled by many government offices. Many operators are also employed in service centers which process data for other firms on a fee basis.

Job descriptions for operators cover a wide range depending upon the machine used and the task performed.

The purpose of this course is to prepare students for entry into a wide range of jobs requiring training in operating electronic computers and related equipment. Training includes transcribing data to or from punchcards or tape for use in automatic-data processing equipment. With additional experience and training, operating personnel may be assigned to operate more complex pieces of equipment and advance to become digital-computer programmers.

Computer operators must have verbal aptitude, spatial ability to follow diagrams, above average clerical perception, and numerical ability. The ability to think logically is essential to progress in this type of work. Courses in basic business and typing are strongly recommended. Algebra is a recommended prerequisite. Applicants will be required to pass the Machine Operator's Test.

The use of electronic-data processing equipment is expected to continue to increase very rapidly in the 1965-1975 decade. With increased technology thousands of trained people will be needed to fill new jobs, both in firms with their own computer installations and in service centers which rent computer time to businesses.

ELECTRONICS

ELECTRONIC TECHNICIANS 726.281

Electronic Technicians perform a variety of duties including the application of principles and theories of electronics. In general, their job duties involve constructing, testing, repairing, adjusting, and installing electronic devices such as computers, radar equipment, radio and television equipment and servo-mechanisms. An Electronics Technician is frequently known by other titles such as Electronics Mechanic or Electronics Specialist.

Job duties depend upon the type of establishment or industry in which the technician is employed. For example, in an aircraft manufacturing plant, workers must build and install many kinds of electronic equipment in aircraft. When engaged in testing or repair operations, the technician must understand, use, and interpret results obtained from such instruments as oscilloscopes, signal and other type generators, tube testers, ohmeters, ammeters, voltmeters, Q-meters, and multimeters.

The largest group of electronic specialists are found in radio and television manufacturing and repair shops. Numbers of these workers are also employed by radio and television broadcasting stations. Significant numbers are in aircraft manufacturing and with the development of guided missiles, electro-mechanical control systems, computers and other electronic equipment has stepped up the demand for electronics technicians.

The course provides the basic training for entry into the wide range of jobs available in the field of electronics. The training involves the application of theoretical knowledge and manual skills to various tests involving working on electrical circuits, wiring and installing complicated units and the preparation or interpretation of diagrams and layouts and trouble shooting. The determination of malfunctions in equipment and making repairs is part of the training. This involves skill in the use of diagnostic instruments such as oscilloscopes and signal generators.

Mechanical aptitude, the ability to think visually and recognize relations of geometric forms, finger dexterity are necessary for the good worker. A course in algebra is strongly recommended and courses in geometry and physical science are recommended. The student cannot be color-blind.

The immediate and future outlook for electronic technicians at all levels is excellent, especially with the increased production and servicing of complex commercial and military electrical equipment.

ENGINEERING DRAWING

MECHANICAL DRAFTSMEN 007.281

Mechanical draftsmen perform duties specializing in preparing detailed working drawings of machinery and mechanical devices indicating dimensions and tolerances, fasteners and joining requirements, finishes and other engineering data. They may draft multiple-view assembly and sub-assembly drawings as required for manufacture and repair of mechanisms.

They use machines that combine the functions of such instruments as compasses, dividers, protractors and triangles. They also use many engineering handbooks and tables to assist in solving technical problems. Mechanical draftsmen often specialize in a particular field of work, such as machine electrical, hydraulic, aeronautical, or automotive mechanics

They are usually employed by construction companies engineering concerns, manufacturing plants, engineering service contractors, and by many small tool and die shops.

The course is intended to prepare mechanical draftsmen, able to do accurate work, specializing in detailed working drawings of machinery and mechanical devices and who can understand and carry out the directions of designers and engineers.

Workers in this classification must have an aptitude for doing detailed work and for visualizing objects of two and three dimensions. They must have good eye-hand coordination, finger dexterity, numerical ability and the ability to draw neatly and accurately. Courses in algebra, geometry, and mechanical drawing are strongly recommended.

With the expansion of engineering and scientific occupations, the employment opportunities for mechanical draftsmen as supporting workers is expected to increase through the mid 1970's. In the St. Louis area approximately 1,100 mechanical draftsmen were needed to meet industrial and governmental requirements last year.

FITTER-WELDER 819.381

A fitter-welder is one who positions, fits and welds fabricated, cast, and forged components to assemble structural forms, such as machinery frames, tanks, pressure vessels, furnace shells, and building and bridge parts. He works from blueprints and must possess knowledge of welding characteristics of metal. He selects equipment and plans layout, assembly and welding, applying knowledge of geometry, physical properties of metal, effects of heat, allowances for thickness, machining, weld shrinkage, and welding techniques. He lays out, positions, alines, and fits components together. He bolts, clamps, and tack-welds parts to secure them in position for welding. He learns heliarc and "tig" welding processes and is familiar with all basic positions of welding.

Fitter-welders are employed in such industries as shipbuilding, structural steel, automotive, aircraft, guided misseles, space craft, nuclear energy, railroads, radio, television and appliances.

The course is intended to produce a welder who possesses the manipulative skill of a trained manual welder plus a knowledge of jigs, fixtures, welding symbols, and blue prints. The training involves shop experiences in design, layout, cutting and fabrication of metals and the use of advanced techniques of welding. Students study the physical properties of metals, effects of heat, allowances for thickness, machining and weld shrinkage. Graduates are expected to perform work equaling trade standards and to pass the rigid tests used by large employers.

Mechanical aptitude, manual dexterity, ability to read blueprints, and good vision are important for the fitter-welder. Courses in basic mathematics and mechanical drawing are strongly recommended. A good understanding of geometry is an asset.

The number of welding job opportunities is expected to increase by several thousand each year through the mid 1970's as the result of generally favorable longrun outlook for metalworking industries and the wider use of the welding as a method of fastening. The development of new techniques to meet the requirements of the space program will increase employment opportunities tremendously.

KEY PUNCH (Short-Term Summers Only)

KEY PUNCH OPERATOR 213.582

Key punch operators handle records of all type and descriptions. The key punch operators' part in the handling of important records for business is the transcribing of information from manually prepared records to a card in the form of punched holes.

An operator's worth to an organization is judged on both the speed as well as the accuracy of transcribing. Both speed and accuracy can be developed to a certain degree during the training period. Beyond that point an operator's progress depends entirely upon the willingness to practice conscientiously and a sincere desire to succeed.

People who are alert, conscientious, enthusiastic, and willing to work, find key punching not only interesting but stimulating and satisfying. They are proud of their vocation and have every right to be, because of its importance to all kinds of business and government institutions in helping them maintain records accurately, speedily and economically. The course is designed to give the students a complete and thorough knowledge and operating ability of the Key Punch machine and the Card Verifier with the students practicing on the actual work performed by experienced key punch operators on the job. This is a short term course to be offered only in the summer and is designed to provide students with the basic entry skills.

Key punch operators need good eye-hand coordination, finger dexterity, good vision, a memory for details, and the ability to follow instructions. Courses in Basic Business and typing are strongly recommended.

With the increased use of electronic data processing by business organizations, the need for trained key punch operators is expected to increase rapidly. In the St. Louis labor market there were job openings for approximately 1,100 key punch operators this year.

MACHINE SHOP

MACHINIST 600.280 and .281

The all-round machinist is a skilled metal worker who produces parts with machine tools. This increasing complexity of modern machinery and metal working equipment is raising the technical and skill requirements for these craftsmen. A skilled machinist can set up and operate most types of machine tools used by the industry including metal saws, drill presses, grinders, horizontal boring machines, jig borers, lathes, milling machines, planers, shapers, screw machines, thread grinders, turret lathes, and vertical boring mills. His wide knowledge of shop practice and his familiarization with the working properties of steel, cast iron, aluminum, brass, other metals and plastics plus his understanding of the capabilities of the various machine tools, enable him to machine an intricate part which meets precise specifications.

Almost every factory using a substantial amount of machinery employs all-round machinists to keep its mechanical equipment operating. Some all-round machinists work in the production departments of metal working factories where large quantities of idential parts are produced, others work in job shops where a limited number of varied products are made. The following are among the industries where they may be employed: machinery, including electrical; transportation equipment; fabricated metal products, and primary metals; railroads, chemical, food processing and textile industries. The federal government also employs all-round machinists in Navy Yards, ordnance, air force bases and other installations.

This course provides students with the basic skills and fundamental knowledge to enter industry as advanced learners in the widest range of jobs covering an industrial field with over 600 job titles. Training includes understanding machine functions, reading blueprints, making mathematical computations and exercising judgement to attain conformance to specifications. Experience will lead to specialization and students who continue their education after graduation, or become apprentices, have many opportunities for advancement.

Mechanical aptitude, manual dexterity, good visualization of two and three dimensional forms, and good numerical ability are necessary for the good worker. A thorough understanding of basic math and a course in mechanical drawing are recommended. Algebra is also recommended.

Employment opportunities are expected to be very good through 1975. With the growing expenditure for space and defense programs requiring new tooling designs, jobs in the machine trades should increase proportionately. This year there was a need for approximately 3,300 machinists as the result of needs for replacement and because of industrial expansion in the St. Louis labor market area.

OFFSET LITHOGRAPHY

No D.O.T. coding is indicated for this program because it actually involves the basic training required for seven different occupational titles. It will permit the superior student to specialize in the second year in one or more of those for which he possesses the greatest aptitude. These occupations are: Vari-Typist, 203.582; Camera Man, 972.382; Lithographic Artist, 972.281; Stripper, 971.381; Plate Maker, 972.781; Offset Duplicator Operator, 207.782; and Bindery Worker, 643.885.

Workers in offset duplicating occupations are involved in preparing materials, office forms, bulletins, magazines, newspapers and other graphic materials produced by the lithographic process. They perform in-plant operations required in copy preparation, composition, camera work, assembling and stripping, plate-making, presswork and binding.

They operate composing machines, graphic cameras, master exposure units, and offset equipment to reproduce various types of publications. They also perform bindery functions required to complete, package and deliver reproduction work.

The course provides the fundamental knowledge and the skills in the use of various composing machines, the mechanics of photo-lithographic cameras, the fundamentals of halftone photography, the mechanics of lithographic negative stripping and plate making, and the principles and applications of offset lithography. It also includes the training in the use of inks and binding operations.

Workers in these operations should have mechanical aptitude, be proficient in spelling and grammar and should be able to solve practical problems in arithemetic. Normal eye sight and the ability to distinguish colors are also necessary for workers in this field. Courses in physical science and typing are recommended as prerequisites.

The industry is growing rapidly and job opportunities are plentiful. With the increased production of printing materials of various types, job openings are expected to increase rapidly in the next decade.

PRE-EMPLOYMENT

This is a pilot pre-employment program for boys currently enrolled in high-school who are over-age for grade and at least one year behind in school; making unsatisfactory progress and possibly school alienated. However, they should have average ability and be interested in mechanics.

The purpose of the program will be the development of acceptable work habits and attitudes, skill in following directions, ability to work as a member of a team and an understanding of industrial safety and hygiene.

The course content and the program length will be indeterminate and early placement the prime objective. Boys accepted would initially not be working towards high school graduation, but by completing regular admission requirements either at the Vocational-Technical School or by returning to their home school, could subsequently enter the regular program leading to graduation.

Selection of boys for this program will be based on the recommendation of the counselor and administrator indicating the following characteristics:

1. Lack of interest, expressed or indicated, in purely academic courses.

2. Expressed or indicated interest in learning mechanical skills which will qualify them for employment.

3. Grades which are below measured or demonstrated aptitudes or potential for academic achievement.

4. One or more years behind in school.

5. Attitude of indifference towards school.

6. Evidence of good standing in school and no serious behavior problems.

September admissions to this course will be made on meeting the criteria listed above; however subsequent admissions will be permitted whenever an opening occurs in any of the classes because of a student securing employment or transferring back to his original school.

RADIO AND T.V. SERVICE

TELEVISION AND RADIO SERVICE REPAIRMAN (TECHNICIAN) 720.281

The T.V. and Radio Service repairman adjusts radios and television receivers, using handtools and electronic devices. He observes audio and video characteristics to diagnose source of trouble. He adjusts controls to obtain desired density, linearity, focus, and size of picture. He examines chasis for defects. His job is to check and evaluate each possible cause of trouble beginning with the simplest and most common cause, tube failure. In other routine checks he looks for loose or broken connections and for parts that are charred or burned, due to excessive current or mishandling.

The T.V. and Radio repairman tests voltages and resistances of circuits, to isolate defects following schematic diagrams and uses voltmeters, oscilloscopes, signal generators, and other electronic testing instruments. He tests and changes tubes, solders loose connections and repairs or replaces defective parts using audio equipment.

About three-fourths of all service repairmen work in service shops or in stores that sell and service television receivers, radios, and other electronic products. Most of the remaining service technicians were employed by government agencies and manufacturers, including manufacturers that operate their own service branches.

The purpose of this course is to develop the students' skills and knowledge necessary to diagnose trouble and repair radio and television receiving sets. The training includes examining chasis for defects, locating sources of trouble, and making repairs. The use of instruments is included in the training. The skills and knowledge gained will also prepare for jobs installing or servicing intercommunication systems. A good background in mathematics is needed. With additional experience and training, advancement opportunities as technical writers, sales and design technicians, and service training instructors will be available.

Television and radio service repairmen need good numercial aptitude, ability to visualize and recognize relationship of objects, hand-eye coordination and average finger dexterity. Courses in algebra and physical science are recommended. Geometry is highly desirable.

Employment of T.V. and Radio Service Repairmen is expected to increase rapidly during the 1965-1975 decade. In addition, 1,400 job openings annually are expected to result from the need to result from technological improvements and industry growth.

SHEET METAL

SHEET-METAL WORKER 804.281

Sheet-metal workers fabricate, assemble, install, and repair sheet-metal products and equipment such as control boxes, air conditioning and heating ducts, drain pipes, ventilators and furnace casings, according to job order or blueprints. They select gage and type of sheet metal according to product being fabricated and their knowledge of metal.

Sheet-metal workers cut the metal with hand-snips, power-driven shears and other cutting tools. They form the metal with a variety of machines, hammers, and anvils; then weld, bolt, rivet, solder, form or cement the seams and joints.

Sheet-metal workers are employed mainly by plants that fabricate and install heating, refrigeration, and air-conditioning equipment and by contractors engaged in residential, industrial, and commercial building work. Many of these craftsmen work for governmental agencies or business establishments that do their own construction and alteration work; others are self-employed, mainly on repair work or on smaller types of installations. Firms making blowers, exhaust, electrical generating and distributing equipment, food product machinery, and steam turbines also employ skilled sheet-metal workers.

The course provides students with skill training in the basic hand processes, bench layout and cutting, and includes extensive experience with all standard sheet-metal machines and accessory equipment. Related classroom instruction in layout, blueprint reading, mathematics applicable to layout work and the relationship between sheet metal work and other trades is included. Boys trained in this trade have great mobility because of the transfer of skills to aircraft sheet-metal jobs.

Mechanical aptitude, good manual dexterity, average aptitude for spatial and form perception and ability to do neat accurate work are necessary attributes of good sheet-metal workers. Courses in general shop, basic math, and mechanical drawing are recommended. General metals is strongly recommended.

A large increase in the employment of sheet-metal workers is expected as the result of expansion in new building construction with central air-conditioning systems. Approximately 4,300 job opportunities in sheet-metal occupations exist in the St. Louis Metropolitan area at the present time.

TOOL DESIGN

TOOL DESIGNER 007.081

The tool designer prepares plans for broaches, milling machine cutters, drills, and other single or multiple - edged cutting tools, and the related jigs, dies, and fixtures for production or experimental use on metalworking machines. He studies specifications and confers with engineering and shop personnel to resolve design problems related to material characteristics, dimensional tolerances, service requirements, manufacturing procedures and tool costs. He applies algebraic and geometric formulas and standard tool engineering data to develop tool configuration. He selects standard items such as bushings cutters and bits for incorporation into the design of the tool. He draws preliminary sketches and prepares layouts and detail drawings. He modifies tool designs according to trial or production service data to improve tool life or performance.

The largest numbers of tool designers are employed in electrical equipment, machinery, automotive, and aerospace industries.

The course is intended to prepare boys to enter industry as advanced learners with basic skills and knowledge that will permit them to become tool designers who can do accurate work and carry out the directions of engineers. The training includes the application of the principles of physics and engineering and the utilization of heat and mechanical power for the design and production of tools. Students originate and prepare drawings of the designs for cutting tools, jigs, dies, special fixtures and other attachments used in machine tool operations. Additional experience may lead to specialization and students who continue their education after graduation have opportunities for advancement to supervisory positions.

Tool designers must have good mechanical aptitude, must be able to perform arithmetic operations quickly and accurately, and must have good spatial and form perception. Courses in algebra, geometry, physical science, and mechanical drawing are strongly recommended as prerequisites.

With increased manufacturing in the area and growing expenditures for defense and space requiring new tool designs, employment opportunities are expected to be very good through 1975.

The following pages have been excerpted from the informational bulletin which was previously supplied to the Superintendents and Administrators of your district. They contain information regarding student capacities, proposed program, and lay outs of shops and classes in the South County building.

3

DAY SCHOOL STUDENT CAPACITIES
VOCATIONAL-TECHNICAL SCHOOLS
SPECIAL SCHOOL DISTRICT OF ST. LOUIS COUNTY

OCCUPATION	SOUTH COUNTY				NORTH COUNTY	
	1967-68		1968-69		1968-69	
	11	12	11	12	11	12
A/C & Refrigeration Service	40	-	20	20	20	20
Appliance Service	20	-	20	20	-	-
Auto Mechanics	30	10	20	15	20	15
Body & Fender Service	40	-	20	20	20	20
Business & Office Education	-	80	-	80	-	80
Commercial Art	20	-	20	20	-	-
Electronic Data Processing	84	-	42	42	42	42
Electronics	40	24	20	20	20	20
Engineering Drawing	30	10	20	15	20	15
Fitter-Welder	40	-	20	20	20	20
Key Punch (Summers Only)	-	48	-	48	-	48
Machine Shop	40	40	40	20	40	20
Offset Printing	20	-	20	20	-	-
Pre-Employment	40	-	40	-	40	-
Radio & TV Service	40	-	20	20	20	20
Sheet Metal	40	35	20	20	20	20
Tool Design	40	-	20	20	20	20
Total Capacity	564	287	362	420	302	360

PROPOSED PROGRAM - SOUTH COUNTY BUILDING

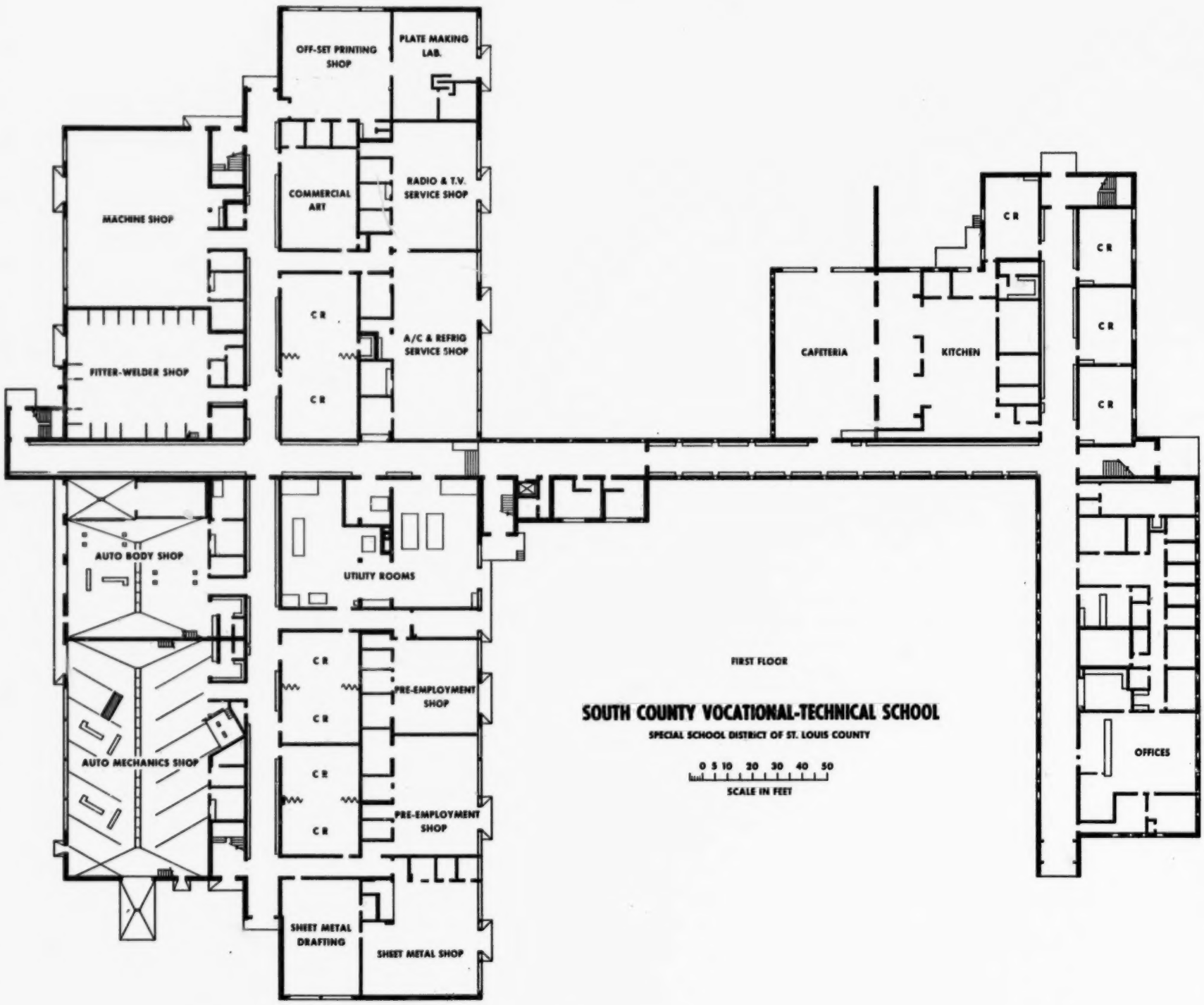
8:30-9:15	9:15-10:00	10:00-10:45	10:45-11:30	11:30-12:15	12:15-1:00	1:00-1:45	1:45-2:30	2:30-3:15
Air Conditioning & Ref. Shop 11				H&PE&Act.	Lunch	Social Studies	Related	
H&PE&Act.	Language Arts	Related		Lunch	Air Conditioning & Ref. Shop 12			
Appliance Service Shop 12				Related	Lunch	Related	Language Arts	H&PE&Act.
Related		H&PE&Act.	Social Studies	Lunch	Appliance Service Shop 11			
Auto Body Shop 12 - Odd Weeks					Lunch	Auto Body Shop 12 - Odd Weeks		
Related 12-Even Weeks		Lang. Arts-Even Weeks		H&PE&Act.	Lunch	H&PE&Act.	Related 12-Even Weeks	
Social Studies - Odd		Related 11 - Odd Weeks		H&PE&Act.	Lunch	H&PE&Act.	Related 11-Odd Weeks	
Auto Body Shop 11 - Even Weeks					Lunch	Auto Body Shop 11 - Even Weeks		
Auto Mech. Shop 12 - Odd Weeks					Lunch	Auto Mech. Shop 12 - Odd Weeks		
Language Arts - Even		Related 12 - Even Weeks		H&PE&Act.	Lunch	H&PE&Act.	Related 12-Even Weeks	
Related 11-Even Weeks		Social Studies-Odd Weeks		H&PE&Act.	Lunch	H&PE&Act.	Related 11-Odd Weeks	
Auto Mech. Shop 11 - Even Weeks					Lunch	Auto Mech. Shop 11 - Even Weeks		
EDP Lab 11-A	Class 11-A	Class 11-A	H&PE&Act.	Class 11-A	Lunch	Social Studies	Class 11-A	Class 11-A
H&PE&Act.	EDP Lab 11-B	Class 11-B	Class 11-B	Lunch	Class 11-B	Class 11-B	Social Studies	Class 11-B
Class 11-C	H&PE&Act.	EDP Lab 11-C	Class 11-C	Lunch	Class 11-C	Class 11-C	Class 11-C	Social Studies
Class 12-A	Class 12-A	Class 12-A	Class 12-A	EDP Lab 12-A	Lunch	Language Arts	H&PE&Act.	Class 12-A
Class 12-B	Class 12-B	Language Arts	Class 12-B	Class 12-B	Lunch	EDP Lab 12-B	Class 12-B	H&PE&Act.
Class 12-C	Class 12-C	Class 12-C	H&PE&Act.	Class 12-C	Lunch	Class 12-C	EDP Lab 12-C	Language Arts

8:30-915	9:15-10:00	10:00-10:45	10:45-11:30	11:30-12:15	12:15-1:00	1:00-1:45	1:45-2:30	2:30-3:15
Engineering Drawing Shop - 11				Lunch	Social Studies	H&PE&Act.	Related	
H&PE&Act.	Language Arts	Related		Lunch	12 - Engineering Drawing Shop			
Fitter-Welder Shop - 12				Related	Lunch	Related	H&PE&Act.	Language Arts
Related		Social Studies	H&PE&Act.	Lunch	11 - Fitter-Welder Shop			
Machine Shop "A" - 12				Lunch	Language Arts	H&PE&Act.	Related	
H&PE&Act.	Social Studies	Related		Lunch	11 - Machine Shop "A"			
Machine Shop "B" - 11				Related	Lunch	Related	H&PE&Act.	Social Studies
Related		H&PE&Act.	Language Arts	Lunch	12 - Machine Shop "B" - 12			
Electronics - 12				H&PE&Act.	Lunch	Language Arts	Related	
Social Studies	H&PE&Act.	Related		Lunch	11 - Electronics			
Office Machines - 11 Lab				Related	Lunch	Related	Social Studies	H&PE&Act.
Language Arts	H&PE&Act.	Related		Lunch	Office Machines - 12 Lab			
Offset Printing Shop - 12				Related	Lunch	Related	H&PE&Act.	Language Arts
Related		H&PE&Act.	Social Studies	Lunch	Offset Printing Shop - 11			
Pre-Employment Shop II-A				H&PE&Act.	Lunch	Social Studies	Related	
Related		Social Studies	H&PE&Act.	Lunch	Pre-Employment Shop I-B			
Pre-Employment Shop I-A				Related	Lunch	Related	Language Arts	H&PE&Act.
Language Arts	H&PE&Act.	Related		Lunch	Pre-Employment Shop II-B			

8:30-9:15	9:15-10:00	10:00-10:45	10:45-11:30	11:30-12:15	12:15-1:00	1:00-1:45	1:45-2:30	2:30-3:15
Sheet Metal Shop - 11				Related	Lunch	Related	H&PE&Act.	Social Studies
Related		H&PE&Act.	Language Arts	Lunch	Sheet Metal Shop - 12			
Radio and TV Service - 12				H&PE&Act.	Lunch	Language Arts	Related	
Social Studies	H&PE&Act.	Related		Lunch	Radio and TV Service - 11			
Tool Design Shop - 11				Related	Lunch	Related	Social Studies	H&PE&Act.
Related		Language Arts	H&PE&Act.	Lunch	Tool Design Shop - 12			
Commercial Art - 12				Lunch	Language Arts	H&PE&Act.	Related	
H&PE&Act.	Social Studies	Related		Lunch	Commercial Art - 11			

VOCATIONAL B & C E PROGRAM - SENIORS ONLY

	1	2	3	4	5	6	7	8	9
A	Shorthand & Transcription		Office Communication	H&PE&Act.	Office Machines	Lunch	Book-keeping	Specialty Typing	Office Practice
B	Book-keeping	Office Communication	Shorthand & Transcription		Lunch	Specialty Typing	Office Machines	Office Practice	H&PE&Act.
C	Office Communication	Office Practice	H&PE&Act.	Book-keeping	Lunch	Office Machines	Shorthand & Transcription		Specialty Typing


OFF-SET PRINTING SHOP
PLATE MAKING LAB.
MACHINE SHOP
COMMERCIAL ART
RADIO & T.V. SERVICE SHOP
C R
A/C & REFRIG SERVICE SHOP
FITTER-WELDER SHOP
CAFETERIA
KITCHEN
AUTO BODY SHOP
UTILITY ROOMS
PRE-EMPLOYMENT SHOP
AUTO MECHANICS SHOP
OFFICES
SHEET METAL DRAFTING
SHEET METAL SHOP
FIRST FLOOR
SOUTH COUNTY VOCATIONAL-TECHNICAL SCHOOL
SPECIAL SCHOOL DISTRICT OF ST. LOUIS COUNTY
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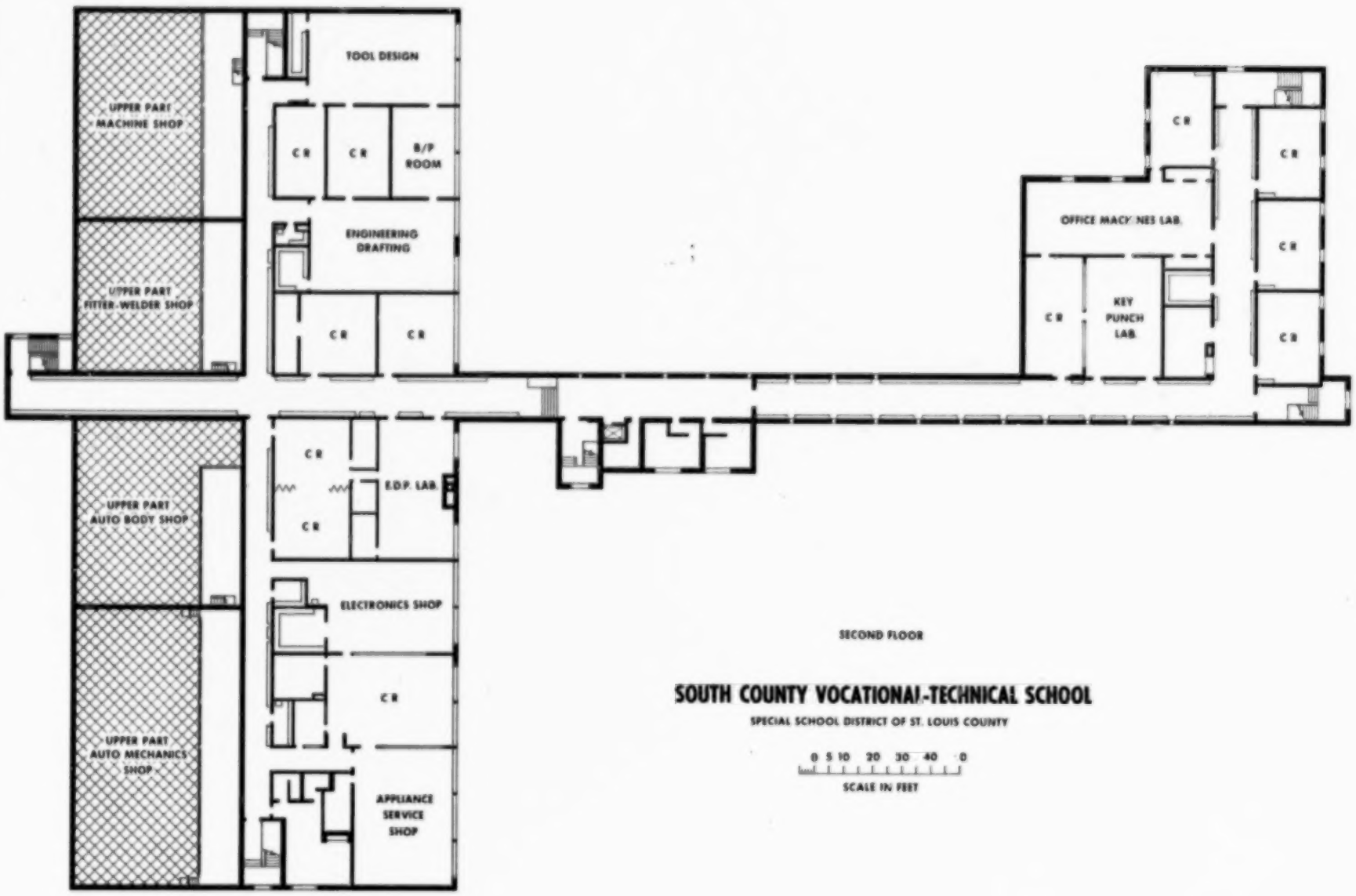
SCALE IN FEET



SECOND FLOOR

SOUTH COUNTY VOCATIONAL-TECHNICAL SCHOOL

SPECIAL SCHOOL DISTRICT OF ST. LOUIS COUNTY

0 5 10 20 30 40 0

SCALE IN FEET

VT 000 066

Ball, Joe P.; Ellis, Willie T.
An Annotated Bibliography - In-Service Training in Agricultural Education.

State Univ. of New York, Ithaca, Agricultural Education Div. at Cornell Univ.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Dec65 21p.

*ANNOTATED BIBLIOGRAPHIES; *AGRICULTURAL EDUCATION; *INSERVICE TEACHER EDUCATION; AGRICULTURAL ENGINEERING; FARM MANAGEMENT; CURRICULUM; PLANT SCIENCE; ANIMAL SCIENCE; SOIL SCIENCE; PUBLIC RELATIONS; INSTRUCTIONAL AIDS
AGRICULTURAL EDUCATION MAGAZINE

This annotated bibliography for use in in-service training in agricultural education was prepared from articles published in "Agricultural Education," July, 1955 to December, 1965. Part I contains 40 articles relating to teacher professional improvement. Part II contains 86 articles on subject matter materials and teaching aids in the areas of: (1) agricultural mechanics, (2) agricultural business and management, (3) adult and young farmer education, (4) curriculum, (5) guidance and leadership, (6) plant, animal, and soil science, (7) public relations, and (8) potpourri of teaching aids. (SL)

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19 pp

AN ANNOTATED BIBLIOGRAPHY - IN-SERVICE TRAINING IN AGRICULTURAL EDUCATION

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THE AGRICULTURAL EDUCATION DIVISION
RURAL EDUCATION DEPARTMENT
NEW YORK STATE COLLEGE OF AGRICULTURE
CORNELL UNIVERSITY
ITHACA, NEW YORK
DECEMBER, 1965

VT000016

PREFACE

The Agricultural Education Magazines (July, 1955 - December, 1965) are the sources of this annotated bibliography.

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	Guidance and Leadership	10
	Plant, Animal and Soil Science	11
	Public Relations	12
	Potpourri of Teaching Aids	13

AN ANNOTATED BIBLIOGRAPHY - IN-SERVICE TRAINING IN AGRICULTURAL EDUCATION

I. PROVIDING TEACHERS PROFESSIONAL IMPROVEMENT MATERIALS

ATHERTON, J. C. "Building a Dynamic Vo-Ag Program". Vol. 38, No, 6 (December 1965) P. 133.

The article lists some procedures that one may employ in building a dynamic program of vocational agriculture.

BAIL, JOE P. "Improving Instruction Through Supervision", Vol. 30, No. 8 (February 1958) Pp. 181-182.

The author summarized studies on improving instruction and use of time and trouble in vocational agriculture.

BAIL, JOE P. and RAYMOND CLARK. "Eight Years of In-Service Education for Michigan Teachers of Vocational Agriculture". Vol. 28, No. 8 (February 1956) Pp. 175-176.

A summary of eight years of in-service meetings for the teachers of vocational agriculture in the state of Michigan is given in an analyzed breakdown of subjects, number of meetings, a nd number of teachers attending.

BRINKLEY, HAROLD R. "Basic Concepts for Educating Tomorrow's Teachers". Vol. 37, No. 7 (February 1965) Pp. 189-199.

The article points out the basic concept for educating future teachers in vocational agriculture.

BRISTOL, BENTON K. "The Why and How of Maintaining Technical Competence for Teaching". Vol. 35, No. 7 (February 1963) Pp. 157-158.

The author analyzes the "Why and How" of maintaining technical competence in teaching vocational agriculture.

BUNDY, C. E. "Improving Techniques of Instruction". Vol. 31, No. 5 (November 1958) Pp. 99-102.

The article is an editorial on improving techniques of instruction by employing efficiency analysis techniques used in industry.

BYRAM, HAROLD M. "Choosing and Using Consultants". Vol. 38, No. 6 (December 1965) Pp. 138-139.

This article entails suggestions for choosing and using consultants in program planning.

BYRAM, HAROLD M. "Professional Growth Is An Active Process". Vol. 31, No. 12 (June 1959) Pp. 280-282.

The needs for better professional growth through graduate work, in-service education, and other ways is the main theme of this article.

CLARY, JOE. "Four Steps for Pilot Programs". Vol. 37, No. 1 (June 1964) Pp. 14-15.

Four steps are analyzed for initiating pilot programs.

CONYERS, C. L. "Professional Problems". Vol. 33, No. 1 (July 1960) Pp. 17-18.

The author has published the findings of a study on professional problems of beginning teachers in vocational agriculture in Virginia.

COOPER, ELMER. "Professional Improvement on the Local Level". Vol. 34, No. 3 (September 1961) P. 70.

This suggested list of areas for observation at the local level can improve one professionally when he observes what other teachers are doing.

DEEMS, HOWARD W. "In-service Education". Vol. 30, No. 8 (February 1958) Pp. 176-183.

A study which evaluated in-service education needs in Nebraska for teachers of agriculture revealed a felt need for and areas of interest in in-service education.

DEEMS, HOWARD W. "Team Teaching in Vocational Agriculture". Vol. 34, No. 10 (April 1962) Pp. 226-228.

An agricultural educator explains the use and value of team teaching in vocational agriculture.

DEYOE, GEORGE P. "In-Service Education". Vol. 29, No. 6 (December 1956) Pp. 135-136.

The present status, future plans and changes desired for in-service education.

DEYOE, GEORGE P. "The Teacher Needs Help". Vol. 29, No. 2 (August 1956) Pp. 28-29.

The article suggests the importance, ways and means of developing a program to meet the needs of teaching materials for teachers of agriculture.

DRAKE, WILLIAM E. "Summer Activities that Count". Vol. 37, No. 2 (August 1964) Pp. 36-37.

This article illustrates the value of well planned summer programs in vocational agriculture. It suggests the use of a calender for efficient implementation of summer scheduled activities.

ENTWISTLE, CHARLES C. "The Scope of Professional Improvement". Vol. 28, No. 8 (February 1956) P. 182.

Twenty-three different ways are listed that teachers of agriculture may improve themselves professionally.

FULLER, GERALD R. "Guidelines for Teaching OFAO". Vol. 37, No. 6 (January 1965) Pp. 167-168.

This article points up eight guidelines for preparing students for off-farm agricultural occupations.

HANNEMANN, JAMES. "Programmed Learning in Agricultural Education". Vol. 36, No. 1 (July 1963) Pp. 5-6.

The article reveals the historical development and the use of programmed instruction.

HEMP, PAUL E. "Evaluating Instructional Programs". Vol. 36, No. 12 (June 1964) Pp. 272-273.

The author delineates the need for and procedures of evaluating vocational agriculture programs.

HEMP, PAUL E. "Improving Teacher Practice". Vol. 36, No. 7 (January 1964) Pp. 124-126.

A teacher educator shares his views on ways to improve teaching practices.

HILL, C. W. "Plan and Work the Summer Program". Vol. 30, No. 12 (June 1958) Pp. 278-279.

The article shares suggestions for busy teachers to plan and improve the summer program.

KREBS, A. H. "Effective Use of Teaching Aids". Vol. 33, No. 3 (September 1960) Pp. 51-52.

An editorial pointing out weaknesses and effectiveness in the use of teaching aids.

MARTIN, W. HOWARD. "Tomorrow's Teacher - An Agricultural Specialist". Vol. 37, No. 7 (February 1965) Pp. 190-191.

This article points out the importance of technical competency, professional proficiency, selection and recruitment and job satisfaction as basic elements in educating tomorrow's teachers.

MORGAN, MARION. "Professional Improvement". Vol. 32, No. 2 (August 1959) Pp. 29-30.

A review of the aspects of self-improvement coupled with ways of improving one professionally are the highlights of this article.

ORE, STANLEY H. "Professional Improvement on the Job". Vol. 32, No. 4 (October 1959) Pp. 76-77.

A teacher of agriculture listed the needs, ways and means of professional improvement on the job.

PHIPPS, LLOYD J. "Organizing for Research Development". Vol. 38, No. 6 (December 1965) P. 132.

The article lists some of the suggestions for meeting research and development needs in agricultural education.

RICE, RICHARD C. "Time for Professional Improvement". Vol. 28, No. 12 (June 1956) Pp. 271-278.

A teacher of agriculture in Ohio shares his views toward planning and the need for professional improvement.

RICHARD, C. E. "Teaching Basic Principles in Science in the Vocational Agriculture Curriculum". Vol. 36, No. 7 (January 1964) Pp. 129-130.

Teaching basic principles in Science in vocational agriculture is essential according to a study by the author.

SALMON, VINCENT A. "Human Resources for Teaching ". Vol. 31, No. 5 (November 1958) P. 109.

Human resources are emphasized by the author as effective resources for teaching vocational agriculture.

SCARBOROUGH, C. C. "Teachers' Unit' or 'Subject Matter' Planning". Vol. 29, No. 3 (September 1956) P. 56.

This is an approach to improved planning for effective teaching.

SCHWARZ, HONALD. "Plan for Summer School". Vol. 33, No. 11 (May 1961) Pp. 250-251.

Plan for Summer School but do not overlook the summer vo-ag program responsibilities.

SLEDGE, GEORGE W. "Resources for Effective Teaching". Vol. 35, No. 9 (April 1963) Pp. 205-206.

The article points up the need, use and categorization of resources for effective teaching.

SMITH, CLODUS R. "Professional Training of the Vocational Agriculture Teacher". Vol. 32, No. 3 (September 1959) Pp. 68-69.

The author has published the results of a study, using 48 land-grant colleges in the U.S. as respondents on teacher professional training in agriculture.

TAFT, JESSIE A. "Growing Professionally". Vol. 31, No. 8 (February 1959) P. 171.

The state supervisor of Massachusetts listed the program of professional improvement in which Massachusetts Vo-Ag teachers participated.

TAYLOR, ROBERT. "The Professional Teacher and the State Program". Vol. 37, No. 10 (April 1965) P. 237.

The article delineated ways that teachers may contribute to the development and execution of the state program for agricultural education.

THOMPSON, EVANS G. "Six Types of Supervised Practices for Virginia High School Students". Vol.36, No. 2 (August 1963) Pp. 30-31.

Six major classes of supervised practice experience programs are listed that are used by teachers in Virginia.

TOM, F. K. T. and JAMES A. SCANLON. "Programmed Instruction in Agriculture Limited". Vol. 38, No. 5 (November 1965) Pp. 110-111.

A study of teacher education departments revealed that agricultural educators are using programmed instruction on a very limited basis in spite of its effectiveness.

TORRENCE, ANDREW P. "Professional Improvement is Essential". Vol. 29, No. 6 (December 1956) P. 133.

The article delineates the values of professional improvement to effective teaching and professional standing.

WOODIN, RALPH J. "Common Competencies for All Teachers". Vol. 37, No. 7 (February 1965) P. 187.

The author has listed the competencies needed by teachers of agriculture.

II. PROVIDING TEACHERS SUBJECT MATTER MATERIALS AND TEACHING AIDS

AGRICULTURAL MECHANICS

BEYL, DOYLE. "Teaching Teachers Milking Machine Operation". Vol. 37, No. 6 (December 1964) Pp. 150-151.

The teachers of agriculture in Wisconsin attended a workshop on milking machine problems for in-service education. It was sponsored by the State Board of Vo-Ed, College of Agriculture and milking machine companies.

CLOUSE, JAMES P. and J. MARVIN EBBERT. "Start with Small Engines". Vol. 36, No. 9 (March 1964) Pp. 197-215.

Teachers should start with small engines when they teach farm power-maintenance and repair. A unit of instruction is outlined in this article.

COTTON, DALE A. "Farm Mechanic Instruction for Oklahoma Teachers". Vol. 36, No. 12 (June 1964) Pp. 285-286.

A group of Oklahoma teachers (39) took a refresher course in agricultural engineering at evenings and on Saturdays for graduate and in-service training.

DRAKE, WILLIAM E. and LEON J. ALGER. "Practical Farm Mechanics". Vol. 34, No. 7 (January 1962) Pp. 163-164.

The authors advocated the philosophy of developing the ability in farm mechanics to stimulate the desire in students to do project work. A sample course outline for farm mechanic is embodied in the story.

DUGGER, ROY W. "Teachers 'OK' In-Service Training". Vol. 29, No. 4 (November 1956) P. 104.

A group of Oklahoma teachers of agriculture received in-service education through pilot schools in farm irrigation.

FULLER, JOHN. "Michigan Teachers Work with County Agents on Adult Farmers Courses". Vol. 35, No. 5 (December 1962) P. 114-115.

Vocational agriculture teachers and country agents in Michigan held small group seminar on farm machinery as an in-service training meeting.

GADDA, H. W. "Improving Farm Mechanic Programs". Vol. 31, No. 7 (January 1959) Pp. 157-158.

The article lists the areas of farm mechanics that should be improved as witnessed by A.V.A. research studies.

HAMILTON, J. R. "Teaching Farm Electrification". Vol. 31, No. 7 (January 1959) Pp. 155-156.

The divisions, fundamentals, selection and care of motors, of electricity are outlined for agricultural instruction.

LUTHER, M. K. "A Farm Mechanic Workshop". Vol. 28, No. 8 (February 1956) P. 189.

California vocational agriculture teachers spent 30 hours during the summer in farm mechanic workshops for professional improvement.

McCLAY, D. R. "A Suggested Four Year Course Outline for Teaching Farm Mechanics". Vol. 28, No. 2 (August 1955) P. 43.

This four year course outline was developed to help teachers plan for farm mechanics phase of his vocational agriculture program.

NOHLE, ERNEST F. "Farm Machinery Workshops". Vol. 31, No. 7 (January 1959) Pp. 148-163.

A New York State supervisor shares experiences of a farm machinery workshop at Cornell University under the joint sponsorship of the Teacher-Training Division and the State Bureau. It was a "do it yourself" workshop. Participants came from the State Agricultural and Technical Institutes.

PECK, DWIGHT L. "Scale Models Provide Building Experience". Vol. 31, No. 7 (January 1959) Pp. 154-156.

Scale models are effective methods of teaching building construction in vocational agriculture.

PURKEY, D. R. "Ohio In-Service Training Program". Vol. 31, No. 5 (November 1958) P. 112.

Two hundred fifty-six teachers of agriculture participated in three broad areas of in-service education--tractor maintenance, oxyacetylene welding and electric motors.

SCHWEIKHARD, EARL. "The Farm Shop Goes to the Fair". Vol. 31, No. 7 (January 1959) Pp. 153-165.

The Oklahoma F.F.A. promotional and educational farm mechanic event was at the Tulsa State Fair.

TAYLOR, LEWIS C. "Summer Help for Minnesota Teachers in Farm Machinery Operation". Vol. 35, No. 7 (February 1963) Pp. 159-160.

Minnesota teachers of agriculture experienced in-service training in farm machinery operation by using two-day workshops.

WOODIN, RALPH J. "Ohio Teachers Work with Electric Power Suppliers". Vol. 28, No. 8 (February 1956) P. 177.

Three hundred forty teachers of agriculture in Ohio attended the Ohio Farm Electrification Council at General Electrics Nela Park Lighting Institute two days for professional improvement.

AGRICULTURAL BUSINESS MANAGEMENT

CHRISTENSEN, HOWARD. "A Contest Aids in Teaching Farm Management in Nevada". Vol. 36, No. 3 (September 1963) Pp. 56-70.

The article illustrates a success story where a teacher used a contest to motivate interest in farm management.

CAMPBELL, JULIAN C. "In-service Education in Farm Management". Vol. 36, No. 3 (September 1963) P. 55.

The teachers of agriculture in Virginia used a specialist to conduct their in-service education program in farm management.

EDINGTON, EVERETT D. "Providing Teachers Farm Management Materials". Vol. 36, No. 3 (September 1963) P. 59.

The author shares the belief that teacher educators and supervisors should provide teachers with materials to teach farm management as part of the in-service training responsibility.

FOX, F. and N. K. HOOVER. "Facts and Information for Estimating Budgets for Productive Enterprise Projects in Vocational Agriculture". Vol. 28, No. 2 (August 1955) P. 43.

This is a collection of basic information - in handbook form to be used by students as they plan individual farm programs and prepare budget estimates.

GREEN, H. W. "State Plan Aids in Teaching Farm Management". Vol. 36, No. 6 (December 1963) Pp. 163-164.

The Alabama State Plan Aids vocational agriculture teachers with farm management.

HAMILTON, WILLIAM H. and CLARENCE E. BUNDY. "Agricultural Competencies in Retail Feed Businesses". Vol. 37, No. 6 (January 1965) Pp. 175-179.

This Iowa study of agricultural competencies in retail feed businesses identified job opportunities that existed and the competencies that one needs to fulfill the jobs.

ADULT AND YOUNG FARMER EDUCATION

BRUM, H. D. "Organizing the State Young Farmer Convention". Vol. 37, No. 5 (November 1964) Pp. 112-113.

This article presents a descriptive and pictorial analysis on how to organize a state young farmer convention.

BRUNNER, H. S. "A Program for Young Farmer Instruction in Vocational Agriculture in the State of Maine". Vol. 28, No. 2 (August 1955) P. 43.

This mimeograph (objectives and evaluation criteria) was developed in a workshop for vo-ag teachers at the University of Maine.

HENNING, DONLEY. "Expanding Vocational Agriculture through Television". Vol. 33, No. 3 (September 1960) Pp. 61-62.

One of the most effective means of stimulating mass interest is through television for adult and young farmer instruction.

HERBST, J. H. "Analysis Charts for Studying Farm Efficiency". Vol. 36, No. 3 (September 1963) Pp. 63-64.

Analysis charts may serve as teaching aids in teaching young and adult farmers.

REIDEL, JR., WALLACE F. "Farm Tours Emphasized in Iowa". Vol. 37, No. 5 (November 1964) P. 110.

A Vo-Ag Program in Iowa capitalizes on the young farmer program by using farm tours as effective methods.

SYNDER, FRED C. "College Short Courses Aid Teachers of Young and Adult Farmers". Vol. 31, No. 3 (September 1958) Pp. 69-71.

The author examines and analyzes the value of short courses for teachers of young and adult farmers at land grant college and university as in-service training.

CURRICULUM

AGAN, R. J. "Kansas Studies Agriculture Non-Farm Occupations". Vol. 37, No. 1 (July 1964) Pp. 15-16.

This article reveals how Kansas studied agriculture non-farm occupations.

BROWN, WILLIAM J. "Teaching Guides Can Speed Curriculum Changes". Vol. 37, No. 7 (February 1965) Pp. 198-199.

The article points out the fact that changing curriculum is difficult and maybe expedited by preparing and distributing curriculum guides.

BULLARD, A. G. "A New Design for High School Vocational Agriculture". Vol. 37, No. 1 (July 1964) Pp. 8-10.

This article illustrates the new program design in vocational agriculture (H.S.) in North Carolina with pictures, a model, and a descriptive analysis.

FRASER, GEORGE. "A Four Phase Curriculum for Farm Related Occupations". Vol. 37, No. 6 (January 1965) Pp. 174-175.

A Massachusetts vo-ag teacher explains his four phase curriculum for farm related occupations.

NOAKES, HAROLD L. "Planning Local Programs to Meet Interest and Needs". Vol. 38, No. 6 (December 1965) Pp. 126; 140-141.

The article points out the importance of planning local programs to meet the interest and needs of the program clientele.

GUIDANCE AND LEADERSHIP

McCALLA, FRANK. "Oklahoma F.F.A. - Forward with T.V.". Vol. 30, No. 9 (March 1958) Pp. 209-211.

A study was conducted in Oklahoma (225 teachers) vocational agricultural departments on best times to telecast programs and inadequacies of teachers in T.V. preparations.

KNUTI, LES L. "Teachers Should Be Full Members of Leadership Team". Vol. 38, No. 3 (September 1965) P. 64.

The article suggests that teachers of agriculture be made full members of the leadership team for agricultural education along with supervisors and teacher educators.

STEPE, CHARLES L. "Teachers Must Work with Counselors". Vol. 38, No. 3 (September 1965) P. 57.

The article suggests that teachers of agriculture must work with counselors in making follow-up studies to evaluate existing programs.

WILLIAMS, JAMES. "The F.F.A. as a Resource in Teaching". Vol. 38, No. 4 (October 1965) Pp. 81-86.

The F.F.A. can be used as a resource of great worth in teaching as a teaching aid and a learning device.

PLANT, ANIMAL AND SOIL SCIENCE

BAILEY, ZENO. "The Land Judging Workshop". Vol. 31, No. 5 (November 1958) P. 113.

The land judging workshop is an effective tool for teaching soil and water management to teachers of agriculture.

LUSTER, GEORGE L. "The Workshop - A Tool for Professional Improvement". Vol. 28, No. 12 (June 1956) Pp. 275-278.

The author shares his experiences in conducting nine soil workshops in Kentucky in cooperation with other agricultural agencies for teachers of vocational agriculture.

LEWIS, H. N. "A Foundation Beef Bull Program for Alabama". Vol. 36, No. 7 (January 1964) Pp. 139-140.

Alabama uses the beef bull program to provide educational opportunities for vo-ag students, young and adult farmers.

NICHOLSON, N. C. "Teaching Aids Found in State Land Judging Contest". Vol. 30, No. 3 (September 1957) P. 61.

A land judging contest in Wisconsin provides a bountiful source of teaching aids.

QUARLES, N. K. "School Forestry Plot as an Aid to Instruction in Teaching Vocational Agriculture". Vol. 35, No. 7 (February 1963) Pp. 165-166.

The author points out the need, value and use of forestry plots as a teaching aid in vocational agriculture.

SMITH, EDMAN. "Livestock Shows an Educational Resource". Vol. 38, No. 4 (October 1965) P. 82.

Livestock shows afford many educational experiences for students and they are meaningful resources available to vo-ag teachers.

WILSON, DONALD. "Junior Livestock Auctions are Important". Vol. 35, No. 9 (April 1963) Pp. 212-213.

California uses junior livestock auctions as teaching methods and for financial support.

PUBLIC RELATIONS

ARMOND, LESTER A. "Public Relation Devices". Vol. 31, No. 8 (February 1959) Pp. 182-191.

The author listed two activities that had greatly enhanced public relations in a Louisiana school district.

SCHANK, L. C. "Use Resource People to Enrich Your Vo-Ag Program". Vol. 35, No. 7 (February 1963) P. 173.

The article illustrates the value and use of local resource people to assist with the vo-ag program.

SCHMIDT, PHILIP E. "Improving Short News Articles". Vol. 35, No. 2 (August-September 1962) P. 53.

The article illustrates ways of improving short news articles for the agriculture program.

TODD, HOLLIS E. "An F.F.A. Banquet May Provide an Avenue of Communication for Revitalizing the Vocational Agriculture Image". Vol. 35, No.11 (June 1963) Pp. 265-266.

The article points out the values of F.F.A. banquets in revitalizing the image of vo-ag.

WHITE, J. A. "News Writing Workshop for Alabama Teachers". Vol. 30, No. 6 (December 1957) P. 141.

Twenty-one Alabama teachers of agriculture completed a three day workshop in news writing.

POTPOURRI OF TEACHING AIDS

ADAIR, W. T. "What About Your Next Exhibit?". Vol. 34, No. 3 (September 1961) P. 68.

A graduate assistant shares a list of suggestions or ideas in preparing exhibits and making them look realistic.

ANTHONY, FRANK. "How to Use Charts Effectively". Vol. 31, No. 5 (November 1958) P. 106.

A pictorial demonstration on the use of magnetic charts as effective teaching aids.

BAIL, JOE P. "Some Suggestions on Filing Materials". Vol. 30, No. 3 (September 1957) Pp. 69-71.

The article shares suggestions on what to file, maintenance and use of a filing system.

COCHRANE, T. A. "A Land Laboratory". Vol. 31, No. 5 (November 1958) P. 110.

A teacher comments on the problems and advantages that one finds in operating a land laboratory as a teaching aid.

DECKER, BIRON E. "T.V. Education Unlimited". Vol. 30, No. 9 (March 1958) Pp. 207-208.

The Future Farmers of America of N.W. Pennsylvania lead, learn, and teach with a regularly scheduled T.V. Program.

DALONEY, J. E. "Learning from the Environment". Vol. 34, No. 3 (September 1961) P. 51.

An editorial confirms the point that one learns from his environment.

FULLER, GERALD and FREDERICK K. T. TOM. "Make Those "2 x 2" Slides Yourself". Vol. 30, No. 3 (September 1957) Pp. 67-68.

Plans and pictures for instructing home made equipment to make "2 x 2" slides.

FOOTE, DUANE. "Let's Do Something About Teaching Aids". Vol. 30, No. 3 (September 1957) P. 52.

A study by the author "Factors Affecting the Use of Selected Teaching Aids by Teachers of Vocational Agriculture in Nebraska" shows a need for action.

GARRIS, E. W. "A Method of Professional Improvement". Vol. 31, No.5 (November 1958) P. 117.

Reading the Agricultural Education Magazine is recommended as a method of professional improvement for teachers of agriculture.

GELBERTSON, RAY. "The Use of Audio Visual Aids". Vol. 31, No. 5 (November 1958) P. 108.

Some suggestions are listed for the use of audio visual aids along with seven outlined advantages in teaching vocational agriculture.

JENSEN, A. K. "Low Cost Overhead Transparencies". Vol. 38, No. 6 (December 1965) Pp. 140-142.

This article presents detail procedures for preparing transparencies for the overhead projector at minimal cost.

HAIGHT, PHILLIP A. "Using the School Farm Effectively". Vol. 33, No. 12 (June 1961) Pp. 275-276.

A teacher of agriculture in Massachusetts published his views on the use of school farms as practical farm laboratory.

HALL, B. F. "Teaching Aids and Devices Used in Teaching Farm Record Keeping for Teachers of Vocational Agriculture". Vol. 35, No. 9 (April 1963) P. 215.

A teacher lists the results of a study on teaching aids used in teaching record keeping.

HAMILTON, JAMES. "Make Field Trips Educational". Vol. 33, No. 3 (September 1960) P. 56.

One may make field trips educational by assigning responsibilities to students.

HOPKINS, H. PALMER. "Are You Getting the Most Out of Field Trips?". Vol. 33, No. 3 (September 1960) P. 55.

The author shows his views on how teachers may get the most out of field trips.

HOPKINS, H. PALMER. "Have You Overlooked A Valuable Teaching Aid?". Vol. 29, No. 3 (September 1956) P. 54.

The new opaque projector is recommended as a valuable teaching aid.

KNAKE, ELLERY L. "Soil Color Made Easy". Vol. 31, No. 5 (November 1958) Pp. 101-102.

The author introduced the use of pocket size color charts as teaching aids in teaching soils.

LAWRENCE, JIMMIE G. "Use Local Materials in Teaching". Vol. 34, No. 3 (September 1961) Pp. 67-68.

A teacher illustrates his techniques in using local materials in teaching.

McCOMAS, J. D. "EFT Can Be An Effective Teaching Aid". Vol. 33, No. 5 (November 1960) Pp. 110-111.

Evening field trips are effective teaching aids for young and adult farmer education.

MEINKE, FRED V. "Teaching Aids". Vol. 30, No. 3 (September 1957) P. 59.

This article points out the need for teachers of agriculture to use teaching aids outside the classoom.

McPHERSON, D. E. and V. R. CARDOZIER. "Charts, Graphs and Tables". Vol. 31, No. 5 (November 1958) Pp. 100-104.

The authors conducted a study to determine teacher and student needs in regards to reading level, intelligence quotient and scholarship of students.

NORTON, WESLEY. "Labor Savers for Fair Booths". Vol. 37, No. 8 (March 1965) Pp. 228-229.

This article presents some labor saving ideas relative to the preparation of fair booths.

PATTERSON, J. J. "Chart Preparation, Preservation and Storage". Vol. 34, No. 3 (September 1961) Pp. 53-55.

The author shares his experiences on the preparation, preservation and storage of charts in teaching.

QUARLES, N. K. "The Overhead Projector, A Modern Teaching Aid". Vol. 35, No. 9 (April 1963) Pp. 209-210.

The article explains the use and application of the overhead projector as a teaching aid.

RIDEVOUR, HARLAN E. "Prepare Your Own Teaching Aids". Vol. 30, No. 4 (October 1957) Pp. 91-92.

A vocational agriculture teacher shares advice on the preparation and use of teaching aids.

ROBIN, CLARENCE. "Fair Exhibits are Resources".. Vol. 38, No. 4 (October 1965) P. 77.

A Louisiana vo-ag teachers uses fair exhibits as teaching resources. They also create public relations and understanding.

SALESBURY, G. H. "Professional Improvement Can be Intensive". Vol. 28, No. 8 (February 1956) P. 186.

A group of teachers of agriculture attended a special welding school at Lincoln Electric Company at Cleveland, Ohio for professional improvement.

SLEDGE, GEORGE W. "Organization and Use of a Curriculum File for Teaching Efficiency". Vol. 35, No. 7 (February 1963) Pp. 164-165.

This article explains the function and use of curriculum files to facilitate teaching efficiency.

TERRY, J. Y. "Using Teaching Aids". Vol. 31, No. 5 (November 1958) Pp. 107-117.

Numerous opportunities are listed whereby the teacher of agriculture may incorporate the visual materials in the teaching program.

TIMMONS, GUY E. "Field Trips Can Be Effective Teaching Aids". Vol. 28, No. 12 (June 1956) Pp. 280-281.

The use of field trips as teaching techniques and effective teaching aids is illustrated in this article along with a list of preparation and a suggested field outline.

TOWNE, DOUGLAS C. "Flexibility in Planning". Vol. 35, No. 1 (July 1963) Pp. 7-8.

The author illustrates the flexibility in planning by the use of a planning board.

STEPHENS, GERALD O. "Operating a Movie Projector". Vol. 31, No. 5 (November 1958) Pp. 105-117.

The author outlines the steps and procedure that the teacher of agriculture might follow in operating a movie projector as a teaching aid.

STERN, MERWIN. "The Use of Farm Periodicals in Teaching". Vol. 30, No. 3 (September 1957) P. 64.

A study was made in Kansas to determine the extent farm periodicals are used in teaching. Ninety-five percent of Kansas vo-ag teachers have and use farm periodicals in teaching.

STOTZ, CARL R. "Planning a Series of Slides for Teaching". Vol. 31, No. 5 (November 1958) Pp. 105-117.

The author points out in this article the practicality of a vo-ag teacher planning a series of slides based upon the local farming enterprises.

WALL, JAMES E. "The Utilization of State Agricultural College Publications in Vocational Agriculture Departments". Vol. 35, No. 9 (April 1963) P. 207-209.

The author reveals the results of a study on the use of technical and applied publications from state agricultural colleges.

WEBB, E. M. "Is the Fair Booth Worthwhile?". Vol. 34, No. 3 (September 1961) Pp. 63-64.

A state supervisor in Washington delves into the virtues of exhibits at state fairs sponsored by vo-ag departments.

WICKS, LYLE. "The Place of Television in Vocational Agriculture". Vol. 32, No. 8 (February 1960) Pp. 181-182.

A teacher of agriculture has published his views on the place of T.V. in Vo-Ag along with problems and limitations.

VT 000 556
Parsons, Warren, And Others
The Greenhouse Grower: Analysis of Training Needs and Career Information for Instructional Planning.

Michigan State Univ., East Lansing. Agricultural Education Programs
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 67 16p.

*ORNAMENTAL HORTICULTURE OCCUPATION; *EDUCATIONAL NEEDS; *EMPLOYMENT OPPORTUNITIES; *PLANTS; *JOB SKILLS; OCCUPATIONAL SURVEYS
DETROIT; MICHIGAN; CLEVELAND; OHIO; CHICAGO; ILLINOIS

Personal interviews were conducted with the managers of 58 of the 64 greenhouses of one acre or more in the Chicago, Cleveland, and Detroit areas to ascertain the nature of production, employee educational needs, and job characteristics. These commercial greenhouses grew at least 59 species of ornamental flowering plants. Geraniums, chrysanthemums, poinsettias, lilies, and azaleas were grown in over half of the greenhouses. Greenhouse managers desired employees who have a high school education and practical work experience and wanted the employees to have a knowledge of plants, operational ability, an understanding of cropping practices, greenhouse management skills, and other less essential competencies. There were employment opportunities for youth and adults as greenhouse helpers and opportunity existed for advancement to managerial positions in the greenhouse industry. (JM)

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THE GREENHOUSE GROWER:

Analysis of Training Needs and Career Information for Instructional Planning

by

Warren Parsons, Harold Byram, and Richard Lindstrom

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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College of Education
Agricultural Education Program
Michigan State University

1966

VT 00556

THE GREENHOUSE GROWER[1]:

ANALYSIS OF TRAINING NEEDS AND CAREER INFORMATION FOR INSTRUCTIONAL PLANNING

by Warren Parsons[2], Harold Byram,[3] Richard Lindstrom[4]

Many teachers of vocational agriculture have,or will be broadening their curricula to include ornamental horticulture and floriculture. Greenhouses and other growing facilities are being added to departments. As teachers have tackled the problem of what they should teach, they have been confronted with the question of what competencies the greenhouse grower should possess, as well as what plants should be grown by trainees to gain needed competencies. This study was designed to answer some of these questions.

During the last ten years significant changes have occurred in agriculture. One of the major changes has been the increasing number of persons employed in off-farm agricultural occupations. Some of the reasons for this trend include technological developments in the processing and distributing of agricultural products, and urbanization increasing the demand for agricultural goods and services.

One group of off-farm agricultural occupations which will need increasing numbers of agriculturally trained employees is that of ornamental horticulture. For example, Judge estimated that in 1965 there were 4,630 full-time and 2,420 part-time ornamental horticulture workers in the state of Massachusetts. This represented about 22 percent of the total number of off-farm agricultural employees, the largest occupational group in the study.[5]

Ornamental horticulture is increasing in importance because more plants are being used inside and outside of homes, around public and private buildings, along city streets and highways, in parks, and in recreational areas. In the last ten

years, according to Tukey, the value of horticultural specialties, including cut flowers, bedding and foliage plants, and nursery crops has more than doubled. Tukey has said that horticulture is especially active throughout the world, and no aspect of horticulture has greater promise than floriculture and ornamental horticulture.[6]

The National Beautification Program has created a critical shortage of plant materials and trained workers for ornamental horticulture. Most of the recent off-farm agricultural occupational studies, including the ornamental horticulture occupational family, have inquired into the general areas of competencies such as agriculture, business, and mechanics for the various job titles.

Clark, Kennedy, and others have indicated that further study is needed of off-farm agricultural occupations to determine more specifically the requirements of employees in these areas.[7] Therefore, previous studies indicate that more qualitative types of studies of competencies required of workers in off-farm agricultural occupations are needed.

Two occupational titles listed under ornamental horticulture are those of the greenhouse grower and worker. One state survey identified this area as needing 358 new employees within the next five years.[8]

Annual summaries of studies in agricultural education have not listed any specific studies of the greenhouse grower, his training, or his employment. Therefore, the purposes of this study were to determine the nature of the training desired for the commercial greenhouse grower, in terms of the relative importance of the species of ornamental flowering plants produced and of the degree of attainment of competencies needed. The study would also secure employment information relating to greenhouse workers that could be of value in guidance and training such workers.

What Previous Studies Have Shown

A review of studies of off-farm agricultural occupations revealed that the field of ornamental horticulture has offered opportunities for employment by the many businesses and employees engaged in this industry. Most of the studies were preliminary in specific employment information and competencies for specific occupations, and were limited to certain areas within a state. Investigators pointed out occupational opportunities at all levels of employment, requiring the largest number of workers in the semi-skilled category, followed in order by skilled, managerial, supervisory, sales, clerical, technical, and professional employees. Other employment information specifically for ornamental horticulture included: (1) the average minimum and maximum age of entry for all levels of employment was 25 and 51 respectively; (2) the median monthly salaries by level of employment, as between $213 and $677; (3) that most managers desired at least a high school education for entry jobs, while some desired post-high school and others four years of college; (4) and that 21 percent of the managers preferred a farm background for employees, but with 75 percent who had no preference in regard to residential background.

Because most of the studies dealing with ornamental horticulture asked for general occupational information, employment information such as salaries, age of entry, and education were omitted completely, or partially, or were included under all occupational families. The researchers did not ask for specific understandings, skills, and abilities desired for employees.

Very little employment information such as the kind sought by the present study was uncovered through review of studies that had been made of the floriculture industry. There was a total of 839 full-time employees and 268 part-time employees in the studies reviewed. Employers expected to hire 154 full-time and 346 part-time

employees in the ensuing five years. The total number of employees for floriculture could not be estimated because they were listed under other horticultural job titles. There were no specific kinds of employment information for floriculture, such as minimum age of entry, salary, and union requirements. There were only two general areas of training for floriculture employees found in the review of literature: plant science and agricultural competencies. The total number of greenhouse employees expected in 1969 was 378 full-time and 224 part-time. No occupational studies of the greenhouse industry, as such, were found in the literature. The only information found was provided as small parts of larger studies of one or more occupational families.

Procedures Followed in the Present Study

A personal interview was conducted with each of the managers of 58 greenhouses out of 64 which covered one acre or more in the Chicago, Cleveland, and Detroit areas

The data were analyzed by tabulating species of flowering plants grown in pots, as cut flowers, and in flats; the training of the greenhouse grower desired by managers; and the employment information supplied by them. These data were taken from the interview form and total numbers and/or percentages computed.

Plants Produced Indicating Need for Instructional Emphasis

The first purpose of the study was to determine the species of ornamental flowering plants produced in commercial greenhouses, and to note their importance according to the percentage of greenhouses growing major and minor plants, in order to provide a basis for the development of suitable instruction for greenhouse growers. A "major crop" was defined as "any crop producing ten percent or more of the gross

income of the business whether grown as pots, cut flowers, or as flats".

Potted Plants

The percentage of managers growing potted plants, either as a major or minor enterprise, is shown in Table I. Twenty-two other plants were grown by two or four percent of the greenhouses. Only five of these crops (geraniums, chrysanthemums, poinsettias, lilies, and azaleas) were grown in half or more of the greenhouses surveyed. These crops also have had the greatest wholesale value in the United States compared to all the species of potted plants included in the survey.

Cut Flowers

According to a national survey, the varieties of cut flowers grown in the United States in 1959 were ranked in order as roses, chrysanthemums, carnations, and snapdragons. In that study chrysanthemums were grown in 64 percent of the greenhouses, carnations in 43 percent, and snapdragons in 30 percent. Roses and irises were raised in 12 percent. Roses are considered as a crop grown usually by specialists. As a result, the percentage of greenhouse companies producing roses is not large in comparison to the total number of roses grown. These five crops were also grown in greenhouses which employed the largest number of workers. Callas, orchids, gladioli, daffodils, delphiniums, stephanotises, sweet peas, and stocks were grown in three to seven percent of the greenhouses. Nine other plants were grown in two percent of the greenhouses.

Table I. Total Number and Percentage of Greenhouses Growing Major and Minor Potted Plants

Name of Plant	Number Major	Number Minor	Number Total	Percentages of Greenhouses Growing
Geraniums	30	11	41	74
Chrysanthemums	25	4	29	52
Poinsettias	24	4	28	50
Lilies	21	7	28	50
Azaleas	18	10	28	50
Hyacinths	9	11	20	36
Hydrangeas	5	13	18	32
Tulips	9	8	17	30
Begonias (root)	2	13	15	27
Begonias (tuberous)	1	14	15	27
Roses	9	5	14	25
Gloxinias	2	11	13	24
Vincas	1	12	13	24
Caladiums	1	11	12	22
Cyclamens	3	8	11	20
Lantanas	1	10	11	20
Foliage Plants	6	4	10	18
Daffodils	3	6	9	17
Coleus	3	6	9	17
Impatiens	2	5	7	13
Orchids	4	2	6	11
Ageratums	2	4	6	11
Kalanchoes	1	5	6	11
Petunias	2	3	5	9
Dahlias	1	4	5	9
Rhododendrons	2	2	4	7
Delphiniums	1	3	4	7
Gardenias	0	4	4	7
Carnations	2	1	3	6
Palms	1	2	3	6
Daisies	1	2	3	6
Cacti	1	2	3	6
Pachysandras	0	3	3	5
Stephanotises	0	3	3	5

Flats

Flatted material is sometimes referred to as bedding plants. In certain regions of the country the production of these bedding plants has constituted the major percentage of the floriculture industry. As an example, the areas around Detroit and Kalamazoo, Michigan, are considered major bedding-plant areas, and it has been estimated that $2.5 million on the wholesale level are produced here annually. Many of these plants are shipped as far south as the Carolinas and west as far as Missouri. The most popular plants grown in flats were alyssum, petunias, and salvias produced in 32 to 45 percent of the greenhouses. Another group of 14 plants (marigolds, ageratums, zinnias, portulacas, verbenas, impatiens, vegetables, snapdragons, pansies, asters, phlox, coleus, balsams, and delphiniums) was produced in 25 to 29 percent of the greenhouses, and a third group included 6 plants (dahlias, daisies, cosmos, larkspurs, carnations) while begonias (root) were grown in four to 20 percent of the greenhouses. Six other plants were grown in two percent of the greenhouses. There is an observed correlation between the type of flat grown and the size of the greenhouses. Greenhouse operators who specialized in growing the more popular types of bedding plants were also the largest producers.

Competencies Desired

The second purpose of the study was to determine the relative importance and degree of attainment of competencies in the greenhouse grower desired by employers.

Knowledge of fundamental information was included under four content areas of plant science: (1) external plant parts (e.g. root and stem), (2) growth processes, (3) plant names, and (4) anatomical parts (e.g. xylem and phloem) (Table II). At least two-thirds of the managers indicated that knowledge of basic plant parts, basic growth processes, and plant names was essential for the greenhouse grower. In the minds of the operators it was not important to know the various vascular systems in order to grow plants.

Table II. Percentage of Managers Who Indicated Knowledge of Basic Fundamental Information Was Essential, Useful, or Unnecessary for the Greenhouse Grower

Knowledge of Fundamental Information	Percent		
	Essential	Useful	Unnecessary
Basic plant parts (e.g. root and stem)	86	13	2
Understanding basic growth processes (e.g. photosynthesis, and transpiration)	75	21	4
Plant names (e.g. scientific and common)	66	27	7
Anatomical parts (e.g. xylem and phloem)	27	59	14

The second category of training, called competencies, included those abilities needed by the grower to perform the operations involved in his job. The percentages of managers who indicated that competencies were "essential", "useful", or "unnecessary" for the greenhouse grower are recorded in Table III. Fifty-four percent or more of the greenhouse managers indicated that the following competencies were essential for the greenhouse grower to possess, listed in order of importance: (1) watering, (2) controlling pests, (3) fertilizing, (4) mixing soils, (5) potting, (6) transplanting, (7) handling chemicals, (8) cleaning, (9) propagating, (10) sterilizing soil, (11) identifying growth containers, (12) applying growth substances, (13) operating boiler, (14) operating equipment, and (15) testing soil.

The third category of training considered was a grouping of various aspects of plant physiology, or what might be simply referred to as crop understanding. The percentage of managers who indicated that the training or crop understanding was essential, useful, or unnecessary is recorded in Table IV.

'able III. Percentage of Managers Who Classified Certain Competencies as Essential, Useful, or Unnecessary for the Greenhouse Grower

Competencies	Percentage of Managers Essential	Useful	Unnecessary
Watering	100	0	0
Identifying and controling insects, disease, virus, etc.	98	2	0
Fertilizing	96	2	2
Soil preparation	95	2	3
Potting	93	4	3
How to plant or transplant seedlings	93	0	7
Handling of chemicals	93	7	0
Maintaining sanitary conditions	93	7	0
How to propagate (seeds, cuttings, etc.)	89	7	4
Soil sterilization (steam, chemical, etc.)	89	7	4
Identifying and using growing containers	75	21	4
Using growth substances	66	21	13
Boiler operation	62	36	2
Equipment operation and maintenance	62	32	6
Soil testing	54	43	5

'able IV. Percentage of Managers Who Indicated Training in Crop Understandings was Essential, Useful, or Unnecessary for the Greenhouse Grower

Crop Understanding	Percentage of Managers Indicating Essential	Useful	Unnecessary
Temperature	100	0	0
Water requirements	100	0	0
Pinching	93	0	0
Disbudding	91	4	5
Cutting	88	4	8
Special cultural practices (staking, hardening, etc.)	88	9	3
Humidity	82	16	2
Life cycle of plant	82	13	5
Grading and packaging	75	18	7
Light effects	75	9	16

At least three-fourths of the greenhouse managers reported that the following areas of training under crop understanding were essential, listed in order of importance: (1) temperature, (2) water requirements, (3) pinching, (4) disbudding, (5) cutting, (6) special cultural practices, (7) humidity, (8) life cycle of plant, (9) grading and packaging, and (10) light effects.

The fourth category of training studied with the greenhouse managers was the types of management activities. The percentage of managers who indicated each aspect of greenhouse management training was either essential, useful, or unnecessary for the greenhouse grower is recorded in Table V.

Table V. Percentage of Managers Who Indicated Greenhouse Management Training was Essential, Useful, or Unnecessary for the Greenhouse Grower

Greenhouse Management	Percentage of Managers Indicating Essential	Useful	Unnecessary
Labor	71	21	8
Greenhouse Layout	71	23	6
Analysis of production	64	30	6
Marketing	41	41	18
Selling	36	46	18
Buying	36	50	14
Management of money (budgeting, financing, etc.)	30	54	16
Insurance	27	55	18

Under the "greenhouse management" category of training three categories: (1) knowledge of labor, (2) analysis of production, and (3) greenhouse layout, were indicated by 64 percent or more of the managers as essential for the greenhouse grower to understand. At least twenty-seven percent of the greenhouse managers stated that (1) understanding insurance, (2) managing money, (3) buying, (4) selling, and (5) marketing, were essential for the greenhouse grower. One must realize that

the competencies listed in Table V would be somewhat indicative of the size of the range and the policy of the management. The larger the establishment, the more specialized would be the individual's concern.

The last category of training to which managers were asked to react was the mechanical activities that growers perform. Twenty-three percent of the greenhouse managers said that skill in plumbing, woodworking, constructing (parts and types), wiring, and welding were essential, while 45 percent indicated that they were useful to know.

There were 152 family and 1,180 part-time or full-time, non-family employees engaged under the various job titles in the three metropolitan areas. The number of anticipated new family and non-family employees during 1964-69 was 162 and 1,358 respectively. The annual employment opportunities for greenhouse workers within the industry sample was 218.

The job title which was reported to offer the greatest opportunity for entry was the grower helper, and the job title which would offer the most opportunity for advancement was the grower. Advancement from grower helper to manager is possible within the industry.

The majority of managers expressed a desire for greenhouse work experience, and at least a high school education for their growers. One-fourth of the managers indicated that the grower should have two years of post-high school training. Forty-three and 59 percent of the managers indicated that it would be desirable for growers and grower helpers to have farm backgrounds, respectively. The salary range for greenhouse employees varied from $40. to $160. or more per week, with various kinds of fringe benefits for many. Forty percent or less of the employees in different job titles were reported to be members of a union.

Conclusions

1. Commercial greenhouses grew at least 59 different species of ornamental flowering plants which should be considered in developing a program of instruction for the greenhouse grower.
2. Geraniums, chrysanthemums, poinsettias, lilies, and azaleas were grown as a major crop in over half of the greenhouses surveyed, and should be considered when planning instruction for greenhouse growers. Amazon lilies, ivy, and primroses were grown only as a minor crop in two percent of the greenhouses, and therefore, might logically receive less emphasis in a course of instruction for the greenhouse grower.
3. Greenhouse managers wanted the greenhouse grower to have the following competencies: (a) basic plant knowledge including plant parts, growth processes, and plant names; (b) operational abilities including testing soil, operating equipment, operating boiler, applying growth substances, identifying growing container sterilizing soil, propagating, cleaning, handling chemicals, transplanting, potting, mixing soils, fertilizing, controlling pests, and watering; (c) crop understanding including light effects, grading and packaging, life cycle of plant, humidity, special cultural practices, cutting, disbudding, pinching, water requirements, and temperature; (d) greenhouse management included knowledge of labor, analysis of production, and greenhouse layout. Therefore, the above competencies should be considered in planning a program of instruction for greenhouse growers.
4. Greenhouse managers desired, but did not consider the following competencies essential for the greenhouse grower: (a) the areas of greenhouse management included understanding insurance, managing money, buying, selling, and marketing; (b) mechanical activities included welding, electrical, construction, woodwork, and plumbing.

5. There are employment opportunities for youth and adults to enter as a greenhouse grower helper in the greenhouse industry.
6. A greenhouse grower helper may advance to a greenhouse grower or a managerial position in the greenhouse industry.
7. Greenhouse managers desire at least a high school education and practical work experiences for their growers.

References Cited

1. Based on a dissertation entitled "An Analysis of Training Needs and Employment Characteristics of the Greenhouse Grower in Three Metropolitan Areas" by Warren Parsons, Thesis, Ed.D., Michigan State University, East Lansing, 1966.
2. Teacher of Vocational Agriculture, Horticulture, and Floriculture, Parkside High School, Jackson, Michigan.
3. Professor, College of Education, Michigan State University, East Lansing, Mich.
4. Associate Professor, Department of Horticulture, Michigan State University.
5. Homer V. Judge, "Employment Opportunities and Needed Competencies in Off-Farm Agricultural Occupations in Massachusetts" (research report; Boston, Massachusetts: Division of Vocational Education, Massachusetts Department of Education, 1965), p. 10.
6. H.B. Tukey, Sr., "The Role of Horticulture in Science and Society", Proceedings XVIth, Volume II (Brussels, Belgium: International Horticultural Congress, 1962) pp. 3-14.
7. Raymond M. Clark, "Need for Training for Non-Farm Agricultural Business" (East Lansing, Michigan: Department of Teacher Education, Michigan State University, 1959); William Henry Kennedy, "A Clarification of Relationships Between Farming and Certain Other Agricultural Occupations with Implications for Guidance and Curriculum Development" (unpublished Ed.D. Dissertation, Michigan State University, East Lansing, 1958).
8. Norman K. Hoover, David R. McClay and Glenn Z. Stevens, "Off-Farm Agricultural Occupations in Pennsylvania - Employment Opportunities and Technical Education Needs", T.E. Research Series Vol. 7, No. 1, University Park, Pennsylvania, Dept. of Agricultural Education, The Pennsylvania State University, 1966.
9. Paul R. Krone, Richard Lindstrom, and others "Floriculture in Michigan" "Project '80 - Rural Michigan Now and in 1980" (Michigan Extension Office, Michigan State University, East Lansing, Michigan, June 1966) p.7.

VT 000 810

Klein, M. Amadeus

Factors Affecting the Work Performance of Licensed Practical Nurses. The League Exchange No. 65.

National League for Nursing, New York, N.Y. Dept. of Practical Nursing Programs

MF AVAILABLE IN VT-ERIC SET.

National League for Nursing, 10 Columbus Circle, New York, New York 10019 ($1.75).

Pub Date - 63 104p.

INDIVIDUAL CHARACTERISTICS; *PRACTICAL NURSES; *TASK PERFORMANCE; *PERFORMANCE FACTORS; ENVIRONMENTAL INFLUENCES; SOCIAL FACTORS; RELIGIOUS FACTORS; CULTURAL FACTORS; JOB SATISFACTION; STATUS; PHYSICAL ENVIRONMENT; INTERPROFESSIONAL RELATIONSHIP; PSYCHOLOGICAL NEEDS; FORCED CHOICE TECHNIQUE; *EMPLOYEE ATTITUDES; RATING SCALES; MASTERS THESES

The purpose of this study was to determine the opinions of selected licensed practical nurses concerning factors which affect their work performance. Seventy nurses who were graduates of one educational program, and were employed for the care of patients at one hospital, sorted 60 cards into five stacks containing factors: (1) eight which affected their work very much, (2) 14, quite a bit, (3) 16, average, (4) 14, very little, and (5) eight, hardly at all. These selections were arbitrarily weighted five, four, three, two, and one in that order. Analysis was made for the entire sample and for three subgroups based on length of experience, intelligence, and state board examination scores. The entire group indicated the rank order for the factors are (1) physical, (2) moral and religious, (3) social, (4) psychological, (5) job satisfaction, (6) work-relationship, (7) role-status, and (8) cultural. Those 20 with I.Q. scores of 110 and above ranked the factors: (1) moral and religious, (2) social, (3) psychological, (4) physical, (5) work-relationship, (6) job satisfaction, (7) cultural, and (8) role-status. Those 20 whose state board examination scores were above 600 ranked the factors: (1) moral and religious, (2) psychological, (3) social, (4) physical, (5) job satisfaction, (6) work-relationship, (7) cultural, and (8) role-status. One implication was that the test instrument could be used as a basic test for an inservice program for licensed practical nurses. This M.S. thesis was submitted to the Catholic University of America. (EM)

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102 p*

The League Exchange

No. 65

FACTORS AFFECTING THE WORK PERFORMANCE OF LICENSED PRACTICAL NURSES

by

Sister M. Amadeus Klein, O.S.F.

Published by
NATIONAL LEAGUE FOR NURSING

1963

VT 00810

FACTORS AFFECTING THE WORK PERFORMANCE OF LICENSED PRACTICAL NURSES

A Dissertation Submitted at the Catholic University of America in Partial Fulfillment of the Requirements for the Degree of Master of Science in Nursing

by

Sister M. Amadeus Klein, O.S.F.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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NATIONAL LEAGUE FOR NURSING
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10 Columbus Circle, New York, New York 10019

1963

Code Number: 38-1118 Price: $1.75

THE LEAGUE EXCHANGE

The League Exchange was instituted as one means for the sharing of ideas and opinions. Many other means are, of course, available--notably, biennial conventions, national and regional conferences, and meetings of state and local leagues for nursing. Further opportunities for the exchange of knowledge and information are afforded in Nursing Outlook, the official magazine of the National League for Nursing, and in other professional periodicals.

It is recognized, however, that the time available at meetings and the pages of professional magazines are limited. Meanwhile, the projects in which NLN members are engaged and which they should be sharing with others are increasing in number and scope. Many of them should be reported in detail; yet, such a reporting would frequently exceed the limits of other media of communication. The League Exchange has been instituted to provide a means for making available useful materials on nursing that would otherwise not be widely available.

It should be emphasized that the National League for Nursing is merely the distributor of materials selected for distribution through the League Exchange. The views expressed in League Exchange publications do not represent the official views of the organization. In fact, it is entirely possible that opposing opinions may be expressed in different articles in this series. Moreover, the League assumes responsibility for only minor editorial corrections.

It is hoped that NLN members will find the League Exchange useful in two ways: first, that they will derive benefit from the experience of others, as reported in this series, and second, that they will find it a stimulus to the dissemination of their own ideas and information. There are undoubtedly many useful reports which are as yet unwritten because of the lack of suitable publication media. NLN members are urged to write these reports and submit them for consideration for publication as a League Exchange item.

To the extent that all NLN members draw from, and contribute to, the well of nursing experience and knowledge, we will all move forward together toward our common goal--better nursing care for the public through the improvement of organized nursing services and education for nursing.

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INTRODUCTION

The purpose of this study was to determine the opinions of selected licensed practical nurses concerning factors which affect their work performance.

The problem studied was, What are the opinions of selected licensed practical nurses concerning the factors which affect their work performance? Other problems studied were:

1. What is the degree to which selected licensed practical nurses perceive these factors as affecting their performance?

2. What factors do licensed practical nurses believe influence their performance the most?

3. What factors do licensed practical nurses believe influence their performance the least?

During the past decade, the demands of the public, the rapid advances in medicine, and the health needs of the nation have testified to one of the central concerns of the nursing world. The ever-increasing need for nursing personnel to staff expanding hospital facilities and the allied health agencies has broadened the field of nursing service far beyond its earlier scope.[1] Professional nursing organizations have recognized these rapidly emerging demands and have explored potential sources of more nurses and better ways of utilizing the present nurse supply. The increased needs of society have motivated professional nursing organizations to study practical nurses and promote better educational standards and state licensure for them.

Stevenson says:

> With all jurisdictions except the District of Columbia providing for the licensing of practical nurses, with about 200,000 licensed practical nurses; with more than 600 programs of practical nursing today, graduating about 15,000 practical nurses last year [1959], and with practical nurses being employed in a mounting number and increasing variety of nursing services, the evidence shows not only that the practical nurse is accepted on the nursing team, but that her usefulness, as well as the need for her services, is increasing.[2]

Recent studies show that it is becoming an accepted practice for the professional nurse to be satisfactorily assisted in the area of direct patient care by the nonprofessional practitioner.[3,4,5,6,7] The performance of the licensed practical nurse as one of the practitioners of nursing was the basic concern of this study. Though the need for the services of the licensed practical nurse has been recognized, her performance being considered valuable for quality patient care within circumscribed limits, the position of the practical nurse has not been clearly defined.[8,9] As a result, there appears to be a feeling of instability and insecurity in the role-status recognition of this nurse. Her role in the active nursing field appears to have potential for being a challenging and satisfying one, although studies indicate that this has

not always been the case.[10]

The increased demand for health services has produced two major effects in the area of nursing service:

1. Auxiliary personnel, including practical nurses, are more widely utilized for direct patient care.[11]

2. The chief responsibilities of professional registered nurses have gradually shifted from direct care to the duties of administration, including the direction of a team of nonprofessional personnel.[12]

Though the nurse's aide has been included in the category of auxiliary personnel, the practical nurse is prepared to make a greater contribution to direct patient care.

In order to perform to her fullest capacity, the licensed practical nurse should be educationally prepared for and psychologically accepted in her role. Even though the preparation of practical nurses has received attention from nursing education through programs of education and proposed curricular outlines,[13] it appears that the role-status features of this emerging group still lag. Keresey says:

> Another area of importance to the curriculum is brought out in the Alabama study. This is in relation to the role and status relationships of the practical nurse. There is considerable evidence that a great deal of work needs to be done in clarifying this area. Some of this should be included in the curriculum to help the practical nurse face the reality shock of employment but more needs to be done in helping the professional nurse and allied health professions in defining and understanding the role of the practical nurse.[14]

Since the nursing performance of the practical nurse takes place in the circumscribed area of direct patient care, often over a long period of time, the factors which affect this performance are of vital importance to the quality of care she gives and the satisfaction she receives. Also, it is to be expected that her experiences during this time of direct care and interrelated activities will in some manner influence her daily personal life away from the hospital.

DEFINITIONS OF TERMS

For purposes of clarity, the terms used in this study were defined as follows:

The trained hospital-employed licensed practical nurse.--One who was graduated from a state-approved school of practical nursing and who passed the state licensure examination. She was also currently employed in a hospital for the care of patients in a nursing unit. Hereafter, when the term practical nurse or LPN is used, it will refer to the licensed practical nurse as defined above.

Factors which affect the performance of the practical nurse. Those elements of her personality and of the work situation which influence the practical nurse's accomplishment of nursing functions so as to make the accomplishment more satisfactory

or less satisfactory.

Positive influence of selected factors upon work performance.--In all cases where the majority of the participants responded to the total number of items in the various categories in a greater than 40 percentage value, it was considered that they had definite influence, for good or for ill, upon the work performance of the licensed practical nurse.

Physical environmental factors.--Those factors which relate to the practical aspects of the art of "doing" in the area of daily-life activity performed for a constructive purpose according to a planned procedure and with a marked degree of manual dexterity.

Social environmental factors.--Those factors which originate in the social nature of the performer herself whereby an understanding and respect for herself as a person becomes the basis for understanding other persons.

Psychological environmental factors.--Those factors which reside within the personality structure of the performer herself in the form of needs, such as the need for safety, security, and a sense of belonging, the need to grow in self-realization, the need to plan, to be creative, and to make a worthy contribution, and the need to be able to participate in a social structure.

Moral and religious environmental factors.--Those factors which arise from the basic philosophy of Judaic-Christian religion so as to inspire the motives, ideals, and goals of the performer.

Cultural environmental factors.--Those factors which arise from an aesthetic appreciation for the arts so as to enable the performer to help patients through broader areas of personal interests, beliefs, habits, and practices.

Work-relationship factors.--Those factors which arise from the work situation and the coordinated efforts of all members of the health team.

Role-status factors.--Those factors which arise from a specific job within a complex nursing-staff structure composed of various levels of performers.

Job-satisfaction factors.--Those factors which offer the performer tangible and intangible remuneration for services rendered to the sick in a hospital setting.

Personality.--An integrated totality of the physical, psychological, and mental capacities, dispositions, traits, habits, and mannerisms that distinguish one human being from another and determine his unique reactions to himself and his adjustment to his environment.[15] Personality is a dynamic, constantly changing phenomenon emerging out of the myriad relations between the individual and the environment, changing and adjusting in response to demands from within and from without.[16]

ASSUMPTIONS AND HYPOTHESES

The assumptions basic to this study were:

1. The individual possesses within herself a capacity for self-determination which enables her to choose, to determine, and to chart her own conduct and destiny.[17]

2. Every licensed practical nurse who is employed in a hospital desires to accomplish some degree of satisfactory performance.

The following hypotheses were formulated for this study. In the opinion of a selected group of licensed practical nurses:

1. Their work performance is positively influenced by the physical environmental factors.

2. Their work performance is positively influenced by the social environmental factors.

3. Their work performance is positively influenced by the moral and religious environmental factors.

4. Their work performance is positively influenced by the cultural environmental factors.

5. Their work performance is positively influenced by the psychological environmental factors.

6. Their work performance is positively influenced by the relationship factors of the work situation.

7. Their work performance is positively influenced by the role-status factors of the work situation.

8. Their work performance is positively influenced by the job satisfactions resulting from the work situation.

References

1. Alvin L. Bertrand and Marion Souza, A Study of Practical Nurse Education and Practical Nursing in Louisiana, 1950-1955 (Baton Rouge: Louisiana State Department of Education, 1956), p. 1.

2. Neva M. Stevenson, "Practical Nurse Education, An Integral Part of All Nursing Education," Curriculum Development in Practical Nurse Education (Washington, D.C.: U. S. Department of Health, Education, and Welfare, Office of Education, 1961), p. 4.

3. Donald D. Steward and Christine E. Needham, Practical Nurse Training in Arkansas: An Evaluation (Fayetteville: University of Arkansas Editorial Service, 1955), p. 175.

4. Helen C. Hanson and John E. Stecklein, A Study of Nursing Functions in General Hospitals in the State of Minnesota (Minneapolis: The University of Minnesota, 1955), p. 122.

5. An Experience in Practical Nurse Education (Battle Creek: W.K. Kellogg Foundation, 1959), pp. 50-54.

6. Edith M. Tetlock, A Survey of the Approved Schools and/or Programs for Practical Nurse Education in the State of Maryland for the Purpose of Identifying Their Specific Characteristics. Unpublished master's dissertation, School of Nursing, University of Maryland, 1960.

7. Margaret West and Beatrice Crowther, Education for Practical Nursing, 1960: A Report of the Committee on the Questionnaire Study of Practical Nursing Schools (New York: National League for Nursing, 1962).

8. Dorothea E. Orem, Guides for Developing Curricula for the Education of Practical Nurses, Practical Nurse Series No. 2, Vocational Bulletin No. 274 (Washington, D. C.: U. S. Government Printing Office, 1959), p. 4.

9. Curriculum Development in Practical Nurse Education (Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, 1961), p. 1.

10. Bertrand and Souza, op. cit., pp. 76-77.

11. Everett C. Hughes, Helen MacGill Hughes, and Irwin Deutscher, Twenty Thousand Nurses Tell Their Story (Philadelphia: J. B. Lippincott Co., 1958), p. 131.

12. Ibid., pp. 93, 174, 178.

13. Practical Nurses and Auxiliary Workers for the Care of the Sick, prepared by the Joint Committee on Auxiliary Nursing Service of the ANA, NLNE, NOPHN, NACGN, ACSN, and NAPNE (New York: The American Nurses' Association, 1940), p. 5.

14. Elinor Keresey, "A Closer Look at the Practical Nurse Curriculum," Report of the Intra-Regional Work Conference on Practical Nurse Education (Washington, D.C.: U. S. Department of Health, Education, and Welfare, Office of Education, Division of Vocational Education, 1957), p. 18.

15. Alexander A. Schneiders, Introductory Psychology: The Principles of Human Adjustment (New York: Rinehart and Company, 1959), pp. 52-53.

16. Ibid., p. 88.

17. Ibid., p. 87.

CHAPTER I

METHOD AND DESIGN OF THE STUDY

The descriptive method of research was used to accomplish the purpose of this study--namely, to determine the opinions of selected licensed practical nurses concerning factors which affect their work performance. Good and Scates have said that "for constructive thinking about practical affairs, knowledge of the existing situation is essential."[1] When we know where we are at the present time and where we wish to be in the future, we then can be concerned with a method for getting there. Such knowledge is gained mainly from studies which deal with causation.[2] Descriptive studies contribute to science by providing penetrating insights into the nature of what one is dealing with in a particular situation. The purpose of this research was to find new truth, which may have many different forms. One of these may be an insight into factors which affect the work performance of practical nurses. Solutions to perplexing practical questions will not be solved by the data but by the thinking process which will be stimulated by the increased insight which grows out of a study of data.[3]

All of the licensed practical nurses who participated in this study were graduates of the same educational program, and the philosophy and the objectives of this school were reviewed because they appeared to be closely related to the factors affecting the performance of the LPN as determined from the literature.[4]

The factors affecting the performance of the licensed practical nurse appeared to arise from the performer's personality structure and the environmental factors of the work situation, and therefore, a format for the categorization of personality and environmental factors was set up according to Schneiders' principles of human adjustment.[5]

The nursing literature was reviewed for the historical background of practical nursing in this country and for a determination of the factors which appeared to affect the performance of the licensed practical nurse as described in these sources.[6]

The factors determined from Schneiders' principles of human adjustment and from the nursing literature were categorized according to personality and environmental factors.[7] The categories utilized were as follows:

1. Personality factors, which included physical, social, moral and religious, cultural, and psychological factors.

2. The work-situation factors, which included work-relationship, role-status, and job-satisfaction factors.

The construction of a questionnaire for an evaluation of the determined factors was then undertaken. This consisted in the formulation of statements based on the categorized factors. The following criteria were utilized in the development of the statements:

1. The statement should be derived from the personality-environmental principles described by Schneiders and from the factors determined from nursing literature.

2. The statement should be an expression of desired behavior--not a statement of fact. "A very convenient way of stating a proposition so that it does involve desired behavior is by using the term 'should.' "[8]

3. The statement should be worded so that the modal reaction to it would be approximately in the middle of the possible responses.[9]

4. In order to avoid a stereotyped response, the statements should be so worded that half of the responses would fall in one direction and half in the opposite direction.[10]

A questionnaire composed of 74 statements was developed,[11] utilizing the factors and placing them so that the respondents could check Strongly Agree, Agree, Undecided, Disagree, or Strongly Disagree. The questionnaire was then presented to a group of consultants, instructors, and supervisors who had previous or current experience with practical nurses in the work situation or in practical nurse education.[12] They were asked to critically evaluate the questionnaire for format, clarity, and importance of items and to write in any suggested revisions of the item. The results of this critical analysis were evaluated as follows:

1. What questions, if any, were raised by each statement?

2. What statements received the most consistent response?

3. What statements received the most varied response?

From the results of this evaluation, many items were revised for purposes of clarity. Those items which received broadly different responses, so that they were not strongly weighted in agreement or disagreement, and those which resulted in several undecided responses were either restated or rejected. Fourteen items were rejected. The statements regarding role-status were not strongly supported by the consulting group, but since the literature suggested that these factors were pertinent, they were retained.

After the evaluation of the statements, the tool for securing the opinions of a selected group of licensed practical nurses was further developed. The purpose of this tool was to determine the opinions of the licensed practical nurses regarding the degree to which they perceived the factors affecting their personal performance. Criteria for the selection of the 60 items in the revised instrument differed from the previously stated criteria and were as follows:

1. Each item originated in the categorization of factors affecting human adjustment as described by Schneiders.

2. Each item was identified with a particular factor determined from nursing literature.

3. Each item was strongly supported as being a factor in practical nurse performance in the questionnaire submitted to a group of registered professional nurses who had previous experience in the instruction and/or supervision of practical nursing students.

4. Each item was presented as a positive statement.

5. Each item tested the degree to which the practical nurse perceived it as affecting her personal performance by judging it in the light of the question "How much would this situation affect my care of patients?"

Since the majority of the 60 items were positive and might have either a direct or an indirect effect on performance, the decision was made to use a forced-distribution-response type of questionnaire. Using this method, each participant would be given a pack of 60 cards, each listing one statement, and directed to sort them into packs of Very Much, Much, Average, Very Little, or Hardly at All, depending upon her opinion of how the statement affected her work performance. The decision was also made to force the participants to separate the cards into 8 which affected their work very much, 14 which affected their work quite a bit, 16 which could be considered average in effect, 14 which had very little effect, and 8 which affected their work hardly at all. By using this method, the participants would be forced to place a specific number of items in each of the five categories.

A pilot study was conducted in order to test the items, the method of procedure, and the facility of the researcher in administering the instrument. Ten practical nurses currently employed in a local hospital participated in the pilot study. Specific instructions were given to these participants.[13] There was no change in the items or in the administrative procedure as a result of the pilot study. The instrument was understandable and the instructions were adequate, and the decision was made that the instrument was adequate to test the selected sample of licensed practical nurses.

The director of nursing of a large Catholic general hospital in the Midwest had been contacted for permission to conduct the study. This hospital was selected for two reasons: because of the large number of licensed practical nurses employed on the staff and because these practical nurses had graduated from the preservice program conducted by this hospital. There were approximately 150 licensed practical nurses employed in the selected hospital. Permission to carry out the study was granted.

Criteria for the selection of the participants in this study were that they be:

1. Graduates of the same educational program.

2. Currently employed in the same hospital.

3. Employed for the care of patients.

Approximately 120 licensed practical nurses met the above criteria. It was not, however, possible to secure a controlled random sample of the 120 eligible practical nurses employed in the selected hospital, because the testing period was limited to a

day and a half. Those nurses who were available during the designated testing period comprised the sample, which was considered to be fairly random.

It was hoped that a majority of the licensed practical nurses who met the criteria could participate in the study. Seventy-five graduates, 63 percent of the eligible group of practical nurses, participated in this study. Five of the sortings were incorrect and had to be discarded, which left a total of 70 participants for whom the data could be analyzed. Previous to the administration of the test, it had been hoped that 10 percent of the total graduates of the selected school of practical nursing would be represented in this study. The total number of graduates was 658, and 11.4 percent participated in the study.

Previous arrangements with the department of nursing made it possible for the practical nurses to report hourly for instructions and then proceed with the test. The test was conducted in a large room with ample table space for each participant to work without crowding or interruption.

The participants appeared to be interested and worked diligently for approximately one hour. Two general comments were made by the participants when they had completed the test. The first was that it was interesting and good because it made them think more seriously about why they did their work. The second comment concerned the distress they had felt at having to make a decision about so many items which were so closely related. They wanted the researcher to realize that though they had put the required number in the Very Little and Hardly at All sections, they did not mean that the items were not significant.

The data from the forced-distribution-response test were handled according to the eight categories of factors--namely, physical, social, moral and religious, cultural, psychological, work-relationship, role-status, and job-satisfaction factors. The responses were arbitrarily weighted in the following manner: A value of 5 was given to those items checked Very Much, 4 to those checked Much, 3 to those checked Average, 2 to those checked Very Little, and 1 to those checked Hardly at All.

All of the scores were handled on a group basis rather than individually, so that total scores were obtained for all participants within each category. The weighted scores for the 70 participants were then obtained for each item according to each category and totaled to arrive at one group score for each item and each category. This sum was divided by the possible number of responses for each category, which resulted in a mean value for each category. Obtaining a mean value made it possible to rank the various categories of factors according to the importance of their effect on work performance in the opinion of the participants.

After these computations had been completed, the data were analyzed to test the previously stated hypotheses. After the testing of the hypotheses, further study was done to compare the opinions of three subgroups within the total group regarding the effect of the stated factors upon work performance. These three subgroups were made up of:

1. Twelve licensed practical nurses who had worked on the nursing staff for three to seven years.

2. Twenty licensed practical nurses with an IQ of 110 or more.

3. Twenty licensed practical nurses who had achieved a total score of 600 or over on the State Board Licensure Examination.

These data were tested in the same way as previously described for the total group analysis.

References

1. Carter V. Good and Douglas E. Scates, Methods of Research (New York: Appleton-Century-Crofts, 1954), p. 255.

2. Ibid., p. 256.

3. Ibid., p. 552.

4. Appendix G.

5. Appendix C.

6. Appendixes A and B.

7. Appendixes C and D.

8. Rensis Likert, "A Technique for the Measurement of Attitudes," The Archives of Psychology, XXII (1932), 44.

9. Ibid.

10. Ibid.

11. Appendix E.

12. Appendix F.

13. Appendix I.

CHAPTER II

PRESENTATION AND INTERPRETATION OF THE DATA

The collection of data was made by personal visit to a large midwestern Catholic general hospital located in an active medical center. The selected school of practical nursing is located in a state in which some practical nursing programs come under the State Department of Education and in which the State Board of Nursing is responsible for the accreditation of all programs within the state.[1] The particular school used for this study was a hospital school of practical nursing accredited by the State Board of Nursing.

DESCRIPTION OF PARTICIPANTS

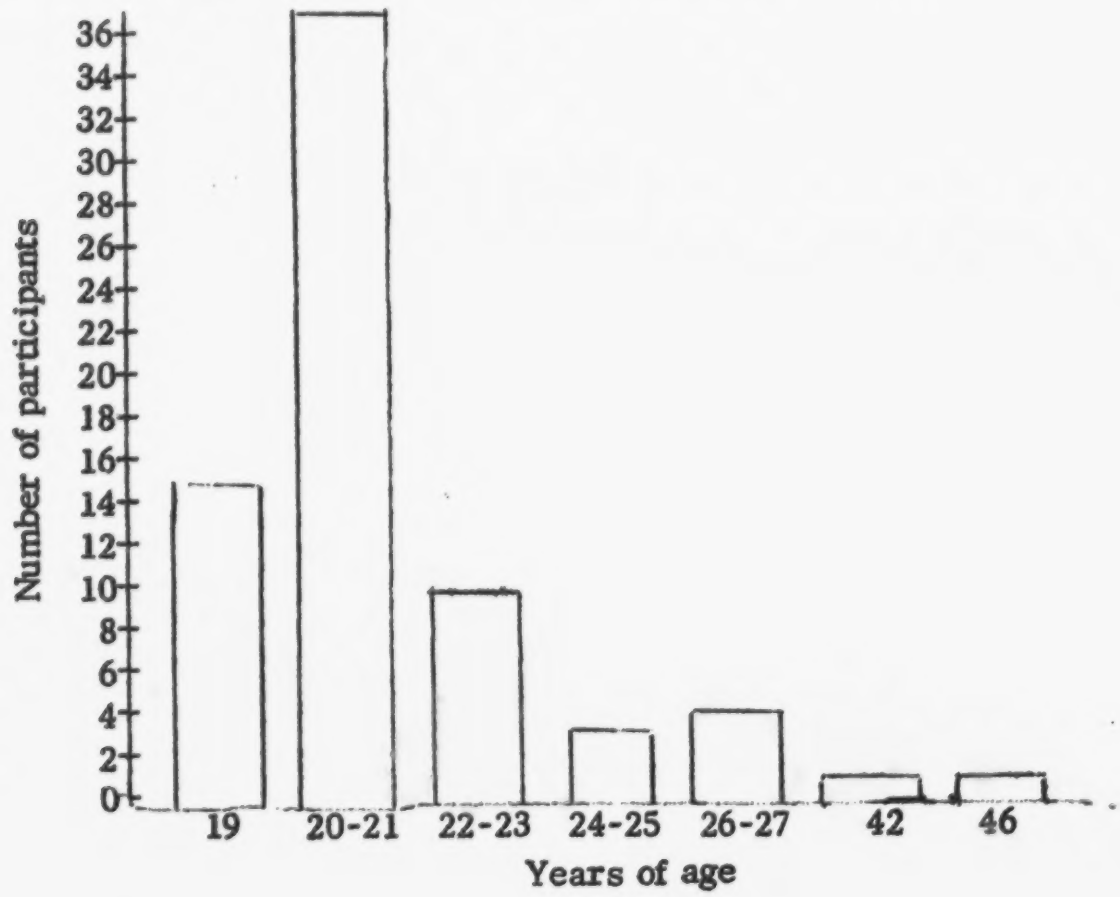
The number of graduates of the selected school of practical nursing and the number of those who participated in the study are presented in Figure 1.

Figure 1. Number of Graduates of Selected School and Number of Graduates Utilized in Study, According to Year of Graduation

The enrollment of the school increased each year during the 14 years of its existence until 1961, at which time it was decided to limit the number of students admitted to the program. The 70 participants in this study came from all but five of the classes; however, the majority, 42, graduated in the 1961 and 1962 classes.

The age level of the participants is presented in Figure 2.

Figure 2. Age Level of Participants

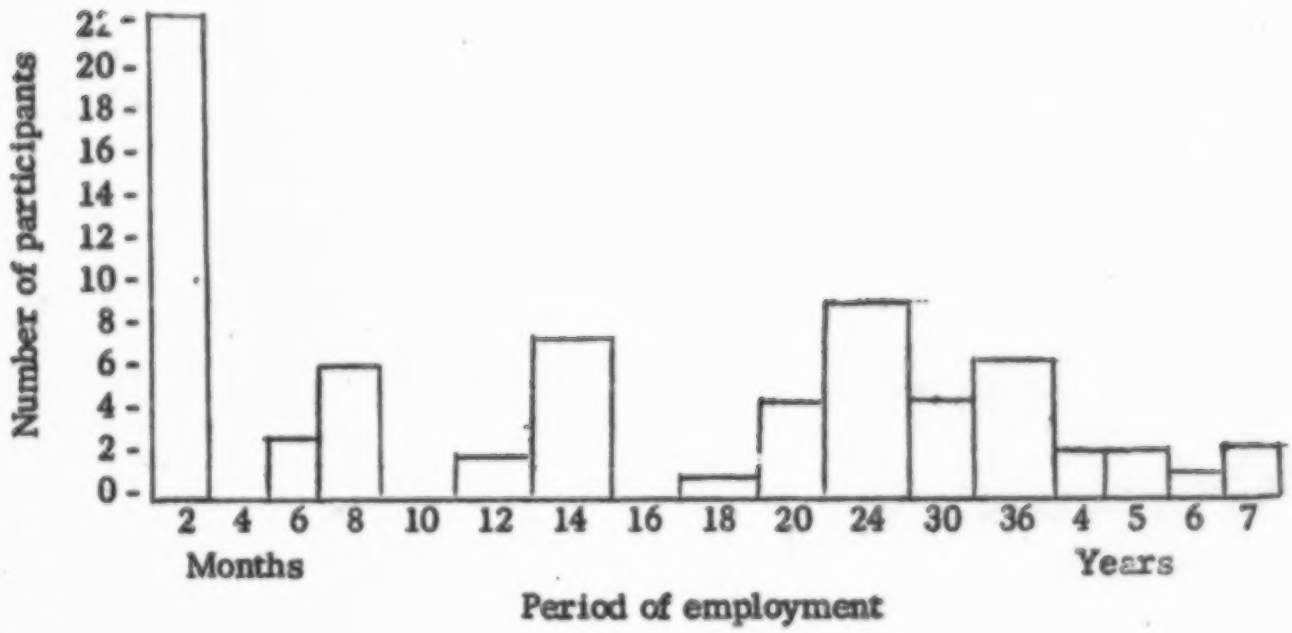


The ages of all but two of the participants ranged from 19 to 27 years; one was 42 and one was 46 years of age. The majority of the group were between the ages of 20 and 21. Twenty-one percent of the participants were 19 years old, 51 percent were 20 or 21 years old, and 24 percent ranged from 22 to 27 years. The participants in this group were younger than those reported in other studies, but they did fall within the geographical age-trend pointed out by West and Crowther.[2] In Michigan, the average age of practical nursing students was 30;[3] in five southern states, the average age of the LPN was 43;[4] and in California, the age range for graduates was from 34 to 49.[5]

The length of employment of the participants in the selected hospital is presented in Figure 3.

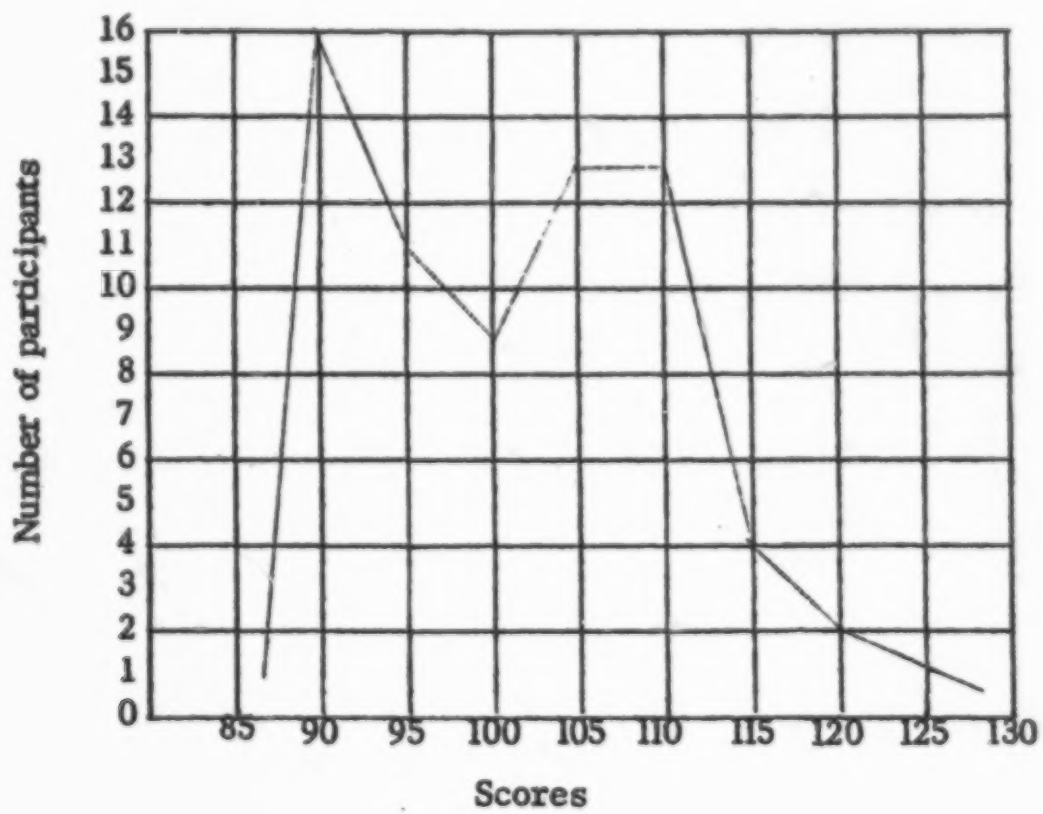
The majority of the participants had been employed in the selected hospital for one year or longer, almost one-third had been employed for less than six months, and slightly more than one-third had been employed for two years or longer.

Figure 3. Length of Employment of Participants in the Selected Hospital



The IQ scores of the 70 participants in this study ranged from 88 to 128, as tested by the Otis Test of Mental Ability. The group mean was 103.14. The distribution of the scores for the 70 participants is presented in Figure 4.

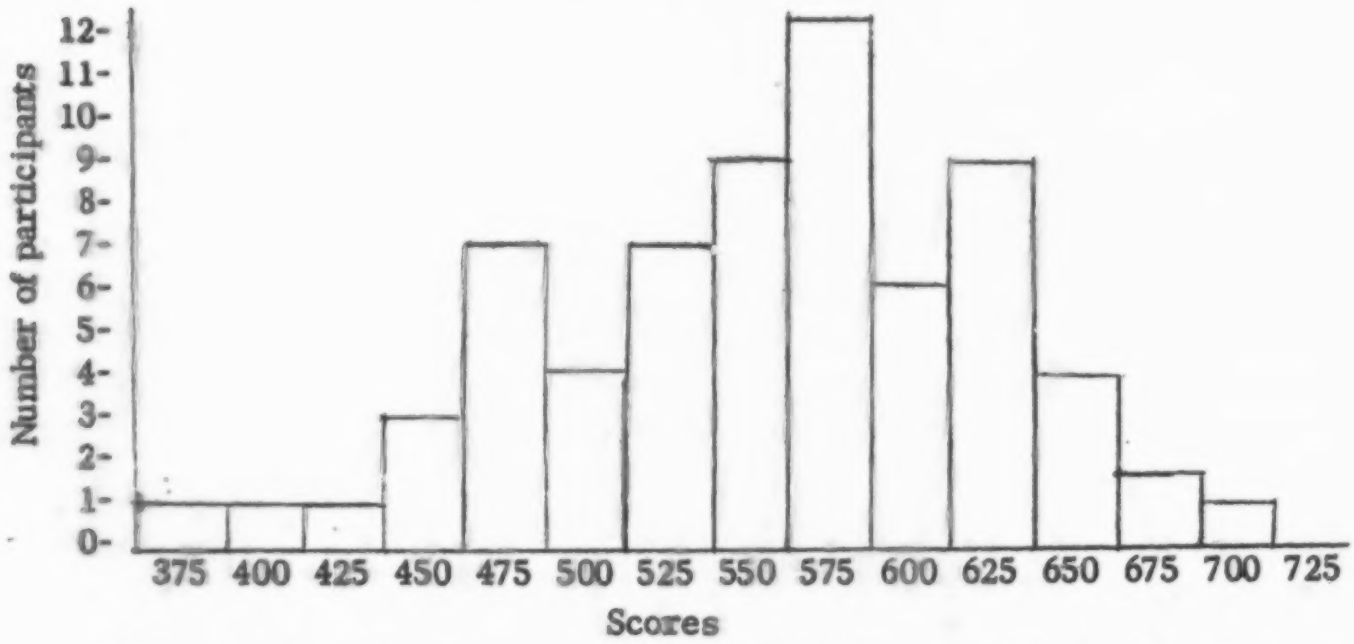
Figure 4. The IQ Scores of Participants



There was a range of 40 points between the highest and the lowest IQ scores (88 to 128). A slight majority of the scores fell at 100 or less; however, one-third were between 105 and 110, and one-tenth were above 115.

The State Board Licensure Examination scores for the participants ranged from 394 to 711, with a group mean of 564. The state minimum requirement was 375. The distribution of the scores for 67 of the participants is presented in Figure 5.

Figure 5. State Board Examination Scores of Participants*



*Three of the 70 participants are not included because during the first years of the existence of the program, the state gave only a licensing number or scored according to another method.

All of the state board scores of the participants were above the state requirement of 375. Nineteen percent of the participants' scores fell between 375 and 500, 48 percent fell between 500 and 600, and 33 percent were 600 and above.

Other records of the participating group showed that the majority of the participants, 53, were single and that 17, or 24 percent, were married. The majority of the group, 70 percent, were Catholic, and the remainder were members of Protestant faiths.

THE PARTICIPANTS' RESPONSES

In the analysis of the data, each participant's responses were analyzed and compiled in a table representing the group response for each item.[6] The weighted calculations for each factor were mathematically determined as described in Chapter I. The mean value and the percentage value were then determined. They are presented in Table 1.

Table 1. The Weighted Mean and Percentage Values Given to Performance Factors by Participants

Factors	Mean Value	Percentage Value
Physical	3.65	73
Moral and Religious	3.48	69.6
Social	3.39	67.8
Psychological	3.31	66.2
Job-Satisfaction	2.87	57.4
Work-Relationship	2.65	53
Role-Status	1.99	39.8
Cultural	1.97	39.4

In the opinion of the selected group of licensed practical nurses, the physical factors had the greatest effect on their work performance. The moral and religious factors were rated the next highest, and the cultural factors were considered the least important. Work-relationship and role-status factors, which appeared to be highly significant according to nursing literature, had less effect upon their work than five of the other categories had.

In testing the hypotheses according to these findings, it was found that the data supported the following assumptions.

In the opinion of selected licensed practical nurses, their work performance is positively influenced by:

1. Physical environmental factors.

2. Social environmental factors.

3. Moral and religious environmental factors.

4. Psychological environmental factors.

5. Relationship factors of the work situation.

6. Job satisfactions resulting from the work situation.

The data did not support two other sets of factors which had also been hypothesized in this study. In the opinion of the selected group of licensed practical nurses, their performance is not positively influenced by:

1. Role-status factors in the work situation.

2. Cultural environmental factors.

ANALYSIS OF PARTICIPANTS' OPINIONS

When the items which comprised the different sets of factors were examined, it was noted that a strong group response was given to some of the items. In order to study these better, the following method was used: For each item, the Very Much and the Much responses were totaled. These were compared with the totaled Very Little and Hardly at All responses to the same item. The Average responses were disregarded in an effort to evaluate better the extremes of the responses to each item. The results of this investigation are presented in the following tables set up for each group of factors. Each table is preceded by a summary statement about the factors from the literature and is followed by an interpretative comment. It should be kept in mind that the participants were required to categorize a given number of items as Very Little or Hardly at All and that these items were not considered unimportant but were seen as having less effect on the work of the practical nurse than the other items had.

The Physical Environmental Factors

The performance expectations of the practical nurse were centered in the art and skills of nursing. They related closely to daily living activities that were compatible with those of a homemaker. Ideally, the practical nurse is motivated by a constructive interest in and an optimistic attitude toward performance. The responses of the participants to the items in the category Physical Factors are presented in Table 2. (Since a high degree of manual and manipulative skill enters into the performance of the LPN, the writer was surprised at the low positive response given to Item 2. It is possible that the participants might have viewed this as a catch question which would mark them as being more concerned about procedures and tasks than about the needs of each patient.)

The majority of the participants indicated that they liked to plan their work in an orderly way, liked to see improvement in the work area, and considered that rest and proper diet influenced their working ability. The majority of the group did not think that planning to do things at home or with a group affected their work in the hospital very much, and almost one-third indicated that liking to do things that required the use of their hands had little effect on their work as practical nurses.

Table 2. Responses to Items Concerning Physical Factors

Item	Number of Responses*	
	Very Much and Much	Very Little and Hardly at All
1. I work in an orderly, planned way.	40	6
2. I like to do things that require the use of my hands.	13	36
3. I like to see things improve in the area in which I work and care for patients.	50	5
4. Rest, proper food, and general good health influence my working ability.	41	5
5. I like to plan things to do at home or with a group.	5	51

*All 70 participants responded to each item in the questionnaire, but as noted on page 16, the Average responses were disregarded and so are not included in tables 2-9.

The Social Environmental Factors

The basic roots for ministering to the sick stem from the performer's own person. They are enhanced by the feminine qualities of understanding, patience, and compassion. These abilities and capacities should have been trained, refined, and perfected by a good general and preservice nursing education. In the process of giving to others, she herself should have developed personally as well. The selected group expressed their opinions regarding these concepts, and they are presented in Table 3.

In summarizing the social factors, it was noted that the majority of practical nurses liked people, had a strong sense of concern for those in need, and used personal qualities to enrich the effectiveness of nursing skills. Educationally, they placed special value on their practical nursing education; they learned much from their instructors, their supervisors, and other good nurses; and they rated general education as less influential in its direct effect on performance. Though evaluations of performance were not rated very high, they do appear to have an influence on performance. A majority of practical nurses indicated that they were not influenced by an ideal example.

Table 3. Responses to Items Concerning Social Factors

Item	Number of Responses	
	Very Much and Much	Very Little and Hardly at All
6. I like people.	49	4
7. I like to be with people.	48	3
8. I am concerned and want to be helpful when I see people who are hurt or in trouble.	38	2
9. I want to make difficult situations easier for people whenever I am able to do so.	36	15
10. I show my sympathy for people best by doing things which will help them.	38	10
11. I know an ideal woman and nurse whose example I try to follow.	10	46
12. My grade school and high school education has contributed toward my understanding of people.	6	40
13. My practical nurse education has helped me learn the "how" and the "why" of care for patients.	47	1
14. I use my personal qualities of understanding, patience, compassion, etc., to add to my nursing skills.	40	6
15. My instructors and supervisors helped me develop nursing skills.	37	9
16. I increased my skill in giving direct care to patients by working with good nurses.	34	7
17. Evaluations of my work as a student and as a graduate helped me learn more about myself as a practical nurse.	21	23

The Moral and Religious Environmental Factors

According to the literature, it can be said that the genuine concern of the practical nurse in the care of the sick stems from basic convictions which have a basis in the Judaic-Christian moral and religious values. A proper, wholesome respect for herself radiates in a genuine love and respect for others. Her ultimate goal is directed toward a provident God, and this same belief is respected in others even when there is a difference in formal expression. She recognizes and promotes a self-determining capacity in her own life as well as in that of each patient. The opinions of this group of practical nurses regarding this category are presented in Table 4.

Table 4. Responses to Items Concerning Moral and Religious Factors

Item	Number of Responses	
	Very Much and Much	Very Little and Hardly at All
18. My religious beliefs and teachings help me want to give good care to patients.	33	11
19. Religious and moral values help me appreciate and respect the dignity of each patient.	51	4
20. Religious and moral values help me respect each patient's own way of life.	39	10
21. For me, giving care to patients is also giving honor and worship to God, the Creator of mankind.	47	6
22. Giving care to patients is also a chance for me to give charity to my neighbor.	19	26
23. Giving care to patients has helped me to become a better person myself.	21	14

A strong majority placed a high value on most of the moral and religious factors. Seventy-three percent of the participants indicated that their religious and moral values helped them appreciate and respect the dignity of each patient. Sixty-seven percent looked upon their care of the sick as an expression of worship of God, their Creator. About one-half of the participants said that their religious beliefs influenced their desire to give good care, and one-fourth said that care of the sick was also charity to others and a means for making them better people themselves. (The writer is of the opinion

that the word "neighbor" in Item 22 perhaps did not carry the proper implication to the participants, so that they did not think of the patient as a neighbor.)

The Cultural Environmental Factors

In the cultural patterns of all people, it can be observed that the various cultures have adopted traditional expressions of their way of life. These take the form of music, art, literature, and recreation. Though nursing literature does not indicate a significant use of the arts in the administration of general nursing care, there is some use of it in the specialties. Table 5 shows the opinions of the selected group of practical nurses in regard to the cultural factors.

Table 5. Responses to Items Concerning Cultural Factors

Item	Number of Responses	
	Very Much and Much	Very Little and Hardly at All
24. My appreciation for artistic design helps me work in a patient's room in a calm, smooth, and easy manner of giving care.	5	57
25. An appreciation for good music has helped me find programs which interest and benefit patients.	1	64
26. My appreciation for good reading has helped me in my conversation with patients.	7	42
27. My interest in recreation and hobbies has helped me see ways for patients to be rehabilitated and make progress in helping themselves.	5	50

As a whole, the cultural factors had very little effect on the performance of the practical nurse in the opinion of the selected group. The great majority did not think that art, music, literature, and a personal interest in recreation or hobbies made a contribution toward their work performance in the care of patients.

The Psychological Environmental Factors

In considering the nature of the practical nurse as a performer, it is important to remember that she has basic needs which seek to be fulfilled and in this respect have

Table 6. Responses to Items Concerning Psychological Factors

Item	Number of Responses	
	Very Much and Much	Very Little and Hardly at All
28. My work situation as a practical nurse improves my planning and organization of other activities in my daily life.	6	47
29. Trying to be a good practical nurse fits in with trying to be a good person.	27	14
30. Being assigned to duties which I have been taught to do helps me feel safe and secure.	33	10
31. Patients in rehabilitation need almost the same care over a long period of time, but it is important for me to see each day as a new one in their lives.	18	25
32. Since the RN is responsible for understanding the scientific problems of illness, I can concentrate primarily on patient care.	11	38
33. I am pleased when I see patients whom I have cared for recover their strength and health.	60	..
34. Even though my assignments are made out for me, I can still plan many of the things I do for patients.	23	19
35. I know that I belong to a nursing staff which is helpful to humanity.	33	8
36. I have a better relationship for the total care of the patient when I have been given background information about him and his needs.	49	2
37. I am permitted to attend the daily nursing reports concerning the patients I have given care to.	40	13
38. I am permitted to participate in reports about patients I give care to.	35	17
39. The nursing staff on the unit make me feel that my work as an LPN is helpful and needed.	43	8

some effect on performance. These basic needs are closely identified with the basic needs of the patient, and in many instances, the satisfaction of the one is also the satisfaction of the other. Some of these psychological needs of the patient and the practical nurse are: the need for a purpose and an aim, the need to belong, to be recognized, to achieve, and to be safe, as well as the need to participate and make a contribution. It is also important that the nurse be able to see variations in the day-to-day situation. The opinions of this group of practical nurses are shown in Table 6.

The strongest group opinion was expressed in this category in response to the item pertaining to personal satisfaction arising from the sense of achievement with the recovery of health for the patient; 86 percent gave Very Much or Much responses, and the rest gave Average responses. Thirty-nine percent said that being a good practical nurse touched on their efforts to be a good person. Forty-one percent indicated that assignments based on previous teaching gave their performance a sense of safety and security. The three items relating to the need for information about the patient received a consistent significant response ranging from 50 to 70 percent. Two items related to a sense of belonging also received consistent responses concerning value to them. The item concerning planning and daily activities was rated low in value, as it was in the category Physical Factors. (Item 39 may seem to be more directly related to work relationships, but in the light of the definition used in this study for psychological factors, the intent was to place emphasis on a sense of security and belonging within the personality structure of the performer herself.)

The Work-Relationship Factors

Nursing literature shows the vital relationship contacts which exist in the work area for the practical nurse. These contacts include the patient, the physician, co-workers, nursing administrators, and all other personnel. Such contacts have a strong effect on those aspects of performance which make for the coordination of one performer's activities with those of the others. These include acceptance of the individual, co-operation, and the utilization of the skills in the proper area of performance. Attitudes in this regard are most frequently reflected in the kind of assignments given to the individual. The opinions of the participants in this study regarding work relationships are presented in Table 7.

The work-relationship responses indicate that this group of practical nurses want to be informed about patient needs. There was a strong response in this regard, which was consistent with their responses to similar items among the psychological factors. The kind of assignment appeared to have less significance than the need for sufficient information about the assignment. Job descriptions were given a lower rating, as was the assignment to cleaning duties. This, too, supported their unconcern about the kind of duty. About one-fourth indicated a slight influence resulting from a proper understanding of the practical nurse's position in nursing. All of these responses except the first were contrary to needs expressed in nursing literature as well as in studies regarding work relationships.[7, 8] (Items 41, 42, and 43 might have been answered very differently by these same participants had the testing been done after they had been employed in other hospitals throughout the country. Most of them are familiar only with the practices in their school hospital. Here, in general, they are well accepted by RNs, their job responsibilities are well described, and they are utilized to the full capacity of their role as LPNs. Therefore, they are not familiar with the wide variety of employment practices for LPNs.)

Table 7. Responses to Items Concerning Work-Relationship Factors

Item	Number of Responses	
	Very Much and Much	Very Little and Hardly at All
40. I am given information about the patient and his needs before I begin his care.	51	7
41. I am expected to handle any assignment which is given me by the RN.	20	39
42. A description of my job helps me know what is expected of me.	7	37
43. It bothers me when the assignments I get seem to indicate that I cannot do the work an LPN usually does.	10	40
44. Very often I am assigned to cleaning duties on the nursing unit rather than the care of patients.	2	64
45. When the RN understands what nursing duties I can do as an LPN, we understand each other better.	19	25
46. When I am understood better as an LPN, my assignments are usually more of the nursing duties I am prepared to perform.	18	37

The Role-Status Environmental Factors

Nursing literature about the practical nurse is extremely concerned with the fact that the role-status of her position is poorly defined and generally not well recognized by nursing administrators, physicians, co-workers, and the public at large. The role-status problems appear to arise from a poorly defined role in nursing itself rather than from resentment toward the practical nurse as a person or from the practical nurse's own dissatisfaction with her role. The opinions of the participants in this study regarding this issue are presented in Table 8.

Table 8. Responses to Items Concerning Role-Status Factors

Item	Number of Responses	
	Very Much and Much	Very Little and Hardly at All
47. Patients do not seem to know the difference between the RN and the LPN in nursing.	5	56
48. Patients frequently ask me when I am going to finish nursing and become an RN.	5	54
49. The doctor does not seem to know what the LPN can do, because he often asks me to do things for which I am not prepared.	8	51
50. Often, when there is a shortage of RNs, I am asked to do RN duties--the next day, when there is no shortage, I do LPN duties.	6	55
51. The LPN seems to have less status in hospitals because other personnel do not know her position in nursing.	4	54

The role-status factors appeared to have little effect on the performance of these practical nurses. The Very Little and Hardly at All responses ranged from 73 to 80 percent. This is contrary to what is indicated in the literature. In the California study, one-third of the participants indicated that their greatest problem related to their role as licensed vocational nurses.[9] Other studies support these role-status problems as well.[10, 11, 12] It is also to be noted that these were the same items which did not receive strong support in the evaluation study but were retained because they appeared to be significant in nursing literature.

The Job-Satisfaction Factors

Job-satisfaction factors range all the way from the need to work for a salary to that of achieving a full development of one's self-realization. Many of the rewards of work are intangible, and frequently these take on greater importance to the performer than the tangible rewards. The opinions of the selected group of practical nurses are presented in Table 9.

Sixty to 70 percent of the responses indicated that the practical nurse received great satisfaction from the fact that her position enabled her to give direct care to

Table 9. Responses to Items Concerning Job-Satisfaction Factors

Item	Number of Responses	
	Very Much and Much	Very Little and Hardly at All
52. The LPN position enables me to stay close to the patient and give care at the bedside.	41	8
53. Because the LPN's position is primarily at the bedside, I get great satisfaction from giving care to individual patients.	48	9
54. Even though the LPN's position does not offer advancement in nursing, I find it interesting work because of the patients and their needs.	21	27
55. I like to feel that I am being paid an adequate salary for the important work I do.	5	48
56. I am not able to do my work so well because my work hours are changed so often that I am seldom sure of a week's schedule.	3	64
57. When the hours I work can be integrated with my home responsibilities and preferences, I can do better work.	16	50
58. I learn about adjusting to sickness from observing many of the patients I take care of in the hospital.	23	25
59. I do a better job when I work with friendly, cooperative co-workers.	42	7
60. I am a better LPN when I work in a hospital which accepts me as a contributing member.	27	19

patients and this had a great effect on her performance. Friendly, cooperative co-workers also affected her performance because of a strong satisfaction factor. Somewhat consistent with the responses in the category Psychological Factors is that she was affected by the hospital's acceptance of her as a contributing member of the staff,

but the need to be accepted by her immediate co-workers was rated even higher among the psychological factors. The practical nurses did not indicate concern about frequent change in working hours, and a rather slight number were affected by consideration of preferences regarding work hours. Of the 16 LPNs who were affected by this item, half were married. An unsolicited response was made in writing on the item regarding advancement in a more-or-less terminal position. The participant said, "This is untrue. We learn more each day. Our education is never through." This supported the literature, which suggested that personal growth and development was important to the performer and was often more satisfying than salary and position status. In other words, work satisfaction is closely related to self-actualization.

Summarizing the opinions of the participants as expressed in their group responses concerning the factors which had been determined as having an effect on the work performance of practical nurses, it can be said that the factors did have a positive influence. The physical factors were rated as having the most effect. The cultural factors were shown to have the least effect, and that a very slight effect, on performance.

Table 10. Comparison of Values Given to Performance Factors by 12 Practical Nurses Employed 3 to 7 Years with Values Given by Total Group

Factors	Percentage		
	The 12 LPNs' Value	The Entire Group's Value	Difference
Physical	61.2	73	- 11.8
Social	66	67.8	- 1.8
Moral and Religious	69.6	69.6	0.0
Cultural	40	39.4	+ .6
Psychological	67.6	66.2	+ 1.6
Work-Relationship	54.6	53	+ 1.6
Role-Status	42.6	39.8	+ 1.8
Job-Satisfaction	56.8	57.4	- .6

When the data concerning the total group of practical nurse participants were completed, three studies were carried out with subgroups for purposes of comparison. The first was a study of those responses made by 12 participants who had been employed on the nursing staff as licensed practical nurses for three to seven years. The responses of this group were analyzed according to the same method that was used for the total group. Table 10 shows the relationship of their scores to those of the total group of participants.

The 12 practical nurses who had been employed for three to seven years rated the eight factors differently than the other participants did. Role-status, work-relationship, psychological, and cultural factors were considered to have slightly more of an effect on their work performance. The social and the job-satisfaction factors had slightly less effect, and the physical factors had considerably less effect.

The second comparison was made between the responses of the practical nurses in the group with IQ scores of 110 and above and the responses of the total group. Twenty practical nurse participants with IQs of 110 and over were included in the group. The relationship of their scores to those of the entire group is presented in Table 11.

Table 11. Comparison of Values Given to Performance Factors by 20 Practical Nurses with IQ Scores of 110 and Over with Values Given by Total Group

Factors	Percentage		
	The 20 LPNs' Value	The Entire Group's Value	Difference
Physical	63.6	73	- 9.4
Social	69	67.8	+ 1.2
Moral and Religious	71	69.6	+ 1.4
Cultural	42.4	39.4	+ 3.0
Psychological	67.4	66.2	+ 0.8
Work-Relationship	55.8	53	+ 2.8
Role-Status	38.2	39.8	- 1.6
Job-Satisfaction	54.2	57.4	- 3.2

The 20 practical nurses who had IQ scores of 110 and above also differed in opinion from the other participants in the group in several respects. They considered the physical factors of considerably less importance in their work performance. Role-status and job-satisfaction factors were considered less important as well. They gave more value to the cultural factors and slightly more value to the social, the moral and religious, the psychological, and the work-relationship factors.

The third comparison was made using those participants who had scored 600 or above on the State Board Licensing Examination. Their percentage values and their difference from the total group opinion are shown in Table 12.

Table 12. Comparison of Values Given to Performance Factors by 20 Practical Nurses with State Board Examination Scores of 600 and Above with Values Given by Total Group

Factors	Percentage		
	The 20 LPNs' Value	The Entire Group's Value	Difference
Physical	64.6	73	- 8.4
Social	66.6	67.8	- 1.2
Moral and Religious	73	69.6	+ 3.4
Cultural	39	39.4	- 0.4
Psychological	67.4	66.2	+ 1.2
Work-Relationship	52.6	53	- 0.4
Role-Status	37.8	39.8	- 2.0
Job-Satisfaction	54.2	57.4	- 3.2

The 20 practical nurses who scored 600 and above in the State Board Examination for licensure varied from the other participants with regard to two sets of factors. They considered the physical factors to have less effect and the moral and religious factors to have a greater effect on work performance in practical nursing. They also considered role-status and work-relationship factors to be slightly less important.

In summary, it was noted that the participants in the three subgroups placed the moral and religious factors higher than the physical factors with regard to the

importance of their effect on work performance. The ratings ranged from 3 percent to 3.4 percent higher. The participants who had been employed longer and those who ranked highest in IQ scores also differed from the other participants in placing more importance on work-relationship and role-status factors. The 20 practical nurses who had the highest IQ scores gave a higher value to the cultural factors than the other participants gave.

References

1. Appendix H.

2. Margaret West and Beatrice Crowther, Education for Practical Nursing, 1960 (New York: National League for Nursing, 1962).

3. Ralph W. Tyler and Mary Schmitt, Facts About Practical Nurse Education in Michigan (Lansing: Department of Public Instruction, 1957), pp. 35-39.

4. An Experience in Practical Nurse Education, (Battle Creek: W.K. Kellogg Foundation, 1959).

5. Paz Gomez Ramos, A Study of Graduates of Vocational Nursing Programs in California (Los Angeles: University of California, 1961), pp. 4-5.

6. Appendix J.

7. Alvin L. Bertrand and Marion Souza, A Study of Practical Nurse Education and Practical Nursing in Louisiana, 1950-1955 (Baton Rouge: Louisiana State Department of Education, 1956), pp. 76-77.

8. Raymond L. Gold and Thomas R. Ford, A Survey of Licensed Practical Nurses in Alabama (Tuscaloosa: University of Alabama Press, 1957), pp. 48-52.

9. Ramos, op. cit., p. 33.

10. Gold and Ford, op. cit., p. 91.

11. Ramos, op. cit., p. 31.

12. Bertrand, op. cit., p. 75.

CHAPTER III

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to determine the opinions of selected licensed practical nurses concerning factors which affect their work performance. The factors were determined from the literature and then evaluated by a group of consultants, instructors, and supervisors in practical nursing. In the form of a forced-distribution-response instrument, 60 items based on these factors were presented to a group of 70 licensed practical nurses who had graduated from the same educational program and were employed in one selected hospital for the care of patients. The data were analyzed to test the hypothesis that the work performance of selected licensed practical nurses would be positively affected by the eight specific factors.

The instrument was developed so that the participants could respond to the items in the eight categories by sorting them into groups of Very Much, Much, Average, Very Little, and Hardly at All. The responses were weighted, so that mathematical computations could be determined. The amount of effect the selected factors exerted on work performance in the opinion of the selected group of licensed practical nurses is shown in Table 13.

Table 13. The Percentage Values Given to Performance Factors by 70 Licensed Practical Nurses

Factors	Percentage Values
Physical	73
Moral and Religious	69.6
Social	67.8
Psychological	66.2
Satisfaction	57.4
Work-Relationship	53
Role-Status	39.8
Cultural	39.4

The data supported the following hypotheses:

1. Their work performance is positively influenced by physical environmental factors.

2. Their work performance is positively influenced by social environmental factors.

3. Their work performance is positively influenced by moral and religious environmental factors.

4. Their work performance is positively influenced by psychological environmental factors.

5. Their work performance is positively influenced by the relationship factors of the work situation.

6. Their work performance is positively influenced by job satisfactions resulting from the work situation.

The data supported the rejection of the following hypotheses:

1. Their work performance is positively influenced by the role-status factors of the work situation.

2. Their work performance is positively influenced by the cultural environmental factors.

The conclusions basic to this study were:

1. The 70 participants indicated that the following factors positively influenced their work performance.

   a. The physical factors, considered to exert the greatest effect upon performance.

   b. The social factors.

   c. The moral and religious factors.

   d. The psychological factors.

   e. The job-satisfaction factors.

   f. The work-relationship factors.

2. The 70 participants indicated that the following factors had a limited effect upon their work performance.

   a. The role-status factors.

   b. The cultural factors, considered to have the least effect upon their performance.

3. The practical nurses in the three subgroups in this study differed from the other participants concerning factors which positively affected their work performance as follows:

a. The practical nurses who had been employed the longest (three to seven years) considered the moral and religious, the role-status, and the work-relationship factors to be more important.

b. The practical nurses with IQ scores of 110 or above considered the moral and religious, the cultural, and the role-status factors to be more important.

c. The practical nurses with state board examination scores of 600 and above considered the moral and religious factors to be of greater importance and the physical factors to be less important.

In the opinion of the 70 participants, the physical factors had the greatest effect on their work performance. The moral and religious factors were rated the next highest, and the cultural factors were considered to have the least effect. Work-relationship and role-status factors which were considered important in the literature were less important than the physical, the moral and religious, the social, the psychological, and the job-satisfaction factors. The cultural factors were considered the least important.

The following items were selected by 35 or more of the participants as being factors which positively affected their work performance.

1. I like people.

2. I like to be with people.

3. I am concerned and want to be helpful when I see people who are hurt or in trouble.

4. I like to see things improve in the area in which I work and care for patients.

5. For me, giving care to patients is also giving honor and worship to God, the Creator of mankind.

6. Religious and moral values help me appreciate and respect the dignity of each patient.

7. I am pleased when I see patients whom I have cared for recover their strength and health.

8. My practical nurse education has helped me learn the "how" and the "why" of care for patients.

9. Because the LPNs position is primarily at the bedside, I get great satisfaction from giving care to individual patients.

10. I have a better relationship for the total care of the patient when I have been given background information about him and his needs.

11. I am given information about the patient and his needs before I begin his care.

12. The nursing staff on the unit makes me feel that my work as an LPN is helpful and needed.

13. I do a better job when I work with friendly, cooperative co-workers.

Recommendations for further study are:

1. Further testing of the instrument to improve it.

2. To test licensed practical nurses in widely distributed geographical areas with the instrument devised for this study in order to gain the opinion of a larger number and to make comparisons between graduates from different schools and in different localities.

3. To further explore the cultural factors which affect practical nurse performance and to determine the potential for enriching the nursing care of patients.

CHAPTER IV

SOME IMPLICATIONS OF THE STUDY FINDINGS

Review of the literature indicated that the factors which affect performance arise primarily from two sources: the performer's own personality structure and the work situation. No conclusions were made from this review, but it served as the basis for constructing the testing instrument. In reading the study, it is therefore important to keep in mind that the findings were not determined from the literature but rather from the opinions of a selected group of LPNs.

In evaluating the results of this study, the writer made some observations which may be of value to others. For example, according to the findings of this study, the work performance of the LPN is not positively influenced by the cultural factors. The writer questions this finding and therefore submitted the following recommendation: to further explore the cultural factors which affect practical nurse performance and to determine the potential for enriching the nursing care of patients.

The reason for questioning this finding arises from the fact that the writer worked as a team member with members of the selected group for several months prior to the study. At that time, they were observed as being noticeably concerned about the cultural needs of patients as a part of patient care. This concern, however, was not borne out in the results of the study. Two factors may account for this. First, it may be due to the fact that the items themselves were not sufficiently clear or were too few in number to give a valid indication of the participants' true opinions. On the other hand, the practical nurses may have been acting from motives of general human interest without real insight into the potential of the cultural factors. If this is true, then the preservice as well as the inservice education may benefit from a program which emphasizes the cultural aspects of patient care to a greater extent.

Does this study have further implications for nursing? It is believed that it does. The writer noted a marked interest expressed through unsolicited favorable comments about the nature of the test after it had been administered. During the administration of the test, the group worked thoughtfully and industriously. Later, a number of them said that the test forced them to make some decisions about aspects of nursing to which they had never before given decisive consideration. They also said that it made them realize that they did have some convictions about their nursing practice. The test made them express these convictions in terms of value by forcing them to make a judgment.

After all the participants had been tested, the faculty of the selected school of practical nursing were permitted to take the test. This enabled them to better understand how forceful the instrument was for making a value judgment about the many related situations affecting LPN performance.

Because of these observations, it is thought that the instrument could well be used as a basic tool for an inservice program for LPNs. The administration of the test itself would be the starting point. After that experience, several conferences could follow during which the factors and many of the individual items would be discussed. Since the

practical nurse will constantly be in a position in which she needs to think broadly about the nursing needs of each patient in order to adapt them to the individual social, mental, and religious background, it is important that she have convictions, goals, standards, and ideals to follow. For her, each patient represents a whole new world, and she must be able to grasp his nursing needs and then view them in the total context of his experiences.

For example, the practical nurse may give care to a large number of patients who have had the same surgical procedure. If she is procedure-conscious, she will concentrate upon this abnormal but necessary situation. If she is patient-conscious, she will, however, see each patient as experiencing a similar surgical procedure that is rendered entirely different by the individuality of his own person and life experiences. With this in mind, there can be no routine for her. It is the writer's opinion that the ability to understand each patient in this manner must start in the preservice program but must also be promoted and developed during the early years of her practice as an LPN. It is for this purpose that the instrument could be used in an inservice program.

Though the instrument used for this study was not subjected to a testing program which would establish validity, it may still be of some value to nursing service when it is used as a tool for discovering problem areas of a specific group of LPNs in a particular hospital. A group response to one particular item may mean that a situation exists which needs investigation, teaching, or further clarification. For example, in this study, Item 42, "A description of my job helps me know what is expected of me," received the following response: Seven participants said that it had "much" effect on their work performance, while 37 said that it had "very little" effect on their job. Since these participants were employed in the same hospital in which they had had their entire clinical experience as students, it is likely that the job description was identical with what they were prepared to do and that therefore this item was of less concern to this group of LPNs. However, if they had come from a variety of educational programs and hospitals, nursing service would need to be concerned about such a response. It might stimulate an evaluation of the job description itself, an investigation of its explanation to the LPN at the time of employment, and a study of the actual duties and functions expected in the nursing unit.

Nursing service may also use these results to help the professional RN staff understand the LPN's needs and expectations as a member of the nursing team. For example, responses to the following items would be of special concern to a group of head nurses:

Being assigned to duties which I have been taught to do helps me to feel safe and secure.

I have a better relationship for the total needs of the patient when I have been given background information about him and his needs.

I am permitted to attend the daily nursing reports concerning patients to whom I give care.

I am permitted to participate in reports about the patients to whom I give care.

The nursing staff on the unit make me feel that my work as an LPN is helpful and needed.

I am given information about the patient and his needs before I begin his care.

What kind of person does the writer see the practical nurse to be? Though it is not the purpose of this study to propose selection policies, some of the qualities possessed by the successful practical nurse can be described. Intellectually, she is alert, accurate, possesses a good memory, communicates well, and considers daily living situations with marked insight and concern. In her personal life, she demonstrates an interest in people and their daily activities. She can undertake tasks involving average planning and organization so as to accomplish them with ease and security. She can set a goal for a particular endeavor and see it through to completion. Her contacts with people and her manner of communication evidence prudence and tact. She delights in the satisfaction of a finished task, but she can cope equally well with situations in which achievement is slow and great patience is required. In the prospective practical nurse, these tendencies will generally be noted as personal traits in her daily life. Their development will be effected through preservice and inservice training. The practical nurse should also possess a type of aggression which looks for fulfillment on the broad horizontal plane of continued growth in nursing performance rather than in the area of management skills. Viewing each patient in the light of his past and future, she places emphasis on skill, constructiveness, and creativity in meeting his needs. The person of the patient is the core of her major nursing concerns.

The writer was interested in the observation that a marked concern for the patient appeared to be related to a satisfactory work relationship for the participants. Most of the thirteen items that were selected by these LPNs as having a significant effect on their work performance were directly related to the patient and his needs. This could mean that when the work situation is satisfactory, the LPN's concern for patient care is strengthened.

APPENDIX A

THE HISTORICAL BACKGROUND AND THE CURRENT POSITION OF PRACTICAL NURSING IN THE UNITED STATES

The historical background of practical nursing in America, according to Porterfield, began with the warm, neighborly service which existed among the pioneer women, whose ideals stemmed from the religious nursing orders of Europe and from principles of genuine Christian charity. Until late in the nineteenth century, the practical nurse was the only nurse available for nursing care in the home anywhere in the United States.[1] Since few hospitals were in existence prior to this time, practical nurses were the primary source of nursing care for the American people. During the years 1900 to 1930, great changes occurred in medicine and public health. Doctors were no longer able to instruct practical nurses on an individual basis, and at best, such preparation was becoming highly inadequate for the kind of treatment required for the acutely ill. The nursing needs of surgical patients in hospitals called for a more technically skilled and theoretically prepared type of nurse.[2] In order to meet these needs, hospitals set up nursing schools. These were the years during which the numbers of registered professional nurses increased rapidly. "With the decline of the physician's personal recruitment and training of practical nurses, this important vocation lost much of its earlier appeal to responsible women."[3]

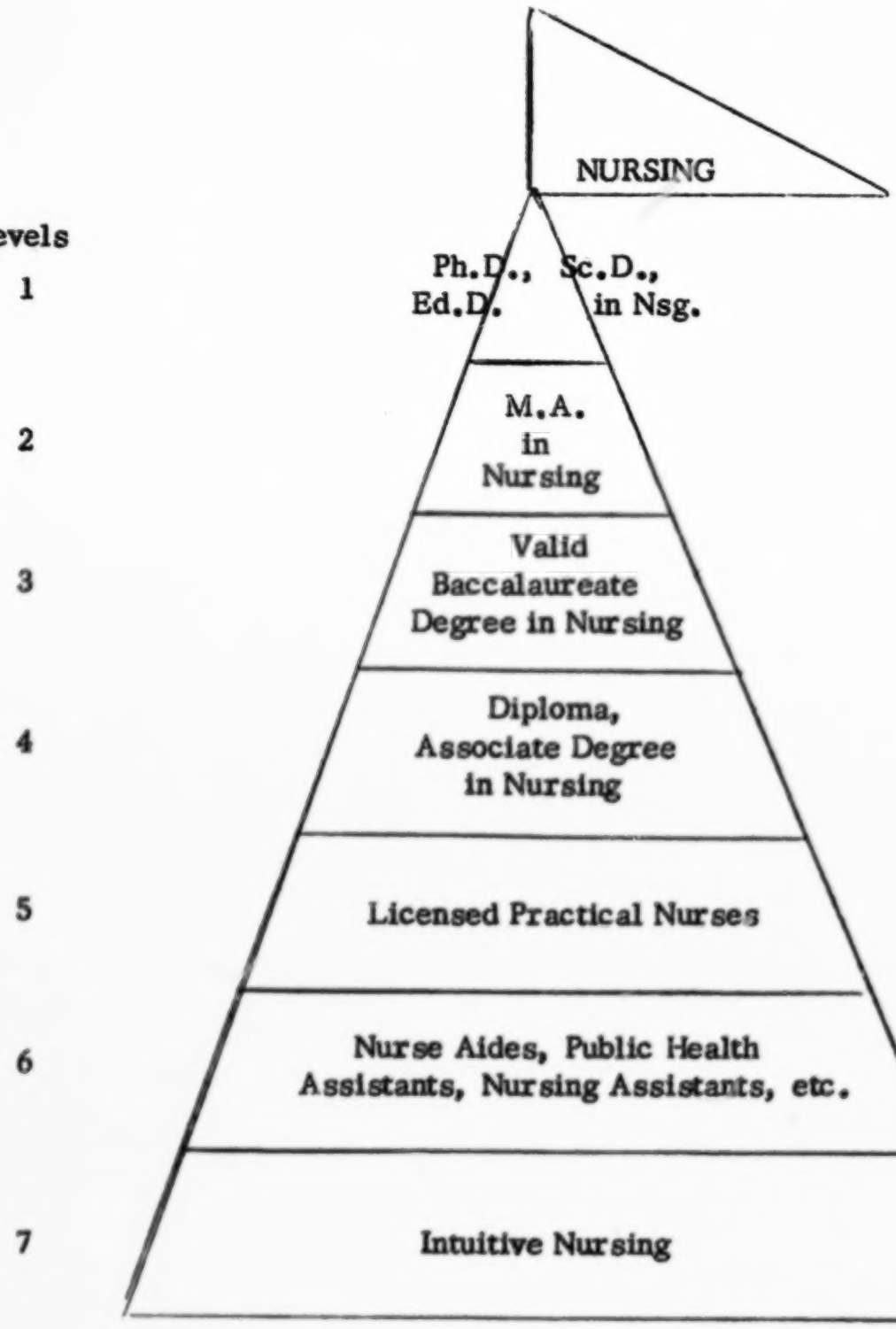
The period following World Ware II demonstrated to American "professions and the public that no single type of nurse would meet the country's need for nursing care."[4] Moore says that in 1919, when the first class for practical nurse training was organized under public education supervision, the Office of Education "encouraged the State Boards for Vocational Education to promote the organization of classes in this field."[5]

> In 1944 representatives of the National Association for Practical Nurse Education approached the Office of Education, then in the Federal Security Agency, suggesting the need for an analysis of the practical nurse occupation. As a result of the recommendations of this group, a working committee with representatives from the Division of Vocational Education, State Boards for Vocational Education and Nursing . . . was chosen to develop an analysis of practical nursing. In 1950, a committee with substantially the same membership finished their preparation of a Curriculum Guide.[6]

In 1956, Congress amended The Vocational Act of 1946 by inserting Title II, Vocational Education in Practical Nurse Training. This provided grants to states for the extension and improvement of practical nurse training. It also designated the State Board of Vocational Education as the sole agency for the administration of the plan for extending and improving practical nurse training. It did, however, provide that the supervisor of the functions of this state board should be a registered professional nurse. If this was not possible, there should be registered nurse consultative services available.[7]

Licensure of practical nurses, which brings recognition of the occupation and standards for training, proceeded so rapidly that as of 1961, all jurisdictions in the United

LEVELS OF NURSING



States had passed such laws. This means that another group of practitioners was accepted into the nursing structure. Rogers says, "The health needs of people demand variety in nursing services. If society is to be served safely and adequately, respect for and recognition of the excellence of the contribution and the contributor regardless of level of practice is essential."[8]

The New York State League for Nursing presented an interesting diagram illustrating the various levels of nursing practice.[9] It is included here (page 38) to show the position of the practical nurse as it relates to the other nursing levels.

A comparison of the functional capacity of the professional general staff nurse with that of the practical nurse was obtained by placing the functions of each as approved by the American Nurses' Association side by side and then underlining such phrases in each as would indicate differences and degrees of responsibility. The results are shown as follows:

Functions of the General Duty Nurse[10]

I. The general duty nurse is aware of the total nursing needs of the patient and is responsible for seeing that they are fulfilled.

A. Prepares, administers, and supervises a patient care plan for each patient in the group for which she is responsible.
1. Makes a detailed evaluation of his physical needs, habits, and resources.
2. Evaluates his spiritual, emotional, social, and economic needs, habits, and resources.
3. Becomes familiar with available resources, personnel, and physical facilities of the hospital and community.
4. Cooperates and shares responsibility with general duty nurses, the head nurse, supervisor, attending physician, and other personnel.
5. Communicates and acts as liaison between patient, family, physician, hospital personnel, and community agencies.

Functions of the Licensed Practical Nurse[11]

Under supervision, the following functions may be performed by licensed practical nurses with sufficient preparation to insure safe practice.

I. Assisting with the preparation, implementation, and continuing evaluation of the nursing plan by:

A. Providing for the emotional and physical comfort and safety of patients through:
1. Understanding of human relationships between and among patients and personnel, patients and families, and families and personnel.
2. Recognition and understanding of cultural backgrounds, spiritual needs and respecting the religious beliefs of individual patients.
3. Recognition and understanding of the effects of social and economic problems upon patients.
4. Protection of patients from behavior which would damage their self-esteem or their relationship with their families, other patients or personnel.
5. Participation in the development, revision, and implementation of policies and procedures designed to insure comfort and safety of patients and personnel in hospitals, other agencies, and private homes.

6. Interprets to the patient that he himself is the most effective resource in promoting successful therapy and rehabilitation.
7. Applies knowledge of drugs, other therapeutic methods, and diagnostic tests based on understanding established principles and precautions.

B. Applies scientific principles in performing nursing procedures and techniques through constant evaluation in the light of nursing and medical progress.

C. Performs therapeutic measures prescribed and delegated by medical authority. *

1. Recognizes the need for and participates in the interpretation of treatment to the patient, especially forms of therapy which may seem radical or unusual to the patient or family.

D. Continuously evaluates symptoms, reactions, and progress.

*For the nurses' legal protection, there should be a written order signed by the physician for prescribed therapeutic measures.

6. Attention to the general health care of patients, assisting with cleanliness, grooming, rest, nourishment, and elimination.
7. Maintenance of an attractive and comfortable environment for the patient with special consideration as to cleanliness, ventilation, lighting, repairs, supplies, and furniture selection and arrangement.

B. Observing, recording and reporting to the appropriate person symptoms, reactions, and changes including:
1. General physical and mental condition of patients, and signs and symptoms which may be indicative of untoward changes.
2. Stresses in human relationships between patients, between patients and personnel, and between patients and their families and visitors.

C. Performing selected nursing procedures in those circumstances where a professional degree of evaluative judgment is not required, such as:
1. Administration of medications and treatments prescribed by the physician.
2. Preparation and care of patients receiving specialized treatments administered by the physician or the professional nurse.
3. Performance of special nursing techniques in caring for patients with communicable diseases.
4. Practice of first-aid measures.
5. Utilization of nursing procedures as a means of facilitating communication and interaction.
6. Preparation and after care of equipment for treatments, administered by the physician or other professional workers, including necessary sterilization and observation of aseptic techniques.

D. Assisting with the rehabilitation of patients according to the medical care plan through:

1. Observes, records, and reports to the appropriate person symptoms, reactions, and progress.

E. Assists in patient education and rehabilitation, including the promotion of mental and physical health.

F. Assists in the provision of optimum physical and emotional environment.

G. Teaches and directs nonprofessional nursing personnel for whom she or he is assigned responsibility.

1. Awareness of and encouraging the interests and special aptitudes of patients.
2. Encouraging patients to help themselves within their own capabilities in performing activities of daily living.
3. Knowledge and application of the principles of prevention of deformities, the normal range of motion, body mechanics, and body alignment.

II. The general duty nurse participates in the administration of nursing service in a general or special hospital.

A. Interprets philosophy, aims, and policies of hospital administration to:

1. Patients and family.
2. Hospital personnel.
3. Allied health groups.
4. Community.

B. Participates in intra- and interdepartmental activities designed to assist the hospital and nursing administration in improving the service of the hospital.

C. Establishes and maintains good interpersonal relationships.

D. Coordinates the objectives and aims of nursing service.

E. Assumes responsibility for contributing to the educational program of any student who is having clinical experience under the nurses' guidance.

F. Contributes to the improvement of nursing care.

II Contributing to the attainment of the goals of the agency through:

A. Utilizing opportunities in contacts with patients' relatives to promote better understanding of agency policies.

B. Fostering cooperative effort among personnel by understanding the functions of other persons involved in patient care and by active participation in team and staff conferences.

C. Utilizing community relationships to contribute to better public understanding of health services.

III. Fulfills community obligation as a citizen and a nurse.

A. Assumes responsibility for professional growth and development.

B. Assumes responsibilities and obligations of citizenship.

III. Assuming responsibility for personal and vocational growth and development through:

A. Active participation in nursing organizations.

B. Promotion and participating in inservice programs, learning on the job.

C. Promotion and participating in workshops and institutes and other educational programs.

References

1. John D. Porterfield, "The Practical Nurse--Her Place in the Sun," Nursing Outlook, VII (November, 1959), 656.

2. Ibid., p. 658.

3. Ibid.

4. Ibid.

5. Louise Moore, Practical Nurse Training Comes of Age (Washington: U. S. Department of Health, Education, and Welfare, Office of Education, 1954), p. 5.

6. Ibid., pp. 4-5.

7. "Health Amendments Act of 1956, Public Law 911," Hospital Survey and Construction Act with Amendments: Laws of the 79th through the 87th, 1st Session Congresses, Gilman G. Udell, comp. (Washington: U. S. Government Printing Office, 1961), pp. 30-32.

8. Martha E. Rogers, "Excellence Is Where You Find It," Primed for Progress (Albany: New York State League for Nursing, 1960), pp. 14-15.

9. Virginia Bonney, "If the Shoe Fits," Primed for Progress, p. 10.

10. "ANA Statements of Functions, Standards, and Qualifications," The American Journal of Nursing, LVI (July, 1956), 898.

11. "Statement of Functions of the Licensed Practical Nurse," The American Journal of Nursing, LVII (April, 1957), 459-460.

APPENDIX B

A STUDY OF THE LITERATURE FOR THE DETERMINATION OF FACTORS WHICH AFFECT PERFORMANCE OF LICENSED PRACTICAL NURSES

INTRODUCTION

After the comparative study of the functions of the professional nurse and those of the practical nurse was completed,[1] the literature was reviewed in those areas which dealt with the practical nurse as a person and as a practitioner. By this means, a better understanding of her performance was obtained and those factors which affect her performance were determined.

THE PHYSICAL ENVIRONMENTAL FACTORS

A composite picture of the licensed practical nurse in training, at work, and off duty shows an energetic, wholesome young woman. She speaks quietly, simply, confidently. She gives an impression of reliability and common sense. She is earnest in her answers to questions and makes no effort to appear other than what she is--a well-trained assistant in nursing the sick.[2]

According to evaluation studies made in five southern states in 1957, the average practical nurse was found to be about 43 years of age. Most of them were married women.[3] A report from Michigan that same year showed that the average student in that state was 30 years of age and that 59 percent were married.[4] In California, two years later, it was shown that 45 percent of their practical nurses were 34 to 49 years of age and two-thirds of them were married.[5] In Education for Practical Nursing, 1960, West and Crowther reported that "over 23,000 students were admitted to practical nurse education in the 1959-60 school year. Two-thirds of them were high school graduates; one-third were less than 20 years old; the average age was 25."[6]

From these reports, it appears that the typical practical nurse is a young woman who is frequently engaged in some homemaker role and shows an aptitude for the practical arts and skills. Her interests, her aspirations, and her work capacity center in such aspects as skill in manual performance, work planning, the organization of practical projects, preparedness for unexpected needs, and coordination of work and social activities for a group, usually the family, in order to meet the demands of daily living. Her functions are primarily those of doing, planning, directing, and guiding the activities of a small group.

Many personal attributes of the average homemaker were also found in her daily social contacts, such as kindness, thoughtfulness, a feeling for others, a quiet sense of taking hold and managing things, an orderliness and a promptness that registered concern and sympathetic understanding.

These basic considerations are, then, a clue to the meaning of the following statement: "You will note that the art and science of nursing evolves from the activities of

daily living."[7] Kreuter says, "The basic ministrations in nursing care are comforting measures that contribute to the sense of well-being--being there and seeing him, bathing, feeding, toileting, dressing, listening to him, moving and sheltering him, and feeling his feelings. To comfort is an object of care. Ministrations are the nursing measures from which all other nursing operations can draw comfort."[8] Orem says, "The work of a nurse is somewhat like the daily activities of the mother of a family in the sense that the nurse, like the mother, knows the requirements of daily living of persons to whom her responsibility extends."[9] As such, she is a gracious hostess.

It appears then that the role of the practical nurse, considered with her role as a current or a potential homemaker, has many aspects of performance which are common to both positions. Sarbin says, "Role conflicts occur when a person occupies two or more positions simultaneously and when the role expectations of one are incompatible with the role expectations of the other."[10] From the literature, however, this did not appear to be a problem for practical nurses, who seem to view their nursing performance as similar in many respects to the duties of daily life.

THE SOCIAL ENVIRONMENTAL FACTORS

Every organization has some kind of order in the social relations of its members. The members develop a system of mutual expectations from each other, some of which are duties and some of which are rights. For the individual, this means that social participation will occur in and through social units which are organized to serve the common interests of individuals, to regulate their actions toward each other, and to coordinate their actions toward goals considered socially desirable.

In order to understand what the practical nurse does in the nursing organization, it will be helpful to consider who she is as a person. Saint Thomas Aquinas defines "person" as "a complete substance subsisting in itself, separate from all else, and endowed with a rational nature."[11] This means that the person, ontologically, is unchanging and static throughout its total existence. As such, the ontological person is the foundation for the empirical person who, on the other hand, is changing, dynamic, and mobile.[12] More frequently, this aspect of the person is referred to as the personality. Therefore, it can be concluded that person is a gift and a birthright while personality is largely a matter of one's own achievement.[13] Brennan continues:

> . . . the important thing, in the genesis of personality, is not what we are able to accomplish, but what we actually do accomplish, what use we make of our capacities and what kind of habits we form. Integration of personality means the gathering together and the proper arranging of parts into a whole. The parts, in this case, are the acts, powers and habits of man. The whole is a well developed, well rounded principle of human behavior.[14]

It is this person with potential for personality development, morally, intellectually, and technically, who is the practical nurse in a relatively uncomplicated role within the nursing field. The practical nurse is also an individual with the capacity for self-actualization as the ultimate goal of the person is pursued.

The role of the practical nurse finds its roots basically in her person, and from these roots stem many complex interactions which result in the directed performance of ministering, assisting, and recognizing, so that its main expression is one of giving to others. Paradoxically, however, it is also known that in this very process of giving, she herself grows and develops. Though these concepts apply generally to all nurses, they take on greater importance for the practical nurse, whose resultant performance, success, and satisfaction are dependent upon these basic facts as she gives limited but constant and direct patient care in a social interaction and relationship that is both psychological and objective.[15]

Closely allied with the consideration of the practical nurse as a person is the potential of her native feminine endowment. Gallen says that woman is a human person with all the dignity of a human being. As such, she has a right to unfold her personality and seek after perfection.[16] It is to be recognized that this seeking for perfection is not independent from the duties of daily living but is accomplished in and through these very ordinary acts of every day. Gallen, however, then goes on to show that in this daily ordinariness there is a difference.

> Yet she is different, and consequently her personality unfolds under other conditions . . . a very fundamental fact about woman is that she is "alterocentric"; she centers her attention, feelings, ambition and enjoyment in other persons; she is not interested in things as much as in persons . . . a distinctive property of this attribute is that of great generosity, the capacity of giving and devoting herself to others.[17]

The greatest characteristic of femininity is that of motherliness, and this flows spontaneously into womanly compassion. In other words, her personality fuses with her great feminine endowment to reach out to others in the care of the sick. Because woman as a person is highly individual, she possesses potential for individual creative expression which enables her to understand, appreciate, and cope with the needs of many patients in a personalized, realistic manner.

In recent years, the place of the practical nurse in the nursing structure has been more clearly defined within a circumscribed area of nursing. It is one part of a vast social organization. The relationship between the whole and the parts of an organization form a structure. That which is formed and accomplished by the group is called its functions. From this union of group with groups to form larger and stronger units, an over-all social structure is formed.[18] It is within such a social structure that the activities of the practical nurse take place. At the simplest level of nursing, the two component elements of nursing--the patient and the nurse--meet and become involved. Each has dependency upon the other, for as the one gives, the other receives. Each is an individual with basic needs, and each is at a particular stage in self-actualization and development. Though some of the self-development depends upon individual capacities and initiative, the largest part is a social matter dependent upon social interaction for its formation. Personal needs are met in social participation. Consequently, this participation will be according to a firm, well-integrated conception of who the individual is and what the proper standards of conduct are under the widest variety of circumstances.[19]

As one attempts to fit the aspects of nursing into this social context, one meets the complexity of the hospital organization. Practical nursing is concerned with those nursing situations which center in the patient who needs direct assistance in self-care. Regarding this, the Guides say:

> A nursing situation is basically a social situation, involving interaction between a nurse and a patient. The nurse is in the position of being physically able, the more objective, and the possessor of understanding and ability necessary for nursing patients. The patient is in a position of dependency upon others; and this dependency may be of physical, intellectual or emotional origin.[20]

The nature of the social interaction includes an identifiable and existent psychological relationship as well as an objective nursing relationship. The more closely both these relationships approach each other, the more nearly the patient will be nursed in accordance with the requirements.[21]

Added to this dual relationship there is another interaction of social origin by which each nurse within a nursing situation has a psychological relationship to the other nurses participating in nursing the patient.[22] Therefore, every nursing situation is socially complex because of the number of people involved and the dependent interaction among them.

This relationship need was brought to the attention of those working with practical nurses by the Joint Committee early in 1951. It stated that,

> Effort must be made from the first to help the practical nurse understand her relation to the patient, the physician, the professional nurse, the family of the patient and to other professional and non-professional workers in contact with the patient. The head nurse and the supervisor should make every effort to assist the practical nurse in exercising good judgment in her various relationships with her patient and other workers. . . . The more sensitive the practical nurse can become to the patient's needs and attitudes during illness, the better she will understand her place and functions as a member of the team.[23]

Excerpts from Kempf's The Person as a Nurse describe some of the extent and scope of these social implications as follows:

> In your nursing activities you will know people from all walks of life. Their nationality, creed, race, occupation, economic level, social background and education may be different from yours, but never forget that human likenesses are greater than the differences, and that it is in the ways that we are alike that we find out mutual needs, our common ground and our human understanding.
>
> Respect for each person as a person will express itself in seeking for others the social privileges we ourselves hold dear.
>
> Fair play is the basis for the trust and confidence that we receive from our co-workers. It is a thoughtful person who can think of the expectations, needs and desires of others.

Commenting on their role as a homemaker, she adds:

> You will apply your knowledge and skills to maintaining the well-being and stability of the home. Your knowledge and experiences should also represent an asset to the welfare of your community.[24]

The relationship of the practical nurse takes on another dimension when it is remembered that contacts take place with patients who are faced with problems of ill health, worries, anxieties, and loneliness. This requires a depth of understanding and empathy which is accompanied by firmness and support. The environment of nursing activities in a hospital is also frequently charged with anxiety, tragedy, suspense, and tension, yet the nurse must be able to work in such a manner that this spirit of concern and anxiety is not carried from one patient to another. She needs to be all things to all men, with an emotional and a social adjustment that enables her to change moods, feelings, and expression according to need as she moves from one patient to another.

If the practical nurse is to meet these demands of the patients and the nursing situation, she needs to have had a good basic general education followed by an educational program in practical nursing. Her learning must be directed toward applied skills which are developed through an understanding of the processes of her interaction with the patient and the other members of a total health team. From the literature, then, it does appear that the LPN's scope of performance is primarily a simple social interaction between a patient and the LPN. It does, however, take on a much more complex structure when placed in the hospital setting, where it needs to be correlated with other patients, doctors, other nursing staff, and the patient's family members.

THE PSYCHOLOGICAL ENVIRONMENTAL FACTORS

Since the work of the practical nurse occurs in an area of direct contact with persons who have vital physical and psychological needs, it can be noted that her work takes on some of the aspects of a vocation. As such, it involves the striving for a long-term skill which possesses a limitless degree of achievement and commitment to society.[25] Orem says that nursing is a highly developed art and as such is directed to individual persons for the accomplishment of a wide range of results.[26]

Arts have their origin in the unmet needs and desires of people. They take on their primitive form when seeing, inventive, and willing persons devise practical ways to meet particular needs.[27] This occurs in simple nursing when one person helps another meet the daily needs of personal care, but it more frequently includes all the complexities of service as the needs are increased. However, the art of nursing requires an added quality which art in general may or may not possess. Because nursing is a service art, it is included in the words of Vann, who says, "There is no great art without reverence. There is skill, there is knowledge, but there is more because the performer works with the reverence that comes from love."[28] In terms of practical nursing, this art of service is best known as work performance.

Performance is influenced by the dynamics of behavior, which have their roots in those inner potentials of action that are more generally called needs, drives, or urges.[29]

Though these are often considered synonymously, the writer chose to accept Maslow's classification of psychological motivation, which is constructed on goals and needs rather than on drives and urges.[30] In effect, the person is therefore led on in life through the stages of growth and development by an attraction toward rather than by the pushes of force. Repeatedly, it was noted that recommendations for prospective practical nurses included "the understanding of oneself as a basis for understanding the behavior of others."[31] It is this understanding of self which enables the practical nurse to direct and fulfill needs, so as to promote a steady ascent toward self-actualization and an ultimate goal. In the Guides, considerable stress was placed on self-care, practical actions, practical abilities, et cetera, all of which find a basis in being able to understand patient needs and then direct them toward self-fulfillment. Orem says:

> Nursing is directed to individuals with inabilities in self-care. . . . This means that education preparatory for nursing practice enables the nurse to increasingly come to see individuals and situations as they are, and at the same time helps her to have that vision of what each person and situation is capable of becoming.[32]

Maslow divides the fundamental needs of man into the following five categories:

1. Physiological needs.

2. Safety from destructive forces, threats, and the disruption of satisfying routines.

3. Love needs, such as affection and a sense of belonging.

4. The need for esteem, with a sense of self-respect and personal adequacy.

5. The need for self-actualization.[33]

Self-actualization is the ongoing actualization of that which one is potentially. It is an unceasing striving toward unity and integration within the person.[34]

The practical nurse is a member of society who finds some of her self-fulfillment in the sociocentric relations of her work. This is an added motivation for better performance. Niemeyer said that a true and ordinate self-love involves love of the common good as something to be produced, maintained, augmented, and enjoyed in common with other persons, who share a common nature and are equally entitled to full development of their personalities.[35] Vann stated it another way when he said that if one really shares with others, one is likely to want to serve, for it is known that in helping the community, one is also helping oneself.

The Analysis of the Practical Nurse Occupation reinforced this concept as follows:

> The training program should provide additional instruction which will help her to appreciate and understand her own rights, privileges, potentialities and responsibilities as an individual. This type of instruction should produce a better personality and consequently a better qualified practical nurse.[36]

Recent suggestions for curriculum development in practical nursing included the following:

1. Increasing the knowledge of the individual characteristics of people and of the dynamic nature of the individual and of society.

2. The development of increasing objectivity in regard to self and personal actions, so as to better understand personal potential for action.

3. The increasing development of abilities in self-direction and personal actions.[37]

Specific application of these principles to the work performance of the practical nurse can be seen in her being accepted into the nursing situation as a person who has a contribution to make toward the care of the sick. Better performance is also promoted by methods of administration which share pertinent information through reports and participation in conferences concerning patients cared for by the practical nurse.

In conclusion, it can then be said that the basic psychological needs of the practical nurse originate within the LPN's own self and harmonize with those of the patient in such a way that the satisfaction of one promotes the satisfaction of the other. It is in this way that practical-nurse performance is affected by the psychological environmental factors.

THE RELIGIOUS AND MORAL ENVIRONMENTAL FACTORS

Social and cultural institutions are a source of group and individual beliefs, ideas, and values which satisfy needs and direct a traditional way of life from one generation to another.[38] The people of America, despite their varied ways of formal expression, have a simple and common biblical structure which provides the basic value system of the American heritage. Religious differences in Western cultures overlay a massive structure of common values and beliefs; Protestants, Catholics, and Jews can communicate within a shared cultural universe.[39] The Judaic-Christian doctrine has had a profound influence upon American culture which is more than a mere passive acceptance of beliefs. Rather, Williams says, the American culture is an active commitment to become deeply involved through the fullness of one's personality in the values accepted in this tradition.[40] The serious consequences of this commitment find fullest expression in the worship of God which is reflected in service to mankind. Saxon says that the great proportion of American people who participate in religious organizations testify to the fact that America is a religious nation.[41]

A second benefit which has come to the American people in the Judaic-Christian tradition is the fact that it combines religion with social morality, so that ethical norms constitute a set of widely accepted standards. These standards are supported by a doctrine which rules and commands according to the truth and justice that is compatible with the compassion and mercy of charity. This great tradition also acts as a unitary focus as well as a future-orientation, and this gives American culture its dynamic social order. The possession of a common set of ideas, symbols, norms, and values supplies an overarching sense of unity and understanding. Most prized of all values

within this social structure is the right and the dignity placed upon the individual person to be independent, self-respecting, and responsible, so as to have an internal center of gravity and a conviction of personal worth respected by others within the culture. The commitment of American society to this doctrine which stresses the value and the dignity of the individual has been real, deep, and widespread.[42] American liberty and freedom find roots in the relatively autonomous and morally responsible citizen who accepts the demands and needs of the common social good as a shared responsibility. To say that men are naturally social means that by their inmost nature they need one another to realize a full human existence.[43]

This freedom of the American heritage is compatible with behavioral restraints which are recognized as both duties and rights within the social structure. This provision for individual competence and mastery of personal actions provides man with the right to choose, not so much what he wants to do, but what he "ought" to do.

It is in the light of these great Judaic-Christian traditions that American nursing finds direction and inspiration. It is in the common sharing of the American tradition that nurse and patient find themselves members of a common social family. It is in this natural social setting that the nurse who is prepared "to give" bends over to minister to him who is in need. It is also in this very act of giving that the patient and the nurse find that they are not strangers to each other but seekers of the same ultimate theistic goal in a social situation where the needs of one are the abilities of the other.

The goals of the practical nurse mean the object, condition, or state of affairs toward which the initiated activity is directed.[44] Since all activity is performed for the attainment of some end or goal, these goals are divided into two types--the ultimate, or final, goal and the intermediary goals. The ultimate is the highest attainment of supreme happiness possible to man's nature, which was ordained for him by his Creator. All lesser goals are good insofar as they point and direct him to this final goal. Consequently, a person acts for a good which is perceived to be identical with the final goal. Wuellner said "men resemble mountain climbers . . . while the goal at every stage is the peak, they have limited objectives along the way but there is progress ever upward."[45]

Intermediary goals are the subgoals, that is, those which are more immediately attainable and secondarily become the means toward the final goal. The act of electing goals proceeds from the perception and judgment of the doer, who then performs accordingly. In other words, it can be called the intention or the level of aspiration. The Crows say that a level of aspiration is the goal which a person is content to reach in satisfying a motive. In the case of the normal individual, there is always a discrepancy between the level of achievement and the aspiration level. Consequently, the normal person is strongly motivated to improve on past successes.[46] Though the practical nurse is director of her own service activity, she will be influenced by the established goals set by educational standards, policies, patient's expectations, and her own personal goals. These will be the nursing determinants which will affect her performance. Maslow's description of the self-actualizing person toward which all people are tending, either consciously or unconsciously, speaks of two characteristics which contribute toward the goal-striving efforts of a person, who needs to find satisfaction in the day-to-day performance. He says that the self-actualizing person is spontaneous in a behavior that is marked by simplicity and naturalness. Secondly, he describes her as one

who retains freshness of appreciation. She possesses that rare virtue of being able to experience joy, wonder, and enthusiasm over and over again in similar circumstances.[47]

Though the goals of each person will vary with personalities and with situations, there are categories of intermediary goals from which they draw. Some of them are a desire for success, the need for self-esteem, the satisfaction that comes from service to others, the desire for a sense of accomplishment, and the need for economic security.

Niemeyer says that according to St. Thomas, love is the ultimate source of the dynamism in goal-striving which is basic to action. Thomistic social philosophy places all love of the common good on ordinate self-love--man loves in others the good which he first loves in himself.[48] Lester and Alice Crow say that the nature of goals is not limited to the present environment.[49] Allport enlarges this concept when he says, "Goals . . . exert a present dynamic effect upon daily conduct and in directing the course of becoming. How wrong we have been in viewing the process of growth as a reaction to past and present stimuli, neglecting the dynamics of futurity."[50]

Concurrent with the idea of futurity is that of values. It is in a value schemata that the nurse finds a commitment to those ideal goals which are over and above the expectancy of immediate pleasure. "In agreement with such schemata the person selects perceptions, consults conscience, inhibits irrelevancy or contrary lines of conduct, drops and forms subsystems of habits according as they are dissonant or harmonious with commitments."[51]

It appears, then, that the ultimate goals of both patient and nurse arise from a common Judaic-Christian tradition and find a sacred unity and potential for each one's self-fulfillment.

THE CULTURAL FACTORS

An understanding of some of the basic concepts of behavior is a prerequisite for providing nursing care to patients. Brown and Fowler have said that "What an individual perceives as happening to him is more influential in determining his behavior than what is actually happening to him."[52] Psychosocial aspects of patient care have received considerable attention in the nursing specialties but cannot be ignored in any phase of nursing if the nurse is to understand and provide for total needs.

Patients come to a hospital to obtain medical and nursing care. It must be recognized that in the process of accepting hospitalization, the patient undergoes a definite psychosocial experience. Esther Lucille Brown said that "almost no one arrives at the hospital without some degree of anxiety."[53] Hospital equipment is threatening, and the "sick role" includes the surrender of customary rights, privileges, satisfactions, and symbols of status.[54] The patient no longer makes many of his own decisions, and his independence suffers from many vital restrictions. Added to all of this, he still has to carry the real and the exaggerated worries of a family, of finances, and of his job. For a man in particular, the last is a separation from the very core of life. The nature of work and a separation from it when it is imposed by the uncontrolled force of illness require a psychological adjustment that often has to take second place to the physical

needs of the moment even when it is recognized.

It is during the noncritical days of hospitalization that these needs present themselves more forcefully to the nurse. Most people can suffer through the ordeal of illness supported primarily by the medical reassurance that they will recover. New psychosocial concepts show that illness need not be merely suffered through but rather can be an experience that can be integrated into the fullness of existence.[55] This requires a degree of human and creative insight on the part of the nurse who gives the direct patient care.

Kaplan says that our conception of creative values must encompass a wider application of the arts, so that man has a greater potential for activities which generate creative expression.[56] This expression for some patients will be a personal one in the form of music appreciation, literature, art, and handicrafts. For others, it will be a social expression, such as choral participation, drama, and general recreation. When the concept of recreation is understood in its fullest meaning as a re-creating process, it is also recognized for its therapeutic potential.

Brown describes four things which one fairly homogeneous group of persons felt were essential for comfort and satisfaction during a hospitalization period. They were books, a source of music, proper clothing which would preserve personal identity, and some kind of handiwork.[57] It is left to the nurse to know how to incorporate these activities into patient care. In order to do this, the nurse must develop sensitivity to patient behavior and skill in interpreting his needs.

Psychiatric, pediatric, and rehabilitation nursing all have found therapeutic value in music, recreation, and handicrafts. The individual nurse's understanding of these resources provides her with knowledge for interpreting individual needs and planning for them in the patient's nursing care program. This part of a nursing care plan must not be viewed as "busy work" but rather as an opportunity for creative expression, personal productivity, and personal growth. It is in a therapeutic environment which considers all patient needs that the normal daily achievement of the patient is sublimated and directed into channels which support and sustain the individual.

Cultural values and appreciations also have an influence on nursing when they help the nurse understand the therapeutic value of poise, order, and planned performance which radiates security and reassurance. This strong support is quietly transmitted to the patient during the period of direct patient care. The order which the patient perceives in the nurse's performance as well as that experienced in completed personal care is encouraging to him. The nurse's ability to bring order into his small domain of physical disability gives him confidence that the disorder which now pervades his own life can also be restored.

The practical nurse not only considers these cultural factors in the immediate therapeutic context but also recognizes their continued value for the future life experiences of the patient.[58] From a review of the literature, then, it would seem that the cultural factors should have a marked influence upon the effective performance of the LPN in the administration of direct patient care.

THE WORK-RELATIONSHIP FACTORS

The Analysis of the practical nurse's occupation says that "recognition and understanding of the proper relationships of the practical nurse to the patient, the physician, the professional nurse, the family of the patient and the general public cannot be taken for granted."[59] The educational curriculum places emphasis on those situations which require the exercise of discrimination and judgment by the practical nurse and on some of the problems of relationships which must be solved by her in the performance of her duties. Since the chief concern of the practical nurse is the care of a patient in a hospital under the direction and supervision of a physician and a professional nurse, it is obvious that her most significant relations will occur within this group.

When learning is directed toward skills, it is important to realize that these skills must be developed through understandings which, in turn, result from a need to interact with the person to be helped.[60] This requires sensitivity and self-confidence in individual and group relations. In the consideration of the social significance of the practical nurse, it was noted that the nursing situation is basically a social situation involving a nurse and a patient. "Nursing care is incomplete unless the patient himself is regarded as the integral part of that performance."[61] Since the patient's nursing requirements in the hospital are of a continuous nature, there are several nurses who give care to the patient. Therefore, another relationship arises between each nurse and every other nurse in the unit. A third relationship is derived from the medical and nursing needs which are to be co-ordinated for effective treatment. This becomes the patient-physician-nurse relationship. Other less vital but equally important relations arise from the contacts with interdepartment services and from the patient's family. The relations with the family call for a particular understanding on the part of the nurse. Often this patient-family relationship has a direct influence on the patient's progress and recovery. Here the practical nurse needs to be able to make interpretations and render support without becoming significantly involved herself. Of all of these contacts, Orem stated, "It is vital that nurses understand patterns of behavior, culture variations of people and variations in states of health in order to work effectively with others in the care of patients."[62] Proper utilization of these relations requires that the practical nurse, first of all, accept herself within a circumscribed role and, secondly, that she co-operate and co-ordinate her activities with those of others so as to promote total and constant care.

The gradual change in the division of duties that has taken place with the advent of nonprofessional personnel has produced a result which the professional nurse has not often recognized or admitted. Hughes said, "To generalize very broadly from the reports today, the professional nurse is chiefly an administrator, organizer and teacher, and the practical nurse is the bedside tender."[63] It is hard to reallocate those bedside tasks which were, to the professional nurse, the essence of conceived ideas of nursing, even though trends in medicine and nursing indicated the necessity of change. While the professional nurse appreciated and accepted the much-needed assistance of the practical nurse, she resented the inheritance by the practical nurse of the bedside tasks which provided a means of maintaining an intimate nurse-patient relationship.[64, 65] In considering this trend, it was noted that there were variations in the degree in which pro-

fessional separation from the patient occurred. They can be summed up as follows:

1. The professional nurse continued to give a large part of bedside care if she was in a smaller rather than a larger hospital and if she was in a nonprofit rather than a tax-supported institution.

2. She gave more bedside care on the evening tour of duty than on the other two tours.

3. If she was performing in an area of highly specialized nursing, she gave more bedside care.

4. She also gave more bedside care in situations where there were few nonprofessional personnel and where patients were fewer in number.[66]

What particular problems are recorded in this regard? It is interesting to note that the studies indicated that the practical nurse was not dissatisfied with working under supervision nor was she striving to usurp the position of the professional nurse. The Ramos study showed that 96 percent of the licensed practical nurses liked their jobs and that 56 percent liked the patient-care tasks the best.[67] It appeared that the greatest difficulty for the licensed practical nurse concerned the delegation of duties and responsibilities. Keresey listed as one of the major weaknesses of the practical nurse curriculum which required further research and study "the wide discrepancy between the skills and demands of the practical nurse and the activities which professional nurses and physicians are willing to delegate to her."[68] The Williams study stated, "To assign practical nurses to duties which they should not be expected to perform or for which they have not been prepared, or to fail to utilize the trained practical nurse to her fullest potential is inconsistent with good administrative practices."[69] Hughes also indicated that the decision often rested with the ability of the performer and the demand of the situation--e.g., a trusted practical nurse could be encouraged to fill in for the graduate nurse in a crisis while a less-experienced one might be expected to "keep her place."[70] Gold and Ford gave insight into the feelings of the practical nurse regarding these misunderstandings when they wrote, "LPNs try to avoid alienating their supervisors by playing their occupational role in ways which demonstrate attitudes of humility and dependence. At times it becomes difficult to maintain an adequate balance between showing competence and avoiding indication of the kind of over-confidence associated with the "dangerous nurse."[71] The situation is also complicated by the fact that practical nurses are frequently asked and expected to assume nursing responsibilities beyond their present nursing abilities and capacities.[72]

Since there appears to be so much misunderstanding on the part of RNs and nurse administrators regarding the functions and duties of the LPN and since many RNs are reluctant to take the LPN on the nursing team as a co-worker, it may be expected that work relationships will have an influence upon the performance of practical nurses.

THE ROLE-STATUS ENVIRONMENTAL FACTORS

Probably the greatest factor for misunderstanding and misconceptions regarding the practical nurse arose from the fact that her position in hospital nursing emerged

from a social need more than from the nursing structure itself. Secondly, this occurred at a rate that exceeded the adaptive and the adjustment period of the nursing staff, and as such, posed a threat particularly to the registered nurses. As a result, the status and role of the practical nurse have not been clearly defined and therefore are not fully interpreted to the health team or the public. Since many of the aspects of status are dependent upon the acceptance and recognition of those with whom and for whom one performs, it is important that this be accomplished before society can be expected to fully admit this newcomer into the accepted roles of her service field.

Within the work world, there tend to emerge two statuses which are of particular significance to the worker. There is the formal structure of status established by the organization which expresses, through definition and description, the worker's exact place within a hierarchy of positions. In addition to this, it is not uncommon for the persons themselves within the functioning unit to develop an informal status structure which is separate from that of management. It may be based on age, salary, type of work, or skills. Sometimes, this informal status is more meaningful to the worker than the organizational status is, because it affects his or her immediate day-to-day activities in a manner which brings satisfaction and security.[73]

Role, on the other hand, is the "action pattern necessary for holding one's position in the structure of any one of the many subgroupings to which they belong."[74]

> A role is a relationship which a person is expected to have with his associates in functions like or unlike his own. It involves far more than the delineation of tasks and activities . . . it is a set of expectations on the part of each party to it and these expectations include, in the addition to the performance of tasks, the assumptions of certain responsibilities and privileges.[75]

> The occupational role, like the social role, consists of guides to behavior which any person playing the role utilizes to know what other people expect of him, and, consequently, what he must expect of himself when representing himself in that role.[76]

Understanding this, it can be assumed that the performer will sometimes play the role in such a way as to develop, maintain, and protect his status.

How does all of this fit into the practical nurse's world of performance? Gold and Ford wrote:

> The modern practical nurse was created within our generation with a view to filling the gap in skill level between that of the professional nurse and that of the nurse aide. The great and continuing need for additional trained nursing personnel has been largely responsible for this feeling that the new occupation must quickly find an appropriate place in the skill hierarchy of nursing. The practical nurse's role was defined formally by a United States Office of Education report, but this definition was basically related to a series of nursing activities and functions.

The greatest difficulties in establishing practical nursing as conceived by leaders of the movement to modernize the occupation have come from numerous failures of both RNs and LPNs to understand precisely what they could and should expect of each other. These failures have often appeared to be products of poor job management, inadequate hospital policy, and unrealistic training procedures. Underlying them all has been a painfully slow development of role relationships . . . so slow that in many instances technically competent members of the two groups have been unable to work effectively together simply because neither understands how to relate her role to the other.[77]

Though the greatest problem arises from the RN-LPN relationship, it is also important to recognize that other relationships enter in as well. Some of these are with the physician, the patient, nonprofessional co-workers, and the public at large. These, however, have had less influence and certainly have been less reactionary. If the practical nurse is prepared and is performing adequately at the bedside, she usually receives an accepted but not generally a well-defined recognition from the doctor and also from the patient, since they are both primarily concerned with care per se. The lack of public understanding is perhaps best described by the warning given by Esther Lucille Brown in 1948: "No system of training for practical nurses is likely to succeed unless the public that creates broad general policy and provides funds . . . /Is/ prepared to manifest an ACTIVE interest in practical nursing far beyond any interest yet shown."[78] The public as well as the nursing staff needs to know and accept the practical nurse. It is also interesting to note that successful defining of the practical nurse's role does not necessarily require rigid standards of pay, technical procedures, dress, deportment, values, et cetera. But there is great need for standards of this kind before the organizational climate becomes favorable toward the practical nurse role.[79] Much improvement in this regard has been seen in the past two years, but the individual practical nurse still encounters this lack of understanding in her individual relations more so than does the group as a whole.

Other symbolic methods have been used by practical nurses in an attempt to establish their status and, to a degree, enhance it with prestige, such as the wearing of a white uniform and the traditional cap and pin, the determination of a satisfactory salary scale, and the requirement of a higher educational level prior to acceptance in a school of practical nursing. Communications also entered into this aspect because the professional nurse was frequently hesitant to admit the practical nurse into the realm of patient care reports. This not only interfered with her status and role but also hampered the performance of her work.

More serious than all of these, however, are the difficulties with work assignments. Loftin says, "The precepts range all the way from the idea that the practical nurse is little more than a maid to the attitude that she is a semi-professional person whose status in nursing is just under that of the professional nurse."[80] A few direct quotes from studies are used to illustrate what practical nurses call their greatest problems: "For four days last week I was in complete charge of two floors."[81] "Co-workers do not know what the LPN can do and cannot do." "People think I am an RN, even with my emblem." "People think I'm an aide."[82] The instructor says: "Sometimes she is called on to do one thing and then another time she will be told that she is not supposed to do that." "It makes no difference what we teach in the schools, the hospitals themselves set the top level of performance."[83]

Other questions directed to the practical nurse by the patient and his relatives also reflect the status concept of the public. For example, practical nurses are asked, "When are you going to become a real nurse?"[84]

The results of the so-called Hawthorne studies may throw some light upon the meaning of this role-status problem for the practical nurse in both her personal and her work life. The report states:

> Although money represents a powerful motive and fatigue exerts a significant influence on the worker, both of these factors may well be secondary to the psychological and social needs of the individual employee. Men and women work, just as they engage in recreation and other activities in an effort to satisfy their needs. The most desirable work environment is one in which needs and aspirations are satisfied in a wholesome, realistic way.[85]

This includes "the amount of individual prestige or status attached to the job as seen by the community."[86]

This review of the literature indicates that the role and the status of the LPN in nursing is poorly defined. As a result, the practical nurse is not fully recognized or accepted in her proper position by other nursing personnel or by the public. This could be a source for some misunderstandings as well as ineffective performance in certain situations.

THE JOB-SATISFACTION FACTORS

The ministering character of nursing requires understanding and ability in the area of goals, needs, and relationships if it is to be utilized effectively. The Alabama study indicates that this integration of personal goals with patient needs and hospital objectives may have been the saving strength of modern practical nursing in its pioneering stages. The rewards, both tangible and intangible, are the fruit of achieving intermediary goals and the spur for the ultimate goal. Some of these goals were best indicated by practical nurses themselves and were reported in other studies. In California, 96 percent said that they liked their work for reasons which were associated with intrinsic satisfactions that result from "helping people."[87]

The Louisiana study indicated that many practical nurses were in nursing because of a genuine wish to help the unfortunate rather than for economic reasons.[88] In Alabama, many practical nurses defined success in terms of mutually satisfactory relationships with RNs. But this was not their only criterion for success, for self-involvement in bedside nursing activities is so great that practical nurses feel that they are successful when they see the patient recover and receive his thanks for all that they have done to help him get well again.[89]

In Minnesota, three-fourths of the practical nurses indicated satisfaction except for three items--namely, the scheduling of hours, salary, and the opportunity for advancement.[90]

A recent study related to job attitudes and their effect on performance showed that workers most frequently attributed a sense of satisfaction to those factors which promoted successful achievement and a possibility for personal growth.[91] The factors which led to positive job attitudes did so because they satisfied the individual's need for self-actualization. According to several personality theorists, this concept of self-actualization is the supreme goal of man to fulfill himself as a creative, unique individual according to his own potentialities in every area of life, but particularly in the work role. These job factors and opportunities within the job reward the needs of the individual, so that he can advance toward these aspirations.[92]

Probably the extreme need for both professional and nonprofessional nursing personnel pushed the utilization of practical nurses into the area of service more rapidly and extensively than was wise or desirable, with the result that hospital nursing has become "very unstandardized and what a nurse does seems to depend upon where she is."[93]

In a report at an intraregional conference on practical nurse education, Stokes stated the role of the practical nurse in a general hospital very well when she said:

> Her services are used not only in the care of the chronic and convalescent patient but in the care of the more acutely ill patient where she works in team relationship with the professional nurse. She meets a real need in these hospitals where her valuable contribution is recognized and where she is accepted for the contribution she makes to better patient care. Her presence on the wards as a member of the nursing team makes possible the extension of services of the professional nurses working with her.[94]

These facts regarding the practical nurse's position have been generally well accepted by hospital and nursing service administration, who have keenly felt the pressure of the public's increased demands. However, along with the acceptance, many problems came into the nursing situation by the unlimited use of the practical nurse decided in terms of needs more than in terms of preparation and role. The greatest of these problems are: first, the use of the practical nurse for functions for which she has not been trained and second, the inadequate or the inefficient utilization of services. Too often, little or no consideration is given to the fact that there is undue duplication of activities among the RNs and LPNs. The George and Kuehn study states the following in this regard:

1. Practical nurse skills were not utilized economically and effectively on the medical-surgical ward unit studied.

2. Approximately 80 percent of the activities allocated to the practical nurse in the occupational analysis and occurring on ward X could be performed safely by less skilled and lower salaried workers.[95]

From the study of the five southern states, it is evident that total efforts for the improvement of practical nurse training and utilization of services seem to have a general agreement regarding the activities most frequently performed. These form a core of 14 general functions accepted for the hospital-employed practical nurse.[96] This was comparable to the Michigan study in all aspects except for the administration of medicines.[97] The California study of 1959 was also in agreement but added one more

to this nucleus of activities. This was the ability to safely maintain aseptic technique in applying sterile dressings and in the procedure for catheterization. The approval of practical nursing instructors for this addition was congruent with current practice in that state.[98]

Other studies offer still more specific examples of what this confusion can arouse in the work situation. In Alabama, LPNs found that they were not allowed to do many of the things they had been taught to do, while others said they were expected to do things for which they had not been trained and this made them feel insecure in their work.[99] In Louisiana, the number-one problem was the uncertainty about where the duties of the practical nurse stopped. Bertrand says that it is not right to expect the practical nurse to do the work of the registered nurse but that LPNs were being forced into this position.[100]

Besides the problem of poorly defined role and functions for the practical nurse, she also has to face the key problem of any new occupation, and that is the one of upward motility. Established occupations almost always function in an institutional setting that provides for promotions of some kind. The Guides for Developing Curricula supports the same consideration when it says, "The future role of the individual practical nurse within the legal confines of her role is limited by her potential for acquiring new understanding in nursing and in developing added abilities in nursing practice."[101] The 1961 California study says that although 80 percent of the 304 respondents were currently employed in hospitals and nursing homes, only 54 percent wanted to be so employed five years from then.[102]

The literature does, however, indicate another strongly supported aspect of practical-nurse performance which contradicts the above fear.

There is evidence that the nurse does find satisfaction in her work despite the lack of clearly defined functions. In California, nurses expressed satisfaction in terms of "feelings of worth because of their contribution, being an important part of the team, pride in being able to comfort people, skill in interpersonal relations and feelings of worth as an individual."[103] The Alabama study states it this way:

> Although practical nurses are presently destined to begin and end their occupational career on approximately the same status and income level, they inevitably get so wrapped up in their work that they remain in it because of sheer interest. Their primary rewards are those derived from relationships with understanding and appreciative RNs and patients.[104]

Then there is the study performed by Argyris in which it was shown that the nurse's greatest need is to be indispensable and to be of help to others because of her personal warmth and therapeutic skill.[105]

It would seem, then, that there is potential for improving the shortage of nursing personnel by utilizing the LPN in her proper position of direct care to patients if the nursing world capitalizes on these predispositions of the nurse and settles the role-status inconsistencies. When she is educated for the designated role of the LPN, she will see that her advancement, growth, and development take place on the horizontal plane of practice and experience rather than through upward advancement in position.

References

1. Appendix A.

2. Dorothy Deming, The Practical Nurse (New York: The Commonwealth Fund, 1947), p. 16.

3. An Experience in Practical Nurse Education (Battle Creek: W.K. Kellogg Foundation, 1959), p. 21.

4. Ralph W. Tyler and Mary Schmitt, Facts About Practical Nurse Education in Michigan (Lansing: Department of Public Instruction, 1957), pp. 35-39.

5. A Study of Vocational Nursing In California (Los Angeles: University of California, 1959), p. 157.

6. Margaret West and Beatrice Crowther, Education for Practical Nursing, 1960 (New York: National League for Nursing, 1962), p. 9.

7. Orieanna Syphax, Louise Dailey, and Etta Rasmussen, "Setting Standards for the Practical Nurse Curriculum," Curriculum Development in Practical Nurse Education (Washington, D.C.: U. S. Department of Health, Education, and Welfare, Office of Education, 1961), p. 14.

8. Frances Reiter Kreuter, "What is Good Nursing Care?" Nursing Outlook, V (May, 1957), 302-304.

9. Dorothea E. Orem, Guides for Developing Curricula for the Education of Practical Nurses, Practical Nurse Series No. 2, Vocational Bulletin No. 274 (Washington, D.C.: U. S. Government Printing Office, 1959), pp. 41-42.

10. Theodore R. Sarbin, "Role Theory," in Gardner Lindzey, ed., Handbook of Social Psychology (Reading, Mass.: Addison-Wesley Publishing Co., 1954), I, 223-225.

11. Saint Thomas Aquinas, Summa Theologica, Part I, Q. 29, a. 1, translated by Fathers of the English Dominican Province (New York: Benziger Brothers, Inc., 1947) I, 155.

12. Robert E. Brennan, Thomistic Psychology (New York: The Macmillan Company, 1941), p. 288.

13. Ibid.

14. Ibid., p. 292.

15. Orem, op. cit., p. 38.

16. Joseph F. Gallen, S.J., "Femininity and Spirituality," Review for Religious, XX (July, 1961), 242.

17. Ibid., p. 243.

18. Jack H. Curtis, Social Psychology (New York: McGraw-Hill Book Company, 1962), pp. 385-386.

19. Ibid., pp. 213-215.

20. Orem, op. cit., pp. 37-38.

21. Ibid., p. 38.

22. Ibid., p. 39.

23. Practical Nurses in Nursing Services, prepared by the Joint Committee on Practical Nurses and Auxiliary Workers in Nursing Services of the ANA, NLNE, NOPHN, NACGN, ACSN, and AAIN in cooperation with NAPNE and NFLPN (New York: American Nurses' Association, 1951), pp. 39-40.

24. Florence C. Kempf, The Person as a Nurse (New York: The Macmillan Company, 1950), pp. 58-63.

25. William F. Bruce and John A. Holden, The Teacher's Personal Development (New York: Henry Holt and Company, 1957), p. 214.

26. Orem, op.cit., pp. 4-5.

27. Ibid.

28. Gerald Vann, O.P., The Heart of Man (London: Longmans, Green and Company, 1945), p. 19.

29. Lester D. Crow and Alice Crow, Understanding Interrelations in Nursing (New York: The Macmillan Company, 1961), p. 196.

30. A.H. Maslow, Motivation and Personality (New York: Harper and Brothers, 1954), p. 71.

31. Syphax, Dailey, and Rasmussen, loc. cit., p. 12.

32. Orem, op. cit., pp. 14-15.

33. Maslow, op. cit., pp. 80-91.

34. A.H. Maslow, "Deficiency Motivation and Growth Motivation," in Marshall R. Jones, ed., Nebraska Symposium on Motivation (Lincoln: University of Nebraska Press, 1955), pp.1-30.

35. Sister Mary Fredericus Niemeyer, The One and the Many in the Social Order According to Saint Thomas Aquinas. Unpublished doctoral dissertation, School of Philosophy, The Catholic University of America, 1951.

36. Practical Nursing: An Analysis of the Practical Nurse Occupation with Suggestions for the Organization of Training Programs (Washington, D.C.: U. S. Office of Education, 1947), p. 9.

37. Orem, op. cit., p. 25.

38. Madelyn T. Nordmark and Anne W. Rohweder, Science Principles Applied to Nursing (Philadelphia: J. B. Lippincott Co., 1959), p. 268.

39. Robin M. Williams, American Society: A Sociological Interpretation (New York: Alfred H. Knopf, 1960), p. 335.

40. Ibid., p. 325.

41. Graham Saxon, American Culture: An Analysis of Its Development and Present Characteristics (New York: Harper and Brothers, 1957), p. 405.

42. Williams, op. cit., p. 466.

43. Joseph B. McAllister, S.S., Ethics: With Special Application to the Nursing Profession (Philadelphia: W. B. Saunders Company, 1947), p. 33.

44. Crow and Crow, op. cit., p. 208.

45. Bernard Wuellner, A Christian Philosophy of Life (Milwaukee: The Bruce Publishing Company, 1957), p. 104.

46. Crow and Crow, op. cit., pp. 213-214.

47. A. H. Maslow, Motivation and Personality, pp. 208-215.

48. Niemeyer, op. cit., pp. 94-97.

49. Crow and Crow, op. cit., p. 127.

50. Gordon W. Allport, Becoming (New Haven: Yale University Press, 1957), pp. 75-77.

51. Ibid.

52. Martha M. Brown and Grace R. Fowler, Psychodynamic Nursing (Philadelphia: W. B. Saunders Company, 1957), p. 15.

53. Esther Lucille Brown, Newer Dimensions of Patient Care (New York: Russell Sage Foundation, 1961), p. 11.

54. Ibid., pp. 13-15.

55. Max Kaplan, Leisure in America: A Social Inquiry (New York: John Wiley and Sons, Inc., 1960), p. 153.

56. Ibid., p. 297.

57. Esther Lucille Brown, op. cit., pp. 128-130.

58. Brown and Fowler, op. cit., p. 49.

59. Practical Nursing: An Analysis of the Practical Nurse Occupation with Suggestions for the Organization of Training Programs (Washington, D.C.: U.S. Office of Education, 1947), pp. 5-7.

60. Ibid.

61. Crow and Crow, op. cit., p. 7.

62. Orem, op. cit., p. 43.

63. Everett C. Hughes, Helen MacGill Hughes, and Irwin Deutscher, Twenty Thousand Nurses Tell Their Story (Philadelphia: J.B. Lippincott Company, 1958) p. 135.

64. Ibid., p.174.

65. An Experience in Practical Nurse Education (Battle Creek: W.K. Kellogg Foundation, 1959), p. 56.

66. Hughes, Hughes, and Deutscher, op. cit., pp. 134-135.

67. Paz Gomez Ramos, A Study of Graduates of Vocational Nursing Programs in California (Los Angeles: University of California, 1961), p. 23.

68. Elinor Keresey, "A Closer Look at the Practical Nurse Curriculum," Report of the Inter-Regional Work Conference on Practical Nurse Education (Washington, D.C.: U. S. Office of Education, Division of Vocational Education, 1957), p. 18.

69. Walter R. Williams and H. F. Hinton, Report of a Study of Practical Nursing in Florida, 1950-1954 (Tallahassee: Florida State Department of Education, 1955), pp. 173-174.

70. Hughes, Hughes, and Deutscher, op. cit., p. 135.

71. Raymond L. Gold and Thomas R. Ford, A Survey of Licensed Practical Nurses in Alabama (Tuscaloosa: University of Alabama Press, 1957), p. 6.

72. Orem, op. cit., p. 4.

73. Dale Yoder, H. G. Heneman, John G. Turnbull, and Harold C. Stone, Handbook of Personnel Management and Labor Relations (New York: McGraw-Hill Book Company, 1958), pp. 6:13-6:14.

74. E. J. Ross, Basic Sociology (Milwaukee: The Bruce Publishing Co., 1958), p. 50.

75. Hughes, Hughes, and Deutscher, op. cit., pp. 151-152.

76. Gold and Ford, op. cit., p. 5.

77. Ibid., pp. 25-26, 91.

78. Esther Lucille Brown, Nursing for the Future (New York: Russell Sage Foundation, 1948), p. 105.

79. Gold and Ford, op. cit., p. 89.

80. Marian T. Loftin, Gerald O. Windham, and Leila H. Thomas, Practical Nursing in Mississippi, 1950-1955 (Jackson: Social Science Research Center Health Studies Series, 1956), p. 114.

81. Alvin L. Bertrand and Marion Souza, A Study of Practical Nurse Education and Practical Nursing in Louisiana, 1950-1955 (Baton Rouge: Louisiana State Department of Education, 1956) p. 75.

82. Ramos, op. cit., p. 31.

83. Bertrand and Souza, op. cit., p. 75.

84. Licensed Practical Nurse Questionnaire Report (Rochester, Minn.: Rochester School of Practical Nursing, 1961). Typewritten.

85. Louis B. Thorpe, The Psychology of Mental Health (New York: The Ronald Press Company, 1960), pp. 480-481.

86. Ibid.

87. Ramos, op. cit., p. 23.

88. Bertrand and Souza, op. cit., p. 47.

89. Gold and Ford, op. cit., p. 70.

90. Helen C. Hanson and John E. Stecklein, A Study of Nursing Functions in General Hospitals in the State of Minnesota (Minneapolis: The University of Minnesota, 1955), p. 123.

91. Frederick Herzberg, Bernard Mausner, and Barbara B. Snyderman, The Motivation to Work (New York: John Wiley and Sons, 1959), p. 114.

92. Ibid.

93. Hughes, Hughes, and Deutscher, op. cit., p. 125.

94. Elizabeth Stokes, "A Symposium: The Role of the Practical Nurse Today," Report of the Intra-Regional Work Conference on Practical Nurse Education (Washington, D.C.: U. S. Department of Health, Education, and Welfare, Office of Education, Division of Vocational Education, 1957), p. 5.

95. Frances L. George and Ruth P. Kuehn, Patterns of Patient Care (New York: The Macmillan Company, 1955), p. 91.

96. An Experience in Practical Nurse Education (Battle Creek: W.K. Kellogg Foundation, 1959), p. 30.

97. Tyler and Schmitt, op. cit., pp. 15-17.

98. A Study of Vocational Nursing in California (Los Angeles: University of California, 1959), p. 164.

99. Gold and Ford, op. cit., p. 88.

100. Bertrand and Souza, op. cit., p. 75.

101. Orem, op. cit., p. 8.

102. Ramos, op. cit., p. 33.

103. Ibid., pp. 31-33.

104. Gold and Ford, op. cit., p. 8.

105. Chris Argyris, Diagnosing Human Relations in Organizations: A Case Study in a Hospital (New Haven: Labor and Management Center, Yale University, 1956), pp. 40-41.

APPENDIX C

CATEGORIZATION OF THE PRINCIPLES OF HUMAN ADJUSTMENT ACCORDING TO SCHNEIDERS[1]

I. Personality factors.

A. Heredity.

1. Sensory capacities.

2. Motor capacities.

3. Intelligence.

4. Emotional disposition.

5. Basic motivations.

6. Imagination and memory.

B. Environment.

1. Physical environmental factors.

a. Home conditions.

b. Cleanliness.

c. Order, planning, and coordinating.

d. Basic skills of doing things.

e. Awareness of ease and comfort in doing things.

f. Healthy living environment.

2. Social environmental factors.

a. Social contacts in the home.

(1) With children.

(2) With people of all ages.

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1. Alexander A. Schneiders, Introductory Psychology: The Principles of Human Adjustment (New York: Rinehart and Company, Inc., 1959), pp. 50-91.

b. Response to people's needs for:

(1) Consideration.

(2) Helpfulness.

(3) Self-directing support.

c. Adequate identification with womanliness.

d. Adequate possibility for identification with an ideal.

e. Ability to interiorize the experiences of others.

f. Ability to integrate social experiences with skills for a constructive purpose.

g. Adequate basic education.

h. Basic education as a source of inspiration.

3. Moral and religious environmental factors.

a. The development of standards.

b. The acceptance of a set of sound values.

c. A deep respect for the individual.

d. A deepening of one's own spiritual capacity.

e. A respect for and a sense of dedication to God.

f. A love and respect for one's neighbor and his independent self-direction.

4. Cultural environmental factors.

a. A general appreciation for music.

b. A general appreciation for reading.

c. A general appreciation for art.

d. A general appreciation for recreation.

5. Psychological environmental factors.

a. The need for a purpose and an aim in life.

b. The need to be safe.

c. The need to achieve.

d. The need to be recognized.

e. The need to belong.

f. The need to participate and make a contribution.

g. The ability to find variations in a day-to-day situation.

h. An opportunity to plan some part of the objective performance.

II. The work-situation factors.

A. Relationships in the work situation.

1. Relationships arise:

a. From contacts with persons of immediate association.

b. From contacts with co-workers.

c. From transitory and occasional contacts.

2. These contacts influence:

a. Acceptance.

b. Cooperation.

c. Utilization of skills.

B. The role-status factors.

1. The role-status factors of an employee are a source of:

a. Self-security within the group.

b. Job security.

c. Job satisfaction.

2. The role-status should be known to:

a. The co-workers.

b. The public at large.

c. The individual employee herself.

C. The job-satisfaction factors.

1. Job-satisfaction factors range from the need to work for a salary to that of achieving a full development of one's self-realization.

APPENDIX D

CATEGORIZATION OF FACTORS WHICH AFFECT THE PERFORMANCE OF LPN'S AS DETERMINED FROM THE LITERATURE

I. Personality factors.

A. Heredity.

1. These were not determined or tested in this study, because they were the basic requirements for the selection and admission to the school of practical nursing.

B. Environment.

1. Physical environmental factors.

a. The role expectations of the practical nurse as a person and as a nurse-performer are compatible.

(1) Interested in homemaking.

(2) Interested in the practical arts of "doing."

(3) Likes to plan projects of a simple and practical nature.

(4) Has skill in manual performance.

(5) Is interested in child care, growth, and development.

(6) Is interested in daily living activities.

(7) Has a constructive interest in improvement in self and in others.

2. Social environmental factors.

a. The quality and depth of the practical nurse's performance is promoted and complemented by her native feminine endowment.

(1) Compassion.

(2) Gentleness.

(3) Understanding.

(4) Individual creative expression.

(5) Empathy.

b. The practical nurse uses her total person in giving care to patients.

(1) The basic roots for ministering to the sick are found in her person.

(2) In the process of giving to others, she herself experiences a growth and an enrichment of her own person.

(3) Basic nursing education must rest on a firm general educational program.

3. Moral and religious environmental factors.

a. The genuine concern of the practical nurse with giving skilled care to the sick stems from basic convictions.

(1) Respect for herself.

(2) Love and respect for others.

(3) The recognition of ultimate goals in the life of the patient and in her own life.

(4) The acceptance of a standard of values which stems from Judeo-Christian belief in a provident God.

(5) The acceptance of the fact that man is endowed with the capacity to be self-determining in his way of life.

4. Cultural environmental factors.

a. The social interaction in the nursing situation is one of psychological implications as well as that of direct objective administration.

(1) Some patients can be reached and helped through such media as music, art, and reading material as well as interesting and appropriate conversation.

(2) A purposeful recreational plan can be used for help in developing self-directing care and activity.

5. Psychological environmental factors.

a. The basic psychological needs of the practical nurse are the same as for any person.

b. The basic psychological needs of the practical nurse harmonize with the basic needs of the patient in such a way that the satisfaction of one promotes the satisfaction of the other.

c. The practical nurse's role in the nursing structure concerns the total personal needs of the patient more than the scientific aspects of disease and treatment.

(1) The practical nurse must see the patient as a primary entity in her work-performance situation.

APPENDIX E

VALIDATION OF THE STATEMENTS DERIVED FROM THE DETERMINED FACTORS BY EXPERIENCED REGISTERED NURSES

THE CATHOLIC UNIVERSITY OF AMERICA

Washington, D.C.

February 24, 1962

Dear _____:

As part of my work at the Catholic University of America, I am currently engaged in doing research for a dissertation which will complete requirements for the Degree of Master of Science in Nursing.

With the permission of my Major Professor, I am attempting to collect data which will help in the construction of a questionnaire for a selected group of Licensed Practical Nurses.

The factors which affect the performance of the Licensed Practical Nurses who are employed for the care of patients in the hospital were determined from the literature. Seventy-four statements were derived from these factors and are herein submitted to you in a pilot study. You are one of nine experienced, professionally registered nurses who have been selected to participate. This group includes three Consultants, three Instructors in Practical Nursing, and three Supervisors of Licensed Practical Nurses in hospital nursing.

With the help of the information which you contribute, the final questionnaire will be constructed and presented to a group of selected Licensed Practical Nurses to determine their opinions regarding the effect of these factors on their personal performance.

Trusting that this information solicits your interest, may I ask for your kind cooperation in this study. A prompt return of your responses will be most helpful. A stamped, self-addressed envelope is enclosed for your convenience.

Thank you for this professional assistance.

Sincerely yours,

Sister M. Amadeus Klein, O.S.F.

FACTORS WHICH AFFECT THE WORK PERFORMANCE

OF THE LICENSED PRACTICAL NURSE

In a study of the literature concerning the Licensed Practical Nurse, several factors have been determined which affect the work performance of the LPN who is employed in a hospital for the care of patients. Statements about these factors are presented to you for consideration. If any statement is not clear, your suggested change or a comment would be welcomed. You may write it below the statement or on the reverse side of the page. If you have suggestions for additional statements, please feel free to express them on the back of the last page.

Thank you.

Directions:

In this pilot study there are five (5) possible ways of indicating your response to each of the following statements. In the column to the right please check the one which best expresses your personal opinion.

Example:

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Licensed Practical Nurses (LPNs) make a contribution toward better patient care on the hospital team.					

	SA	A	U	D	SD
1. She should like to work in an orderly, planned way.					
2. It should not be necessary that she like to have things neat and clean in her work area.					
3. She should have good manual dexterity.					
4. She would like to see persons, work situations and things improve in the area in which she works.					
5. Rest, proper eating and general healthful living should have little effect on her work performance.					
6. She should like to plan work and social activities in her personal daily life.					

	SA	A	U	D	SD
7. She should like people.					
8. It is not necessary that she should like to associate with people.					
9. She should be able to feel a sense of concern and sorrow for people who are hurt or in trouble.					
10. She should want to make situations easier for people to bear.					
11. She should be thoughtful of others' needs.					
12. If she feels sympathetic for others, it is not necessary that she show this feeling by doing things to help them.					
13. If she gives help when it is needed, it is not n necessary that she foresee other needs that may arise.					
14. She should tend to avoid disagreeable situations for others when possible.					
15. She should have an ideal of womanhood and of nursing.					
16. She should be able to use many of her daily life habits (gentleness, consideration, etc.) in her nursing contacts.					
17. Her high school education does not contribute significantly toward development of skills and relationships in nursing.					
18. Practical Nursing education should have helped her learn the "how" and the "why" of special care for patients.					
19. She should be able to use her personal qualities of understanding, patience, compassion, etc., to add to her nursing skills.					
20. Her Instructors and Supervisors should have had little influence on the development of nursing skills.					
21. She should have increased her skills in direct patient care from working with good nurses.					

	SA	A	U	D	SD
22. Her assignments as a student should be planned to meet the needs of patients in general, rather than for the individual patient.					
23. Instructors should have inspired a desire to be a skilled, understanding and helpful nurse.					
24. Work performance evaluations as a student and as a graduate should help her learn more about herself as a practical nurse.					
25. Religious beliefs and teachings will have little influence on patient care.					
26. Religious and moral values should help her appreciate and respect the dignity of each person.					
27. Religious morals and values should help her understand that each person has a way of life which she must try to understand and respect.					
28. Giving care to others should be an opportunity to express honor and worship to the Creator of mankind.					
29. Giving direct care to patients should be more than a job because of the dignity of the service.					
30. There is little connection between charity to one's neighbor and service to the patient.					
31. Giving care to patients should help make the LPN a better person.					
32. The LPN's own appreciation for good reading will be of little help in patient conversation.					
33. An appreciation for artistic design in general should contribute to the ease of the LPN's work and to patient comfort and security.					
34. An appreciation for good music has little value for the LPN in her work situation.					
35. The LPN's interest in recreation and hobbies can be used to help rehabilitate the average patient through the stages of recovery.					

	SA	A	U	D	SD
36. Recreational interests should be utilized to make the patient more independent and self-directive.					
37. The nature of the LPN's work should contribute toward her purpose in life.					
38. She should see her job as one of service to others.					
39. She should be able to utilize the work situation toward bettering herself as a person.					
40. Aiming at being a good and capable LPN has little connection with her ability to be a good person.					
41. Assignment to duties for which she has been educationally prepared should make her feel capable and secure.					
42. She should be able to take care of the same patient over a long period of time and still find it a challenging situation.					
43. The scientific aspects of the patient's illness should be of primary concern to the LPN.					
44. It should be a source of pride in achievement for the LPN to see patients to whom she has given care recover their strength and health.					
45. Since the LPN received her assignments from registered professional nurses she has no opportunity to plan her work.					
46. The LPN should be made to feel that she belongs to the nursing staff in a vital way.					
47. The LPN does not need to know much of the background information about the patient assigned to her care since her work is primarily concerned with skills.					
48. She should be permitted to attend nursing reports.					
49. It is not necessary that she participate in the nursing reports about the patients for whom she has cared.					

	SA	A	U	D	SD
50. Acceptance of the LPN should have no effect on her work performance.					
51. Her relationship with the patient will be better and work performance easier if she has been given information about the patient and his condition.					
52. She should be capable of handling <u>any</u> assignment given her by the registered professional nurse.					
53. She should know what her work entails because of a specific and written job description.					
54. If the patient does not know how the LPN functions on the nursing team, he may be frightened and ask for an RN to give his care.					
55. If an RN does not have confidence in the position and performance of the LPN on the team, her relationship with the LPN will not be affected.					
56. If a Doctor comments favorably about the care an LPN gave to a patient it will have a good effect on that LPN's future work.					
57. The regular assignment of the LPN to housekeeping and equipment duties on the nursing unit instead of patient care should have no influence on her work performance.					
58. Cooperation between the registered professional nurse and the LPN should be closely associated with acceptance of each other's role.					
59. Acceptance of the LPN should have no effect on the best utilization of the LPN's nursing skills.					
60. Patients do not need to know the role-status difference between the RN and the LPN.					
61. The performance of the LPN at the bedside is not affected when patients ask the LPN when she is going to finish nursing and become an RN.					
62. The Doctor should know the role-status of the LPN.					

	SA	A	U	D	SD
63. When there is a shortage of help on the nursing unit the RN should ask the LPN to take over more nursing responsibility.					
64. This changing degree of responsibility described in the above statement should not affect the LPN's performance.					
65. The LPN wishes she were an RN primarily for the status she would be assured.					
66. The LPN likes her role because she can remain close to the patient and provide for his care at the bedside.					
67. Since the LPN's role is primarily with the patient at the bedside, the greatest recognition of this role should come from the patient or be centered in the patient and his care.					
68. Even though the LPN's role in the nursing structure does not offer an opportunity for advancement, she should find satisfaction in this circumscribed role because of its importance to patient care.					
69. The salary which the LPN earns should have some effect on the long term performance of the LPN.					
70. The hours of work will have no effect on the performance of the LPN.					
71. Hours of work which can be integrated with the LPN's home situation should have a satisfactory effect on long term performance.					
72. Nursing contacts with patients should have an influence on the LPN's personal convictions regarding a way of life.					
73. Friendly, cooperative co-workers have no influence on the LPN's performance.					
74. Identification with a hospital staff which recognizes the skill and ability of employees should have a positive effect on the performance of the LPN.					

APPENDIX F

EXPERIENCE RECORD OF CONSULTANTS, INSTRUCTORS, AND SUPERVISORS WHO EVALUATED THE QUESTIONNAIRE

1. Director of a practical nurse program for the past eight years. Wide experience in general nursing. Registered nurse. Bachelor of science.

2. Director of school of practical nursing for five years. Currently an instructor in practical nursing. Wide experience in general nursing. Registered nurse.

3. Instructor in a school of practical nursing. Wide experience in general nursing. Registered nurse.

4. Program specialist for practical nurse education in the United States Office of Education. Master's degree.

5. State supervisor for practical nurse education. Master's degree.

6. Current supervisor in a large general hospital with licensed practical nurses employed in area of psychiatry. Master's degree.

7. Current supervisor in a large general hospital with licensed practical nurses employed in area of surgical supervision. Registered nurse.

8. Current supervisor in a large general hospital with licensed practical nurses employed in area of medical supervision. Registered nurse.

9. Instructor in a university preservice undergraduate nursing program. Master's degree.

APPENDIX G

EDUCATIONAL PHILOSOPHY OF THE SELECTED SCHOOL OF PRACTICAL NURSING

The educational philosophy of The _____ School of Practical Nursing is based on the Christian philosophy that God has endowed each person with a nature which attains its highest fulfillment in serving God through serving others. An educational program designed to prepare young women for such service must include provision for their intellectual, spiritual and emotional development as well as the acquisition of the special knowledge and skills needed to give nursing care in the areas for which they have been prepared. Participation of the students with the faculty in planning and evaluating the educational program promotes mutual understanding of objectives and is, in itself, a source of individual growth in social understanding.

OBJECTIVES OF THE EDUCATIONAL PROGRAM

1. To guide the student in the development of her spiritual life and in the acquisition of a correct and practical code of personal ethics.

2. To assist the student to acquire a well-rounded concept of physical, mental and emotional health in order to properly maintain her own health and to influence desirable health habits and attitudes in persons in her sphere of activity.

3. To teach the student the basic nursing procedures that will enable her to care for patients with minor ailments, the aged and the chronically ill who are under the care of a physician.

4. To help the student acquire the knowledge and develop the skill necessary to assist the professional nurse in the care of the critically ill patient.

5. To provide the student an opportunity to understand better interpersonal relationships through experience as a member of a nursing team.

6. To help the student understand the contribution she can make to God and to society through sympathetic, intelligent and efficient care of the sick.

APPENDIX H

STATE QUALIFICATIONS FOR THE

SELECTED SCHOOL OF PRACTICAL NURSING

(Seal)

STATE OF MINNESOTA
DEPARTMENT OF EDUCATION
ST. PAUL 1

Vocational Education
4th Floor-Centennial Bldg.

February 7, 1962

Sister M. Amadeus Klein
Duns Scotus House of Studies
832 Varnum Street, N.E.
Washington 17, D. C.

Dear Sister Klein:

At the present time, we have 20 practical nursing programs in Minnesota. Of these, 14 are located in public schools, 1 at the University of Minnesota, and 5 are hospital programs.

The practical nursing program which is set up in conjunction with the public schools comes under the supervision of the U.S. Office of Education at the national level, State Department of Education at the state level, and Local Board of Education at the local level. Clinical experience is provided by cooperative agreement with local hospitals.

The salaries of the coordinators and instructors are paid by the local public schools. The local schools are reimbursed by the State Department of Education from federal and state vocational funds. At the present time, they are reimbursed 75% for salaries and 50% for travel and equipment.

These programs are all full time one year programs. The curriculum is planned to offer instruction and clinical experience in nursing care of patients with common diseases, mothers, infants, and children. Some principles of nursing care of the mentally ill is also required and clinical experience in this area is encouraged. Six programs now offer clinical experience in care of the mentally ill. In addition, Vocational Relationships, Body Structure and Function, Personal Family and Community Health, and Nutrition are taught. The minimum number of hours of instruction is 480. At the completion of the program, the student is eligible to write the state board examination for licensure.

The Minnesota Board of Nursing is responsible for accrediting all programs of practical nursing in Minnesota. All programs in Minnesota are state accredited.

I am sending you a list of accredited schools and anyone of them would be happy to send you a brochure upon request.

Sincerely,

(signed) Loretta C. Mathiowetz
State Supervisor
Practical Nurse Education

LCM:ac
Enclosure

APPENDIX I

QUESTIONNAIRE FOR THE SELECTED LICENSED PRACTICAL NURSES

THE CATHOLIC UNIVERSITY OF AMERICA

Washington, D. C.

Code _____

Age, last birthday _____.

Education: Grade School--number of years _____.

High School--number of years _____.

School of Practical Nursing from which you graduated:

Name _____.

City _____ State _____.

Year of graduation from the School of Practical Nursing _____.

How long was the program of Practical Nursing from which you graduated? _____ Years _____ Months

Are you currently licensed? _____ In what state? _____

How long have you worked in this hospital? _____ Years

_____ Months

Marital status: Married _____ Single _____ Widowed _____ Divorced _____

Do you work: Full time _____ Part time _____?

Thank you.

Instructions:

When you, as a Licensed Practical Nurse, come to the nursing unit to give care to patients you bring yourself: as a person,
as a trained practical nurse, and
as an employee of the hospital.

Many factors influence the way in which you will give care to patients day after day. These factors come from: the things you believe,
the things you have been taught,
your past experiences, and
the actual work situation itself.

Please read each statement very carefully. Many of the statements are good, and it will be difficult to decide which one is the best. In this case, you are to decide which one is the best for you. Do not answer it according to how your instructors would want you to be nor how you would like to be but as you actually feel and are right now. Some of the statements you will not like, and they will, therefore, also have a great effect on you. This is what we want to know, so be very frank and honest.

Examples: 1. My Head Nurse is very concerned about patient needs and helps me understand them too.

2. The nursing personnel on the unit where I work are permitted to come late on duty very often.

These examples might not happen in the nursing unit where you now work, but if they did, how would they affect you? Before you make a decision about each of these statements, think to yourself: Does this situation affect me and my care of patients:

Very Much Much Average Very Little Hardly at All?

Now you are ready to start:

1. Take the pack of 60 statements and the 5 envelopes.

2. Place the envelopes in front of you in the following order:

Very Much Much Average Very Little Hardly at All

3. Read each statement and sort them into two groups:

Very Much and Hardly at All

so that there are 30 statements in each group.

4. Then take the "Very Much" group, and select the 8 statements which you think affect you the most. Put them in the "Very Much" envelope.

5. Now from the rest of that same group, pick out the 14 statements which you think have much effect on you and your work. Put them in the "Much" envelope. Eight statements will be left over--put them in the "average" envelope.

6. Now take the "Hardly at All" group of 30 statements, and select the 8 statements which you think have the very least effect on you and your work. Put them in the "Hardly at All" envelope.

7. From the rest of this group, select 14 statements which have very little effect on you. Put these in the "Very Little" envelope. There will be 8 statements left over--put them in the "Average" envelope.

8. If you wish to check and change any of the statements after you are finished, you may do so.

9. Finally, reread all of the statements in each envelope, and count them to be sure that there are exactly as many in the envelope as are marked on the outside.

10. Seal each envelope. Put the 5 small envelopes into the large envelope and seal it too.

Thank you.

PHYSICAL FACTORS

1. I work in an orderly, planned way.

2. I like to do things which require the use of my hands.

3. I like to see things improve in the area in which I work and care for patients.

4. Rest, proper food and general good health influence my working ability.

5. I like to plan things to do at home or with a group.

SOCIAL FACTORS

6. I like people.

7. I like to be with people.

8. I am concerned and want to be helpful when I see people who are hurt or in trouble.

9. I want to make difficult situations easier for people whenever I am able to do so.

10. I show my sympathy for people best by doing things which will help them.

11. I know an ideal woman and nurse whose example I try to follow.

12. My grade and high school education has contributed toward my understanding of people.

13. My practical nurse education has helped me learn the "how" and the "why" of care for patients.

14. I use my personal qualities of understanding, patience, compassion, etc. to add to my nursing skills.

15. My Instructors and Supervisors helped me develop nursing skills.

16. I increased my skill in giving direct care to patients by working with good nurses.

17. Evaluations of my work as a student and as a graduate help me learn more about myself as a practical nurse.

MORAL AND RELIGIOUS FACTORS

18. My religious beliefs and teachings help me want to give good care to patients.

19. Religious and moral values help me appreciate and respect the dignity of each patient.

20. Religious and moral values help me respect each patient's own way of life.

21. For me, giving care to patients is also giving honor and worship to God the Creator of mankind.

22. Giving care to patients is also a chance for me to give charity to my neighbor.

23. Giving care to patients has helped me become a better person myself.

CULTURAL FACTORS

24. My appreciation for artistic design helps me work in a patient's room in a calm, smooth and easy manner of giving care.

25. An appreciation for good music has helped me find programs which interest and benefit patients.

26. My appreciation for good reading has helped me in my conversation with patients.

27. My interest in recreation and hobbies has helped me see ways for patients to be rehabilitated and make progress in helping themselves.

PSYCHOLOGICAL FACTORS

28. My work situation as a practical nurse improves my planning and organization of other activities in my daily life.

29. Trying to be a good practical nurse fits in with my trying to be a good person.

30. Being assigned to duties which I have been taught to do helps me feel safe and secure.

31. Patients in rehabilitation need almost the same care over a long period of time, but it is important for me to see each day as a new one in their lives.

32. Since the RN is responsible for understanding the scientific problems of illness, I can concentrate primarily on nursing care.

33. I am pleased when I see patients whom I have cared for recover their strength and health.

34. Even though my assignments are made out for me, I can still plan many of the things I do for patients.

35. I know that I belong to a nursing staff which is helpful to humanity.

36. I have a better relationship for the total care of the patient when I have been given background information about him and his needs.

37. I am permitted to attend the daily nursing reports concerning the patients I give care to.

38. I am permitted to <u>participate</u> in reports about patients I give care to.

39. The nursing staff on the unit make me feel that my work as an LPN is helpful and needed.

WORK-RELATIONSHIP FACTORS

40. I am given information about the patient and his needs before I begin his care.

41. I am expected to handle <u>any</u> assignment which is given me by the RN.

42. A description of my job helps me know what is expected of me.

43. It bothers me when the assignments I get seem to indicate that I cannot do the work an LPN usually does.

44. Very often I am assigned to cleaning duties on the nursing unit rather than the care of patients.

45. When the RN understands what nursing duties I can do as an LPN, we understand each other better.

46. When I am understood better as an LPN my assignments are usually more of the nursing duties I am prepared to perform.

ROLE-STATUS FACTORS

47. Patients do not seem to know the difference between the RN and the LPN in nursing.

48. Patients frequently ask me when I am going to finish nursing and become an RN.

49. The Doctor does not seem to know what the LPN can do because he often asks me to do things for which I am not prepared.

50. Often when there is a shortage of RNs I am asked to do RN duties--the next day when there is no shortage I do LPN duties.

51. The LPN seems to have less status in hospitals because other personnel do not know her position in nursing.

SATISFACTION FACTORS

52. The LPN position enables me to stay close to the patient and give care at the bedside.

53. Because the LPN's position is primarily at the bedside I get great satisfaction from giving care to individual patients.

54. Even though the LPN's position does not offer advancement in nursing I find it interesting work because of the patients and their needs.

55. I like to feel that I am being paid an adequate salary for the important work I do.

56. I am not able to do my work as well because my work hours are changed so often that I am seldom sure of a week's schedule.

57. When the hours I work can be integrated with my home responsibilities and preferences I can do better work.

58. I learn about adjusting to sickness and problems from observing many of the patients I take care of in the hospital.

59. I do a better job when I work with friendly, cooperative co-workers.

60. I am a better LPN when I work in a hospital which accepts me as a contributing person.

APPENDIX J

TABULATED RESPONSES OF 70 LICENSED PRACTICAL NURSES TO 60 ITEMS REGARDING FACTORS WHICH AFFECT PERFORMANCE

Item No.	Number of Responses				
	Very Much	Much	Average	Very Little	Hardly at All
Physical Factors					
1.	18	22	24	4	2
2.	5	8	21	21	15
3.	18	32	15	5	0
4.	23	18	16	12	1
5.	0	5	14	27	24
Total	64	85	90	69	42
Social Factors					
6.	25	24	17	3	1
7.	28	20	19	2	1
8.	12	26	30	1	1
9.	6	30	19	13	2
10.	13	25	22	8	2
11.	2	8	14	19	27
12.	0	6	24	23	17
13.	19	28	22	1	0
14.	12	28	24	6	0
15.	16	21	24	8	1
16.	16	18	29	4	3
17.	2	19	26	21	2
Total	151	253	270	109	57

Tabulated Responses--Continued

Item No.	Number of Responses				
	Very Much	Much	Average	Very Little	Hardly at All
Moral and Religious Factors					
18.	19	14	26	11	0
19.	19	32	15	4	0
20.	14	25	21	10	0
21.	27	20	17	5	1
22.	5	14	25	22	4
23.	6	15	35	13	1
Total	90	120	139	65	6
Cultural Factors					
24.	0	5	8	23	34
25.	0	1	5	29	35
26.	1	6	21	28	14
27.	1	4	15	38	12
Total	2	16	49	118	95
Psychological Factors					
28.	1	5	17	34	13
29.	8	19	29	13	1
30.	11	22	27	9	1
31.	0	18	27	21	4
32.	2	9	21	29	9
33.	40	20	10	0	0
34.	2	21	28	16	3
35.	8	25	29	6	2
36.	24	25	19	2	0
37.	10	30	17	9	4
38.	13	22	18	13	4
39.	14	29	19	8	0
Total	133	245	261	160	41

Tabulated Responses--Continued

Item No.	Number of Responses				
	Very Much	Much	Average	Very Little	Hardly at All
Work Relationship Factors					
40.	21	30	12	6	1
41.	8	12	11	31	8
42.	1	6	26	31	6
43.	2	8	20	25	15
44.	1	1	2	24	42
45.	1	18	26	21	4
46.	3	15	15	33	4
Total	37	90	112	171	80
Role-Status Factors					
47.	2	3	9	40	16
48.	3	2	11	20	34
49.	3	5	11	33	18
50.	2	4	9	24	31
51.	2	2	12	30	24
Total	12	16	52	147	123
Job Satisfaction Factors					
52.	12	29	21	6	2
53.	21	27	13	8	1
54.	12	9	22	20	7
55.	1	4	17	24	24
56.	0	3	3	22	42
57.	2	14	4	24	26
58.	0	23	22	19	6
59.	17	25	21	6	1
60.	6	21	24	12	7
Total	71	155	147	141	116
Grand Total	560	980	1120	980	560

APPENDIX K

BIBLIOGRAPHY

Books

Allport, Gordon W. Becoming. New Haven: Yale University Press, 1957.

Aquinas, St. Thomas. Summa Theological. Translated by the Fathers of the English Dominican Province. New York: Benziger Brothers, 1947.

Brennan, Robert E. Thomistic Psychology. New York: The Macmillan Company, 1941.

Brown, Esther Lucille. Newer Dimensions of Patient Care. New York: Russell Sage Foundation, 1961.

——— Nursing for the Future. New York: Russell Sage Foundation, 1948.

Brown, Martha M., and Fowler, Grace R. Psychodynamic Nursing. Philadelphia: W. B. Saunders Company, 1957.

Bruce, William F., and Holden, A. John. The Teacher's Personal Development. New York: Henry Holt and Company, 1957.

Crow, Lester D., and Crow, Alice. Understanding Interrelations in Nursing. New York: The Macmillan Company, 1961.

Curtis, Jack H. Social Psychology. New York: McGraw-Hill Book Company, 1960.

Deming, Dorothy. The Practical Nurse. New York: The Commonwealth Fund, 1947.

George, Frances L., and Kuehn, Ruth P. Patterns of Patient Care. New York: The Macmillan Company, 1955.

Good, Carter V., and Scates, Douglas E. Methods of Research. New York: Appleton-Century-Crofts, 1954.

Herzberg, Frederick, Mausner, Bernard, and Snyderman, Barbara B. Motivation to Work. New York: John Wiley & Sons, 1959.

Hughes, Everett C., Hughes, Helen MacGill, and Deutscher, Irwin. Twenty Thousand Nurses Tell Their Story. Philadelphia: J. B. Lippincott Company, 1958.

Kaplan, Max. Leisure in America: A Social Inquiry. New York: John Wiley & Sons, 1960.

Kempf, Florence C. The Person as a Nurse. New York: The Macmillan Company, 1950.

McAllister, Joseph B. Ethics: With Special Application to the Nursing Profession. Philadelphia: W. B. Saunders Company, 1947.

Maslow, A. H. Motivation and Personality. New York: Harper and Brothers, 1954.

Nordmark, Madelyn T., and Rohweder, Anne W. Science Principles Applied to Nursing. Philadelphia: J. B. Lippincott Company, 1959.

Ross, E. J. Basic Sociology. Milwaukee: The Bruce Publishing Company, 1958.

Saxon, Graham. American Culture: An Analysis of Its Development and Present Characteristics. New York: Harper and Brothers, 1957.

Schneiders, Alexander A. Introductory Psychology: The Principles of Human Adjustment. New York: Rinehart and Company, 1959.

Thorpe, Louis B. The Psychology of Mental Health. New York: The Ronald Press Company, 1960.

Vann, Gerald, O. P. The Heart of Man. London: Longmans, Green and Company, 1945.

Williams, Robin M. American Society: A Sociological Interpretation. New York: Alfred Knopf, 1960.

Wuellner, Bernard A. A Christian Philosophy of Life. Milwaukee: The Bruce Publishing Company, 1957.

Yoder, Dale, Heneman, H. G., Turnbull, John G., and Stone, C. Harold. Handbook of Personnel Management and Labor Relations. New York: McGraw-Hill Book Company, 1958.

Articles

"ANA Statements of Functions, Standards, and Qualifications," The American Journal of Nursing, LVI (July, 1956), 898.

Bonney, Virginia. "If the Shoe Fits," Primed for Progress. Albany: New York State League for Nursing, 1960, pp. 8-11.

Gallen, Joseph F. "Femininity and Spirituality," Review for Religious, XX (July, 1961), 237-256.

Keresey, Elinor. "A Closer Look at the Practical Nursing Program," Report of the Intra-Regional Work Conference on Practical Nurse Education. Washington, D.C.: U. S. Department of Health, Education, and Welfare, Office of Education, Division of Vocational Education, 1957, pp. 14-19.

Kreuter, Frances Reiter. "What Is Good Nursing Care?" Nursing Outlook, V (May, 1957), 302-304.

Likert, Rensis. "A Technique for the Measurement of Attitudes," The Archives of Psychology, XXII (1932), 44.

Maslow, A. H. "Deficiency Motivation and Growth Motivation," in Marshall R. Jones, ed., Nebraska Symposium on Motivation. Lincoln: University of Nebraska Press, 1955, pp. 1-30.

Montgomery, Mabel. "The Human Qualities in Practical Nursing," Practical Nurse Digest (May, 1961), 75-77.

Porterfield, John F. "The Practical Nurse--Her Place in the Sun," Nursing Outlook, VII (November, 1955), 656-659.

Rogers, Martha E. "Excellence Is Where You Find It," Primed for Progress. Albany: New York State League for Nursing, 1960, pp. 14-15.

Sarbin, Theodore R. "Role Theory," in Gardner Lindzey, ed., Handbook of Social Psychology. Reading, Mass.: Addison-Wesley Publishing Co., 1954, pp. 223-255.

"Statement of Functions of the Licensed Practical Nurse," The American Journal of Nursing, LVII (April, 1957), 459-460.

Stevenson, Neva M. "Perspective on Developments in Practical Nursing," Nursing Outlook, VIII (January, 1960), 34-37.

——— "Practical Nurse Education, An Integral Part of All Nursing Education," Curriculum Development in Practical Nurse Education. Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, 1961, pp. 4-11.

Stokes, Elizabeth. "A Symposium: The Role of the Practical Nurse Today," Report of the Intra-Regional Work Conference on Practical Nurse Education. Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, Division of Vocational Education, 1957, pp. 5-6.

Syphax, Orieanna, Dailey, Louise, and Rasmussen, Etta. "Setting Standards for the Practical Nurse Curriculum," Curriculum Development in Practical Nurse Education. Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, 1961, pp. 12-15.

Reports

An Experience in Practical Nurse Education. Battle Creek: W. K. Kellogg Foundation, 1959.

Argyris, Chris. Diagnosing Human Relations in Organizations: A Case Study in a Hospital. New Haven: Labor and Management Center, Yale University, 1956.

Bertrand, Alvin L., and Souza, Marion. A Study of Practical Nursing Education and Practical Nursing in Louisiana, 1950-1955. Baton Rouge: Louisiana State Department of Education (n.d.).

Gold, Raymond L., and Ford, Thomas R. A Survey of Licensed Practical Nurses in Alabama. Tuscaloosa: University of Alabama Press, 1957.

Hanson, Helen C., and Stecklein, John E. A Study of Nursing Functions in General Hospitals in the State of Minnesota. Minneapolis: The University of Minnesota, 1955.

Loftin, Marion T., Windham, Gerald O., and Thomas, Leila H. Practical Nursing in Mississippi, 1950-1955. Jackson: Social Science Research Center Health Studies Series, 1956.

Moore, Louise. Practical Nurse Training Comes of Age. Washington, D.C.: U. S. Department of Health, Education, and Welfare, Office of Education, 1954.

Orem, Dorothy E. Guides for Developing Curricula for the Education of Practical Nurses. Practical Nurse Series No. 2, Vocational Bulletin No. 274. Washington, D. C.: U. S. Department of Health, Education, and Welfare, U. S. Government Printing Office, 1959.

Ramos, Paz Gomez. A Study of Graduates of Vocational Nursing Programs. Los Angeles: University of California, 1961.

Stewart, Donald D., and Needham, Christine. Practical Nurse Training in Arkansas: An Evaluation. Fayetteville: Arkansas Editorial Service, University of Arkansas, 1955.

Tyler, Ralph W., and Schmitt, Mary. Facts About Practical Nurse Education in Michigan, 1947-1952. Lansing: Department of Public Instruction, 1957.

West, Margaret, and Crowther, Beatrice. Education for Practical Nursing: A Report of the Committee on the Questionnaire Study of Practical Nursing Schools. New York: National League for Nursing, 1962.

Williams, Walter R., and Hinton, H. F. Report of a Study of Practical Nursing in Florida, 1950-1954. Tallahassee: Florida State Department of Education, 1955.

Other Publications

Curriculum Development in Practical Nurse Education. Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, 1961.

"Health Amendments Act of 1956, Public Law 911," Hospital Survey and Construction Act with Amendments: Laws of the 79th through the 87th, 1st Session Congresses, Gilman G. Udell, comp. Washington, D.C.: U. S. Government Printing Office, 1961.

Practical Nurses and Auxiliary Workers for the Care of the Sick. Prepared by a Joint Committee on Auxiliary Nursing Services of the ANA, NLNE, NOPHN, NACGN, ACSN, and NAPNE. New York: American Nurses' Association, 1947.

Practical Nurses in Nursing Services. Prepared by the Joint Committee on Practical Nurses and Auxiliary Workers in Nursing Services of the ANA, NLNE, NOPHN, NACGN, ACSN and AAIN in cooperation with NAPNE and NFLPN. New York: American Nurses' Association, 1951.

Practical Nursing: An Analysis of the Practical Nurse Occupation with Suggestions for the Organization of Training Programs. Washington, D. C.: U. S. Office of Education, 1947.

Practical Nursing Curriculum: Suggestions for Developing a Program of Instruction Based Upon the Analysis of the Practical Nurse Occupation. Washington, D. C.: U. S. Office of Education, 1950.

Suggestions for Major Provisions to Be Included in a Nursing Practice Act. New York: The American Nurses' Association, 1954.

Unpublished Materials

Licensed Practical Nurses' Questionnaire Study. Rochester: Rochester School of Practical Nursing, 1961. (Typewritten.)

Niemeyer, Sister Mary Fredericus. The One and the Many in the Social Order According to Saint Thomas Aquinas. Unpublished doctoral dissertation, School of Philosophy, The Catholic University of America, 1951.

Tetlock, Edith M. A Survey of the Approved Schools and/or Programs for Practical Nurse Education in the State of Maryland for the Purpose of Identifying Their Specific Characteristics. Unpublished master's dissertation, School of Nursing, University of Maryland, 1960.

VT 000 811

What About Careers for Youth Who Do Not Plan to Continue Their Education Beyond High School. Occupational Research Series No. 2.

Wisconsin State Employment Service, Madison
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Feb66 42p.

*EMPLOYMENT OPPORTUNITIES; *OCCUPATIONAL GUIDANCE; *OCCUPATIONAL INFORMATION; *NONCOLLEGE PREPARATOPY STUDENTS
WISCONSIN

The purpose of this booklet is to acquaint school counselors and teachers with the major occupations providing increasing opportunities for the non-college bound youth. Duties, employment outlook, advancement possibilities, and qualifications are given under the headings of (1) Automobile Mechanics, (2) Automobile Service Station Attendant, (3) Building Trades, (4) Drafting, (5) Fire and Police Protection, (6) Food Service, (7) Occupations Gardening and Landscaping, (8) Health Services, (9) Labor, (10) Machine Operators-Skilled and Semi-skilled, (11) Office Occupations, (12) Public Contact and Sales Work, (13) Repair Work, (14) Sewing, (15) Supervisory Occupations, (16) Truck Drivers, (17) Welding, and (18) A Career in Government. (PS)

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what about... CAREERS FOR youth who do not plan to continue their education beyond high school

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Occupational Research Series
no.2

WISCONSIN STATE EMPLOYMENT SERVICE
A Division of the Industrial Commission

February 1966

VT000811

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Introduction

Great emphasis is currently being placed on directing high school students toward college education, and admittedly the nation needs many well educated people. But what about the thousands of young people who will not go to college? What kind of preparation should they have in light of the opportunities that are open to them?

School counselors and teachers are often perplexed by these questions. Because of changes in technology and the rural to urban migration, there are no simple answers. New occupations, obsolete occupations, emerging occupations, declining occupations -- all suggest change.

The purpose of this booklet is to attempt to acquaint school counselors and teachers with the major occupations providing opportunity for the non-college bound youth. Understandably, too, it is difficult to speak authoritatively about certain specific occupations, since they are particularly subject to change. However, we can talk about occupational trends in the near future. For example, the need for automobile maintenance will continue for some time; therefore the demand for automobile mechanics is expected to be sustained. The nature of the work which mechanics perform, however, may change considerably.

The occupations listed were selected from two WSES research studies -- the Milwaukee Job Vacancy Study and the Wood County Occupational Needs Census, and were verified by an Unfilled Openings Survey of all 26 Wisconsin State Employment Service offices. Occupations chosen are those in which the number of opportunities are expected to increase and, more importantly, those which provide opportunity for the high school graduate to get a start without going to college.

A Word to the Counselor

It is impossible to overemphasize the importance of developing good work habits and attitudes in early life. Schools serve not only as a means for providing knowledge, but also as a training ground for character. The trend in this direction is assuming more and more importance as the time students spend in school increases, and (as is happening in some areas) parents abdicate this responsibility.

In this sense it is quite important that students be taught and reminded of certain basic facts of economic life:

1. Their school record is important--including attendance. Employers will refer to it for many years to come as an indication of probable achievement, as well as reliability on the job. (Will he show up for work every day--or will he be inclined toward absenteeism or tardiness?)

2. Personal appearance is very important. Duck-tailed haircuts, leather jackets and boots are not indicative of the stability and seriousness of purpose which most employers seek in job candidates.

3. Many students disdain jobs, work, and good attitudes. What they don't disdain is money, though, and it is sometimes necessary to point out the connection.

4. Because of the comparative scarcity of "good" jobs and the great numbers of workers available, it is often necessary to compete--this means selling one's self. Employers talk to many applicants and consequently often become very selective. The individual who stands out because he is neat, friendly, and attentive is most often the one who will get the desirable job. It is only natural for any employer to want to surround himself with pleasant, cooperative and alert workers, who are not apt to cause problems.

5. What has been learned in school is only a start. Almost every job which will ultimately pay a good wage will involve further training, either on the job or during night school. Because our society is becoming increasingly more technical,

this will always be the case in the future. The days of high-paying, low-skilled jobs on assembly lines are just about gone.

6. The importance of achieving success on one's first job cannot be overstressed. Poor references--which can follow someone all over the United States these days, with modern communication methods--can spoil the chances of ever getting good jobs in the future. Even if the first job is menial and the wages are low, a young person should try to succeed so that success becomes a pattern, rather than failure. A poor job may be a stepping stone to a much better position with the same company. Also, it will be far easier to get succeeding jobs with favorable references rather than with a sad story of failure; employers who are seeking workers to fill good jobs want to hire those who have succeeded in the past, not those who have failed.

Nor does it help a young person to "run down" a job where he has failed: he is really running himself down in any attempt to excuse failure. He will impress an employer far more by admitting failure and by making an effort to learn from the experience.

7. Some firms prefer not to hire those with military obligations, because of the expense involved in training. It is often wise to encourage students to fulfill their military obligations before seeking a job. This is particularly true of the vocationally undecided student, and there is often the additional hope that he may mature and "find himself" while in service, and become vocationally oriented toward a particular field.

8. Particular firms do not always have job openings, even in shortage occupations. Your local WSES office can often be helpful in supplying current information on job openings.

9. It still helps to know someone--to get an interview. It does not guarantee a job, however.

10. While unskilled jobs may be plentiful at this time, many unskilled young workers can expect to be dumped back on the labor market in the next economic "recession" unless they have proved their usefulness or developed a skill.

11. Competition is keen for the limited number of admissions to formal apprenticeship programs for the high paying skilled jobs. Yet many employers offer equally valuable training on-the-job: this should not be overlooked. Nor should any job be judged on pay rate alone--the important criterion is where the applicant will be ten or twenty years from now. Sometimes the higher paying jobs involve frequent layoffs, whereas a lower paying job may eventually pay more money besides being more stable.

12. Post high school training in public vocational or private technical schools can give applicants a head start to jobs. Sometimes the training itself is not so valuable in itself as it is a demonstration of student interest in making a career in a particular field. Care should be taken, however, to avoid some private schools offering training of negligible value for high tuition fees. If in doubt about a school, consult the Governor's Educational Advisory Committee or your local WSES office.

Automobile Mechanics

The need for automobile mechanics is expected to increase rapidly during the remainder of the 1960's and in the longer run; thus it would appear that this field will offer excellent career prospects for high school graduates. It should be stressed, however, that considerable training is normally required beyond a high school diploma, and since changes are constantly occuring in the way cars are being constructed it will be necessary for mechanics to keep up to date through continual study.

Mechanics can be qualified to perform a wide variety of repair jobs on automobiles, or they can specialize in one phase of repair, such as front end work, tune-ups, automatic transmission repair, etc. Smaller shops generally need all-around mechanics while larger garages and new car dealers often employ specialists.

Several approaches are open to a high school graduate seeking a career in this field. On-the-job training is perhaps the most common, but is becoming less desirable from the employer's standpoint because of its haphazard nature. Pitfalls sometimes exist for the trainees as well -- sometimes they are hired as car washers and are never given additional training or advancement. Gradually the larger employers are instituting indentured apprenticeships or providing their own training (GM Institutes, etc.).

Another approach is through Vocational School training. Two choices are given here: a candidate can study either automobile mechanics or take a course in automotive technology. The latter course emphasizes the theoretical aspects of automotive mechanics rather than straight repair, and such an education would be more helpful to a person employed as a service writer, diagnostician, or salesman.

The Armed Forces through their service training offer still another approach, although many employers feel that while this type of training may be useful, it should be supplemented with additional experience and/or schooling.

Finally, many mechanics have worked their way up through employment in service stations. Again, this is often haphazard, and does not assure a person of ultimate advancement as much as a formal apprenticeship would.

Automobile Service Station Attendant

There are two general types of service stations at this time, and it appears that both types will continue to operate without destroying themselves through competition.

One type sells gasoline, oil, and a large number of accessories frequently not related to automobiles. This type of service station offers no repair service or maintenance facilities such as lubrication and oil changing.

The second type offers a wider variety of service such as tune-ups, electrical and ignition work, brakes, tires, the repair and replacement of various component parts and accessories for automobiles -- in short, often everything but automatic transmission repair, major overhauls, or body work. The more ambitious service stations may even offer these.

The first type of service station, while perhaps more limited in scope, nevertheless has reason for being. The underlying philosophy is one of selling gasoline to motorists, often at a lower price, while assuming that the dealers will provide whatever servicing the car may require. By concentrating on gasoline sales on a volume basis and spending little time on repair, these dealers frequently can sell gasoline for 2 or 3 cents a gallon less than their major oil company competitors.

The requirements for attendants in this type of service station are: alertness, a pleasant personality for dealing with customers, a moderate amount of mechanical ability so as to be able to check oil, water, and batteries in customers' cars, and the ability to add totals and make change readily.

The ability to memorize or to concentrate for short periods of time on the amount of gasoline a customer requests is a very important attribute; and surprisingly significant is the ability to forget this figure as soon as the customer leaves.

Some of these stations emphasize the sales of accessories, even to the extent of allowing a commission on the sale of various items. This requires a certain aptitude for sales, which is difficult if not impossible to evaluate.

Stations offering more extensive service frequently sell the major brands of gasoline and usually require far more in mechanical ability. Formal courses such as those offered by the vocational school or which may be conducted by the oil companies themselves are considered helpful. The oil companies often designate one of the larger stations in a city as their training center, and conduct on-the-job training sessions at this one location.

It is not impossible, however, for a young man to teach himself all that it is necessary to know by observation and also by careful study of the various manuals and diagrams oil companies provide for servicing of each model and year of automobile.

Since many more functions are typically performed in this latter kind of service station, the record-keeping is more complex and consequently more clerical ability is required.

High school courses of value to someone contemplating this occupation would include bookkeeping, speech, any related auto mechanics or shop courses, and mathematics.

Since jobs in both kinds of stations are necessarily out of doors, a moderate amount of physical stamina is required.

Building Trades

The building trades are expanding because of urban renewal, the desire for home ownership, and the booming construction of office buildings. Of two dozen or so building trades, six -- painter, plumber, pipefitter, bricklayer, operating engineer, and construction electrician -- have 100,000 workers or more each. All are expected to expand. Carpenters comprise nearly one-third of all building trade craftsmen in themselves.

The problem of seasonal fluctuations in employment, which once meant months of unemployment each year due to weather conditions, has been somewhat reduced by modern technology and new building techniques.

Construction trades exist in nearly every community in the country. Workers are employed mainly by contractors but many others work in industry, particularly manufacturing, where they perform maintenance work. Some craftsmen work directly for business firms or government agencies which have their own construction force. Others are self-employed.

Qualifications: Almost every construction trade is unionized and has an apprenticeship program. Applicants must generally be between 18 and 25 years of age, in good physical condition, and must have good manual dexterity. Company and union usually provide on-the-job training and some classroom work during an apprenticeship which usually lasts from 2 to 5 years.

Pay: Salaries are among the highest in the community, but because of periods of unemployment during inclement weather and winter, the annual wage level may not be quite as high as the hourly rate would imply.

Drafting

Duties: Draftsmen translate ideas, rough sketches, specifications, and calculations of engineers, architects, and designers into complete and accurate working plans.

Employment Outlook: Opportunities for draftsmen are good. Employment of draftsmen should continue to grow because of the increasingly complex design problems in modern technology.

On entering this occupation junior draftsmen assist experienced draftsmen in making drawings. This once meant starting as a tracer or copyist; however, with the introduction of newly developed drafting equipment and photo-reproduction of drawings there is less and less need for copyists and tracers. Therefore, junior draftsmen must be skilled enough on entering the field to make detailed drawings and simple calculations. They are then known as detailers.

Fields: The largest fields are architectural, structural, mechanical, aeronautical, electrical, marine, and topographical drafting. In Wisconsin because of the many tool and machinery manufacturers, mechanical drafting is the largest field.

Requirements: High school graduation with technical training in mechanical drawing, mathematics, and physical sciences is the minimum requirement. But the trend is to require some post-high school drafting training. It is suggested that high school graduates take at least one year of post-high technical school drafting courses to compete successfully. Vocational schools in 21 Wisconsin cities provide training in drafting.

Numerical and spatial aptitude, form perception, and finger dexterity are important. Neatness and accuracy are essential as well as liking for precision and detail.

Advancement possibilities are good. Extended on-the-job training and further technical education provide opportunity for advancement. Skillful draftsmen with creative ability can advance to well paying jobs as designers.

Fire and Police Protection

Federal, State and local governments are the main employers in these occupations, and Civil Service Examinations are generally required. Not only is a written examination required to test one's mental ability, but a strict physical examination is also a requirement. Both of these occupations are considered to be hazardous. The applicant generally must be taller than five feet eight inches, and his weight must be in proportion to his height. Agility, mental stability, and references are carefully scrutinized before hiring takes place. Generally 21 is a minimum age requirement.

The nature of police work requires that officers be in excellent physical condition, for not only must they be able to apprehend criminals, they must also be able to withstand inclement weather.

Policemen perform a variety of duties such as investigating crimes, reporting facts, directing traffic, patroling streets and attempting to prevent crime. In medium and small cities all of these jobs may be performed by one man. In large cities, however, the policeman tends to specialize and is responsible for only one job. Police work generally is learned by on-the-job training, but in some of the larger cities specialized classroom courses are offered where state laws and local ordinances are taught. Police recruits usually begin their career by walking the night beat to become familiar with the duties of a policeman, and also to become familiar with the area and the people within their territory. Weekend and holiday work is commonplace for policemen.

With the increase in population and the enlargement of urban communities, it is anticipated that the need for policemen will continue. There seems to be a high degree of interest in this field but the rigid qualifications eliminate many applicants. A high school education is usually all that is needed for regular police work, but if one intends to specialize or go into the FBI it is necessary to go to college. The high school student who plans to become a policeman

may find the following courses helpful: English, American history, civics and government, business law, psychology, sociology, physics, and especially physical education. Leadership in extracurricular activities such as clubs and organizations can be especially valuable experience.

Firemen have the responsibility of protecting the life and property of individuals within a given community. This occupation, like that of the policeman, is a relatively dangerous one. Hiring is usually done through the Civil Service process which means a written test as well as an oral examination. Firemen not only extinguish fires, they also teach fire prevention and are frequently called upon to administer emergency first aid. Firemen must possess physical stamina, and must also be alert and agile. Training for firemen is usually given on the job.

There is a great deal of interest in this occupation, but because of the mental and physical requirements many individuals are eliminated. High school courses which would be beneficial to firemen are English, civics and government, sociology, psychology, physics. Again, emphasis should be placed upon physical education.

Private employers: Employment opportunities also exist in large industrial plants, shopping centers, and department stores which have their own fire and security departments. Prior experience in the military police, public police, or fire organizations is often necessary.

Food Service Occupations

Few people realize that the food service industry is the fourth largest industry in the nation. There are over 500,000 food service establishments including both commercial and institutional food service operations in America. One out of every six persons working in retail trade is a restaurant employee.

Waitresses: Opportunities for waitresses are plentiful throughout Wisconsin, although relatively few men are employed as waiters.

In diners, coffee shops or short order restaurants the emphasis is on quick service without frills. A strenuous pace is often demanded. In the larger supper clubs the pace is a little slower but more efficiency and skill are needed to serve the customer. Usually owners of this type of restaurant demand experienced help. In larger establishments a hostess may make reservations and escort customers to their table.

Though the waitress and hostess are important, it is the chef or cook that makes the restaurant's reputation. Again, duties and pay differ according to the type of restaurant.e A large modern restaurant demands extensive training and some specialization which is provided in special vocational school courses and on-the-job training.

Training: On-the-job training is provided by many restaurants, especially the coffee shop type. Waitresses must be able to do simple arithmetic and should have a pleasant manner. Basic pay is not high, but tips (in better restaurants) more than make up for the low pay base.

To be a chef or dinner cook requires years of training at a vocational school and on-the-job. However, it is a well-paying, highly respected occupation. In fact, good chefs are so important that they can sometimes command salaries of $15,000 or $20,000 a year.

Positions a high school graduate could qualify for in restaurants:

Kitchen helper
Assistant baker
Salad maker
Sandwich maker
Assistant cook
Beverage worker
Waitress
Soda fountain worker

Bus boy
Bus girl
Waiter
Hostess
Porter
Dish machine operator
Food checker - tabulates bill

Positions requiring training and experience:

Restaurant manager
Chain executive
Personnel director
Training director

Menu maker
Merchandising supervisor
Chef
Purchasing agent

Students (especially men) interested in cooking should check the excellent training courses available through Wisconsin Vocational schools.

Gardening and Landscaping

The nursery business provides the opportunity to be outdoors much of the time and to work with nature. For this reason it appeals to many people. However, appeal does not guarantee a living. One must realistically consider the outlook in this industry.

Outlook: Many retail outlets have expanded their businesses to include sales of Christmas trees, fire wood, and other products in an effort to extend their activities all year around. Similarly, many landscapers do snowplowing for the same reason. Thus the prospects of long winter layoffs which used to characterize this business have been somewhat lessened. Furthermore, a solid future in the nursery business itself is clearly indicated by the trend toward suburban living and the leisure time in which to enjoy gardening, recreation, and outdoor activity.

Work Areas: There are several basic types of operations: wholesale, landscape, mail order, garden center, sales yard, and agency. Most people are familiar with the garden center which is a retail business specializing in the sales of plants, fertilizers, pesticides, etc. There are, also, mail order houses which sell plants by mail; wholesale houses which grow plants and sell to retailers; and sales yards, which are display and sales areas of plant materials for retail sales. Landscaping opportunities exist with commercial landscapers, government, large private firms, institutions, and private households.

Qualifications: As in many other occupations, high school graduates without training often must start at the bottom as laborers. Applicants should be moderately husky and must be in good health to withstand temperature changes. An interest in plants and flowers is helpful. With experience, workers can advance to gardener, florist, or foreman of a landscaping crew. Additional training may be necessary in some cases.

Health Services

According to a 1964 Wisconsin State Employment Service research project, health occupations will continue to experience greater growth during the 1960's than many other occupational groups, although most opportunities exist for girls. The report gave as reasons our expanding and aging population, our increasing health consciousness, and the rapid increase of expenditures (including Medicare) for expanded facilities and for medical research.

Health service occupations vary in duties and requirements, but most require an interest in providing care for the sick and injured. It should be noted once again that to advance and gain better pay and status, additional training is necessary. However, because of the great need for these skills there are usually low-cost training plans available. Furthermore, a young girl who gains these skills should be able to find work in almost any city in the country. This is particularily true of nurses.

Therefore, a student should consider the following occupations for interesting and challenging work.

Nursing aide

A nursing aide bathes and feeds patients, makes beds and cleans rooms and equipment. Aides are employed in hospitals, sanitoriums, and homes for the aged.

Training courses are short and frequently are provided by many of these institutions.

Licensed practical nurse (LPN)

A practical nurse usually takes and records temperatures, pulse, and blood pressure readings and gives prescribed treatments and medications.

Generally a year of training is required for licensing. Many hospitals offer this course at low costs. Vocational school courses are offered in nine Wisconsin cities

Dental assistant

Dental assistants prepare patients for treatment, hand instruments to the dentist, and sterilize them after use. In addition, they may serve as a receptionist, scheduling appointments and keeping books. Some dentists train girls who have taken a general business program in high school. (typing, etc.) The Madison and Milwaukee Vocational schools offer courses for dental assistants.

Physician's assistant

Receptionist, secretary, bookkeeper and nurse are combined in this occupation.

Formal training is offered in Madison and Sheboygan vocational school.

Medical laboratory worker

A laboratory aide or assistant checks supplies, sterilizes laboratory equipment, or may take care of the laboratory animals, and help with some of the testing.

Advancement to technician status requires two years or more of science courses at college level plus either 12 months training in an approved school for medical technicians or experience in an approved laboratory.

Medical X-ray technician

This technical specialist operates the controls of the x-ray equipment and puts the patient in position required for the picture. They are employed in hospitals, medical labs, physicians and dentists offices and clinics.

Training may be obtained in Vocational school or hospital schools. Training programs usually last two years.

Dental laboratory technician

Dental technicians make artificial dentures and orthodontal appliances. Most work in large commercial laboratories. Completion of a formal apprenticeship program is required. A high degree of finger dexterity is necessary for this occupation.

Labor

It is obvious that any repetitive job requiring no particular skill is a likely target for replacement by some form of mechanization or automation. It is for this reason that the total number of unskilled or labor jobs has decreased or only remained about the same while jobs of almost every other sort have been increasing in number.

Thus, while openings for laborers may be somewhat plentiful at this time, it should be kept in mind that some of them may disappear in time to come.

Nevertheless, there are laboring jobs which will never be automated--jobs in industries where production changes occur frequently, or jobs where the cost of automatic machinery would be too expensive to justify.

The type of positions available in the labor category are far too varied to describe except in very general terms.

Factory openings in general require versatility and manual or finger dexterity. Often the work will involve simple machine tending, assembly line work, packing and shipping duties, or the like. Union jobs in general pay more although the larger companies which are most often unionized often have piece rate quotas and other production standards which must be met. In general, it is wise to try to learn to operate the more complex machines, or to work one's way into a supervisory position if possible, in order to avoid the possibility of a layoff. In general, too, it is best not to learn a skill that is not usable in more than one industry.

Construction jobs have the disadvantage of involving outside work and consequent seasonal layoffs, although the pay is generally quite high because of construction unions. Hiring in urban areas is most often done through the union hiring halls, and an initiation fee of up to $75 or $100 is sometimes required. (This need not be

paid immediately, but can be deducted from the first few weeks paychecks.) In the construction field it is very common for workers to change employers frequently, as employers' needs vary considerably from week to week.

The more fortunate laborers are those who have a chance to learn how to operate heavy equipment (bulldozers, back-hoes, scapers, etc.) or who are accepted for one of the formal apprenticeships--carpentry, electrical, sheet metal, plumbing, etc. With advanced skill the rate of pay increases and the chance of layoff decreases.

Qualifications are difficult to discuss in view of the variety of job openings; however, most employers prefer high school graduates who have good finger and manual dexterity. This is most easily developed in shop courses or do-it-yourself hobbies. Mathematical or numerical aptitude is particularly important in the apprenticeable occupations.

The larger companies often look for applicants with the education and aptitude to perform skilled work, so that they can eventually advance into higher level jobs with additional training and seniority.

Machine Operators - Skilled and Semiskilled

As the midwest became more industrialized and the number of people employed in manufacturing exceeded those working in agriculture, large numbers of workers found steady employment operating machines in factories. To help meet a tremendous demand which once existed for workers, people also were imported from foreign countries.

However, the long term future of jobs for machine operators is somewhat uncertain. While the demand for machine operators is strong at this time, automation will probably have severe implications for the future. Automation appears to eliminate many of the routine positions such as milling machine, drill press, and lathe operators while simultaneously creating an increased need for highly skilled set-up men, maintenance mechanics, machinists, and parts programmers.

Where the former occupations seldom required an extensive amount of skill--an operator could learn his function in a few months or less--the newer demand is for operators capable of setting up their own machines, reading blueprints and micrometers, and communicating on a high level. Implicit in these occupations is an involved training program or apprenticeship lasting four years or more with additional training required periodically afterwards.

Many of these jobs entail familiarity with several areas of knowledge; for example, the modern all-around machinist often has to know something about hydraulics, electricity, and electronics as well as strength of materials and modern machinery methods.

Requirements: A high school education is usually required for even the more routine positions. Because of union seniority rules, hiring for higher level jobs is largely through promotion, so employers tend to hire only those applicants who have the qualities needed for promotion.

Employers prefer applicants who received good grades in high school shop, mathematics, blueprint reading and English courses. Vocational schools in 39 Wisconsin cities provide machine shop courses, and most of the larger companies offer on-the-job training and apprenticeship programs.

Some jobs are open to women in light manufacturing, such as electronics, small machinery and appliances, ball bearings and instruments. Often women are able to perform this kind of work better because women tend to have better finger dexterity and are able to perform the more monotonous jobs. However, many of these more routine, repetitive jobs are also gradually disappearing with the introduction of automation.

Office Occupations

Typists and Clerks

Probably no other skill is so valuable to young women - and young men - as the ability to type. An overwhelming proportion of clerical positions received by the Wisconsin State Employment Service require typing ability, and although virtually every high school in the state offers courses in typing there are still not enough graduates with this training to fill all of the available openings. Job openings are so plentiful at this time that an average typist can expect to be offered a job after only three or four interviews.

Despite the recent trends toward office automation, the demand for qualified typists will remain strong for some time to come. When applied, automation eliminates the routine repetitive typing and often generates more varied work. Consequently, a typist must be able to work with varied formats, often setting up the form herself.

A young girl who has just graduated from high school will normally work in the secretarial pool of a large company, or will start out by doing routine work for a smaller company, until she has the experience necessary to move up into a more responsible position. Her duties will probably include filing, sorting mail, answering the telephone and running errands as well as typing - hence many of these jobs are known as clerk-typist or clerk general office positions.

Qualifications - In addition to the normal commercial courses it is particularly important that girls be able to spell and have some knowledge of the use of a dictaphone. Neat appearance and good work attitudes are particularly important since almost all jobs involve working with professional or managerial supervisors. References are also important; most employers consult with a student's commercial teacher before hiring.

Tests - The Wisconsin State Employment Service in conjunction with the State Bureau of Personnel conducts tests (clerical aptitude, typing and shorthand) throughout the late spring in most of the high schools throughout the state. These tests, which are usually arranged by the high school commercial teacher, will qualify girls for state civil service openings without further examination, and many private employers also rely heavily on these test results. Civil Service application blanks are passed out at the time of test administration. Any senior who is enrolled in a commercial typing course will be notified of the test schedule; other girls who wish to take the test should make arrangements with the commercial teacher to be included in this program.

Note: Typing ability is also valuable for men, but less emphasis is placed on speed. Keyboard familiarity is usually required for such jobs as shipping clerk, (to type shipping labels) or order clerk. For jobs requiring extensive typing, girls are more often hired.

Young women and young men who plan to attend college will also find typing ability valuable for their own personal use in typing term papers and notes, and it is also particularly helpful when looking for part-time or summer jobs.

Stenographers and Secretaries

Although there are many openings for girls with shorthand training, the majority of them do not involve a lot of responsibility at the starting level. Young girls just out of high school are most often assigned positions in stenographic "pools" to start, and only after company executives become familiar with their capabilities are they assigned to more responsible jobs.

Many of the younger executives prefer to use dictating machines, whereas the older men who have been accustomed to stenographers prefer them. This being the case, it is often a disappointment for a young girl not to be able to use her shorthand right after graduation; however, she should keep up her facility because it will become useful as she gains in maturity and seniority.

Very high level secretarial positions can normally be reached only after extensive business experience and familiarity with a given company. At this stage a secretary is given responsibility for handling every day matters in the absence of her supervisor and often is asked to write routine letters and to make minor decisions.

Office Machine Operators

Data processing has become a very important aspect of modern business, and the introduction of mechanized equipment has caused many radical changes which affect jobs for young high school graduates. Although there is a great deal of glamour and prestige connected with occupations in this field, the total number of job openings is not as great as people are led to believe.

Larger companies and banks no longer require large numbers of girls to operate calculators and bookkeeping machines since these functions have been taken over by electronic data processing (EDP) equipment. Instead, they are looking for key-punch operators to punch the cards used to feed information into tabulators and computers. While the need is quite extensive for girls with key-punching background right now, optical scanning machines have been invented which will eventually replace much of this function. In the meantime, girls can prepare themselves for a career in key-punching by taking a vocational school course or by being trained by an employer. A two-week training period is usually all that is required for a good typist.

Many small companies which cannot afford EDP equipment still use bookkeeping machines and calculators, and there is still some demand for experienced operators of these machines although the demand is expected to eventually decline.

Opportunities for men without additional schooling are somewhat limited in this field. A further discussion of occupations in the data processing field is included in "What About Data Processing in South Central Wisconsin?," available free from the Wisconsin State Employment Service.

Public Contact and Sales Work

Occupations in the distribution and sales of goods are becoming increasingly important with the result that for the first time in history more people are involved in the selling and distribution of goods than in their manufacture.

The sales function in particular is important. Not only must a good salesman have the ability to meet and deal with people, but he must also know product lines and specifications so as to be able to recommend particular items to meet his customer's requirements. This emphasis on product knowledge often distinguishes the better jobs from the average positions, and frequently also determines salary levels. For this reason it is best for a beginner to sell a product which he is interested in and can believe in--many sales careers have been ended abruptly because of the wrong choice of item to sell. Enthusiasm is one of the few identifiable qualities which make a good salesman; unfortunately, there are no aptitude tests which can measure "salesmanship" in general with any great accuracy.

Becuase of the wide variety of selling positions, it is often difficult for a young high school graduate to make a choice. In an attempt to focus his interests, a young man should decide if he wants inside or store sales or outside sales, what nature of product or service he would like to handle (tangible or intangible), whether he would prefer wholesale or retail selling, if he wants to sell on a commission basis, draw against commission, straight salary, or salary plus commission, and how extensively he may wish to travel. A job requiring extensive travel may involve the purchase of a relatively new car or the employer may furnish one, depending on the company. Some sales jobs may involve evening and weekend hours which may conflict with family life; this should be considered by the candidate.

A recent high school graduate without sales experience should observe several precautions:

1. Avoid employers who pay on a commission-only or draw-against commission basis.

Avoid the more glamorous but risky jobs until you have gained experience in the sales field and have a successful record to fall back on.

2. Do not spend your own money for an expensive sample case; this is normally furnished by any reputable employer.

3. Avoid the purchase of a new or late-model car until you have worked long enough to know you can be successful in your job.

4. Try to land a job with a well-known firm: their products will be also well-known and thus easier to sell.

5. Many store sales jobs which may start at low pay can advance into retail management positions or buyers jobs. These jobs may be desirable for a candidate who is seeking a stable job with regular hours and limited travel.

Preparation - No specific academic course is necessary, but courses in speech, typing, and psychology are helpful. Bookkeeping and mathematics are particularly important, as even the jobs in variety (five and ten cent) stores require the ability to figure rapidly (i.e. what is ¼ of a yard?) and to make change.

Most important, obviously, is the initiative and resourcefulness of the individual, which can be best determined by self-examination.

Repair Work - (other than automotive)

A subject as broad as this category is difficult to discuss and even more difficult to reduce to generalizations, except to point out certain similarities and broad aspects for consideration.

The one requirement that brings the various kinds of repair work together in this occupational grouping is the ability to properly handle a large variety of hand tools such as might typically be found in the Better Homes and Gardens, Handyman's Guide, Popular Mechanics, or in similar publications.

Our world is becoming increasingly technical in its orientation. Not only in factories and industrial establishments, but even in the home one finds gadgets and sophisticated mechanisms which exceed the ability of the average do-it-yourselfer to repair. Ironically, many youngsters are entering this increasingly technical world without even elementary ability to work with hand tools. Thus they are unprepared for numerous employment opportunities. It is apparent that the demand for qualified repairmen will continue to increase in the future. The only limitation to this will be in terms of those items whose cost of manufacture is less than the probable cost of repair. For example, it is obvious that a new toaster should be purchased if it would cost more to repair the old one.

There are, however, countless pieces of mechanical, electrical, and electronic equipment which are not so easily replaced and which require a high degree of skill to repair. Home laundry equipment and other major appliances, oil burners, and electric motors are typical pieces of household equipment which are usually more economical to repair than to replace.

Outside of the home there is an endless variety of mechanical equipment which requires frequent maintenance and occasional repair. The entire field of office equipment, for example, is one which has been increasingly mechanized, yet the

supply of repairmen is far from adequate, partly because most manufacturers attempt to hire trainees whose personal appearance would be in keeping with an office setting, and who might be capable of selling new equipment as well.

Employers in industry are also becoming increasingly aware of the forthcoming shortage of qualified factory maintenance mechanics and millwrights. It is apparent that with the current trend in industry toward automation, more of these skilled workers will be needed to set up and repair the complicated machinery which is designed to replace men. While this occupational area often requires an apprenticeship, the high wage levels tend to make the completion of an apprenticeship program most desirable for mechanically inclined high school graduates.

Telephone linemen will be in increasing demand, as will elevator installers, locksmiths, air conditioning and refrigeration mechanics, and diesel mechanics.

Many of these areas are quite lucrative and most of them will increase in importance in the next few years. Any high school student who is mechanically inclined would do well to consider any of these areas of repair work if he does not contemplate further schooling or an apprenticeship.

The question arises - what can high schools do to prepare their graduates for employment in the repair field? The previously stated need for training in the use of a large number of basic hand tools is the most obvious. Except for those occupations which are included under apprenticeship programs, much of the formal training is done by the manufacturer or user of the equipment, or by vocational schools.

Some valuable high school preparatory courses include auto mechanics or shop courses, mathematics, elementary bookkeeping or record-keeping, and communications skills. A course in physics, if it relates to the practical or applied side of physics more than the theoretical, would be particularly useful, especially if electricity, electronics, hydraulics and pneumatics are included.

Sewing

Although most of the apparel industry is located on the east coast, Wisconsin has a number of apparel firms, many of which are located in Milwaukee.

Opportunities exist for power sewing machine operators in many of these companies, and interested girls can usually find job openings which do not require previous experience. Employers prefer to hire workers with good finger and manual dexterity, good eyesight and color discrimination. Frequently aptitude tests are given by the employer to determine if workers are qualified for this kind of work.

Work in garment factories was once considered undesirable, but working conditions have improved and modern equipment tends to make the work more pleasant. Wages, however, are often comparatively low; a WSES wage survey recently revealed that the average Wisconsin employer pays $1.38 perhour starting wage for trained personnel. Exceptions are those firms which make automobile upholstery and companies having piece work rates, where the worker is often able to earn a considerably larger income.

There are no specific educational requirements, although high school or vocational training in home economics is often helpful.

Advancement channels often lead to positions as tailors, dressmakers, or alteration women.

A Note Concerning Supervisory Occupations

Straight supervisory positions, with no additional duties, are rapidly disappearing. The new types of managers, foremen, and supervisors all must have a thorough knowledge of the duties their subordinates are assigned, which usually presupposes that the manager be employed in a "line" or functional capacity before becoming a "boss".

Thus, the requirements for office managers usually include experience in acoounting so as to be able to supervise bookkeepers and other accountants. A carpenter foreman's position requires extensive experience in carpentry, etc.

To a great degree the supervisory positions require maturity and experience as well as tact in dealing with other employees, which can only be acquired by several years of employment. This again would tend to preclude recent high school graduates from consideration for these positions until they have gained experience. Obviously, few older workers will take directions from a much younger person with little or no experience.

Therefore it is not practical to discuss supervisory opportunities without considering the fields of work through which one must progress to reach the supervisory level. However, some training in human relations will benefit students as they progress to supervisory levels in any of the occupational groupings listed in this publication.

Truck Driver, Light
Truck Driver, Heavy
Trailer-Truck Driver

(Similar occupations: Routeman, Dump-Truck Driver
Taxicab Driver, and Bus Driver)

Skilled and courteous drivers are in demand at this time, and in all probability will continue to be needed for some time in the future by the many industries which use trucks of all sizes and descriptions to transport a virtually endless stream of goods.

Frequently driving under the handicaps of bad weather, heavy traffic, or poor roads, the average driver must possess skill, good judgment, and a sense of responsibility. In addition, many drivers are asked to keep involved clerical records and occasionally load or unload their vehicles.

Beginning level jobs are not always easy to find. Employers frequently try to hire drivers over 21 or even over 25 as they feel that added maturity and experience is important. Higher insurance rates for younger drivers tend to strengthen this practice.

Typically, a young man just graduating from high school can often start out by driving a light delivery truck or even a station wagon to pick up and deliver mail and supplies for a large office, or to deliver groceries for a food store. Or he may work as a truck driver helper and learn gradually by moving the truck up to the loading dock or around the yard, and eventually make training trips with an experienced driver.

Obviously, the larger the vehicle, the more skill is required to handle it. Many of the larger trailer-trucks (semis) have several speeds forward with two-speed rear axles, necessitating rather complicated gear-shifting. In addition, driving regulations imposed by the state and federal governments have become complex.

A pamphlet prepared by the American Trucking Associations, Inc. outlines some of the restrictions for semi-drivers:

> There are many Federal and state regulations, in addition to company requirements, regarding truck driving. . . For instance, the minimum age and health requirements for truck drivers engaged in interstate commerce are specified by the Interstate Commerce Commission (ICC). Minimum age required by the ICC is 21 years. Many trucking companies prefer drivers over 25 years of age, because they feel this added maturity is important in such a demanding, responsible job as truck driving.
>
> Minimum physical standards are that you must be able-bodied, possess at least 20/40 eyesight in each eye, with or without correction, and have at least 10/20 hearing. Additionally, you must not be addicted to the use of liquor, narcotics or any habit-forming drug. These requirements must be met in your original physical examination and thereafter at least every 36 months.
>
> You must have at least one year's driving experience in any type of motor vehicle, and must have sufficient skill--through experience or training--in the type of vehicle you will be operating. (The latter stipulation is often obtained through company-sponsored training).
>
> There are restrictions against the employment of criminals, accident-prone drivers, and those who have demonstrated disregard for regulations and for the public safety.
>
> Drivers applying for jobs with companies engaged only in intrastate transportation generally are not technically required to comply with ICC requirements but they must meet the similar minimum requirements necessary for a commercial-type driving permit in that particular state. Information on these can be obtained from the State Motor Vehicle Department.

Drivers for companies in intrastate commerce (operating in one state only) must be familiar with that state's motor vehicle laws governing the operation and driving of trucks. If you work for an interstate carrier (operating in more than one state) you must know not only the laws of the states through which you drive but also the ICC safety regulations regarding truck driving. Information on these may be obtained from State Motor Vehicle Departments and the Interstate Commerce Commission, respectively.

In every case, individual companies can, and quite often do, require more stringent qualifications. Many put each applicant through their own physical, mental and psychological tests.

Earnings for truck drivers depend upon the mileage driven, number of hours worked, type of equipment driven and weight of the loads carried, and the type of "run"--for instance, whether pickup and delivery enroute also is required.

High school graduates seeking a career in this field should be made aware of the importance of driver education courses and the necessity of keeping their driving record free of violations. Revocation of a driver's license will almost preclude consideration for any over-the-road driving job.

High school courses which would be of value, in addition to driver education, include auto mechanics, bookkeeping (especially helpful for advancement into dispatcher positions), and speech (if candidate wants to consider route work or bus driving).

Physical qualifications include manipulative skill (hand-eye coordination) and judgment of distance. Desirable aptitudes, aside from driving ability, include average intelligence, numerical and verbal ability, and clerical aptitude.

Welding

The current outlook for welders is good. The use of welding for joining components of assembled or erected products has increased. Welding is also replacing riveting in structural steel construction.

In the present economy (February 1966) welders are in demand. However, as with other occupations welding is being affected by changes in technology.

Gas-shielded arc methods appear to be rapidly growing in importance. Gas welding continues to be a significant source of employment but shows no relative growth. And presently, the use of numerical-control (N/C) for welding purposes is limited only by time and money.

The significance of the new technologies (gas-shield arc, numerically controlled welding machines, etc.) is that welders must keep up with the times by learning new welding techniques as they are devised. The shop worker with good experience or training in pertinent procedures and practices of the manufacturing process will most often be the person chosen for the new responsibilities and the new opportunities brought on by the new technology (i.e. more than one half of the parts programers have come up from the shop and the same can be expected for N/C welding).

Qualifications: In times of prosperity employers are more willing to train the unskilled when they need skilled workers. However, if those with training are available, they are chosen over the inexperienced high school graduate. Basic shop courses and even short-term vocational training increase the possibility of getting a job as a welder.

Skill: Welders possess a skill and if they continue to learn the new methods and techniques, they need not fear change.

Jobs for welders exist throughout the state paricularly in the south-eastern section of the state where many metal-fabricating plants are located.

A Career in Government

Many of the same occupations found in private industry are also found in government, and since the government is the largest employer in the state, it should not be overlooked as a potential source of jobs.

A civil service examination is often required for some jobs, and for federal civil service positions a physical examination is sometimes necessary. However, there are many jobs for aides, guards, kitchen workers and maintenance help which do not require examination.

For help in applying for federal jobs, inquire first at your local post office. If you have a federal institution (hospital, laboratory, etc.) in your city, apply directly to the institution also--most of them have personnel departments and can hire directly.

If you are interested in state civil service jobs, information is available from the Bureau of Personnel, Room B-135, 1 West Wilson Street, Madison 53702. Your local WSES office also has listings of state jobs. Again, if there is a state institution near you, be sure to apply directly as many openings are filled without the examination requirement.

Girls interested in clerical jobs with the state should be sure to take the test which is given jointly by WSES and the State Bureau of Personnel to graduating seniors in most of the high schools in the state every spring. The results of this examination will qualify you for a state typist or steno position without further examination. If you miss this test or if it is not administered in your school, contact your nearest WSES office to make alternate arrangements, as this test can also be taken throughout the summer.

Not to be overlooked are the many openings with local city and county governments. To apply for these check with your local city hall or county courthouse, and watch your newspaper for advertisements in the help-wanted columns.

BIBLIOGRAPHY

The following list contains a few of the many available publications which can help to prepare a student for the transition from school to work.

PAMPHLETS:

U. S. Department of Labor, Bureau of Employment Security, Career Guide for Demand Occupations, Washington, D. C., U. S. Government Printing Office, 1965. (Cost - $ .30)

U. S. Department of Labor, Bureau of Employment Security, Choosing Your Occupation, Washington, D. C., U. S. Government Printing Office, 1962. (Cost - $ .15)

U. S. Department of Labor, Bureau of Employment Security, How to Get and Hold the Right Job, Washington, D. C., U. S. Government Printing Office, 1964. (Cost - $ .10)

U. S. Department of Labor, Bureau of Employment Security, How to---Prepare Yourself for Job Interviews, Washington, D. C., U. S. Government Printing Office, 1965. (Cost - $ .10)

U. S. Department of Labor, Bureau of Employment Security, Job Guide for Young Workers, Washington, D. C., U. S. Government Printing Office, 1963. (Cost - $ .45)

U. S. Department of Labor, Bureau of Labor Standards, Handbook for Young Workers, Bulletin 271, Washington, D. C., U. S. Government Printing Office, 1965. (Cost - $ .20)

U. S. Department of Labor, Women's Bureau, Future Jobs for High School Girls, Washington, D. C., U. S. Government Printing Office, 1965. (Cost - $ .30)

CONTACT YOUR LOCAL STATE EMPLOYMENT SERVICE OFFICE FOR FREE BROCHURES AND PAMPHLETS ON YOUTH EMPLOYMENT, SUCH AS THE FOLLOWING:

U. S. Department of Labor, Bureau of Employment Security, Merchandising Your Job Talents, Washington, D. C., U. S. Government Printing Office, 1964.

Wisconsin State Employment Service, For Youth--the Road to the Right Job.

Wisconsin State Employment Service, Here's How to Land That Job.

Wisconsin State Employment Service, Job Tips for Teenagers.

Wisconsin State Employment Service, School to Job--A Program for Seniors.

Not to be overlooked is the Occupational Outlook Handbook, (U. S. Bureau of Labor Statistics - To be available February 1966.) which is the most comprehensive compilation of occupational information to be found. Although the cost of this publication is $5.00, it is available in all WSES offices, most libraries, and virtually all high school counselors' files.

Your Wisconsin State Employment Service is ready to help you with:

- Referral to Jobs
- Vocational Guidance
- Testing
- Counseling
- Information Concerning Training Opportunities

Visit your State Employment Service Office in the following locations:

Appleton
427 West College Ave.
Telephone: 733-4451

Ashland
220 Sixth Avenue West
Telephone: 682-6655

Beaver Dam
140½ Front Street
Telephone: 885-5529

Beloit.
417 Harrison Avenue
Telephone: 365-8848

Eau Claire
418 Wisconsin Street
Telephone: 834-2081

Fond du Lac
201 South Marr Street
Telephone: 921-7330

Green Bay
City Hall
Telephone: 437-6525

Janesville
211 N. Parker Drive
Telephone: 754-3367

Kenosha
1016 56th Street
Telephone: 657-6156

La Crosse
508 5th Avenue, South
Telephone: 782-8182

Lancaster
925 North Madison Street
Telephone: 723-2154

Madison
206 N. Broom Street
Telephone: 257-8821

Manitowoc
Corner 9th and Jay Street
Telephone: 684-6672

Marinette
Dunlap Square Building
Telephone: 735-7454

Milwaukee (Main Office)
819 North 6th Street
Telephone: 224-4201

Milwaukee (Youth Opportunity Center)
710 N. 6th Street
Telephone: 273-1162

Milwaukee (Casual Labor Office)
431 N. Water Street
Telephone: 224-4355

Oshkosh
304 High Avenue
Telephone: 235-0880

Racine
618 Sixth Street
Telephone: 632-1641

Rhinelander
32A South Brown Street
Telephone: 362-5406

Sheboygan
530-A North 8th Street
Telephone: 457-5064

Superior
1616 Tower Avenue
Telephone: 394-6661

Watertown
111 N. Third Street
Telephone: 261-4960

Waukesha
383 West Main Street
Telephone: 547-7784

Wausau
527½ Washington Street
Telephone: 845-3195

Wisconsin Rapids
1681 Second Avenue, South
Telephone: 423-7300

Branch Offices

Marshfield
349 S. Central Avenue
Telephone: 384-4068

Neenah-Menasha
120 E. Wisconsin Ave.,
Neenah
Telephone: 722-1517

Stevens Point
1101 Third Street
Telephone: 344-2010

VT 000 848
Cole, Sonia M.
Suggestions Pertaining to Space and Equipment for Post High School Technical Programs.

Ohio State Dept. of Education, Columbus. Div. of Vocational Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Mar66 9p.

*OCCUPATIONAL HOME ECONOMICS; *FOOD SERVICE OCCUPATIONS; *TECHNICAL EDUCATION; *EDUCATIONAL EQUIPMENT; *CHILD CARE OCCUPATIONS

A list of space and equipment needed for two post-high school technical programs in home economics is presented. The suggestions for the 2-year program in child care technology are based on course work in classroom and laboratory with emphasis given to the nursery school. An estimate of $4,500 for equipment does not include the cost of fixed equipment. Suggestions for space and equipment for technical programs in food service are based on the student's preparing for supervisory and managerial positions in several areas of food service. The cost of specific food service equipment listed is estimated at approximately $37,000. (MS)

VT 000 848

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E. E. HOLT
SUPERINTENDENT OF
PUBLIC INSTRUCTION

STATE OF OHIO
DEPARTMENT OF EDUCATION
COLUMBUS
43215

DIVISION OF VOCATIONAL
EDUCATION

612 STATE OFFICE BUILDING

BYRL R. SHOEMAKER
DIRECTOR

March 31, 1966

TO: State Supervisors of Home Economics Education

FROM: Sonia M. Cole, Assistant State Supervisor, Vocational Home Economics
State of Ohio

SUBJECT: Suggestions pertaining to space and equipment for post-high school technical programs

The enclosed information regarding suggested space and equipment for post-high school technical programs complies with requests of participants made at the National Clinic held by the U. S. Office of Education in Chicago, Illinois, in January 1966.

There are many variables which must be considered when recommendations are made; therefore, please do not consider the space allotments or the equipment estimates as "set" figures. In establishing our Food Service Technology and Child Development Technology programs, advisory board committees gave much assistance in determining space and equipment needs.

I sincerely appreciated having the opportunity to share ideas and materials with supervisors from other states during the Chicago meeting. I hope the enclosed materials will be beneficial to you as you optimistically face the new challenges and changes in Home Economics.

VT008848

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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OHIO'S

Suggested Space and Equipment
for
Two-Year Technical Programs in CHILD DEVELOPMENT

Area: Child Care Technology

Description:

Students majoring in Child Care Technology follow a sequence of class and laboratory experiences designed to increase the student's understanding of young children, their care and education. Emphasis is given to the organization and teaching in a nursery school.

Employment Opportunities:

There are opportunities for teachers in private and community nursery schools, day care centers, neighborhood centers, as well as counselors in children's homes and institutions for exceptional children. A pediatric ward offers opportunities for placement of students who are interested in hospital positions.

Space:

Outside Play Area	-	2,400 square feet with slightly more turf than paved area (fenced area).
Inside Nursery School Play Area	-	minimum 35 square feet per child excluding storage and food preparation area.
Observation Area	-	750 Square feet with a one-way vision mirror that gives full view of the nursery school.
Related Classroom	-	900 square feet with Q-Space for individual or small group study.
Toilet Area	-	150 square feet with toilets and wash bowls child size. Include mirrors over wash bowls at child's eye level.
Kitchen Area	-	200 square feet
Isolation Area	-	50 square feet
Toy and Play Material Storage Room	-	175 square feet
Office	-	150 square feet

Supplies and Repairs/year - approximately $1,500.

Cost of Nursery School Equipment - approximately $4,500.
(Fixed equipment which follows is not included in this estimate)

SUGGESTIONS FOR FIXED EQUIPMENT IN A CHILD CARE TECHNOLOGY PROGRAM

Item	Specifications
Sound moni-toring device for Observation Room	
Ledge for students use in recording observations	Placed under 1-way vision window
Sound-proof ceilings	
Carpeting in Playroom	
Lockers for children's coats, etc.	
Bookcases and low shelves for children's toys, books, etc.	
Continuous panels of one-way-vision glass	30 inches in height and full length of Observation Room
Folding doors to separate Observation Area from the rest of the classroom if rooms are not separate	
Adequate lighting	
Adequate ventilation	
Low sink near door to outside play area (can also be used for mixing paints, etc.)	
Toilet facilities for children	
Built-in storage cabinets	
Kitchen sink	
Kitchen dishwasher	
OUTSIDE PLAY AREA	
Shed for storage of equipment	
Pavement	
Fence around the play area	
Wide tricycle walk area that goes around the area in a circle so there are no right angle corners	

OHIO'S

Suggested Space and Equipment
for
Two-Year Technical Programs in FOOD SERVICE

Area: Food Service Technology

Description:

The Food Service (Dietetics) Technology program is open to both men and women who have interest and aptitude in managing food service facilities. It is designed for the student preparing for supervisory and managerial positions in the several areas of food service.

Instruction covers a comprehensive program of food preparation, purchasing, cost analysis and service. Class instruction is supplemented by field trips and practical work experience.

Employment Opportunities:

Hospital
- Assistant to the Dietitian
- Food Service Supervisor
- Food Production Supervisor

Civil Service
- Dietitian Assistant
- Food Service Manager

Industry and Other
- Food Supervisor
- Dining Room Supervisor
- Manager - Airline Flight Kitchen
- Lucheonette Manager

School Lunch
- Manager
- Cook-Manager
- Food Service Supervisor

Restaurant, Club, College
- Manager
- Assistant Manager
- Club Steward
- Food Supervisor
- Dining Hall Supervisor

Assistant to Director - Test Kitchen

Space:

Technical Foods Laboratory	- 1,440 square feet minimum
Dining Area	- 960 Square feet which will accomodate approximately 40 persons at any one time.
(Dry) Storage of Food Supplies	-200 square feet minimum.
Student Locker Room (Women)	- 300 square feet for approximately 25 students.
Student Locker Room (Men)	- 300 square feet for approximately 25 students.
Related Classroom	- 900 square feet
Office	- 100 square feet

Cost of Food Service Equipment - approximately $37,000.

Suggested Equipment List for Technical Laboratory	Specifications
1. Sinks and Drainboard (Disposer-Prep Tables Disposer Scullery Sink	10' x 2'6", rolled rim, end pitched to sinks Sinks - 24" x 24" x 16", stainless steel
2. Lavatory	Stainless steel
3. Food Cart (supply)	Breaks and on two casters
4. Hot Top Gas Range	Oven - 35" deep, exposed sides, stainless steel. Stainless, double deck shelf over 2'6" deep x 2'10" high in length as needed
5. SS counters (7) with cabinets below, 40' - 4 sinks	
6. Griddle Top Range	Exposed sides,stainless, oven, double deck shelf
7. Roast Oven	Two deck, exposed sides, stainless
8. Broiler	Exposed sides, stainless
9. Convection Oven	Exposed sides, stainless
10. Range and Oven Hood	Length depends on need
* 11. Water and Silver Station	2' water station 2' food warmer 2' shelf cabinet/drawer 4 compartment silver bin 6' shelves and paneling over
12. Freezer	Full door, stainless steel, completely automatic
13. Refrigerator	Full door, stainless steel, completely automatic
14. Cabinets	
15. Folding Chair Storage	
16. Disposers	1 at each Prep Table, Demonstration area, scullery sink 9' x 2'6" x 2' 10" high, Rotor Shaft
17. Demonstration Counter	
18. Stainless Steel Counter and Appliance Stand	
19. Charcoal Broiler	
20. Griddle	
21. Fryer	
22. Range	6 burners, 35" deep, exposed sides Stainless steel shelf

Equipment List for Food Service Technology Lab (Cont.)

23.	Table for Steamer	Length depends on need
24.	Jet Steamer	
25.	Steam Kettle	20 gallon
26.	Mixer	Stainless Steal Bowls
27.	Utility Carts	Bumpers and Brakes
* 28.	Hot Food Dish Cart	Heat in all compartments, three hot food wells
29.	Appliance Hood (over large equipment grouped together)	Stainless Steel - Length depends on need
30.	Wall Cabinets (Storage areas)	
31.	Work Table	6' x 2'6" x 2'10" high
32.	Demonstration Mirror	Attached to Demonstration Counter
33.	Medicine Cabinet with Mirror Over Lavatory	

* Necessary if food is to be served directly from the laboratory (Example: Faculty Dining Room)

PLEASE NOTE: This list is to be used only as a guide in selecting large equipment. Adjustments will be necessary with each laboratory since factors such as availability of money, space, public utilities and the distribution of the food prepared all affect equipment selection.

SUGGESTED CLASSROOM EQUIPMENT

FOOD SERVICE TECHNOLOGY

Equipment	Specifications
Chalkboard	10-12 lineal feet
Pegboard	8-10 feet
Tables	29"-30" height, movable, square corners, durable surface
Chairs	Stackable
Storage for Resource Materials (leaflets, pamphlets, etc.)	
Bookshelves	12" deep
File Cabinet for Records	4 or 5 drawer
Desk (teacher's)	
Desk Chair	
Utility Cart on Casters	

VT 000 854
Report of Conference on Women in the Upper Peninsula Economy.

Women's Bureau (DOL), Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 64 30p.

*VOCATIONAL EDUCATION; *MANPOWER UTILIZATION; *CONFERENCE REPORTS; *WORKING WOMEN; MANPOWER DEVELOPMENT; EMPLOYER ATTITUDES; *FEMALES; LABOR UNIONS; SOCIAL CHANGE; LABOR LAWS
*CONFERENCE ON WOMEN IN THE UPPER PENINSULA ECONOMY; MICHIGAN

Highlights of addresses, panel discussions, and group reports on ways to develop and utilize the talents and skills of women to improve the economy of the Michigan Upper Peninsula are presented to summarize the conference. The conference, with 50 participants representing organizations concerned with the larger role of women in public and community life, was held at the University Center, Northern Michigan University, Marquette, Michigan, May 16, 1964. Conference presentations were: (1) The Upper Peninsula and Its Economy, and (2) The Changing Status of Women. Panel discussions topics were: (1) Women in The Upper Peninsula Work Force, (2) Training Programs for Women, (3) Counseling and Job Preparation, (4) Protective Legislation for Women Workers, (5) Employers' Attitudes Toward Hiring and Promotion of Women, (6) Organized Labor and the Women Workers, and (7) Women in Public and Community Life. Spokesmen for the employment commission noted that in the Upper Peninsula 22.5 percent of the unemployed were women. Manpower Development and Training Act and Area Redevelopment Act training programs enrolled 1,000 individuals, 240 of which were women. There were approximately 25,000 working women in the Upper Peninsula area or 1 out of 4 worked, while the national average is 1 out of 3 in the work force. Occupational opportunities for women are predominantely clerical, sales, service work, and professional because of the lack of manufacturing industries in the area. Employers seek women workers who are dependable, adaptable, flexible, honest, loyal, discrete, responsible, and who work well with others. Discussion groups recommended a local survey of employer needs, a program to elevate attitudes toward service occupations, the development of training programs for these service occupations, more counseling for young women workers, and improved communications. (FP)

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Report of

CONFERENCE ON WOMEN IN THE UPPER PENINSULA ECONOMY

Held at
University Center
Northern Michigan University
Marquette, Michigan
May 16, 1964

U.S. Department of Labor
W. Willard Wirtz, Secretary

Women's Bureau
Mary Dublin Keyserling, Director

VT 00854

Report of

CONFERENCE ON
WOMEN IN THE UPPER PENINSULA ECONOMY

Held at
University Center
Northern Michigan University
Marquette, Michigan
May 16, 1964

Sponsors:

Michigan Department of Labor
Michigan Employment Security Commission
Northern Michigan University
Women's Bureau, U.S. Department of Labor

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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U. S. Department of Labor
W. Willard Wirtz, Secretary

Women's Bureau
Mary Dublin Keyserling, Director

FOREWORD

This report summarizes sessions of the Conference on Women in the Upper Peninsula Economy held at the University Center, Northern Michigan University, Marquette, Michigan, May 16, 1964.

The conference was sponsored by the Michigan Department of Labor, Michigan Employment Security Commission, Northern Michigan University, and the Women's Bureau, U.S. Department of Labor.

We acknowledge with appreciation the efforts of the many individuals who helped plan the conference and those who participated in the program. We extend recognition to Northern Michigan University for providing leadership and for making the University Center available for the meeting.

The conference focused on ways in which the talents and skills of women could be developed and utilized to improve the economy of the Upper Peninsula. It also explored the possibility of larger roles for women in public and community life.

We believe that the formation of a continuing organization for the implementation of conference recommendations will contribute importantly to the achievement of goals established by the conference.

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Women's Bureau

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CONFERENCE PROGRAM

A.M.

8:00-9:00 Registration

9:15-10:15 Opening Session - William E. Wright, Conference Director, Northern Michigan University

On Behalf of the University - Dr. Claud A. Bosworth, Vice President, Public Services

The Upper Peninsula and Its Economy - Albert J. Gazvoda, Michigan Employment Security Commission

The Changing Status of Women - Mrs. Esther Peterson, Assistant Secretary, U.S. Department of Labor

10:15-11:00 Panel Discussion -

Women in the Upper Peninsula Work Force - Joyce Peterson, Michigan Employment Security Commission

Training Programs for Women - William E. Martin, Northern Michigan University

Counseling and Job Preparation - Edward L. Sell, Northern Michigan University

11:00-12:15 Discussion Groups

CONFERENCE PROGRAM--Continued

P.M. 12:30	Luncheon
1:15-2:00	Panel Discussion - Protective Legislation for Women Workers - Mary D. Leonard, Michigan Department of Labor Employers' Attitude Toward Hiring and Promotion of Women - Ogden Johnson, Cleveland Cliffs Iron Co. Organized Labor and the Woman Worker - Myra Wolfgang, Hotel & Restaurant Employees and Bartenders Union
2:00-2:45	Panel - Women in Public and Community Life Mrs. S. J. Bessolo, Past President, Michigan Federated Women's Clubs Mrs. Mildred Chamberlain, Governor's Commission on the Status of Women Mrs. Marie Hager, Member, State Legislature
2:45-3:30	Discussion Group Reports
3:30-4:00	Closing Session - Summary and Recommendations
4:00	Adjournment

CONFERENCE OBJECTIVES

1. To explore the overall status of women in the Upper Peninsula with a view to improvement.

2. To examine present training programs and to explore additional needs.

3. To examine existing wage structures for women and compare them not only with comparable jobs for men in the area but also with wage scales in other parts of the country.

4. To examine existing Federal and State minimum wage and equal pay legislation to ascertain whether revision is needed.

5. To establish a continuing organization for implementation of conference recommendations, perhaps related to the existing Michigan Council on Employment Problems of Working Women.

SUMMARY OF CONFERENCE SESSIONS

OPENING SESSION

After opening remarks and introductions by Mr. William E. Wright, Conference Director, Dr. Claud A. Bosworth, Vice President for Public Services, extended greetings on behalf of Northern Michigan University. He noted that the University was dedicated to the philosophy of helping people throughout the Upper Peninsula to lead more useful and satisfying lives. This was done in three ways: teaching, research, and public service. The public service programs included provision of facilities on campus for the kind of learning situation typified by the Conference on Women in the Upper Peninsula Economy. Dr. Bosworth expressed the hope that the participants might have an opportunity to learn some of the "how's and why's of leadership" so that they might assume a more important role in today's society.

THE UPPER PENINSULA AND ITS ECONOMY

Mr. Albert J. Gazvoda
Field Supervisor
Michigan Employment Security Commission

Discussing employment prospects in the Upper Peninsula, Mr. Gazvoda stated that expanded opportunities could be expected in the iron ore, copper mining, wood products, government, tourist, and other service industries. After 5 years with the average unemployment rate in the Upper Peninsula varying between 10.3 percent and 14 percent, current projections indicated that when seasonal workers returned to their customary employment the rate could be expected to drop to around 6 to 8 percent--with reasonable prospects that the annual average would be below 10 percent for the first time in many years. About 2,750, or 22.5 percent, of the unemployed were women. The best prospects for women's employment in the area appeared to be in clerical work, sales work, and service work with government and other expanding industries.

Mr. Gazvoda said that of the 1,000 individuals in the Upper Peninsula who had received various types of training under the Area Redevelopment Act and the Manpower Development and Training Act, 240 were women. About 90 percent of those who completed training were placed in jobs, with 81 percent employed in occupations using their

recently acquired skills. The total trained to date represented about 10 percent of the average unemployed work force in the area. Most of the training had been conducted at the site of and under the sponsorship of the two Upper Peninsula universities and junior colleges. Programs to train 1,200 additional persons during the following 12 months had been submitted or were being prepared.

Mr. Gazvoda said that the Michigan Employment Security Commission would continue to recommend training programs on an area basis, since experience had shown that the advantages of area training far outweighed the community concept of manpower training. He noted that when the society was simple in composition, answers to individual and community problems were correspondingly simple. Solutions to economic and social problems had to be found locally because there was no solution to be found elsewhere. Self-dependence was a necessity, a virtue imposed upon and developed by both individuals and communities.

Many factors and circumstances combined over a period of years to change this concept of self-sufficiency. Technological progress changes were important. Improved communications and means of transportation drew widely spread communities closer together. Coincident with these changes, the Upper Peninsula was fortunate in having dedicated individuals who united into groups with a common purpose of serving the entire area.

Mr. Gazvoda told the conferees that they must continue to chart their course toward a forward-looking, adventurous economic program that would benefit all the people of their great Upper Peninsula. He believed they had turned a corner.

THE CHANGING STATUS OF WOMEN

Mrs. Esther Peterson
Assistant Secretary for Labor Standards
U.S. Department of Labor

Departing from her prepared text, Mrs. Peterson chose to cite a specific example rather than discuss the "status of women" in general. On the way to the conference, she had met an "average woman" on the airplane. This woman was a mother in her early thirties who had dropped out of high school when she married very young. Then she became worried about not having an education and went back and earned her high school certificate. Thus she was typical of the half of the women in the United States who had finished high school.

Mrs. Peterson said that this wonderful, intelligent woman, facing up to the importance of educating her five children, took a beauty operator course so that she could work at least part time no matter where her husband's job required the family to move. In the Upper Peninsula she made only half as much as she had made in California, however; so she was very pleased that a State minimum wage law had been passed recently.

At this point Mrs. Peterson asked Mrs. Marie Hager to take a bow for her success in achieving this legislation, and she congratulated the groups who cooperated in the process. She said it was splendid that there were no exemptions from coverage.

Mrs. Peterson noted Mr. Bosworth's statement that the University was assuming an increasing role in providing facilities so that people could meet to solve community- or area-wide problems, and she cited the minimum wage law as an example of how responsible citizens in a democracy could bring about improvements through coordinated individual efforts.

Going back to her "typical woman," Mrs. Peterson said she was very impressed to hear how the children helped out at home. In fact, the mother said, there was a feeling of cooperation and partnership in the family that did not exist before she went to work. And in the same spirit she decided that since the community did so much for her she wanted to do something for the community in return; so she became a volunteer. Furthermore, she wanted to take some classes at the University to prepare herself in case she had to become the family breadwinner, but she was worried about entrance requirements. Mrs. Peterson said that this was where flexibility and the adaptation of educational institutions to meet community needs came into the picture.

After the woman's children were all in school, Mrs. Peterson said, she probably would have 25 or 30 years of constructive usefulness, and undoubtedly she would be happier if she felt she was contributing as well as receiving. Mrs. Peterson noted that half of the women in the labor force were married. A large proportion of these women had husbands whose low income made two paychecks necessary to keep the family going. A sizable part of the Nation's economy was being held up by the paychecks that married women were bringing home.

It is important, Mrs. Peterson said, for us to have a social climate where a woman has the choice of going to work for a paycheck or as a volunteer, or, if she prefers, staying at home. The volunteer can explore new areas of usefulness that are very important. Whatever a person does--whether it is for a paycheck or moving ahead to broad areas of usefulness as a volunteer--both are good. And maybe some woman feels that all she wants to do is be home and have her creative life there. And bless her if she does. There is no one pattern for all women.

There was, Mrs. Peterson said, a new kind of pioneering spirit--pioneering in the sense of providing a climate of opinion for new ideas and new ways of doing things, new ways of working together, new ways of absorbing new people in a community, and new ways of bringing all members of our society into participation. On the other hand, there were those who clung to the old patterns. The big plea for the day--and this was where the university came in--was for people to accept the fact of change, not moralizing about it as good or bad, and to see what they could do as part of a responsible society to help individuals make wise choices in this whole situation.

Mrs. Peterson mentioned the reluctance of some to accept change when Congress was considering the equal pay bill. That fight was won, but there were still areas of continuing concern to those seeking to advance the status of women: the provision of adequate day care facilities for the children of working mothers; assurance of educational facilities so that the armed services would not reject so many men because of near-illiteracy or physical defects; the big thing, getting the economy back on its feet; and generating the commitment and involvement that would help achieve the goal of "good human beings who can meet the problems of today, who can help their families and be secure within themselves."

For, said Mrs. Peterson, "if they are secure within themselves, we will be secure in the world."

Panel Discussion

WOMEN IN THE UPPER PENINSULA WORK FORCE

Miss Joyce Peterson
Michigan Employment Security Commission

Miss Peterson said that there was a tendency to shrug off labor force statistics and say that they really didn't have a direct bearing on lives in the Upper Peninsula. Such was not the case. Modern methods of transportation and communication had had the effect of shortening distance both in time and in space. The Upper Peninsula was no longer a relatively isolated, so-called backwoods area whose only concerns were her own woes. In fact, her problems had become the problems of the whole Nation.

Looking back over the past two decades, Miss Peterson said, her audience would not have much difficulty recalling events or inventions that had changed the character of civilization at all levels. Among the accomplishments that reached closest to women's realm were prepackaged foods, instant mixes, frozen foods of all varieties, pushbutton washing machines, drip-dry clothing, coin-operated drycleaning machines, remote control television sets, and a myriad of other laborsaving devices.

"And what has all of this to do with women in the labor force?" asked Miss Peterson. "It has a great deal. It means that women have more leisure time for extracurricular activities. It means that, because of this extra free time, women are becoming less satisfied with their roles as homemakers alone. It means that here in the Upper Peninsula, just as in all other parts of the Nation, more and more women are turning to activities outside the home to satisfy their personal desires for success and accomplishment."

Miss Peterson said that in 1940, when an average of 1 out of 4 women 14 years of age or over worked for pay outside the home in Michigan and in the United States as a whole, the ratio for the Upper Peninsula was 1 out of 5 1/2 women. By 1960 these ratios had changed to 1 out of 3 for the State and the Nation and 1 out of 4 for the Upper Peninsula. Although the labor-force participation rate for women consistently had been relatively low in the Upper Peninsula because of the nonurban character of the region, during this 20-year period the rate of increase there was faster than for the State and the Nation. The actual number of available jobs for women in the Upper Peninsula increased by 7,300, while jobs for men declined more than 23,000. Thus, although the total civilian labor force in the Upper Peninsula declined more than 16 percent during the period 1940 to 1960, the female labor force rose 32 percent. At the time of the conference approximately 25,000 women in the area were in the labor force.

According to Miss Peterson, the typical woman in the labor force in the Upper Peninsula differed slightly from the overall State and national norms--she was slightly older; more likely to be married; less likely to have children under 6 years of age; less likely to work in manufacturing and more likely to be in a governmental agency or trade industry; and slightly more likely to be in the professional or technical groups and less likely to be in the craftsman category.

The occupational distribution, Miss Peterson explained, was due, on the one hand, to the lack in the area of manufacturing industries that would need skilled and semiskilled craftsmen and, on the other hand, to the predominance of government employment and the consequent job opportunities for women as teachers, nurses, and technicians to staff schools, hospitals, and military establishments.

Miss Peterson said that any projection about the female labor force in the area would, of necessity, be seasoned with a lot of "if's." On the assumption that the trend in labor-force participation rates would not change substantially--and ignoring the factor of outmigration because there would be much less outmigration if more jobs were available--by applying the survival rate factor, statisticians predicted a potential increase of some 6,000 women in the Upper Peninsula labor force by 1970.

The problem was where the jobs would be for these prospective workers, Miss Peterson said. She noted that a preliminary statement of goals for economic development prepared for the Upper Peninsula Committee on Area Problems by the firm of Robert Nathan Associates said that a successful development program could increase total employment by some 15,000 jobs by 1970.

The key to the whole situation, Miss Peterson pointed out, "is this 'successful development program.' This is not something which is accomplished with a let-George-do-it attitude. It will require the energies of every individual who has an interest in his or her own progress, because progress for the individual can snowball into progress for the community, the county, and the whole Peninsula. . . . For your own selfish interests, it is important that you busy yourselves with the work of the community, whether it is work for pay, volunteer work, or political work. Only with determination and the willingness to work will we be able to improve our status in society. This, then, is your challenge and mine as working women in the Upper Peninsula."

TRAINING PROGRAMS FOR WOMEN

Mr. William E. Martin
Northern Michigan University

Mr. Martin said that he had found his 2 years in the Public Services Division of Northern Michigan University a stimulating and rewarding experience because of the freedom to accommodate creatively the needs of people. The Division had been able to develop training programs of a realistic nature that imparted the kinds of skills that people needed to obtain employment.

When talking about people in the labor force and the kinds of occupational opportunity available to them, Mr. Martin said, one must bear in mind that in many cases training is an absolute essential in order for individuals to be prepared to take advantage of employment opportunities. He noted that when people thought about the technological changes that had taken place recently in their industrial society sometimes they thought of the term "automation" as referring to some kind of monster hovering over them. But actually technological change or automation--whatever we like to call it--has so many good aspects that we should start taking advantage of. As an example, Mr. Martin cited the laborsaving equipment of the telephone system and said that if we were still using the box on the wall with a crank to signal "Central" to place calls, every working woman in the country over the age of 26 would have to work as a telephone operator.

Mr. Martin said that this sort of technological change would occur even more rapidly in the future. In recognition of the fact that workers would have to prepare

themselves and reprepare themselves in order to be equipped to do the kinds of things that were necessary to function in this kind of society, the Public Services Division had established its Area Training Center. The primary purpose of the Center was to conduct post-high school, vocational, and technological training programs for the people in the Upper Peninsula, so that they might become equipped with the kinds of salable skills that were in demand in the modern world of work.

The beginning of the Center was made possible by Federal grants under the Area Redevelopment Act; further funds had been granted under that act and the newer legislation, the Manpower Development and Training Act. Both acts were administered jointly by the U.S. Department of Labor and the U.S. Department of Health, Education, and Welfare. At the local level responsibility was delegated to the State employment security office and to a public educational institution--in this case Northern Michigan University.

The local office of the Michigan Employment Security Commission was delegated responsibility for: (1) Identifying those occupations in which there was a demand for trained people. (2) Counseling, testing, selecting, and referring to training available applicants. (3) Paying people in training a weekly training allowance in lieu of unemployment compensation in the case of Manpower Development and Training Act training and/or a weekly subsistence allowance if it was necessary for persons to live away from home while in training. For Area Redevelopment Act programs there was no weekly training allowance per se, but there was a weekly subsistence allowance based upon the average weekly unemployment compensation payment in the State. (4) Placing those trained people on jobs upon completion of training.

The local educational institution was delegated responsibility for providing adequate floor space and equipment and qualified instructional personnel to conduct the training programs in a realistic manner so that the trainees would become equipped with salable skills and be employable.

Mr. Martin assured the conferees that the training conducted thus far had certainly proved to be an investment in people rather than a cost to the taxpayer. As Mr. Gazvoda had mentioned, the success of the programs was attested by the fact that over 90 percent of the trainees had been placed in jobs.

Mr. Martin said that most of the 197 women trained at Northern Michigan University were in the two programs for clerk-typists, the six for stenographers, or the two for practical nurses. A few women had been enrolled in other programs such as electronic data processing. Another group of 32 women would begin stenographic training in the following month. In various stages of development were plans for several courses in which women would be interested. Among these was a proposal for an experimental and demonstration project for training 100 unemployable high school dropouts in three selected rural depressed counties in the Peninsula.

The estimate that 40,000 more Michigan young people would enter the labor force in 1965 than in either of the 2 previous years was an indication, Mr. Martin said, of the extreme necessity to provide occupational preparation programs. Most of those involved in the kind of training offered under the Area Redevelopment or Manpower Development and Training Acts felt that it was already, so to speak, a part of the American way of life, he said. And the staff at Northern Michigan were looking forward to remaining active in the program. At the same time, the University was looking forward to the development of a number of regular tuition programs of less than baccalaureate level--associate degree programs and certificate programs--a number of different technological and vocational trade programs.

Some of the areas where there was great need for training were in sales and service and in clerical occupations. The University was also trying to prepare training programs in

a wide spectrum of health occupations rather than just the practical nursing in which it had been involved for the past several years.

Mr. Martin said he would like to present a challenge to the conferees to ponder when they returned to their communities. It was apparent, he said, that in the Upper Peninsula quite a number of women who most certainly could benefit from available work training programs simply didn't know where to go to get started. Mr. Martin suggested that local organizations could, by various means, transmit information to those women--tell the woman 40 years of age who wanted to return to the labor force and become gainfully employed and make a positive contribution that she should inquire at her local Michigan Employment Security Commission office.

In concluding, Mr. Martin said, on behalf of the University, that "As we look forward to the future we shall not bank our fires, but we shall continue to develop training opportunities within which women can be accommodated and can become equipped with salable skills and, in turn, become employed and provide a positive contribution to society and lead more useful and satisfying lives."

COUNSELING AND JOB PREPARATION

Mr. Edward J. Sell
Northern Michigan University

Mr. Sell said that there was a logical order to the two facets in his brief presentation: Counseling should come first; job preparation should follow. He suggested that in the United States we were reaping the harvest of the folly of reversing these two--we were guilty of trying to accomplish job preparation first and, in many instances, doing a very poor job of this preparation. We were doing little or no work in the area of job placement and followup. By then counseling did get in the picture, but counseling of a different sort. If we were honest with ourselves, Mr. Sell said, we would see that our greatest successes had been in the field of providing work for the psychiatrists, the marriage counselors, the arbitration boards, the employment security offices, the divorce courts, the welfare agencies, and the mental institutions.

Our harvest of wasted human resources was a national disgrace, Mr. Sell said. A very high percentage of the unemployed in Michigan were high school graduates. Young people were coming out of high school and dissipating 5 or 6 years of their lives. Some people referred to them as being in a state of limbo, not knowing what to do, how to adapt--and all this in the face of the scientific and technological advances of the age!

Counseling, what is it and who does it? It comes in many guises, Mr. Sell said, and everyone is involved in it, knowingly or unknowingly. As parents we say to our children, "We don't want you to have to work as hard as we have had to work," implying immediately that something is wrong with work. Or we say in front of our children, "I got my quota out by 2 o'clock today. I've got a good job." Or, "I don't think I'll go in tomorrow. I worked overtime last week. Let's go to the baseball game." This is counseling. As teachers we say, "But, Mary, you don't want to be a secretary. You have a high I.Q. You should go to college." And the high school counselor says, "A technological systems technician? What's that?"

On the other side--formal counseling--as managers of businesses we sit on joint apprenticeship committees giving our time and using our experience in talking to youngsters who plan to enter trades. Or as business and professional people we call our local school to see if we can assist in planning "career days" for the students. Or as service club members we form a speaker's bureau to tell other clubs, lodges, PTA's, unions, and other adult groups the kind of information imparted at meetings such as this Conference on Women in the Upper Peninsula Economy and to demand the establishment of effective occupational training programs. Parents should know the opportunities in today's world of work, and then they should sit down and discuss these in complete frankness with their children. This is counseling.

Mr. Sell urged the conferees to talk to the people primarily responsible for the education of youth in their home communities about the sort of guidance and counseling provided for school students, then about provisions for guidance and counseling for adults. He said they should find out what their junior high school or high school children were learning about such topics as "Your future in industry and business: its challenge to you"; "What industry and the free enterprise system means"; "Why an industry or a business succeeds or fails"; "What the employment opportunities in industry, business, and government are." Then they should find out how these were personalized for the individual student with respect to his job selection, his abilities and the labor market opportunities and needs, job preparation, and skill upgrading. Ask why there wasn't a unit of instruction on applying for a job, on keeping the job, on progressing on that job.

Mr. Sell noted that the 1963 Federal vocational education legislation authorized funds for equipping junior high school counselors to be more adequate in their work with youth and charged public education--whether at the high school level, the area school level, the community college level, or the university level--with the responsibility of assuring persons of all ages access to suitable training.

Panel Discussion

PROTECTIVE LEGISLATION FOR WOMEN WORKERS

Mrs. Mary D. Leonard
Michigan Department of Labor

Mrs. Leonard noted that although most of the State protective labor legislation in Michigan was primarily for women and children, the new minimum wage law would cover both sexes.

The hours law, enacted in 1909 to suit the times, limited hours of employment for adult females in specific industries to 10 hours a day and 54 hours a week, with some exemptions by approval.

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The equal pay law as enacted covered only the manufacturing industry. Mrs. Leonard noted that women working together had been able to bring about an amendment recently that would prohibit employers in all industries from discriminating between the sexes in the matter of payment for similar work.

Michigan has a section in its penal code that forbids assigning to women workers tasks disproportionate to their strength or detrimental to their health, morals, or potential for motherhood. Mrs. Leonard said that the State Department of Labor, after consulting with other appropriate groups, had established some guidelines on the meaning of "disproportionate to their strength."

Requirements for washrooms and sanitary facilities are set out in the law. Suitable seats must be provided female employees, with their use permitted at reasonable times.

Mrs. Leonard noted that the minimum wage law, which at the time of the conference had yet to be signed by the Governor, had several "loopholes"--those under 18 or over 65 and those working in establishments employing fewer than four employees would not be covered. The law would set up a Wage Deviation Board with authority to establish specific rates for handicapped workers not able to maintain normal standards of production. The Board also would be authorized to determine for industries the amount of gratuities and the value of board, lodging, apparel, and other items of service usually furnished to employees for their benefit. An "escalator clause" had been included: the minimum wage for covered workers would advance from $1.00 on January 1, 1965, to $1.15 on January 1, 1966, and to $1.25 on January 1, 1967, after which the rate would be geared to the economy. One feature of the bill that particularly appealed to Mrs. Leonard would require employers subject to the act to furnish employees each pay period a statement of hours worked and wages paid, including deductions. This would undoubtedly eliminate many wage claims and worries about withholding for income tax or social security.

The wage payment law provided that each employer must pay employees no later than the 1st of the month for the first 2 weeks of the preceding month, and no later than the 15th of the month for the last 2 weeks of the preceding month. For many workers, particularly those in construction work, this was very important.

Copies of Michigan labor laws are available in a pamphlet which can be obtained from the State Department of Labor for 25 cents, Mrs. Leonard concluded.

EMPLOYERS' ATTITUDE TOWARD HIRING AND PROMOTION OF WOMEN

Mr. Ogden Johnson
Cleveland Cliffs Iron Co.

Mr. Johnson stressed that, in current and prospective employees, employers seek--in addition to the basic consideration of ability to do the job--dependability, adaptability to various situations, honesty, initiative, loyalty, ability to get along with others, potential for learning new skills and advancing to higher levels of responsibility, discretion, and the ability to promote good public relations. He pointed out that in a day of keen

competition among businesses, with labor accounting for 30 to 80 percent of total costs, it was essential for management to screen prospective employees very carefully.

ORGANIZED LABOR AND THE WOMAN WORKER

Mrs. Myra Wolfgang
Hotel & Restaurant Employees and Bartenders Union

Most women in the Upper Peninsula were in the unskilled, low-paid, exploited parts of service industries, Mrs. Wolfgang said. For this reason, "We have to see that the level of wages in those groups is brought up, that the exploitations stop, and that the skills are developed there." Mrs. Wolfgang said that the majority of people in service industries in the Upper Peninsula earned three-quarters less than did women in the urban areas of the State.

"It becomes the job of this conference," Mrs. Wolfgang asserted, "to set itself up as a permanent continuing group of women representing so many organizations, to see to it that as women go into the work force they at least aline themselves with those groups, such as organized labor, that will work to raise their level of living." She said that, at the same time the hotel and restaurant industry, for example, was talking about the shortage of workers and asking for Government-financed training, "they are fighting tooth and nail to see to it that the wage levels of the service industries are not brought up."

Mrs. Wolfgang said she thought the minimum wage bill should be amended before it was signed. Because it would not cover those who work less than 13 weeks, service employees in the expanding resort industry of the Upper Peninsula would not be covered, she pointed out. Moreover, many women--including probably the beauty shop operator Mrs. Peterson talked about--would not be covered because they worked in establishments employing fewer than four employees.

On the question of working mothers, Mrs. Wolfgang noted the inconsistency of, on the one hand, saying that children suffer emotional damage if their mothers leave them to hold down jobs and, on the other hand, the great number of psychoneurotics considered unsatisfactory by the Armed Forces because of their dependence on their mothers.

A study showed that 50 percent of the children of working mothers were being cared for by relatives, usually the grandmother, Mrs. Wolfgang said. But "the grandmother of tomorrow is going to be working; she is not going to be home taking care of her grandchildren. So we should give consideration now as to who will take over this responsibility."

Another big proportion of the children, Mrs. Wolfgang continued, were cared for by a nonrelative--the neighbor, the domestic, or the person the mother hires. "And let's not kid ourselves on that score. The domestic 50 years ago was the immigrant woman. The domestic today is the Negro who hasn't had any other job opportunities. Immigration has taken care of the first group, and a proper struggle on civil rights is fast taking care of the second group. The daughter of the Negro domestic is getting training today so that she can be something other than a domestic."

Only 2 percent of the children of working mothers were receiving group care. The day care center is where the children belong, said Mrs. Wolfgang, and all the women of Michigan should be working to get adequate day care facilities.

With a suggestion that conferences such as this be set up on a continuing basis, and that voting records of State legislators be studied on the question of the minimum wage, Mrs. Wolfgang concluded her remarks.

Panel - WOMEN IN PUBLIC AND COMMUNITY LIFE

Mrs. S. J. Bessolo
Past President
Michigan Federated Women's Clubs

Mrs. Bessolo said that a volunteer is a woman who cares what happens around her. She traced the development of women's organizations and said that the General Federation of Women's Clubs, formed in 1889, had grown to be the largest women's organization in the world, with 11 million members scattered through every State in the Union and 54 other countries. Mrs. Bessolo emphasized women's role in community life through voluntary civic activity--service to mankind, "not merely collecting from door to door on different charities."

Women working together for a cause "can make the impossible, possible," said Mrs. Bessolo. The General Federation of Women's Clubs not only was helping women to work toward elimination of "prejudice, bigotry, and selfishness" in community problems, but also was aiding them to promote equality of status "with an equal measure of responsibility" through various civic activities such as support of constructive legislation, establishment of libraries, awarding of scholarships, and provision of services to youth, the aged, and the mentally ill. The Michigan Federation had a unique program, a "girlstown" for the emotionally disturbed.

"It is a woman's duty to be a resourceful homemaker, and she can best be this by being a responsible community member and world citizen. By caring what is happening around her, she is a better mother and a more interesting wife and is less frustrated. A woman gives strength and she derives strength by being a vital part of an organization. In spite of the pushbutton life, we still hear women say they have no time for this or that community project. There is too much apathy. We need more empathy. The Upper Peninsula could stand much more caring by its women," Mrs. Bessolo said.

Mrs. Mildred Chamberlain
Governor's Commission on the Status of Women

Mrs. Chamberlain noted the presence of two of her fellow members on the Governor's Commission on the Status of Women and two fellow members on the Michigan Council on the Employment Problems of Working Women. She explained that the Michigan Council had been established 3 years before as a continuing committee to follow up on the work of a conference held by the Federal and State departments of labor and the business and professional women's groups. Mrs. Chamberlain was chosen president of the Council, which had five objectives: an equal pay law, a minimum wage law, better provision for day care for children of working mothers, services for women migratory workers, and the appointment of a woman as deputy commissioner of labor. A number of professional and service organizations were associated or affiliated with the Council.

Mrs. Chamberlain noted that, just as Michigan was the first State to have such a council, it was the first to have a statewide conference on the status of women and the first to have a Governor's Commission on the Status of Women. She said that at the third statewide conference, to be held shortly, there would be a celebration of the success in achieving two of the Council's objectives.

The Governor's Commission, Mrs. Chamberlain explained, had six committees: Education, Home and Community, Public Employment, Private Employment, Social and Labor Legislation, and Civil and Political Rights. The Commission members had worked hard and had had many meetings at their own expense. Reports were being prepared for presentation to and release by the Governor.

Mrs. Chamberlain concluded by expressing her hope that a continuing group, similar to the Michigan Council, would be established to carry through on subjects developed at the current meeting to help the women and economy of the Upper Peninsula.

Mrs. Marie Hager
Member, State Legislature

Mrs. Hager brought greetings from the Governor and assured the conferees that he would sign the minimum wage bill. Addressing the women in her audience, Mrs. Hager said: "I don't want to apologize about talking politics because this is the way I am elected, and your government consists of politics, and the minute you lose the politics in your government, you lose your government. So it is necessary that you have two strong parties, and it is necessary that you work within a party of your choice. As you know, government is of the people, by the people, and for the people, and there are only two kinds of people--men people and women people. So it is necessary that you get in and work for your party and your government. We have had the vote for some 44 years, I believe, and I don't think we have done too well in politics, either on the State or on the Federal level, but, ladies, this is strictly up to you. If you want this, this is what you worked for. If you don't, don't sit back and let George do it."

Discussing activities of the Michigan Legislature of particular interest to women, Mrs. Hager noted that a Civil Rights Commission had just been set up. She thought Michigan was fortunate to have an equal pay and a minimum wage law on the State level

that complemented similar Federal laws. As for education, 52 percent of the State budget from the general fund had been allocated for this purpose. Pending legislation would provide money from other State funds to aid schools in less prosperous districts such as those in the Upper Peninsula. In the field of mental health, efforts were being made to abolish large institutions and to substitute care close to home. Mrs. Hager noted the part that legislative grants for research by universities and Tourist Bureau allocations played in the economy of the Upper Peninsula. Changes in some of the ad valorem taxes on mines had brought about expansion in this type of employment, she said.

Mrs. Hager stressed that "because women's lives are so affected by the things we do in politics . . . . we need more women in politics in every level." Women could become members of schools boards and serve as township and county officers, she said, and relieve men "of many of the duties that I don't think they are too keen about having, and I think the people in your community would appreciate your taking your responsibility." In addition, Mrs. Hager asserted, women should not only vote but also participate in political party activities and seek election to State and Federal office.

Finally, Mrs. Hager asked that the same kind of support that had helped secure passage of the equal pay and minimum wage laws be given to the day care bill she planned to reintroduce at the next session of the legislature.

REPORTS OF DISCUSSION GROUPS

Group 1--Discussion leader: Jack Farley
Resource persons: Manila P. Gipp
Albert J. Gazvoda
Recorder: Sonia Maki

The group noted the need for skilled domestics and groundskeepers. It learned there were tentative plans for training groundskeepers; however, there were problems in the area of training domestic workers, the main one being wages. The group recommended that, with respect to the possibility of training domestics and groundskeepers, women's organizations in the Upper Peninsula be urged to cooperate with the Michigan Employment Security Commission in making a survey of employer needs and to assist in establishing a wage scale for each of these occupations.

The training of school dropouts and other undereducated workers not qualified for ongoing programs was discussed. The serious problem that 50 percent of women do not possess a high school diploma was noted. The proposal for basic literacy training was presented to the group. The amendment to the Manpower Development and Training Act providing an additional 20 weeks of basic education in reading and writing for illiterate trainees would open training programs to many unemployed workers who were previously declared ineligible because of the "reasonable expectation of employment" requirement of the act.

Other areas discussed were: (1) elevating attitudes toward service occupations and (2) counseling of parents on developing in their children proper attitudes toward work and other responsibilities.

Group 2--Discussion leader: Gloria Bronte
Resource persons: Catherine Hawes
Rosella Hart
Ogden Johnson
Recorder: Mary D. Leonard

Ogden Johnson, Personnel Director at Cleveland Cliffs Iron Co., in reviewing the employment status of women at his company, said their salaries were above the average. He said the company carefully screened prospective employees and hired workers whose qualifications were higher than the general run of the mill.

There was a discussion of the effect of the maximum hours restriction on the employment of women and on their promotion to policymaking positions.

The group expressed the greatest interest in training programs. Participants noted that there was still confusion about whether workers had to be unemployed in order to qualify for the federally financed programs. In the beginning there were more than enough unemployed persons to fill the courses, but at the current stage it seemed that some publicity should be given the availability of training programs, types of programs offered, and requirements for eligibility such as the provision for upgrading of skills of persons employed below their potential capacity.

One big question that remained unresolved was whether the stigma of the general conception of the Michigan Employment Security Commission as an unemployment office deterred potential trainees from investigating opportunities under the Area Redevelopment Act and the Manpower Development and Training Act.

It was the consensus of the group that an effort should be made to upgrade the status or image of so-called housekeeping jobs, and that a training program designed to prepare persons with lesser skills for employment in some of these jobs should be developed.

Group 3--Discussion leader: Frances Eastley
Resource persons: Helen Eddy
Myra Wolfgang
Mildred Chamberlain
Recorder: Ann Murvich

Mrs. Eastley opened the discussion by questioning the scope of training programs available. She mentioned a case where the State Employment Security Commission had openings for 2 trainees but 26 applicants passed the test. She was told that when an office did not have enough eligible applicants to fill a quota trainees could be supplied from another branch. Mr. Martin stressed the importance of knowing employment opportunities in the area, as well as job interests and aptitudes of applicants, so that appropriate programs could be developed. On this point he mentioned that three people on an itinerant basis were surveying needs in the Upper Peninsula. It was noted that all trainees in certain categories could be placed in jobs over a period of a few months. Work area or company preference was a factor in the delay of placement of some trainees.

One speaker told about a suggested new job classification of "wardrobe mistress," designed for women who cannot leave their home to work. When trained, these women

might be able to do mending of clothing for families other than their own for a small monthly stipend, perhaps around $5.

It was stated that more attention should be given to insuring that proficient and competent women have opportunity for supervisory positions. There was a feeling that women workers who achieve such positions must make more effort than do men in the same capacity.

A suggestion was made that the conference be continued, with the aim of making needs known in order to get further government assistance.

Group 4--Discussion leader: Frank A. Drazkowski
Resource persons: Dorothy Haener
Marie Hager
Roscoe Walters
Recorder: Joyce Peterson

The group concluded that:

It was impossible to tackle the problems of working women without looking at the entire situation in the country as a whole.

Representation at the conference did not include enough of the younger groups who were emerging as the labor force of the future. There was a problem in reaching this group.

Most women had no idea as to what was available in counseling and training.

Lack of communication was at the base of the problem.

The problems of working women should begin to be tackled at the junior high level or below. In other words, a start must be made with children in order to solve the problems of coming generations.

There should not be a concentration on the conventional jobs for women, but rather a search for new areas for job opportunities.

CLOSING SESSION

In the question period that followed presentation of the discussion group reports, Miss Marguerite I. Gilmore, Regional Director of the Women's Bureau, presided. Emphasis continued to be placed on training, with most of the questions concerning Manpower Development and Training Act courses and requirements. Volunteers cannot be

trained under that act or the Area Redevelopment Act, it was pointed out, since there must be reasonable assurance that trainees will get a paid job. However, Mr. Bosworth said, the University would help groups interested in planning training for volunteer leaders for women's clubs of various kinds.

Discussion then centered on a mechanism for following up the interest expressed in the subjects discussed during the conference. A small steering committee was selected to work on plans for the future. Mrs. Frances Eastley was chosen chairman. Members selected were Mrs. Ulrich from Escanaba, Mrs. Eddy from Houghton, Miss Peterson from Marquette, Mrs. Craine from the Negaunee-Ishpeming area, and Mrs. Bronte from the Sault area. Mrs. Eastley was designated to work with Mr. Wright and to establish a time and place for the committee to meet.

It was agreed that both employment problems and the status of women would be appropriate topics of discussion, with other areas of interest to be decided by the committee. Other suggestions from the floor included training, counseling, and day care centers. It was suggested that the committee write to others attending the conference and then decide how best to constitute the continuing group. One suggestion was that it affiliate with the Michigan Council.

Mr. Wright made a brief closing statement in which he emphasized the readiness of the University to help in any followup plans. Following this he adjourned the conference.

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VT 000 866

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Manpower and Training Needs for Medical and Health Service Occupations in North Carolina.

North Carolina Employment Security Commission, Raleigh. Bureau of Employment Security Research
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Sep63 65p.

*OCCUPATIONAL SURVEYS; *HEALTH OCCUPATIONS; STATE SURVEYS; EMPLOYMENT TRENDS; EMPLOYMENT STATISTICS; *MANPOWER NEEDS
NORTH CAROLINA

Estimates of future manpower requirements and training needs for 34 medical and related medi-care occupations were developed from survey information furnished by more than 400 medical and other health service establishments. Employers were contacted during the first quarter of 1963 for information on (1) present employment, (2) current vacancies, (3) anticipated employment to meet future expansion and replacement needs by the end of 1966, and (4) trainee out put by the end of 1966 from on-the-job training and training in affiliated schools. Part one contains information about overall employment trends in the North Carolina medical and health service field, highlights of the survey, and recommendations. Part two presents a summary of statewide survey findings. Part three shows statewide occupational training needs in six areas of the state. The appendix contains information about survey methodology and scope. The employment total of all occupations surveyed was 23,787 in the first quarter of 1963. Estimated training needs by the end of 1966 for 11 occupations comprised more than 90 percent of the total needs for the health service. These occupations with their needs are: Nurse aide, 815, Orderly-Attendant, 440, Practical Nurse, 319, Medical Secretary-Stenographer 280, Ward Clerk, 228, Cook 195, Medical Laboratory Technician, 176, Registered Nurse, 97, Surgical Technician, 82, Medical Technologist, 74, and Assistant Housekeeper, 70. Effective planning and cooperation action is required between employers, staffs of training facilities, educational institutions, and other agencies to help provide an ample supply of workers for the occupations in which the demand is expected to exceed the supply of qualified workers. (PA)

VT 000 866

EDO 30001

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA
HENRY E. KENDALL, CHAIRMAN

North Carolina Study Of

MANPOWER AND TRAINING NEEDS

for

Medical and Health Service Occupations

VT000866

SEPTEMBER 1963

BUREAU OF EMPLOYMENT SECURITY RESEARCH
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ACKNOWLEDGMENTS

This Study, Manpower and Training Needs for Selected Medical and Health Service Occupations, represents the composite thinking of administrators, directors, and other staff members of more than 400 North Carolina hospitals and other medical agencies and institutions. The Employment Security Commission is grateful to each of these officials who contributed generously of their time and thought in formulating responses to the many questions posed during interviews with Labor Market Analysts.

Special thanks go to cooperating agencies and associations for their contributions during the planning and development stage of this research project. Among these are:

Department of Curriculum Study and Research, North Carolina State Board of Education
North Carolina State Personnel Department
North Carolina State Welfare Department
North Carolina Hospital Association
North Carolina Board of Health
North Carolina Nurses Association

Acknowledgment is also made to the Bureau of Employment Security of the United States Department of Labor for the appropriated funds necessary for carrying on the Study.

The Study was made by the Bureau of Employment Security Research, under the direction of David A. Garrison, Assistant Director. Immediate responsibility for this Study and this report rested on James C. French, Supervisor of Research, and James G. Mills, Jr., Labor Market Analyst II, assisted by Preston Johnson, Research Analyst.

We acknowledge the full cooperation of the Employment Service Division for providing the services of local office Labor Market Analysts to assist in hundreds of interviews to collect information which made this Study and publication possible. The noteworthy performance and diligence of the following Analysts in eliciting the required data deserves recognition.

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MANPOWER AND TRAINING NEEDS

for

Medical and Health Service Occupations
in North Carolina,

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SEPTEMBER, 1963

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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FOREWORD

Recognizing the lack of workers with specialized training for occupations in the medical and health field in North Carolina, the State Board of Education requested the Employment Security Commission to make this study of present and prospective occupational training needs for medical and other health service occupations.

By using survey findings to compare trained worker demand for growth and replacement needs with the anticipated trained worker supply from on-the-job training programs, schools and other educational institutions, conservative estimates of future training needs for surveyed occupations have been made and are presented in this report. This information, we believe, may be put to practical use by:

— — — management officials interested in the prospective availability of trained medical and health service manpower in planning for their own occupational needs more efficiently.

— — — school authorities engaged in planning curriculums. Academic and vocational training programs can best be planned on the basis of occupational manpower requirements and resources.

— — — counselors in high schools, vocational schools and colleges.

— — — employment service personnel in counseling, placement and recruitment programs.

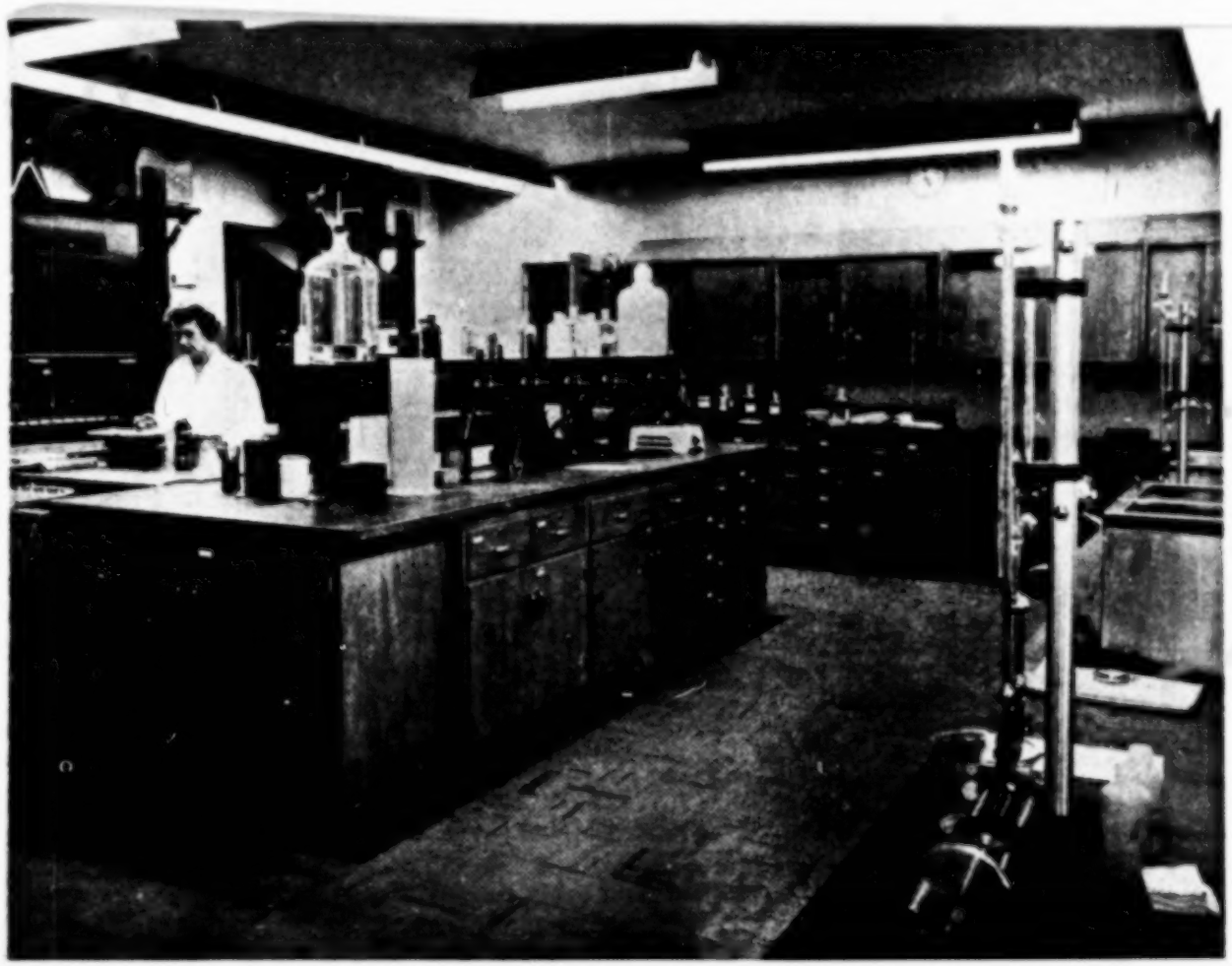
— — — young people interested in making an informed choice of a career.

— — — civil defense and mobilization officials. Information on occupational composition of the labor force, and facts about occupational labor supply and demand are essential for civil defense emergencies and for manpower purposes.

— — — community leaders in encouraging training programs under the Manpower Development and Training Act and the Area Redevelopment Act.

— — — health careers personnel and other groups in their intensive programs of recruiting young people for the medical and health service field.

This report consists of four major parts. The first part contains information about overall employment trends in the North Carolina medical and health service field, highlights of the survey, and recommendations. The second part presents a summary of Statewide survey findings. The third part distributes statewide occupational training needs into six defined areas of the State; and, the fourth part, the Appendix, contains information about survey methodology and scope.



Part I

INTRODUCTION TO STUDY

NORTH CAROLINA

MEDICAL AND HEALTH SERVICE EMPLOYMENT TRENDS

The number of persons employed in the medical and health field in North Carolina is now at an all-time high. Employment during the first quarter of 1963 in surveyed establishments alone was about 39,650. As recently as 1940, according to census data, there were just slightly over 15,000 persons engaged in hospital and other health service occupations in North Carolina. During the decade, which included World War II, the number nearly doubled and totaled more than 29,000 by 1950. By 1960 employment had increased to more than 47,000 and has continued to grow since, we believe.

Hospital employment has led these gains, comprising about 60 per cent of the total medical and health service employment in 1950 and more than 67 per cent in 1960. The following developments since 1940 help explain these increases:

— — — increased expenditures for medical research, rapid advances in medical knowledge and treatment, and the discovery of new medical techniques and drugs.

— — — rise in personal income enabling the general public to afford more health services.

— — — completion of 56 new hospitals in North Carolina since 1945, and under the federal Hill-Burton Act, initiation of more medical facility projects in North Carolina than in any other state.

— — — rapid expansion of subscription to health insurance programs, encouraging people to seek hospital and medical care more readily.

— — — increasing number of older persons and the rising public interest in medical care for these older people.

— — — understanding and increased attention to prevention of illness and of the value of professional medical care.

— — — continued medical care for veterans and their familes.

— — — trend toward shorter work week for medical and health service workers.

In general, those influences which have contributed to an increased demand for health care in the recent past are expected to persist in the future and will no doubt contribute to a further rise in the demand for medical and medi-care workers. This demand for new workers, coupled with the demand for additional workers who will be needed to replace those who withdraw from work, retire, or leave the field for other reasons, presents many opportunities in North Carolina for employment in this field over the decade of the sixties.

HIGHLIGHTS

The survey findings indicate that employment in North Carolina medical and health services will show a decided growth. The anticipated advance in surveyed establishments from the 39,650 employment level at survey time to 42,850 by the end of 1963 and to more than 49,500 by the end of 1966 attests to this group's employment growth.

The growth rate for the 34 surveyed occupations, as a group, is expected to be somewhat greater than the growth for the whole medical and health service group. Employment at survey time in these occupations totaled about 23,800, but an increase to about 26,360 by year-end 1963 and to about 30,700 by the end of 1966 is anticipated by survey respondents.

While all employment in surveyed medical and health service facilities is advancing 25 per cent by 1966, employment advances in the 34 surveyed occupations will exceed 29 per cent.

This growth means that, if expansion and replacement needs are to be met, 3,950 additional workers will need training in the surveyed occupations, by the end of 1963, and by year-end 1966 this need will increase to about 11,500.

Hospitals, medical institutions and schools now do extensive training in many of these occupations. An examination of survey data indicates that such training will meet only 54 per cent of the need by year-end 1963 and only 73 per cent by year-end 1966. Thus, additional training will be required to meet anticipated shortages of about 1,820 by year-end 1963; and a need of 3,075 by year-end 1966 remains to be met by programs not yet planned.

Net trained worker shortages of more than 75 are anticipated in each of the following occupations by the end of 1966.

Nurse Registered—Graduate	Laboratory Technician, Medical	Nurse Aide
Secretary-Stenographer, Medical	Surgical Technician	Orderly-Attendant
Ward Clerk	Nurse, Practical	Cook

Existing job vacancies for workers in surveyed occupations during the first quarter of 1963 numbered 1,540, which is 39 per cent of the estimated additional training needs by the end of 1963. The current need for registered nurses accounted for 650 of the immediate trained worker needs in all occupations revealed by the survey.

Anticipated trainee output for assistant housekeeper, physical therapy technician and hospital equipment serviceman will supply less than 20 per cent of the expected total need for each occupation by the end of 1966. Trainee output will furnish less than 50 per cent of the total trained worker need by the end of 1966 for each of 16 other occupations studied.

Those occupations for which a substantial, but inadequate, amount of training and education is planned include registered nurse, medical-record technician, clinic technician, and practical nurse. Planned training is expected to supply more than 75 per cent of total demand shown for each of these occupations by the end of 1966.

RECOMMENDATIONS

The Employment Security Commission engaged in this study to provide a basis from which training needs can be evaluated so that appropriate vocational education programs may be planned. If this report results in the development of action programs which will provide North Carolina citizens with greater employment opportunity through the provision of occupational training, then the Commission's primary objective will be realized.

Establishing needs for training alone, will not solve the problem of worker supply and demand imbalance. Effective planning and cooperative action is required between employers, staffs of training facilities, educational institutions, and other agencies to help provide an ample supply of workers for the occupations in which the demand is expected to exceed the supply of qualified workers.

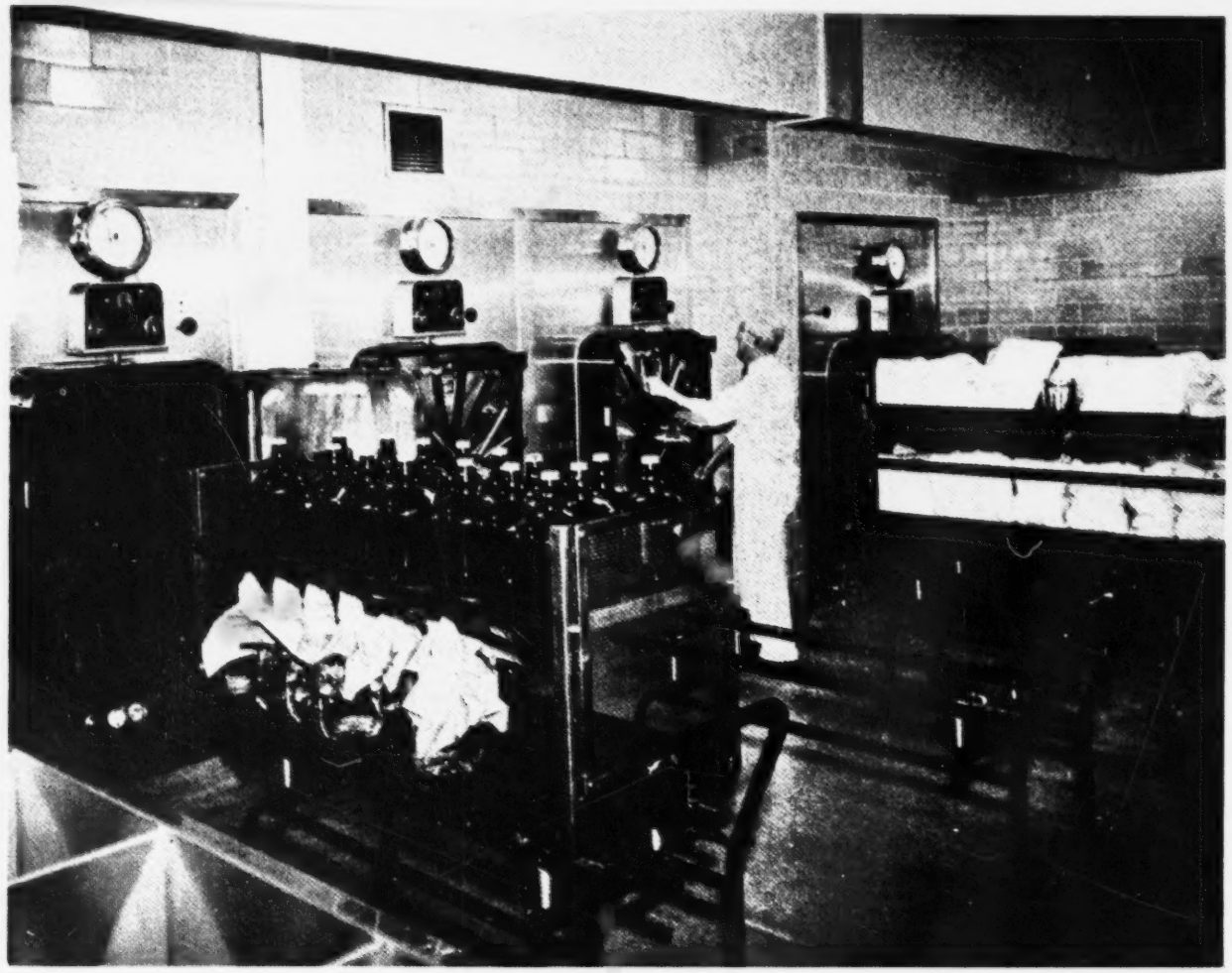
In view of this, the Employment Security Commission suggests planning along the following lines:

Public and private schools should gear vocational education programs to occupational fields where job opportunities are expected to prevail. This requires evaluating present programs in the light of job requirements and promoting expansion of present on-the-job and school training programs in occupations for which trained workers are needed and thereby doing much to reduce shortages in such occupations as medical secretary, medical record technician, et cetera.

All concerned should recognize the need for promoting a greater interest on the part of high school graduates and other individuals in continuing their education and training for jobs in these needed occupational fields. It should be impressed upon all concerned that job opportunities will be available for those who qualify and that education is the best insurance against unemployment.

Some steps should be taken to encourage employers to anticipate their employment needs, to train as many of their own workers as possible for this purpose, and to provide more assistance to employers in devising training for occupations requiring short training periods such as nurse aide, orderly-attendant, and ward clerk.

Consideration should be given to a plan designed to keep trained workers in the medical and health service field by instituting more extension courses for currently employed individuals, with employers participating in these training programs by offering incentives to those who respond to this plan.



Part II

STATEWIDE SURVEY FINDINGS

STATEWIDE SURVEY FINDINGS

Introduction

Expansion and changes in the field of medical and health services in North Carolina in recent years have resulted in shortages of workers because traditional patterns of training and education have not kept pace with the increased demand. Far reaching plans, therefore, must be effected to expand and further develop educational programs, if future needs for trained people are to be met. Long range planning is essential for supplying needed professional medical and health service personnel. But what of shortages which are now evident? The most rapid relief of existing shortages can likely be accomplished by training more sub-professional workers in occupations found to be in short supply.

Sub-professional occupations requiring post-high school education of less than four years duration represent the level of occupational needs that this study was primarily designed to measure. The survey findings, it is believed, will provide training agencies with basic data concerning medical and health service employment patterns and occupational training needs. These can be used as a guide in initiating educational programs where needs are indicated.

Estimates of future manpower requirements and training needs in North Carolina for 34 medical and related medi-care occupations shown in this report were developed from survey information furnished by more than 400 medical and other health service establishments contacted during the first quarter in 1963.

Medical and health service institutions, such as hospitals, clinics, and nursing homes were selected for study because they were known to have a large percentage of the total North Carolina employment in this field. Census data for 1960 show that hospitals employed about 67 per cent of the medical and health service workers in North Carolina at that time.

Because hospitals comprise the major area of study, surveyed occupations were selected and defined primarily in terms of hospitals and are perhaps less appropriate for other segments of the medical and health service industry; however, occupation definitions were broadened to include closely related occupations in other segments studied.

Occupational shortages likely exist in other medical and health service areas not studied, e.g., offices of private physicians and dentists which were not included in the survey. The projected needs for a few occupations may be somewhat reduced by trainee output not measured by the survey. The primary omission in output is commercially operated schools, but this output is rather small and would not reduce needs in occupations such as registered nurse because all known nurse training institutions were surveyed for trainee output.

Over-all net training needs shown in this report are likely conservative because all medical and health service workers were not included in the survey. Similarly, all graduates of schools may not seek or actually enter jobs in the occupation for which they are trained, thus a reduced proportion of these graduates is likely to be available to meet established needs. All establishments likely to begin operations by the end of 1966, may not have been included even though an effort was made to see that all new hospitals opening by the end of 1966 were included in the survey. Further, at least one hospital now in operation is not included.

It, of course, is impossible to measure losses of trained and experienced persons leaving the State each year, or the new arrivals to the State entering surveyed occupations.

Employers were, with but few exceptions, contacted in person and were requested to furnish information relative to: (1) present employment; (2) current vacancies; (3) anticipated employment to meet future expansion and replacement needs by the end of 1966; (4) trainee output by the end of 1966 from on-the-job training and training in affiliated schools, where applicable.

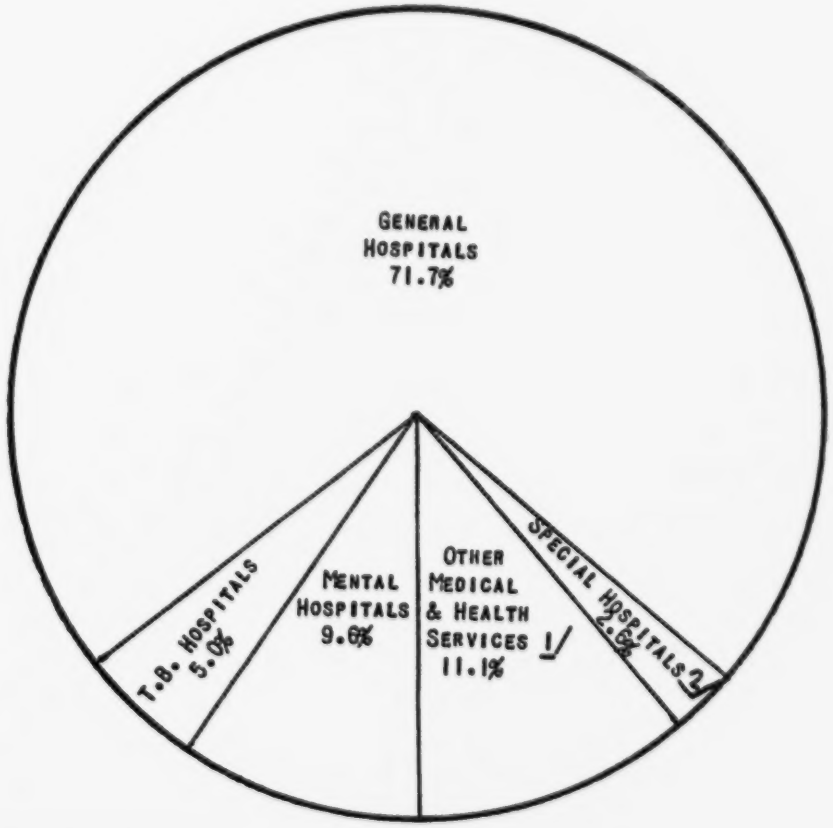
For proper interpretation of survey findings it should be kept in mind that estimates of future labor requirements presented in all tables and charts throughout this report apply only to the anticipated needs for 210 hospitals and clinics, 193 nursing and rest homes, 75 health departments and 21 other medical facilities.

NORTH CAROLINA

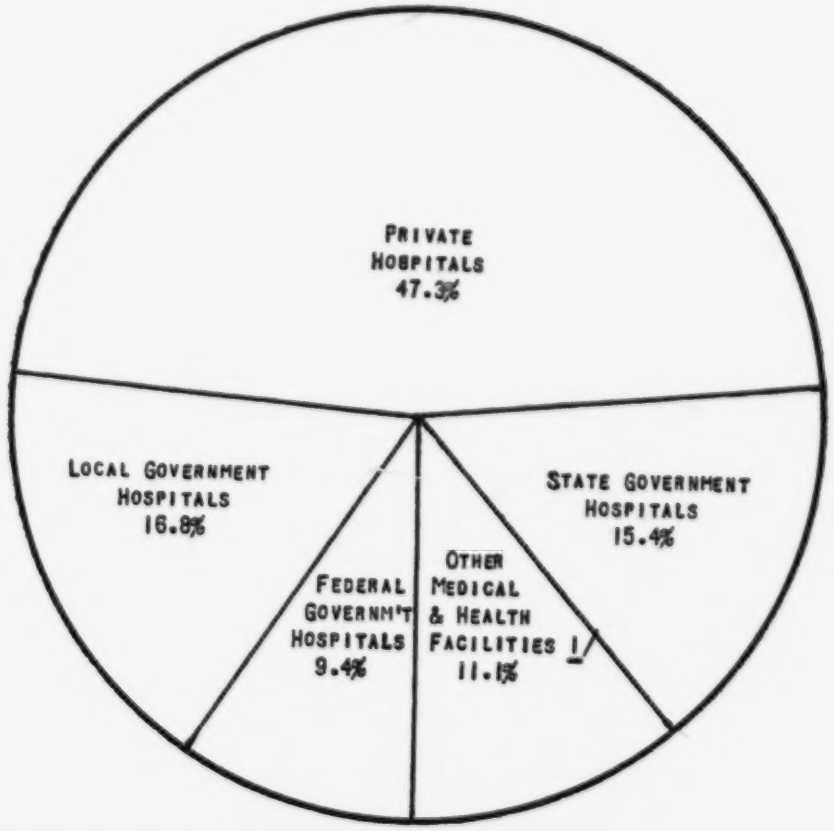
DISTRIBUTION OF EMPLOYMENT BY TYPE OF SERVICE AND INSTITUTION

Total of Surveyed Establishment Employment During First Quarter of 1963: 39,636—100%

Type of Service



Type of Institution



1/ INCLUDES NURSING AND REST HOMES, DENTAL LABORATORIES, MEDICAL LABORATORIES, HEALTH LABORATORIES, AND HEALTH DEPARTMENTS.
2/ INCLUDES PHYSICIANS' CLINICS, CHILDREN'S DISEASE HOSPITALS; EYE, EAR, NOSE AND THROAT HOSPITALS; AND ORTHOPEDIC HOSPITALS.

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA

NORTH CAROLINA

OCCUPATIONAL DISTRIBUTION OF EMPLOYMENT IN SURVEYED FACILITIES DURING FIRST QUARTER 1963, BY TYPE OF SERVICE

Occupation Title	Total Employment All Types	General Hospitals	Special Hospitals	T. B. Hospitals	Mental Hospitals	Other Medical And Health Services 1/
TOTAL EMPLOYMENT	39,636	28,403	1,011	1,995	3,828	4,399
NURSE, REGISTERED-GRADUATE	6,950	5,559	189	233	259	710
HOUSEKEEPER, ASSISTANT	119	85	—	11	9	14
MEDICAL-RECORD TECHNICIAN	274	212	12	12	17	21
SECRETARY-STENOGRAPHER, MEDICAL	809	505	68	67	47	122
WARD CLERK	441	421	1	1	17	1
MEDICAL TECHNOLOGIST	427	384	6	6	7	24
LABORATORY TECHNICIAN, MEDICAL	593	490	15	40	12	36
ASSISTANT LABORATORY TECHNICIAN—LABORATORY HELPER	234	195	1	11	1	26
PHARMACY HELPER	66	58	—	3	4	1
SURGICAL TECHNICIAN	270	243	5	14	8	—
CLINIC TECHNICIAN	53	45	8	—	—	—
SUPERVISOR, CENTRAL SUPPLY	74	68	—	1	5	—
NURSE, PRACTICAL	2,539	1,926	84	100	101	328
NURSE AIDE	5,679	3,613	118	289	659	1,000
ORDERLY-ATTENDANT	2,962	1,771	56	49	910	176
DENTAL LABORATORY TECHNICIAN	102	4	—	3	4	91
ELECTROCARDIOGRAPH TECHNICIAN	47	41	1	2	3	—
ELECTROENCEPHALOGRAPH TECHNICIAN	12	11	—	—	1	—
MEDICAL ILLUSTRATOR	3	1	2	—	—	—
MEDICAL PHOTOGRAPHER	6	4	—	2	—	—
X-RAY TECHNICIAN, MEDICAL	387	330	9	20	5	23
DARKROOM HELPER	42	42	—	—	—	—
OCCUPATIONAL THERAPY TECHNICIAN (O.T. AIDE)	49	10	3	9	26	1
PHYSICAL THERAPY TECHNICIAN (P.T. AIDE)	56	39	9	3	4	1
RECREATIONAL THERAPY TECHNICIAN (R.T. AIDE)	26	10	—	—	15	1
ORTHOPEDIC CAST SPECIALIST	1	1	—	—	—	—
ORTHOPEDIC TECHNICIAN	11	10	—	1	—	—
BAKER	79	54	2	8	12	3
COOK	1,011	539	35	58	73	306
FOOD SERVICE SUPERVISOR—CHEF	168	130	6	6	10	16
FORMULA-ROOM WORKER	32	31	1	—	—	—
SPECIAL DIET WORKER	210	179	1	12	8	10
OXYGEN THERAPIST, REGISTERED	5	5	—	—	—	—
HOSPITAL EQUIPMENT SERVICEMAN	50	47	—	1	2	—
EMPLOYMENT IN NON-SURVEYED OCCUPATIONS	15,849	11,340	379	1,033	1,609	1,488

1/ INCLUDES NURSING AND REST HOMES, DENTAL LABORATORIES, MEDICAL AND HEALTH LABORATORIES, AND HEALTH DEPARTMENTS.

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA

NORTH CAROLINA

OCCUPATIONAL DISTRIBUTION OF EMPLOYMENT DURING FIRST QUARTER 1963, BY TYPE OF SURVEYED ESTABLISHMENT

Occupation Title	Total Employment All Types	Private Hospitals	Local Government Hospitals	State Government Hospitals	Federal Government Hospitals	Other Medical And Health Facilities 1/
TOTAL EMPLOYMENT	39,636	18,753	6,670	6,109	3,705	4,399
NURSE, REGISTERED-GRADUATE	6,950	3,830	1,393	504	513	710
HOUSEKEEPER, ASSISTANT	119	63	21	17	4	14
MEDICAL-RECORD TECHNICIAN	274	172	36	33	12	21
SECRETARY-STENOGRAPHER, MEDICAL	809	416	58	86	127	122
WARD CLERK	441	305	87	31	17	1
MEDICAL TECHNOLOGIST	427	322	45	24	12	24
LABORATORY TECHNICIAN, MEDICAL	593	314	115	57	71	36
ASSISTANT LABORATORY TECHNICIAN—LABORATORY HELPER	234	117	32	35	24	26
PHARMACY HELPER	66	43	12	8	2	1
SURGICAL TECHNICIAN	270	177	59	18	16	—
CLINIC TECHNICIAN	53	51	1	1	—	—
SUPERVISOR, CENTRAL SUPPLY	74	48	18	5	3	—
NURSE, PRACTICAL	2,539	1,399	548	240	24	328
NURSE AIDE	5,679	2,184	1,132	554	809	1,000
ORDERLY-ATTENDANT	2,962	983	416	1,386	1	176
DENTAL LABORATORY TECHNICIAN	102	1	1	—	9	91
ELECTROCARDIOGRAPH TECHNICIAN	47	31	6	3	7	—
ELECTROENCEPHALOGRAPH TECHNICIAN	12	11	—	—	1	—
MEDICAL ILLUSTRATOR	3	1	—	2	—	—
MEDICAL PHOTOGRAPHER	6	3	—	—	3	—
X-RAY TECHNICIAN, MEDICAL	387	232	79	27	26	23
DARKROOM HELPER	42	32	8	1	1	—
OCCUPATIONAL THERAPY TECHNICIAN (O.T. AIDE)	49	6	—	37	5	1
PHYSICAL THERAPY TECHNICIAN (P.T. AIDE)	56	32	6	8	9	1
RECREATIONAL THERAPY TECHNICIAN (R.T. AIDE)	26	1	—	21	3	1
ORTHOPEDIC CAST SPECIALIST	1	—	—	—	1	—
ORTHOPEDIC TECHNICIAN	11	9	1	—	1	—
BAKER	79	33	11	19	13	3
COOK	1,011	320	148	136	101	306
FOOD SERVICE SUPERVISOR—CHEF	168	75	42	24	11	16
FORMULA-ROOM WORKER	32	25	5	2	—	—
SPECIAL DIET WORKER	210	147	24	26	3	10
OXYGEN THERAPIST, REGISTERED	5	4	1	—	—	—
HOSPITAL EQUIPMENT SERVICEMAN	50	31	13	5	1	—
EMPLOYMENT IN NON-SURVEYED OCCUPATIONS	15,849	7,335	2,362	2,789	1,875	1,488

1/ INCLUDES NURSING AND REST HOMES, DENTAL LABORATORIES, MEDICAL AND HEALTH LABORATORIES, AND HEALTH DEPARTMENTS.

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA

NORTH CAROLINA

EMPLOYMENT DISTRIBUTION IN SURVEYED FACILITIES BY SEX AND SURVEYED OCCUPATIONS

Occupation Title	Employment During First Quarter Of 1963	Male		Female	
		Number Employed	Per Cent	Number Employed	Per Cent
NURSE, REGISTERED-GRADUATE	6,950	35	0.5	6,915	99.5
HOUSEKEEPER, ASSISTANT	119	17	14.3	102	85.7
MEDICAL-RECORD TECHNICIAN	274	6	2.2	268	97.8
SECRETARY-STENOGRAPHER, MEDICAL	809	3	0.4	806	99.6
WARD CLERK	441	8	1.8	433	98.2
MEDICAL TECHNOLOGIST	427	72	16.9	355	83.1
LABORATORY TECHNICIAN, MEDICAL	593	155	26.1	438	73.9
ASSISTANT LABORATORY TECHNICIAN—LABORATORY HELPER	234	73	31.2	161	68.8
PHARMACY HELPER	66	26	39.4	40	60.6
SURGICAL TECHNICIAN	270	35	13.0	235	87.0
CLINIC TECHNICIAN	53	8	15.1	45	84.9
SUPERVISOR, CENTRAL SUPPLY	74	7	9.5	67	90.5
NURSE, PRACTICAL	2,539	25	1.0	2,514	99.0
NURSE, AIDE	5,679	789	13.9	4,890	86.1
ORDERLY-ATTENDANT	2,962	2,091	70.6	871	29.4
DENTAL LABORATORY TECHNICIAN	102	87	85.3	15	14.7
ELECTROCARDIOGRAPH TECHNICIAN	47	6	12.8	41	87.2
ELECTROENCEPHALOGRAPH TECHNICIAN	12	1	8.3	11	91.7
MEDICAL ILLUSTRATOR	3	3	100.0	0	—
MEDICAL PHOTOGRAPHER	6	3	50.0	3	50.0
X-RAY TECHNICIAN, MEDICAL	387	95	24.5	292	75.5
DARKROOM HELPER	42	13	31.0	29	69.0
OCCUPATIONAL THERAPY TECHNICIAN (O.T. AIDE)	49	11	22.4	38	77.6
PHYSICAL THERAPY TECHNICIAN (P.T. AIDE)	56	15	26.8	41	73.2
RECREATIONAL THERAPY TECHNICIAN (R.T. AIDE)	26	14	53.8	12	46.2
ORTHOPEDIC CAST SPECIALIST	1	1	100.0	0	—
ORTHOPEDIC TECHNICIAN	11	11	100.0	0	—
BAKER	79	43	54.4	36	45.6
COOK	1,011	347	34.3	664	65.7
FOOD SERVICE SUPERVISOR—CHEF	168	40	23.8	128	76.2
FORMULA-ROOM WORKER	32	0	—	32	100.0
SPECIAL DIET WORKER	210	11	5.2	199	94.8
OXYGEN THERAPIST, REGISTERED	5	0	—	5	100.0
HOSPITAL EQUIPMENT SERVICEMAN	50	39	78.0	11	22.0

NORTH CAROLINA

FUTURE TRAINING NEEDS FOR ELEVEN SELECTED OCCUPATIONS IN SURVEYED FACILITIES

During the first quarter of 1963 about 1,540 trained workers were needed to fill job vacancies which existed in the surveyed occupations. At the time of the survey vacant positions accounted for about 37 per cent of the projected 3,950 trained worker demand by the end of 1963 for all surveyed occupations.

As of 1963 year-end, more than 95 per cent of the total net requirements for trained workers in surveyed occupations is represented in only eleven of the 34 different occupations presented in this study. Training needs by the end of 1966 for these eleven occupations comprise slightly more than 90 per cent of the total expected needs. The occupations in which the more significant needs for training were found are ranked below in order of net training requirements for each of the two terminal periods; i.e., end of years 1963 and 1966.

By the End of 1963

Rank	Title	Net Training Need
1	Nurse, Registered-Graduate	531
2	Nurse, Practical	368
3	Nurse Aide	278
4	Orderly-Attendant	161
5	Secretary-Stenographer, Medical	96
6	Ward Clerk	63
7	Cook	63
8	Medical Technologist	61
9	Laboratory Technician, Medical	50
10	Surgical Technician	37
11	Housekeeper, Assistant	31
	Total For 11 Occupations	1,739

By the End of 1966

Rank	Title	Net Training Need
1	Nurse Aide	815
2	Orderly-Attendant	440
3	Nurse, Practical	319
4	Secretary-Stenographer, Medical	280
5	Ward Clerk	228
6	Cook	195
7	Laboratory Technician, Medical	176
8	Nurse, Registered-Graduate	97
9	Surgical Technician	82
10	Medical Technologist	74
11	Housekeeper, Assistant	70
	Total For 11 Occupations	2,776

Immediate needs for workers in the above eleven occupations numbered 1,466 or 95 per cent of the job vacancies found in all surveyed occupations.

From an analysis of the two tables which follow it is interesting to note that the occupation of registered nurse ranks first in order of net training needs by the end of 1963, but this occupation drops to eighth position by the end of 1966. This may indicate that the immediate demand for registered nurses will be somewhat offset by the planned training in the 1963 to 1966 period.

NORTH CAROLINA

ANTICIPATED TRAINING NEEDS AND TRAINED LABOR SUPPLY BY OCCUPATION—BY THE END OF 1963

Occupation Title	Employment During First Quarter Of 1963	Anticipated By End Of 1963		Trained Worker Demand By End Of 1963			Trained Worker Supply By End Of 1963			Net Training Needs By End Of 1963
		Employment	Per Cent Increase	Expansion	Replacement	Total	On-The-Job	School 1/	Total	
TOTAL, ALL OCCUPATIONS SURVEYED	23,787	26,356	10.8	2,569	1,378	3,949	941	1,189	2,130	1,819
NURSE, REGISTERED-GRADUATE	6,950	7,825	12.6	875	410	1,285	0	754	754	531
HOUSEKEEPER, ASSISTANT	119	145	21.8	26	6	32	1	0	1	31
MEDICAL-RECORD TECHNICIAN	274	328	19.7	54	13	67	31	22	53	14
SECRETARY-STENOGRAPHER,MEDICAL	809	873	7.9	64	61	125	31	0	31	94
WARD CLERK	441	504	14.3	63	34	97	34	0	34	63
MEDICAL TECHNOLOGIST	427	509	19.2	82	27	109	17	31	48	61
LABORATORY TECHNICIAN, MEDICAL	593	639	7.8	46	25	71	12	9	21	50
ASSISTANT LABORATORY TECHNICIAN—LABORATORY HELPER	234	251	7.3	17	13	30	10	0	10	20
PHARMACY HELPER	66	69	4.5	3	2	5	3	0	3	2
SURGICAL TECHNICIAN	270	322	19.3	52	11	63	26	0	26	37
CLINIC TECHNICIAN	53	56	5.7	3	0	3	3	0	3	0
SUPERVISOR, CENTRAL SUPPLY	74	79	6.8	5	0	5	0	0	0	5
NURSE, PRACTICAL	2,539	3,069	20.9	530	166	696	10	318	328	368
NURSE AIDE	5,679	5,976	5.2	297	358	655	377	0	377	278
ORDERLY-ATTENDANT	2,962	3,255	9.9	293	184	477	316	0	316	161
DENTAL LABORATORY TECHNICIAN	102	121	18.6	19	3	22	10	0	10	12
ELECTROCARDIOGRAPH TECHNICIAN	47	54	14.9	7	0	7	6	0	6	1
ELECTROENCEPHALOGRAPH TECHNICIAN	12	15	25.0	3	0	3	4	0	4	1
MEDICAL ILLUSTRATOR	3	3	0	0	0	0	0	0	0	0
MEDICAL PHOTOGRAPHER	6	6	0	0	1	1	0	0	0	1
X-RAY TECHNICIAN, MEDICAL	387	415	7.2	28	14	42	13	52	65	-21
DARKROOM HELPER	42	43	2.4	1	0	1	0	0	0	1
OCCUPATIONAL THERAPY TECHNICIAN (O.T. AIDE)	49	55	12.2	6	0	6	0	0	0	6
PHYSICAL THERAPY TECHNICIAN (P.T. AIDE)	56	67	19.6	11	1	12	2	0	2	10
RECREATIONAL THERAPY TECHNICIAN (R.T. AIDE)	26	31	19.2	5	0	5	2	0	2	3
ORTHOPEDIC CAST SPECIALIST	1	1	0	0	0	0	0	0	0	0
ORTHOPEDIC TECHNICIAN	11	11	0	0	0	0	0	0	0	0
BAKER	79	81	2.5	2	4	6	2	0	2	4
COOK	1,011	1,065	5.3	54	28	82	19	0	19	63
FOOD SERVICE SUPERVISOR-CHEF	168	176	4.8	8	6	14	1	0	1	13
FORMULA-ROOM WORKER	32	32	0	0	0	0	0	0	0	0
SPECIAL DIET WORKER	210	217	3.3	7	10	17	11	0	11	6
OXYGEN THERAPIST, REGISTERED	5	8	60.0	3	0	3	0	3	3	0
HOSPITAL EQUIPMENT SERVICEMAN	50	55	10.0	5	1	6	0	0	0	6

1/ DOES NOT INCLUDE COMMERCIALLY OPERATED SCHOOLS
2/ REPRESENTS AN APPARENT SURPLUS

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA

NORTH CAROLINA

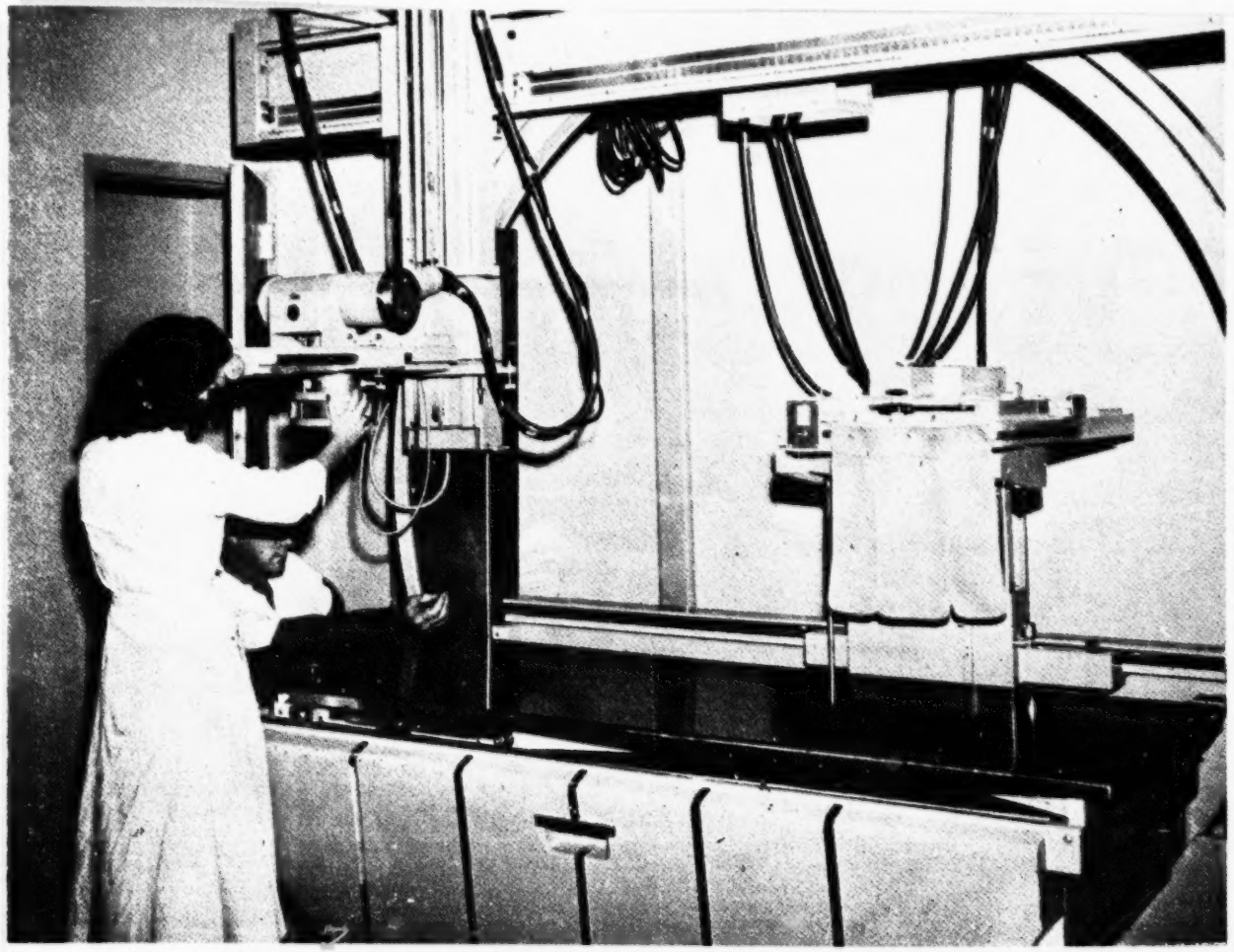
ANTICIPATED TRAINING NEEDS AND TRAINED LABOR SUPPLY

BY OCCUPATION—BY THE END OF 1966

Occupation Title	Employment During First Quarter Of 1963	Anticipated By End Of 1966		Trained Worker Demand By End Of 1966			Trained Worker Supply By End Of 1966			Net Training Needs By End Of 1966
		Employment	Per Cent Increase	Expansion	Replacement	Total	On-The-Job	School 1/	Total	
TOTAL, ALL OCCUPATIONS SURVEYED	23,787	30,767	29.3	6,980	4,515	11,495	3,013	5,406	8,419	3,076
NURSE, REGISTERED-GRADUATE	6,950	9,087	30.7	2,137	1,303	3,440	0	3,343	3,343	97
HOUSEKEEPER, ASSISTANT	119	185	55.5	66	17	83	13	0	13	70
MEDICAL-RECORD TECHNICIAN	274	370	35.0	96	52	148	17	102	119	29
SECRETARY-STENOGRAPHER, MEDICAL	809	1,016	25.6	207	176	383	103	0	103	280
WARD CLERK	441	703	59.4	262	118	380	152	0	152	228
MEDICAL TECHNOLOGIST	427	618	44.7	191	94	285	0	211	211	74
LABORATORY TECHNICIAN, MEDICAL	593	777	31.0	184	71	255	42	37	79	176
ASSISTANT LABORATORY TECHNICIAN—LABORATORY HELPER	234	293	25.2	59	52	111	51	0	51	60
PHARMACY HELPER	66	96	45.5	30	5	35	25	0	25	10
SURGICAL TECHNICIAN	270	416	54.1	146	43	189	107	0	107	82
CLINIC TECHNICIAN	53	68	28.3	15	3	18	17	0	17	1
SUPERVISOR, CENTRAL SUPPLY	74	98	32.4	24	5	29	7	0	7	22
NURSE, PRACTICAL	2,539	3,762	48.2	1,223	593	1,816	29	1,468	1,497	319
NURSE AIDE	5,679	6,693	17.9	1,014	1,185	2,199	1,384	0	1,384	815
ORDERLY-ATTENDANT	2,962	3,677	24.1	715	523	1,238	798	0	798	440
DENTAL LABORATORY TECHNICIAN	102	155	52.0	53	10	63	28	0	28	35
ELECTROCARDIOGRAPH TECHNICIAN	47	72	53.2	25	4	29	11	0	11	18
ELECTROENCEPHALOGRAPH TECHNICIAN	12	26	116.7	14	2	16	9	0	9	7
MEDICAL ILLUSTRATOR	3	3	0	0	0	0	0	0	0	0
MEDICAL PHOTOGRAPHER	6	8	33.3	2	2	4	2	0	2	2
X-RAY TECHNICIAN, MEDICAL	387	504	30.2	117	60	177	51	233	284	-107/2
DARKROOM HELPER	42	52	23.8	10	1	11	3	0	3	8
OCCUPATIONAL THERAPY TECHNICIAN (O.T. AIDE)	49	66	34.7	17	5	22	6	0	6	16
PHYSICAL THERAPY TECHNICIAN (P.T. AIDE)	56	106	89.3	50	7	57	11	0	11	46
RECREATIONAL THERAPY TECHNICIAN (R.T. AIDE)	26	37	42.3	11	2	13	5	0	5	8
ORTHOPEDIC CAST SPECIALIST	1	4	300.0	3	0	3	1	0	1	2
ORTHOPEDIC TECHNICIAN	11	15	36.4	4	1	5	2	0	2	3
BAKER	79	101	27.8	22	11	33	8	0	8	25
COOK	1,011	1,161	14.8	150	101	251	56	0	56	195
FOOD SERVICE SUPERVISOR-CHEF	168	209	24.4	41	20	61	14	0	14	47
FORMULA-ROOM WORKER	32	45	40.6	13	2	15	6	0	6	9
SPECIAL DIET WORKER	210	252	20.0	42	41	83	51	0	51	32
OXYGEN THERAPIST, REGISTERED	5	17	240.0	12	0	12	0	12	12	0
HOSPITAL EQUIPMENT SERVICEMAN	50	75	50.0	25	6	31	4	0	4	27

1/ DOES NOT INCLUDE COMMERCIALLY OPERATED SCHOOLS
2/ REPRESENTS AN APPARENT SURPLUS

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA

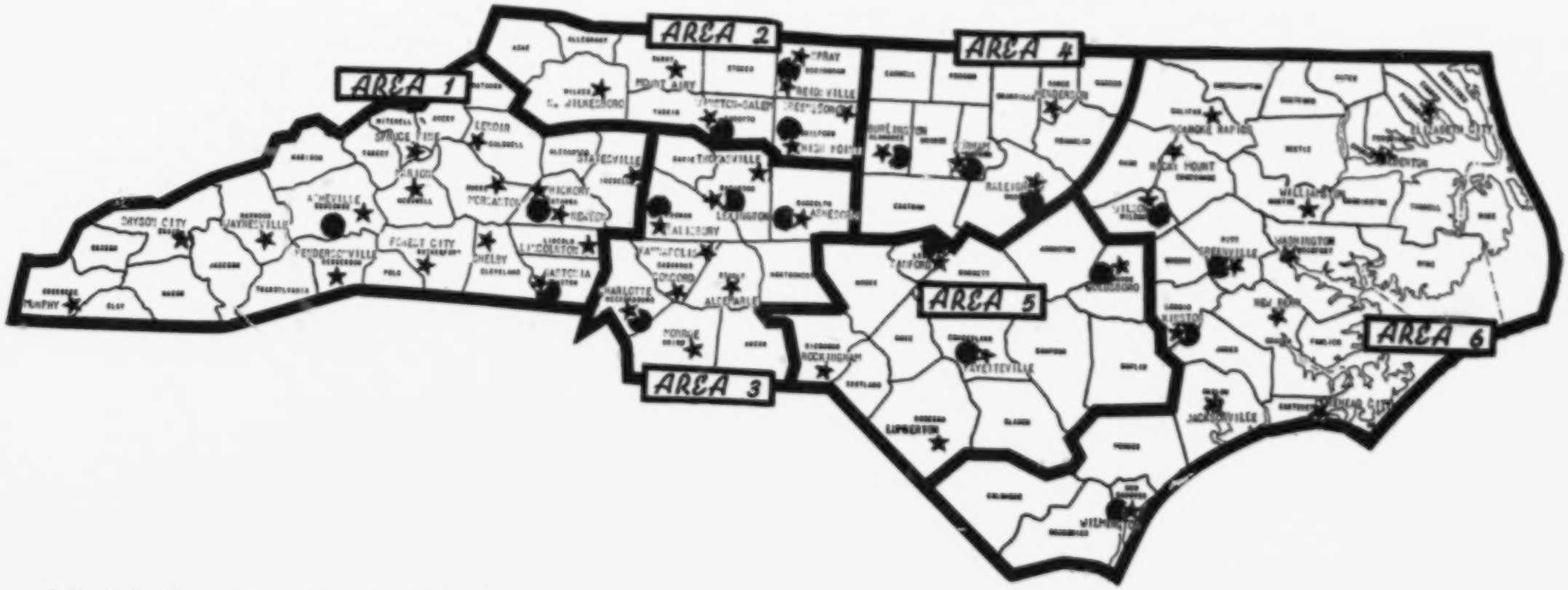


Part III

AREA SURVEY FINDINGS

AREAS DESIGNATED FOR DISTRIBUTION OF STATEWIDE SURVEY FINDINGS

Locations of North Carolina Employment Security Commission Offices and Industrial Education Centers



★ North Carolina Employment Security Commission Offices.

• Existing or Proposed North Carolina Industrial Education Centers.

DISTRIBUTION OF MEDICAL AND HEALTH SERVICE EMPLOYMENT, BY AREA

Area	During First Quarter of 1963		By The End of 1963		By The End of 1966	
	Employment	Per cent	Employment	Per Cent	Employment	Per Cent
Statewide	39,636	100.0	42,836	100.0	49,507	100.0
Area 1	7,931	20.0	8,242	19.3	9,227	18.6
Area 2	5,221	13.2	5,877	13.7	7,559	15.3
Area 3	6,402	16.1	6,885	16.1	7,824	15.8
Area 4	10,295	26.0	11,274	26.3	13,118	26.5
Area 5	4,789	12.1	5,063	11.8	5,639	11.4
Area 6	4,998	12.6	5,495	12.8	6,140	12.4

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA

NORTH CAROLINA
AREA SURVEY FINDINGS

Introduction

Survey findings have been compiled for six designated areas of the State. These areas are shown by the map on the preceeding page. Area findings presented on the following pages provide information relative to the concentration of employment and training needs.

These area data reveal geographic concentrations of employment by occupation, show in which part of the State the greatest expansion is expected, and provide estimates of demand for training beyond the supply expected to graduate from present training schools and from on-the-job training programs. These data may serve as a guide to local training agencies in expanding or setting up new training programs.

Actual school output in a given area may not be too meaningful because graduates may seek and find employment in other areas where job opportunities exist, rather than in the locality where training was offered.

The table on the preceding page shows the per cent distribution of surveyed employment during the first quarter of 1963 and the distribution of such employment for the two forecast periods.

The table below reveals that Area 2 employment in surveyed facilities is expected to increase by nearly 45 per cent by the end of 1966. Survey results indicate that a large part of this increase is anticipated for hospitals. Two hospitals in Area 2 account for more than 40 per cent of the total estimated area employment increase by the end of 1966 in surveyed establishments.

EMPLOYMENT IN SURVEYED ESTABLISHMENTS DURING THE FIRST QUARTER OF 1963 AND ANTICIPATED EMPLOYMENT BY THE END OF 1963 AND 1966 WITH NUMERICAL AND PER CENT INCREASES, BY AREA

Area	Employment During First Quarter 1963	Anticipated by the End of 1963			Anticipated by the End of 1966		
		Employment	Increase		Employment	Increase	
			Numerical	Per Cent		Numerical	Per Cent
Statewide	39,636	42,836	3,200	8.1	49,507	9,871	24.9
Area 1	7,931	8,242	311	3.9	9,227	1,296	16.3
Area 2	5,221	5,877	656	12.6	7,559	2,338	44.8
Area 3	6,402	6,885	483	7.5	7,824	1,422	22.2
Area 4	10,295	11,274	979	9.5	13,118	2,823	27.4
Area 5	4,789	5,063	274	5.7	5,639	850	17.7
Area 6	4,998	5,495	497	9.9	6,140	1,142	22.8

INDEX OF OCCUPATIONS STUDIED WITH AREA FINDINGS

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Medical Photographer	49
Orthopedic Technician	49
Oxygen Therapist, Registered	49
Electroencephalograph Technician	50
Orthopedic Cast Specialist	50
Medical Illustrator	50

NURSE AIDE

An individual employed in this occupation assists professional and practical nurses by performing less skilled tasks in the care of patients. (D.O.T. Reference—NURSE AID: 2-42.20)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs*
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	5,679	6,693	1,014	1,185	2,199	1,384	0	1,384	815
Area 1	1,076	1,233	157	-138	295	396	0	396	-101
Area 2	800	982	182	92	274	138	0	138	136
Area 3	1,102	1,232	130	253	386	228	0	228	158
Area 4	1,006	1,385	379	134	513	197	0	197	316
Area 5	723	844	121	196	317	137	0	137	180
Area 6	972	1,017	45	369	414	288	0	288	126

Nurse aides comprise 23.9 per cent of total surveyed occupational employment. They were employed in 267 establishments and numbered 5,679. Of these, 86.1 per cent were female. This fact, along with a relatively low wage scale, likely accounts for the high replacement need.

In this occupation, replacement needs are expected to exceed expansion needs by almost 200 by the end of 1966.

Employers estimated they will train slightly more than one-half of the additional 655 nurse aides they expect to need by the end of 1963. As shown in the table above, on-the-job training is expected to provide more than 60 per cent of the anticipated additional need for nurse aides by the end of 1966. Thus, a training responsibility for 815 additional needed workers remains to be met.

Nurse aides were classified in adequate local supply by 55.1 per cent of employers and in surplus supply by 2.6 per cent.

* MINUS REPRESENTS AN APPARENT SURPLUS

NURSE, PRACTICAL

An individual employed in this occupation provides routine care and treatment of patients under the supervision of a professional nurse, and is expected to utilize sub-professional nursing techniques, in providing such treatments as drainages, irrigations, catheterizations, routine medications, and in taking and recording temperatures, pulses, respirations and blood pressures. May supervise nurse aides and orderlies. (D.O.T. Reference—NURSE, PRACTICAL: 2-38.20)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs*
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School 1/	Total	
Statewide	2,539	3,762	1,223	593	1,816	29	1,468	1,497	319
Area 1	587	762	175	68	243	0	302	302	-59
Area 2	236	431	195	17	212	0	350	350	-138
Area 3	367	676	309	100	409	22	75	97	312
Area 4	667	900	233	123	356	7	200	207	149
Area 5	298	416	118	132	250	0	248	248	2
Area 6	384	577	193	153	346	0	293	293	53

Practical nurses comprise 10.7 per cent of the total employment in surveyed occupations and were employed in 258 establishments. Of the 2,539 practical nurses covered in the survey, 99 per cent were female.

Survey results indicate that practical nursing schools plan to train less than one-half of the 696 additional workers needed for this occupation by the end of 1963, but as shown in the above table, expect to provide 82.4 per cent of the trained practical nurses which surveyed employers estimate they will need by the end of 1966, leaving a training need of 320.

Practical nurses were classified in short local supply by 62 per cent of the employers contacted.

During the first quarter of 1963 there were immediate needs by surveyed establishments for 285 practical nurses. This emphasizes the critical shortage of trained workers for this occupation.

Seventeen practical nurse training schools were surveyed for trainee output. These schools provide a training period of 40 hours per week for 52 weeks.

1/ THE STUDY REFLECTS SCHOOLING BEING CONDUCTED WITHIN THE AREA BUT DOES NOT MEASURE THE OUT-MIGRATION OF PERSONS COMPLETING SCHOOL, SINCE FOR MANY REASONS PERSONS COMPLETING COURSES OF STUDY MAY GO TO OTHER AREAS TO SEEK EMPLOYMENT OR DO NOT WORK IN THEIR FIELD OF TRAINING AT ALL.

* MINUS REPRESENTS AN APPARENT SURPLUS

NURSE, REGISTERED—GRADUATE

An individual in this profession renders nursing care to patients, or performs specialized duties, in a hospital, infirmary, sanatorium, clinic or through a public health department or other service agency. Administers prescribed medications and treatments in accordance with approved nursing techniques. Includes general duty nurses, supervisory nurses, nursing directors, nursing instructors and special nurses. (D.O.T. Reference—Developed from a combination of definitions included under the three digit designation for NURSE: 0-33.—)

Among the primary groups not included in the survey are registered graduate nurses employed by physicians, surgeons and other private medical doctors. In addition, self-employed private duty nurses are not included.

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs*
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School 1/	Total	
Statewide	6,950	9,087	2,137	1,303	3,440	0	3,343	3,343	97
Area 1	1,396	1,759	363	189	552	0	490	490	62
Area 2	1,073	1,528	455	159	614	0	843	843	-229
Area 3	1,255	1,578	323	322	645	0	553	553	92
Area 4	1,406	1,917	511	289	800	0	972	972	-172
Area 5	854	1,077	223	167	390	0	150	150	240
Area 6	966	1,228	262	177	439	0	335	335	104

The above table suggests the emphasis now being placed on nurse training and education. Responses from surveyed employers indicate that the net registered nurse shortage in surveyed establishments by the end of 1963 will be about 530. Yet, by the end of 1966, as a result of expanding training programs, the net shortage will decrease to slighty less than 100. It should be noted, however, as a measure of the expected supply, that all nursing education programs in North Carolina were surveyed, while all training needs are not reflected by the survey. Many establishments which are not included employ registered nurses. Census data show there were 11,940 nurses employed in North Carolina in 1960, compared to slightly less than 7,000 covered by this survey.

While nurse training and education programs appear to be closing the gap between the supply and demand, the survey shows that nurses with specialized training, such as nurse, anesthetists; head nurses and administrative nurses are in critical shortage and further study of employment needs and training output is necessary.

Survey results indicated the need for 640 additional registered nurses existed during the first quarter of 1963. These immediate needs account for about half the additional 1,300 registered nurses needed by the end of 1963. Thirty-four schools of nursing are expected to furnish around 750 graduates; thus, leaving a net shortage of more than 530 by the end of 1963.

Registered nurses were employed by 339 of the 417 surveyed establishments. Of the registered nurses covered by the survey, 6,915 or 99.5 per cent were female.

Registered nurses were classified in short local supply by 76 per cent of employers contacted while 24 per cent stated that the local supply was adequate.

1/THE STUDY REFLECTS SCHOOLING BEING CONDUCTED WITHIN THE AREA BUT DOES NOT MEASURE THE OUT-MIGRATION OF PERSONS COMPLETING SCHOOL, SINCE FOR MANY REASONS PERSONS COMPLETING COURSES OF STUDY MAY GO TO OTHER AREAS TO SEEK EMPLOYMENT OR DO NOT WORK IN THEIR FIELD AT ALL.

* MINUS REPRESENTS AN APPARENT SURPLUS

ORDERLY-ATTENDANT

An individual employed in this occupation assists professional and practical nurses by performing a variety of routine, heavy duties in the care of physically ill or mentally deficient patients. (D.O.T. Reference—Developed from the definition of ORDERLY: 2-42. 10)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand		Trained Worker Supply				Net Training Needs*
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	2,962	3,677	715	523	1,238	798	0	798	440
Area 1	734	825	91	54	145	244	0	244	-99
Area 2	239	345	106	26	132	68	0	68	64
Area 3	269	365	96	120	216	42	0	42	174
Area 4	757	1,016	259	123	382	206	0	206	176
Area 5	680	788	108	99	207	141	0	141	66
Area 6	283	338	55	101	156	97	0	97	59

Orderly-attendant employment comprises 12.5 per cent of the total employment in surveyed occupations. This occupation was found in 245 establishments; and, of the 2,962 persons employed, 70.6 per cent were male. Heavy replacement demand is attributable to nature of work, working hours, and below average wage levels.

Employers plan to train 316 of the 477 additional workers expected to be needed by the end of 1963; and, as shown in the table, only 64.5 per cent of the additional workers needed by the end of 1966 will be trained in presently planned programs.

* MINUS REPRESENTS AN APPARENT SURPLUS

ASSISTANT LABORATORY TECHNICIAN—LABORATORY HELPER

An individual employed in this occupation assists the laboratory technician by performing one or more routine laboratory tests. May wash and sterilize glassware and other equipment. (D.O.T. Reference—Developed from definition of MEDICAL TECHNOLOGIST: 0-50.01)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	234	293	59	52	111	51	0	51	60
Area 1	21	25	4	1	5	1	0	1	4
Area 2	10	15	5	0	5	4	0	4	1
Area 3	45	59	14	11	25	15	0	15	10
Area 4	132	165	33	35	68	30	0	30	38
Area 5	8	10	2	1	3	1	0	1	2
Area 6	18	18	1	4	5	0	0	0	5

During the first quarter of 1963, surveyed establishments employed 234 assistant laboratory technicians, of which 68.8 per cent were female.

By the end of 1963, an additional need of 30 trained workers for this occupation is anticipated. On-the-job training programs will provide one-third of these workers, leaving a need for 20 additional trained assistant laboratory technicians.

As shown in the above table, known training programs will supply less than one-half the trained workers expected to be needed for this occupation by the end of 1966.

CLINIC TECHNICIAN

An individual employed in this occupation assists a physician during treatment and minor operations in a clinic: cleans, sterilizes, and lays out instruments. Prepares patient for examination and treatment. Performs routine medical duties, such as testing hearing and vision, painting and spraying nose and throat, assisting in application and removal of casts, and applying outer bandages and tape. May maintain clinic records. Requisitions supplies. Makes appointments. Keeps clinic area in neat and orderly condition. Performs other duties as directed by physician. (D.O.T. Reference—None)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	53	68	15	3	18	17	0	17	1
Area 1	8	10	2	0	2	1	0	1	1
Area 2	2	6	4	0	4	4	0	4	0
Area 3	4	4	0	0	0	0	0	0	0
Area 4	39	46	7	3	10	10	0	10	0
Area 5	—	—	—	—	—	—	—	—	—
Area 6	0	2	2	0	2	2	0	2	0

Clinic technicians were employed by 14 surveyed establishments during the first quarter of 1963. Of the 53 persons employed in this occupation, 84.9 per cent were female.

Trainee output from on-the-job training programs is expected to equal the demand for trained clinic technicians in surveyed establishments by the end of 1963; and, as shown in the table, the demand will exceed known trainee output by only one by the end of year 1966.

The survey revealed no job vacancies in this occupation during the first quarter of 1963.

DENTAL LABORATORY TECHNICIAN

An individual employed in this occupation constructs and repairs metal, procelain, and plastic restorations from impressions taken by various dentists. Constructs metal clasps, inlays, and bridge work according to specifications. May process porcelain and plastic teeth and repair appliances. (D.O.T. Reference—Developed from definition of DENTAL TECHNICIAN: 0-50.06)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs*
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School 1/	Total	
Statewide	102	155	53	10	63	28	25	53	10
Area 1	27	31	4	0	4	1	0	1	3
Area 2	18	33	15	4	19	15	0	15	4
Area 3	17	20	3	3	6	10	0	10	-4
Area 4	34	64	30	2	32	2	25	27	5
Area 5	2	2	0	0	0	0	0	0	0
Area 6	4	5	1	1	2	0	0	0	2

Dental laboratory technicians were employed in 23 surveyed establishments during the first quarter of 1963. These establishments employed 102 persons in this occupation of which 85.3 per cent were male.

Employers expect to supply 10 of the 22 additional dental laboratory technicians estimated to be needed in surveyed establishments by the end of 1963. On-the-job training programs and one school of dental laboratory technology expect to furnish 53 of the 63 additional trained persons estimated to be needed by the end of 1966, as is indicated in the above table.

The local supply of trained dental laboratory technicians was classified in short supply by 78.3 per cent of the dental laboratory employers contacted and the survey reveals that an immediate need for 10 trained workers existed during the first quarter of 1963.

The only school of dental laboratory technology in North Carolina provides a 21 month 30 hour per week course of study.

1/ THE STUDY REFLECTS SCHOOLING BEING CONDUCTED WITHIN THE AREA BUT DOES NOT MEASURE THE OUT-MIGRATION OF PERSONS COMPLETING SCHOOL, SINCE FOR MANY REASONS PERSONS COMPLETING COURSES OF STUDY MAY GO TO OTHER AREAS TO SEEK EMPLOYMENT OR TRAINEES DO NOT WORK IN THEIR FIELD AT ALL.

* MINUS REPRESENTS AN APPARENT SURPLUS

LABORATORY TECHNICIAN, MEDICAL

An individual employed in this occupation performs various chemical, microscopic and bacteriological laboratory tests. May specialize in a particular facet of laboratory work. May take electrocardiograms and electroencephalograms. Included are bacteriology, biochemistry, blood bank, hematology, serology, cytology and tissue technicians. (D.O.T. Reference—Developed from definition of MEDICAL TECHNOLOGIST: 0-50.01)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs*
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School 1/	Total	
Statewide	593	777	184	71	255	42	37	79	176
Area 1	126	142	16	8	24	10	0	10	14
Area 2	62	95	33	3	36	10	30	40	-4
Area 3	81	116	35	11	46	7	0	7	39
Area 4	169	227	58	23	81	12	0	12	69
Area 5	71	88	17	6	23	1	1	2	21
Area 6	84	109	25	20	45	2	6	8	37

Medical laboratory technicians were employed by 253 of the surveyed establishments and numbered 593. Of this number, 73.9 per cent were female.

Survey results indicate a shortage of 19 trained workers for this occupation during the first quarter of 1963.

Medical laboratory technicians were classified in short local supply by 66.1 per cent of the employers.

On-the-job training programs and schools are expected to supply 21 of the 71 trained workers estimated to be needed by the end of 1963; and, as the table shows, will provide 79 of the 255 expected to be needed by the end of 1966.

1/ THE STUDY REFLECTS SCHOOLING BEING CONDUCTED WITHIN THE AREA BUT DOES NOT MEASURE THE OUT-MIGRATION OF PERSONS COMPLETING SCHOOL, SINCE FOR MANY REASONS, PERSONS COMPLETING COURSES OF STUDY MAY GO TO OTHER AREAS TO SEEK EMPLOYMENT. OUTPUT OF COMMERCIALLY OPERATED SCHOOLS IS NOT INCLUDED.

* MINUS REPRESENTS AN APPARENT SURPLUS

MEDICAL TECHNOLOGIST

An individual employed in this occupation performs medical laboratory analyses to obtain data for use in the diagnosis and treatment of disease. May assign and supervise work of subordinates. May assist during autopsies and engage in research. Includes instructors. (D.O.T. Reference— MEDICAL TECHNOLOGIST: 0-50.01)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs*
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School 1/	Total	
Statewide	427	618	191	94	285	0	211	211	74
Area 1	70	96	26	5	31	0	3	3	28
Area 2	80	123	43	2	45	0	84	84	-39
Area 3	56	81	25	22	47	0	59	59	-12
Area 4	160	237	77	46	123	0	45	45	78
Area 5	29	41	12	6	18	0	0	0	18
Area 6	32	40	8	13	21	0	20	20	1

Medical technologists were employed by 124 establishments during the survey period. Of the 427 persons employed in this occupation 83.3 per cent were female.

Job openings during the survey numbered 56, which account for more than half the total trained worker demand of 109 by the end of 1963, indicating the immediate need for medical technologists. Of the 124 employers using this occupation, 66.1 per cent classified medical technologists in short local supply.

The total demand in surveyed establishments for medical technologists is expected to increase to 285 by the end of 1966. Schools of medical technology are expected to furnish 211 graduates, leaving an additional training need of 74.

Ten schools of medical technology were surveyed for trainee output. These schools require entrants to have three years of prior college training. Specific medical technology schooling consists of 51 forty-hour weeks of hospital affiliated training.

1/ THE STUDY REFLECTS SCHOOLING BEING CONDUCTED WITHIN THE AREA BUT DOES NOT MEASURE THE OUT-MIGRATION OF PERSONS COMPLETING SCHOOL, SINCE FOR MANY REASONS, PERSONS COMPLETING COURSES OF STUDY MAY GO TO OTHER AREAS TO SEEK EMPLOYMENT. OUTPUT OF COMMERCIALLY OPERATED SCHOOLS IS NOT INCLUDED.

* MINUS REPRESENTS AN APPARENT SURPLUS

PHARMACY HELPER

An individual employed in this occupation performs routine duties in a hospital pharmacy. Receives, unpacks and stores supplies. Delivers drug orders and runs errands. Under direct supervision of pharmacist, may assist in mixing of various pharmaceutical preparations and in labeling of bottles. (D.O.T. Reference—None)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand		Trained Worker Supply				Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	66	96	30	5	35	25	0	25	10
Area 1	21	31	10	2	12	6	0	6	6
Area 2	7	13	6	1	7	6	0	6	1
Area 3	17	18	1	1	2	2	0	2	0
Area 4	14	18	4	1	5	5	0	5	0
Area 5	2	5	3	0	3	1	0	1	2
Area 6	5	11	6	0	6	5	0	5	1

During the first quarter of 1963, there were 66 pharmacy helpers employed by 52 of the surveyed establishments. Of the 66 pharmacy helpers included in the survey, 60.6 per cent were female.

The survey revealed no job vacancies during the first quarter of 1963 and 53.8 per cent of the employers contacted classified the local supply of pharmacy helpers as adequate. Trainee output for this occupation by the end of 1963, is estimated to equal the trained worker demand and the need in surveyed establishments will exceed the trainee supply by only 10 by the end of 1966.

SURGICAL TECHNICIAN

An individual employed in this occupation is responsible for assisting in setting up the operating room prior to surgery, assisting surgeons and nurses during the operation and cleaning up, accounting for, and sterilizing equipment after the operation is completed. (D.O.T. Reference—SURGICAL TECHNICIAN 2-42.16)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job 1/	School	Total	
Statewide	270	416	146	43	189	107	0	107	82
Area 1	52	66	14	5	19	11	0	11	8
Area 2	24	66	42	0	42	31	0	31	11
Area 3	35	47	12	11	23	4	0	4	19
Area 4	81	117	36	15	51	46	0	46	5
Area 5	33	52	19	6	25	12	0	12	13
Area 6	45	68	23	6	29	3	0	3	26

During the first quarter of 1963, 101 surveyed hospitals employed 270 surgical technicians of which 87 per cent were female.

By the end of 1963, surveyed establishments estimate they will need an additional 63 trained surgical technicians. Known training programs will supply an estimated 26 persons for this occupation, leaving an additional training need of 37. Training programs will furnish less than 57 per cent of the anticipated need for trained workers in this occupation by the end of 1966, as shown in the above table.

Trained surgical technicians were classified in short local supply by 81.2 per cent of the 101 employers utilizing this type of worker. Survey results revealed 31 job vacancies during the first quarter of 1963.

1/ NON-TUITION PAYING STUDENTS ARE INCLUDED IN ON-THE-JOB TRAINING PROGRAMS FOR THIS OCCUPATION.

ELECTROCARDIOGRAPH TECHNICIAN

An individual employed in this occupation records, as irregular wave tracings on electrocardiograph, electromotive variations in action of heart muscle to provide data for use in diagnosis of heart ailments. Work in this class involves taking, developing and mounting electrocardiograms for interpretation by a physician. Work assignments are received in terms of specific instructions from an attending physician. Work is reviewed for technical errors by a physician reading electrocardiograms for diagnostic purposes. (D.O.T. Reference—ELECTROCARDIOGRAPH TECHNICIAN: 0-50.05)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	47	72	25	4	29	11	0	11	18
Area 1	7	10	3	0	3	0	0	0	3
Area 2	7	15	8	0	8	6	0	6	2
Area 3	9	12	3	1	4	1	0	1	3
Area 4	19	25	6	1	7	3	0	3	4
Area 5	3	4	1	0	1	1	0	1	0
Area 6	2	6	4	2	6	0	0	0	6

Persons who spent more than half their time in this occupation were found in 30 establishments. Many more are employed in other occupations and perform as electrocardiograph technicians as a secondary duty.

Employers are expected to provide training for six of the seven additional persons expected to be needed for this occupation by the end of 1963, but estimate they will train less than 38 per cent of the additional workers needed by the end of 1966.

There were two job vacancies during the first quarter of 1963, and 56.7 per cent of employers utilizing this type of worker classified trained electrocardiograph technicians in short local supply.

HOSPITAL EQUIPMENT SERVICEMAN

An individual employed in this occupation installs, repairs, and services hospital and surgical equipment. Tests electrical equipment. Makes mechanical and electrical repairs. Replaces worn or defective parts with factory repair parts. Must understand and diagnose functioning and failures of all hospital equipment. (D.O.T. Reference — HOSPITAL-AND-SURGICAL EQUIPMENT SERVICEMAN: 5-83.981)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	59	75	25	6	31	4	0	4	27
Area 1	5	5	0	0	0	0	0	0	0
Area 2	5	12	7	0	7	2	0	2	5
Area 3	21	25	4	4	8	1	0	1	7
Area 4	9	18	9	1	10	1	0	1	9
Area 5	2	4	2	0	2	0	0	0	2
Area 6	8	11	3	1	4	0	0	0	4

Fifty hospital equipment servicemen were employed by 40 hospitals during the first quarter of 1963.
Employers estimate they will train none of the six additional servicemen expected to be needed by the end of 1963, and less than 13 per cent of the 31 expected to be needed by the end of 1966.

There were two vacancies in this occupation during the first quarter of 1963.

Hospital equipment servicemen were classified in short local supply by 69 per cent of employers using this type of worker.

OCCUPATIONAL THERAPY TECHNICIAN (O.T. AIDE)

An individual employed in this occupation assists an occupational therapist in conducting occupational programs for patients in hospitals and other institutions. Organizes patients into classes. Assigns patients to work tables and lays out work. Circulates among patients and directs them in activities such as graphic arts, leather work, metalcrafts, needlework, rugmaking, sewing, toy making, weaving, and wood working. (D.O.T. Reference — Developed from definition of OCCUPATIONAL THERAPIST: 0-32.04)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs*
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	49	66	17	5	22	6	0	6	16
Area 1	13	14	1	1	2	3	0	3	-1
Area 2	0	3	3	0	3	2	0	2	1
Area 3	5	7	2	1	3	0	0	0	3
Area 4	21	27	6	1	7	1	0	1	6
Area 5	7	12	5	1	6	0	0	0	6
Area 6	3	3	0	1	1	0	0	0	1

During the first quarter of 1963 there were 49 full time occupational therapy technicians employed in 23 surveyed establishments; and, of those employed 77.6 per cent were female.

The total anticipated training need for this occupation by the end of 1963 is made up entirely of job openings existing during the first quarter of 1963. No on-the-job trainee output is expected, leaving a training need of six for this occupation by the end of 1963.

As shown in the table, on-the-job training programs are expected to furnish six of the additional occupational therapy technicians needed by the end of 1966, leaving a training shortage of 16.

Occupational therapy technicians were classified as being in short local supply by 78.3 per cent of the 23 employers.

* MINUS REPRESENTS AN APPARENT SURPLUS

PHYSICAL THERAPY TECHNICIAN (P.T. AIDE)

An individual employed in this occupation works under supervision of a physical therapist in treating disabilities, injuries and diseases through the use of massage, exercise and effective properties of heat, light, water and electricity, according to prescription of a physician. (D.O.T. Reference — Developed from definition of PHYSICAL THERAPIST: 0-52.80)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	56	106	50	7	57	11	0	11	46
Area 1	14	22	8	3	11	5	0	5	6
Area 2	9	19	10	1	11	3	0	3	8
Area 3	14	24	10	1	11	1	0	1	10
Area 4	14	25	11	2	13	2	0	2	11
Area 5	2	5	3	0	3	0	0	0	3
Area 6	3	11	8	0	8	0	0	0	8

Physical therapy technician employment is expected to increase by more than 89 per cent by the end of 1966.

Employers expect to train only two of the 12 physical therapy technicians needed by the end of 1963; and, less than 20 per cent of those needed by the end of 1966 are expected to be supplied by on-the-job training programs.

During the first quarter of 1963, 56 physical therapy technicians were employed by 53 surveyed establishments. More than 72 per cent of the technicians were female.

The survey revealed five job vacancies for this occupation, and 7..2 per cent of the 53 employers classified physical therapy technicians as being in short local supply.

X-RAY TECHNICIAN, MEDICAL

An individual employed in this occupation operates x-ray equipment in the application of roentgen rays and radioactive substances for diagnostic and therapeutic purposes. Exposes x-rays, develops film and assists physicians with fluoroscopy. May specialize in taking x-rays of specific areas of the body. Makes minor adjustments to x-ray equipment. (D.O.T. Reference — X-RAY TECHNICIAN: 0-50.04)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs*
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School 1/	Total	
Statewide	387	504	117	60	177	51	233	284	-107
Area 1	87	109	22	5	27	1	28	29	-2
Area 2	57	86	29	1	30	6	67	73	-43
Area 3	61	80	19	24	43	1	33	34	9
Area 4	77	99	22	12	34	35	82	117	-83
Area 5	44	57	13	9	22	4	19	23	-1
Area 6	61	73	12	9	21	4	4	8	13

Medical x-ray technicians were employed by 152 of the surveyed establishments and numbered 387 during the first quarter of 1963. Females comprised 75.5 per cent of those employed.

Survey results indicate that hospital training programs and schools will provide an adequate number of x-ray technicians for surveyed establishment needs by the end of 1963.

The demand for trained x-ray technicians is expected to exceed the supply in only two areas by the end of 1966, as is shown in the above table.

Fifteen hospital affiliated schools of x-ray technology were surveyed. These schools are expected to furnish 82 per cent of the total supply of x-ray technicians by the end of 1966. The greater number of these schools provide a training period of 40 hours per week for 104 weeks.

1/ THE STUDY REFLECTS SCHOOLING BEING CONDUCTED WITHIN THE AREA BUT DOES NOT MEASURE THE OUT-MIGRATION OF PERSONS COMPLETING SCHOOL, SINCE FOR MANY REASONS PERSONS COMPLETING COURSES OF STUDY MAY GO TO OTHER AREAS TO SEEK EMPLOYMENT OR TRAINEES DO NOT WORK IN THEIR FIELD AT ALL. COMMERCIALLY OPERATED SCHOOLS ARE NOT INCLUDED.

* MINUS REPRESENTS AN APPARENT SURPLUS

HOUSEKEEPER, ASSISTANT

An individual employed in this occupation supervises workers engaged in maintaining a hospital in clean and orderly condition, and in collecting and distributing linen. Keeps time records. May train personnel and demonstrate new techniques and equipment. (D.O.T. Reference—Developed from definition of HOUSEKEEPER: 2-25.23)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	119	185	66	17	83	13	0	13	70
Area 1	30	38	8	3	11	0	0	0	11
Area 2	17	30	13	0	13	2	0	2	11
Area 3	22	24	2	1	3	0	0	0	3
Area 4	31	56	25	8	33	10	0	10	23
Area 5	10	17	7	2	9	1	0	1	8
Area 6	9	20	11	3	14	0	0	0	14

Assistant housekeepers were found in 90 surveyed establishments, and were employed primarily in large hospitals. About 86 per cent of the 119 persons surveyed in this occupation were female.

Based on survey findings, on-the-job training programs conducted by employers will fall short by about 30 of meeting the needs in this occupation by the end of 1963. As indicated in the table above, 70 additional workers are expected to be needed by the end of 1966.

During the survey, an immediate shortage of 18 assistant housekeepers was revealed. These immediate needs accounted for about 58 per cent of the total training need indicated by the end of 1963.

Assistant housekeepers were classified in short local supply by 56.7 per cent of the 90 employers using this occupation while 43.3 per cent stated that the local supply was adequate.

MEDICAL-RECORD TECHNICIAN

An individual employed in this occupation assists a medical-record librarian in keeping medical records of patients admitted to hospitals or who are receiving health services. Prepares reports of admissions, births and deaths, transfer and discharge of patients. Indexes and codes primary and secondary diagnoses of medical histories and records, following established medical library methods. May perform medical secretarial work as secondary duty. Registered medical-record librarians are not included. (D.O.T. Reference — Developed from the job definition of MEDICAL-RECORD LIBRARIAN: 0-23.25)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs*
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School 1/	Total	
Statewide	274	370	96	52	148	17	102	119	29
Area 1	66	82	16	1	17	1	0	1	16
Area 2	30	52	22	3	25	3	58	61	-36
Area 3	43	52	9	22	31	5	44	49	-18
Area 4	77	103	26	16	42	5	0	5	37
Area 5	27	39	12	5	17	0	0	0	17
Area 6	31	42	11	5	16	3	0	3	13

Medical-record technicians were employed by 179 of the 417 surveyed establishments. About 98 per cent of the 274 persons employed in this occupation were female.

Survey results indicate immediate trained worker needs for eight medical-record technicians during the first quarter of 1963.

The total trained worker demand for this occupation is expected to be 67 by the end of 1963 and increase to 148 by the end of 1966. On-the-job training programs and schools are expected to provide 53 trained persons by the end of 1963 and 119 by the end of 1966, leaving an additional training need of 14 by the end of 1963 and, as shown in the above table, 29 by the end of 1966.

Medical-record technicians were classified in short local supply by 68.7 per cent of the 179 employers, while 31.3 per cent classified the local supply as adequate.

The survey of trainee output for two hospital affiliated schools revealed a training period for this occupation of 40 hours per week for 52 weeks.

1/ THE STUDY REFLECTS SCHOOLING BEING CONDUCTED WITHIN THE AREA BUT DOES NOT MEASURE THE OUT-MIGRATION OF PERSONS COMPLETING SCHOOL, SINCE FOR MANY REASONS, PERSONS COMPLETING COURSES OF STUDY MAY GO TO OTHER AREAS TO SEEK EMPLOYMENT OR DO NOT WORK IN THEIR FIELD OF TRAINING. COMMERCIALLY OPERATED SCHOOL OUTPUT IS NOT INCLUDED.

* MINUS REPRESENTS AN APPARENT SURPLUS

SECRETARY-STENOGRAPHER, MEDICAL

An individual employed in this occupation performs general clerical work requiring a knowledge of medical terminology. Takes and transcribes dictation of medical reports, letters, and minutes of meetings. Prepares periodic reports on various hospital or health service activities. May maintain files of medical records and reports, and may code and cross index records of diseases and operations. Includes all stenographic and secretarial employees whose duties require a knowledge of medical terminology. (D.O.T. Reference — Developed from job definition of SECRETARY: 1-33.01 and STENOGRAPHER: 1-37.12)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School 1/	Total	
Statewide	809	1,016	207	176	363	103	0	103	280
Area 1	161	187	26	14	40	5	0	5	35
Area 2	87	126	39	31	70	40	0	40	30
Area 3	125	150	25	30	55	4	0	4	51
Area 4	253	330	77	59	136	49	0	49	87
Area 5	74	94	20	14	34	4	0	4	30
Area 6	109	129	20	28	48	1	0	1	47

Based on survey findings, on-the-job training programs for medical secretary-stenographer are expected to furnish only 31 trained persons or less than 25 per cent of the anticipated trained worker demand for this occupation by the end of 1963, and less than 29 per cent by the end of 1966, as shown in the above table.

This occupation was found in 250 surveyed establishments and of the 809 persons employed, 99.6 per cent were female.

Trained workers available for medical secretary-stenographer positions were classified in short local supply by 65.7 per cent of the 250 employers and there existed a shortage of 35 qualified workers for this occupation in surveyed establishments during the first quarter of 1963.

1/ COMMERCIALLY OPERATED SCHOOL OUTPUT IS NOT INCLUDED.

SUPERVISOR, CENTRAL SUPPLY

An individual employed in this occupation directs the activities of a hospital central supply room furnishing sterile and nonsterile supplies and equipment for use in the care and treatment of patients. Insures that aseptic techniques are employed by personnel in preparing and handling sterile items. Does not include registered nurses who are central supply supervisors. (D.O.T. Reference — SUPERVISOR, CENTRAL SUPPLY: 0-52.95)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	74	98	24	5	29	7	0	7	22
Area 1	16	21	5	2	7	1	0	1	6
Area 2	13	19	6	1	7	2	0	2	5
Area 3	12	15	3	0	3	0	0	0	3
Area 4	16	20	4	1	5	2	0	2	3
Area 5	10	11	1	0	1	0	0	0	1
Area 6	7	12	5	1	6	2	0	2	4

During the first quarter of 1963 there were 74 central supply supervisors employed in surveyed establishments; and, of these, 90.5 per cent were female.

Surveyed employment in this occupation is expected to increase by only five by the end of 1963; however, as shown by the above table, the need for 29 additional central supply supervisors is anticipated by the end of 1966. On-the-job training programs will provide seven of these, leaving an additional training need of 22.

WARD CLERK

An individual employed in this occupation works in a hospital, assisting nurses at the hall desk, and keeping patients' charts posted from duty nurses' notations on patients' condition. Fills in records by hand. May assist patients in getting situated in room. May take personal belonging inventory and give information as to rules, practices, et cetera. Answers telephone and performs a variety of closely related tasks. (D.O.T. Reference — WARD CLERK: 1-05.01)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	441	703	262	118	380	152	0	152	228
Area 1	53	79	26	2	28	21	0	21	7
Area 2	78	135	57	7	64	27	0	27	37
Area 3	91	123	32	33	65	12	0	12	53
Area 4	142	220	78	43	121	33	0	33	88
Area 5	30	61	31	6	37	22	0	22	15
Area 6	47	85	38	27	65	37	0	37	28

Ward clerks were employed by 78 surveyed establishments and of the 441 persons covered in this occupation, 98.2 per cent were female. On-the-job training programs are expected to supply 34 of the 97 trained ward clerks needed by the end of 1963; and, as the table reveals, to supply 152 of the anticipated needs by the end of 1966, leaving an additional training need of 63 by the end of 1963 and 228 by the end of 1966.

Trained ward clerks were classified in short supply by 53.8 per cent of the 78 employers utilizing this type worker.

There were 19 job vacancies for ward clerks in surveyed establishments during the first quarter of 1963.

BAKER

An individual employed in this occupation produces finished bake goods, such as loaf bread, rolls, biscuits, muffins, pies, cakes, and other pastries. Measures and mixes ingredients; forms dough; and bakes products in oven. May perform other cooking duties. May supervise and instruct helpers. (D.O.T. Reference — BAKER: 4-01.100)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	79	101	22	11	33	8	0	8	25
Area 1	19	20	1	3	4	0	0	0	4
Area 2	8	12	4	2	6	5	0	5	1
Area 3	11	13	2	1	3	2	0	2	1
Area 4	19	28	9	3	12	1	0	1	11
Area 5	12	14	2	1	3	0	0	0	3
Area 6	10	14	4	1	5	0	0	0	5

Trained full time bakers were found in 58 surveyed establishments. Male employment accounted for 54.4 per cent of the 79 persons working as bakers.

On-the-job training programs are expected to supply two of the six additional bakers needed by the end of 1963; and, as shown above, eight of the 33 expected to be needed by the end of 1966.

During the first quarter of 1963, job vacancies existed for two bakers in surveyed establishments.

COOK

An individual employed in this occupation prepares or assists in the preparation of a complete meal in an institutional kitchen. May prepare meals for persons requiring special diets. (D.O.T. Reference — COOK, SPECIAL DIET: 2-26.32)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	1,011	1,161	150	101	251	56	0	56	195
Area 1	249	271	22	9	31	6	0	6	25
Area 2	112	133	21	3	24	12	0	12	12
Area 3	153	173	20	16	36	13	0	13	23
Area 4	170	217	47	18	65	16	0	16	49
Area 5	145	168	23	9	32	3	0	3	29
Area 6	182	199	17	46	63	6	0	6	57

Cooks comprise 4.3 per cent of surveyed occupation employment. They were employed by 287 establishments during the first quarter of 1963, and 65.7 per cent were female.

On-the-job training programs expect to furnish 19 of the 82 additional cooks needed by the end of 1963, leaving a training need of 63.

Employers expect to furnish only 22.3 per cent of the total additional trained workers needed for this occupation by the end of 1966, as shown in the above table.

Employers had immediate needs for 19 trained cooks during the first quarter of 1963.

FOOD SERVICE SUPERVISOR-CHEF

An individual employed in this occupation supervises cooks, bakers, and kitchen helpers in a kitchen and dining room. Follows menus prepared by a dietitian, but is expected to utilize acquired skills in determining the quantities of food to be ordered and prepared without day-to-day supervision. (D.O.T. Reference — Developed from definition of CHEF II: 2-26.31)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	168	209	41	20	61	14	0	14	47
Area 1	40	49	9	1	10	2	0	2	8
Area 2	19	25	6	3	9	6	0	6	3
Area 3	31	36	5	10	15	1	0	1	14
Area 4	39	49	10	3	13	4	0	4	9
Area 5	20	23	3	1	4	0	0	0	4
Area 6	19	27	8	2	10	1	0	1	9

Food service supervisors, excluding dietitians, were employed by 116 establishments. Females comprised 76.2 per cent of surveyed employment in this occupation.

On-the-job training programs are expected to supply only one of the 14 additional food service supervisors needed by the end of 1963; and, as shown above, only 23 per cent of the expected need by the end of 1966.

Eleven job vacancies for this occupation existed during the first quarter of 1963; and, 68.1 per cent of the employers using this type of worker classified them in short local supply.

SPECIAL DIET WORKER

An individual employed in this occupation portions food in accordance with diets in a hospital or other institution under the direction of a dietitian. Weighs out specified amounts of food and may perform some cooking as directed. (D.O.T. Reference — SPECIAL DIET WORKER: 2-29.03)

ANTICIPATED STATEWIDE AND AREA NET—TRAINING REQUIREMENTS BY THE END OF 1966

Area	Surveyed Establishments Only		Trained Worker Demand			Trained Worker Supply			Net Training Needs
	Employment During First Quarter Of 1963	Anticipated Employment End Of 1966	Expansion	Replacement	Total	On-The-Job	School	Total	
Statewide	210	252	42	41	83	51	0	51	32
Area 1	41	49	8	5	13	8	0	8	5
Area 2	16	22	6	1	7	3	0	3	4
Area 3	26	34	8	10	18	7	0	7	11
Area 4	94	106	12	22	34	29	0	29	5
Area 5	12	17	5	1	6	2	0	2	4
Area 6	21	24	3	2	5	2	0	2	3

Special diet workers were employed by 74 surveyed establishments during the first quarter of 1963. Female employment accounted for 94.8 per cent of total surveyed employment in this occupation.

On-the-job training programs are expected to supply almost 65 per cent of the additional workers estimated to be needed for this occupation by the end of 1963, and will provide 61.4 per cent of the additional need by the end of 1966. Two job vacancies existed for special diet workers during the first quarter of 1963.

OTHER OCCUPATIONS

Employment found in each of the following occupations was not adequate for significant area distribution. The table on page 18 shows the anticipated training requirements for each of these occupations by the end of 1966.

DARKROOM HELPER

Develops, fixes and washes exposed x-ray film in accordance with prescribed darkroom techniques: Immerses film in a series of chemical baths for specific periods of time. Hangs film on racks to dry or uses a special drying cabinet. May prepare photographic solutions according to standard formulas. (D.O.T. Reference — None)

During the first quarter of 1963, darkroom helpers were employed by 39 surveyed establishments.

Employers are expected to train three of the 11 additional workers expected to be needed in this occupation by the end of 1966.

FORMULA-ROOM WORKER

An individual employed in this occupation prepares infants' formulas. Mixes specified quantities of ingredients to prepare formula solution, or mixes individual formulas in accordance with *physician's* orders. (D.O.T. Reference — FORMULA-ROOM WORKER: 2-29.04)

During the first quarter of 1963, surveyed establishments employing full time formula-room workers numbered 30. All these employees were female.

On-the-job training programs are expected to furnish six of the 15 additional trained workers needed for this occupation by the end of 1966, leaving an additional training need of nine.

Formula-room workers were classified in adequate supply by 70 per cent of employers utilizing this type of worker.

RECREATIONAL THERAPY TECHNICIAN (R.T. AIDE)

An individual employed in this occupation works under the supervision of a recreational therapist in directing and participating with patients in activities, such as parlor games, dramatics and dances, tennis and softball, regulating content of programs in accordance with patients inclinations and guided by hospital policies and instructions from supervisors and doctors. (D.O.T. Reference — Developed from definition of RECREATIONAL THERAPIST: 0-32.05)

Recreational therapy technicians were employed by 11 surveyed establishments during the first quarter of 1963. Of the technicians employed, 53.8 per cent were male.

Training programs will supply nearly enough recreational technicians to meet the additional need in surveyed establishments by the end of 1963, and will provide five of the 13 additional recreational technicians needed by the end of 1966.

The survey revealed four job vacancies for this occupation during the first quarter of 1963.

MEDICAL PHOTOGRAPHER

An individual in this occupation photographs medical and allied phenomena to provide illustrations for scientific records, research, study, teaching, and publications: Processes and finishes negative material and positives in form of prints and transparancies, including lantern slides. Engages in investigative, experimental, and developmental activities. Performs administrative duties as required by workload and nature of technical photographic activities. (D.O.T. Reference — Developed from definition of BIOLOGICAL PHOTOGRAPHER: 0-56.96)

Full time medical photographers were employed by four surveyed establishments during the first quarter of 1963.

Two of the four additional persons expected to be needed in this occupation by the end of 1966, will be trained on-the-job, leaving a training need of two.

ORTHOPEDIC TECHNICIAN

An individual employed in this occupation makes, fits, and repairs artificial limbs, braces and appliances for body deformities, working from physician's prescription. Instructs patient in the use of prosthetic device or brace. (D.O.T. Reference — Developed from definition of ORTHOPEDIC AND LIMB TECHNICIAN: 5-09.410)

Six surveyed establishments employed 11 full time orthopedic technicians during the first quarter of 1963. All of these technicians were male. On-the-job training programs will provide two of the five additional persons needed for this occupation by the end of 1966.

OXYGEN THERAPIST, REGISTERED

An individual employed in this occupation sets up various pieces of oxygen equipment such as tents, masks, regulators, and flowmeters at patient's bedside as to properly furnish oxygen to patient under controlled conditions. Instructs patient in safety precautions and caring for oxygen supply. Maintains, cleans, and repairs equipment. Work is performed in accordance with instructions given by the physician ordering oxygen. Registered nurses are not included. (D.O.T. Reference — OXYGEN-THERAPY-EQUIPMENT TECHNICIAN: 0-50.03)

The number of oxygen therapists in surveyed establishments is expected to increase from five during the first quarter of 1963, to 17 by the end of 1966.

One surveyed training school will provide 12 persons for this occupation, which will equal the demand for oxygen therapists in surveyed establishments by the end of 1966.

The one known school of oxygen therapy, located in Area Two, provides a schooling period of 40 hours per week for 26 weeks.

ELECTROENCEPHALOGRAPH TECHNICIAN

An individual employed in this occupation measures impulse frequencies and differences in electrical potential between various portions of the brain, using an electroencephalograph that records data as a series of irregular lines on continuous graph for use by physicians in diagnosing brain disorders. Makes minor adjustments and repairs, such as replacing condensors and refilling pens. Work assignments are received in terms of specific instructions from an attending physician. (D.O.T. Reference — ELECTROENCEPHALOGRAPH TECHNICIAN: 0-50.14)

Full time electroencephalograph technicians were employed by 11 surveyed establishments during the first quarter of 1963.

The supply of trained workers is expected to equal the estimated demand for additional workers in this occupation by the end of 1963.

The number of electroencephalograph technicians is expected to double by the end of 1966. On-the-job training programs will provide nine of the 16 additional workers needed by the end of 1966.

ORTHOPEDIC CAST SPECIALIST

An individual employed in this occupation molds and removes plaster of Paris casts for patients, working under the direction of attending physician. (D.O.T. Reference — ORTHOPEDIC CAST SPECIALIST: 2-42.15)

Only one surveyed establishment employed an orthopedic cast specialist during the first quarter of 1963. This number is expected to increase to four by the end of 1963; and, one of the three additional workers needed by the end of 1966 will be trained on-the-job, leaving a net training need of two.

MEDICAL ILLUSTRATOR

An individual employed in this occupation makes drawings, diagrams and three dimensional models to illustrate medical findings and procedures for use in scientific publications, exhibits, post-operative consultations, and research and teaching activities. (D.O.T. Reference — MEDICAL ILLUSTRATOR: 0-44.41)

Full time medical illustrators were employed in only two surveyed establishments during the first quarter of 1963.

No employment increase in this occupation is anticipated by surveyed employers by the end of 1966.

APPENDIX

SURVEY METHODOLOGY AND SCOPE

Relatively few medical and medi-care workers employed in North Carolina are covered by the unemployment insurance program; therefore, employment figures were not available from this source for establishing a universe and, generally, results were not expanded to take into account non-surveyed users. It was not feasible to contact all medical and health service establishments during the survey due to the large number of small units with few employees; e.g., the smaller nursing and rest homes, offices of physicians and dentists, et cetera. Indications are, however, that the survey coverage shown in the following table is adequate, since census data for total employment in North Carolina medical and health services was about 47,000 in 1960, while the total employment in surveyed establishments during the first quarter of 1963 was about 39,650, with about 23,800 being in surveyed occupations. Thus, approximately five-sixths of the employment was actually included.

Type of Service 1/	Per Cent of Establishments Surveyed
Hospitals	100
Clinics Covered by the North Carolina Unemployment Insurance Law	100
Medical Laboratories Covered by the North Carolina Unemployment Insurance Law	100
Dental Laboratories Covered by the North Carolina Unemployment Insurance Law	100
State and Local Health Departments 2/	100
Nursing and Rest Homes with 25 or more beds	100
Nursing and Rest Homes with 7 to 24 beds 3/	33.3
Nursing and Rest Homes with less than 7 beds	0

Included in the survey were 417 establishments. Representatives of 342 establishments were personally contacted by specially trained Labor Market Analysts. Only Health Department responses were collected by mail contact. Prior to the contact an introductory letter was sent to each establishment. 4/ During the interview the purpose of the study and each survey item was thoroughly discussed with the representative and survey data obtained. 5/

1/ ALSO INCLUDED IN THE SURVEY ARE FOUR LARGE COLLEGE INFIRMARIES, TWO SCHOOLS OF MEDICINE, ONE SCHOOL OF PUBLIC HEALTH NURSING, AND ONE SCHOOL OF DENTISTRY.

2/ MAIL SURVEY—75 OF 83 DEPARTMENTS IN THE STATE REPLIED

3/ DATA OBTAINED WERE EXPANDED TO REPRESENT 100 PER CENT.

4/ INTRODUCTORY LETTER SHOWN ON PAGE 58

5/ SURVEY FORMS SHOWN ON PAGES 58-61

OCCUPATIONS

A preliminary list of occupations was compiled requiring primarily less than a college degree. This list and other details related to planning were reviewed by Employment Security Commission representatives and representatives from various divisions of the State Board of Education. Additions and deletions were made and a final list of 43 occupations was selected. Several definitions of occupations were revised during the survey. Survey occupations were, for the most part, classified and defined in accordance with the Dictionary of Occupational Titles, published by the Bureau of Employment Security, United States Department of Labor.

Definitions were modified to reflect differences in occupations among various segments of the medical and health services, or in different size establishments; e.g., the specific duties of a medical secretary employed in a large hospital may vary somewhat from the duties performed in a small hospital or clinic and differ even more from duties performed in other surveyed establishments. Broad responsibilities, however, remain the same.

Some occupations, while surveyed separately, have been combined in this published report because the survey contacts indicated that one person generally performed the duties of two or more similar occupations for which separate training would not be practical. Among these combined occupations are: (1) Medical Secretary and Technical Stenographer, combined under the title, Secretary-Stenographer, Medical; (2) Bacteriology, Biochemistry, Blood-Bank, Hematology, Serology and Tissue Technicians, all shown under the title, Laboratory Technician, Medical.

In some instances an individual was performing duties of unrelated jobs; e.g., in small hospitals, medical laboratory technicians very often perform the duties of x-ray technicians. Similar situations were found quite frequently in the medical secretary and medical-record technician occupations. To avoid duplication these dual job-holders were assigned to the occupation in which the most time was spent.

FORECAST OF FUTURE WORKER NEEDS

It is recognized that no employer can foretell precisely the numbers and types of workers his facility may require on a given date in the future. Anticipated worker requirements in medical and health services, however, will no doubt be influenced by population growth, changes in work methods and services rendered, plans for construction of new and expanding institutions, et cetera. Such factors formed the basis for discussing future personnel requirements with administrators and staff members of hospitals and other health facilities; and, it is believed that well-informed estimates were made.

To help obtain uniform estimates of projected staffing requirements by the end of 1966, the following basic economic assumptions were established to guide officials of all surveyed institutions:

(1) Population growth will continue at about the same rate as in the 1950-1960 period, and this will give impetus to an expansion of medical and other health services.

(2) Trained workers will become available in increasing numbers through expansion of the State Vocational-Technical Education Program.

(3) Budget requests and recommendations for operating funds to carry on already established programs and activities will be approved and reasonable budget consideration will be given to normal growth and new programs.

Employers were asked to estimate future employment and trained worker needs for occupations which were not being used at the time of the survey, but which were expected to be utilized during the forecast periods.

Incidental on-the-job training requiring non-specified periods of time was excluded from consideration. However, if the employer indicated a preference for training his own workers, additional needs were reduced by on-the-job training output, whether organized or incidental.

Current and anticipated survey employment includes, for the most part, full-time workers and excludes training-school students.

The employment and occupational information presented in this study represent actual totals for the State, except the data collected from nursing and rest homes having from 7 to 24 beds. One-third of these units was surveyed and the results inflated to represent 100 per cent.

Employment estimates for the end of 1963 are treated narratively, for the most part, because of the short period between the date of release of this publication and the end of 1963.

Additional guidance in planning, conducting, and presenting results of this survey was obtained from manpower surveys completed by other states and from the 1962 *North Carolina Study of Technical and Skilled Manpower.*

EMPLOYMENT SECURITY COMMISSION
OF
NORTH CAROLINA

P. O. BOX 960
RALEIGH, NORTH CAROLINA

March, 1963

COMMISSIONERS
HENRY E. KENDALL, CHAIRMAN
HENRY E. DAVIS
H. DAVE HALL
THOMAS E. O'CONNOR
W. BERTRAM PHIPPS
J. W. WHARTON
ADDISON VAN WINKLE

Mr. John Doe, Administrator
General Hospital
1963 Wake Avenue
Raleigh, North Carolina

Dear Sir:

The Employment Security Commission of North Carolina is undertaking a study of the present and anticipated job needs in North Carolina's hospitals and other medicare institutions.

The study has as its principal purpose the development of factual data on job opportunities. With this information, the State Board of Education may be able to plan a program and offer training through its Industrial Education Centers to North Carolina men and women in those occupations where unfilled job needs exist.

This plan of action, we believe, will benefit the hospitals and other medicare institutions by providing a source of workers showing aptitudes and workers who have had basic training in selected nonprofessional occupations found to be in short supply. Not to be overlooked is the fact that with a training program many unemployed or underemployed individuals would be able to benefit from gainful employment.

We will appreciate your cooperation with the Employment Security Commission and the State Board of Education in establishing these areas of occupational need where a training program may be instituted.

Within a short time, John M. Bennett, one of the Commission's Labor Market Analysts will visit you and discuss with you more fully the information being sought and the purposes it can serve.

Sincerely,

Henry E. Kendall

Henry E. Kendall
Chairman

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA
BUREAU OF EMPLOYMENT SECURITY RESEARCH

CONFIDENTIAL REPORT

TRAINEE OUTPUT DATA SHEET 1/
SELECTED MEDICAL & HEALTH SERVICE OCCUPATIONS

ESTABLISHMENT DATA

1	General Hospital School of Nursing	2	Statewide, North Carolina
	NAME OF TRAINING ESTABLISHMENT		ADDRESS
3	Mrs. Jane Doe	4	Director
	ESTABLISHMENT REPRESENTATIVE		TITLE
5	COUNTY: Wake	6	COUNTY NUMBER: 9 2

TRAINING DATA

TRAINING OCCUPATION	NO. CURRENTLY IN TRAINING		NO. WHO HAVE COMPLETED OR WHO WILL COMPLETE TRAINING			LENGTH OF TRAINING PERIOD		REMARKS
	TOTAL	FEMALE	IN 1962	BY THE END OF 1963	BY THE END OF 1968	HRS. PER WEEK	NO. OF WEEKS	
A	B	C	D	E	F	G	H	I
Registered Nurse	30	30	10	12	50	40	156	None

John M. Bennett
LABOR MARKET ANALYST

3-15-63
DATE

1/ TO BE USED FOR OBTAINING SOURCE DATA FROM TRAINING SCHOOLS AND INSTITUTIONS PROVIDING OTHER THAN PAID ON-THE-JOB TRAINING

Confidential Report

EMPLOYMENT SECURITY COMMISSION OF N. C.
BUREAU OF EMPLOYMENT SECURITY RESEARCH

Survey Data Sheet-Medical and Health Service Occupations

Establishment Identification Data

1	Name of Establishment	2	Phone Number
3	Address	4	County
5	Name of Representative Interviewed	6	Representative's Title

7	Index Number of Establishment	
8	Standard Industrial Classification Code	
9	County Number	
10	Area Number	
11	Does this establishment operate a school for tuition paying students?	Yes ☐ No ☐
12	No. of paid workers currently employed by this establishment	
Considering plans for a new establishment or expansion of present facilities, how many persons are expected to be employed by:	13 The end of 1963?	
	14 The end of 1966?	
15	No. of hospital beds now being maintained	

Interview Time

16	Date	Time	Date	Time

17	E Factor	
18	Type	

Basic Economic Assumptions

Population growth will continue at about the same rate as in the 1950-1960 period, and this will give impetus to an expansion of medical and other health services.

Trained Workers will become available in increasing numbers through expansion of the State Vocational-Technical Education Program.

That budget requests and recommendations for operating funds to carry on already established programs and activities will be approved and that reasonable budget consideration will be given to normal growth and new programs.

Analyst's Comments:

Labor Market Analyst

OCCUPATION DATA

Job. Code No.	Titles Of Selected Occupations (Occupations Not Listed May Be Added)	Number Of Wo kers In This Occupation Currently On The Payroll Of This Establishment Exclude Trainees		Replacement Needs 1/ By:		Additional Trained Workers Needed For This Occupation:			No. On Payroll Expected To Complete Organized On-The-Job Training For This Occupation By:		How Do You Classify The Supply Of Trained Workers Now Available For This Position? (1) Short (2) Adequate (3) Surplus
		Total	Of Total How Many Are Female?	End Of 1963	End Of 1966	Now	By End Of 1963	By End Of 1966	End Of 1963	End Of 1966	
	A	B	C	D	E	F	G	H	I	J	
1.	NURSE, REGISTERED-GRADUATE										
2.	HOUSEKEEPER, ASSISTANT										
3.	MEDICAL-RECORD TECHNICIAN										
4.	MEDICAL SECRETARY										
5.	TECHNICAL STENOGRAPHER										
6.	WARD CLERK										
7.	MEDICAL TECHNOLOGIST										
8.	LABORATORY TECHNICIAN—NONDEGREE										
9.	ASSISTANT LABORATORY TECHNICIAN										
10.	LABORATORY HELPER										
11.	BACTERIOLOGY TECHNICIAN										
12.	BIOCHEMISTRY TECHNICIAN										
13.	BLOOD-BANK TECHNICIAN										
14.	HEMATOLOGY TECHNICIAN										
15.	SEROLOGY TECHNICIAN										
16.	TISSUE TECHNICIAN										
17.	PHARMACY HELPER										
18.	SURGICAL TECHNICIAN										
19.	CLINIC TECHNICIAN										
20.	SUPERVISOR CENTRAL SUPPLY										
21.	NURSE, PRACTICAL										
22.	NURSE AIDE										
23.	ORDERLY—ATTENDANT										

1/ REPLACEMENTS NEEDED FOR PERMANENT WITHDRAWALS FROM THE LABOR FORCE DUE TO SUCH CAUSES AS DEATH, RETIREMENT, ETC.

OCCUPATION DATA

Job. Code No.	Titles Of Selected Occupations (Occupations Not Listed May Be Added)	Number Of Workers In This Occupation Currently On The Payroll Of This Establishment Exclude Trainees		Replacement Needs 1/ By:		Additional Trained Workers Needed For This Occupation:			No. On Payroll Expected To Complete Organized On-The-Job Training For This Occupation By:		How Do You Classify The Supply Of Trained Workers Now Available For This Position? (1) Short (2) Adequate (3) Surplus
		Total	Of Total How Many Are Female?	End Of 1963	End Of 1966	Now	By End Of 1963	By End Of 1966	By End Of 1963	By End Of 1966	
	A	B	C	D	E	F	G	H	I	J	
24.	DENTAL LABORATORY TECHNICIAN										
25.	ELECTROCARDIOGRAPH TECHNICIAN										
26.	ELECTROENCEPHALOGRAPH TECHNICIAN										
27.	MEDICAL ILLUSTRATOR										
28.	MEDICAL PHOTOGRAPHER										
29.	X-RAY TECHNICIAN, MEDICAL										
30.	DARKROOM HELPER										
31.	OCCUPATIONAL THERAPY TECHNICIAN										
32.	PHYSICAL THERAPY TECHNICIAN										
33.	RECREATIONAL THERAPY TECHNICIAN										
34.	ORTHOPEDIC CAST SPECIALIST										
35.	ORTHOPEDIC TECHNICIAN										
36.	BAKER										
37.	COOK										
38.	FOOD SERVICE SUPERVISOR—CHEF										
39.	FORMULA-ROOM WORKER										
40.	SPECIAL DIET WORKER										
41.	OXYGEN THERAPIST, REGISTERED										
42.	HOSPITAL EQUIPMENT SERVICEMAN 2/										
43.	MEDICAL ELECTRONICS TECHNICIAN 2/										

1/ REPLACEMENTS NEEDED FOR PERMANENT WITHDRAWALS FROM THE LABOR FORCE DUE TO SUCH CAUSES AS DEATH, RETIREMENT, ETC.
2/ UNDEFINED

LISTING OF SURVEY PARTICIPANTS

Adams and Kinton Nursing Home
Lillington

Avery Rest Home
Charlotte

Agricultural and Technical College
Greensboro

Alamance County Health Department
Burlington

Alamance County Hospital, Inc.
Burlington

Albemarle Hospital
Elizabeth City

Albert Schweitzer Memorial Hospital, Inc.
Balsam Grove

Alexander County Hospital
Taylorsville

Alleghany County Memorial Hospital
Sparta

Anders Rest Home
Bryson City

Anderson Nursing Home
Hendersonville

Angel Clinic Hospital
Franklin

Angel Hospital
Franklin

Annie Penn Memorial Hospital
Reidsville

Anson County Health Department
Wadesboro

Anson County Hospital
Wadesboro

Anson Rest Court, Inc.
Wadesboro

Appalachian Hall, Inc.
Asheville

Ashe County Memorial Hospital
Jefferson

Asheville Orthopedic Hospital, Inc.
Asheville

Aston Park Hospital, Inc.
Asheville

Avery County Health Department
Newland

Babies' Hospital
Wrightsville Beach

Barefoot, Dr. Graham B. & Associates
Wilmington

Beam Rest Home
Cherryville

Beaufort County Health Department
Washington

Beaufort County Hospital
Washington

Benjamin Franklin Boarding Home
Louisburg

Bertie County Health Department
Windsor

Bertie County Memorial Hospital
Windsor

Bethel Clinic Hospital
Bethel

Betsy Johnson Memorial Hospital
Dunn

Blackwelder Hospital
Lenoir

Bladen County Health Department
Elizabethtown

Bladen County Hospital
Elizabethtown

Blowing Rock Hospital, Inc.
Blowing Rock

Bland Haven Nursing Home
Salisbury

Bowman Gray School of Medicine
Department of Clinics
Winston-Salem

Bradford Clinic
Charlotte

Brewer-Straling Clinic
Roseboro

Brooks-Howell Home
Asheville

Broughton Hospital
Morganton

Brown Nursing Home
Enfield

Brunswick Boarding Home
Southport

Brunswick County Health Department
Southport

Buncombe County Health Department
Asheville

Buran's Dental Laboratory
Asheville

Burke County Health Department
Morganton

C. J. Harris Community Hospital
Sylva

Cabarrus Clinic For Women
Concord

Cabarrus County Health Department
Concord

Cabarrus Memorial Hospital
Concord

Caldwell County Health Department
Lenoir

Caldwell Memorial Hospital
Lenoir

Cape Fear Memorial Hospital
Wilmington

Carolina Dental Laboratory
Raleigh

Carolina General Hospital
Wilson

Carolina Rest Home
Wilkesboro

Carteret County Health Department
Beaufort

Casstevens Hospital
Winston-Salem

Caswell Training School Infirmary
Kinston

Catawba (Lincoln-Alexander)
County Health Department
Hickory

Catawba Hospital, Inc.
Newton

Catherine Kennedy Home
Wilmington

Central Carolina Rehabilitation
Hospital
Greensboro

Central Prison Hospital
Raleigh

Charles A. Cannon, Jr. Memorial
Hospital
Banner Elk

Charlotte E.E.N.T. Hospital
Charlotte

Charlotte Laboratory, Inc.
Charlotte

Charlotte-Mecklenburg Hospital Authority
Charlotte Memorial Unit—Charlotte
Good Samaritan Unit—Charlotte
Huntersville Unit—Huntersville
Rehabilitation Unit—Charlotte

Chatham County Hospital, Inc.
Siler City

Cherokee (Clay) County Health Department
Murphy

Cherry Hospital
Goldsboro

Cherry Point Station Hospital
Cherry Point

Chowan Hospital
Edenton

City Memorial Hospital
Thomasville

City Memorial Hospital
Winston-Salem

City of Charlotte Health Department
Charlotte

Clapp's Nursing Home
Asheboro

Clapp's Nursing Home
Pleasant Garden

Clearview Sanitarium, Inc.
Ayden

Cleveland County Health Department
Shelby

Cleveland Memorial Hospital, Inc.
Shelby

Columbus County Health Department
Whiteville

Columbus County Hospital
Whiteville

Columbia Hospital
Columbia

Community Boarding
Nashville

Community Hospital
Wilmington

Cowan, Mrs. Annie Lou
Whiteville

Craven County Health Department
New Bern

Craven County Hospital Corp.
New Bern

Cumberland County Health Department
Fayetteville

Currituck County Health Department
Currituck

Dare County Health Department
Manteo

Davidson College Infirmary
Davidson

Davidson County Health Department
Lexington

Davie (Yadkin) County Health Department
Mocksville

Davie County Hospital
Mocksville

Davis Hospital
Statesville

Deerfield Episcopal Home
Asheville

District Memorial Hospital of
Southwestern North Carolina
Andrews

Dorothea Dix Hospital
Raleigh

Duke University Hospital
Durham

Dula Hospital, Inc.
Lenior

Durham Nursing Home
Clemmons

Duplin County Health Department
Kenansville

Duplin General Hospital
Kenansville

Durham County Health Department
Durham

East Carolina College
Greenville

Eastern North Carolina Sanatorium
Wilson

Edgecombe Acres Boarding Home
Tarboro

Edgecombe County Health Department
Tarboro

Edgecombe General Hospital
Tarboro

Edgecombe Meadows
Tarboro

Edwards Clinic
Toluca

Elizabeth Nursing Home
Charlotte

Ellen Fitzgerald Hospital
Monroe

Eure Dental Laboratory
Durham

Favor's Nursing Home
Salisbury

Ferguson Dental Laboratory
Asheville

Fitzgerald Medical Center
Farmville

Fleming Dental Laboratory
Raleigh

Forest Hill Nursing Home, Inc.
Goldsboro

Forsyth County Health Department
Winston-Salem

Forsyth County Home
Winston-Salem

Forsyth County Hospital
Winston-Salem

Foster-Richardson Rest Home
Wilkesboro

Franklin County Health Department
Louisburg

Franklin Memorial Hospital
Louisburg

Friendly Elm Nursing Home
Elm City

Garden Terrace Rest Home
Greensboro

Garrett Memorial Hospital
Crossnore

Garrison General Hospital
Gastonia

Gaskin, E. Reed, M. D.
Charlotte

Gaston County Health Department
Gastonia

Gaston County Negro Hospital
Gastonia

Gaston Memorial Hospital
Gastonia

Gatewood and Woodlawn Rest Home
Wilson

Gilmore Clinic
Greensboro

Glenn-Lee Rest Home
Statesville

Glenwood Boarding Home
Rockingham

Glenwood Hills Nursing Home
Raleigh

Glenwood Park Sanitarium
Greensboro

Good Hope Hospital
Erwin

Good Shepherd Hospital
New Bern

Gordon Crowell Memorial Hospital
Lincolnton

Gordon's Boarding Home
Sylva

Grace Hospital
Morganton

Graham County Health Department
Robbinsville

Granville County Health Department
Oxford

Granville Hospital
Oxford

Gravely Sanatorium
Chapel Hill

Green Acres, Inc.
Charlotte

Green Acres Rest Home No. 2
Charlotte

Greensboro Laboratory
Greensboro

Griffin Clinic
Asheboro

Griffin Clinic
Denton

Grotgen Nursing and Convalescent Home
Wilmington

Guilford County Health Department
Greensboro

Halifax County Health Department
Halifax

Hamlet Hospital
Hamlet

Harnett County Health Department
Lillington

Haven, Inc.
Lexington

Haywood County Health Department
Waynesville

Haywood County Hospital
Waynesville

Haywood Rest Home
Waynesville

Henderson County Health Department
Hendersonville

Henderson-Crumpler Clinic
Mount Olive

Henderson Restorium, Inc.
Henderson

Hertford (Gates) County Health Department
Winton

Hickory Memorial Hospital
Hickory

High Point Memorial Hospital
High Point

Highland Hospital, Inc.
Asheville

Highland Community Hospital
Highlands

Highsmith Memorial Hospital
Fayetteville

Hillcrest Convalescent Home, Inc.
Durham

Hillcrest Manor Nursing Home
Charlotte

Hilltop House, Inc.
Marion

Hilltop Rest Home
Linwood

Homestead
Henderson

Hope Home
Red Springs

Horton Dental Laboratory
Wilson

Hugh Chatham Memorial Hospital
Elkin

Hyde County Health Department
Swan Quarter

Iredell County Health Department
Statesville

Iredell Memorial Hospital
Statesville

J. Arthur Dosher Memorial Hospital
Southport

Jackson (Macon-Swain) Health Department
Sylva

James Walker Memorial Hospital
Wilmington

Jo Lene's Nursing Home
Salisbury

John Umstead Hospital
Butner

Johnston Boarding Home No. 2
Smithfield

Johnston County Health Department
Smithfield

Johnston Memorial Hospital
Smithfield

Joyner's Nursing Home
Charlotte

Jubilee Hospital
Henderson

Kate B. Reynolds Memorial Hospital
Winston-Salem

Keeley Institute
Greensboro

Keller Convalescent And Nursing Home
Sanford

Kernodle Clinic, Inc.
Burlington

Keys' Dental Laboratory
Asheville

King's Daughters Home
Durham

Kings Mountain Hospital, Inc.
Kings Mountain

Kinton's Nursing Home
Fuquay Springs

L. Richardson Memorial Hospital
Greensboro

Lakeview Nursing Home
Hope Mills

Lanning Rest Home
Clyde

Laurel Hill Boarding Home
Laurel Hill

Lee County Hospital
Sanford

Lenoir County Health Department
Kinston

Lenoir Home For The Aged
Kinston

Lenoir Memorial Hospital
Kinston

Lenoir Nursing Home
Kinston

Lexington Memorial Hospital
Lexington

Lincoln Hospital
Durham

Lindley Oaks Rest Home
Snow Camp

Lowrance Hospital
Mooresville

Lula C. Hoots Memorial Hospital
Yadkinville

Lynn Haven Nursing Home
Mocksville

Madison County Health Department
Marshall

Maple Grove Nursing Home
Winston-Salem

Margaret R. Pardee Hospital
Hendersonville

Maria Parham Hospital
Henderson

Marion General Hospital
Marion

Martin County Health Department
Williamston

Martin County Hospital, Inc.
Williamston

Mary Elizabeth Hospital
Raleigh

Mason Boarding Home
Lillington

Masonic and Eastern Star Home
Greensboro

Mathiesen Clinic
Pittsboro

Mattie Quinn's Rest Home
Hendersonville

Mayview Convalescent Home
Raleigh

McDowell County Health Department
Marion

McPherson Hospital
Durham

Mebane Clinic
Mebane

Mecklenburg County Health Department
Charlotte

Medical Arts Clinic of Mooresville Inc.
Mooresville

Medical Science Laboratory, Inc.
Lenoir

Memorial Clinic
Manteo

Memorial Hospital
Rocky Mount

Memorial Hospital of Alamance County
Burlington

Memorial Mission Hospital of Western North Carolina
Asheville

Mercy Hospital
Charlotte

Mercy Hospital
Wilson

Methodist Home For The Aged, Inc.
Charlotte

Methodist Retirement Homes, Inc.
Durham

Montgomery County Health Department
Troy

Montgomery Memorial Hospital
Troy

Moore County Health Department
Carthage

Moore Memorial Hospital, Inc.
Pinehurst

Morehead City Hospital
Morehead City

Morehead Memorial Hospital
Leaksville

Morgan Boarding Home
Hertford

Moses H. Cone Memorial Hospital
Greensboro

Mount Pleasant Rest Home
Wilkesboro

Mountain Rest Home
Boone

Mountain Sanitarium & Hospital
Fletcher

Murphy Protestant Hospital
Murphy

Nash Boarding Home
Nashville

Nash-Mont Corp.
Rocky Mount

Nash County Health Department
Nashville

New Hanover County Hospital
Wilmington

Noble Dental Laboratory
Raleigh

North Carolina Baptist Homes For Aging
Hamilton

North Carolina Baptist Home, Inc.
Resthaven—Winston Salem
Albemarle Branch—Albemarle

North Carolina Baptist Hospital
Winston-Salem

North Carolina Cancer Institute, Inc.
Lumberton

North Carolina Cerebral Palsy Hospital
Durham

North Carolina Lutheran Home
Hickory

North Carolina Memorial Hospital
Chapel Hill

North Carolina Orthopedic Hospital
Gastonia

North Carolina Sanatorium
McCain

North Carolina State Board of Health Laboratory Division
Raleigh

North Carolina State College Infirmary
Raleigh

Northampton County Health Department
Jackson

Northern Hospital of Surry County
Mount Airy

Oakhurst Rest Home
Greensboro

Oakwood Knolls Nursing Home
Kernersville

Old Folk's Home
Goldsboro

Onslow County Health Department
Jacksonville

Onslow Memorial Hospital
Jacksonville

Orange (Person-Chatham-Lee-Caswell) County Health Department
Chapel Hill

Our Community Hospital
Scotland Neck

Pamlico County Health Department
Bayboro

Park View Hospital
Rocky Mount

Parkway Rest Home
Asheville

Parrott Hospital
Kinston

Pasquotank (Perquimans-Camden-Chowan) County Health Department
Elizabeth City

Pender County Health Department
Burgaw

Pender Memorial Hospital
Burgaw

Person County Memorial Hospital
Roxboro

Piedmont Memorial Hospital
Greensboro

Pigeon Valley Rest Home
Canton

Pine Forest Nursing Home
Asheville

Pine Forest Rest Home
Asheville

Pine Knoll Rest Home
Durham

Pine Ridge Rest Home
Sanford

Pinebluff Sanitarium
Pinebluff

Pinehurst Nursing and Convalescent Home
Pinehurst

Pineville Hospital
Pineville

Pitt County Health Department
Greenville

Pitt County Memorial Hospital
Greenville

Plymouth Clinic
Plymouth

Precision Dental Laboratory
Charlotte

Presbyterian Home, Inc.
High Point

Presbyterian Hospital
Charlotte

Professional Building Laboratory
Charlotte

Providence Nursing Home, Inc.
Matthews

Providence Hospital
Murphy

Pungo District Hospital
Belhaven

Quigless Clinic-Hospital
Tarboro

Raleigh Dental Laboratory
Raleigh

Ranch Rest Home
Concord

Randolph County Health Department
Asheboro

Randolph Hospital, Inc.
Asheboro

Randolph Rest Home
Asheboro

Reeves Gamble Hospital
Lincolnton

Reidsville Rest Home
Reidsville

Reisig Nursing Home
Asheville

Rex Hospital
Raleigh

Reynolds Rest Home
Carthage

Richard Baker Hospital
Hickory

Richmond County Health Department
Rockingham

Richmond County Memorial Hospital
Rockingham

Ridgerest
Columbus

Riverview Manor Nursing Home
Washington

Roanoke-Chowan Hospital
Ahoskie

Roanoke Rapids Hospital
Roanoke Rapids

Roanoke Valley Nursing Home
Rich Square

Robersonville Township Hospital
Robersonville

Roberson County Health Department
Lumberton

Rockfish Valley, Inc.
Hope Mills

Rocky Mount Health Department
Rocky Mount

Rocky Mount Sanitarium
Rocky Mount

Rogers Nursing Home
Wake Forest

Rowan County Health Department
Salisbury

Rowan Memorial Hospital
Salisbury

Royster Memorial Hospital
Boiling Springs

Rutherford (Polk) County Health
Department
Rutherfordton

Rutherford Hospital, Inc.
Rutherfordton

Saint Joseph Of The Pines
Southern Pines

Saint Joseph's Hospital
Asheville

Saint Luke's Hospital
New Bern

Saint Luke's Hospital
Tryon

Salem Home
Winston-Salem

Sampson County Health Department
Clinton

Sampson County Memorial Hospital
Clinton

Scotland County Health Department
Laurinburg

Scotland Memorial Hospital
Laurinburg

Scott-Parker Sanatorium
Henderson

Sea Level Community Hospital
Sea Level

Seymour Johnson Base Hospital
Goldsboro

Shaw Memorial Hospital
Oxford

Southeastern General Hospital
Lumberton

Spruce Pine Community Hospital
Spruce Pine

Stanly County Health Department
Albemarle

Stanly County Hospital
Albemarle

Stanly Rest Home
Albemarle

Stokes County Health Department
Danbury

Stokes-Reynolds Memorial Hospital
Danbury

Sunset Hills Nursing and Convalescent
Home
High Point

Superior Dental Laboratory
Shelby

Surry County Health Department
Mount Airy

Swain County Hospital
Bryson City

Thomas Nursing Home, Inc.
Morganton

Timrick Hall
Concord

Transylvania Community Hospital
Brevard

Transylvania County Health Department
Brevard

Twin City Dental Laboratory
Winston-Salem

Union Memorial Hospital
Monroe

United States Naval Hospital
Camp Lejeune

United States Public Health
Service Indian Hospital
Cherokee

University of North Carolina
School of Dentistry
Infirmary
School Of Nursing
School Of Public Health
Chapel Hill

Valdese General Hospital
Valdese

Valley Clinic And Hospital
Bat Cave

Vance County Health Department
Henderson

Veterans Administration Hospitals
Durham
Fayetteville
Oteen
Salisbury

Virginia's Lodge
Winston-Salem

W. R. Winslow Memorial Home, Inc.
Elizabeth City

Wake County Health Department
Raleigh

Wake County Hospital Authority
Apex Unit
Fuquay-Varina Unit
Raleigh Unit
Wake Forest
Wendell-Zebulon Unit

Wake Forest Rest Home
Wake Forest

Warren County Health Department
Warrenton

Warren General Hospital
Warrenton

Washington (Tyrrell) County Health
Department
Plymouth

Washington County Hospital
Plymouth

Watauga (Alleghany-Ashe) County Health
Department
Boone

Watauga Hospital
Boone

Watts Hospital
Durham

Wayne County Health Department
Goldsboro

Wayne County Memorial Hospital
Goldsboro

Wesley Long Community Hospital
Greensboro

Western North Carolina Sanatorium
Black Mountain

Westhaven Rest Home
Raleigh

Whaley, Mrs. Della
Kenansville

Whispering Pines Convalescent Nursing
Home
Fayetteville

White Cap Nursing Center
Charlotte

Wilkes County Health Department
Wilkesboro

Wilkes General Hospital
North Wilkesboro

Wilmith Hospital
Charlotte

Wilson Clinic
Wilson

Wilson County Health Department
Wilson

Wilson County Memorial Hospital
Wilson

Winston Park Rest Home
Windsor

Winston-Salem Teachers College
Winston-Salem

Wise Dental Laboratory
Asheville

Womack Army Hospital
Fort Bragg

Woodard-Herring Hospital
Wilson

Woodward Prosthetic
Greensboro

Yancey (Mitchell) County Health Department
Burnsville

Yancey Hospital
Burnsville

Zephyr Hill Sanatorium
Asheville

VT 000 872

Summary of Conferences on Professional and Leadership Development for West Virginia County Vocational Supervisory Personnel (January 10-14, 1966, February 14-18, 1966, March 14-18, 1966).

West Virginia State Dept. of Education, Charleston. Bureau of Vocational, Technical and Adult Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 66 84p.

*LEADERSHIP TRAINING; CONFERENCE REPORTS; STATE SUPERVISORS; SUPERVISORS; *VOCATIONAL EDUCATION; VOCATIONAL DIRECTORS; *EDUCATIONAL PRINCIPLES; *PROGRAM PLANNING; SUPERVISION; *EDUCATIONAL ADMINISTRATION; PROGRAM EVALUATION

The objectives of this series of 3 leadership conferences were (1) to provide information and experience from which supervisors could formulate a philsophical foundation and which would familiarize them with the principles and concepts of vocational education, (2) to provide an understanding of the structure of vocational education in West Virginia, (3) to develop essential guidelines and procedures for planning, implementing, operating, and evaluating a county program of vocational education, and (4) to facilitate the planning of projected county vocational education activities. The 50 participants of the three conferences were vocational education directors, supervisors, coordinators, and program specialists. The major focus of the presentations at the conference sessions were (1) the evolution, history and philosphical bases of vocational education, (2) a cooperative approach to program planning by the various vocational fields, and (3) administration and supervision of state and county programs. Summaries of selected presentations are included. (EM)

VT 000 872

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77p*

LEADERSHIP DEVELOPMENT
Vocational Education

Summary of Presentations

Leadership Development Conferences

Cedar Lakes, Ripley, West Virginia

January 10-14, 1966

February 14-18, 1966

March 14-18, 1966

8—Male Help Wanted

ALUMINUM siding applicator helper wanted. 744-1737.

ANIMAL artist. Syndicate column. Box M-6471, c-o Gazette-Mail.

BOYS 12 TO 15
EARN AND LEARN
WANT to start a business of your own? Subsidize your income or allowance up to $12 week. Insurance available; op portunity to win trips and many other prizes. Call Circulation Dept., the Gazette and Daily Mail, 346-5441.

LARGE company wants draftsman to work in land survey. Topographic mapping, plats, record keeping, for properties in several eastern states. No traveling. Pay commensurate with education and experience. Send resume and references to P. O. Box 659, St. Albans 25177.

BUTCHER—Service type grocery. Starting salary $100 week. Charleston area. Write Box M-6449, c-o Gazette-Mail.

CARPENTERS WANTED—Steady employment, reference required. 949-3953, 949-2361.

CARPENTER and helper. Must have reference and tools. 727-6754.

CHIEF ELECTRICAL ENGINEERS—Instruments, electronics or power distribution. Major non-defense firms. Engineering Associates, 700 E. Main, Richmond, Va. 23219.

COMM. TECHNICIANS — Immediate Thailand Openings. Requires minimum 3 years general communications maintenance experience. Prefer experience in troposcatter, microwave and solid state communications equipment. Long range positions, excellent salaries, full benefits. Send resume to Dept. 449 CTT. Philco-Ford Corp. Education & Technical Services Division, P. O. Box No. 10, Fort Washington, Pa. 19034, An Equal Opportunity Employer.

COOK. Must have good local references and at least 5 years experience. Write Box M-6431, c-o Gazette-Mail, giving phone.

ENGINEERING Inspector out of town. 6 months. Retiree considered. Send replies to Box M-6451, c-o Gazette-Mail.

ESTIMATOR-SALESMAN, home remodeling. Top proposition. Permanent. 925-9851.

EXPERIENCED refrigeration and air conditioner salesman. Salary plus liberal commission. Our employees know about this ad. Replies confidential. Write Box M-6469, c-o Gazette-Mail.

BOOKKEEPER — office manager with good telephone personality—age 25 to 40. Box M-6442, c-o Gazette-Mail.

GOOD OPPORTUNITY
MANUFACTURER REPRESENTATIVE
THE merchandise complete line of housewares, laundry, floor care, wholesale appliances to established franchised dealers. Permanent employment in established business. Territory includes Beckley, Bluefield, White Sulphur Springs, and Charleston. An Equal Opportunity Employer. Please send complete resume and recent photograph to the Hoover Company, 5407-B S.E. McCorkle.

HOSPITAL ATTENDANTS
HOSPITAL ATTENDANTS urgently needed by Montebello State Hospital, Baltimore, Maryland. Over 21 years of age, High School Education. Salary $77 per week to $112 per week, maximum reached in five years. State Merit System benefits, periodic raises, 13 paid holidays, vacation, sick leave.
LOCAL INTERVIEWS at Holiday Inn, Kanawha Blvd. at Laidley, Monday,

8—Male Help Wanted

SALES ENGINEER
TO work with hard-hitting, growing company now selling in and contemplating new plant in W. Va. Prefer young man exprienced in the deep mining industry with some sales background. Salary plus expenses. Send full resume first letter. Reply Box M-6429, c-o Gazette-Mail.

PLUMBER and helper. First class only. Apply 220 Broad St.

STOCK boy and truck driver. Apply in person, Ellis Super Market, 917 Bridge Road.

TV Serviceman for Dayton Ohio area, to cover B & W Stereo. Resu[illegible] W. Good[illegible] 43212 o[illegible]

TWO [illegible]

$1[illegible]

BIG C[illegible] order. [illegible] the sale [illegible] SNOW REM[illegible] leader in build[illegible] 1921. Guaranteed product needed by EVERY retail store, office building, factory, school, church, motel, etc. No investment. No collections. Immediate commissions. Big bonus. Write for FREE SAMPLE, full details, no obligation. The Monroe Company, P. O. Box 1960XM, Cleveland, Ohio 44106.

9—Female Help Wanted

ALTERATIONS LADY—For Dress Shop. Experience, references and expert qualifications necessary. Apply in person except Saturdays. Haddad's of Spring Hill.

AVON CALLING
STILL TIME TO INSURE YOUR MERRY CHRISTMAS! It takes such a little time to earn enough money for Christmas. Call 342-6871 and ask about selling Avon.

BABY SITTER, light housekeeping. 24th Street, Dunbar. Five day week. 768-2127.

BABY SITTER — Light housekeeping, Kanawha City area, after 5 925-3840.

BABY SITTER needed immediately. Two children. Light housework. Bigley Avenue, 346-0611, Friday until 4, 343-6616 after 5, Friday, all day Saturday.

BEELINE Fashions — need extra money for the extras in life? Turn your spare time into dollars the Beeline way. Easiest booking home style plan ever. Call 346-4794 for appointment.

BOOKKEEPER-TYPIST. Must have at least 2 years recent office experience. Knowledge of business arithmetic essential. Apply at Goldfarb's, 106 Virginia Street, East, after 10 A. M.

CASHIER and grocery checker needed, Charleston area. See our ad under in-

9—Female Help Wanted

CURB GIRL—Apply Nejar's, Rt. 60, St. Albans, 727-0151.

EXPERIENCED, sales-minded women to demonstrate soap product in stores within 200 miles Charleston. 344-1088.

EXPERIENCED drug clerk and fountain girl. Apply at The Medicine Shop, 3716 McCorkle Avenue, S. E.

EXECUTIVE FEMALES?
YES, WE HAVE THEM
WE are in need of seven more intelligent, single, young ladies (18 to 26), who are desirous of a career in business. Continuous advancement for those who show initiative, enthusiasm, intelligence, and an ability to get along with people. [illegible] hand-[illegible] in-

[illegible] after 5 P. M.

GENERAL OFFICE WORK — FILING, POSTING. STEADY WORK. 6 DAY WEEK. $1.40 HOUR. NO TELEPHONE CALLS. MICO WHOLESALE, 227 HALE STREET.

HOUSEKEEPER, live in. Two adults. Permanent job. Good salary. 342-4597.

HOUSEKEEPER—Live with elderly lady. Good Salary. 768-7822.

HOUSEKEEPER — Live in. Help care for invalid wife. Permanent. 727-3251.

HOUSEKEEPER—LIVE IN ONLY. CARE FOR 1 CHILD. 342-0588.

HOUSEWORK, [illegible] and laundry, two days weekly. South Charleston. 744-8629.

KELLY SERVICES
Temporary Stenos-Typists
1033 Quarrier St. 342-5992
Equal Opportunity Employer

LADY FOR housework. Live in. Rt. 1, Box 220-A, Elkview.

LIGHT housework, live in, companion for lady. 346-2181.

MASTER Beauty Operator wanted. Apply in person to Charleston Beauty Academy, 711½ Fifth St.

MATURE lady to share my home. Light housework. Salary. 346-7294.

MIDDLEAGED lady — live in and care for elderly lady. Good pay. Write Box M-6474 c-o Gazette-Mail.

NITRO — Waitress wanted. Friendly Barbecue, 755-9014.

PBX RECEPTIONIST needed Charleston area. See our ad under instruction.

PHOTO FINISHER with car — Prefer widow, 38 to 45, with children. No experience necessary, but must be attractive, fast with hands, and willing to work 5 to 6 hours daily. Salary plus

9—Female Help Wanted

WAITRESS WANTED. GOOD STARTING SALARY. PREFER RESIDENCY IN EAST END. 342-9186 FOR INTERVIEW. NO CALLS FROM 11 A.M. TO 2 P.M. MURADS GRILL, 1598 WASHINGTON ST. E.

YOUNG WOMEN
OVER 18
WOMEN WANTED IMMEDIATELY FOR LOCAL OFFICE OF LARGE COMPANY. ONLY THOSE ABLE TO FOLLOW INSTRUCTIONS AND [illegible]BLE TO WORK NEED [illegible]PLY.

[illegible]NY OFFERS $100 PER [illegible]K SALARY TO ALL [illegible]IFIED APPLICANTS.

MR. ROATSEY BE[illegible]N 9:30-1:30, 342-9211 OR [illegible]6.

[illegible] WANTED — Day shift. [illegible] Restaurant, 1232 Washington [illegible]E.

[illegible]S — Experienced for morning [illegible] A. M. to 2 P. M. Apply at Holi[illegible]n No. 1, at Elk River, 2 Kanawha [illegible], East.

[illegible]RESS—no Sundays. Apply Bernie's, [illegible] Broad Street.

[illegible]ANTED IMMEDIATELY. Experienced Cafeteria Cashier. $65 week. 11:30 a.m.-8:30 p.m. Also needed—waitress and dishwasher. One breakfast short-order cook. $65 week. Apply in person, ROSE CITY CAFETERIA, 229 7th Avenue, South Charleston, W. Va

WOMEN
DELIVERING gifts to new mothers. Must have car. Full or part time. Write Box M-6464, c-o Gazette-Mail.

10—Male, Female Help Wntd.

ACCOUNTANT
IMMEDIATE, permanent position for qualified person with 2 to 4 years industrial accounting experience. Must be accurate with figures. Salary commensurate with ability and experience. If interested in full time employment, five day week, pension and other fringe benefits—forward complete resume, including salary requirements to:
HOLLAND-SUCO COLOR CO.
DIVISION OF CHEMETRON CORP.
INDUSTRIAL RELATIONS DEPT.
P. O. BOX 2166
HUNTINGTON, WEST VIRGINIA 25722
AN EQUAL OPPORTUNITY EMPLOYER

Credit and Account Manager
COLLEGE and experience preferred. Excellent conditions and opportunity for advancement. Salary open.
LAIRD MEMORIAL HOSPITAL
Montgomery, W. Va. Phone 442-4511

CREDIT MANAGER
BY local long established wholesale firm. Applications held confidential. Box C-6460, c-o Gazette-Mail.

DIETITIANS

10—Ma

CHOIR D[illegible] miles of [illegible]

FOUR te[illegible] local, tw[illegible] C-6472 c[illegible]

IMMED[illegible]
FOR A[illegible]
NOL[illegible]
OPEN[illegible]
TRAT[illegible]
MORI[illegible]
THAI[illegible]

KENNEL [illegible] Box M-6[illegible]

LADIE[illegible] AND stud[illegible] $2.50 to [illegible] hours. [illegible] 744-8411.

LARGE n[illegible] manager [illegible] Prefer [illegible] years of [illegible] Mr. Whe[illegible]

MATURE, [illegible] learning [illegible] field. M[illegible] ground, [illegible] to the [illegible] Hill, We[illegible]

NATIONAL [illegible] has ope[illegible] personne[illegible] ume to [illegible] Va. 2533[illegible] Equal C[illegible]

REGIST[illegible]

HOSPITAL [illegible] able hou[illegible] LAIRI[illegible] Montgomer[illegible]

WANTED [illegible] woman [illegible] area wit[illegible] $50 week[illegible] ly full-ti[illegible] Dept., W[illegible]

11—Sal[illegible]

BIBLES—[illegible] commiss[illegible]

CHECK C[illegible] salesman [illegible] year. Co[illegible] dealer s[illegible] appointm[illegible]

EARN Big [illegible] delinquer[illegible] vestment [illegible] nance, [illegible] City, Mc[illegible]

INDUS[illegible]

TO sell m[illegible] and new [illegible] Charlesto[illegible] or engin[illegible] Salary, [illegible] Please s[illegible] Gazette-M[illegible]

MANUFAC[illegible] tells you [illegible] represent[illegible] and terr[illegible] tion writ[illegible] letter, 14[illegible] gan, 482[illegible]

MATURE [illegible] ginia fo[illegible] concern. [illegible] to be ow[illegible] for aggr[illegible] able alm[illegible] Arnold C[illegible]

VTG008872

SUMMARY OF CONFERENCES

ON

PROFESSIONAL AND LEADERSHIP DEVELOPMENT

For

West Virginia

County Vocational Supervisory Personnel

January 10-14, 1966
February 14-18, 1966
March 14-18, 1966

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Bureau of Vocational, Technical, and Adult Education

Cedar Lakes

Ripley, West Virginia

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FOREWORD

The impact of the Vocational Education Act of 1963 has brought about many challenges. These challenges made it imperative that local leadership be informed and capable. Program effectiveness rests upon proper planning, efficient instructional practices, sound administration, and dynamic promotion. Effective leadership is the determining factor in the success of educational programs.

The Division of Vocational Education recognizes the trend toward expanding the programs of vocational and technical education. Through a series of in-service conferences it can assist in the professional development of those providing leadership for vocational education on the county level. These conferences are in recognition of the Division's commitment to the professional growth of personnel in vocational and technical education.

Planning for this series of Leadership Conferences required time and effort. We were fortunate to obtain the professional services of Dr. Albert E. Jochen, a nationally recognized vocational educator. Dr. Joseph K. Bailey served as Conference Director. To the Division of Vocational Education personnel who assisted with the conferences goes an expression of commendation. To the County Superintendents of Schools who encouraged their vocational supervisory personnel to participate goes an expression of thanks. Special credits are extended to Mrs. Ruth Edwards who did the editorial work and Mrs. Carmon Howard who transcribed the taped recordings and assisted in preparing this publication.

Fred W. Eberle

OBJECTIVES

OF

PROFESSIONAL AND LEADERSHIP CONFERENCE

I. To provide information and experiences from which supervisors could formulate a philosophical foundation and which would familiarize them with principles and concepts of vocational education.

II. To provide a knowledge of the structure of vocational education in West Virginia.

III. To develop essential guidelines and procedures for planning, implementing, operating, and evaluating a county program of vocational education.

IV. To facilitate the planning of the projected program activities of vocational education for each county.

DIRECTORY OF CONFERENCE STAFF

Name	Session	Title
Joseph K. Bailey	1-2-3	State Supervisor Vocational Program Services
Oscar J. Byrnside, Jr.	1	State Supervisor Distributive and Office Education
Ralph B. Currey	1	Program Specialist Manpower Development and Training
Clifton C. Detamore	1	Program Specialist Vocational Industrial Education
Fred W. Eberle	1-2-3	Assistant State Superintendent of Schools and Director Bureau of Vocational, Technical, and Adult Education
Darwin Harper	1	Program Specialist Vocational Industrial Education
Thomas P. Hill	1	Assistant Director, Adult and Vocational Education, Kanawha County Schools, Charleston, West Virginia
Homer H. Hogue	1	Program Specialist Manpower Development and Training
Albert E. Jochen	1-2-3	Consultant in Vocational Education East Stroudsburg, Pennsylvania Former State Director of Vocational Education in New Jersey
John M. Lowe	1	Retired State Director of Vocational Education, West Virginia Charleston, West Virginia
Claude McGhee	2	Professor, Agricultural Teacher Education, West Virginia University, Morgantown, West Virginia
Alton Pritt	1	Program Specialist Vocational Industrial Education
Pauline Stout	1	State Supervisor Vocational Home Economics

John T. St. Clair	1	Assistant State Superintendent Bureau of Curriculum and Instruction State Department of Education Charleston, West Virginia
J. Jackson Townsend	1	State Supervisor Vocational Industrial Education
W. H. Wayman	1	State Supervisor Vocational Agriculture Education
Carmon Howard	1-2-3	Conference Secretary Secretary, Vocational Program Services

DIRECTORY OF PARTICIPANTS

Name	Session	Title
Lawrence Bartlett	1-2-3	Coordinator, Area Vocational Program, Ritchie County
Gene Bowling	2-3	Supervisor, Vocational Education, Fayette County
Charles T. Brooks	1-2-3	Director of Vocational Education, Mercer County
Guy E. Cain	2	Program Specialist, Vocational Agriculture Education
Harley W. Calendine	1-2-3	Director of Vocational Education, Wood County
Lawrence Cavendish	1-2	Program Specialist, Vocational Agriculture Education
John W. Cole	2	State Supervisor, Manpower Development and Training
Raymon Cunningham	1-2-3	Supervisor, Vocational Education, Jackson County
Gilbert O. Dean	1-2-3	Local Supervisor, Richwood High School, Nicholas County
James B. Deck	2	State Supervisor, Adult Basic Education
Glenn H. Fogle	1-2-3	Supervisor, Vocational Education, Wayne County
Don Fogus	2	Director of Wood Utilization Training Program, Glenville State College
Edna Hall	2	Program Specialist, Vocational Home Economics Education
Thomas P. Hill	1-2-3	Assistant Director, Adult and Vocational Education, Kanawha County Schools, Charleston, West Virginia
Beno Howell	1-2-3	Supervisor, Vocational Education, Mingo County

John L. Kirby	1	Director of Vocational Education, McDowell County
Henry E. Knight	1-2-3	Director of Vocational Education, Kanawha County
Harold B. Lawson	1-2-3	Coordinator, Vocational Education, Marion County
Nancy Matthews	2	Program Specialist, Vocational Home Economics
George S. Mullett	1-2-3	Supervisor, Vocational Education, Wetzel County
W. Grady Mullins	1-2-3	Director of Vocational Education, Wyoming County
Kenneth E. Noah	1-2-3	Vocational Coordinator, Harrison County
C. B. O'Dell	1-2-3	Coordinator, Vocational Education, Tucker County
Robert A. Pastorius	1-2-3	Coordinator, Vocational Education, Marshall County
Charles T. Patrick	1-2-3	Coordinator, Vocational Education, Kanawha County
Roy E. Potter	1-2-3	Principal, McKinley Vocational School, Ohio County
James D. Robinson	1-2-3	Director of Vocational Education, Raleigh County
Glenn E. Smith	1-2-3	Supervisor, Vocational Education, Mason County
R. L. Taubert	1-2-3	Coordinator, Vocational Education, Clay County
Carl S. Thomas	2	Program Specialist, Vocational Agriculture Education
Jesse F. Thorpe	1-2-3	Assistant Director, Vocational Education, Wood County
W. B. Ward	3	Assistant Superintendent, Ohio County Schools
Genevieve Williams	2	Program Specialist, Vocational Home Economics

PROFESSIONAL AND LEADERSHIP DEVELOPMENT WORKSHOP
for
COUNTY SUPERVISORS, COORDINATORS, AND DIRECTORS OF VOCATIONAL EDUCATION

FIRST WEEK

Monday, January 10, 1966

1:00	Registration
1:15 - 1:45	Why Are We Here? Dr. Joseph K. Bailey
1:45 - 2:15	Vocational Education - An Integral Part of Public Education Mr. John T. St. Clair
2:15 - 3:00	Vocational Education - An Economic Essential in West Virginia's Growth Mr. Fred W. Eberle
3:15 - 5:00	Evolution of Vocational Education Dr. Albert E. Jochen

Tuesday, January 11, 1966

8:30 - 9:30	Evolution of Vocational Education Dr. Albert E. Jochen
9:30 - 10:15	History of Vocational Education in West Virginia Mr. John M. Lowe
10:35 - 12:00	Philosophical Bases of Vocational Education Dr. Albert E. Jochen
1:15 - 3:00	Philosophical Bases of Vocational Education Dr. Albert E. Jochen
3:15 - 5:00	Vocational Agriculture Education Mr. W. H. Wayman

Wednesday, January 12, 1966

8:30 - 9:00	Vocational Home Economics - Wage Earning Miss Pauline Stout
9:00 - 10:00	Youth Organizations Dr. Albert E. Jochen
10:15 - 12:00	Vocational Home Economics - Homemaking Miss Pauline Stout
1:15 - 3:00	Basic Principles and Concepts of Vocational Education Dr. Albert E. Jochen

3:15 - 5:00	Vocational Industrial Education Mr. J. J. Townsend, Mr. Alton Pritt, and Mr. Clifton C. Detamore

Thursday, January 13, 1966

8:30 - 9:00	Distributive Education Mr. O. J. Byrnside, Jr.
9:00 - 10:00	Health Occupations Mr. J. J. Townsend and Mr. T. P. Hill
10:30 - 12:00	Technical Education Mr. J. J. Townsend and Mr. Darwin Harper
1:15 - 3:00	Business and Office Education Mr. O. J. Byrnside, Jr.
3:30 - 5:00	Effective Communications Dr. Albert E. Jochen

Friday, January 14, 1966

8:30 - 9:30	Area Vocational Program (State) Mr. Homer H. Hogue
9:30 - 10:30	Manpower Development and Training Program Mr. Ralph B. Currey
10:45 - 11:30	Review Dr. Albert E. Jochen
11:30 - 12:00	Application Dr. Joseph K. Bailey

SECOND WEEK

Monday, February 14, 1966

1:00	Registration
1:15 - 1:30	Goals to be Attained This Session Dr. Joseph K. Bailey
1:30 - 2:15	Relationships of Session One to Session Two Dr. Albert E. Jochen
2:15 - 3:00	Vocational Education Act of 1963 Mr. Fred W. Eberle
3:15 - 5:00	The TEAM Approach to Program Planning, Principles and Techniques Dr. Albert E. Jochen

Tuesday, February 15, 1966

8:30 - 9:30	Workshop Utilizing TEAM Approach to Current Problems in Program Planning
9:30 - 10:15	Workshop Reports
10:30 - 12:00	The TEAM Approach to Program Promotion, Principles and Techniques Dr. Albert E. Jochen
1:15 - 2:15	Workshop Utilizing TEAM Approach to Current Problems in Program Promotion
2:15 - 3:00	Workshop Reports
3:15 - 5:00	The TEAM Approach to Program Development, Principles, and Techniques Dr. Albert E. Jochen

Wednesday, February 16, 1966

8:30 - 9:30	Workshop Utilizing TEAM Approach to Current Problems in Program Development
9:30 - 10:15	Workshop Reports
10:30 - 12:00	Techniques in the Development of Vocational Curricula and Instructional Materials Dr. Albert E. Jochen
1:15 - 2:30	Workshop on Current Problems in the Development of Curricula and Instructional Materials
2:30 - 3:15	Workshop Reports
3:30 - 5:00	The Orientation of New Teachers Dr. Albert E. Jochen

Thursday, February 17, 1966

8:30 - 10:15	In-Service Teacher Training and Its Coordination With the Statewide Program Dr. Albert E. Jochen and Mr. Fred W. Eberle
10:30 - 12:00	Coordination of Shop,Related, and General Instruction Dr. Albert E. Jochen
1:15 - 3:00	Program Evaluation Dr. Albert E. Jochen

3:15 - 4:15	Research--State and Local Responsibilities--Current and Possible Future Needs Dr. Joseph K. Bailey
4:15 - 5:00	Guidance, Placement, Follow-Up Dr. Albert E. Jochen

Friday, February 18, 1966

8:30 - 10:15	The Vocational Leader and His Personal Professional Growth Dr. Albert E. Jochen
10:30 - 12:00	Presentation of Current Problems Relating to Topics of This Session to Panel Dr. Albert E. Jochen, Mr. Fred W. Eberle, and Dr. Joseph K. Bailey

THIRD WEEK

Monday, March 14, 1966

1:00	Registration
1:15 - 1:30	Introductions and Announcements
1:30 - 2:30	What We Have Accomplished - Goals of This Final Session Dr. Albert E. Jochen
2:30 - 3:00	Progress Report - Ohio County Vocational Education Plan Mr. Roy E. Potter
3:15 - 4:00	Program Planning - Harrison County Mr. Kenneth E. Noah

Tuesday, March 15, 1966

8:30 - 9:00	Role and Responsibilities of County Supervisors of Vocational Education Dr. Joseph K. Bailey
9:00 - 10:00	Workshop During Which Job Description Will Be Finalized
10:15 - 10:45	Workshop Reports and Discussion
10:45 - 12:00	Fundamentals of Sound Local Administration and Supervision of Vocational Education Dr. Albert E. Jochen
1:15 - 1:45	Supervisor's Annual Report to Superintendent and Board of Education Dr. Joseph K. Bailey

1:45 - 3:00	Public Relations in Administration and Supervision Dr. Albert E. Jochen
3:15 - 3:45	Question and Answer Period
3:45 - 4:30	Teacher Education Mr. Claude McGhee
4:30 - 5:00	Question and Answer Period

Wednesday, March 16, 1966

8:30 - 9:30	Techniques in the Development of the Vocational Budget Mr. Fred W. Eberle
9:30 - 10:15	Question and Answer Period
10:30 - 11:30	Financing the Local Programs of Vocational-Technical Education Mr. Fred W. Eberle
11:30 - 12:00	Question and Answer Period
1:15 - 2:15	Techniques Helpful in Efficient Scheduling of the Administrators' and Supervisors' Time Dr. Albert E. Jochen
2:15 - 3:00	Question and Answer Period
3:15 - 4:15	School Law Mr. Fred W. Eberle
4:15 - 5:00	Question and Answer Period

Thursday, March 17, 1966

8:30 - 10:00	Relationships of State and County Projected Program Activities Mr. Fred W. Eberle
10:15 - 11:15	Workshop - Preparing County Projected Program Activities
11:15 - 12:00	Workshop Reports
1:15 - 2:15	Methods and Techniques for Broadening the Horizon of the Following With Respect to Vocational-Technical Education a. Industry and Labor b. The Community c. Communications Media Dr. Albert E. Jochen

2:15 - 3:00	Question and Answer Period
3:15 - 4:15	Advisory Committees, Their Use and Abuse Mr. Fred W. Eberle
4:15 - 5:00	Question and Answer Period
6:00	Banquet

Friday, March 18, 1966

8:30 - 9:30	Summary Dr. Albert E. Jochen
9:30 - 10:15	Evaluation Dr. Joseph K. Bailey
10:30	What Comes Next? Mr. Fred W. Eberle

Summary of Selected Presentations

First Conference

January 10-14, 1966

Cedar Lakes

Vocational Education - An Integral Part of Public Education

John T. St. Clair

The expansion of vocational education through the enactment of the Vocational Education Act of 1963 places a tremendous responsibility on the shoulders of vocational directors, superintendents, principals, and the vocational teachers.

West Virginia's educational pattern is the individualized comprehensive educational program, one that fits the needs of the boy and girl through public education. There are three basic phases of this program:

1. General education which is the core of learning beginning at the home level and continuing through graduate school and into everyday life.

2. Professional education

3. Vocational education

In the area of vocational education, a magnitude of opportunities are available. It is the responsibility of vocational people to spend time communicating with administrators in the local school and at the county level so that sound, workable programs may be cooperatively developed. More programs have not developed because of the problems created. The reasons for some of the problems are lack of manpower and organization at the county level. To do an effective job, time must be found for county supervisors to discuss some of these problems with administrators, and it might be possible to convince them of the value of a team approach in vocational education.

The offerings in the vocational program and the regular program in the comprehensive school must be correlated to be effective. Segmentation, whether it arises in school from individuals, individualistic approach, personality differences, or purely from the lack of organization or administration, creates a big question mark about the total educational program. The learning acquired should lead to some natural growth, education, and competencies for the attainment of a goal.

Building of high-quality programs at the local level is the administrator's responsibility; but by the very nature of vocational programs at the national level, state and county levels, it is easy to ignore the ground rules. Therefore, county supervisors have the responsibility of working very closely with the local school administrators. County vocational schools and their offerings and regional developments will make this working relationship at the local level even more important.

There are great possibilities under the federal vocational acts, and the school attendance and service areas should be surveyed to determine the needs of the people. The challenge of today in our schools is to meet these needs. This calls for imagination in exploring, crystalizing, and developing programs. Vocational programs have been fairly stable and consistent over the years. With the development of special education programs and

programs for older school youth, there will be a need for modification. This will be a problem dealing with training programs for youngsters who may not be of the caliber preferred in terms of present course offerings and of the technical programs envisioned. This may come under the rehabilitation phases of the program, but the line of demarcation is not very well fixed. It is evident that curricula should be developed to meet the needs of the mentally retarded; therefore, vocational people must examine and plan projected programs to eliminate problems on both ends of the human scale.

Vocational education offerings are a part of the total education program and will become even more important. Coordinated efforts of vocational people and school administrators will be necessary to bring about change. A high-quality program must be developed. Vocational curriculum, guidance, and related training necessary for job entrance should be provided. Both the academic and vocational aspects of the present program need to be adjusted. Preparation of teachers is important. It is the coordinated planning at the local level which should provide for the adequacy of vocational education. In the final analysis, the syllabus of the course offerings and the assignment of responsibility in that area are the important problems. Through cooperative planning, this problem can be solved; but it will take a careful, realistic, and practical approach.

Evolution of Vocational Education

Dr. Albert E. Jochen

American philosophies, forces and factors operating on them, and the basic principles of vocational education can be related as they work as a coordinated whole.

The lifeblood of Democracy is free, universal public education as freedom comes from enlightenment. Our objectives are to educate everyone.

In colonial times initiative, a sense of responsibility, and a cooperative spirit were necessary in order to survive. The girls of that day had opportunities for learning homemaking that are not present today in a great majority of areas. It is highly possible that 75 percent of all the young people of today never learn to do anything at home.

Julian Huxley said that the evolution of our culture reveals that the surge for survival has been supplanted by a struggle for fulfillment. This is the effect of a technological society. It is often difficult for the ordinary young person to get this feeling of personal worth in a private technological society. Fulfillment is the key word as it is an essential ingredient of the educational program.

In the 1900's, most of the youngsters were in school from kindergarten through the fourth grade. After the fourth grade, the escape hatch created a tapering effect as many students dropped out of school. Only three or four in the entire area would complete high school. There was a highly selective group in high school--not by tests, but by economics. Teachers and principals had a tremendous influence on the lives of students.

Today, compulsory education laws keep youngsters in school and the enforcement of child labor laws lessens employment opportunities. Attitudes concerning education are different. There are pressures from parents, and students are forced to remain in school.

If we are to educate all the children of all the people, we should consider their needs, interests, and abilities in order to determine what education is best for all. General education and vocational education are tied together by a very close bond.

In order to provide a program of instruction to give fulfillment, we must recognize that there are different kinds of intelligence. Some young people have a high degree of abstract intelligence or intellectual ability. They are able to close their eyes and visualize, as does the architect.

But we must be realistic--not everyone goes to college. Vocational programs are provided for those students with concrete intelligence. The practical and theoretical must be related or there is no learning. The machinist with his concrete intelligence can bring to life the creativity of the invention, and he has something tangible.

If there is an excellent program in each vocational field but the academic areas have not connection or relationship, the program is weak. Honest educational hurdles should be placed in the path of a person striving to attain a goal. Mathematics and science needed in a particular field should be developed. Learning is much easier and more meaningful when the need for it is realized.

An article appeared in the December 18 issue of Saturday Evening Post, "Why Millions Have No Jobs," concerning job entry requirements and unemployment. Promotion policies within companies and job entry requirements often appear as straight artificial walls with no new places for employment; and in solving the problems, a terrific social and economic problem is created. College graduates often know about testing and theory, but sometimes they do not know the first thing about what is going on at the plant. If we want to survive as a good democracy, these problems must be faced.

Teachers are being taught how to handle all kinds of students in all kinds of situations and in every kind of economic and social environment, but are they being trained to meet the requirements of the Vocational Education Act of 1963? Culture is important, but so is your knowledge and skill. A teacher should know how to relate his teaching to the changes in technology in his particular field.

Some philosophical foundations are applicable to the total area of education. Vocational education cannot be divorced from the problems that are certainly a part of general education. We are making progress as we provide for the mentally handicapped, the emotionally and physically handicapped, and the intellectually handicapped. Democracy is definitely concerned about every kind of youngster.

It is a false assumption to say that everybody is going to college, everybody is going through high school, or that everybody is going to be employed. We have started to build arbitrary screening devices to keep people out of school, to limit their progress in college, and to make it difficult for them to obtain jobs. It is the job of educators to destroy this artificial standard for employment because it screens out too many people. Society through organized government or legislature is going to have to pass legislation and provide monies to do something about the people who are unable to meet the employment standards if industry and society do not solve the problem. Sociologists and psychologists have advocated a guaranteed income for everybody as a possible solution. A give-away plan robs a person of his feeling of security. You do not experience fulfillment when you are not a contributing member of society.

There is intensive screening in the selectivity of students going to college and this has an effect on teacher training institutions and our total education program. For instance, at Rutgers University 148 credits are required to get a Vo-Ag degree while the rest of the college requires 128 credits. General agriculture graduates can finish with 132 credits. This seems to penalize anyone wanting to be a Vo-Ag teacher.

The team approach is effective in teacher training to give each person a better understanding of what is happening in ~~other fields~~. If someone has more interest in a different phase of the program, he may want to change and work in that field altogether. This type of cross-fertilization enables teachers to compare notes and determine their strengths and weaknesses as well as those of others. Methods of teaching are developed in such a plan. If we are going to do any teamwork with general educators, it is necessary to work inter-relatedly with each other.

Vocational education started to mushroom as we emerged from an agrarian economy into a technical economy as a result of the war. Our country looked to industry for skilled help to supply needed goods and services. Machinists, tool and die makers, millwrights, electricians, carpenters, and brick layers were desperately needed.

The Centennial Fair in Philadelphia in 1876 displayed the result of the trained craftsmen in Russia and this exhibit influenced our progress. The industrialist visiting the Centennial backed the passage of the so-called mechanics arts instructional program. There was a modification of this act in 1881 which resulted in three schools that are still in existence.

Charles Prosser was instrumental in the passage of the Smith-Hughes Act. He was a vigorous, intelligent, far-sighted individual with the best interests of adults and young people at heart. In the 1917's, there was very little available to help an instructor of vocational education. Many of them had no teacher training and no courses in psychology or methods of teaching. Textbooks were not used. Today, we have all kinds of texts which often are not related to the work in a practical way. Teachers and supervisors should be very certain that there is a direct relationship between the related and skilled areas along with academic subjects.

In relating academic areas, the team approach is needed. For example:

An instructor of a well-conducted auto shop was exceedingly proud of the fact that he not only imparted skills to his students, but he placed them in a part-time cooperative situation to enable them to get intensive training for maximum productivity. Students were rated high on personality, eagerness to work, attitudes, work habits, skills, and abilities.

Two of the boys from this class were observed in geometry class which was unrelated. They were failing the subject because they could not see the relationship of this to the training they received in auto shop. This created a dishonest educational hurdle.

This type of situation affects a student's attitude toward the school and spotlights the need for an improved course of study, emphasizing the importance of rapport between the academic teacher and the shop teacher.

Philosophical Bases of Vocational Education

Dr. Albert E. Jochen

Curriculum development is the single most important element in the vocational education program. It is in this area that teamwork and coordinated effort is all important. Some school administrators ask the person in charge of the educational program to examine, study, and evaluate their program and make suggestions for improvement. In developing a curriculum, we should capitalize on work habits and attitudes. Students are different physically and mentally, different in their interests and capacities; but all of them have some good God-given talent. Careful planning as well as teaching is necessary for effective programs.

The Federal Government has been in the business of education for a long time. In colonial days the schoolhouse and the church were synonomous with democracy. The first indications of federal activity appeared in the ordinances of 1785. The early land grants were made for education in general and do not carry any provisions for general supervision, but as an aid to education. Abraham Lincoln signed the Morrell Act in 1862 that began the establishment of the college of agriculture--the land grant colleges. The Hatch Act in 1887 provided for the establishment of agricultural experimental stations.

We should understand and be well informed on the Federal acts for vocational education. It is the interpretation of your knowledge and your ability in operation that determines the strength or weakness of the program. The control is held at the local level in every community, and the program can only be as strong and effective as administrators make it.

In 1906 the National Society for the Promotion of Vocational Education did a tremendous amount of good. The Smith-Hughes Act provided a continuing source of money without fighting for appropriations each year. Objections were registered because standards needed to be established.

Probably the greatest deterrent to progress in secondary education in this country is the scheduling. We need to look at the schedule and the realistic relationship of it to learning. Some drastic changes are needed in methods of teaching, methods of organizing instructional materials, and the emphasis that is placed on some of these things. Private business often steps in when educators fail. Unions are also in the educational business. If educators do not set up apprentice classes or evening classes when there is a need for this training, unions with plenty of money will erect a building or set up a school for those who are working in union shops. This, in a sense, is filling the vacuum that is often left in our system.

In between the Smith-Hughes and George-Barden Acts, there were some additional appropriation acts: George-Reed, George-Elsey, and the George-Dean Acts.

Business education is probably one of the first programs that entered vocational education. It has not grown and developed in relation to the changes in the business world. General educators often object to requirements of class time and size of class. Advisory committees are essential because they emphasize the importance of business education.

Provisions of the Smith-Hughes Act required the development of a State Plan. One of the major weaknesses of this act was excessive Federal dictation and domination. The State Plan is presumably tailor made to meet the needs of particular states; however, there are certain requirements in the Smith-Hughes Act that must be incorporated into the State Plan. Education had to be of less than college grade, not knowingly leading to a degree. Some states identified their junior colleges as secondary institutions in order to get vocational money for "less than college grade." There are many kinds of patterns of organization and organizational structures. Good vocational programs may be conducted in a comprehensive high school or a vocational center which has a relationship to a high school or a self-contained area-like school which gives the complete curriculum and a diploma, or at the post-high school level. In planning a program, it is essential to follow sound principles to determine needs. It is not only the organizational structure but it is the application of sound, practical vocational principles, and the development of a functional curriculum that make a good base for vocational programs.

The Smith-Hughes Act specified that the vocational educational program must provide education and training for profitable employment. Guidance and counseling must be used to screen students to determine their interests and aptitudes and to consider job opportunities in the various fields. Individual prejudices must be removed and problems must be solved realistically. Educators should read widely and be well-informed in the political field, in the socio-economic area, in sociology, and in the technical field.

Clarence E. Randall, chairman of Inland Steel, wrote an article, "Management in Automation," which pointed out the fact that management is trying to fill the vacuum that is created by the inactivity of education. Management which takes the profit from automation must share the burden it

creates. Industry wonders if private initiative and private decision-making will endure or whether both will be eventually swallowed by the total avalanche of socialism. This enlightened capitalist sees and recognizes the problem that if industry does not do something in the area of initiating automated programs, the Government will. This is true in education; if we fail to recognize and solve problems created by living in a highly technological society, someone else will. Basic Systems, Inc., an educational subsidiary of the Xerox Corporation, has recently been assigned the responsibility of designing and operating an innovative education and training program for out-of-school, out-of-work girls like the Job Corps Center in Huntington, West Virginia. If vacuums are created, whether in the business, industrial, or educational world, something is going to fill that vacuum.

Public education at the secondary level has done an outstanding job of preparing youths for college. Parents want their children to be adequately prepared and capable of entering a college. The college trained teachers, supervisors, and administrators lend a receptive ear and they understand how to provide such educational training. It cannot be concluded that the traditional subject matter taught is and always will be essential to the education of all youths. We have talked about the sacredness and dignity of the individual and have conducted untold hours of research on individual differences, but the organization of our educational programs rarely reflects our knowledge of or concern for individual differences. Frequently, education and training essential to prepare and equip those who administer and teach in our schools to meet the needs of youths who enter the world of work upon graduation is inadequate or lacking in vocational education.

Those who have the responsibility for setting standards for admission and graduation from our schools and colleges have exceedingly grave responsibilities. Public education is subject to external pressures--political, social, and economic. Education is the orderly way to bring about change.

A democratic technological society competing in the international market utilizes its technology to cut production costs. It is easy to cut costs by eliminating unskilled and semi-skilled workers through automation and mechanization in industry and agriculture. The technology that deals with improving production is also an economic factor because it not only raises the money but creates unemployment as well. U. S. Department of Labor reports that 200,000 jobs are being lost as a result of automation. Secretary of Labor Wirtz says that 20 percent of the unemployed have not completed the eighth grade, and Manpower and Development Training programs can only recruit three percent from this group. There is a percentage of our people which we will always have to take care of, but this percentage should be reduced as much as possible. The President of Columbia University states that by 1970 the labor force will total 84,000,000 and there will only be 75,000,000 jobs. This means that 11 percent of the work force will be unemployed.

Full employment in a free society is difficult and as a result many devices are used in order to affect the educational institutions. Employment entry age may be delayed until 18 or over and the age for retirement may be reduced. This practice shortens the actual productive years of the

individual and helps maintain a low unemployment figure. We can maintain a high draft rate, provide crash programs, such as ARA and MDTA, and support pressures against automation and mechanization which cannot help but affect education. Long-range programs must be developed. Our materials for protection and those that the enemy have are such that it takes intelligence to use them, to assemble them, and to service them. Our Gross National Product has been rising; and, statistically, we have been presenting evidence to show increased annual rate for workers. Improved income coupled with other sociological and economic factors means that more youth will remain in school for longer periods of time. The curve of economics goes up, the curve of production goes up, and enrollments of young people in school increases. There is intense competition for a college education and the college's limited physical capacity has resulted in higher and higher requirements for admission and finer academic screening for admission. The person who gets through and comes back to teach does not always prove to be a good teacher. He is good only if he is working with people exactly like him.

Two years ago, Rutgers gave any trade and industrial man coming in for his teacher training 32 college credits by having his manipulative skills and knowledges checked by a reviewing board. Today, only 12 credits are available for that type of individual. The men in charge of this teacher education program have not had work experience. They know subject matter but do not know the first thing about requirements for good vocational teachers. This is true in other areas, and for this reason teachers, supervisors, and administrators are not prepared to cope with the educational program which must be given to meet the educational needs of all youths.

Organized education is an ancient and honorable institution. Its tradition stems from cultures which never recognized the philosophy of education for all. Its vocational aspects did not come into being until comparatively late in the history of mankind. We have improved through our technology and our competitive society. We must face the bitter facts that the traditional pattern cannot continue.

A new educational pattern must be built, and it should be flexible as forces are always at work making existing jobs obsolete. This is a task for the courageous, intelligent individual who sees on the horizon a better, more purposeful life for all, and for this he is willing to make whatever supreme sacrifices are necessary.

Youth Organizations

Dr. Albert E. Jochen

The feeling of purposefulness and belonging is the first and foremost contribution of vocational education youth organizations. The organizations also offer opportunities for leadership training. Through activities within the chapters, students learn to talk before a group, write essays, conduct meetings, and are given inspirational leadership which helps to assure effective citizenship. The social graces are improved by taking an active part in camps, etc. As students are exposed to favorable learning environments, they acquire confidence and feel more secure.

Another function of vocational education youth organizations is to focus favorable attention on the programs: agriculture, distributive occupations, homemaking, industrial education, and business education. Good public relations are created as members work closely with persons in business, industries, and Goverment.

Guidance placement is another benefit received from membership in the vocational education youth organizations. The contacts young people make help in their future job placement. The opportunities realized through the program open up new vistas and new horizons for them.

Youth organizations such as FHA, FFA, DECA, FBLA, and VICA provide aspiration, purpose, and an opportunity to develop leadership qualities including character-building, attainment of self-confidence, and poise.

Here are some problems affecting these youth organizations:

1. Inability to get sufficient staff

2. Time and money involved in attending conventions and meetings.

3. It is considered an extra-curricular activity and there are contests and other activities that take loads of effort, preparation, and time.

Objectives and aims have to be clear; educators and administrators have to be informed as to the purpose and value of the organization. Many people should be involved in order to have a successful program.

Basic Principles and Concepts of Vocational Education

Dr. Albert E. Jochen

Regardless of the amount of education, training, and experience an individual may have in a given area, he makes a serious mistake if he concludes that he is the fountainhead of all wisdom in his field. The viewpoints presented represent educational specialists at state and local levels in agriculture, business education, distributive education, home economics, industrial arts, occupational guidance, trades and industries, semi-professional, and technical fields. They are consistent with the recommendations of the President's Panel of Consultants on Vocational Education and with the purposes, policies, and procedures of vocational education under recently enacted federal legislation. There is considerable and unnecessary confusion permeating the community concerning vocational-technical education and industrial arts. This stems from the fact that each type of education has shops, and the lay public and some educators associate a school shop regardless of its equipment, its teacher preparation, purpose, students, or the schedule of time with vocational education. In addition and to add to the confusion, the general educator frequently defines all education as being vocational whether it is English, history, or industrial arts. As a result, vocational education means one thing to the general educator and

another to the vocational educator. For over one hundred years the federal and state governments have passed legislation providing funds for the education and training of workers. Such legislation set standards and over the years developed a body of knowledges, information, and rules which define vocational education as:

> The education and training for gainful employment in a recognized occupation or field in a shop or laboratory as nearly simulating the physical facilities and equipment of the actual work situation as is possible in a school under a teacher who is qualified as a result of vocational teacher training and adequate practical experience which makes him an outstanding worker in the occupations being taught.

The vocational course of study is prepared as a result of a job analysis and adequate shop and/or laboratory time is scheduled. The time allotted for instruction is determined by the level of skills and knowledges that must be developed to make the individual employable or acceptable to an employer. The science and mathematics are related to the shop or laboratory work and are taught by teachers who by education, training, and occupational experience know how to relate theory to practice.

Vocational education has made significant contributions to the total wealth of information concerning the field of education. These may help to provide the proper educational program for the 40 percent of our population now being missed.

Contribution No. 1: Job analysis--Curriculum is determined by actual needs. Much curriculum development is based on conjecture--people are kept busy and in school, but job performance is ineffective.

Contribution No. 2: Individual instructional material. Example: In a class of upholstering, students are taught to make slipcovers and draperies, refinish furniture, refabricate furniture frames, tie springs, etc. Related science should be incorporated. Art design is needed primarily to get color, line, design, and harmony. Some students may not get beyond learning to stitch after the material has been cut; others may be smart enough to run a business of some kind, so they need business principles and more advanced math to enable them to calculate the cost of operating a business, figuring wages, etc. Learners are not limited to one segment of business. They would be able to sell upholstering equipment and supplies as a profitable business, get into a factory, or work in an automotive area putting tops on cars and repairing upholstery of seats.

Recognition of these individual differences has led to the need for a flexible and diversified program of secondary education.

Only certain types of courses are especially designed and taught to prepare young people for entry into a chosen trade or occupation upon leaving high school. These courses may be offered in vocational departments of comprehensive high schools, vocational high schools, area vocational-technical schools, or post-secondary institutions. Vocational-technical educators have always recognized the obligation to assist in the development of all types of educational programs where professional training and practical experience can make a contribution, realizing that there are many patterns of organizations which can provide opportunities for youths and adults to gain preparation for entrance into or advancement in an occupation.

A sound program of vocational-technical education should meet the following criteria:

1. Successfully prepare boys and girls for entry into a chosen occupation without neglecting the essentials of a sound general education for a worker in modern society.

2. Be flexible and permit high school pupils, out-of-school youths and adults to enter training when ready and able to do so.

3. Accept the responsibility for (a) retraining of unemployed workers, (b) advanced training of employed workers as job requirements or technology changes, (c) related technical instruction of apprentices, and (d) other adult vocational-technical educational opportunities.

4. Pupils should be those most likely to be successful in various occupations not requiring the baccalaureate degree level of collegiate training or education.

5. Provide for a wide variety of exploratory and occupational guidance opportunities.

6. Administered and supervised by personnel who are educated, trained, and experienced in vocational-technical education. They should be able to work effectively with employers, labor, school authorities, employment security, social agencies, and other governmental agencies concerned with worker education and training.

7. Serve a geographic area having sufficient student population to support a day and evening program offering a wide variety of choices of occupational training opportunities.

8. Physical facilities must be adequate and so planned that they can properly provide for the training needs of the students.

9. Teachers must be masters in their occupations and trained to impart their knowledge and skill to the pupils.

10. Curriculum must be based on an analysis of each occupation in order to determine requirements for successful performance as well as effective citizenship.

11. Curriculum must be continuously adjusted to changing conditions and technology using advisory committees to assist in keeping up to date.

12. Provide for the learning of the skills employed in using tools, machines, and materials of the occupation and using them skillfully, safely, with good judgment, and with a pride in good workmanship.

13. Provide for the learning of the technology, related mathematics, science, and art which are necessary for success. Should motivate theoretical with practical.

14. Use of methods, materials, and equipment as nearly paralleling the actual working conditions as practical and schedule sufficient time to conduct the learning experiences.

15. Provide for a systematic evaluation of its effectiveness in achieving goals through periodic review, performance tests and written examinations, and follow-up studies of placement and success of graduates.

16. Flexibility of organization and an administrative, supervisory, and instructional staff capable of and willing to meet national emergency training situations and unusual state or local training demands. (War Production Training and Manpower Training.)

The sixteen criteria are minimal for a sound and complete program of vocational-technical education. Offering one or two classes to a few students or changing or adding a vocational name does not meet these criteria. We believe in high-quality vocational education for any level of employment.

In addition to the criteria, the following suggestions need serious consideration:

1. Increased importance and complexity of programs, problems, and relations with other departments requires a strong division at the State level.

2. Federal funds should be matched dollar for dollar with state funds and priority should be given to allocation of funds for physical facilities and equipment. This cost often deters program development at the local level.

3. Plan should be submitted and dates established for initiating the plan in adequate and approved facilities at the secondary, evening, and other levels necessary to serve the youths and adults. A State Board rule should be prepared to accomplish this.

4. Legislation should be prepared to enable any youth under 21 who wishes vocational-technical training not available in his district to attend the nearest program in the state which will accept him. His local board should be required to pay his tuition.

5. Teacher education and training should be realistic and expanded to meet the state's needs. Teachers will continue to be recruited for skilled, technical, semi-professional and semi-skilled instruction directly from business, industry, and semi-professional areas.

6. Vocational-technical programs conducted in community colleges should be recommended for approval by the State Director for Vocational Education and should be formulated and submitted to prevent unnecessary jurisdictional or administrative problems.

7. Carefully developed and realistic plans should be prepared and instituted for teacher education and training to assist vocational educators in the total effort required to meet occupational training needs.

8. Competent counseling to meet the needs of non-college bound students.

9. Seminars for administrators, supervisors, and teachers in general education concerning the educational organization and instruction essential to providing programs with occupational goals.

10. Follow-up studies to evaluate effectiveness of the programs should continue.

Follow-up studies were a factor that helped to get the Vocational Education Act of 1963 passed. It would be a good idea to select two outstanding students and write a story about their accomplishments. Pictures could be used and information given concerning the program in West Virginia. It might be advantageous to prepare this in booklet form and give copies to legislators.

Effective Communications

Dr. Albert E. Jochen

One of the major problems in working together results from faulty communications. The program of communications must be continuous; it is not only the giving of information, it is a matter of interpretation

of the person hearing or reading the material. Lines of communication must be kept open. True communication is the key to good public relations. The history and development of vocational education could be put in separate newspapers and distributed all over the state. It could appear as a series of articles with pictures, stories, and worthwhile contributions. Good communications keep you in contact with the general public and help you create the kind of image you want.

There has to be communication with state staff members, and they must communicate with U. S. Office of Education and with local school boards. It is imperative that every teacher, supervisor, administrator, and counselor know the aims, objectives, and philosophies of vocational education. It is also important to be able to communicate with students. Ingenuity and creativity determine the limits of communication.

Review
Dr. Albert E. Jochen

In order to experience an interchange of ideas and purpose with general educators, we need to coordinate efforts and familiarize them with problems we are facing.

State Director, Fred Eberle, made a presentation which vividly pointed up socio-economic factors in relation to vocational education and overall growth and development of West Virginia. He projected plans for the future and discussed present problems and needs.

John Lowe, former State Director of Vocational Education, traced the history of vocational education in West Virginia, presenting the struggles, sorrows, heartaches, and trials.

Dr. Albert E. Jochen presented basic principles and philosophies that are affecting the total field of education, without isolating any one area of general or vocational education. As West Virginia's problems are the same as those in other states, the overall picture of the United States was studied. We need broader perspective in terms of job opportunities. In order to provide an effective program, we need to carefully consider the basic fundamental principles of sound vocational-technical education, whether it be at the day, evening, or extension levels of any field. This conference has been conducted in vocational-technical education using the team approach in which the contributions of each service--agriculture, distributive education, office and business, health areas, trade and industrial, technical, and emergency programs such as MDTA and ARA are coordinated with general education in such a way that it may assist and provide the kind of education and training to meet the needs of youths and adults in West Virginia.

Wealth of the local community, wealth of a state, and the wealth of our nation is in its people rather than its resources, provided these people are educated and trained to the limit of their God-given talents, abilities, and intellectual capacities.

Application

Dr. Joseph K. Bailey

The State Plan for Vocational Education identifies the primal responsibilities of coordinators, supervisors, and directors of vocational education:

> A County Supervisor of vocational education shall in cooperation with members of the State Staff provide leadership and direction, organize and conduct programs of vocational education for youths and adults. He shall be concerned with staff and its approval, curriculum, instruction, student selection and placement, welfare, and public information about county programs.

Objectives for the workshop were established:

1. To provide information and experiences from which supervisors could formulate a philosophical foundation and which would familiarize them with principles and concepts of vocational education.

2. To provide a knowledge of the structure of vocational education in West Virginia.

3. To develop essential guidelines, procedures, and knowledge for planning, implementing, operating, and evaluating county programs of vocational education.

4. To facilitate the planning of a projected program activities of vocational education for each county represented.

All vocational programs in each county are under the auspices of the County Supervisor. Any service supervisor working in the county should contact the County Supervisor. Coordinators, supervisors, and directors should be able to prepare a philosophy, a set of beliefs, observe programs in operation, evaluate, and, if necessary, redirect the current programs in order to obtain quality that is going to serve the citizenry of these counties.

Geographic structure, population, attitude of the people, economic affluence, and many other factors limit program expansion.

The challenge to analyze, search, and discover program opportunities has been given.

Summary of Selected Presentations

Second Conference

February 14-18, 1966

Cedar Lakes

Relationships of Session One to Session Two
Dr. Albert E. Jochen

The passage of the Smith-Hughes Act and the condition of our prosperity were factors that brought terrific pressures on Congress to set up an educational program that would train people to be productive in the industrial complex which was beginning to grow. Productive citizens are necessary in any democracy if it is to maintain its independence in a world where economic factors in many cases determine the destiny of nations.

Today, the occupation dictates what constitutes a vocational course. As occupations change from day to day and year to year because of influences, the curriculum must change. Subject matter should be related to the abilities of the individual and the career goal that person is going to attain. Historically, vocational education stems from needs that were not being met in the educational program. We did not get into the semi-skilled areas earlier because of the lack of money. Good vocational educators had established programs from the semi-skilled up to the highly technical. Internal and external cooperation within the community are essential to make a useful job analysis. Equipment, trained teachers, and research are vital to the vocational program. Each area has been challenged to meet vocational needs, and we need to work together as a team in developing aims, objectives, and philosophies.

The Team Approach to Program Planning
Dr. Albert E. Jochen

Team approach is the inter-cooperation of each vocational field in the education and training of people for work. Home, industry, and research are all involved in the pooling of resources. As the home is the foundation of democracy, the change that has taken place here has to be studied in order to evaluate the curriculum. A curriculum must be realistic in terms of meeting today's problems.

The home economics program needs to be expanded. Knowledge of the occupational training aspects and possession of skills have not been included in this field as many of the teacher trainers attend high school, go to college and major in home economics, graduate, and then teach. A large number have not had the kinds of experiences either in college, at graduate school, or in actual work to assist them in developing and teaching occupational curricula. It is quite possible that the people who are going to get into the occupational areas in home economics, trades and industry, and agriculture are going to come through industry. In order to present honest educational hurdles in our teacher-training programs, the college would be responsible for coordinating these necessary learnings with course offerings.

The 50-year span between 1916 and 1966 saw a tremendous change in industry. The industry of 1916 was essentially an owner-operated one. Today, the ownership is absolutely absentee, and is concerned about you only in terms of your ability to produce. Improvements have been made, wages are a little higher, working conditions better, and there is more to

show at the conclusion of life's work period. Vocational and general educators must plan together. An occupational program, grades 9-12 may be offered. Peripheral, related, and ancillary subject matter are needed in addition to the occupational skills. Curricula must be developed. Experimental programs could be started in areas with sufficient population to offer assistance to others.

In 1916, the technique of research was essentially one of trial and error. It is now recognized that you must have mathematicians, physicists, chemists, biologists, and technicians serving as a team to solve a particular problem, and the team gets the credit for the accomplishment. Program development should take the team approach. Research is speeding up the process from invention to application. From a teamwork standpoint, we must know what is going on in the home, in business and industry, and in research.

Vocational people should enroll in a course periodically, organized around one particular subject; such as communications and transportation. Educators must be leaders and they should be able to anticipate and project.

Vocational educators are concerned about dropouts, the physically and mentally handicapped, and the unemployed. We are becoming our brother's keeper. We are concerned about the effect of changing standards for job entry. A person who became an auto mechanic or electrician 15 or 20 years ago might not be able to enter the field today.

The team approach is essential because vocational education that is sound, effective, and will stand up to evaluative criteria is inseparably and exorably married to two fundamental principles which make it different from general education:

1. We are compelled to develop curricula from up-to-date analyses of occupations to determine skills required, related technical and general knowledge. The organizational pattern for the development of vocational education is not so important, but whether it be in a comprehensive high school or a separate school, the organization must have a thorough and sound understanding of these principles in terms of developing the analyses.

   We need to know the job objective of the individual. We must assist him in living in the community, living at home, and working. Moral principles should be emphasized in terms of making the individual receive fulfillment and the feelings of personal worth through moral standards and good and acceptable codes. Human resources should be fully utilized, stressing the dignity and the worth of the individual. A course could be offered covering the cohesive forces necessary to tie our society together in common purposes, and this would encourage cooperation and teamwork.

2. We have to develop instructional material, aids, and devices to assist the teachers to meet the individual needs of students so that they may progress at their own rate of speed and jump honest educational hurdles.

Neither of these principles is taught in teacher training institutions. We need individual instructional materials and a course outline which is realistic in terms of the goal of the individual. The ultimate goal would be for each student to attain his career objective. It should be a quality status program, but status and quality should vary with the individuals and not the capacities. This takes a different kind of approach, a different kind of understanding, a different kind of teacher concept and philosophy. Making worthwhile contributions to the total situation create understandings for the need of inter-jurisdictural cooperation, and creates the climate for a team approach. The following current problems in program planning could be discussed in a workshop:

1. Occupations that cross over and involve a number of fields.

2. Sales and services of farm equipment.

3. Related subject areas.

4. Composition of the vocational team in your area.

5. High school college preparatory student that did not go to college.

6. The geographic area that the school serves.

The Team Approach to Program Promotion

Dr. Albert E. Jochen

Program promotion should start at the local level of education and include training that will result in profitable employment. Educated Manpower Hope of the Present - Promise for the Future was developed and proposed after a great deal of planning, involvement, and work had been done. The promotion or lack of promotion of this program could make or break the total effort. State staff needs to be educated and informed so that there will be an interchange of understanding and ideas between each one of the fields and among the various fields. General educators and special educators must be involved. Vocational state staff should get together and familiarize themselves with the total picture. For example: Organize a committee of the staff and plan series of meetings, one each week. Staff conferences could be held every Monday morning going through until lunch time. Plan to have lunch together. Each service person could be told to make a clear statement as to aims, objectives, philosophies, and list the services performed. This would spotlight worthy contributions made in school and outside the school. Problems in the State Department and some at the local level could be discussed. Field trips could be arranged to observe effective programs. This creates more understanding and more respect for the other person's work. Thip type of operation could lead to improvements in many areas. In one case, a county vocational school with a county-wide program of welding was started. With a series of planned meetings, the combined effort develops a better relationship and there is an interplay of ideas and philosophies.

At the state level, orientation of new people coming into the department is a problem. With some understanding the total operation may be improved. The knowledge and power in the state staff should be utilized. This involvement leads to the vital and important feeling of fulfillment.

Promotion is one of the first steps for action. There has to be a general idea as to aims, objectives, and philosophies--a position paper. In pooling intellectual capabilities, problems are brought to light. Improvements are made in the curriculum area as development of instruction and courses of study are more realistic and meaningful. A curriculum laboratory could be established to experiment and develop courses to share with other schools, to exchange materials, and to discuss matters regularly and critically.

The development of a course called "Aims, Objectives, and Philosophies of Vocational Education" could provide answers concerning vocational education. This was done at Rutgers and proved to be very successful. It was given at the graduate level at no cost to local administrators who wanted to take it. Enrollment was limited to superintendents of schools and it was a three-credit course.

Administration is the key for the promotion and selling of a plan. If the administrators have the right kind of philosophy and understanding along with initiative, a good educational program will be developed.

If vocational education is thought of in terms of a punch press operator or single skilled individual, we are not communicating properly. Field trips could be arranged to observe effective programs. Vocational counselors need to familiarize themselves with each area by visiting schools and industry. They would be able to make contacts, observe students at work, and talk with them to get some idea as to what was necessary for them to be successful in their particular jobs.

At the local level, administrators should realize the importance of good planning. Meetings must have a major purpose, carefully planned with some objectives and long-range plans. Staff meetings should be planned to get the whole force to work as a team and see their relationships to each other. They should pool their respective resources to make a better educational climate for all the students in school. Administrators need to know the backgrounds and the abilities of teachers in order to encourage teamwork. The skill instructors have doctorates in service skills, and knowledge of course content and skills is worth just as much as that earned by the academic teachers in college. In order to sell this, you must believe in it and you must know what this person is doing in vocational education.

The climate must be developed among the educators for a united front before trying to sell a program to a community. County supervisors should establish their goals and list the steps necessary to attain them. You cannot get community involvement in promoting the programs until you, as educators, are sold on it. The total staff needs to be well-informed.

The Team Approach to Program Development

Dr. Albert E. Jochen

Programs are developed because of pressures from people with needs or by a vocational director who conducts a survey. Making a survey entails visiting industry and business and contacting young people. Addresses from school records may be used to contact out-of-school youths. They are classified as:

1. Dropouts

2. Graduates, but unemployed

Opportunities as defined in the Vocational Education Act of 1963 must be covered to embrace everybody in a total program. When business and industry are surveyed, it is important to determine needs in terms of occupational opportunity or placement.

In every community there are certain groups of federal agencies involved in the social problem of dropouts, and it would be most advisable to have a coordinating committee to assure effectiveness.

Organization is important. Teachers will be involved and their inadequacies in guidance will be noted. Questionnaires will produce parent and student involvement. As parents become interested in learning something more about vocational education, they will also want to know something about the guidance and effectiveness of this program at a particular school. It is necessary to get a format of reaction within the community concerning the whole problem of occupations. An education should make it possible to provide experiences through actual participation. A high school diploma or a college degree does not automatically open the door of opportunity.

It is essential that an individual should not be deprived a good education in the so-called academic areas because he is going to learn an occupation. Curricula should be adjusted to include whatever is needed in order to have the student achieve successfully in his chosen occupation. The greater earning power and the income of an individual determines the productivity of the community in which he lives. Student interest, mobility of the work force, and employment agencies should be involved in program development. Parents need to confirm the occupational choices of the young people. Students should be taught about their environments and immediate job opportunities that might look wonderful from the pay standpoint but might result in blind alleys in terms of long-range employment. Anticipation is another important facet of program planning. There are three basic premises on which programs shall be established:

1. Equality of educational opportunities.

2. Vocational-technical education programs as an integral part of the main stream of the total program.

3. Provide each individual an opportunity for advancement to highest potential.

The program should be developed so that it is flexible and will fit into the general educational program. It should be scheduled realistically to present honest educational hurdles that are necessary and essential. Since the vocational educator is involved personally, he develops a plan of approach and involves the administration, including Superintendent, Board of Education, supervisory personnel, teachers, businesses, parents, students, and out-of-school youths. Indirectly, involvement includes teacher trainers as teachers are going to be doing this specialized skill training.

The State Department can assist in having a clearinghouse of course outlines and courses of study. Some of these could be modified to suit your own programs. The State Department could aid in the structure and development of a county-wide survey. If a subject is desired by a few people in several different areas over the state, it could be offered at a statewide level. The nature, skills, and abilities in each county should be explored.

Techniques in the Development of Vocational Curricula and Instructional Materials

Dr. Albert E. Jochen

In differentiating vocational education from general education, the two most utilized techniques are:

1. Develop course from job analysis. This is a realistic approach and is possible in the development of the total educational program, including the academic areas.

2. Individual instruction techniques and group techniques of instruction.

Job analysis technique is being forced on the vocational people and when they came into education they came in without any kind of customs or traditions. Individual instruction and development of course outlines were the result of the inability of these people to know any other way. This is the key to the development of a program to meet the needs of all the people. Dividing the job into logical units is the basic approach in job analysis. Each unit should build on the other one in terms of skills and abilities sought. Unrealistic curricula which create false standards result in dropouts, failures, and frustrated teachers. Students should have the math and science that will be necessary to do a particular job. This puts the honest educational hurdles in the course outline. Successful programs are composed of the following elements:

1. Interested students with desire to get jobs

2. Essential training

3. Individual instruction sets priorities on activities

4. Experiments with different types of curricula and teaching methods

The Orientation of New Teachers

Dr. Albert E. Jochen

The method of orienting new teachers will help to determine the quality of teaching. Some teachers enter a school system and get a few brief introductions, a key, shown where the room or shop is, and perhaps a course outline. In New Jersey schools, a short course was utilized where vocational education was defined, teachers were introduced, and everyone received a copy of all course outlines in the whole school. Those sessions provided the historical sketch, philosophy, social relationships, vocational adjustments, curriculum, guidance, professional growth, and teacher orientation. In the second session they learned about the community, the county, and the particular area of the school. Administrative and supervisory organization of the school was discussed at session three. Lines of command, teacher ethics, sick-leave, leave of absence, contracts, teachers' ratings, pension fund, salary schedule, teacher responsibilities, certification, methods of renewal of certificates, and professional improvement were reviewed.

The lines of communication should be kept open to improve instruction. Other topics of interest to new teachers were discussed: instruction through formal courses, summer work, reading of trade journals, records, how to keep registers, marking methods, preparing requisitions, permanent record cards, methods of conducting inventories, tardy slips, progress charts, and safety instructions.

A unit was prepared on human relations between principal and teacher, the teacher and the program, and the teacher and the pupil. Curriculum covered the development of internal discipline, work habits, and attitudes. Information was provided concerning teaching aids, instruction sheets, film strips that were available, slides, films, charts, models, etc. A bibliography of materials that were available in the library of each school was part of the brief orientation program that took three to six hours.

Classes were set up for evening school teachers. This short methods course enabled them to get a fifty cents an hour raise. Better teachers were encouraged and more experiences for supervision provided.

In-Service Teacher Training and Its Coordination With the Statewide Program

Dr. Albert E. Jochen and Fred W. Eberle

Fred W. Eberle: We need to recognize the demands of society and recognize our responsibilities for keeping abreast of the times. It is necessary to keep up to date, plan, and structure a program of self-development. The problem of in-service training is not unique to vocational education. There are formulas that rate the capacity of an individual in industry, but the measurements for in-service training are a little more difficult. Vocational education brought into the horizon of education the fundamental principle of extension as it relates to

work. Experiences in working with business, industry, and home should enable us to perform the necessary tasks with regard to improving the professional performance of our staff. This gives emphasis to a sound psychological fact that learning is continuous growth that goes on with or without plans.

We have been concerned about the population explosion and what it has meant to the United States, the technological explosion and what it has meant to business and industry, and the knowledge explosion. Changes taking place in the world of work are causing many people to become obsolete. It is our responsibility to reduce obsolescence among teachers by directing our purposes to updating and upgrading vocational educators, primarily through in-service training. There are two kinds of teacher training: Pre-service and In-service. In-service training can be defined as a means of providing a sequence of experiences that are designed to improve the vocational teacher's competence so as to provide quality vocational programs. There are three major types of leadership: autocratic, democratic, and laizze faire. Our knowledge of those three types of leadership is very important as it can become a tool in the involvement of people. In order to jump hurdles, educational or otherwise, training perfects the ease of the action. First, we must be in condition. Secondly, we must be able to see the purpose or reason; otherwise, the jumping would be useless. In getting into an in-service training program, we must consider:

1. Instrument or device in which we will have the various competencies, abilities, and areas of weakness or strengths that we are going to identify. This instrument, thoroughly prepared, coupled with observations of teaching and around a self-appraisal by the teacher should give you the basis on which to develop an in-service training program designed and geared to the individual.

2. Reading with a purpose is a means of in-service training. Teachers need to continue the process of education, to be back in the receiver position.

3. An association of the good with the weak is needed to balance the endeavor.

4. Whatever problems are, they should be discussed with all who have contact with vocational student.

5. Lesson planning and the establishment of objectives are problems. The Richards formula measures performance and as a result gives step-by-step technique in identifying elements of performance. What are the manipulative skills that a teacher needs in order to transmit his skill and knowledge that he has acquired over years of effort and study? What general knowledge is necessary for him to transmit this kind of skill to students? What about all the related disciplines for a better understanding of the teacher learning situation?

6. Judgment--Making decision as it relates to what should be taught. There is more content than you are possibly able to put across in the time that is available.

7. Morales--What is going to be the feeling of the people as to experiences in a teaching-learning situation?

Interpret the needs of the people, apply a yardstick of activity, and out of that measurement come up with a series of experiences that are designated to improve performance to assure you and the student of a high-quality program. Examine teacher education programs and see what steps we need to take in the designing of a series of experiences that will be worthwhile to teachers.

Dr. Albert E. Jochen: Job analysis is the first step in conducting in-service teacher training. Vocational education is constantly in a state of flux and is influenced by a wide variety of factors. After analysis is made, the next step is allocation of time in proportion to real needs, responsibilities, and values of the areas in which you are working. Supervision is the improvement of instruction. This role requires a master teacher. A good teacher can be a poor administrator or supervisor.

A good principal visits in the various shops and classrooms and offers assistance and encouragement. One principal planned a pattern of observation by starting with a group of students in the morning and staying with them throughout the day. Then he arranged for some of the other teachers to do this while he kept their classes. As a result of this, an in-service training program was developed for the teachers. Planned visitations by staff members were encouraged. Teachers visited an outstanding shop, class, or laboratory and the knowledge gained was brought back and discussed. Every teacher had an opportunity to get out into another school system. There is a need for coordination between the state department, teacher training and the local school system. New technologies and new mechanical processes are presented in an in-service improvement program. A good orientation program should be developed and new teachers as well as those who have been teaching could be brought in to benefit from demonstrations. Teacher trainers could hold a session or you could utilize a teacher with outstanding ability who would enjoy giving a demonstration. Recognize your weaknesses and strengths and get the necessary balance. Enlist assistance from interested people on your staff.

Coordination of Shop, Related, and General Instruction

Dr. Albert E. Jochen

Workshops and training sessions help to improve instruction. Coordination should be developed in order to orient the total staff to the total program. Social, personal, and vocational competencies are developed by honest educational hurdles. Every single area of instruction is important because it contributes to the student's fulfillment. Carefully planned teachers' meetings and improved teaching methods help in the coordination of shop, related, and general instruction. It is an enlightening experience for academic teachers to visit the shop and observe the work of some

of their students. Reading trade journals and working out a routing slip directed to the machine shop instructor would prove their interest in the total program. Supervision is a magazine that presents personnel problems and keeps you up to date on labor legislation.

Suggestion: Related and academic teachers go through a shortened ninth year program. This could lead to a change of curriculum.

Use evening classes for the purpose of developing competency on the part of related and academic teachers.

Develop a format for writing the instructional material.

Program Evaluation

Dr. Albert E. Jochen

Pointers for teachers:

1. You should take nothing for granted.

2. Get a system of understanding of as many students as quickly as possible. Be one of them, but yet hold their respect, friendship, and trust.

3. Remember, the students will never play any more fairly than you play.

4. When you are wrong, admit it and correct your error.

5. Never request the student to do that which you cannot or would not be willing to do. Do not be in a hurry to leave school.

6. Let the student feel that you can be found at the school.

7. Never make any threats or promises which you know will never be carried out.

8. Read wisely and widely.

9. Never cut a student short. Learn to be interested even when you are ready to drop from exhaustion or from sheer boredom. Nothing to you could be life's most perplexing problem to the child at the time.

10. Stand on your own feet. Do not give up too easily or too soon. Learn to solve your own problems and do not ship them off to the principal or someone else in the school.

11. Always remember that the easiest thing to do is to excuse yourself when you are teaching by saying that the child has a low IQ and is hopeless.

12. Anyone can have a child expelled or transferred. Be the exception in trying to aid the child in making an adjustment.

13. Try to accomplish one real fine thing each year in your class in your extra curricular activities.

14. Develop a good sense of humor. Divide the responsibility of routine matters among the students and get them in the habit of assisting. Make them feel important.

15. When you get to feel self-satisfied with yourself and you really think you are good, enroll in a professional improvement course, visit and observe good teachers and invite good teachers to criticize your efforts.

16. If after a fair trial you decide you do not like teaching, do the students and yourself a favor and resign.

One of the guiding factors of the Vocational Education Act of 1963 is the requisite of evaluation for every program. Is the program educating and training the individual for profitable employment and developing the personal, social, and professional competencies?

Publicity is important. Let the people know what is being done in vocational education. Take the graduates in the state and calculate the average hourly rate of pay they are getting in the fields in which they are receiving training and multiply the number of hours in a work week by the number of work weeks in a year and you have material for a newspaper story. (Last year we graduated _____ number of students whose combined income was _____ number of dollars.)

Criteria:

Job placement is a sound way to evaluate your program. Administration entails the type of system, area wide, single purpose or self-contained, or comprehensive high school. Whatever type is used, there must be a good working relationship and people who understand thoroughly what you need to know to develop a good vocational program. Administrative officials should have an understanding of aims, objectives, and philosophies of vocational and technical education. They should believe in and support a sound program of vocational-technical education. Lines of command should be such that promotion would be provided. Competently and vocationally qualified people should be in charge of the program. Personnel should be appointed upon recommendation of qualified leaders, and the administration should believe in encouraging and promoting sound coordination between academic, related, and shop teachers.

A policy of educating or informing the board of education concerning aims, objectives, and requirements of a sound program which meets needs of the community and a sound coordination program among all occupational preparatory programs should be followed. Representative advisory committees should be utilized. In-service professional improvement should be encouraged.

Administration should plan and conduct meetings for the entire staff with a plan for constant evaluation and reorganization of curricula in the line of daily supply for research, study, and survey. Administration should be aware of the importance of good public relations and the dissemination of good school relations within the community. Adequate and proper supplies and up-to-date equipment should be provided as quickly and efficiently as possible. Sound guidance prior to selecting and entering vocational and technical education programs is essential.

The courses should be kept up to date through a planned program of revision in the light of socio-economic, mechanical, and technological systems. Scheduled time for the skills and related subject matter is based upon what is required to educate and train for occupational competencies rather than for the convenience of the schedule.

The State evaluation will probably be confined to the aims and objectives of the State Plan. Federal educational agency will be concerned with the effectiveness of your program on a basis of established criteria. It was suggested that two pilot counties be chosen and evaluative criteria used to check the activities.

In trade and industrial education, an individual survey in a given community would provide more information to judge a particular program. Here is a general checklist for evaluation:

1. Vocational students receive same instruction in academic areas except not as intensive or extensive.

2. Academic courses of study vary according to the needs and abilities of the vocational students.

3. Schedule time allotments in the academic area vary with the needs and abilities of the vocational students.

4. Close coordination between the academic and vocational training.

5. Vocational and academic teachers brought together to discuss and work on mutual problems.

6. Academic teachers aware of the fact that the vocational students need to be motivated by the practical to learn the rhetorical.

7. Academic teachers have an understanding of the aims, objectives, and philosophies of the vocational program in their school.

8. Academic teachers utilize some of their unassigned time to visit vocational areas to learn about the work being done.

9. Academic teachers properly oriented to the role of vocational education in the school system.

10. Conscious effort on the part of the academic teachers to use shop work which the vocational students produce as a motivating force in their subject area.

Research in Vocational Education

Dr. Joseph K. Bailey

The greater the decision we have to make, the more we apply the principles of research. Vocational educators are responsible for preparing students for employment. Fifteen percent of high school students are now enrolled in vocational education. Approximately 60 percent graduate from high school and about 18 percent enter college. Industry spends about 10 percent of gross income on research and 15 percent of the federal tax dollar is applied to research. Francis Lanni, Director of Research, U. S. Office of Education, expressed concern at the lack of educational research as we are on the threshold of a revolution in our schools. As we are responsible for the occupational placement for those we train, programs must be based on sound principles, methods, techniques, practices, and needs which have been tried and proven.

Factors limiting the enhancement, enrichment, and improvement of vocational education:

1. How can valid follow-up data relative to vocational students be obtained? How can this data be used to improve programs?

2. What are the current, emerging, and projected employment opportunities in your county, area, and state?

3. What is the role of vocational education in creating employment opportunities?

4. How can the image of vocational education be improved?

5. What are the employment opportunities for the socio-economically handicapped for which vocational education could prepare?

6. What competencies are needed for successful entrance and continued employment?

7. How can vocational guidance be effectively utilized to facilitate career choice?

8. What are the most effective methods, techniques, and procedures for teacher preparation?

9. What is the role of vocational education in preparing for citizenship?

10. How can the recruitment and selection of potential vocational teachers be expanded to meet teacher needs?

11. What programs are feasible with two or more services cooperating?

12. What programs are possible for the underemployed (marginal farmers)?

13. How can federal and state funds be most effectively and efficiently utilized to promote and implement vocational education?

14. What are possible vocational education programs for sparsely populated rural counties?

15. What are the in-service education needs of vocational teachers in your county, area, and state?

16. How can the attitudes of general education administrators toward vocational education be made more favorable?

17. Would mobile units to provide occupational instruction in selected communities be feasible?

The answers to many of these questions would help in the development of better programs. Program adjustment and development can no longer be based on what someone likes, knows, or in which he is interested; but it must be based on principles, methods, techniques, and practices which have been tried and found to be effective and which ultimately prepare the students for employment.

Three percent of the state's federal allotment shall be used for ancillary services such as research, guidance, curriculum development, in-service development, and teacher training. These funds, of course, must be matched by local and/or state funds. If our allotment is two million, three percent of this amount would be $60,000. Matching with local funds would increase this to $120,000. A significant amount of this is being used for research. A few counties have requested full or partial funding for projects:

Wood County - in-service training for vocational business teachers.
Wetzel, Brooke, Putnam, Mason, Jackson, Logan, Clay, Randolph, and Eastern Panhandle - appraisal of vocational education needs and opportunities.
Marshall University - appraisal of post high school vocational and technical education in Logan and Mingo Counties.
West Virginia Institute of Technology - study of technical education needs in West Virginia.

At this time we have approximately $25,000 of 4(a) funds remaining with which to match local funds and a new year's allotment will be available July 1, 1966. Second source of revenue is 4(c) and these provide funds to pay the full cost of a research project. Ten percent of all funds under the Vocational Education Act of 1963 are reserved for awarding grants for research, training programs, and pilot, demonstrational and

experimental projects on the national level. No county has expressed interest in these projects, but the state has submitted three:

1. Leadership and Professional Development of County Supervisors of Vocational Education in West Virginia.

2. A Pilot Project to Prepare Technical Instructors by Providing Professional Education and Occupational Experience to Graduates of Two-Year Terminal Technician Programs.

3. A Demonstration of the Cluster Approach in Preparing Youth With Diverse Capabilities for Employment in Electrical-Electronic Fields.

The vast area of research can be of vital service to vocational education as much of future programs must be based on our findings. There are funds for research in West Virginia. We should have projects at the local, county, area, and state levels. There seems to be little or no excuse for leaving questions unanswered or the problems which limit program expansion unsolved.

Guidance, Placement, Follow-Up

Dr. Albert E. Jochen

This is truly an evaluation of the program. A cardinal principle was that the individual in the program had to profit from the instruction. Honest educational hurdles should be detailed and a variety of guidance opportunities provided for young people. The ninth year program would be one way of doing this. The booklet, "Consider Your Future," is a very good way of promoting the program. Materials concerning each trade could be studied and discussed with parents, teachers, and counselors. Visits to establishments to see trades working would help to make decisions. There is physical and mental strain upon those whose jobs have little or no security. Successful, happy living requires careful planning and study. Success stories and pictures from graduates would make an impressive booklet. Tests do not measure potential and even the intelligence test does not help much. The main quality or attribute necessary for success is concrete thinking ability.

The Vocational Leader and His Personal Professional Growth

Dr. Albert E. Jochen

As a leader in education, especially vocational education, you have absolute and complete control over your personal and professional growth. The key to effective programs of education that will meet the needs of the in-school and out-of-school youths and adults lies in the team approach on the part of all educators, general and vocational. All must know the aims, objectives, and philosophies of co-workers. An interchange of ideas is necessary. The article, "Today's Youth in a Forgotten America," in United States News and World Report, brings out the 40 percent missed in our educational system.

Growing professionally requires planning. A planned reading program in a wide variety of areas--political, social, art, special fields--will provide learnings about the outside world. We are highly technical people so we must read into the political and labor management areas to be informed. We should visit schools, industry, business, and research centers and plan for conventions and conferences. Educational leadership provides for open lines of communication. We need to expend extra energy and effort to make learning more enjoyable and more meaningful which will improve the educational system. It does not always require a great expenditure of money, just an expenditure of effort to experiment with an idea for improvement. Using some ingenuity, we could do a great deal in the field of selecting the right job.

Summary of Second Week

Dr. Albert E. Jochen

Major function of this session was the team approach in program planning, promotion, and development. Those engaged in academic, related, technical, semi-professional, skilled, administrative, and supervisory areas have to know the aims, objectives, and philosophies of all the other people. Vocational curricula need to be developed from an occupational analysis to get honest educational hurdles. Individual instructional material is a fundamental principle in sound vocational education. Course outlines properly developed, instructional materials utilized, adequate facilities, and teachers oriented, educated, and trained to become part of the team comprise a quality environment for vocational education. The local director has the duty of improving instruction and developing a climate in which the program can flourish. The various diverse elements in education, including the thinking community, industry, and business, must be coordinated. Honest educational hurdles must be developed to challenge the abstract, concrete, and social intelligence of the individuals. Placement, follow-up, and direction for further education for improvement should be provided through outstanding leadership.

Summary of Selected Presentations

Third Conference

March 14-18, 1966

Cedar Lakes

Role and Responsibilities of County Supervisors of Vocational Education

Dr. Joseph K. Bailey

As an employee of your Board of Education, you are indirectly an employee of the Vocational Division. The State Plan makes provisions for a portion of your salary to be paid by this division. This year that rate is approximately 50 percent. This financial arrangement does not mean that the state wants control over local programs. Our position is one of incentive and service which will bring about quality programs of vocational education and requires cooperation, loyalty, and efficient use of resources.

FUNCTIONS OF COUNTY SUPERVISORS

1. Prepare a philosophy and objectives of vocational education acceptable to administrators and vocational teachers.

2. Organize and operate a vocational education program based on the philosophy and objectives of vocational education.

3. Select and/or recommend teachers of vocational education and related subjects.

4. Assign duties, delegate responsibilities, and evaluate performance in terms of the objectives of a sound vocational education program.

5. Prepare financial budgets and other estimates of needs and requirements of a comprehensive program of vocational education.

6. Evaluate the need for and requisition a great variety of equipment, tools, supplies, materials, and services required to operate the program.

7. Prepare many types of special reports to county superintendents, board of education, and the vocational division concerning the vocational education program--its present status and probable future development.

8. Supervise the operation and maintenance of a great variety of complicated machinery and equipment, often hazardous and always costly.

9. Ascertain building requirements and prepare specifications for new facilities and equipment, and plan for the replacement of worn-out and obsolete equipment.

10. Recruit new pupils, select those qualified for training, and see that they are classified properly in terms of previous training, abilities, interests, and needs.

11. Organize a workable and economical schedule of classes and prepare programs which conform to all requirements of state and local regulations for general and vocational education.

12. Provide for a year-around schedule which meets the requirements of vocational education.

13. Make the objectives and philosophy of vocational education vital and meaningful to faculty and pupils.

14. Operate a guidance program which provides educational and vocational guidance and placement and follow-up services based on the purposes of vocational education.

15. Formulate a curriculum policy and organize courses of study designed to accomplish the goals of vocational education.

16. See that courses of study and instructional materials are kept up to date and are consistent with the actual training needs in the occupations for which preparation is being given.

17. Supervise classroom and shop instruction to assure that instruction is kept at a high level of quality and is directed toward the objectives of the vocational program.

18. Provide for related instructional services (library, visual aids, and the like) needed for vocational education program.

19. Provide for and recommend the proper kind of in-service training needed by a vocational education faculty.

20. Carry on a public relations program which keeps the general public well informed concerning the aims and accomplishments of vocational education so that public support will be continuous as the program is developed and improved.

21. Continuously evaluate all aspects of vocational education in order to maintain quality programs.

The following relationships should be established and maintained:

1. Contact employers, labor leaders, parents, and the general public for purposes of recruitment, placement and follow-up of graduates, evaluation, and publicity concerning the training facilities available at the school.

2. Contact other personnel within your school system, supervisors, supervisory personnel, and administrative and guidance personnel relative to curriculum matters, financial matters, production work, and the needs of the vocational education program.

3. Contact personnel in neighboring school systems for purposes of dissemination of information concerning the opportunities in the vocational education program.

4. Meet with state vocational personnel in order to consult with them about program and its development.

5. Serve on many educational committees, councils, and survey teams relating to vocational education in addition to the usual professional activities of school personnel.

6. Belong to and participate in the programs of many vocational education professional associations in addition to the same professional associations to which all educational personnel belong.

Supervisors' Specialized Knowledges:

1. The history, philosophy, and scope of vocational education.

2. The literature of vocational education.

3. State and Federal laws and regulations relating to vocational education.

4. Occupations and trades--personal knowledge of a trade or other occupations as a result of work experience.

5. Shop organization and management; equipment, tools, supplies, materials, mechanical and electrical services for vocational shop operation.

6. Special building needs for vocational education.

7. Industrial and labor relations.

8. Local industries and business establishments--their employment policies and working conditions.

9. Local labor unions and their policies.

10. Area school personnel to be contacted when recruiting pupils.

11. Public relations techniques for promoting vocational education.

12. The important relationship between general education and vocational education and how to coordinate these two phases of his program.

13. How to evaluate a vocational education program.

14. Schedule making for a vocational high school.

15. The preparation of trade analyses.

16. Course of study and curriculum development for a vocational education program.

17. Relationship between the shop courses and the related subjects.

18. Teaching methods and lesson planning adapted to vocational education.

19. Shop safety and shop safety education.

20. Industrial standards.

21. Production work problems in the school shops.

22. Vocational teacher education.

23. Psychology of learning, with special reference to the learning of trade skills.

24. Pupil selection and placement in vocational courses.

25. Educational and vocational guidance, job placement and follow-up methods.

26. The social and economic levels of vocational pupils.

27. Educational tests and measurements adapted to vocational courses; aptitude testing.

28. Grading and promotion policies adapted to vocational schools.

29. Basic techniques and tools of research.

Those supervisors who accept responsibilities, obtain and maintain the essential relationships and competencies will build 'lighthouses' of vocational education.

No one job description could be applicable to all as it would need to be adapted to the local situation.

Supervisors' Annual Report to Superintendent and Board of Education
Dr. Joseph K. Bailey

The County Board of Education has entrusted to the supervisors:

1. Various physical facilities, possibly worth several hundred thousand dollars.

2. Equipment and materials to make these facilities functional.

3. Personnel - instructors and guidance counselors

4. Funds

5. Students

Therefore, you should utilize many different media in keeping your superintendent, board, and public informed.

An Annual Report is a document which portrays:

1. What has been accomplished in vocational education during the year.

2. A projection of where vocational education should go the ensuing year or years.

3. The resources needed to attain objectives.

Areas for discussion:

1. Do all of you agree that some type of formal annual report should be prepared and submitted to the board?

2. What are the objectives of an Annual Report?

   Record of your accomplishments
   Progress report to board
   Inform board of need and objectives

3. Format

   Foreword
   Progress Report
   Enrollment and Courses
   Personnel
   Guidance and Placement Services
   Expenditures
   Adult Programs
   Projections and Needs

4. Principles

   Report should be prepared in an attractive, informative easy-to-read form. Varied techniques:

   Charts
   Graphs
   Pictures

   Give credit for all persons, agencies and school departments giving assistance to vocational education.

   Involve staff in preparation of report.
   Report facts and accomplishments.

Teacher Education

Claude McGhee

Teachers must be prepared to develop vocational programs with emphasis on occupational knowledges and skills to serve as a basis for more specialized vocational-technical preparation at the post high school level or on the job. This calls for an expanded and broadened program of teacher preparation.

In 1914 when the Commission on National Aid to Vocational Education was formulated, this statement was made, "that the development of vocational education along the right lines will depend largely upon the ability to secure and retrain well-trained teachers who have a thorough and practical knowledge of the subject." Every major act since then has provided for teacher training, whether it be in-service or pre-service. West Virginia has been a leader in providing legislation that would cause teacher training institutes to require a contract with the county and to have the cooperating schools for a student teaching program approved by the state department. Home economics, agriculture, business, and distributive education require some student-teaching before entering the service; this is a systematic planned endeavor where the supervising teacher is well selected. Marshall University and some of the other teacher-preparing institutions are presently farming out their teachers.

Clifton Detamore:

A valuable in-service training program is offered in trade and industrial education. A three-hour course, without college credit, is given at Marshall University. A new teacher will pursue a two-semester-hour teacher training course during the winter while teaching and a three-hour course at Marshall during the summer. By the end of four years, he shall have earned twenty semester credit hours and is issued a first class certificate. When this certificate is received, the pay is equal to that given for a baccalaureate degree.

Maryland has a good plan for the trade and industrial instructor. Before he is allowed to enter the classroom, he must have earned 10 college credit hours from the University of Maryland. Prior to his entering a vocational school, he is put on salary and sent to school in the summer. He is encouraged to continue with his education through extension courses in the summer, but he must pay his own expenses. When he has completed 60 hours, he receives his first class certificate and is paid on this basis. At the completion of 90 hours, he receives another certificate and the pay schedule is the same as that for a BS Degree. As he gets additional work, he receives a pay increase to equal a Master's Degree. With this much schooling it is believed that he will continue until he receives his BS Degree in trade and industrial education and fulfill the requirement of six years' experience in trade and industrial education.

West Virginia needs to examine teacher training and upgrade the program to a level of college credit.

Techniques in the Development of the Vocational Budget

Fred W. Eberle

The budgeting role is related to planning, operation, and control. We need to develop a continuous system of control through which can come effective planning and operation.

It becomes necessary for those involved in budgeting to have some concern with the format of the county budget. Transactions may fall in one or two dimensions; first, by nature of the expenditure, and second, by the organization responsible for the actions. When you report transactions, you pinpoint the responsibilities for the dollar consequence. One of the things that prompted this conference was the experience encountered in budget making.

Your budgeting process could involve three phases:

1. Pre-planning
2. Budget preparation
3. Control of operation

Budgeting must be scheduled the same as any other activity. Pre-planning should be done during the last of the preceding year in order to provide the framework for budget planning. In this pre-planning period an analysis of previous operational experiences should be made. These questions should be considered: What happened last year? What courses did we offer? What was the tuition? What was the cost of supplies for those courses? What was the instructional cost for those courses? What were the operating details which need to be taken into consideration in this pre-planning period? What was the status of the funds? Most important, what was the vocational objective? Successful educators agree that the day-to-day or even year-to-year basis is not sufficient for planning; it involves a projection of the total program.

West Virginia has to submit its vocational education projected program activities by May 15 to the U. S. Office of Education. The usual procedure in working on a five-year program is to prepare the first-year plan in considerable detail and resort to projections for the remaining four years. The pre-planning phase of the budget function culminates in a broad operating plan for the year. Budget preparation is the next step. If you have set forth the programs that will be provided, given the details of the community and public relations to the program, given the information regarding the in-service teacher activities that you plan to conduct, a budget outline has been prepared.

The step from budget preparation to control and operation is a reflection on the supervisors' abilities. Funds are requested for courses, and realism becomes a factor in the control of the operation. If you will observe and make a cost analysis, the cost can be projected. In order to know how much you have in each one of your programs from the standpoint of balance, operational control is essential.

Vocational educators are responsible for budgeting, planning, operational control, and financial functions. You need to decide how much money will be used for promotion of program. This includes advertising, newspaper space, purchase of paper, annual reports, and publications to create good community relations. Office costs include office personnel, full-time, part-time, clerks, and stenographers providing a service within the office, as well as mail costs, telephone calls, etc. A system of requisitioning supplies in which you can get a list of supplies needed by each teacher and get it in adequate form so that you can make a cost estimate is an important factor. Budget provisions should be made for the development of courses of study, salary, supervision, instructional materials, library, workmen's compensation, fringe benefits, and equipment. With a planned program of equipment replacement, it is possible to set money aside to purchase surplus equipment.

What are the actual needs for operation? What is the actual operating cost of keeping the building going? If custodians were to go to custodial training classes, the result would be a more economic use of supplies. They should be given sufficient building equipment in order to do a good job. It is necessary to know the costs for the utilities and the budget for storage. A central inventory would acquaint workers with the preparation of budget and control operations. Lack of organization and the fact that many things are invisible often prevent an accurate count. Paper work becomes the backbone of your job. What are your sources of revenue? No program of vocational education can operate in the red.

Of the three major roles in budgeting, the most effective area is planning; the most overworked area is control. A program, like man, is built on the properties of money.

Financing the Local Programs of Vocational-Technical Education

Fred W. Eberle

Each person concerned with the program should become conversive on how monies are allocated to counties within our state aid formula. In some counties the vocational teachers are included in the allocation of state funds and in other counties, they are not. In the provisions for additional state allocation you have teachers' salaries, but these are outside the formula. Recent legislation has mainly been outside the formula and this has limited the amount of available money for the care and maintenance of buildings and supportive services. The operation of preparatory programs is possible through state aid as one source; and by virtue of taxes, certain funds are placed in a formula determined pretty much by the county board of education. These funds provide for allocation of monies for teachers, non-teaching personnel, and supervisory and administrative personnel.

When a county provides a vocational program, it finds additional money for operation in the form of reimbursement, including state vocational funds and federal funds. The county has obligated and expended funds in the operation of the programs and must submit a request called an affidavit to the state for the payment of vocational aid. Certain rules and regulations prevent an advance of funds. As we look at each program, we have to

look at the funding that comes about in a particular service. Reimbursement comes from three major federal sources--Smith-Hughes, George-Barden, or the Vocational Education Act of 1963. Dollar for dollar matching is fundamental in all these acts. If the amount of available money remains consistent from year to year and the demands for funds increase, the percentage being paid to local educational agencies is going to decline. This has happened in West Virginia. When programs were first established we had the money necessary for 50-50 matching purposes; but over the years the demands have declined below 50 percent matching. As salaries of teachers were increased and the amount of money available to the vocational division for state vocational aid remained constant, the percentage dropped. Some superintendents feel that they should be receiving the 50 percent reimbursement that they were promised when they opened their programs. Funds will vary from year to year according to demands; new programs shift and old ones are discontinued, so you keep about the same number. This funding is based on salary; and as the state raises the teachers' salaries, many administrators feel that we should maintain the same percent, which is impossible.

State and Federal money is available for the operation of a summer program. If you want stability in your program, you are going to work toward a 11½-month program. Your state aid only covers a program for nine and one-half months. One county's finance cannot be compared with that of another county. Money from Smith-Hughes Act can be matched statewide as before, and excess in teacher training can be used to match instructors' salaries. Excess in instructor's salaries can carry state administration. The overmatching is advantageous. The percentage changes, and there is no guarantee that you will get the same amount each year as it is determined by the demand system.

State-federal funds and fees are two sources for the operation of adult programs. Fees cannot be used for matching purposes. For all operating programs, vocational education has classified itself as adult or extension class and the reimbursement will be $4.00 an hour. There is a limited amount of money available for this expenditure. Each service is given its budget early in the fall and they operate within it. This makes the Memorandum of Understanding very important. What does it actually cost to operate an adult class? Information has come to us that your fees are too high, and this is another reason why you need to understand the techniques of budgeting. What is the student cost per hour? You should know what percentage goes into the operation of the office, what percentage for instruction, and what percentage goes to cover building costs. Unless you operate ten or more courses, in many instances you are going to face some financing problems. In order to balance programs, anticipate ten or more courses including heavy courses and put in a few of the basics. It is necessary to learn the gimmicks because you are going to have the cafeteria approach that will get the volume courses coming. This will provide some of the revenue to cover the cost of welding courses. The expensive costs of such courses come from the cost of utilities and supplies. Financing any program is very important. When studying finance, be careful with figures. Research uncovered that for the federal dollar the state of West Virginia was spending 27 cents while the county was spending $1.67. It is pertinent for us to become very conversive with the financing of vocational education in the counties.

Techniques Helpful in Efficient Scheduling of the Administrators' and Supervisors' Time

Dr. Albert E. Jochen

Scheduling time is a topic sometimes avoided because people have a tendency to avoid the trouble areas. Most people are kind, considerate, and cooperative, and planning should be done with intellect, not emotions. When looking ahead, learn to anticipate difficulties. Know your duties and utilize your time wisely. Classify these things in order of importance and occurrence: What do you have to do daily, weekly, monthly, intermittently, annually? Schedule your duties in the school and in the community. Do not leave your obligations out of your analysis. What professional obligations have you to each other and how much time should be devoted to them? Family obligations require some scheduled time, also. Your own entertainment, recreation, or relaxation time should be scheduled into your job analysis. You must use intelligence in planning and evaluating your own personal time. Poor scheduling causes a waste of time. Inability to get quick understanding of written material is basic to letter writing. Poor utilization of available services is a way of wasting time. Use the services of a wide variety of people. Learn to use your secretarial services by educating and training them properly. In the accounting area you should have facts and figures available. Utilize the services of your mechanics facilities. "Methods of Teaching Related Shop" was developed for the trade and industrial education people and it appeared in an industrial magazine, Industrial Supervision. U. S. News and World Report, Time, Newsweek, Businessweek, and trade journals keep readers informed. Research and new products are discussed, and good ideas are presented.

It is advisable to utilize the services of your state staff. A professional library is invaluable. A curriculum laboratory is important. A pattern for the annual report can save much time and simplify its preparation. Knowing how to start is the important step. Anticipate, prepare, and estimate your needs. Budgeting time in terms of the total job will be of value. Put items in order of priority when making your job analysis.

One real function as a supervisor is the improvement of instruction. Sometimes paper work may be over-emphasized impairing the improvement of instruction. It is easy for administrators, department heads, and supervisors to get too involved in a multiplicity of paper work; however, you cannot improve the program if you are at your desk all the time and do not know what is actually happening. It would be a good idea to follow a particular class through its schedule during one school day. A principal could conduct a series of lessons with his teaching staff regularly to let them see that he is vitally interested in their effective teaching. This would improve the morale of the school system in terms of pupils, teachers, and community.

Budgeting is a continuous practice starting with the collection of data so that when time comes for the annual report, the job is fairly easy. A major aid is encouraging teachers to prepare a perpetual inventory so that they can look at a card file and know what they have on hand at the end of the day. Requisitioning supplies then becomes intelligent, easy, and understandable. A great deal of time is wasted in excessive conversation. You need to be accessible, but appointments should be scheduled carefully and observed. Justify the time it will take you to make a telephone call. By careful thinking and planning, costs can be cut.

School Law

Fred W. Eberle

Educational programs do not operate in a vacuum. As a result of the Constitution, it becomes necessary to have a legal base to operate the schools. There are several ways in which the legal status is determined: laws enacted by the legislature, courts' decisions, attorney general's opinions, and interpretation of the law by the State Superintendent of Schools. The Attorney General is the lawyer of the State and is constituted and authorized the same as the prosecuting attorney of a county is the lawyer for the board of education. A good understanding of this is essential as we work within a framework of law. For instance, there is a law in the book that authorizes the establishment of a state board for practical nurses and sets rules and regulations relative to the schools of practical nurse education. No unauthorized person is permitted to attend a practical nurse's course. Rules and regulations for schools of barbering and beauty culture are under the direction of the State Committee for Barbers and Beauticians which is an agency within the State Health Department. Understanding the laws becomes a major responsibility of the vocational supervisor.

Once we advertised a course in "custodial engineering." The licensing board for professional engineers reminded us that we were not entitled to use the word "engineering." The name of our course was changed to "custodial training" program. Schools are regulated by law and certification is regulated by law; but within the legal framework there are a number of things possible. The State Plan and the rules and regulations in the Vocational Education Act of 1963 must be used to identify the work we do and the legality of it. We are justified in operating several types of programs by virtue of state law. One of the first things required in the State Plan is the legal justification of the operation of vocational education and the assignment of authority.

In Article II-B, Area Vocational Education programs, the law is stated:

> The State Board of Education is designated as the State Board of Vocational Education. It is established and empowered to establish and maintain area vocational education programs including the acquisition by purchase, lease, gifts or otherwise of necessary land and the construction and expansion, remodeling, alteration and equipping of necessary buildings for the purpose of operating educational training centers . . .

State law requires the state superintendent to have a conference of county superintendents. It establishes qualifications, compensation, methods of removal, requirements for the county superintendent's office, and regulations for disposal of school property. Board meetings are regulated by state law. Basically, we do not approve the plans of vocational schools from the legal standpoint, but rather from the standpoint of the investment of state and federal funds. There is a stipulation in the law that says the state board may require all plans and specifications for the erection of schools to comply with the requirement of law. It may require all counties to submit all plans and specifications for their approval and your State Plan says that for counties to be eligible for school construction,

they have to comply and have the approval of the State Department of Education, Health Department, and the Fire Marshall's office. Failure to have any one of those three approvals may cause your money to be withheld. The Health Department can close your schools quicker than anyone else. The Constitution says that funds raised in the county have to be spent therein, and that word therein has been a stumbling block for a number of years as it prevents counties from undertaking a joint program. State law covers minimum school term, transfer of students, standard school classification, and kindergarten. Night schools and other extension activities are mentioned. The Board of Education shall have the authority to use school funds to financially support schools for such purposes, and these classes shall be conducted in accordance with rules and regulations of the State Board of Education. The board of education of any district or indepentdent district shall provide for the convenient use of school property to promote and facilitate frequent meetings and associations of the people for discussion of recreation and other community activities. They secure and house material for use and study of foreign, home, and community problems and provide facilities for the dissemination of information on the farm, in the home, and in the community.

> Under Article II, "The board of education of any county shall have authority to provide special classes in education and the charged tuition of such classes for those who are 21 years of age or over is not to exceed the actual cost of operation of such classes. The Board shall also have authority to enter into the contract with schools and authorized agencies and the Federal Government for the education of adults to provide, assemble, and house materials and equipment for efficient instruction in any and all such classes, employ teachers and provide facilities by way of a building and equipment under the control of said board. Any funds from such tuition shall be credited to the current expense funds of the county board of education."

This requires the keeping of solid records. The State Superintendent of Schools has the authority to establish a State Department of Education, a Division of Adult Education, and provides for suitable coordination and supervision of such educational programs as are established under Section 19-A and 19-B of this article. It is a part of the State Department of Education's responsibility to set up a system of classification because it gives the State Department the authority as a part of the school system, the state, and all secondary school departments. State supported institutions shall be approved, classified and rated by the State Superintendent according to the rules and regulations and subscribed by the State Board. An opinion written by an Assistant Attorney General put the establishment of standards for all schools, public and private, under the wings of the State Superintendent of Schools. This will entail from six to nine months because classification and evaluation will have to be in terms of standards for that school.

There are many questions that are still unanswered. If students participate in an area vocational program, how shall they be counted as it relates to calculation of state aid? Can you accept students from

parochial schools in your program on a shared time basis? As soon as the answers are available, they will be made available to you. On salaries for teachers, "The State Board shall establish the minimum salary schedule for teachers. Specialized training may be required of vocational, technical, and adult education teachers and such other permits may be authorized by said board." We have to work within the framework of the law. In some areas, a course in school law, which is a two or three-semester hour course is offered.

Relationships of State and County Projected Program Activities

Fred W. Eberle

With the enactment of the Vocational Education Act of 1963, the U. S. Office of Education took a look at some of its responsibilities and functions and realized that some things were needed. Before any state can obtain funds, projected program activities must be submitted. This plan includes manpower needs of the state and how the state expects to relate the program to meet such needs. Preparation and submission of this document has been our responsibility. Statistical information was used to outline the manpower needs of the state and the attempt was made to relate the program to such needs. The projected program activities should contain as thorough a description of the county as possible. Location often has significance, and major industries are important. This information should indicate to you, your superintendent, and board of education some of the statistical data that will indicate trends because it is on the basis of analysis of such trends that you are going to have the problem of identifying need.

With the passage of House Bill 7 establishing the Area Vocational Program, it became necessary for us to identify potential areas in which area vocational schools could be established. Many times we do not prepare ourselves sufficiently so that we can project the program.

Sometimes we have a passive attitude toward progress, so when we started the planning process in the development of the projected program activities, we needed to study the history of the state, its pecularities, its location, and socio-economic problems. Knowing the labor force is a major responsibility. How many machinists, auto mechanics, bricklayers, electricians, plumbers are employed? What is the major composition of the work force? How is your population distributed? Is it heavy on the above 50 or below 35? What is happening to people? The pecularities in manpower will be as important to you as to us. Take the mining industry--how many men are actually engaged in mining in your county and where are they? Where is your school in relation to that location? Location of the vocational youth is one of the biggest jobs facing some counties. What about accessibility to population and vocational education facilities and programs? How about levels of education? Do you know the enrollment in your particular school system as to grade level? What is your enrollment in vocational education as compared to enrollment in general education? What are facts and figures in regard to the finances of education, cost per pupil, above or below state average, its range with regard to national level? How many one-room schools do you have? What are the facts about your people?

There are 319,000 people who are 18 years of age or over who have had less than an eighth grade education, according to the 1960 census. Counties like Kanawha, Harrison, Marion, and other large industrialized counties have educational level of 10.2. This is significant because in many instances the people both employed and unemployed will have less than a high school education. The parents of the children who are now in school will have less education than their children; and if we take these facts to be meaningful, another type of education program in addition to the vocational program to raise the educational level of the work force is needed.

With all the talk about manpower shortage, one basic factor is found and it reveals that those with the least education can be found on welfare rolls. Education, especially vocational education, is the backbone of economic development. We are concerned with man's occupational competency but often overlook the fact that his occupational competency is dependent upon his educated ability. Reading and writing are necessary in order to understand the concepts and principles that are involved. Those with limited ability must be identified and programs provided for them. Labor force, education, and per capita income of the people are part of the index to occupational performance. Mobility has an economic factor involved in it that is not often recognized. Many of the problems that occur in Chicago, Cleveland, Akron, and Detroit, from the standpoint of the West Virginia migrant, stems from the fact that he is not accustomed to the socio-economic level encountered as he moved into that area.

There is a rule of thumb in vocational education that you need approximately 250 - 350 people engaged in a given occupational area within a given location in order to identify a shop or laboratory for that particular occupation. Sometimes after making this projected study, you will find a number of occupational areas that may be united or put into a cluster. Once you have the occupational areas for the jobs, the next thing is the analysis and you may have two or three that you can put together in the common core of manipulative skills. You are not going to be measured on the basis of the quality of your facilities, but on the value and performance of your product. You will have to be more realistic in the determining of the occupational areas in which you are going to provide training. Manpower needs should determine the program activities. Be on the alert to recognize potential placement. For instance, in the town of Poca, there is no one available to repair TV's, radios, and simple household appliances. After two hours of work in the location, there was indication of eleven job areas for which training might be provided.

To extend or improve a program, the consumer must know its purpose and its content. Limitations are many times underscored by the lack of planning. Before answering a company request for training, I familiarize myself with a breakdown of their work force to project with the personnel director to know why they feel they should work with a vocational unit in order to satisfy some of their personnel needs. In order to explain and sell a program, one must be informed. Whenever a vacuum exists around any type of training program and a vocational educator does not eliminate that vacuum, another agency will take over the job for us. You must be sensitive to the manpower needs of your area. This sensitivity includes information, data, and facts. What is the entry job? A vocational

education program can be effectively built on that one element alone. In some counties people say they do not need vocational agriculture, but look at the number of stores that handle chemicals and fertilizers that relate to the agricultural world.

Honeywell and two other companies have available training programs for heating, ventilating, and electricity. Home economics needs to be expanded. A training program is needed to improve service and preparation of food in the restaurants. In many cases the service is poor and the food is unattractive. If you would find the individual that has the occupational competency and the ability to transmit the idea, a training class should be encouraged in three major areas: service station attendant, waitress, and retail sales person.

The purpose of supervision is the development of the teacher. What is needed in Distributive Education? How about a course in window display? What are the offerings in health occupations? Do you know what is involved in medicare from the standpoint of institutional care? Where are they going to get the people? If experience is any indication, you can stay in this field for the rest of your life and still not satisfy the needs and demands because even Civil Service has cut down on the standards. We must know our own program, not one little facet, but the total potentiality of all the services. Study the nature of the industry and determine the limitations they have in the field of education in order to help them. Enrollment should be 75,000 who are not included in the day school. We should have five adults for each day student.

Methods and Techniques for Broadening the Horizons With Respect to Vocational-Technical Education

Dr. Albert E. Jochen

Most people are more familiar with business and industry than with labor. Society is organized in favor of the large business managers as they own newspapers, radios, TV, and sometimes even the church. We should be familiar and knowledgeable in the area of labor. The book, The Worker in Modern Society, gives the history and development of organized labor. Big business has learned that their profits and the country's prosperity is directly related to the individual's paycheck. There should be an understanding between labor and management. A committee should take a look at a course being offered and determine whether or not it is up to date in the light of their experiences.

A film was made in several languages to send abroad to teach the Europeans how organized labor is democratically operated between management and labor. This film could educate guidance counselors as to what an apprentice is and how the program should be conducted. The film could be obtained from the Department of Labor and if shown to the general public, there would be better understanding about this phase of your work. In order to get along with some labor unions, organize an apprentice program and inform them of things you can do. If labor is highly organized, they set up the apprentice program and no one is going to participate who does not carry a card.

There are several other things that can be done in relation to labor and management:

Retraining classes, remarkably responsive, help in a wide variety of ways, not only upgrading the employee but improves placement.
Upgrade journeymen.
Instruct pipefitters and plumbers to install plastic or glass pipe.
Clinic for service people.

You approach the right people and cooperatively develop a lecture-demonstration program plus a trouble-shooting kind of situation. This encourages people to come into your school, it is simple to operate, you receive assistance, and you are providing services to your local community. The same thing is true in setting up a program here. A unit course for boys working in service stations would not take long and one of the garages could be used. The boys should be taught how to keep a garage clean and make it look attractive. The service station owner could increase his business by getting some education and training. The automobile dealers might come in for a session and start some training of their own. Show the course outline and use good facilities that belong to one station owner and have some of the others pay for whatever is used during the training session. Get some publicity, and involve the community by having them evaluate the program by the improvement made.

Vocational educators should watch legislation for appropriations. Money is being put into pollution control, air and water. Decide if a foreman's training program is feasible. Generally, a county or a couple of counties can get together, maybe once a year, and involve all teachers. The meeting could be devoted to discussion of aims and objectives and problems faced.

As an administrator, it is necessary to be able to speak easily before a group in order to project your program. If you do not have these qualities, hire an assistant who will be able to do a good job in this area.

Advisory Committees, Their Use and Abuse

Fred W. Eberle

It is our challenge and responsibility to provide a program of vocational education that will serve the needs of all the people, and it is the voice of others that helps to make the program. An advisory committee provides a lifeblood for the program. Members should be selected who have knowledge of business and industry, who are sympathetic to the purpose of education in your area, and who will give strength to the program. In involving these people into the program, there has to be some need because busy people do not like to be assembled without purpose. An advisory committee can be a powerful agent if nurtured and properly adjusted to the problems at hand. General educators have recognized the value that has accrued to vocational education through the use of advisory committees, and over the years in West Virginia the basic idea has been adopted by the majority of the county superintendents.

The principle of communication is fundamental. If advisory committees had been effectively utilized in Kanawha County by the vocational people, in all probability there would be a technical high school in Charleston today.

One of the biggest tasks is the identification of the potential member of an advisory committee. You do not want total agreement; you want constructive and creative criticism. An advisory committee should represent the cross-section of the community or the county. You want representation of business and employee as well as government and the public. Each type of committee has its purpose and place.

Projected program activities can be taken to an advisory committee because this would reflect your thinking and your staff's thinking concerning where you want to go and what you have selected as being needed to get there. These people have a great deal of wisdom; they have solved problems of business and industry and they may know some of the soft spots in the road that you have not realized. It helps to be on first name basis with the cross-section of the community and county.

The training and care of an advisory committee member requires the finesse and technique that a jeweler gives to a diamond because this person is a jewel and you never want to tarnish the surface of such a jewel. If vocational education is going to move forward in West Virginia, it is going to move forward because each and every man attending this seminar sincerely accepts the promise that his program needs and deserves a dynamic advisory committee.

Summary

Dr. Albert E. Jochen

We have laid a foundation upon which to build--a sound philosophy. Vocational education in basic principle has not changed. The teamwork is essential. The team has to be composed of other educators, the total educational force, the total community, the total industry and business field. Surveys must be taken to determine the needs and the proper plan developed. Utilize points discussed: Make analysis of your job--where you stand and how you fit on the organization chart. After this has been determined, you will be able to make surveys and keep up to date as to what is needed in the community and make worthwhile contributions in the improvement of the total educational program. Perspectives and horizons have been broadened. We discussed what needs to be done in training teachers, in budgets, and finance, in keeping your school current with its physical facilities, equipment, and supplies, and in securing the type of counseling necessary in the occupational areas.

The future is ours if we conscientiously and eagerly face the problems before us and bend our every effort for the total good of all mankind. Technology helps increase our Gross National Product and puts us out in front in the number of telephones, TV's, bathtubs, and cars; but it makes it difficult for the ordinary student to get a feeling of personal

fulfillment. It brings out the importance of the individual and freedom while at the same time accelerates the forces which destroy freedom and the individual. It eliminates the unskilled and semi-skilled. It increases production and at the same time it decreases the work force. These things are vitally important to us when we think of curriculum development.

You must act as an arm of the State Department and work closely with them using their leadership in developing the kind of programs needed in your community.

Evaluation
Dr. Joseph K. Bailey

Evaluation must be done in terms of objectives. The objectives were established at the beginning of the conference, and an evaluation sheet from each member is required to determine the effectiveness of facilitating the planning of the projected program activities of vocational education for each county.

What Comes Next?
Fred W. Eberle

The growth of vocational education in West Virginia has been spasmodic; it has not been steady and deliberate. We are undergoing a growth period now because of the incentives provided by federal funds.

It is from ideas that blueprints emerge. About 1960 the state staff began to assert leadership, because it was an outgrowth of the staff's effort that House Bill #7 became a reality. We got on the statutes a law that provides for the establishment of Area Vocational Programs.

The next step is the sharing of the idea that it is not who is going to run the program but who is going to profit from it. Consequently, one of the things that comes next will be the basic design in the state that two or more counties will unite and form an area vocational school.

An effective communications program must be developed. Drive-in conferences uncovered the condition that facts were not being disseminated. This was one step toward a communications program and the next step would be a short intensive seminar dealing with the techniques of communications in which you would explore the potentials of good news. Criticisms have been made that we are not capitalizing on the news. News should come from the grass roots at the county level. Communications will be the only means that we have of taking our employment potential of 40,000 to the potential of 60,000.

Many people have had a traditional concept of vocational education, looking for rigidity rather than flexibility. Why is it that there is no place in the state of West Virginia offering a semester course under the label of vocational education? Why is it that we have very few programs

that are one-year in length? Why can't an adult enroll in a vocational school? The public has one idea as to what should be done and you have another.

Curriculum development is going to have to become one of the prime activities of the state and county staffs in designing programs that will reach all of the people in all of the communities. It is going to have to be realistic in sound and solid course construction. We must learn to use devices and media. To summarize our planning for the future, these are five major areas:

1. Organization
2. Communication
3. Curriculum
4. Evaluation
5. Professional growth

Evaluation will be one area of effort where the state will join with the county in attempting to bring about the necessary techniques, devices, and instruments in order to improve the program.

Professional growth is of great importance in your area. Strong programs of vocational education are operating in counties where many people in administrative positions started in their profession as vocational teachers. Some county supervisors have advanced from teaching positions.

The investment in your professional growth is time, money, and energy, and this investment will be the largest contributor to vocational education. We must be seekers of ideas, developers of plans, and builders of programs. Where will we be in vocational education ten years from today? We must be aware of the changing role of leadership; because time has its effect, ambition has its role, but above everything else, leadership is an adventure and I trust that as a result of these three weeks you have become an adventurer.

Conference Evaluation

EVALUATION

County Vocational Supervisors Seminar

Directions:

Read each statement carefully and decide how you feel about it. You will agree with some statements and disagree with others. You are offered five possible answers to each statement. The "Undecided" answer should be circled only when you have no opinion. Circle one number following each statement. Please answer all statements.

Example:	Strongly Agree	Agree	Un-decided	Dis-agree	Strongly Disagree
The city needs to improve garbage collection schedules	5	4	3	2	1

This person feels in no uncertain terms that garbage collection schedules are inadequate.

In regard to this conference I feel that:	Strongly Agree	Agree	Un-decided	Dis-agree	Strongly Disagree
1. The purposes of this program were clear to me.	12	11			
2. The objectives of this program were not realistic	1	2		6	14
3. Specific purposes made it easy to work efficiently.	7	16			
4. The participants accepted the purposes of this program.	4	18			
5. The objectives of this program were not the same as my objectives. . .		1		14	8
6. I did not learn anything new . . .				4	19
7. The material presented was valuable to me.	18	5			
8. I could have learned as much by reading a book				8	15
9. Possible solutions to my problems were considered.	6	17			
10. The sessions were good but did not apply to my situation.				10	12
11. The information presented was too elementary				14	9

	Strongly Agree	Agree	Un-decided	Dis-agree	Strongly Disagree
12. The speakers really knew their subjects	18	5			
13. The discussion leaders were not well prepared.		1		10	11
14. I was stimulated to think objectively about the topics presented.	9	14			
15. New acquaintances were made which will help me in the future . . .	12	10	1		
16. We worked together as a group. .	15	9			
17. We did not relate theory to practice		1		14	6
18. The sessions followed a logical pattern.	4	19			
19. The schedule was too fixed . . .		1	1	17	3
20. The group discussions were excellent.	7	15			
21. There was very little time for informal conversation.		1	1	16	5
22. I really felt a part of this group.	13	10			
23. I did not have an opportunity to express my ideas				13	9
24. My time was well spent	15	7	1		
25. The program met my expectations.	10	13			
26. I have no guide for future action				10	14
27. Too much time was devoted to trivial matters.	1			11	12
28. The information presented was too advanced				11	12
29. The content presented was not applicable to vocational education. .				8	15

	Strongly Agree	Agree	Un-decided	Dis-agree	Strongly Disagree
30. Seminars of this nature should be offered again in future years	15	9			
31. Seminars such as this will contribute little to vocational education	1			7	16

I. How do you plan to apply the outcomes you have obtained from attending this seminar? (Check the two most important)

9 Implementing a public relations program
10 Administration of vocational education programs
11 Supervision
10 Improvement of teaching or supervision
5 Preparation of curriculum materials
6 Planning for vocational education facilities
12 Planning of vocational training programs
2 Time Schedule
2 Aid in Development of County Plan

II. The persons who planned the seminar program endeavored to include areas which they thought would be helpful to you in fulfilling your responsibilities as a County Coordinator, Supervisor, and Director of Vocational Education. Please indicate the extent which each specific segment of the entire program will be beneficial to you.

January 10-14, 1966	(Very beneficial) 5	4	3	2	1	(Of no benefit) 0
Evaluation of Vocational Education	13	9	1			
History of Vocational Education	5	11	4	3		
Philosophical Concepts of Vocational Education	12	11	1			
Principles & Concepts of Vocational Education	11	11	1			
Vocational Home Economics	7	9	5	1	1	
Vocational Agriculture	7	10	3	1	2	
Vocational Industrial	8	13	1			
Youth Organizations	4	10	6	1	1	
Distributive Education	7	10	4		1	
Health Occupations	6	10	5	1	1	
Technical Education	9	14	1			
Business and Office Education	9	7	6			
Effective Communications	11	7	5			
Adult Retraining	10	9	3	1		

February 14-18, 1966	(Very beneficial) 5	4	3	2	1	(Of no benefit) 0
The Team Approach to Program Planning	12	10	1			
The Team Approach to Program Promotion	14	7	2			
The Team Approach to Program Development	12	10	1			
Techniques in the Development of Vocational Curricula and Instructional Materials	12	9	1			
The Orientation of New Teachers	11	11	1			
In-Service Teacher Training	8	13	1	1		
Coordination of Shop, Related, and General Instruction	10	11	2			
Program Evaluation	10	14				
Research - State and Local Responsibility	11	10	2			
Guidance, Placement, Follow-Up	11	9	1	1		
Vocational Leader and His Personal Professional Growth	13	9	1			
March 14-18, 1966						
Program Planning - Ohio and Harrison Counties	3	14	5			
Role and Responsibilities of County Supervisors of Vocational Education	14	6	2			
Fundamentals of Sound Local Administration and Supervision	14	6	2			
Supervisor's Annual Report to Superintendent and Board	12	9	1			
Public Relations	11	10	1			
Teacher Education	8	11	3			
Techniques in the Development of the Vocational Budget	11	10	1			
Financing Local Vocational Education Programs	10	8	4			
Effective Scheduling of the Supervisor's Time	15	7	1			
School Law	14	7	2			
Relationships of State and County Projected Program Activities	10	12	1			
Methods and Techniques of Broadening the Horizon of Vocational Education	11	10	4			
Advisory Committees, Their Use and Abuse	16	7				

III. Do you feel that seminars dealing with specific areas of vocational education should be held in the future? 23 Yes 0 No

If yes, what specific areas of vocational education would you suggest be offered?

Vocational Budgets	2
Financing	2
School Law	3
Local Problems Presented and Discussed by Group	1
Coordinators - Schedule Time	2
Adult Extension Work	1
Teacher Training	4
College credit when deserved	1
Annual Reports	1
Role and Responsibility	2
Public Relations	4
Facility Needs and Requirements	2
In-service - Local	1
Communications	9
Vocational Education in Relation to Other Education	2
Curriculum Development	3
Techniques of Supervision and Maintain Teacher Morale	1
Deal With Specific Courses	1
Vocational Guidance and Counseling	4
Recruiting Techniques	2
Vocational Education Act of 1963	1
Youth Organizations	1
Developing a County Plan	1
Administration	2
How to Start New Programs and Promotion	3
Student Selection	2
Placement, Follow-Up	2
Philosophy of Vocational Education	1

Appendix

Terminology Associated With Vocational Education

Apprenticeship Training: A program of related and supplemental instruction in a craft, trade, industrial or technical occupation in which learners or apprentices are regularly and lawfully employed for the accepted term of the apprenticeship.

Area Vocational-Technical Center: A regional comprehensive area vocational-technical school serving school districts and students from adjoining areas. Such a center is considered as an integral part of each participating school district's total education program.

Business and Office Education: A program of instruction designed to educate for employment in business and office occupations including secretarial jobs, bookkeeping, office machines, and related areas.

Comprehensive High School: A senior high school offering a program of studies in academic, business, distributive, agricultural, and home economics education. Except in a few such schools, trade, industrial, and technical education curriculums are generally not provided.

Continuing Education: A program of instruction for employed adults which may include pre-employment, supplementary, and occupational extension classes.

Cooperative Work-Study Program: A program of alternating study in school with work on the job, the two phases being so planned that each contributes definitely to the student's education.

Distributive Education: A program of instruction designed to educate for careers in selling, marketing, merchandising, and business management.

Federal Vocational Education Act of 1963: Provides funds for a total program of occupation education for high school youth, adults, school dropouts, high school graduates who desire full-time instruction, and disadvantaged youth and adults on either a full-time or part-time basis.

Industrial Work-Study Program: A program distinguished from the Cooperative work-study program in that the work performed is a means of obtaining financial assistance in order to remain in school full time. This work program is not designed per se to contribute to the student's education.

Junior College: An incorporated institution with an admissions requirement of four years of secondary schoolwork or its equivalent, offering one, two, or three years of work in terminal courses of collegiate grade and quality; or an incorporated institution offering both standard and terminal courses. A junior college may issue a diploma indicating satisfactory completion of a one-year program or confer an associate degree or a diploma in recognition of satisfactory completion of a two- or three-year program. Note: The term "junior college" covers community colleges and institutes, including technical institutes as well as those institutions specifically designated as junior colleges.

Manpower Development and Training Act of 1962: A Federal Act which provides for the establishment of training and retraining programs for unemployed persons who cannot obtain employment with their present skills or who are working below occupational potential.

Occupational or Trade Extension: Instruction designed to supplement or extend the trade knowledge or skill, or both, of employed workers in industry.

Technical Education: Preparation for employment in an occupation which requires mastery of a large amount of technical information including science, technology, mathematics, and drafting as applied to modern design, production, and service.

Technical Institute: An institution offering a two-year terminal program leading to the degree of associate in applied science which emphasizes preparation for employment as a technician in a specialized field such as may complement the professional engineer.

Vocational Industrial Education: Instruction which develops basic manipulative skills (hand and machine), safety, judgment, technical knowledge and related mathematics, science, drawing, art or design specifically related to a trade or industrial occupation for the purpose of preparing secondary youth for initial employment as apprentices or advanced learners in industrial occupations and for training, retraining or upgrading adults.

Vocational Agricultural Education: A program of instruction in agriculture to train for occupations in farming and related fields including agricultural mechanics, agricultural business, ornamental horticulture, conservation, and forestry and other occupations involving knowledge and skills in agricultural subjects.

Vocational Home Economics Education: Programs of instruction designed to provide training for (a) improvement of family life through more effective development and utilization of human resources, and (b) gainful employment in an occupation involving knowledge and skills of home economics subjects.

VT 000 884

Attitudes and Motives of MDTA Trainees: A Pilot Investigation. Manpower Report, Number 11.

Office of Manpower, Automation and Training (DOL), Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Nov65 9p.

SOCIAL ATTITUDES; *PSYCHOLOGICAL CHARACTERISTICS; INDIVIDUAL CHARACTERISTICS; *DROPOUTS; *GRADUATES; *ADULT VOCATIONAL EDUCATION; RESEARCH NEEDS; *FEDERAL PROGRAMS; PROGRAM ATTITUDES
MDTA PROGRAMS; *MANPOWER DEVELOPMENT AND TRAINING ACT PROGRAMS

Six trained behavioral scientists conducted in-depth interviews with 36 Manpower Development and Training Act (MDTA) students in Lexington, Kentucky, Washington, D.C., and New York City, to identify hypotheses suitable for use in later MDTA studies. Ten of the students interviewed had completed an MDTA training course and 26 had dropped out prior to course completion. The interviews were informal, exploratory, and semi-structured. Areas covered in the interviews were (1) the extent to which middle class values had been adopted, (2) the family structure, (3) the trainees' attitudes toward peers and the world in general, (4) the degree of approval or disapproval toward the MDTA courses, and (5) the guilt connected to dropping out. Conclusions which can be considered for further investigation using a representative sample and more precise instruments are that (1) Middle class values have been learned but the means to achieve them have not, (2) Lingering resentment from early discrimination and humiliations is still in existence, (3) Experienced teachers are needed in this setting, and (4) Counseling and psychotherapy should be provided to maximize vocational training. (EM)

VT 000 884

ED0 30001

manpower report

NUMBER 11
NOVEMBER 1965

ATTITUDES AND MOTIVES OF MDTA TRAINEES: A PILOT INVESTIGATION

LIBRARY
THE CENTER FOR VOCATIONAL AND
TECHNICAL EDUCATION
THE OHIO STATE UNIVERSITY

SUMMARY

From depth interviews with 36 men and women Manpower Development and Training Act trainees and dropouts the following hypotheses were derived for further investigation: So-called middle class values, that is, the need to work hard, save money, control impulses, and so on, may have been learned, but neither the means to realize them, nor the preparation for withstanding frustrations have been realistically acquired. The peculiar dominance of the mother in many disadvantaged Negro families, and the concomitant absence of the father as provider and role-model may be reasons for this lack of preparation. Considerable lingering resentment from humiliations felt early in life is present. This may lead to various behavior problems in the MDTA classes.

Besides the suggested hypotheses, two recommendations from the study are worth serious consideration: (1) The MDTA trainees need the most highly experienced teachers, and (2) the trainees need counselors and psychotherapists to deal with their emotional problems in order to make their vocational training socially effective.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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INTRODUCTION

While a great deal is known about the demographic characteristics of MDTA trainees—age, sex, education, and annual income—little is known about their psychology. Almost nothing is known about how they think and feel, what they worry about, expect, or enjoy. It is not known, for example, whether they liked their last jobs, were indifferent to them, or hated them. Very little is known of the psychological factors that determine why some trainees are eager for retraining, while others drop out.

Many of the problems involved in vocational retraining, occupational mobility, and recalcitrant unemployment have been more difficult to solve because so little has been known about the trainees' attitudinal and motivational components.

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U.S. DEPARTMENT OF LABOR: W. WILLARD WIRTZ, Secretary
MANPOWER ADMINISTRATION
Office of Manpower, Automation and Training

Without this kind of information a reasonably successful program of training, for example, is virtually impossible. This kind of information, when, and if, it becomes available, would also provide a sounder basis than was formerly present for improving the teaching, reducing the dropout rate and making the trainees better able in the future to find and hold jobs.

In order to obtain hypotheses for further testing with more precise instruments and a better sample, the psychological research group of the Office of Manpower, Automation and Training (OMAT) undertook a pilot investigation into the attitudes and motives of MDTA trainees and dropouts.

THE SAMPLE

The study to be reported here was a pilot project, stemming from the need to obtain some information on trainee attitudes and motives as soon as possible. The project made no attempt to select a "representative" sample in the technical sense, because of the preliminary nature of the investigation. In general, a preponderance of male dropouts with less than a twelfth grade education was interviewed, because the least is known about these trainees. The interviewing was done in Lexington, Ky., Washington, D.C., and New York City. The choice of cities and the number of interviews were dependent primarily upon the availability of trained and competent personnel free to assist in this project.

The cases for interview were selected from the local MDTA training files so that each sampling city had a total of about 20 cases. The only restriction on the final selection was that a 3:1 ratio hold between dropouts and completers. In general, the proportion of males to females in the sample represented that among dropouts. There were about two males to every female in the study. After considerable difficulty in locating people, a total of 50 interviews were finally collected. Of the 36 which were used in the final analysis, 27 were nonwhite.

THE INTERVIEW

The interviewing was done by six trained behavioral scientists, each of whom was experienced in "depth" interviewing. The interviews were exploratory and semi-structured, by which is meant that the interviews were informal, and the respondent determined the pace of the interview. Although no questionnaires or tests were administered, the interviewers investigated certain predetermined areas. These areas in the life history of the respondent upon which the interview focused whenever the occasion presented itself included early experiences with parents, brothers and sisters; successes and failures in school; attitudes toward men and women of their own age; job histories and experiences at work; and information about how the respondent learned about the training programs, how he felt he was treated in it, his opinions about his teachers and the equipment, and his reasons for completing or dropping out of the course. The interviewers also tried to obtain information about such general psychological dimensions as reactions to failure, current aspirations, ambitions, worries and fears.

The depth interviewing techniques attempted to see the trainee's world through his own eyes, see it in terms of what it "meant" to him. The subjective elements have intentionally not been removed. From the analysis of the interviews, hypotheses can be constructed for further investigation.

The interviews were all arranged in advance, by telephone whenever possible, and by personal contact when the respondents could not be reached by telephone. An attempt was made to have women interviewers talk with women respondents, and men interviewers talk with men respondents; Negro interviewers interview Negroes, and white interviewers interview whites. Sometimes husbands and wives were interviewed together, and on one occasion, several trainees were interviewed in a group. The interviews took place in almost any setting in which the respondents felt comfortable, and to this end the respondents' suggestions were followed as nearly as possible. Interviews were held in bars, restaurants, or in the respondents' homes. Some interviews were held in the senior investigator's office, and tape recorded with the respondent's permission.

The session usually began with the interviewer introducing himself, and adding that he was working for the Depart-

ment of Labor on "some research to find out more about what goes on in a person's life while he is an MDTA trainee." The research purposes of the study were stressed, and the absolutely confidential nature of the interview was assured. The interviewers explained that the Government could not improve its training without the trainees' cooperation.

The keystone to establishing rapport in interviewing is equality and honesty. There was no condescension from the interviewers. They answered the respondents' questions as directly and as candidly as they hoped the respondents would answer theirs. This does not mean that all the interviews went well. Some of the interviews were eliminated because of obvious fabrications, and in the final analyses, only those interviews were retained which, in the judgment of the interviewers, provided sound information. A preliminary draft of the analyzed interviews was circulated to the interviewers to be certain the findings coincided with the interviewer's impressions during the interviews.

The principal categories used in the analysis were the learning of middle-class motives, the role of the woman in Negro families, the problems of mental health, and favorable and unfavorable attitudes toward training.

FINDINGS

1. The first question is whether MDTA trainees have *learned middle class values,* especially the need for education and training? The answer seems to be "Yes." Many of the respondents, both men and women, young and old, were clearly aware of the function of education and training in the mobility process, both occupational and social mobility. Although their language was unsophisticated, they knew whereof they spoke. As one respondent put it,

> "I worked with a pick and shovel until I 'took this course, . . ."

The respondents expressed clearly the desire "to better themselves," or to do "better than their parents." A 36-year-old man, a semiskilled electrician, wanted to learn TV repairing; another wanted to become a salesman "in a better men's shop;" others mentioned becoming nurses, nurse aides, cosmetologists, auto repairmen, custodians, and so on.

What is lacking, apparently, is not the desire to better one's self, but the awareness of what is involved in doing so. One woman wanted her husband to complete the TV repair course, but did not want to reduce her household expenditures while he was in the course. Another woman "always wanted to be a cosmetologist," but when she found that it took months to learn to process hair, and longer to learn to style it, she decided that she "didn't want to go that long." An intelligent, attractive 21-year-old woman knows what she wants, but doesn't know how to get it. She "doesn't want to stand behind a counter all her life"; but neither does she "want to give 2 years of her life to going to school."

Related to this is the ease with which trainees were discouraged and dropped out of the MDTA training courses. One respondent began to fall behind in her shorthand course. Then she became ill for 2 or 3 days. When she finally called the MDTA office to express her concern about her standing in the class, she was given no counseling or encouragement. It was at this point, feeling that she could never catch up, that she decided to drop the class.

The tentative hypothesis seems to be that the aims of the trainees are modest and clear, but the commitment to them is either superficial and tenuous, or complicated by competing motives. Moreover, in many cases there is no real awareness of what is required to attain the ends expressed, nor any preparation for the sacrifices and frustrations which may be encountered.

2. Any consideration of motivation must be followed by a discussion of the family situation in which the motives were first acquired. Many of the interviews suggested that the function of women in the family was especially crucial and symbolic. Although this was not a "sample" in the scientific sense, a disproportionately larger number of women in the study were widowed, deserted, separated or divorced. But the family, as an intact social unit, survived. Perhaps because they had been prepared by their own childhood experiences for these kinds of crises, the women

showed remarkable independence and resourcefulness in supporting themselves and their children when their marriages dissolved. With the father absent, the family structure was mother-centered and woman-dominant. One of the results of this kind of family structure was that both the young women and the young men showed closer emotional ties to their mothers, or mother-substitutes, than to their fathers. The men who had been raised in these mother-centered families faced a more acute problem, for the model of a substantial wage-earning father was completely absent. The mother, therefore, was the model and the prime mover; the father being often only a shadowy figure in the man's mind. Moreover, references to the father were often uncomplimentary. One of the men put it best in these words:

"Because, well, my father was an utter failure. He was nothing but a failure."

"What did he do?"

"Well, it's like this . . . my father, . . . well, to cut it short, he was a drunkard. If it hadn't been for my mother, Lord knows where we'd all be now."

"Does your mother work now?"

"Sure, Mom is working now. She's working like a dog."

"Do you worry about her working so much?"

"Sure, I worry about her. But I worry more about failure on my part. I always wanted to top my father. I just want to do something big. Something that's going to set me big in her eyes."

The man's early relationship with his mother seemed to influence not only his relationship with his wife but also his success in the training program. For many of the men who had successfully completed the MDTA training course, or for those who had terminated for "good" reasons, the relationship with their mothers was often reported as tender and good, and their relationships with their wives was solid and stable. One of the respondents, for example, remembered his mother as a "nice and loving woman," although she died when he was 11 years old. His wife, he said, looked very much like his mother. This man, 42 years old, dropped out of the training program only when the allowance he received was no longer sufficient to support his family and his wife—who had recently become an invalid.

Trainees dropped out of the courses for both "good" and "bad" reasons. For example, in coding the interviews, instances where the trainee dropped the MDTA course to obtain employment, or because the training allowance was inadequate, or because the course content was — in fact — beneath the trainee's level were coded as "good" reasons; while being dropped for absences, disciplinary reasons, or dropping without an immediately available job were coded as "bad" reasons.

From the interviews, it appeared that those trainees who had established positive and affectionate relationships with their mothers early in life were more likely to complete the training program, or to drop out for "good" reasons. It is especially important to point out that there was no evidence that those trainees who did not complete the courses had poor family relationships. The most significant observation for further investigation is that many of the men in the MDTA training programs had never in their lives had suitable role models from whom to learn how to achieve the various middle class goals. Moreover, socialization by the mother, alone, may be important, but insufficient preparation for the job market. It may be very hard to introduce the world of work to a young man who never had in his childhood a steadily working father.

3. The third concern of the investigation is with the kinds of attitudes the trainees had toward themselves, their peers, and the world in general. The range was great. On the healthy side, there was a solid recognition among many respondents of the need for hard work and realization that no one is indispensable, and, especially among the better educated Negro trainees, a free discussion of the race problem and what it meant to them.

On the other hand, however, there were examples of maladaptive attitudes. There was, for instance, the middle-aged woman who had been held back in the third grade and who had dropped out of school at the age of 11, who resented the fact that the instructor in her remedial class made the students start by learning the alphabet and counting to one hundred.

This woman had no real awareness of her limitations. There was, of course, a range of severity. There is no need to multiply examples. The conclusion was inescapable that many of the trainees had symptoms of rather severe problems.

Between these two extremes were trainees in which distrust and anger were the prevailing moods. In a few cases, the suspicion extended even to the interviewers (and unquestionably affected what could be obtained from the interview). In one of those, the respondent, a good-looking, young man, demanded and took, the interviewer's notes. He felt that he had revealed too much of his personal life. He promised to return the notes in the mail as soon as he had "edited" them. Two months later, they had still not been returned. Despite the fact that he was alert and strong, he was, and had been repeatedly, unemployed. His family was being supported by welfare. However gently the interviewer tried to suggest to this man that his antagonistic attitudes toward the training course kept him from learning what the course had to offer, the man kept returning to the notion that if only he could get his family into one of the housing projects, all of his problems would be solved. Distrust of the interviewer is, of course, indicative of generalized distrust. A young woman, who said that she "liked to keep her problems to herself, because you can't tell who you can trust," failed to answer the young interviewer when she asked, "Do you trust me?"

It is certainly true that a great many of the respondents could look back with anger upon certain of their childhood experiences. Quick tempers, frequent fights, and a grouchy attitude toward life, when reported by the respondents, could often be related to shameful and unfair treatment early in their lives. A young man gave mostly one-word answers to questions about his life.

> "What worries you the most?"
>
> "Work."
>
> "What about your job?"
>
> "Stinks."
>
> "Ever have any good luck?"
>
> "Nope."

His longest answer was the most pathetic.

> "Do you think things will ever change for you?"
>
> "Can't change anything on this honest wage for honest work. . . . Don't think things will ever change unless I can get some money together. . . . Don't see how I can ever do it working like this. . . . Things like this can drive you nuts. . . . Some guys make in a few hours what I make in a week. . . . Selling dope, for instance. . . . Not saying I'd do it, but it makes you think about it."

In cases like these the anger may have subsided, but the resentment lingers on. It is hard to believe that the acquisition of further occupational skills, alone, will solve the problems of such people. Counseling or psycho-therapy may be necessary to alter certain basic attitudes toward the world, and toward the self, so that not only the acquisition but also the use of vocational skills may be facilitated.

4. Although regional differences were great, more approval of the MDTA courses than disapproval was expressed by those interviewed. Many of the teachers and the counselors worked hard to maintain the students' interest, and were respected for their teaching ability and their patience. On the other hand, discipline and teachers' attitudes toward students came in for the most frequent comments. A 50-year-old laborer quite correctly felt it was demeaning for a teacher to make an adult man stand facing his locker as punishment for asking that the windows be opened. And a 26-year-old mother of two children told of another class where the typing teachers were changed in the middle of the course from an older, experienced teacher, who presented the material at an appropriate pace for students with learning problems, to a younger, inexperienced teacher. The respondent could not learn the material fast enough for the second teacher, so she dropped the course, although she was then typing 35 words a minute. The interviewer checked other women in this class to corroborate the story, and it was correct.

All of these incidents point to the need for experienced teachers in the training courses, teachers who have themselves mastered the contents of the course sufficiently well so that they can give their attention to the various "learning problems" which often arise with older students.

Another kind of complaint arose. A valid complaint about money. The interviewers were particularly careful about this issue, since lack of money is a ready-made and culturally-accepted excuse for dropping any course. The interviewers asked:

> "Why did you really drop the course? It wasn't money was it . . . really?"
>
> "Yes, it was one of them."
>
> "Was it really? Think for a minute."
>
> "There were a variety of reasons, but money was one of them."

But money was considered a valid reason for dropping the training only where the case was clear. For example, one respondent, who had worked his way through high school, had no family, and was desperately poor, was now trying to take a mechanical drawing course. His training allowance was $20 a week, of which he paid $9 a week for a room in a pleasant, quiet house. When his check didn't come, he had no bus-fare. His telephone calls to the school produced no results, and he was dropped for absences. Although it was true that many of the respondents failed to use their allowances properly, many others found themselves unable to exist on what they were receiving. A more flexible money policy seems necessary.

5. Unfortunately for him, the dropout is viewed by society, and views himself, as a double failure. He represents the failure of the school to instill in him the proper enthusiasm and motivation to complete his course work. And if he is one of the underprivileged, untrained or minority groups, he confirms the groundless suspicion that the uneducated will never really try to improve their lot. Instead of being perceived by MDTA counselors, teachers, and administrators as a challenge, the dropout seems to be a source of embarrassment to them.

Because dropping out of the course is attended with considerable guilt, the potential dropouts rarely feel free to discuss with responsible authorities, or counselors, the fact that they may not continue the course. Indeed, because of the guilt associated with dropping out, the thought, itself, may be "put out of mind" until it is too late. A skillful counselor trained to interpret the defensive maneuvers the mind takes to hide the motives about which it is ashamed, might save many potential dropouts. Since MDTA is working with those people for whom life's problems have often in the past been overwhelming, it is only fitting that some way of helping them should be found. No college or university would try to keep its students in school until graduation without some provision for dealing with their emotional problems. MDTA students need the same chance.

CONCLUSION

From depth interviews with 36 men and women, 10 of whom had completed MDTA training courses, and 26 of whom had not, the following hypotheses can be considered for further investigation using a representative sample and more precise instruments. It appears that middle class values have been learned, but the means by which they can be realized have not, nor has there been any real preparation for the kinds of frustration encountered in the pursuit of these goals. One of the reasons for this lack of preparation, especially among men trainees, may be the peculiar dominance of the mother in many disadvantaged, Negro families, and the concomitant absence of the father both as provider and as role-model. In addition to the relationships within the family, there are the relationships of the family to the rest of the society. Although interviewers found healthy attitudes, considerable lingering resentment from discrimination and humiliations felt early in life was also found. These resentments may lead to various behavior problems in the MDTA classes.

Besides the suggested hypotheses for testing, two recommendations emerged from the study which are worth serious consideration. In the first place, the MDTA trainees need experienced teachers, many of whom are not attracted to this kind of teaching with its relatively low pay and limited opportunities for advancement. Perhaps most important of all is the need for counselors and psychotherapists to deal with the emotional problems of the MDTA students in order to make the vocational training maximally effective.

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Copies of this publication or additional information on manpower programs and activities may be obtained from the U.S. Department of Labor's Manpower Administration in Washington, D.C. Publications on manpower are also available from the Department's regional Information Offices at the addresses listed below.

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VT 000 900

Report of the Inservice Workshop-Conference on Cooperative Occupational Education Programs (Rehoboth Beach, Delaware, August 8-12, 1966).

Delaware State Dept. of Public Instruction, Dover. Vocational-Technical Education and Extended Services
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 66 80p.

*COOPERATIVE EDUCATION; *VOCATIONAL EDUCATION; PROGRAM GUIDES; *PROGRAM PLANNING; INSTRUCTOR COORDINATORS; CONFERENCE REPORTS; INSERVICE TEACHER EDUCATION
*INSERVICE WORKSHOP-CONFERENCE ON COOPERATIVE OCCUPATIONAL EDUCATION PROGRAMS, REHOBOTH BEACH, DELAWARE, AUGUST 8-12, 1966

Thirty teachers of various vocational education programs in Delaware convened to discuss the organization and administration of cooperative occupational education programs. Some of the specific objectives of this workshop were to provide (1) opportunity for potential coordinators to discuss common problems and basic issues relative to all cooperative occupational education programs, (2) opportunity for potential coordinators to meet the qualifications for coordinating such programs, and (3) the manpower to meet the needs for Delaware's planned expanded cooperative occupational education programs in all areas. Highlights of the conference addresses are presented. The appendix contains many examples of materials: (1) Recommended Training Procedure, (2) Profile Check Sheets-for a Grocery Store, Nursery and Florist Shop, Gasoline Service Station, Wholesale Automotive Supply Store, (3) Factors Influencing Enrollment in Distributive Education Programs in Iowa, (4) Participating Projects Plan, (5) Why Cooperative Students Should Be Paid for Work in Private Employment, (6) Advisory Committee, (7) Coordination Planning Chart, (8) coordinator's Visitation Report, (9) Progress Report, (10) Vocational Education Community Survey, (11) Selection of Training Stations, (12) Sponsor's Responsibilities, (13) Workshop-Conference Evaluation Form, and (14) a sample of the certificate for completion of the workshop. (SL)

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REPORT

OF THE INSERVICE WORKSHOP-CONFERENCE ON

COOPERATIVE OCCUPATIONAL EDUCATION PROGRAMS

CONDUCTED BY

VOCATIONAL-TECHNICAL EDUCATION AND EXTENDED SERVICES

STATE OF DELAWARE

DEPARTMENT OF PUBLIC INSTRUCTION

DOVER, DELAWARE

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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AUGUST 8-12, 1966

REHOBOTH BEACH, DELAWARE

VT 009 00

PURPOSES:	To recognize that occupational activity is constantly changing as to requirements and opportunities. To be bold in accepting responsibility in assisting youth to accept and appropriately prepare for these requirements and opportunities. To provide opportunity for potential coordinators to discuss together some common problems and basic issues relative to all cooperative occupational education programs. To provide opportunity for potential coordinators of cooperative occupational education programs to meet the qualifications for coordinating such programs. To provide the manpower and thus meet the needs for Delaware's planned expanded cooperative occupational education programs in all areas.
PROBLEM:	The Organization and Administration of Cooperative Occupational Education Programs.
INSERVICE CREDIT:	Two inservice credits for a minimum attendance of thirty clock hours.
TIME SCHEDULE:	Date of first session - August 8, 1966 Number of sessions - 5 Hours of each session - 9:00 a.m. to 1:00 p.m. 7:00 p.m. to 9:00 p.m.
COORDINATOR:	Mr. Ray G. Schweet, State Supervisor - Office Occupations - Delaware.
CONSULTANTS:	Mr. George McGorman, State Supervisor - Distributive Education - Delaware. Mr. Eugene Dorr, State Supervisor - Distributive and Business Education - Arizona. Dr. Marvin Hirshfeld, Chairman - Distributive Education - Temple University, Philadelphia, Pennsylvania.

Dr. Peter Haines, Professor and Chairman - Business, Distributive and Office Teacher Education - Michigan State University, East Lansing, Michigan.

Dr. Ralph Mason, Professor and Chairman - Division of Business and Distributive Education - Indiana State University, Terre Haute, Indiana.

Dr. Paul M. Hodgson, Assistant State Superintendent for Vocational-Technical Education and Extended Services - Delaware.

Mr. Harold T. Bockman, Director-Executive Secretary - Department of Labor and Industrial Relations - Delaware.

Mr. Frank Vavala - Delaware Employment Security Commission - Delaware.

Mr. Charles Johnson, Guidance Counselor - Milford High School - Delaware.

Mr. William Pfeifer, Coordinator of Distributive Education - Kent Vocational-Technical Center - Delaware.

Mr. Charles Nugent, Manager - J. C. Penney Company, Inc. - Milford, Delaware.

Mrs. Jean H. Losure, Consumer Relations Representative - The Sperry and Hutchinson Company - Baltimore, Maryland.

Dr. William Hanford, Director - Delaware Educational Television Network - Delaware.

Mr. Dick Shively, Community Services Manager - The News-Journal Company - Delaware.

Mr. Richard R. Graham, Operations Manager - Station WDEL - Delaware.

Mrs. Anne Hendrix, Coordinator of Public Relations - Department of Public Instruction - Delaware.

Mr. Clement J. Lemon, President - Delaware State Labor Council AFL-CIO - Delaware.

Mr. Ernest Seitz, Senior Budget Analyst for Education - Delaware.

Miss Sandra McGraw, Former Distributive Education Student - Present Student at Western Michigan University and Cadet Teacher in Delaware.

Mr. Scott Barr, Former Distributive Education Student - Present trainee at Braunsteins in Delaware.

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COOPERATIVE OCCUPATIONAL EDUCATION PROGRAMS
WORKSHOP CONFERENCE

PROGRAM

Monday - August 8, 1966

8:30 - 9:30	Get acquainted session
9:30 - 9:45	Dr. Paul Hodgson - Introduction and brief remarks concerning Vocational Education in Delaware.
9:45 - 10:00	Mr. George McGorman - Philosophy of Cooperative Occupational Education Programs.
10:00 - 12:00	Panel -
	Dr. Marvin Hirshfeld - Moderator
	Mr. Harold Bockman, Labor laws, minimum wages, placements and hazardous occupations.
	Mr. Frank Vavala, Interpretation of enrollment trends and placement opportunities.
	Mr. Charles Johnson, Tips and techniques on how to work more effectively with guidance personnel.
	Mr. Charles Nugent, A businessman looks at Cooperative Occupational Education Programs.
	Mr. Clement J. Lemon, The role of the advisory committee members.
12:00 - 1:00	Question and answer period.
7:00 - 9:00	Mr. William Pfeifer, The necessity of enrolling juniors in the cooperative work-experience program.
	Dr. Marvin Hirshfeld, Introduction to basic text, "Cooperative Occupational Education Programs" by Mason and Haines.

Tuesday - August 9, 1966

9:00 - 10:00	Mrs. Nan Hendrix, Public relations - Why and How.
10:00 - 12:00	Panel - Publicity Clinic -
	Mr. George McGorman - Moderator
	Mr. Dick Shivley, Wilmington News Journal
	Mr. Dick Graham, Radio station WDEL
	Dr. William Hanford, E.T.V. - Delaware
12:00 - 1:00	Question and answer period.
7:00 - 9:00	Publicity clinic workshop conducted by:
	Mrs. Jean H. Losure, Consumer Relations Representative - The Sperry and Hutchinson Co.
	Dr. Marvin Hirshfeld, Temple University
	Mr. George McGorman, State Department of Public Instruction.

Wednesday and Thursday - August 10-11, 1966

Organization and Administration of Cooperative Occupational Education Programs.

9:00 - 1:00	Mr. Eugene Dorr, State Supervisor, Arizona
7:00 - 9:00	Dr. Marvin Hirshfeld, Temple University, Pennsylvania

GENERAL TOPICS

The Why and How of Student Recruitment and Selection
Criteria for Selection of Reliable Training Stations
Placement Opportunities for Students

a) Distributive
b) Office
c) Diversified

d) Agri-Business, Home Economic-Distributive, Trade and Industry-Business-Distributive and other vocational-mix programs.

Effective Coordination Visitations
The Role and Responsibilities of Advisory Committees

Friday - August 12, 1966

9:00 - 12:00	Mr. William Pfeifer, What Materials are Necessary for an Adequate Student Learner's Folder and Why. Students (Past and Present) a) Success Stories and Highlights b) What My Job Means to Me Mr. Ernie Seitz - Finances
12:00 - 1:00	Question and answer period
7:00 - 9:00	General Topic for Discussion Problems Confronting the Cooperative Occupational Education Programs and What the Teacher - Coordinator Can Do About Them. Dr. Paul M. Hodgson, Appropriate comments and presentation of certificates to those who attended all sessions and are to receive two inservice credits.

WORKSHOP CONFERENCE PROCEEDINGS

First Session - Monday, August 8, 1966 - 9:00 a.m. to 1:00 p.m.

Thirty teachers of various Vocational Education programs throughout the State convened for the first combined workshop-conference at 9:00 a.m. The meeting was called to order by Mr. Ray G. Schweet, Supervisor, Office Occupations. Mr. Schweet welcomed the group and asked that each teacher give a brief self introduction.

The theme for the workshop-conference was presented, by Mr. Schweet, utilizing the initials of a vocational youth organization, DECA, and a well known national company's tag line, "We try harder."

D - A doing conference
E - Educational
C - Conference
A - Action

"We try harder" - Vocational Education

The specific objectives of the workshop-conference were:

1. To recognize that occupational activity is constantly changing as to requirements and opportunities.

2. To be bold in accepting responsibility in assisting youth to accept and appropriately prepare for these requirements and opportunities.

3. To present the cooperative method, its organization and operation.

Mr. Schweet introduced the first speaker of the morning, Dr. Paul M. Hodgson, Assistant State Superintendent for Vocational-Technical Education and Extended Services in Delaware, who spoke on "The Role of Vocational-Technical Education in Delaware."

Dr. Hodgson first expressed a philosophy to guide analysis and planned expansion of comprehensive educational opportunities (including vocational facilities) for any community, area or county.

Situation

The planners of educational curriculum, over the years, have largely followed the traditional pattern of emphasizing and providing mainly for the academic phase of education and naturally have evaluated the progress of

education on the basis of the academic criteria.

With few exceptions, the employment phase of education has apparently not been included in the thinking and planning of the personnel responsible for stimulating educational development.

Responsibilities

The responsibilities facing all persons (both lay and professional educators) who are concerned with the problem of serving the educational needs of the people are two fold and closely interdependent:

1. The academic phase of preparation for living in our society -- to develop intelligent, informed citizens aware of their privileges and responsibilities and dedicated to the identification, acceptance and fulfillment of these responsibilities.

2. The employment phase of preparation for making a living -- to develop not only good citizens as high school graduates but also to develop citizens prepared to be successful self-supporting contributors to society through economic security.

Basic Principles

When planning for the further development of an educational program, whether its major emphasis is academic, vocational, or general purpose, three basic principles should be observed:

1. It should be educationally sound, based upon the best recommendations, resulting from sound research and conclusions made by capable people in the respective educational field being considered.

2. It should best serve the educational needs of in-school and out-of-school persons within a community, area or county for which it is planned. It should provide opportunities for all persons to meet their educational needs and objectives, while in school or out, whether they plan to continue their formal education beyond high school in such institutions as colleges, universities, or specialized vocational-technical centers or to go directly into employment (possibly planning to take additional training or extension while employed) or just to get a diploma as evidence of graduation from high school.

3. It should be economically effective from the standpoint of value received for over-all costs. The "value received" should be measured by the accomplishment of graduates considered in terms

of the specific purpose for which the program is planned.

Procedures

Both the academic and employment phases of education should be studied thoroughly, analyzed completely and interpreted clearly in every high school community to determine:

1. The extent to which these two fold responsibilities are being met.

2. The specific areas of need which are not being provided for adequately.

3. The best methods of improving programs to meet the broad educational needs as identified.

The speaker next presented the basic principles of operation.

Programs - People (Supervisors) - Communities

1. The over all purpose of each service section of the Vocational-Technical area is to organize, encourage, promote, expand and improve local programs of vocational-technical education for in-school and out-of-school persons preparing for or engaged in employment.

    a. Continue and improve present programs.
    b. Expand and develop new purposes.

2. Federal encouragement for certain types of activities involve providing federal appropriations to cooperatively assist the State in fulfilling its responsibilities. Most federal appropriations require State or local matching ($ for $) in order to be eligible for their use. The law specifices that these funds shall not be used to reduce cost of programs now in operation but to encourage and promote present and new activities and guidelines are provided for their use.

3. A plan prepared by the State and approved by Federal to implement these guidelines serve as the cooperative Federal-State working agreement.

4. The Vocational Education Act of 1963 spells out the specific purposes for which federal funds may be used: secondary, post-secondary, adult, construction, ancillary (services), persons with special needs and work-study.

In conclusion, Dr. Hodgson gave some general observations and guides to development concerning, "The Role of Vocational-Technical Education in

Delaware".

Vocational-technical education is and will continue to be a more vital part of all phases of Delaware's Public School program: secondary, continuing Post High School (not limited to high school graduates) and even Elementary. It will require broadened services from college and university teacher education departments and involve many groups and agencies to help provide special services, evaluation, studies and analysis of results, pilot programs and the like.

Chief School Officers, Principals, Guidance Personnel, Specialist, individual teachers and local consulting or advisory committees will all play a most important role in identifying needs, recommending, applying and evaluating solutions.

Opportunities, assignments and funds never before available are now a responsibility for action on the part of each of us. Although much detail must be handled before specific programs can be initiated, the planning stage is now; and you may expect to receive many suggestions for obtaining information about your students (both in and out of school) and community needs as you see them, as routine plans are approved. Here we are talking about activities quite different from the high school vocational courses now being conducted.

Guide to Development

1. "Past is prologue" - but we* study, learn and select successful past results for present application.

2. "We operate in the present" - and develop programs, we analyze, we encourage and promote, we evaluate and we make recommendations which we believe will result in improvement and we move.

3. "We anticipate future needs" and plan for changes to meet them.

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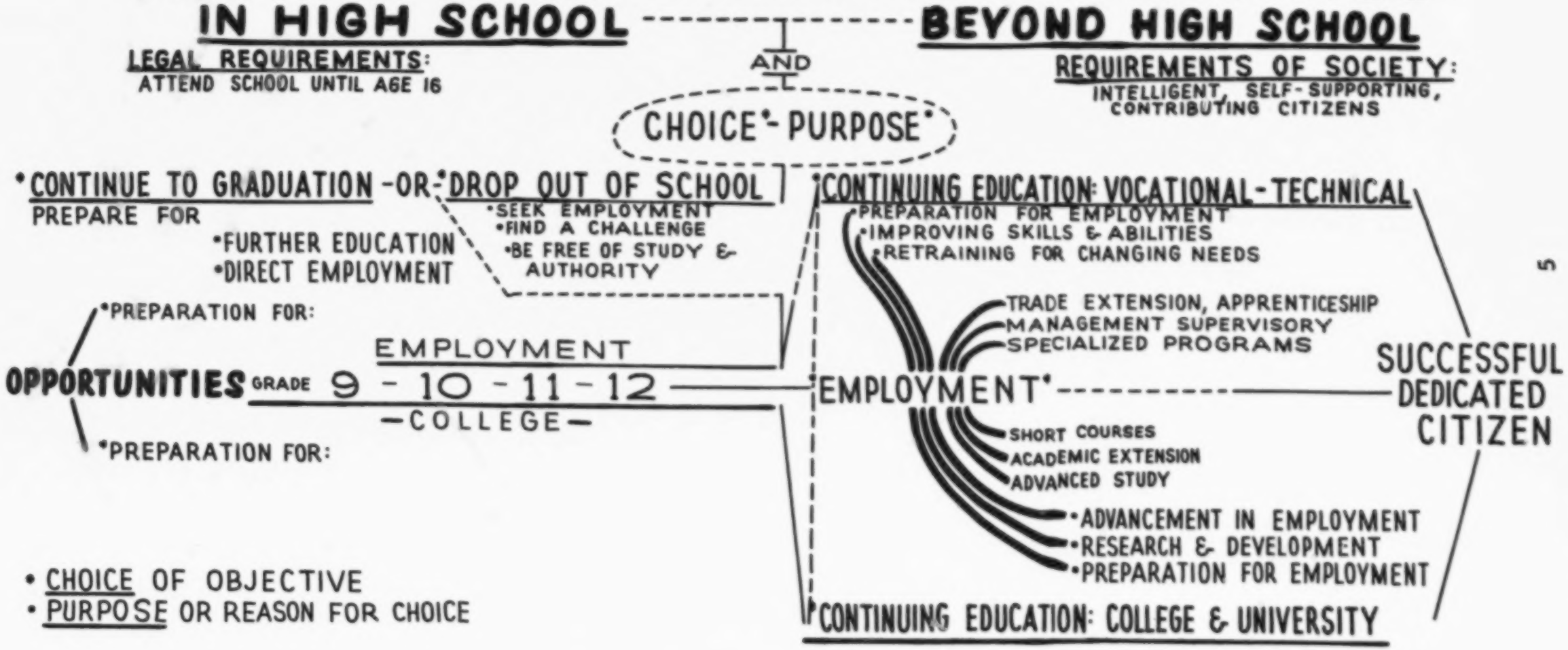
*"We" used here means all groups referred to, including the State Department Staff and others you may add.

A FLOW CHART – OPPORTUNITIES FOR LEARNING

THE INDIVIDUAL'S
EDUCATIONAL RESPONSIBILITIES & OBJECTIVES



- CHOICE OF OBJECTIVE
- PURPOSE OR REASON FOR CHOICE

Paul M. Hodgson
Assistant State Superintendent
for Vocational Education
Dover, Delaware

Next on the program was, "A Philosophy of Cooperative Occupational Education Programs" presented by Mr. George McGorman, State Supervisor for Distributive Education in Delaware.

Mr. McGorman expressed the view that training which would prepare students for vocational-technical careers should include opportunities for these students to apply, in a practical situation, the principles that have been introduced in the classroom. The cooperative programs provide such opportunities through the use of approved training stations in the community. In such programs the training station acts as a laboratory where students may complement, supplement, and implement learnings. Therefore, the cooperative program provides the student with the opportunity to take advantage of the proven educational values of practical application.

Concluding the first session was a panel discussion on the following topics, (1) "Labor laws, minimum wages, placements and hazardous occupations;" (2) "Interpretation of enrollment trends and placement opportunities;" (3) "The role of the advisory committee members;" (4) "A businessman looks at Cooperative Occupational Education Programs" and (5) "Tips and techniques on how to work more effectively with guidance personnel".

Dr. Marvin Hirshfeld, Chairman, Distributive Education Department, Temple University, Philadelphia, Pennsylvania, served as panel moderator along with:

Mr. Harold Bockman, "Labor laws, minimum wages, placements and hazardous occupations."

Mr. Frank Vavala, "Interpretation of enrollment trends and placement opportunities".

Mr. Clement J. Lemon, "The role of the advisory committee members".

Mr. Charles Nugent, "A businessman looks at Cooperative Occupational Education Programs".

Mr. Charles Johnson, "Tips and techniques on how to work more effectively with guidance personnel".

Mr. Bockman spoke first and covered the role of the Delaware State Labor Council and its close working relationship with all phases of vocational education. Wage and hour laws, placements and hazardous occupations as they apply to student-learners were included in Mr. Bockman's presentation. He also spoke of the need for a continued awareness of youth protection and an alertness to new trends in employment as they affect the student-learner.

Mr. Vavala introduced his topic by citing Delaware's population growth and the industrial and occupational changes which are connected to this growth. He pointed to an ever expanding labor movement featuring more women moving into employment. Over one third of those presently employed are women.

A number of other factors must be considered as they apply to placement opportuntities and enrollment trends. Namely, agriculture employment is declining and automation is having a definite affect upon industrial employment. Machines are now taking over man. 750,000 jobs will be wiped out because of automation. However, the service industry is growing and the number of professional and technical jobs is increasing throughout the state. The United States has never been able to produce the number of students to qualify for such jobs. Approximately 150-175 professional jobs are open in the Dover, Delaware area. Yet, we haven't the right people to qualify for such jobs.

The schools have a responsibility to meet this change by providing the kind of education and technical knowledge the individual will need 5-10-20 years from now.

Mr. Lemon discribed the advisory committee as being necessary and of vital importance to all programs. But, only if it functions properly will it contribute to the growth and expansion of the cooperative occupational education program. If the advisory committee is to function properly, it must of necessity operate in the present, analyze and anticipate future needs, and have an interest.

Mr. Lemon stated that the advisory committee can learn a great deal about the young. The committee can get vital information that the young person wouldn't even tell his own parents.

"A businessman looks at Cooperative Occupational Education Programs", was discussed by Mr. Nugent, who at the outset expressed high praise for such programs. He felt that they were beneficial to the students and served the purpose for which they are intended. Mr. Nugent offered several pointers for a successful student-learner-employer relationship. Honestey, appearance and attitude were the key words cited in this relationship.

Mr. Charles Johnson pointed out that guidance is a service area. It is the "heart beat" of the school and may be considered a public relations office. Guidance helps the individual to become a whole student.

Mr. Johnson suggested several points which would contribute toward an effective relationship between guidance personnel, coordinators and students.

(a) Meet with guidance personnel as often as possible to describe the program.

(b) Invite guidance personnel to meeting, banquets, etc.

(c) Inform guidance personnel of successes of former students.

(d) Take guidance personnel on tour of training stations.

(e) Help plan Career Days.

(f) Act as a resource person for occupational information and additional educational opportunities.

Mr. Johnson concluded his presentation by relating the ways in which guidance personnel can help the coordinator.

(a) Arranging schedules for cooperative students.

(b) Making student records available to the coordinator.

(c) Testing of students - potential and actual -.

(d) Talks with parents and handling of family problems.

(e) Aid in recruitment and selection.

Second Session - Monday, August 8, 1966 - 7:00 p.m. to 9:00 p.m.

The second session was opened by Mr. William Pfeifer, Coordinator of Distributive Education at Kent Vocational-Technical Center, Woodside, Delaware. Mr. Pfeifer reported on, "The Necessity of Enrolling Juniors in the Cooperative Occupational Education Program."

Mr. Pfeifer introduced his topic by first discussing the differences which exist between the general work-experience program and the cooperative occupational education program.

General	Cooperative
1. Student does not have a career objective.	1. Guide student toward a career objective.
2. Student is a producer.	2. Student is a learner.
3. No relationship between job and class instruction.	3. Relationship between job and class instruction.

General	Cooperative
4. Job approval only - no supervisor or school-employer cooperation.	4. Approved training station and job under supervision of coordinator in cooperation with employer.
5. May or may not be paid.	5. Paid.
6. Open to any student.	6. Student selection.
7. Utilizes any employer.	7. Approved training station.
8. Extra-curricular - no credit received.	8. Curricular - credit received.

The advantages of a cooperative program for students of less than senior grade should be considered in light of the prime goal of such a program. Namely, to give the students an opportunity to develop their occupational goals.

(a) Employer may desire an opportunity to observe a student-learner for a longer period of time.

(b) Adequate training for a variety of jobs necessitates a program of more than one year.

(c) Offers a better opportunity to coordinate classroom theory with on-the-job training.

(d) Greater benefits regarding job placement, student selection, employer satisfaction, student maturity are derived from a longer program.

(e) Aids in the teaching of general related information.

(f) Provides continuity of program from year to year.

Dr. Hirshfeld introduced the text, "Cooperative Occupational Education and Work Experience in the Curriculum," by Mason and Haines, to be used throughout the remainding sessions. Participants were asked to review Chapters 7, 8 and 9.

Third Session - Tuesday, August 9, 1966 - 9:00 a.m. to 1:00 p.m.

Mr. Schweet introduced Mrs. Nan Hendrix, Coordinator of Public Relations,

State Department of Public Instruction, Dover, Delaware.

Mrs. Hendrix pointed out that good public relations is nothing more than just good common sense. Being pleasant to people is, in part, the answer. Public relations is a kind of personal reputation. Make public relations an integral part of your educational program. In fact, good public relations is needed to communicate to the various publics that avail themselves of education.

Public relations activities are those which help create the kinds of attitudes and image toward you and your program. You should want your program to be understood, enthusiastically accepted and supported, and produce the desired results.

The public relations department, as specialists in dealing with the various media, exists to help you do a good job of selling to each of your publics. The Newsletter is one means we have of helping you to bridge the gap between you and your publics. However, we are available to help you in all phases of your public relations.

Remember, in the final analysis, public relations is something you can and must do if your publics are to be informed as they need to be.

Guidelines for Good Public Relations

1. Adapt your public relations to each particular situation, purpose or person.

2. Place yourself in the other person's position and look at the situation from his standpoint. - Know your publics.

3. Be enthusiastic about your program.

4. Have all the pertinent facts.

5. Plan for action.

6. Communicate through the use of proper words.

Mrs. Jean Losure, Consumer Relations Representative, The Sperry and Hutchinson Company, Baltimore, Maryland, was presented to the group and discussed with them "Ways and Means."

At the outset,Mrs. Losure pointed out that enthusiasm is the key word to money making projects. Dependable, enthusiastic workers make for a successful project.

Successful fund-raising, whether for members-only or large events that require public support, must follow some basic principles. You must examine your club's need for funds, study your membership and then select fund-raising projects suited to your group and your community.

For Every Fund Raising Project

I FOR THE MONEY

Be practical. Set a fund-raising goal your group can achieve.
Be careful. Don't ask the public to contribute toward something that benefits only your members.
Be informed. Be sure members know what cause you are raising funds for, and how the money will be used.
Be enthusiastic. It will help attract workers and contributors.

II FOR THE SHOW

Be realistic. Choose a project your "public" will enjoy.
Be wise. Clear the proposed project with the club membership.
Be alert. Avoid possible conflict with a competing event.
Beware! Check for possible local, state, Federal or union regulations.

III TO MAKE READY

Be sensible. Choose responsible committee chairmen.
Be organized. Develop a plan, a calendar and check lists.
Be brave. Ask anybody you can think of to contribute.
Be business-like. Price your product, service or entertainment sensibly.
Be professional. Publicize and advertise your event. Use every promotional tool at your disposal.

IV TO GO

Be prepared. Double check every detail. Provide for emergencies.
Be neat. Clean up -- leave no mess.
Be appreciative. Send prompt thank-yous to helpers and donors.
Be a record-keeper. Ask committee chairmen to submit brief summaries, add your own, plus complete treasurer's report on cost and profits. These records are valuable.
Be successful!

At the conclusion of her presentation, Mrs. Losure handed out a publicity guide kit to each participant.

The remainder of the third session was devoted to a panel discussion of "Good Public Relations Through The Various Media." Members of the panel were: George McGorman, who acted as moderator, Dick Shively, Dr. William Hanford, and Dick Graham.

Mr. Omer J. (Dick) Shively, Jr., Community Services Manager, The News-Journal Company, Wilmington, Delaware. Native of Eastern Shore of Maryland, graduated from Wilmington Public Schools, and from courses in advertising, salesmanship and news reporting at International Correspondence School.

He started his newspaper career in 1945; worked on papers in Easton (Advertising Manager and feature writer) and Pocomoke City, Maryland (Vice-President and General Manager) before returning to Wilmington area in 1958.

Mr. Shively is very active in community and professional organizations. He was the youngest president of a Chamber of Commerce in Maryland (Easton) at the age of 25; was later president of Chamber of Commerce in Pocomoke City. He has been a member of the Board of Directors of Maryland-Delaware Press Association since 1951. He is currently 1st Vice-President. He is also chairman of the association's education committee. Currently Vice-President of Eastern Region, National Newspaper Promotion Association. He has attended courses in Public Relations, Advertising, etc. at Columbia University and other institutions.

Dr. William Hanford was hired as full-time Director of Delaware Educational Television Network on July 1, 1965. Since December, 1964, he had been engaged as a consultant in establishing Delaware's new statewide closed-circuit educational television system.

He did his undergraduate work at the University of Notre Dame, and received his Masters Degree in Humanities and his PhD in Radio and Television from Wayne State University, Detroit, Michigan, where he served on the faculty of Wayne State University, and worked with the Educational Television Station, WTVS, Channel 56. Dr. Hanford has been a teacher, at the secondary and university levels, for the past seventeen years.

Dr. Hanford is a member of the National Association of Educational Broadcasters, the American Association of University Professors, and the Speech Association of America.

Mr. Richard R. Graham is the Operations and Program Manager of station WDEL in Wilmington, Delaware. He is a sixteen year veteran of both radio and television broadcasting having worked those years along the eastern seaboard. His first exposure in communications was as a radio announcer in Vineland and Atlantic City, New Jersey and Chester Pennsylvania before serving three and a half years in television as a staff

announcer in both Wilmington and Philadelphia markets.

Following Mr. Graham's television stint he returned to radio in Wilmington, at WDEL as host of the morning "Musical Clock" Show. A year and a half ago he was appointed Operations Manager and Program Manager at WDEL thus limiting his "on the air" work to a minimum.

Mr. Shively discussed the newspaper as a means of obtaining good public relations. Along with his discussion, Mr. Shively handed out an Educator's Kit which contained an outline of programs and services available to educators and students from the Community Services Department of The News-Journal Company, Wilmington, Delaware.

Rules for Effective Newspaper Publicity

1. Know your media.

2. Learn what news is:

   (a) People make the best news.

3. Learn the rudiments of news writing.

4. Simply note the facts.

5. Be complete in giving your:

   (a) Name
   (b) Address
   (c) Etc.

6. If possible double space and type your copy:

   (a) 1" margins to the right and left hand side of page.
   (b) Use 81/2" x 11" plain white paper.
   (c) Start typing at least 1/3 the way down on the page.

7. Work in advance - there is competition for space - be prepared for cuts.

8. Never neglect your media.

Guidelines for Educators
(What Makes News)

1. Scholastic Honors

2. Election of School Wide Officers

3. School Projects

4. Projects that reflect enterprise by students

5. Stories that reflect changing social moves of teens

6. News of graduating seniors

7. Students who win scholastic scholarships

8. Honors to faculty or students

9. Good news concerning students, community or school

10. Announcements of student participation

11. Any way usual people do unusual things

12. Stories on speeches by people in the limelight

13. New Challenges in education

Guidelines for Photographs
(What Makes a Good Picture)

1. A picture must make an impression

2. A picture must convey a mood and/or event

3. An unusual picture catches the eye

4. One or two individuals better than a group

Dr. Hanford introduced his presentation by giving a brief history of Delaware's State Educational Television Network. The network began in July of 1964 and has only been transmitting since last fall.

Dr. Hanford pointed out that the State E. T. V. is a closed circut network which allows us to do many things not available to a network operating under an open broadcast system. Program content is handled by Mr. Robert Fox, T. V. Curriculum Director. Mr. Fox has been and will continue to be anxious to present programs featuring all instructional areas. The future will see many new and exciting programs on Delaware E. T. V. A cooperative effort will see your program on future E. T. V.

Mr. Graham spoke of radio as one approach to publicity. All radio stations are more community minded than in the past. Don't be afraid to make a call to your local station. If you have something to publicize. However, plan in advance. Many of the same guidelines and rules which apply to obtaining newspaper publicity are applicable here.

Basic Ways to Make News

1. Present a local aspect of a news event which is timely
2. Conduct a poll or survey and explain the results; issue a report
3. Arrange for the press to meet an important person or someone with some interesting views who will express them
4. Arrange for a testimonial
5. Make an analysis or prediction
6. Arrange for a speech -- and be sure to provide advance copies
7. Take part in a controversy -- but make sure you think before you speak
8. Form a committee and announce their names -- and tell what it's expected to do and why
9. Hold an election
10. Announce an appointment -- or any personnel changes
11. Celebrate an anniversary
12. Plan and announce some special event tying in with a holiday
13. Make -- or receive -- an award
14. Hold a contest -- and be certain to announce the winners.
15. Pass a resolution
16. Appear in public for a speech or some other event
17. Write a letter to the editor
18. Release a letter you have received

19. Apply the results of national reports and surveys to the local area

20. Stage a debate

21. Issue a protest -- or praise

22. Stage a demonstration -- and we don't mean a sit-in

Campaign Publicity Ideas

I. Newspaper

(A) News Articles
1. Announcements of project
2. Appointment of campaign chairman
3. Naming of other campaign officials
4. Coverage of meetings
5. Relating campaign progress
6. Appeals from chairman
7. Endorsements from civic leaders and civic groups
8. Campaign reports at timely intervals
9. Final results
10. Acknowledgment of public response and appreciations from campaign chairman

(B) Feature Articles
1. Story about the merits and worthiness of the cause or movement
2. Article citing need and benefits of the undertaking
3. Interviews with campaign chairman and/or respected leaders in the community justifying support
4. Review of campaign in progress with pictures illustrating activities
5. Description and accounts of special events associated with campaign. Generous use of pictures

(C) Editorials
1. Urge support for worthy cause
2. Commend community-wide effort
3. Praise community for response

(D) Advertising
1. Large ads appealing for public cooperation (sponsored by business firms)
2. Drop-in ads with cooperation of local merchants

II. Radio

(A) Timely news coverage (same as newspaper)

(B) Special Features
1. Panel discussions
2. Short talks
3. Interviews

(C) Advertising
1. Public service spots (free)
2. Announcements sponsored by regular commercial advertisers

III. Television

(A) News
1. Such coverage as available of campaign developments

(B) Features
1. Panel discussions
2. Brief talks
3. Interviews

(C) Advertising
1. Spots with slides (public service and sponsored)

IV. Outdoor Advertising

(A) Solicit free space from large firms for posters
Paper purchased and designed by campaign organization

V. Miscellaneous Promotional Aids

(A) Descriptive folders and/or fact sheets
1. Brief, easy-to-read (simply written) story of the project Outline purpose of campaign, the goal, why the requested help is needed, what you hope to accomplish for the object of our solicitation, and how it will benefit the community
2. Order in quantities sufficient for widest distribution throughout the area

(B) Window Cards
1. For display in store windows and public places
2. Wording should be very brief and to the point such as "Support your United Fund"
3. Use two colors and pictorial illustration (if practical) to attract attention.

(C) Door Stickers
1. Small adhesive paper stick-ons bearing campaign emblems or slogan for visual support (widely and profusely posted).

(D) Street Banners
1. Simply worded appeal in behalf of the movement suspended across thorough fare or against conspicious back-drop.

(E) Lapel Buttons and Pins
1. Imprint campaign emblem or slogan
2. Order in quantities for wide distribution

Fourth Session - Tuesday, August 9, 1966 - 7:00 p.m. to 9:00 p.m.

Mrs. Jean Losure introduced the session with a film, "The Supermarket," after which she pointed to five "Giant Steps" which might be applied to public relations and/or salesmanship.

G - Greeting
I - Interest
A - Assurance
N - Name
T - Thank-you

Following Mrs. Losure's presentation, the participants broke up into five groups for the purpose of writting an article covering the conference which would be sent to all newspapers throughout the state. An additional assignment, the outlining of a "Calendar of Events" for a local program, was constructed by each group.

Vocational Education Conference in Rehoboth Beach

Improvements in vocational education for Delaware are being discussed at Rehoboth Beach this week in the first state-wide linking of industrial and education experts.

The conference, spotlighting organization and administration of cooperative occupational education programs, began Monday and ends Friday under the sponsorship of the State Department of Public Instruction.

Purpose of the meeting is to provide intensive study of curriculum construction and vocational education trends. Vocational educators from throughout the state contributed to the meeting, as well as a number of persons from industry who served as panelists.

Monday's program was devoted to a discussion of the industrial needs for

vocational education. Dr. Marvin Hirshfeld served as moderator of a panel comprised of labor leaders and educators who discussed the functioning of vocational education in relation to industry.

Serving on the panel were Harold Bockman, Frank Vavala, Charles Johnson, Clement J. Lemon and Charles Nugent.

During an evening session, William Pfeifer explained the necessity of enrolling high school juniors in cooperative work-experience programs.

A group of public relations experts participated in panel discussions and clinics on Tuesday, explaining to vocational educators the necessity of using public relations in their work and the best ways of obtaining better relations with the media.

Offering suggestions in public relations were Dick Shively of the Wilmington News-Journal, Dick Graham of WDEL, Dr. William Hanford of the Delaware Educational Television Network, Mrs. Jean Losure of the Sperry and Hutchinson Co. and Mrs. Nan Hendrix of the public information office of the State Department.

Sessions on Wednesday and Thursday were aimed at the why and how of student recruitment and selection for vocational education programs, with special attention to criteria for selection of reliable training stations for the experience phase of vocational education programs. Dr. Marvin Hirshfeld of Temple University and Mr. Eugene Dorr, Arizona state supervisor for vocational education, conducted the program.

Friday, the wrap-up day for the meeting, will be directed toward study of finances for vocational education and problems encountered by instructors in the programs.

Ernie Seitz of the state budget office will discuss finances, and Mr. Pfeifer will talk about adequate materials.

The meeting will close with presentation of certificates to the 35 vocational educators who attended the meeting at the Atlantic Sands.

Fifth Session - Wednesday, August 10, 1966 - 9:00 a.m. to 1:00 a.m.

Dr. Marvin Hirshfeld opened the session by introducing the need for a written document dealing with a state-local plan for administration of various vocational-technical education programs. Such a document might include the following information:

1. Orientation
   a. Objectives of the program

b. Opportunities in the field

2. Plans of Operation
   a. High School Program
   b. Post-High School Program
   c. Adult Program
   d. Special Needs Program

3. Reimbursement
   a. Operation Expense
   b. Travel
   c. Adult Extension and Pre-Employment Training
   d. Equipment
   e. Area Vocational-Technical School
   f. Research, Experimental, Developmental and Pilot Projects

4. The Coordinator
   a. Length of Employment
   b. Time to Coordinate
   c. Selection and Placement of Students

5. The Training Sponsor

6. Advisory Committees

7. Youth Program

Dr. Marvin Hirshfeld then pointed out "How and Why of Student Recruitment and Selection." Internal coordination is the base of student recruitment and selection. Successful recruitment is a must in order to achieve a quality program.

There is a continuous demand for promotion in spite of the many problems confronting vocation education programs in connection with recruitment. Proper recruiting requires strong student and public interest in the program. This interest can only be earned and maintained through high program standards.

How To Recruit

Publicize your program through the use of:

1. Printed materials

2. Posters

3. News articles in the local newspaper, the school paper

4. Radio and Television programs

5. Assembly program using present and former students

6. Application blanks

7. Interest groups
   a. Teachers
   b. Guidance personnel
   c. Administrators
   d. Parents

If a proper effort has been expended in a good recruitment campaign, which tells the purposes and qualifications of the program, then a sufficient number of applications should follow so that a true selection of students is available to the coordinator.

How To Select

1. Pre-selection
   a. Size of enrollment
   b. Cooperative program is a training program not a placement opportunity only.
   c. Prospective training stations - number and occupations available

2. Criteria for selection
   a. Age
   b. Occupational objective and interest
   c. Job opportunities
   d. Training station requirements
   e. Scholastic standing - past record
   f. Health record
   g. Required courses - pre-requisites
   h. Grade level
   i. Parental permission
   j. Personality and character traits
   k. Individual student conference
   l. Employment interview
   m. Test results (apptitude - interest)

The next speaker to be introduced was Mr. Eugene Dorr, State Supervisor, Distributive and Business Education, Arizona.

Mr. Dorr's major topic was "The Organization and Operation of Cooperative Occupational Education Programs."

As an introduction, he pointed out that the school is the "heart" of any

cooperative program, the teacher a "doctor" and the student his "patient." The "doctor", utilizing the right equipment, analayzes his "patient." He should let the "patient" tell him how he feels. This analysis is a cooperative effort on the part of the teacher, the student, and the training-station sponsor. He said that the teaching "equipment" included the following:

1. Course of Study - What you are going to do.

* 2. Recommended Training Procedure - Order of training to be determined by the employer.

* 3. Profile Check Sheet - What and where the student thinks he has done or been.

Mr. Dorr pointed out that the classroom instruction presented several questions which must be answered.

1. In what kind of jobs am I going to place my students?

2. What kind of program am I going to operate?

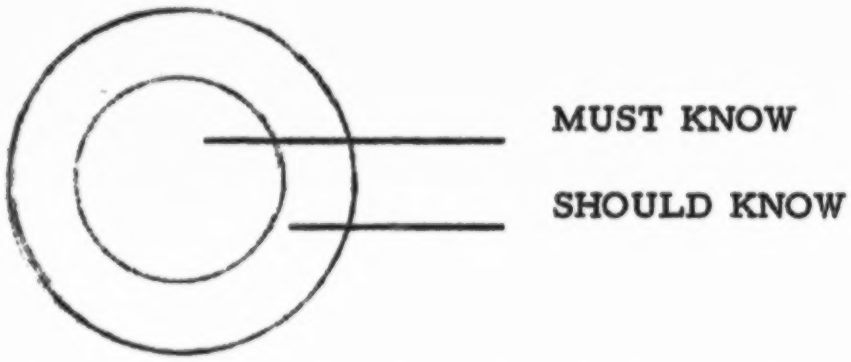
3. What <u>must</u> the students know to do a job?

4. What <u>should</u> the students know?

5. What would be <u>nice</u> for them to know?

6. What would they <u>like</u> to know?

This portion of his talk was based on transparencies which he had prepared and used previously.



MUST KNOW - This part of the instruction includes attitudes, knowledges, and abilities which all students must possess in order to take their place as employees and do a job and also those technical skills which are specific to his career field. ie. - sales - advertising - display in Distributive Education -- Typing - Shorthand in Office Occupations -- Foods and Fabrics in Home Economics.

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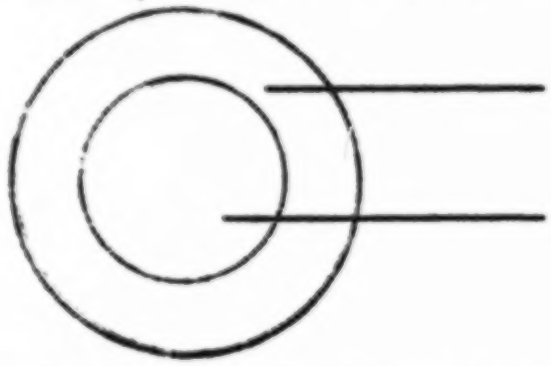
*Copies of these forms are included in the appendix.

SHOULD KNOW - Here, in this body of instructional material, the student is given those attitudes, knowledges and abilities which are pertinent to his specific job. Much of this material is presented through individualized instruction, using, among other things, the programed method.



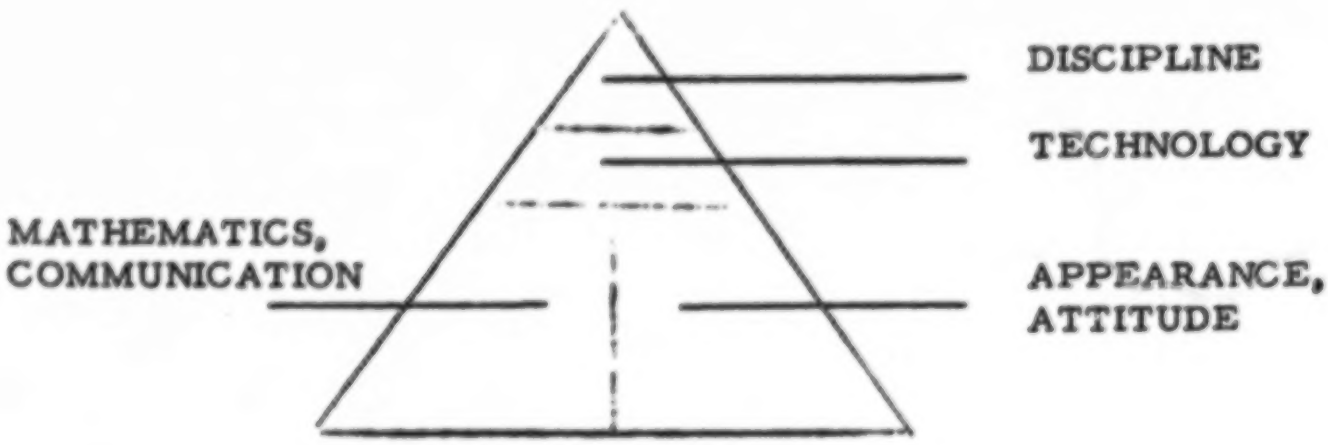
NICE TO KNOW - This area allows the student to elect those subjects which might prove to be of value to him as he progresses in his chosen career objective.

ie. Typing - Bookkeeping in Distributive Education
Sales - Advertising in Office Occupations
Sales - Shorthand in Home Economics
Sales - Bookkeeping in Trades and Industry
Sales - Business Law in Agriculture

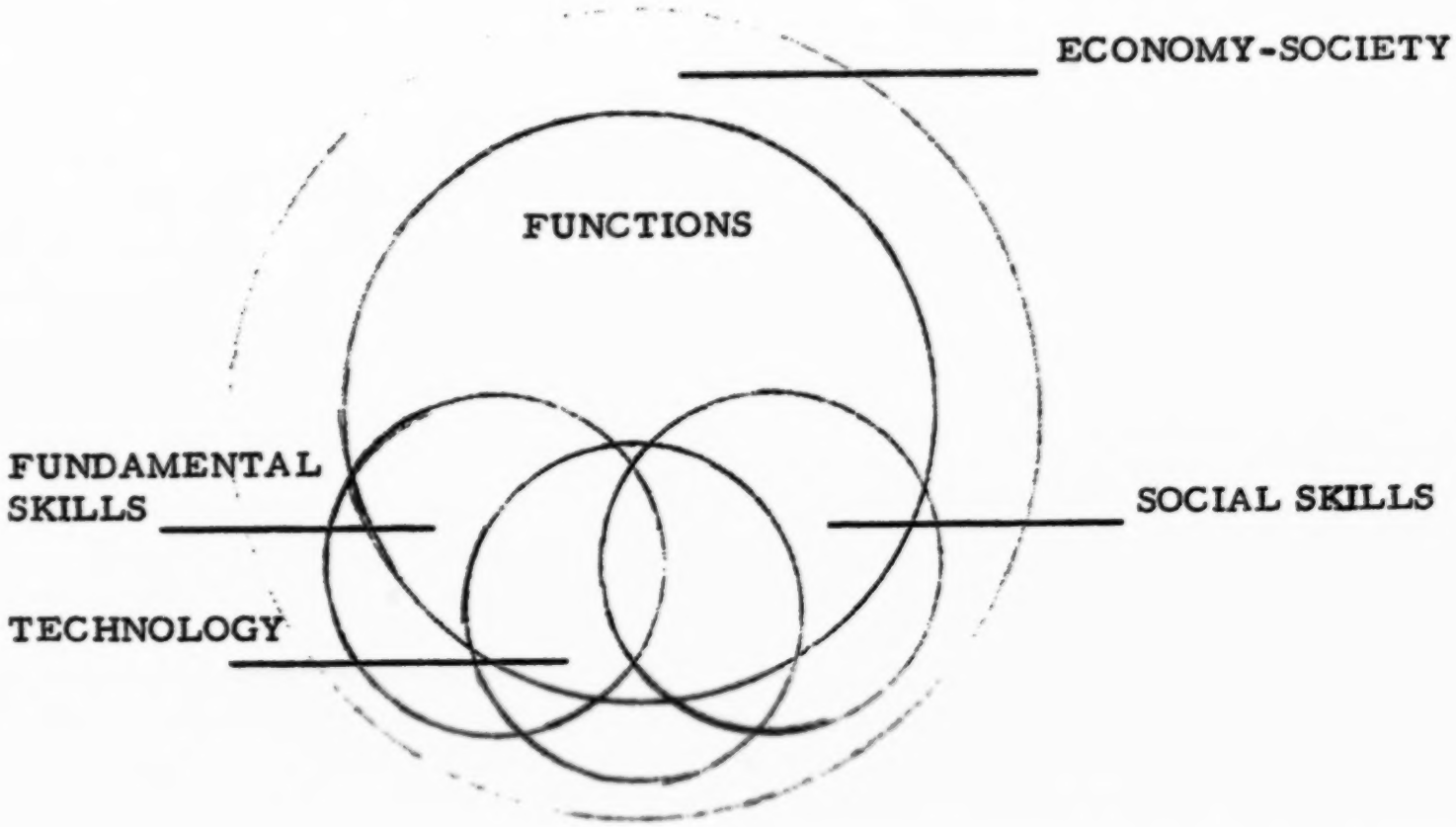
LIKE TO KNOW - The last area includes those subjects which the student could elect based only on what he would "like to know."

ie. Music, Foreign Language, Chemistry, etc.

The triangle could serve to illustrate the overall instructional program. The base of the triangle comprises those subjects or attitudes, knowledges and abilities which are applicable to all students. On top of this material, the student receives his technological training. Finally, the three areas are channeled into the apex of the triangle which is his cooperative occupational education training or discipline. Here the student puts into practice the theory (attitudes, knowledges and abilities) which he has received in the classroom.



A great deal of instruction in the various subject matter areas should be consolidated and integrated. A written project assigned in the technology area should be graded by a teacher in the fundamental skills area as well as the technology area. ie. A manual on cosmotology should be graded by the teacher of English in addition to the teacher of cosmotology.



Mr. Dorr handed out two mimeographed sheets: (1) Participating Projects Plan and (2) Why Cooperative Students Should Be Paid For Work In Private Employment. He pointed out how the first form is used in classroom instruction in lieu of or prior to the cooperative method. Copies of each are included in the appendix.

Sixth Session - Wednesday, August 10, 1966 - 7:00 p.m. to 9:00 p.m.

Mr. Dorr opened the session and handed out mimeographed sheets on "Factors Influencing Enrollment In Distributive Education Programs in Iowa." (See appendix)

Many of the reasons and sources cited by the students in the study would apply to all cooperative occupational education programs.

The balance of Mr. Dorr's presentation, during this session, was in reference to the advisory committee. He pointed out the tremendous need for an advisory committee by relating a few of the many ways in which the members

can contribute to the growth and expansion of the cooperative occupational education program.

Things they can do or recommend:

1. Suggest subjects, course content, and special emphases that should be included in high school training programs.

2. Prevent exploitation of students and assure that the total educational program is of primary concern.

3. Help establish the policy of recognizing the trained student by providing preferential job opportunities.

4. Inform high school students of careers in business industry and production.

5. Observe and patticipate in the high school program as speakers, demonstrators or judges.

6. Help with room layouts and equipment.

7. Evaluation of the program.

8. Help establish adult education programs.

9. Give financial support to the program.

10. Take part in committee surveys.

The needs and objectives of the specific program will vary in every community and will determine the important issues with which the advisory committee will be concerned.

The organization of the advisory committee in vocational education has of necessity utilized the horizontal committee structure. Mr. Dorr used the following examples:

Distributive Education	Office Occupations
1. Shoe store	1. Insurance
2. Department store	2. Industrial
3. Auto Supplies store	3. Retail
4. Variety stores	4. Lawyer

Distributive Education	Office Occupations
5. Speciality stores	5. Medical
6.= Hardware-Lumber	6. Hospital
	7. Accounting
	8. Finances

The organization of the above committee members should also be given geographic representation and representation by interests. ie. parents, alumni, employers, management, etc.

The horizontal committee structure should, as needed, make use of a verticle or sub-committee structure as follows:

Distributive Education Advisory Committee

1	2	3	4	5	6
1		1			1
2		2			2
3		3			3
4		4			4
5		5			5
Alumni		Auto			Wholesale or Adult

Things they can do or recommend:

1. Placement opportunities
2. Youth Program activities
3. Facilities and planning
4. Follow-up studies
5. Metropolitan needs
6. Special programs
7. Adult courses
8. Course content

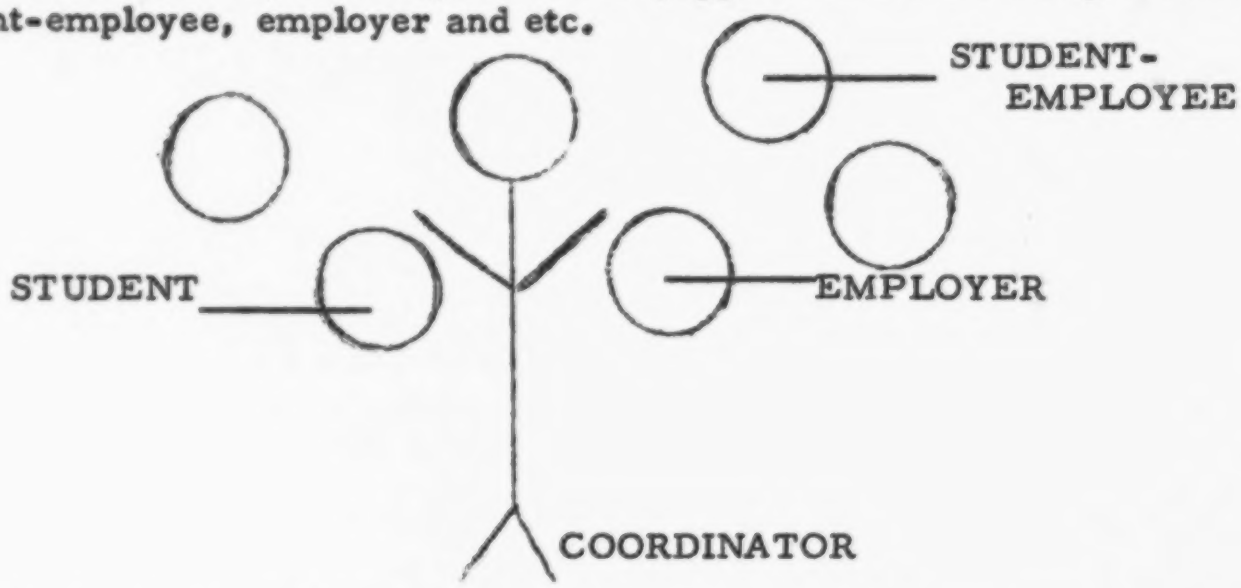
A complete picture of the purpose, responsibilities and organization of advisory committees was summarized in a three page mimeographed outline which Mr. Dorr handed out and discussed with the group. A copy of this outline is included in the appendix.

Following Mr. Dorr's presentation, the participants were divided into three groups. These groups were given a mimeographed list and asked to select one topic on advisory committees for discussion purposes. The groups were instructed to meet separately and discuss their selected topics. A report on these discussions would be made to the conference prior to the close of this session. The selected topics developed lively and enthusiastic discussion.

Seventh Session - Thursday, August 11, 1966 - 9:00 a.m. to 1:00 p.m.

The seventh session was opened by Mr. Dorr who introduced his topic, "Coordination and How to Coordinate."

The coordinator may be compared to a "juggler" in his handling of student, student-employee, employer and etc.



Coordination, to be effective, must be planned and follow a set of guidelines.

WHAT IS COORDINATION?

1. Coordination is a check on student progress.

2. Coordination is good public relations.

3. Coordination is a periodic job analysis.

<u>Guidelines for Effective Coordination</u>

1. Plan all coordination visits - to employer, trainer and student.

2. Acquaint employer-trainer and student with progress report grading system.

3. Set-up, with the employer, a recommended training procedure.

4. Follow-up all visitations with the student.

5. Use visits to sell and promote the program.

6. Review profile check sheet periodically with student.

7. Make use of forms such as:

   * a. Coordination Planning Chart
   * b. Coordinator's Visitation Report
   * c. Progress Report

Coordination, in the final analysis, is a check on how well classroom instruction in the three classroom learning areas (1) general related group, (2) occupational group and (3) specific job group is being used on-the-job to fulfill the stated career objective of the student-learner.

Mr. Dorr continued with a discussion concerning the community survey to be used in selling cooperative occupational education programs to a community and school administration. When you have established a need for a program, interest, desire and action will follow. A copy of a survey form is included in the appendix.

Mr. Dorr briefly presented a few facts pertaining to the selection of training stations and the sponsors responsibilities. He handed out mimeographed sheets on this subject. Copies are included in the appendix.

Eighth Session - Thursday, August 11, 1966 - 7:00 p.m. to 9:00 p.m.

The session was devoted to the preparation of "Recommended Training Procedure" guides for specific jobs within a broad occupational field. Each participant selected a specific job in which he might place a student-learner.

The session produced many excellent "Recommended Training Procedure" guides.

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* Copies of these forms are included in the appendix.

Ninth Session - Friday, August 12, 1966 - 9:00 a.m. to 1:00 p.m.

Mr. Pfeifer opened the session and spoke on the topic "What Materials Are Necessary for an Adequate Student-Learner's Folder and Why?"

A number of different materials should be included for an adequate student-learner's folder. Each aids the coordinator and the student in achieving the desired objectives. These materials include the following:

1. Student Application - contains information about the student which will aid in student selection, in the student interview and throughout the student's enrollment in the program.

2. Student Interview Report - available for periodic review, if necessary, of student's attitudes, interests, etc.

3. School Record Information (Apptitude - interest - intelligence test scores) - aids in student selection and job placement.

4. Test Scores - (administered by the local State Employment Service office) - includes tests scores by occupational classification for intelligence, verbal ability, numerical ability and clerical abilities - for student selection and job placement.

5. Class Schedule of Student - knowledge of student's other subjects and a reference for contacting student when needed.

6. Student Progress Report - a measure of job performance evaluation.

7. Training Plan and Training Memorandum - presents ultimate vocational objective and competencies needed for a career in the chosen occupation, serves as an agreement with the employer.

8. Parental Permission - permission for student to participate in a cooperative occupational education program - parent is knowledgeable of the type of training student is receiving in the program.

9. Profile Check Sheet - self-rating sheet to assist trainee in evaluating himself and used as a guide for future instruction both in the classroom and on-the-job.

10. Record of Hours and Wages - used for reporting purposes and serves as a check on hours worked each week and pay received.

Mr. Pfeifer then introduced the topic "Youth Organizations in the Cooperative Programs."

He pointed out that youth organizations are an integral part of a cooperative program. Through youth activities, the student is exposed to many experiences which contribute to the total instructional program.

Mr. Pfeifer mentioned a number of youth organizations that are associated with specific occupational areas. As a Coordinator of Distributive Education, he spoke mainly of the DECA organization and how it has contributed to his student's leadership and social development and occupational understanding.

The benefits to be derived from a youth organization far outweigh the time investment of the coordinator and the student. Properly planned and organized youth activities are a tremendous stimulus to proper motivation. The recognition and educational experience receiving through participation in the various activities and projects cannot be overlooked. Prestige, recognition and experience all contribute to the student's willingness and motivation.

In conclusion, one key to success in cooperative programs is the youth organization. It comprises one-third of the total program and surely everyone who comes in contact with a youth organization will benefit from his association.

The next speaker to be introduced by Mr. Schweet was Mr. Ernest Seitz, Senior Budget Analyst for Education, Delaware. Mr. Seitz spoke on the topic, "Finances and Your Program."

As an introduction, Mr. Seitz mentioned the increasing State appropriations for Vocational Education since 1952. He called the attention of the group to the fact that funds needed to operate vocational programs at the local level are only obtained through proper budget requests. An estimated budget for each program will aid the individual school in preparing its budget.

At this point, Mr. Seitz discussed payroll procedure, purchase orders and invoices, travel vouchers, personal reimbursements and the new pension system. Several of these topics developed some lively and enthusiastic discussion.

Miss Manera Constantine, Distributive Education Coordinator at Newark High School, Newark, Delaware, instructed the group in answering the, "Workshop-Conference Evaluation Form." All questions appearing on the form were discussed by the group. Each participant was then given ample time to complete his own evaluation form. A report on the evaluation would be made to the conference at the next session.

Tenth Session - Friday, August 12, 1966 - 7:00 p.m. to 9:00 p.m.

The final session was opened by Mr. Schweet who introduced the members of the distinguished panel. Topic for discussion was, "What the Cooperative Program Means to Me." Panel members were Miss Sandra McGraw, Miss Pat Dunack, Miss Sue Emery, Mr. Pat Martin and Mr. Scott Barr. Miss McGraw and Mr. Barr were former D.E. students and the remainder of the panel members are present D.E. students.

Sandra, now a student at Western Michigan University, expressed her extreme gratitude for the opportunity provided her through a cooperative program in distributive education. She felt that the program offered a variety of challenging experiences which in turn gave her the motivation and enthusiasm to continue her education in the field of marketing and distribution. Sandra plans, upon graduation, to teach Distributive Education.

The three present students gave their impressions of the value of the cooperative program to them. Each then pointed out a few highlights of the past year as D.E. students and members of the national youth organization, DECA. All three were national winners in competition sponsored by DECA.

Scott had received his initial training in a department store as a D.E. student and is presently an assistant manager for the same department store chain.

He stated he had found a reason for attending school through the D.E. program. Prior to this time, Scott didn't have a career objective and did not want or appreciate the subjects he had taken in previous years.

Scott found D.E. and his job both interesting and challenging. He was now ready to study and learn as much as possible about his chosen field so that he could progress. This opportunity, according to Scott, has given him a great deal of satisfaction.

Miss Manera Constantine presented a report on the evaluation of the workshop-conference.

The general evaluation of the workshop-conference was extremely favorable. It was unanimously agreed that the timing and locale of the conference were very conducive in establishing a professional atmosphere and the psychological benefit derived proved to be most advantageous. This conference helped to close the gap among the various areas of vocational education.

The consensus of opinion was that Mr. Eugene Dorr, State Supervisor of Distributive Education and Business Education in Arizona, was most

informative and inspiring.

Several suggestions were made in an effort to improve future conferences of this nature. Members agreed that each should wear a name tag and a roster of participants names and addresses should be provided. A pre-conference publication should be sent to selected participants, including a program of topics, speakers and activities so that members can prepare agequately. It was suggested that a list of resource materials be made available in specific vocational areas for future reference.

The members emphasized that this conference gave them great inspiration to take back to their co-workers and more professional personnel be invited to attend future meetings, including chief school officers and guidance counselors.

This first conference was considered most challenging and comprehensive in its explanation of the cooperative program.

Suggestions for future topics included individual application of co-op methods in specific areas of vocational education (such as T. & I. and Home Economics) as well as professional speakers representing each field of vocational education. Ideas gathered from these lectures could then be elaborated upon in longer individual group discussions within specific vocational areas.

Members unanimously agreed that this 5 day program was most comprehensive and beneficial and should definitely be continued each year in an expanded form. This conference was most professional although it was conducted in an informal manner and instilled in the participants a great sense of professional pride in vocational education.

A copy of the evaluation form including a compilation of the data is included in the appendix.

Dr. Hodgson, Assistant State Superintendent for Vocational-Technical Education and Extended Services, complimented the group on its enthusiasm and dedication to the upgrading of vocational education programs in Delaware.

He then presented certificates to all participants attending the workship-conference. A copy of the certificate is included in the appendix.

Mr. Schweet adjourned the workshop-conference.

APPENDIX

RECOMMENDED TRAINING PROCEDURE*

(Order of training to be determined by store)

A. Learning and performing store system and routine of mechanical details.

1. Rules and regulations
2. Personal conduct on the job
3. Fill out store forms and records
4. Operation of cash register
5. Sales tickets, cashiering, wrapping
6. Store services
7. Charge and check identification and authorization
8. Other credit plans
9. Store organization

B. Stockroom procedure.

1. Keeping stock - perpetual or periodic count
2. Taking inventory
3. Filling orders from the floor
4. Placing and storing merchandise
5. Mark-ups or mark-downs (before or after sales)

C. Receiving room procedure.

1. Filing claims for damaged merchandise
2. Marking merchandise
3. Follow-up on overdue shipments
4. Receive and check merchandise

D. Display.

1. Arrange counter and interior case displays
2. Coordinate display with store promotion or advertising
3. Work with window display man in selecting merchandise for window display
4. Write copy for showcard
5. Care of merchandise removed from window display

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* Developed by Tucson Distributive Education Coordinators.

EXHIBIT A.1

E. Advertising.

1. Learn the procedure for planning an ad - timing, selection of merchandise, etc.
2. Copy writing
3. Familiarity with advertising department procedure - layout, art work, etc.
4. Evaluation of the effectiveness of ads (counts, reactions, etc.)

F. Customer Relations.

1. Approach and greet customers
2. Present and show merchandise
3. Meet objections and close sales
4. Trade-up and suggestion selling
5. Handle mail and telephone orders
6. Handle adjustments and exchanges

G. Unit Control System.

1. Familiarity with classifications and method of classifying
2. Figure stockturn of a given line
3. Keep a perpetual inventory record for a given line (or periodic count)

H. Buying and Merchandising

1. Determining what to reorder
2. Interpreting consumer preferences
3. Figuring mark-up
4. Procedure and use of special orders
5. Want slip
6. Comparison shopping

I. Expense Control.

1. Know own selling cost and significance
2. Conserve supplies
3. Prevent shortages (cash register tapes, merchandise care)
4. Determining causes for returned goods

J. Supervisory.

1. Break in another new employee
2. Manage a counter

EXHIBIT A.1 (Continued)

K. Merchandise Information.

1. Learn location of the stock
2. Merchandise facts related to customer benefits
3. Fashion cycles for merchandise carried
4. Alterations and repairs
5. Care

EXHIBIT A.1 (Continued)

PROFILE CHECK SHEET - GROCERY STORE

For the following statements, circle the appropriate number that precedes.

Circle 1 if you have had No Training.
Circle 2 if you have had Very Little Training.
Circle 3 if you have had Adequate Training.
Circle 4 if you have had a Great Amount of Training.

I. General

1 2 3 4 1. An understanding of store policy and store regulations.
1 2 3 4 2. An opportunity to discuss job ratings.
1 2 3 4 3. Have studied merchandise and grocery trade magazines and information.
1 2 3 4 4. Assist in taking inventory.
1 2 3 4 5. Able to direct customers to various store areas.
1 2 3 4 6. Take part in extra-store activities and meetings.
1 2 3 4 7. Group or other type insurance plan has been explained.
1 2 3 4 8. Have an understanding of Withholding and Social Security regulations, etc.

II. Receiving

1 2 3 4 1. Understand from where and how products are shipped.
1 2 3 4 2. Help in the unloading of received goods.
1 2 3 4 3. Opportunity to check invoice or count received goods.
1 2 3 4 4. Movement of goods from door through receiving room to the selling floor.
1 2 3 4 5. Arrangement of stock on shelves.

III. Stocking

1 2 3 4 1. The objectives of stockkeeping.
1 2 3 4 2. How stock is replenished when an item is out.
1 2 3 4 3. Handling of stock rotation and stock arrangement.
1 2 3 4 4. Safety precautions in stocking.
1 2 3 4 5. Use of safety tools.
1 2 3 4 6. When stockkeeping is done.

IV. Pricing

1 2 3 4 1. Responsibility for pricing of received goods.
1 2 3 4 2. How goods are priced. Shelf price. Invoice. How to arrive at markup price.
1 2 3 4 3. The handling of price changes.

EXHIBIT A.2

1 2 3 4 4. The authority for price changes.
1 2 3 4 5. Tools or tags, etc. used for various pricing situations.

V. Store Maintenance

1 2 3 4 1. Realize the many areas of store maintenance.
1 2 3 4 2. Dusting and cleaning of shelves and merchandise.
1 2 3 4 3. Cleaning of store windows and cash register area.
1 2 3 4 4. Cleaning of dairy and produce cooler cases.
1 2 3 4 5. Keep displays and promotion merchandise clean and neat.
1 2 3 4 6. Procedure for handling broken, spoiled or unattractive merchandise.

VI. Check Stands

1 2 3 4 1. Cash register operation.
1 2 3 4 2. Cash register check-out.
1 2 3 4 3. Register daily tally.
1 2 3 4 4. Change making.
1 2 3 4 5. Customer relations and store courtesy.
1 2 3 4 6. Sacking of merchandise--packaging economy.
1 2 3 4 7. Carry-outs.
1 2 3 4 8. Taking orders by phone.
1 2 3 4 9. Suggestive selling.
1 2 3 4 10. Procedure for charge sales.
1 2 3 4 11. Understand sales tax data.
1 2 3 4 12. Replenish sacks and wrapping materials.
1 2 3 4 13. Handling customer complaints.
1 2 3 4 14. Calling prices and procedure for ringing up sales.

VII. Advertising and Promotion

1 2 3 4 1. An understanding of store promotions.
1 2 3 4 2. How promotions are handled in the store.
1 2 3 4 3. What store duties arise in relation to promotions.
1 2 3 4 4. What media is used for your advertising.
1 2 3 4 5. Responsibility of clerks in relation to promotion and advertising.
1 2 3 4 6. Opportunity to take part in planning or discussing store ads and promotions.
1 2 3 4 7. Making show and display cards.
1 2 3 4 8. Building mass displays.
1 2 3 4 9. Suggesting tie-in sales and special promotion ideas.

VIII. Buying

1 2 3 4 1. Ordering of goods to replenish stock.

EXHIBIT A.2 (Continued)

1 2 3 4 2. Where and how orders are filled and processed.
1 2 3 4 3. Opportunity to order or handle want slips or reminder slips, etc.
1 2 3 4 4. Buying problems of time, quantity, quality and price explained to you.
1 2 3 4 5. Inform buyer or manager of "outs" or fast selling items and reporting customer comments and reactions.

IX. Products

1 2 3 4 1. Knowledge of produce handling.
1 2 3 4 2. Knowledge of trimming and preservation of perishables.
1 2 3 4 3. Display of produce.
1 2 3 4 4. Ordering of produce.
1 2 3 4 5. Knowledge of seasonal produce promotions and activity.
1 2 3 4 6. Procedure for handling pre-wrapped produce.
1 2 3 4 7. Marking and wrapping of fresh produce.
1 2 3 4 8. Handling of produce spoilage and prevention methods.

X. Store Organization and Operation

1 2 3 4 1. Know "chain of command" in store.
1 2 3 4 2. Understand promotion policy and opportuntiy to discuss job rating.
1 2 3 4 3. Understand and discuss potential job opportunity.
a. Locally
1 2 3 4 b. Nationally

XI. Comments ---Please enter here or on the reverse side any comments or suggestions you might have concerning the validity of the various areas. You may wish to pencil in or scratch out parts of other questions above. Thank you.

EXHIBIT A.2 (Continued)

PROFILE CHECK SHEET - NURSERY & FLORIST SHOP

For the following statements, circle the appropriate number that precedes.

Circle 1 if you have had No Training
2 if you have had Very Little Training
3 if you have had Adequate Training
4 if you have had a Great Amount of Training
5 if the statement does not apply to your training station

Nursery:

I. General

1 2 3 4 5 1. An understanding of policy and regulations.
1 2 3 4 5 2. An opportunity to discuss job ratings.
1 2 3 4 5 3. Have discussed opportunities for promotion.
1 2 3 4 5 4. Introduced to employer and other employees.
1 2 3 4 5 5. Have an understanding of Withholding & Social Security regulations, etc.
1 2 3 4 5 6. Group or other type insurance plan has been explained.
1 2 3 4 5 7. Have studied trade magazines and information.
1 2 3 4 5 8. Able to direct customers to various plot areas.

II. Care of Plants

1 2 3 4 5 1. Knowledge and use of tools and where to store them.
1 2 3 4 5 2. Understand watering schedule.
1 2 3 4 5 3. Understand procedure for watering plants.
1 2 3 4 5 4. Understand procedure for irrigating plants.
1 2 3 4 5 5. Understand procedure for fertilizing plants.
1 2 3 4 5 6. Understand procedure for trimming plants.
1 2 3 4 5 7. Understand procedure for covering plants.
1 2 3 4 5 8. Understand procedure for propagating plants.
1 2 3 4 5 9. Understand transplanting techniques.
1 2 3 4 5 10. Understand sun and light control.
1 2 3 4 5 11. Understand how to replace in selling area plants that have been sold.
1 2 3 4 5 12. Understand where to put price tag.
1 2 3 4 5 13. Understand where to put name tag.
1 2 3 4 5 14. Understand can cutting procedure.
1 2 3 4 5 15. Understand method for wrapping plants.
1 2 3 4 5 16. Knowledge of plant display.

EXHIBIT A.3

III. Technical Plant Knowledge

1 2 3 4 5 1. Plant identification.
1 2 3 4 5 2. Plant propagation.
1 2 3 4 5 3. Plant use.
1 2 3 4 5 4. Forcing plants.
1 2 3 4 5 5. Chemical make-up of soil.
1 2 3 4 5 6. Controlling chemical make-up of soil.
1 2 3 4 5 7. Greenhouse management.
1 2 3 4 5 8. Landscape design.
1 2 3 4 5 9. Mechanical skills.

IV. Nursery Operation

1 2 3 4 5 1. Understand "Chain of Command" in store.
1 2 3 4 5 2. Knowledge of promotion policy.
1 2 3 4 5 3. Knowledge of location of sources and buying procedures if plants are purchased from other sources.
1 2 3 4 5 4. Understand policy for referring customers to other nurseries.
1 2 3 4 5 5. Understand policy for handling complaints.

V. Sales

1 2 3 4 5 1. How to approach customer.
1 2 3 4 5 2. How to show plants.
1 2 3 4 5 3. Answering questions.
1 2 3 4 5 4. Advising customer on plant care.
1 2 3 4 5 5. Techniques for closing sale.
1 2 3 4 5 6. Cash register operation.
1 2 3 4 5 7. Keeping sales record.
1 2 3 4 5 8. Making change.
1 2 3 4 5 9. Handling charge accounts and C.O.D., if any.
1 2 3 4 5 10. Handling difficult customers.
1 2 3 4 5 11. Taking orders by telephone.
1 2 3 4 5 12. Giving information by telephone.

VI. Other

1 2 3 4 5 1. _____

1 2 3 4 5 2. _____

1 2 3 4 5 3. _____

1 2 3 4 5 4. _____

EXHIBIT A.3 (Continued)

Florist Shop:

I. General

1 2 3 4 5	1.	Assist in taking inventory.
1 2 3 4 5	2.	Able to advise customer in selection of flowers.
1 2 3 4 5	3.	Knowledge of credit policy.
1 2 3 4 5	4.	General Maintenance and watering of plants.
1 2 3 4 5	5.	Knowledge of floral design.
1 2 3 4 5	6.	Knowledge of wholesale prices and policies.
1 2 3 4 5	7.	Acquaintance with regular customers. (Funeral homes, churches, etc.)

II. Buying for Resale

1 2 3 4 5	1.	Knowledge of how wholesalers work with retailers.
1 2 3 4 5	2.	Knowledge of wholesale discounts.
1 2 3 4 5	3.	Knowledge of supplier locations.
1 2 3 4 5	4.	Knowledge of ordering and buying flowers.
1 2 3 4 5	5.	Knowledge of the different flower prices.
1 2 3 4 5	6.	Able to recognize flower quality.

III. Selling and suggestion making

1 2 3 4 5	1.	How to approach a customer.
1 2 3 4 5	2.	Ability to suggest flowers suitable for different social occasions.
1 2 3 4 5	3.	Knowledge of color arrangements.
1 2 3 4 5	4.	Knowledge of prices for all floral arrangements.
1 2 3 4 5	5.	How to write up the order.
1 2 3 4 5	6.	Ability to take phone orders.
1 2 3 4 5	7.	Keeping sales records.
1 2 3 4 5	8.	Ability to close sale.
1 2 3 4 5	9.	Knowing how to send flowers by Western Union.

IV. Delivery

1 2 3 4 5	1.	Customer locations.
1 2 3 4 5	2.	How to sell while delivering.
1 2 3 4 5	3.	Care of flowers while delivering.
1 2 3 4 5	4.	What to do when truck breaks down.
1 2 3 4 5	5.	Use of street directories.
1 2 3 4 5	6.	How to handle customer complaints.
1 2 3 4 5	7.	How to keep the customer sold.
1 2 3 4 5	8.	What to do when merchandise delivered is damaged.
1 2 3 4 5	9.	How to handle COD orders.

EXHIBIT A.3 (Continued)

V. Other

1 2 3 4 5 1. _____

1 2 3 4 5 2. _____

1 2 3 4 5 3. _____

EXHIBIT A.3 (Continued)

PROFILE CHECK SHEET - GASOLINE SERVICE STATION

For the following statements, circle the appropriate number that precedes.

Circle 1 if you have had No training.
2 if you have had VERY LITTLE training.
3 if you have had ADEQUATE training.
4 if you have had a GREAT AMOUNT of training.

I. GENERAL

1 2 3 4 1. An understanding of Social Security and withholding tax regulations, etc.
1 2 3 4 2. An understanding of station regulations pertaining to smoking, coffee breaks, tardiness, absence, etc.
1 2 3 4 3. Promotion and advancement opportunities in your station have been explained.
1 2 3 4 4. Have opportunities to discuss job rating with the manager or operator.

II. PROMOTION

1 2 3 4 1. Realize the importance of available display area.
1 2 3 4 2. Have opportunity to suggest display items.
1 2 3 4 3. Have opportunity to set up displays by using own ideas.
1 2 3 4 4. Have compared other station displays and found display information in trade magazines and papers.
1 2 3 4 5. Have used or set up display materials sent by the national organization.
1 2 3 4 6. Know the various advertising media used by your station and take the responsibility to see or hear these ads.
1 2 3 4 7. Have opportunity to make suggestions in relation to specials and media use.
1 2 3 4 8. Have discussed allocation of advertising funds or budget.

III. SELLING ACCESSORIES

1 2 3 4 1. Have taken it upon yourself to look up and understand the selling features of accessories.
1 2 3 4 2. Understand which accessory will do what type of job.
1 2 3 4 3. Suggest to owner other accessories that might be needed or that customers ask for.
1 2 3 4 4. Using suggestive selling in relation to accessories.
1 2 3 4 5. Understand the procedure for replenishing accessory stocks.

EXHIBIT A.4

IV. DRIVEWAY SERVICE

1 2 3 4 1. Realize how gas and oil are received and shipped to your station.
1 2 3 4 2. Understand importance of fast and cheerful customer service.
1 2 3 4 3. Know proper manner and approach to customers and employ the use of "extra" services to insure customer satisfaction.
1 2 3 4 4. Understand the different grades, types and weights of oil.
1 2 3 4 5. Understand the costs and taxes involved in the price of gasoline.
1 2 3 4 6. Call attention to services the customer might need such as anti-freeze, lubrication, tire rotation, etc.
1 2 3 4 7. Understand cash register operation and change making.
1 2 3 4 8. Understand the station policy concerning checks, charge sales and credit cards.

V. LUBRICATION

1 2 3 4 1. Use of auto hoist.
1 2 3 4 2. Use of safety measures or devices.
1 2 3 4 3. Use of proper tools.
1 2 3 4 4. Clean tools after use--return to proper place.
1 2 3 4 5. Able to locate all grease fittings for moving parts of auto.
1 2 3 4 6. Understand transmission and differential check.
1 2 3 4 7. Routine check of areas that may be in need of major repair such as tie-rod ends, universal joints, grease seals, fluid leakage, etc.
1 2 3 4 8. Know what parts or areas under the hood that must be checked or serviced.
1 2 3 4 9. Understand the steps in changing oil and replacing filter.

VI. WASHING AND POLISHING

1 2 3 4 1. Understand and able to follow step by step operation for washing and polishing of cars.

VII. TIRE REPAIR

1 2 3 4 1. Know special repair tools and materials used for tubeless tires.
1 2 3 4 2. Use of the tire stand and tools.
1 2 3 4 3. Repair of tubes and damaged casings.
1 2 3 4 4. Figure allowance on trade-in tires.

EXHIBIT A.4 (Continued)

VIII. MINOR REPAIR AND SERVICE

1 2 3 4 1. Install wiper blades or repair wipers.
1 2 3 4 2. Install fuses, radio antenna, rear-view mirrors, headlights, etc.
1 2 3 4 3. Check brake fluid, repair emergency brake.
1 2 3 4 4. Wheel rotation.
1 2 3 4 5. Installing or replacement of battery cables, spark plugs, coil, condenser, points, fanbelt, radiator hose, shock absorbers, etc.
1 2 3 4 6. Knowledge and use of correct tools.

IX. STATION MAINTENANCE

1 2 3 4 1. Have responsibility for neatness and cleanliness of windows, shelves, floor, workbench and tools, etc.
1 2 3 4 2. Help to keep restrooms and storage areas neat and clean.
1 2 3 4 3. Responsibility for neatness of the outside station area including driveway, lawn, parking area, etc.

X. RECEIVING AND RECORD KEEPING

1 2 3 4 1. Know how to fill out and record credit cards.
1 2 3 4 2. Record charge sales.
1 2 3 4 3. Know method of receiving cash sales.
1 2 3 4 4. Understand procedure for recording AAA or special service calls.
1 2 3 4 5. Know how to record pump totals at end of day.
1 2 3 4 6. Record work done on various jobs or cars (service performed and charges.)
1 2 3 4 7. Handle some phase of weekly book or record keeping.

Comments--Please enter here or on the reverse side any comments and suggestions you might have concerning the validity of the various areas and questions. You may wish to pencil in or scratch out parts of other questions above.

EXHIBIT A.4 (Continued)

PROFILE CHECK SHEET - WHOLESALE AUTOMOTIVE SUPPLY STORE

For the following statements, circle the appropriate number that precedes.

Circle 1 if you have had NO training.
2 if you have had Very Little training.
3 if you have had Adequate training.
4 if you have had a Great Amount of training.

I. GENERAL

1 2 3 4 1. An understanding of history and organization of the company.
1 2 3 4 2. An understanding of store policy and regulations.
1 2 3 4 3. Group insurance plan has been explained.
1 2 3 4 4. Have understanding of payroll deductions, including withholding tax and social security.

II. RECEIVING

1 2 3 4 1. Understand from where and how merchandise is shipped.
1 2 3 4 2. Opportunity to check packing lists and merchandise received.
1 2 3 4 3. Moving merchandise from receiving department to shelves.

III. STOCKING

1 2 3 4 1. Arranging stock on shelves in proper place.
1 2 3 4 2. How stock is replaced when an item is out.
1 2 3 4 3. Rotation of stock to keep fresh items in front.
1 2 3 4 4. When to stock items individually or by the case.
1 2 3 4 5. When stockkeeping is done.

IV. STORE MAINTENANCE

1 2 3 4 1. Dusting and cleaing shelves and merchandise.
1 2 3 4 2. Cleaning show windows.
1 2 3 4 3. Keeping floor area clean and neat.
1 2 3 4 4. Keeping displays clean and neat.

V. CATALOGUES

1 2 3 4 1. How to use index to find merchandise information.
1 2 3 4 2. How to locate make, model and item number.
1 2 3 4 3. Knowledge of brands of merchandise in catalogues and in stock.

EXHIBIT A.5

1 2 3 4 4. How to find prices in the catalogue.
1 2 3 4 5. Learn discount structure of prices.
1 2 3 4 6. Understanding of card system to locate stock.

VI. SELLING

1 2 3 4 1. Learn selling points of merchandise.
1 2 3 4 2. Learn other items to suggest when selling.
1 2 3 4 3. Learn types of automotive equipment sold.
1 2 3 4 4. Knowledge of types of customers served.
1 2 3 4 5. Handling merchandise returns and defective goods.
1 2 3 4 6. Knowledge of way special promotions are handled.

VII. BUYING

1 2 3 4 1. Methods of ordering to replace merchandise.
1 2 3 4 2. Methods of handling special orders.
1 2 3 4 3. Buying seasonal merchandise.
1 2 3 4 4. Returning merchandise to suppliers.
1 2 3 4 5. Understanding of card system in purchasing.

VIII. DELIVERY AND SHIPPING

1 2 3 4 1. Filling orders for delivery.
1 2 3 4 2. Knowledge of rules for driving delivery truck.
1 2 3 4 3. Checking orders before delivery and when delivery is made.
1 2 3 4 4. Courtesy to customers when on delivery.
1 2 3 4 5. Knowledge of handling orders for goods when making deliveries.
1 2 3 4 6. Knowledge of methods for shipping out of town orders.
1 2 3 4 7. How to properly package orders for shipping.

IX. CASH AND CHARGE INVOICES

1 2 3 4 1. How to write and register cash invoices.
1 2 3 4 2. Knowledge of writing charge invoices.
1 2 3 4 3. How to learn which are charge customers and which are cash customers.
1 2 3 4 4. Knowledge of figuring cash discount.
1 2 3 4 5. Knowledge of operating cash register.
1 2 3 4 6. How to write returned goods slips.

X. OPPORTUNITIES FOR THE FUTURE

1 2 3 4 1. Knowledge of promotion policy.

EXHIBIT A.5 (Continued)

1 2 3 4 2. Opportunity to discuss job ratings with manager.
1 2 3 4 3. Understand and discuss potential job opportunities with the company and industry.

EXHIBIT A.5 (Continued)

FACTORS INFLUENCING ENROLLMENT IN DISTRIBUTIVE EDUCATION PROGRAMS IN IOWA

The following is a summary of the thesis which was completed at Iowa State Teachers College (1957) from the questionnaires which distributive education students answered in 1955. The study was limited to Iowa high school students enrolled in distributive education programs in the spring and fall of 1955. The questionnaire inquiry method was used because a reponse was desired from each of the 515 students enrolled in the fifteen Iowa high schools. Returns were received from 435 students, which gave 84.5% returned.

DISTRIBUTION OF STUDENTS INDICATING REASONS WHICH INFLUENCED ENROLLMENT IN DISTRIBUTIVE EDUCATION IN IOWA, 1955

Reasons	Number	Per Cent
Wanted the work experience the distributive education program offered.	338	77.7
Wanted to earn some extra money.	252	57.9
Thought it would be easier to get a job after graduation.	249	57.2
Was interested in learning about the different phases of business.	241	55.4
Felt that time spent in distributive education program would be more useful than time spent in regular classes.	192	44.1
Thought I would be able to get a better salary after graduation.	135	31.0
Wanted school credit for job which I had.	88	20.2
Thought distributive education offered only worthwhile work which I could do.	72	16.6
Needed to earn money to remain in school.	65	14.9
Thought it would be an easy course.	48	11.0

EXHIBIT A.6

	Number	Per Cent
Did not do very well in other courses.	36	8.3

DISTRIBUTION OF STUDENTS
INDICATING SOURCES FROM WHICH THEY RECEIVED INFORMATION
ABOUT DISTRIBUTIVE EDUCATION
IN IOWA, 1955

Sources	Number	Per Cent
People who had been in program other years.	353	81.1
Personal conference with teacher-coordinator.	239	54.9
Occupations course.	96	22.1
Salesmanship course.	72	16.6
Meeting where teachers informed students about subjects.	64	14.7
Bulletin boards about distributive education.	51	11.7
Distributive education articles in books, magazines and pamphlets.	45	10.3
Spring assembly for future DE students.	42	9.6
Distributive Education articles in school paper.	36	8.3
Distributive Education classroom visitation.	36	8.3
Movie about distributive education.	24	5.5
Distributive Education articles in local paper.	22	5.1
Television or radio program about DE.	20	4.6
Social activity sponsored by DE class.	4	0.9

EXHIBIT A.6 (Continued)

PARTICIPATING PROJECTS PLAN

Student:_____ School:_____

School Year: 19___ - 19___ Semester:_____

The above-named student has chosen to train for a career in the field of _____.

This project plan briefly describes the occupational participating activities, group and individual, necessary for the preparation toward employment in the occupation of _____.

The activities outlined below are to be agreed upon by the student and teacher-coordinator as achievement levels necessary to the acquisition of his (her) occupational goal.

PROJECTS SCHEDULE						
Entry Date	Activity	Goal	Indi-vidual	Group	Due Date	Com-pletion Date

_____ _____

(Teacher-Coordinator) (Student)

EXHIBIT A.7

WHY COOPERATIVE STUDENTS SHOULD BE PAID FOR WORK IN PRIVATE EMPLOYMENT*

The question of paying cooperative students may not seem to be an issue to many readers. However, we find that some educators have not become accustomed to the idea of allowing both pay and credit for work done in the store, office and shop. The question was warmly debated during the early years of the cooperative program and during the depression years of the thirties when placement was rather difficult. Very likely it will again assume some importance when the employment situation is not as favorable to the worker as it is now. Each time the problem arises the proponents of paying students emerges victorious.

The U. S. Office of Education urges the policy of paying students for the work they do on the job. This does not make the practice a wise one, but it offers a testimonial from an organization which has been closely connected with the program and its problems for many years.

General educators will see the value of teaching and management and use of money and the appreciation of the value of a dollar earned. Coordinators will soon realize that payment is necessary to the sound operation of the program. We hope that the points listed below will aid both in their thinking on the subject.

The amount of wages to be paid is not our concern at this point. That is an issue by itself and an interesting one.

It is our belief that students should be paid. There are some plausible arguments against the idea which we feel are outweighed by those listed below. The reader may wish to talk to coordinators in service to study their reactions to this problem. Such activity is encouraged.

IMPROVES EDUCATIONAL VALUES

1. It teaches the value of a dollar earned.

2. It facilitates the teaching of money management and wise spending.

3. It dignifies the job and work in the mind of the student.

4. The student feels a greater responsibility for his work if he is paid for what he does. (Facilitates the learning of responsibility)

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*University of Minnesota, Distributive Education, Warren G. Meyer, Ed. C. I. 139)

EXHIBIT A.8

5. The money earned gives the student a feeling of partial independence from parental support and confidence in his ability to be self supporting in the future.

6. It provides an incentive for improvement through better service and study. (Raises in wages)

7. It measures the students progress.

8. It results in greater interest in the student on the part of the employer.

IMPROVES RELATIONSHIP WITH BUSINESS ORGANIZATIONS

9. It provides a genuine normal relationship between the employer and the trainee causing him to expect the same of the student as he demands of other workers.

10. It reduces the possibility of exploitation of the student by the employer.

11. It satisfies the employees who often object to competition from those who work without pay.

PROTECTS THE SCHOOL

12. Satisfies the conditions for insurance.

AIDS THE STUDENT FINANCIALLY

13. Aids in the financial support of needy students.

14. It starts the student on the social security program.

EXHIBIT A.8 (Continued)

ADVISORY COMMITTEE*

The Purpose, Responsibilities, and Organization of School Advisory Committees

An Advisory Committee is a group of representative persons of the occupational area organized under proper school authority to advise educators regarding the need, development and operations of a given vocational technical program. Its role is advisory to the school board, who has the policymaking responsibility. Functionally, the committee shall work with the several co-ordinators and the Director of Vocational-Technical Education.

The purpose of the committee is:

1. To identify the needs of the business community and make recommendations as to how these needs can best be met. This shall include advice on course content and teaching methods.

2. To thoroughly be acquainted with the program, so that valuable advice and assistance can be offered at the high school as well as the adult level.

3. To help publicize the program.

4. To help locate and select proper training stations.

5. To aid in the evaluation of the program in relation to the trends and innovations in the field.

6. To advise on the selection of students for the program.

7. To advise on room layout and equipment needs.

8. To be available to the individual teachers as a consultant when needed for advise and counsel.

The effective operation of the Advisory Committee is dependent upon the regular attendance of the members. A minimum of three meetings a year would be deemed necessary for the Committee of the Whole. Sub-committees may meet more frequently.

Each representative shall head a sub-committee with the exception of the chairman. A co-ordinator shall be assigned direct responsibilities in working with at least one sub-committee. All reports of the sub-

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*Developed by the Phoenix Union High School System - Distributive Education.

EXHIBIT A.9

committee shall be made to the Advisory Committee by the representatives, not the co-ordinators. Sub-committees are tentative. The following are examples:

Youth Program	Course of Study
Student Follow-up	Facilities and Equipment
Adult Education	Special Co-op Programs
Publicity	Chairman-Secretary
Business Community Needs	Employee-Employer Banquet
	Committees-Co-ordinator Trends and Developments

Guidelines for Selection of Business Representatives

1. Goal: 15 Members

   Minimum 12 -- Maximum 18

2. Selection Criteria

   a. Types of business represented
   b. Geographic location
   c. Specific interests (Alumni, Management, Training Sponsor, Parent)

3. Basis for Selection of Members--Personal Qualifications.

   A representative should be selected when he or she shows:

   a. Intelligence, social vision and leadership experience.
   b. Interest and willingness to work in the promotion of the program.
   c. Good character and integrity.
   d. Civic mindedness and an unselfish spirit.
   e. Courage to express their ideas and defend their convictions.
   f. Experience in the occupation represented, if appropriate.
   g. Adequate time.

4. Coordinators shall draft a list of 30-50 potential members for consideration by the group. The final recommendations shall be submitted to the Director of Vocational-Technical Education and the Superintendent of Schools.

5. Committee members are by direct invitation only by the Superintendent of Schools.

EXHIBIT A.9 (Continued)

6. A planned 3-year rotation system shall be utilized. No person shall serve more than a 3-year period without a one-year break. Initially, one-third of the committee shall be selected for a one-year term, one-third for a 2-year term and one-third for a 3-year term.

7. The chairman shall be a businessman elected by the business representatives.

8. The school administrative representative and teachers shall be ex-officio members only. They shall attend the meeting to receive advice, not to give it.

9. Each business representative shall head a sub-committee. All reports shall be made to the Advisory Committee by the business representatives, not the coordinators.

Coordinator Responsibility in Advisory Committee

1. The Coordinators shall be ex-officio members of the Advisory Committee.

2. Coordinators shall not vote for the chairman of the committee.

3. Each coordinator shall work on at least one sub-committee with the exception of the secretary, who will work with the chairman.

4. Coordinators shall host the meetings; a host and hostess being appointed by the secretary for each meeting.

5. Contact shall be made by the coordinator to his assigned sub-committee chairman within a 24-hour period to confirm attendance at the meeting.

6. After the meeting, a definite plan of follow-up on reports and action needed shall be the responsibility of each sub-committee--business representative as well as educator.

7. Coordinators shall elect a secretary whose duties shall be:

   a. To act as secretary, recording the minutes of the meetings.
   b. To help in planning the agenda with the chairman. Beginning and ending time of the meeting shall be stated on the agenda.
   c. To distribute the written minutes immediately following a meeting.
   d. To call on sub-committee business chairmen as consultants.
   e. To assign social responsibilities connected with an Advisory meeting.

EXHIBIT A.9 (Continued)

f. To see that business members are alerted by written invitation to the meeting.

8. All invitations and confirmations of the Advisory Committee members shall be handled by the Director of Vocational-Technical Education and the Superintendent of Schools.

9. The secretary (coordinator) shall provide the Director of Vocational-Technical Education's office with all pertinent data.

10. Regular attendance is essential. When attendance is not possible, the coordinator shall contact the secretary.

11. Coordinators shall seek advice of the several business representatives.

12. A teacher-coordinator shall advise committee members of the trends and developments in the field, as it relates to the needs and developments of the program.

EXHIBIT A.9 (Continued)

COORDINATION PLANNING CHART

_____High School

___Semester, School Year 196__-196__

Training Station & Student's Name	Schedule of Proced. to Store	Training Station Visits									Profile Marked by Student	
		1st 6 weeks			2nd 6 weeks			3rd 6 weeks			1st	2nd
		1	2	3	4	5	6	7	8	9		

EXHIBIT A.10

COORDINATOR'S VISITATION REPORT

Training Agency_____ Contact Official_____

Trainee_____

Date_____ Time_____

Points to Observe:	COMMENTS
1. Conditions surrounding place of business.	_____
2. Attitude of workers toward coordinator and trainee.	_____
3. Specific operations in which trainee is engaged.	_____
4. Immediate related subject matter needed.	_____
5. Personal appearance of trainee.	_____
6. Apparent interest of trainee in work.	_____
7. Apparent interest of employer in trainee.	_____
8. Miscellaneous information.	_____

_____

_____

_____

_____

_____

_____

EXHIBIT A.11

PROGRESS REPORT*

Date _____

Progress Report of _____ in _____
(student) (training agency)

Directions: Read over each line carefully. Place a check mark over phrase which describes the student most accurately.

1. _____

Makes an excellent appearance.	Usually neat and appropriate.	Sometimes neglects appearance.	Should improve appearance.

2. _____

Personality is outstanding.	Pleasing personality.	Personality is unimpressive.	Does not get along well with others.

3. _____

Unusually enthusiastic about work.	Shows interest in work most of time.	Interested only in certain phases of job.	Should show more interest in work.

4. _____

Goes out of way to cooperate.	Is usually cooperative.	Helps only when asked.	Does not work well with others.

5. _____

Reliable in following directions.	Usually follows directions well.	Sometimes careless in following directions.	Cannot always be relied upon to follow directions.

6. _____

Recognizes work to be done and does it.	Sometimes goes ahead in work not assigned.	Performs regular routine duties only.	Seldom seek work beyond regular duties.

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*Developed by Distributive Education, Kent County Vocational-Technical Center, Woodside, Delaware.

EXHIBIT A.12

7. Wise in action and in making decisions.	Usually shows sound judgment.	Sometimes shows lack of judgment or discretion.	Lacks ability to make sound decisions.
8. Has perfect attendance.	Occasionally absent with good excuse.	Occasionally absent without good excuse.	Frequently absent.
9. Always on time.	Occasionally late but with good excuse.	Occasionally late without good excuse.	Frequently late.
10. Is outstanding in production.	Exceeds average production.	Is average in production.	Should produce better.

EXHIBIT A.12 (Continued)

VOCATIONAL EDUCATION COMMUNITY SURVEY

_____
(town)

Name of firm_____ Owner_____Chain__Indep__

Address_____ Manager_____

Phone_____ Person Interviewed_____

Mailing Address_____ Type of Business_____

Hours of Business_____to_____ Days M T W T F S Su (circle)

Employees	Full	Part
supervisors		
sales people		
stock		
other		
other		

How many new employees each year_____

Employees greatest reason for leaving employment_____

Have you ever used High School students? Yes___ No___

What is your impression of the high school worker?_____

_____

Would you consider using a student on a work-learn basis?_____

Program was explained and understood. Yes___ No___

(comment)_____

List training needed_____

Coop training desired Yes____ No____ Date for call back_____

Adult training wanted Yes____ No____

Plan of Action:_____

_____

Are you a member of a trade association? ____ If so, please name_____

_____

EXHIBIT A.13

SELECTION OF TRAINING STATIONS*

1. Is the employer sincerely interested in Work-Study training?

2. Do the employer and his employees have a sincere interest in providing on-the-job laboratory experience for trainees?

3. Are the objectives of the local plan understood and accepted by the employer?

4. Is the employer willing and able to provide employment for the student during the entire school year?

5. Are standards such that they will supply a minimum of hours of profitable training?

6. Does the business under consideration have the equipment and the type of work adequate to provide all-around training?

7. Will the trainee be trained under desirable working conditions?

8. Are modern methods incorporated in the program?

9. Are those who are to be assigned as sponsors competent and outstanding?

10. Will all the trainees on-the-job experience be supervised by a competent person?

11. What is the reputation of the employer with the community?

12. Is the employer's reputation good with other employers?

13. Are the employer's relationships with labor satisfactory?

14. Does the employer carefully select his employees?

15. Will the trainee be subject to hazards affecting health, morale or work?

16. Are the wages comparable to the wages paid for similar occupations in the community?

---

*Taken from DISTRIBUTIVE EDUCATION MANUAL, State of Illinois Board for Vocational Education.

EXHIBIT A. 14

17. Do the employer and his employees recognize the value of technical training in various distributive occupations?

18. Is the business establishment conveniently located, with respect to the student, the school and for coordination activities?

EXHIBIT A. 14 (Continued)

SPONSOR'S RESPONSIBILITIES

The training sponsor is the individual to whom the student looks for instruction and training on the job. He may be the owner or manager, or he may be a responsible individual appointed by management. Any student may have one or more training sponsors during the course of his enrollment in the program, depending upon the nature of progressive experiences provided and the size of the enterprise in which the student is employed.

The training sponsor must understand the cooperative occupational education program. He should know the career objective currently held by the student under his supervision and appreciate the significance of satisfactory job performance by the student. The teacher-coordinator must recognize his responsibility to help sponsors appreciate the significance of satisfactory job performance by the student and to appreciate their unique assignment to share in the education of youth.

The purpose of on-the-job training is to apply basic knowledge in a job situation, to receive instruction and gain experience in an occupational field. The student thereby experiences the realities of business activity paralleling the classroom instruction. In this sense, the employing agency becomes, for the student, a laboratory situation. Job performance should be treated as the necessary step in a series of experiences which contribute to the career objective held by the student.

The importance of the job, however, must not be minimized; for it is from the environment of the training station that the student will emerge as an experienced worker. The influences of this environment will

EXHIBIT A.15

dictate to a great extent the manner in which he will think and perform as he approaches full-time employment.

Because the present job is of vital importance to the student's total career, certain measures must be taken to insure that experience on the job will be educationally sound. Above all, the student must be placed, as far as it is possible, in a training situation in keeping with his career objective. One method used to assure that instruction will take place on the job is to incorporate a training plan as one of the operating procedures of the cooperative program.

Such an agreement may be prepared jointly by the employer and the teacher-coordinator. Therein, a definite plan of progressive experiences and learning activities, usually referred to as a schedule of experiences, are planned for the student.

EXHIBIT A.15 (Continued)

WORKSHOP-CONFERENCE EVALUATION FORM

To help plan future workshop-conferences, please answer the following questions. Be frank in your answers and add useful comments.

1. How many programs of this type have you attended before today? 25 - 0; 2 - 10 or more; 2 - 1; 1 - 5.

2. In order of preference (1, 2, 3) do you think a program of this type should be:
   Inspirational 14, Discussional 4, Instructional 12.

   Comments: "I have listed inspirational first because I have never seen any program, educational or other wise, so effectively sold".

3. This workshop-conference covered the material desired:
   Clearly 27, Vaguely 3, Not at all ____.

   Comments: "The value and methods of implementation of improved vocational-education methods appeared obvious to all".

4. Was the time of meeting convenient for you? Yes 30 No ____.
   Preferable time (if any) eliminate the evening session on the last day.

5. Would you include this type of program in the future?
   Yes 30 No ____.

6. Time spent on instruction was:
   Enough 27, Too much 1, Not enough 2.

7. Time spent on discussion was:
   Enough 27, Too much 1, Not enough 2.

8. This workshop-conference gave you how much new information and/or ideas?
   Some 6, Many 24, Few ____.

   Comments: "A veritable fountain".
   "I now see the possibility of some type of cooperative program in my area".

EXHIBIT A.16

9. How would you describe this workshop-conference?
Challenging 27 , Interesting 3 , Boring ____.

Comments: "I know it will help me do a better job, with better understanding".

10. What workshop-conferences would you like to attend in the future? List topics if possible.
Vocational Education - Present and Future.
Specific Fields (Trades and Industry - Home Economics - Office Occupations - Agriculture - Distributive).
Programed Instruction and the Project Method.
Youth Activity Programs for Vocational-Technical Students.

Comments: "A workshop-conference similar to this one would seem appropriate....involve more vocational-education personnel in this professional approach to the future of their programs....".

11. Did you change any of your previous ideas about the purpose of vocational education?
Somewhat 19 , Quite a bit 7 , Not at all 4 .

Comments: "The conference reinforced my personal feeling about the dire need for more and improved vocational education programs".

"I found that many of my problems are shared by all educators in vocational education".

"I already knew the value, however, this really reinforced my ideas".

"My ideas concerning the purpose of vocational education haven't changed - My ideas concerning application have".

12. Did you change any of your previous ideas about the purpose or operation of cooperative occupational education programs?
Somewhat 5 , Quite a bit 22 , Not at all 3 .

Comments: "Reinforcement again, I am, I feel, able to do a better job...quite an accomplishment considering this was done in only one week."

EXHIBIT A. 16 (Continued)

"I now feel it is one of the greatest methods used in education".

"It offers endless possibilities at all levels and for all areas of vocational-education.

13. What suggestions do you have (about techniques, materials, content, and so on) for improving future workshop-conferences?

Comments: "Techniques, materials and content were excellent".

"More individuals from the various fields of vocational education should be exposed to this type of workshop-conference".

"Future workshop-conferences for each specific area of vocational education. Also, programed instruction, project method and youth programs".

14. Indicate which day you thought most enlightening, educational and helpful.

Comments: "The two days when the organization and operation of cooperative programs and their obvious advantages where explained in the most comprehensive and inspiring sessions I have ever had the privilege to attend."

"Everyday was enlightening, educational and helpful. It was a most gratifying experience to hear many outstanding individuals from the fields of public relations, education, business, industry and labor."

15. Please use remaining space for any additional comments.

Comments: "You can rest assured that "all concerned" will get a thank you note for this conference. One or two things puzzled me in the beginning but keeping in mind "change" I am most grateful for having been chosen to attend".

"This was just one of the best conferences I've ever attended. I could think of so many other people I'd have liked to see here. Those of us who were here have much to take back to our co-workers for their inspiration and help".

"The conference proved successful. At the leadership level. It was evident that much thought and preparation went into the planning stages. Speakers invited to address the gathering were articulate and well versed to discuss and present ideas and

EXHIBIT A. 16 (Continued)

innovations attempted with success in their particular areas. We were too prone to blame school administrators for many of our own shortcomings".

"Please do all that you can to insure a continuation of this type of program".

"The professional setting and atmosphere of the conference, I feel, added a psychological benefit to the overall goal. It seemed to instill a greater awareness of professional pride in the individuals attending. Therefore, they functioned more professionally and truly professional results were achieved. The exposure to the top people available in their field had an exceptionally stimulating effect on me. To draw a comparison, as a "duffer", I have found that I invariably play better golf in a foursome of low 80 - golfers then when I play in a foursome of others in my handicap range equals Inspiration. This conference affected me in the same way. To draw another comparison, I feel I have learned more in one week than in ninety hours of graduate level instruction in this area.

In discussion with conferees who knew practically nothing of the substance of the conference, I have discovered they now have, in my estimation, an amazing grasp of the values and methods of supervised co-operative training, and are enthused about it... an amazing amount of progress in five short days".

EXHIBIT A. 16 (Continued)

STATE OF DELAWARE

Department of Public Instruction

VOCATIONAL-TECHNICAL EDUCATION & EXTENDED SERVICES

awards this certificate to

for completion of thirty hours of instruction in

COOPERATIVE OCCUPATIONAL EDUCATION PROGRAMS

Superintendent of Public Instruction

Instructor

Assistant Superintendent for Vocational-Technical Education

Date

EXHIBIT A. 17

SUGGESTED REFERENCES

Mason, Ralph E. and Haines, Peter G. "Cooperative Occupational Education and Work Experience in the Curriculum," Danville, Illinois: The Interstate Printers and Publishers, Inc., 1965.

"Publicity Handbook." Cincinnati, Ohio: The Sperry and Hutchinson Company, 1965.

"Putting Your School Paper to Bed." Cleveland, Ohio: Addressograph Multigraph Corporation, 1966.

"State - Local Plan for Administration of Distributive Education," Harrisburg, Pennsylvania: Commonwealth of Pennsylvania. Department of Public Instruction, 1966.

U. S. Department of Labor. "Handbook for Young Workers," Bureau of Labor Standards Bulletin No. 271, 1965.

U. S. Department of Labor. "Report of Discussions of the Technical Committee on Supervision of Young Workers", Bureau of Labor Standards, 1958.

U. S. Department of Labor. "The Youth You Supervise," Bureau of Labor Standards Bulletin No. 174, 1965.

"Writing for Publicity." Wilmington, Delaware: Wilmington News Journal, 1966.

VT 000 921

Present Programs of Occupational Education in Rhode Island; Rhode Island Vocational-Technical Education Development Project.

Columbia Univ., New York, N.Y. Inst. of Field Studies
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jun65 57p.

*STUDENT ENROLLMENT; *VOCATIONAL EDUCATION; *PROGRAM PLANNING; *PROGRAM EVALUATION; PROGRAM IMPROVEMENT; STATE SURVEYS; TECHNICAL EDUCATION; VOCATIONAL RETRAINING; COOPERATIVE EDUCATION
RHODE ISLAND

This report specifies the programs of occupational education presently offered in the state of Rhode Island and shows the location of those programs as well as the enrollment in each. Some comparisons are also drawn between the numbers enrolled in occupational programs in Rhode Island and numbers enrolled in similar programs in other states. The 1963-64 enrollments in preparatory programs were: (1) agriculture education, 491, (2) home economics education, 2,964, (3) cooperative industrial education, 102, (4) distributive education, 63, (5) cooperative business education, 10, (6) practical nursing, 100, (7) Manpower Development and Training Act Programs, 467, (8) vocational-technical education, 85, and (9) trade and industrial education, 1,715. Some of the conclusions and recommendations were: (1) The preparatory curriculum of the trade and industrial type is limited and needs to be brought into line with modern industrial practices, (2) Preparatory and cooperative distributive education programs should be strengthened and expanded, (3) Home economics programs should place greater attention on preparing pupils for jobs in the food trades, (4) Agricultural curriculums should include preparation for horticultural occupations and more adult education, (5) Business education should expand the cooperative and business machines programs, (6) A program for training technicians at the post-secondary level should be developed, and (7) Greater opportunities in occupational education should be provided for girls and women. This data of the study were used to prepare a subsequent report entitled "Proposed Occupational and Vocational-Technical Education Programs for Rhode Island" (VT 003 525). (MM)

VT 000 921

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PRESENT PROGRAMS OF OCCUPATIONAL EDUCATION IN RHODE ISLAND

JULY, 1965

VT00921

RHODE ISLAND
VOCATIONAL
TECHNICAL
EDUCATION
DEVELOPMENT
PROJECT

Institute of Administration
Teachers College, Columbia University
New York City, 10027

Rhode Island Vocational - Technical
Education Development Project

PRESENT PROGRAMS

OF

OCCUPATIONAL EDUCATION

IN

RHODE ISLAND.

Prepared by

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Institute of Field Studies
Teachers College, Columbia University
New York, New York

June 1965

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Previous reports prepared by the Institute of Field Studies, Teachers College, Columbia University, for the Rhode Island State Board of Education include the following:

Occupational Education in the Comprehensive High School . . . . . February, 1965

Where Should Occupational Education Be Taught at the Secondary Level. . . . . February, 1965

A Proposed Long-Range Plan for Occupational and Vocational-Technical Education for Rhode Island. . . . . March, 1965

Occupational and Vocational-Technical Education in the United States. . . . . June, 1965

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FOREWORD

This report contains two types of information. First, it specifies the programs in occupational education presently offered in the State of Rhode Island. It shows the locations at which programs are conducted and the number of pupils enrolled in each program.

Second, the report in some instances draws comparisons between the numbers enrolled in occupational programs in Rhode Island and the numbers enrolled in similar programs in other states.

The data included are of a purely quantitative nature. As such, however, they provide one dimension for measuring the adequacy of the present program of occupational education in Rhode Island.

This information may be viewed as basic to a subsequent report which will deal with proposed future programs for the State at both the secondary and post-secondary levels.

Data used for Rhode Island have been supplied by the Rhode Island State Department of Education and represent the 1963-1964 school year. Information concerning programs in other states has largely been supplied by the United States Office of Education and represents the school year 1962-1963. In both instances, the figures quoted were the latest available at the time of writing.

I. PRESENT PROGRAMS OF OCCUPATIONAL EDUCATION IN RHODE ISLAND

Occupational education programs in Rhode Island include the following:

1. Day curriculums in agriculture, home economics, practical nursing, technical and industrial fields.

2. Cooperative programs (with students spending half time in paid employment) in business education and the distributive and industrial fields.

3. Evening programs for employed workers in agriculture, home economics, practical nursing, trade and technical subjects, and fire fighting.

4. Related instruction for apprentices as part of the evening programs.

5. Courses for adults operated under the Manpower Development and Training Act in cooperation with the Rhode Island Department of Employment Security.

The succeeding pages deal with the quantitative aspects of these programs in detail.

II. AGRICULTURE EDUCATION

Vocational agriculture is taught in nine high schools with the curriculum usually extending from the ninth through the twelfth grades. Enrollments in the several schools are as follows (1963-1964):

Cranston	49	Ponaganset	61
Chariho	72	Scituate	66
Coventry	82	Warren	22
East Providence	55	Warwick	33
North Kingstown	51	Total	491

In seven of the nine schools which provide agricultural education, the program starts in the ninth grade; in the other two it starts in the tenth grade. The total enrollment distributed by grades is as follows:

9th grade	105
10th grade	152
11th grade	117
12th grade	117

Employment of farmers and farm managers in Rhode Island decreased some 37 per cent between 1950 and 1960, and further decrease is expected in the years ahead. This trend has implications for the number of students who will find employment in agriculture in future years. Technological development in agriculture in the United States has made possible greatly increased production

of food and fiber on an increasingly smaller acreage and with decreasing personnel. Teachers of agriculture in many states whose previous programs have become superfluous are branching out into fields related to agriculture, such as landscape development and greenhouse work. This is a matter for consideration in Rhode Island.

Enrollments in evening classes reported for 1963-1964 by agricultural teachers included 38 students in horticulture and 12 in welding, a total of 50 students from the State. Persons presently working as farmers need to keep abreast of many new developments in agriculture of technical nature. In many states considerable emphasis is placed upon classes for young and adult farmers operated by the agricultural teachers in the schools. The absence of such programs in Rhode Island raises the question as to whether adequate services are being provided for the farmers of the State.

III. HOME ECONOMICS EDUCATION

Vocational home economics, which has been subsidized by federal funds for vocational education under the Smith-Hughes Act since 1917 and the George-Barden Act since 1946, has day programs for high school girls in nineteen schools of the State, with enrollments as follows (1963-1964):

Barrington	99	North Providence	129
Bristol	58	Ponaganset	30
Chariho	78	Scituate	33
Coventry	140	South Kingstown	122
Cumberland	175	Warren	99
East Greenwich	77	Warwick	534
East Providence	489	West Warwick	229
Little Compton	39	Westerly	81
Newport	239	Woonsocket	191
North Kingstown	122	Total	2,964

In most of the schools, the program runs through grades 9 to 12, with enrollment by grades as follows:

9th grade	544
10th grade	980
11th grade	844
12th grade	596

The evening programs in home economics for adults for the school year 1963-1964 reached a total enrollment of 1,296, distributed among the following courses:

Clothing construction	748
Food preparation	141
Home furnishing	37
Millinery	34
Rug making	47
Furniture refinishing	23
Draperies & slipcovers	26
Upholstery	83
Tailoring	157
Total	1,296

Comparative data on enrollments in home economics education programs for selected states and the United States are shown in Table 1.

Home economics in the high schools of the United States is taught in vocational, non-vocational, and combination programs. In the vocational programs, the organized classwork is supplemented by supervised projects in the students' homes. In a nationwide study of nearly 16,000 schools with enrollments of 100 or more students, the data showed 6,206 schools with vocational home economics, 6,822 schools with non-vocational home economics, and 2,695 schools with combination programs.[1]

Vocational home economics, federally subsidized under the Smith-Hughes and George-Barden Acts, has not generally been preparation for specific occupations for which jobs are available. Federal reimbursement for this general type of

[1]Home Economics in the Public Secondary Schools. Office of Education Bulletin OE-83010.

TABLE 1

ENROLLMENT IN VOCATIONAL HOME ECONOMICS CLASSES
BY TYPE OF CLASS IN SELECTED STATES
AND IN THE UNITED STATES
1962 - 1963

	Enrollment		
	Secondary Preparatory	Adult Supplementary	Total
California	53,565	92,164	145,729
Connecticut	4,829	1,403	6,232
Florida	53,173	25,571	78,744
Georgia	59,804	21,982	81,786
Illinois	39,589	14,769	54,358
Massachusetts	1,936	39,472	41,408
Michigan	43,313	20,581	63,894
New Jersey	3,023	1,541	4,564
New York	74,410	39,956	114,366
North Carolina	59,823	12,771	72,594
Ohio	26,973	34,335	61,308
Oklahoma	24,473	6,210	30,683
Oregon	6,583	8,724	15,307
Pennsylvania	18,701	17,836	36,537
RHODE ISLAND	2,665	1,314	3,979
South Carolina	24,171	26,766	50,937
Texas	103,619	73,996	177,615
Virginia	46,781	4,479	51,260
Washington	29,898	20,827	50,725
Wisconsin	13,286	47,745	61,031
United States	1,164,011	675,439	1,839,450

Source: Vocational and Technical Education. U.S. Office of Education Bulletin OE--80008-63.

program will continue. However, the Vocational Education Act of 1963 provides that ten per cent of the allotment to each state for vocational home economics must be used for training for payroll occupations requiring home economics skills, or be transferred to another allotment.

Non-vocational home economics, that is, preparation for homemaking and family living is needed by all girls and should be considered an important part of general education.

IV. BUSINESS EDUCATION

Until recent years there has been little federal aid for business education. In the Smith-Hughes and subsequent acts, including the George-Barden Act, the only federal subsidy for business and office education was for classes included in cooperative education and general continuation programs. Enrollments in these programs have been insignificant as compared with the numbers of students enrolled in business education curriculums in the high schools financed by local and state funds. The Vocational Education Act of 1963 permits the use of federal funds for all types of occupations below the professional level. Thus business education during the 1964-65 school year takes its place along with the other occupational education programs as eligible for federal subsidy. Federal funds may be used for equipment purchase as well as for operating expenses.

No figures showing enrollment in business education for the United States are available. However, enrollments in business courses in high schools have been large, and this is true for Rhode Island. Data obtained from high schools of the State through personal visits by the consultants during the 1964-65 school year reveal enrollments as shown in Table 2. The figures in this table cannot be considered highly accurate, since

TABLE 2

ENROLLMENT IN BUSINESS EDUCATION COURSES
IN RHODE ISLAND BY SCHOOLS
1963 - 1964

State	Enrollment
Barrington	474
Bristol	155
Central Falls	353
Chariho	377
Coventry	711
Cranston--East	1,782
Cranston--West	262
Cumberland	319
East Greenwich	208
East Providence	1,380
Foster-Glocester	160
Johnston	260
Lincoln	496
Little Compton	58
Middletown	474
Newport	824
North Kinstown	623
North Providence	733
Pawtucket	1,197
Ponaganset	160
Portsmouth	324
Providence	4,853
Scituate	268
South Kingstown	732
Warren	287
Warwick	2,333
Westerly	269
West Warwick	477
Woonsocket	357
Total	20,906

they include a number of students not taking a full business course. They do, however, give a picture of the large size of the business education segment of the high schools.

The business education departments in the high schools often have four rooms given over to typing and business machine operation, and many are equipped with electric as well as manual typewriters.

In the report of vocational education activities for the year 1963-1964, the only business education shown for the State was one part-time cooperative class of ten students in a medical secretary program in Cranston East High School. No data are readily available on enrollments in evening classes in business subjects in the high schools. The information available, however, indicates that the enrollment in such classes is substantial.

In the years ahead, programs in business education, both for day and evening classes, should expand considerably as a result of the availability of federal funds. The programs also should be improved in quality because of new equipment made possible through such subsidy. The new vocational education act breaks down the barriers previously found between different occupational fields. In the years ahead, we may well see programs that cut across these fields, such as agri-business and combinations of industry and business.

The Vocational Division of the State Department of Education must define what constitutes a vocational business education course for purposes of federal reimbursement under the Vocational Education Act of 1963.

V. HEALTH OCCUPATIONS EDUCATION

Occupational preparation for work in the health field in Rhode Island in 1963-1964 was limited to practical nurse training. The pre-employment program in Providence and Warwick had a cumulative enrollment of 100 persons, with 77 graduates. Enrollment in supplementary courses for employed practical nurses number 57, all in Providence. The enrollment of ten persons as medical secretary trainees, noted previously in business education, might also be mentioned here as part of the total health education program.

Enrollments in preparatory programs for health occupations in selected states are shown in Table 3. Rhode Island is a small state, but its enrollment appears very limited as compared with others. One measure used as an indication of the extent to which a state is meeting its educational needs in the health fields is the enrollment in preparatory programs compared with the average number of persons who are in hospitals in the state. Data from Table 3 are shown graphically in Chart 1, which indicates the numbers enrolled in health education programs per thousand persons in the daily hospital census. It is realized that many other factors may contribute to adequacy of hospital care, such as the

TABLE 3

ENROLLMENT IN PREPARATORY VOCATIONAL PROGRAMS FOR HEALTH OCCUPATIONS, IN SELECTED STATES COMPARED WITH AVERAGE DAILY HOSPITAL CENSUS
1962 - 1963

	Enrollment*			Average Hospital Census** 1963	Total Enrollment Per 1,000 Hospital Census
	Practical Nursing	Other Health Occup.	Total		
California	2,345	2,793	5,138	112,337	45.8
Connecticut	397	26	423	22,221	19.1
Florida	1,269	411	1,680	27,910	60.0
Georgia	582	34	616	27,078	22.7
Illinois	1,454	30	1,484	93,079	15.9
Massachusetts	581	141	722	57,706	12.5
Michigan	1,191	1,051	2,242	65,225	34.4
New Jersey	915	34	949	48,819	19.4
New York	2,197	521	2,718	203,713	13.3
North Carolina	923	9	932	28,921	32.2
Ohio	1,094	482	1,576	70,913	22.3
Oklahoma	495	12	507	17,969	28.2
Oregon	433	.....	433	10,452	41.5
Pennsylvania	2,365	646	3,011	100,993	29.8
RHODE ISLAND	96	.....	96	8,579	11.2
South Carolina	488	6	494	16,776	29.4
Texas	3,178	.....	3,178	55,717	57.2
Virginia	939	.....	939	31,707	29.6
Washington	1,164	206	1,370	15,998	85.7
Wisconsin	789	248	1,037	25,695	40.4
United States	33,492	7,770	41,262	1,429,586	29.0

Source: *Vocational and Technical Education. U.S. Office of Education Bulletin OE-80008-63.
** The World Almanac, 1965 edition (p. 338).

CHART 1

ENROLLMENT IN PREPARATORY VOCATIONAL PROGRAMS FOR HEALTH OCCUPATIONS PER THOUSAND OF DAILY HOSPITAL CENSUS IN SELECTED STATES, 1962 - 1963

Washington	85.7
Florida	60.0
Texas	57.2
California	45.8
Oregon	41.5
Wisconsin	40.4
Michigan	34.4
North Carolina	32.2
Pennsylvania	29.8
Virginia	29.6
South Carolina	29.4
Oklahoma	28.2
Georgia	22.7
Ohio	22.3
New Jersey	19.4
Connecticut	19.1
Illinois	15.9
New York	13.3
Massachusetts	12.5
RHODE ISLAND	11.2
Total U.S.A.	29.0

number of professional nurses and hospital aides, but the ratio shown implies too few trainees in Rhode Island. Practical nursing is the major health occupation for which training is provided under the Vocational Education Act, but in other states substanial numbers are also enrolled in reimbursable health occupation programs preparing medical technicians, medical assistants, and dental assistants. In comparison with the average for the nation as a whole and many other states, Rhode Island is far down on the list.

VI. DISTRIBUTIVE OCCUPATIONS EDUCATION

Occupational preparation for sales and other distributive activities was not included in the Smith-Hughes Act. The George-Barden Act provides federal subsidy for distributive education for employed workers through cooperative education programs and supplementary courses. The Vocational Education Act of 1963 broadens the scope of federal subsidy to include day preparatory programs, as well as those for employed workers. Under the new act it is now possible to obtain federal subsidy for pre-employment training for distributive occupations in high schools and other institutions.

Enrollment data for Rhode Island for 1963-1964 show 63 students in the twelfth grade enrolled in part-time cooperative programs in distributive education, distributed as follows:

	Hope High School	Cranston East High School
Retailing	..	21
Merchandising	18	..
Personal services	..	24

Comparative data for cooperative distributive education programs for other states are available for 1962-63, and data for selected states are shown in Table 4. Rhode Island has a very low enrollment as compared with most of the other states. The program

TABLE 4

ENROLLMENT IN COOPERATIVE DISTRIBUTIVE EDUCATION PROGRAMS IN SELECTED STATES 1962 - 1963

	Enrollment			Per Cent
	Female	Male	Total	Female
California	868	1,266	2,134	41
Connecticut	183	141	324	56
Florida	279	398	677	41
Georgia	361	594	955	38
Illinois	963	992	1,955	49
Massachusetts	189	216	405	47
Michigan	1,394	1,709	3,103	45
New Jersey	321	298	619	52
New York	3,664	4,030	7,694	48
North Carolina	963	1,541	2,504	38
Ohio	667	764	1,431	47
Oklahoma	457	511	968	47
Oregon	345	494	839	41
Pennsylvania	665	577	1,242	53
RHODE ISLAND	52	.....	52	100
South Carolina	475	605	1,080	44
Texas	2,440	3,426	5,866	42
Virginia	1,146	1,761	2,907	39
Washington	481	545	1,026	47
Wisconsin	...	.....	.....	....
United States	21,671	26,634	48,325*	45

* Includes 2,176 post-secondary pupils.

Source: Vocational and Technical Education. U.S. Office of Education - Bulletin OE-80008-63.

for 1963-1964 in Rhode Island was limited to girls. In the United States as a whole the proportion of girls in such programs runs about 45 per cent.

During the years 1962-1963 and 1963-1964, no enrollment was reported for Rhode Island in evening extension courses for distributive workers. The enrollment in such courses during the year 1962-1963 in other selected states was as follows:

California	87,163
Texas	29,273
Michigan	15,514
Florida	13,107
Virginia	11,970
North Carolina	8,787
Wisconsin	6,501
Georgia	5,563
Pennsylvania	4,911
Washington	4,517
Ohio	3,684
New York	2,585
Illinois	2,542
Massachusetts	2,170
South Carolina	1,859
New Jersey	693
Oklahoma	481
Oregon	352
Connecticut	30

VII. TECHNICIANS AND OTHER TECHNICAL EDUCATION

The National Defense Education Act of 1958 provided under Title VIII(Title III of the George-Barden Act) for the training of technicians for a wide variety of occupations that could be classified as necessary for the national defense. During the first year of operation some 20,000 persons were enrolled in preparatory programs, increasing by the year 1962-1963 to more than 75,000. The majority of this enrollment has been in electronics and mechanical technology. The rise in enrollment in data processing has been rapid, from 63 in 1960 to more than 5,000 in 1963.

Enrollment in preparatory programs for the training of technicians in selected states for the year 1962-1963 is shown in Table 5. During that year Rhode Island enrolled only 31 students. In order to obtain a measure of comparison, this table also shows a ratio between the enrollment in technician training programs and the total non-agricultural employment in each of the selected states. The ratio for Rhode Island is substantially below any of the others, with the ratio for California 40 times as great, and that of Connecticut about 22 times as great. The ratio for Massachusetts is three times that of Rhode Island.

TABLE 5

ENROLLMENTS IN PREPARATORY VOCATIONAL-TECHNICAL PROGRAMS (TITLE III), IN SELECTED STATES 1962 - 1963

	Enrollment			1963 Non-agricultural employment (thousands)	Total Enrollment Per 1,000 in non-agricultural Employment
	Secondary	Post-Secondary	Total		
California	1,180	22,919	24,099	5,390	4.47
Connecticut	915	1,469	2,384	963	2.48
Florida	977	2,416	3,393	1,404	2.42
Georgia	.....	1,070	1,070	1,131	.95
Illinois	122	1,092	1,214	3,605	.34
Massachusetts	355	279	634	1,952	.33
Michigan	398	4,703	5,101	2,375	2.15
New Jersey	829	489	1,318	2,096	.63
New York	5,257	.....	5,257	6,298	.84
North Carolina	126	1,525	1,651	1,288	1.28
Ohio	470	697	1,167	3,126	.37
Oklahoma	575	1,604	2,179	606	3.60
Oregon	.....	965	965	545	1.77
Pennsylvania	2,384	188	2,572	3,689	.70
RHODE ISLAND	31	.....	31	293	.11
South Carolina	131	292	423	617	.69
Texas	485	1,669	2,154	2,691	.80
Virginia	52	711	763	1,107	.69
Washington	.....	1,780	1,780	850	2.10
Wisconsin	.....	3,750	3,750	1,231	3.05
United States	19,662	56,226	75,888*	56,283	1.35

*Total males enrolled..... 72,879
Total females enrolled..... 3,009 or 4% of total

Source: Enrollment data - Vocational and Technical Education. U.S. Office of Education, Bulletin OE-80008-63
Employment data- Manpower Report of the President '64. U.S. Dept. of Labor.

Enrollment in Rhode Island in preparatory technical programs in 1963-1964 showed a total of 85 students, all at the Vocational-Technical School at Corliss Park. These were distributed as follows:

Automotive technology	12
Machine technology	18
Electronics	10
Drafting	45

Enrollment in evening extension classes for technical workers in 1963-1964 at the Vocational-Technical School numbered 121, distributed as follows:

Automotive technology	31
Precision instruments	18
Electronics	19
Cam design	25
Water purification	17
Welding	11

VIII. TRADE AND INDUSTRIAL EDUCATION

Preparatory Programs

Since the advent of federal aid for vocational education nearly fifty years ago, trade and industrial education has been an important part of the total program, especially in the industrialized states of the East. In Massachusetts and Connecticut the program has been carried on largely in separate vocational schools. In Rhode Island it is presently found both in separate vocational schools and in comprehensive high schools. In 1963-1964 there were 1,715 students enrolled in the State in classes preparing for entrance into the skilled crafts. Somewhat more than one-third of these students were in separate vocational schools. Nine different institutions participated in the program, three vocational schools and six comprehensive high schools.

The pre-employment trade and industrial education program is found largely in grades 10 to 12, with a few ungraded students and some in the 9th grade. The enrollment by grades in the several schools is shown in Table 6. Study of the data shows a considerable drop in enrollment in the 12th grade as compared with the 10th.

TABLE 6

ENROLLMENT IN PREPARATORY TRADE AND INDUSTRIAL EDUCATION PROGRAMS IN RHODE ISLAND BY SCHOOLS AND GRADES
1963 - 1964

School	Enrollment					
	Ungraded	9	10	11	12	Total
Central Falls (vocational)	...	...	45	26	28	99
Cumberland	...	64	46	52	27	189
Newport	...	...	30	37	35	102
Pawtucket (vocational)	...	74	83	92	49	298
Providence	52	...	306	184	92	634
Vocational-Technical (Corliss Park)	...	...	80	94	87	261
Warren	...	...	...	7	13	20
West Warwick	...	...	...	18	16	34
Woonsocket	...	...	31	26	21	78
Total	52	138	621	536	368	1,715*

*Includes 41 girls.

Eleven different curriculums are provided in Rhode Island for preparatory students. Table 7 lists these curriculums together with the number of schools in which each curriculum is offered. This table also shows the enrollment for the 12th grade and the total for the curriculum within the State. Auto mechanics leads the list with a total of 404 students enrolled in 1963-1964, followed by woodworking with 302 students, and machine shop practice with 268 students. The average number of curriculums offered per school is 4 1/2. With the exception of Newport, the schools offering trade and industrial education programs are located in the thickly populated northeast section of the State.

The Rhode Island Vocational-Technical School, located in the Corliss Park area of Providence, and operated by the State Department of Education, draws its students from widely scattered sections of the State. The enrollment of 301 pupils in 1964-1965 was distributed among 27 municipalities as follows:

Barrington	14	Foster	1	Richmond	2
Bristol	13	Glocester	9	Scituate	1
Burrillville	10	Hopkinton	4	Smithfield	12
Charlestown	2	Johnston	23	S. Kingstown	11
Coventry	13	Lincoln	16	Warren	11
Cranston	36	Narragansett	9	Warwick	22
Cumberland	2	North Kingstown	4	Westerly	16
East Greenwich	1	North Providence	19	W. Warwick	20
East Providence	4	North Smithfield	1	Woonsocket	25

TABLE 7

ENROLLMENTS IN PREPARATORY TRADE AND INDUSTRIAL EDUCATION PROGRAMS IN RHODE ISLAND BY CURRICULUMS*
1963 - 1964

Curriculum	Number of Schools	Enrollment 12th Grade	Enrollment 9-12 Total
Auto mechanics	7	68	404
Drafting	1	11	46
Dressmaking	1	8	40
Electricity	5	38	182
Electronics	3	34	141
Machine shop practice	6	80	268
Painting & Decorating	2	8	72**
Printing	5	40	156
Sheet metal work	2	10	80
Textiles	1	2	24
Woodworking (carpentry/cabinet)	7	69	302
Total	9	368	1,715

*The total program includes 40 offerings in 11 different curriculums in 9 different schools. The average enrollment per curriculum offering is 43 students; the minimum, 15 students.

**37 ungraded.

The preparatory curriculum offered in the Rhode Island Vocational and Technical School included auto mechanics, electrical-electronics, machine shop and woodworking, with enrollments in 1963-1964 as follows:

Curriculum	Enrollment Grades 10th	11th	12th	Total
Auto mechanics	20	27	16	63
Electricity	6	7	6	19
Electronics	18	19	19	56
Machine shop	18	21	22	61
Woodworking	18	20	24	62
Total	80	94	87	261

An addition to the school plant during 1964-1965 added provision for science rooms, library, drafting room, gymnasium, auditorium, and three shops.

Enrollment data for 1963-1964 by curriculum and by schools are shown in Table 8. The three separate vocational schools, Central Falls, Pawtucket, and Vocational-Technical, enrolled 658 preparatory students, as compared with 1,057 enrollments in the six comprehensive high schools.

Many of the class groups in the various trade and industrial curriculums are small. Since it is generally assumed that an instructor can handle 15 students effectively in trade and industrial shops, the small class groups tend to lower the

TABLE 8

ENROLLMENT IN RHODE ISLAND TRADE AND INDUSTRIAL PREPARATORY PROGRAMS BY SCHOOLS AND CURRICULUMS

1963 - 1964

	Automobile Mechanics	Drafting	Dress-making	Electricity	Electronics	Machine Shop	Painting & Decorating	Printing	Sheetmetal	Textiles	Woodworking	Total
Separate Vocational Schools												
Central Falls	22	..	..	20	..	24	..	16	..	..	17	99
Pawtucket	46	..	..	46	..	58	..	52	29	24	43	298
Vocational-Technical	63	..	..	19	56	61	..	..	..	..	62	261
Sub-total												658
Comprehensive High Schools												
Cumberland	78	..	..	54	..	..	..	..	..	..	57	189
Newport	17	..	..	..	17	15	17	19	..	..	17	102
Providence	144	46	40	43	68	66	55	49	51	..	72	634
Warren	..	..	..	..	..	..	..	20	..	..	..	20
West Warwick	34	..	..	..	..	..	..	..	..	..	..	34
Woonsocket	..	..	..	..	..	44	..	..	..	..	34	78
Sub-total												1,057
Total	404	46	40	182	141	268	72	156	80	24	302	1,715

Source: State Education Department

overall efficiency of the instructional staff. In grades 10 to 12, 74 classes or 63 per cent of the total 118 classes, enrolled fewer than 15 pupils.

Table 9, compares the enrollment in preparatory trade and industrial education programs of Rhode Island with those of selected states. In these selected states the enrollment in post-secondary institutions in 1962-1963 was 45, 906 and in Type C programs (intensive programs for out-of-school youth and adults) it was 53, 386, as compared with an enrollment of nearly 200, 000 on the high school level. Rhode Island has no post-secondary enrollment. In enrollment per 1, 000 non-agricultural workers in Rhode Island, the ratio for secondary programs is 5.43, considerably higher than the average for the United States of 3.13. The average ratio for the nation in post-secondary programs is 1.56 enrollments per 1, 000 workers.

Placement of All-Day Students

In 1962 the U.S. Office of Education in cooperation with the states of the North Atlantic Region prepared an analysis of the placements of graduates of all-day trade and industrial education programs. The data for the 13 states in the region are shown in Table 10. Rhode Island placements in jobs related to the training received in school were 50.5 per cent of the total

TABLE 9

ENROLLMENT IN PREPARATORY TRADE AND INDUSTRIAL EDUCATION PROGRAMS IN SELECTED STATES, 1962-1963

	Enrollment				Workers in non-agricultural employment '63 (thousands)	Enrollment per 1,000 nonagricultural workers	
	Secondary Programs	Post-Secondary Programs	Type "C" Programs	Total Post-Secondary & Type "C"		Secondary Programs	Post-Secondary & Type "C"
California	.....	9,162	17,378	26,540	5,390	....	4.93
Connecticut	4,565	.....	.....	.....	963	4.75	....
Florida	5,851	2,892	4,571	7,463	1,404	4.16	5.32
Georgia	2,422	1,980	1,404	3,384	1,131	2.14	3.00
Illinois	6,307	113	140	253	3,605	1.75	.72
Massachusetts	13,342	.....	490	490	1,952	6.83	.25
Michigan	4,418	.....	2,268	2,268	2,375	1.86	.96
New Jersey	6,142	120	160	280	2,096	2.92	.13
New York	40,850	.....	1,490	1,490	6,298	6.50	.24
North Carolina	2,492	5,427	1,641	7,068	1,288	1.93	5.49
Ohio	4,571	.....	302	302	3,126	1.50	.10
Oklahoma	3,737	.....	26	26	606	6.16	.04
Oregon	190	57	711	768	545	.35	1.41
Pennsylvania	18,790	.....	2,792	2,792	3,689	5.10	.76
RHODE ISLAND	1,588	.....	.....	.....	293	5.43	....
South Carolina	5,683	.....	113	113	617	9.22	.18
Texas	10,009	350	1,380	1,730	2,691	3.72	.64
Virginia	3,621	2,962	697	3,659	1,107	3.27	3.30
Washington	787	4,592	38	4,630	850	.93	5.45
Wisconsin	.....	6,960	8,058	15,018	1,231	....	12.20
United States	199,719*	45,906	53,386	99,292**	56,283	3.13	1.56

*Secondary enrollment:
Male..... 170,005
Female... 29,714
Per cent female... 14.9

**Post-secondary enrollment:
Male..... 78,264
Female...21,028
Per cent female... 21.1

Source: Enrollment data - Vocational and Technical Education, U.S. Office of Education Bulletin OE-80008-63
Employment data - Manpower Report of the President, 1964. U.S. Department of Labor

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TABLE 10

PLACEMENT OF GRADUATES OF ALL-DAY TRADE, INDUSTRIAL AND TECHNICAL PREPARATORY PROGRAMS, NORTH ATLANTIC REGION AND BY STATES*
1962

	Number of Graduates	Number continued full-time school	Number entered Armed Forces	Number available for jobs	Number placed in jobs related to training	Per cent of total grads in jobs related to training	Number of female graduates	Per cent of female graduates
Connecticut	1,512	151	194	1,167	974	64.5	365	24.2
Delaware	175	10	28	137	106	60.6	32	18.3
District of Columbia	375	40	32	303	209	55.8	128	34.2
Maine	156	14	62	80	36	23.1	...	0.0
Maryland	1,349	221	218	910	467	34.6	207	15.4
Massachusetts	2,761	136	346	2,279	1,968	71.2	595	21.5
New Hampshire	118	21	36	61	39	33.1	8	6.8
New Jersey	1,892	75	168	1,649	1,409	74.5	783	41.3
New York	8,562	1,582	772	6,208	3,952	46.2	2,519	29.6
Pennsylvania	4,016	396	928	2,692	1,615	40.2	359	8.9
RHODE ISLAND	295	15	71	209	149	50.5	1	0.3
Vermont	337	22	85	230	165	49.0	79	23.5
West Virginia	857	110	195	552	302	35.2	101	11.8
Total	22,405	2,793	3,135	16,477	11,391	50.9	5,177	23.3

*Follow-Up Study of 1962 Graduates. Trade and Industrial Programs in Public Vocational-Technical High Schools, North Atlantic Region. U.S. Office of Education.

number of graduates, almost the same as the average for the region. This table also shows the numbers of graduates by sex. The average for the region is 23.3 per cent female; that for Rhode Island is 0.3 per cent. Girls in Rhode Island have little opportunity for preparation for occupations in the industrial field.

Cooperative Part-time Programs

The cooperative part-time programs in the trade and industrial field in Rhode Island enrolled 102 students in 1963-1964. Programs were operated in four schools: Central Falls, Pawtucket, Providence, and Vocational-Technical. Enrollment by occupational fields was as follows:

Program	Enrollment
Machine shop	33
Auto mechanics	32
Printing	13
Woodwork	9
Electricity	7
Sheetmetal	6
Textiles	2
Total	102

Extension Programs

Occupational extension programs, largely operated during evening hours, which are provided for upgrading employed workers in Rhode Island include apprentice related classes, extension courses for mechanics, and fireman training. During 1963-1964 some 462 students were enrolled in fireman training

programs within the State. Apprentice training in 14 different occupations was provided at three centers, East Providence, Providence, and Vocational-Technical. The 1963-1964 enrollment by schools and programs is shown in Table 11.

The 1963-1964 enrollment data on extension courses for skilled mechanics are shown in Table 12. During that year, courses in fourteen fields were offered at four locations, Pawtucket, Providence, Vocational-Technical, and Woonsocket. A total of 991 persons were enrolled in the various courses with the largest number, 535, enrolled in ten different courses at the Vocational-Technical School.

Comparative enrollment in supplementary extension courses for employed trade and industrial workers for selected states are shown in Table 13. From this table it can be noted that in some states, such as California, New York and Ohio, large numbers of persons are enrolled in these programs.

A measure of the effort being made in this type of education by each state is the enrollment per thousand workers in non-agricultural employment. These figures are also shown in Table 13. A study of the table shows that the State of Washington ranks highest (38.4), followed by Georgia (16.9), Wisconsin (14.5) and California (14.1). Rhode Island with an enrollment of only 4

TABLE 11

ENROLLMENT IN RELATED INSTRUCTION FOR APPRENTICES IN EVENING CLASSES, BY SCHOOLS AND OCCUPATIONS*
1963 - 1964

Occupation	School: East Providence	School: Providence	School: Vocational-Technical	Total
Electrician	...	37	...	37
Jewelry toolmaking	...	35	...	35
Sign construction	...	10	...	10
Plumbing	...	25	54	79
Sign painting	...	21	...	21
Steam fitting	...	24	...	24
Sheetmetal work	...	...	39	39
Sprinkler fitters	...	...	7	7
Carpenters	...	...	52	52
Masonry	...	...	13	13
Ironworkers	...	...	33	33
Others	...	14	...	14
Machine drawing & math.	14	...	...	14
Welding for plumbers	...	...	24	24
Total	14	166	222	402

* Data from State Education Department

TABLE 12

ENROLLMENT IN EVENING EXTENSION COURSES FOR MECHANICS IN RHODE ISLAND, BY SCHOOLS AND COURSES*
1963 - 1964

	School				
	Pawtucket	Providence	Voc.-Tech.	Woonsocket	Total
Auto mechanics	21	3	85	10	119
Blueprint reading	..	18	47	25	90
Drafting	27	..	20	..	47
Electricity	22	..	52	..	74
Electrical code	..	14	26	15	55
Electronics	..	..	66	..	66
Electroplating	..	33	..	..	33
Machine shop	16	22	106	56	200
Paper hanging	..	12	..	..	12
Plumbing	..	12	..	..	12
Printing	..	13	..	..	13
Typing	..	18	20	..	38
Welding	..	48	77	..	125
Woodworking	22	..	36	49	107
Total	108	193	535	155	991

*Data from State Education Department

TABLE 13

ENROLLMENT IN ADULT SUPPLEMENTARY TRADE AND INDUSTRIAL EDUCATION PROGRAMS IN SELECTED STATES COMPARED WITH NUMBER OF WORKERS IN NON-AGRICULTURAL EMPLOYMENT

	Enrollment* 1962-1963	Non-agricultural Employment** (thousands) 1963	Enrollment per Thousand Workers In Non- agricultural Employment
California	75,966	5,390	14.1
Connecticut	9,797	963	10.2
Florida	16,524	1,404	11.7
Georgia	19,101	1,131	16.9
Illinois	8,117	3,605	2.3
Massachusetts	7,493	1,952	3.8
Michigan	30,034	2,375	12.6
New Jersey	9,248	2,096	4.4
New York	40,817	6,298	6.5
North Carolina	16,980	1,288	13.2
Ohio	34,445	3,126	11.0
Oklahoma	4,252	606	7.0
Oregon	6,240	545	11.4
Pennsylvania	14,078	3,689	3.8
RHODE ISLAND	1,158	293	4.0
South Carolina	5,602	617	9.1
Texas	25,440	2,691	9.5
Virginia	13,663	1,107	12.4
Washington	32,720	850	38.4
Wisconsin	17,752	1,231	14.5
Total	540,186	56,283	8.5

*Enrollment data-Vocational and Technical Education. Office of Education - Bulletin OE-80008-63.

**Employment data - Manpower Report of the President, 1964. U.S. Department of Labor.

persons per thousand workers ranked very low in this list of twenty states. States with lower ratios were Pennsylvania, Massachusetts and Illinois.

M. D. T. A. and A. R. A. Programs

Under the federal Manpower Development and Training Act, the State Department of Education cooperates with the State Department of Employment Security in the training of unemployed persons. These persons are selected by the Department of Education, and on completion of training placed by the Department of Employment Security. The training courses vary in length and in educational level. In 1963-1964 training programs were offered in nine occupational fields and a total of 467 persons completed the courses. Ten different schools participated in the program, and three courses were offered in spaces outside the schools. Enrollment data for the various programs are presented in Table 14.

TABLE 14

ENROLLMENT IN M. D. T. A. AND A. R. A. PROJECTS
COMPLETED IN FISCAL YEAR 1963-1964 BY OCCUPATIONS AND SCHOOLS*

Projects	Schools & Location	Enrollment
Auto Body Repair	Carouthers Body Shop, Cumberland	15
Auto Mechanics	Cumberland High School	25
	Vocational-Technical, Providence	40
Building Custodian	Vocational-Technical, Providence	29
Clerk-stenographer	Central High School, Providence	25
	Cranston High School, East Providence	11
Computer Programmer	Providence College	26
Loom Fixer	Standish Mills, Esmond	8
Machine Operator	Cranston High School, East Providence	30
	East Providence High School	15
	North Kingstown High School	15
	Pawtucket Vocational High School	30
	Vocational-Technical, Providence	90
	Warwick Veterans Memorial High School	18
	Woonsocket High School	30
Nurse's Aide	Cranston Osteopathic Hospital	40
Sheetmetal worker	Central High School, Providence	20
Total Enrollment		467

*Reports of the State Education Department.

IX. ENROLLMENT OF GIRLS IN OCCUPATIONAL EDUCATION

Table 15 shows total enrollment and the percentage of females enrolled in four major occupational programs in the United States, Rhode Island, Connecticut, Massachusetts and New York. Especially noteworthy is the small percentage of girls enrolled in trade and industrial programs in Rhode Island particularly in view of the fact that the industry of the State employs a high percentage of female labor.

The table shows, in the four major categories of occupational education, a total percentage of girls enrolled which is substantially lower for Rhode Island than the United States and the selected nearby states.

Percentage of Girls Enrolled in Occupational Programs

New York	34.8
United States	25.0
Connecticut	15.7
Massachusetts	12.3
Rhode Island	10.4

TABLE 15

PERCENTAGE OF FEMALE ENROLLMENTS IN FULL-TIME AND COOPERATIVE OCCUPATIONAL EDUCATION PROGRAMS, EXCEPT AGRICULTURE AND HOME ECONOMICS IN SELECTED STATES 1962 - 1963

Programs	Total Enrollment and Per Cent Female									
	Connecticut		Massachusetts		New York		RHODE ISLAND		U. S. A.	
	#	%	#	%	#	%	#	%	#	%
Distributive cooperative programs	324	56.0	405	47.0	7,694	48.0	52	100.0	48,305	45.0
Trade & Industrial programs full-time secondary and post-secondary, Type C, and cooperative	4,565	12.3	14,633	7.6	44,277	29.5	1,588	2.2	320,202	17.7
Technical programs, Title III, secondary & post-secondary	2,384	1.8	634	...	5,257	1.0	31	...	75,708	4.0
Health education programs, practical nursing & other	423	99.0	722	99.0	2,722	99.0	96	100.0	41,262	98.0
Total	7,696	15.7	16,394	12.3	59,950	34.8	1,767	10.4	485,477	25.0

*Vocational and Technical Education. U.S. Office of Education, Bulletin OE-80008-63.

X. RETRAINING AND UPGRADING PROGRAMS FOR EMPLOYED ADULTS

Occupational education opportunity for employed adults is a vital part of a state's total program. Rapid technological changes are making the availability of retraining and upgrading programs a necessity for many persons. Table 16 compares the enrollment in selected states in courses for employed adults in distributive, trade and industrial, technical, and health occupations. This table also shows a ratio of the total enrollment of each state to the overall employment in non-agricultural occupations in that state. The data are for the year 1962-1963.

As can be noted from the table, Rhode Island with a ratio of only 4.4 persons enrolled in training programs per thousand of employed workers, ranked near the bottom of the list of states selected. Michigan with 58.6 persons enrolled per thousand and California with 38.3, ranked at the top of the list. For the United States as a whole, approximately 16.4 persons per thousand non-agricultural workers were enrolled in retraining and upgrading programs.

TABLE 16

ENROLLMENT IN VOCATIONAL-TECHNICAL COURSES FOR EMPLOYED ADULTS IN DISTRIBUTIVE, TRADE & INDUSTRIAL, TECHNICAL AND HEALTH FIELDS IN SELECTED STATES*
1962 - 1963

	Enrollment						
	Distributive	Trade & Industrial	Technical	Health	Total	Employment in 1963**	Total Enrollment***
California	87,163	75,966	41,290	2,133	206,552	5,390	38.3
Connecticut	30	9,797	3,343	258	13,428	963	13.9
Florida	13,107	16,524	5,102	497	35,230	1,404	25.0
Georgia	5,563	19,101	542	475	25,681	1,131	22.7
Illinois	2,542	8,117	868	208	11,735	3,605	3.3
Massachusetts	2,170	7,493	932	224	10,819	1,952	5.6
Michigan	15,514	30,034	1,191	316	47,055	2,375	19.9
New Jersey	693	9,248	5,285	292	15,518	2,096	7.4
New York	2,585	40,817	951	394	44,747	6,298	7.1
North Carolina	8,787	16,980	1,607	414	27,788	1,288	21.6
Ohio	3,684	34,445	0	776	38,905	3,126	12.4
Oklahoma	481	4,252	1,010	321	6,064	606	10.0
Oregon	352	6,240	84	336	7,012	545	12.9
Pennsylvania	4,911	14,078	3,668	428	23,085	3,689	6.3
RHODE ISLAND	0	1,158	110	31	1,299	293	4.4
South Carolina	1,859	5,602	0	93	7,554	617	12.2
Texas	29,273	25,440	6,195	566	61,474	2,691	22.9
Virginia	11,970	13,663	685	59	26,337	1,107	23.9
Washington	4,517	32,720	11,980	595	49,812	850	58.6
Wisconsin	6,501	17,752	2,433	60	26,746	1,231	21.7
United States	261,268	540,186	108,707	12,695	922,856	56,283	16.4

*Vocational and Technical Education, U.S. Office of Education Bulletin OE-80008-63 and Manpower Report of the President, 1964, (Table D-1).

** Non-Agricultural Establishments (thousands).

*** Per thousand employed.

XI. SUMMARY OF PREPARATORY AND COOPERATIVE VOCATIONAL EDUCATION PROGRAMS

The 1963-1964 enrollment in all preparatory and cooperative occupational education programs in Rhode Island are shown below. Business education is excluded because it was not considered vocational in 1963-1964. Extension programs for employed workers and apprentice programs are not included since they are for purposes of upgrading and are therefore not considered preparatory. M. D. T. A. programs for unemployed workers are considered preparatory and are consequently included.

Program	Enrollment
Agriculture	491
Cooperative part-time	
Industrial	102
Distributive	63
Business	10
Trade and industry	1, 715
Technical (Title III)	85
Home economics	2, 964
Practical nursing	100
M. D. T. A. and A. R. A.	467
Total	5, 997

XII. CONCLUSIONS AND RECOMMENDATIONS

An examination of the data presented in this report indicates serious inadequacies and gaps in the occupational and vocational-technical programs provided the youth and adults of Rhode Island. For example, few, if any, opportunities are available at a suitable technical level for adult farmers, or for those who would like to specialize as landscape developers and greenhouse operators. Also, the present programs in the health occupations and in sales and distributive occupations leave much to be desired. In fact, a study of twenty selected states revealed that Rhode Island ranked lowest in the number of persons enrolled in health occupation programs per 1,000 persons in hospitals. The Rhode Island program in sales and distributive education is operated at only two high schools and is limited entirely to girls. No evening extension courses are available for distributive workers. Furthermore, in an industrial state such as Rhode Island, it is surprising to find few pupils enrolled in preparatory programs for technicians and for advanced technical programs. Opportunities for vocational and technical education of the non-degree type are practically non-existent in the state. In addition, the State provides few opportunities for girls to receive occupational and vocational training at either the secondary or post-secondary level. The facilities and programs

available in the state for the retraining and upgrading of employed youth and adults are extremely limited.

On the basis of the observations and studies made by the consultants, the following conclusions and recommendations warrant serious consideration when developing an overall plan of occupational and vocational-technical education that will serve the needs of the people and enhance the economy of the State:

1. The present range of preparatory curriculums of the trade and industrial type at the secondary school level is limited and should be modified to bring it into line with modern industrial practices. The curriculums in single specialized skills should be broadened in order to prepare pupils for clusters of related occupations. For instance, printing should be broadened to graphic arts including various methods of offset printing. Other clusters should include preparation for metal working, service, electrical, and building construction occupations. All curriculums should be reviewed and a careful scrutiny should be made of the labor market needs for a particular skill. For example, a serious question might be raised concerning the possibility of placing the number of pupils enrolled in woodworking programs.

2. There is mounting evidence that the trend to provide secondary school pupils with a broad general background and to defer specialized training to the later high school years or even to the post-secondary level will continue. In view of this trend, specialized preparation for trade and industrial occupations should be offered for most pupils only in grades 11 and 12 of the secondary schools.

3. The Vocational Education Act of 1963 encourages greater attention to home economics programs preparing pupils for jobs in the food trades. A variety of programs in this area would provide increased occupational training opportunities for girls and at the same time would fill a gap by preparing more people for the expanding food trades.

4. Over the past several years, the number of persons employed in sales and distributive positions in wholesale and retail establishments has been increasing. This has been true for both the nation as a whole and for Rhode Island. Practically all studies indicate that this trend will continue. It seems reasonable to recommend therefore that the preparatory and cooperative distributive education programs in the State be expanded and strengthened and more pupils be encouraged to enroll.

5. For many years, the number of persons employed in agriculture has been declining. Advances in agricultural technology make almost certain a continuation of this decline, especially in states such as Rhode Island.

The data of this and other studies of the consultants indicate that the number of pupils preparing for agriculture in Rhode Island is greater than can be absorbed by the farms of the state. The agricultural curriculums should be broadened to include preparation of landscape gardeners, florists, nurserymen, and other horticultural occupations. Evening and extension programs involving the business and advanced technology of agriculture should be provided for the adult farmers of the state.

6. In many ways, the high school business education courses provide the most effective occupational programs in Rhode Island. Their success and popularity over the years and the financial support now available under the Vocational Education Act of 1963 would indicate that they should be expanded and strengthened. Consideration should be given to the expansion of the part-time and the business machines programs.

Preparation of pupils for employment in automatic data processing and computer operation and programming should be included in the overall program with most of the emphasis being concentrated at the post-secondary level. The post-secondary program should also include advanced office practice, including secretarial and basic accounting training. Provision should be made for preparing specialized secretaries in such fields as medicine and law.

7. The number of pupils being trained as technicians and technical workers in Rhode Island is low - substantially below most of the states. A post-secondary program for the training of these workers is vitally needed. It is strongly recommended that a wide variety of technical programs be developed and made available to the youth and young adults of the state in unified Junior College Vocational-Technical Centers.

8. Opportunities for training in the health occupations are extremely limited in Rhode Island. Much more attention should be given to this field of work. The present program for practical nurses does not satisfy the need of the state and should be expanded to permit increased enrollment.

In addition, in line with the national trend, a two-year training program for professional nurses should be developed at the post-secondary level and programs for medical and dental assistants and laboratory technicians should be provided at the Junior College Vocational-Technical Centers.

9. The development of the resort industry appears to have great potential for Rhode Island economy. The favorable location of the state in the northeastern megalopolis, the continued increase of population in the urban centers, the increase in leisure time as a result of shorter work weeks, and the expansion of the arterial highway network connecting the major cities could lead to rapid development of the state's many attractive recreational resources. Consideration should be given now to programs preparing the youth and adults of the state for the managerial and operational aspects of this expanding industry.

10. The foods trades provide many job opportunities for specially trained workers. The extent of these job opportunities would justify specialized courses of varying length for out-of-school youth and adults in preparation for such jobs as cooks, bakers and meat-cutters. These

courses might be placed at the Corliss Park facility which could be developed as a center for specialized courses for out-of-school youth and adults.

11. Greater opportunities should be provided for girls and women to receive training and up-grading in a variety of occupations. Much has been done in the past to prepare women for business and office positions. Women, however, are being employed in a wide variety of occupations for which few preparatory programs are available. Wherever feasible the overall curriculum should be expanded to in-include such fields as cosmetology, the needle trades, the jewelry trade, the foods trades, and service occupations, especially those where home economic skills are needed.

12. It now seems clear that accelerated technological change will make necessary an expansion of extension programs for retraining and up-grading employed workers. These programs might range from a few weeks to a year or more in length. Programs of various types should be developed and offered at a number of locations including Corliss Park and the proposed Junior College Vocational-Technical Centers.

VT 000 925
Rogers, Clarence J.
Tools, Equipment, and Supplies for Departments of Vocational Agriculture, 1966. Bulletin 72F-7.

Florida State Dept. of Education, Tallahassee. Agricultural Education Section
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 19May66 50p.

*VOCATIONAL AGRICULTURE; AGRICULTURAL MACHINERY; *EQUIPMENT; *HAND TOOLS; SCHOOL SHOPS; SUPPLIES; MACHINE TOOLS

Teachers, administrators, and supervisors can use this as a guide to selection of appropriate tools and equipment for effective agricultural mechanics instruction. Items are listed under seven main sections: (1) Tools and Equipment, (2) Power Tools and Equipment, (3) Field Equipment, (4) Office and Classroom Equipment, (5) Shop Equipment, (6) Visual Aids, and (7) Materials and Supplies. Specifications are partially described. Prices and manufacturers are listed, when practical, as a guide to suitable quality. Quantities of tools and equipment recommended are listed under headings of: (1) electric power and processing, (2) farm power and machinery, (3) agricultural construction, building, and maintenance, (4) soil science and water management, (5) animal science, and (6) plant science and forestry. (JM)

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BULLETIN 72F-7

MAY, 1966

TOOLS, EQUIPMENT, AND SUPPLIES

FOR DEPARTMENTS OF VOCATIONAL AGRICULTURE ...

THE STATE DEPARTMENT
OF EDUCATION

Floyd T Christian
State Superintendent

TALLAHASSEE, FLORIDA

VT000925

AGRICULTURAL EDUCATION

Bulletin 72F-7 May 19, 1966

TOOLS, EQUIPMENT, AND SUPPLIES

FOR

DEPARTMENTS OF VOCATIONAL AGRICULTURE

1966

Prepared By:

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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PREFACE

This information has been compiled as a guide to superintendents, principals, supervisors, and teachers of vocational agriculture in providing suitable tools and equipment for effective instruction in agricultural mechanics. Capital investment in machinery, buildings, and other facilities has increased to the point where, in many cases, it now exceeds all other investments in the farm business, including the land. This mechanization, increased utilization of facilities, and automation focuses a new and greater importance on vocational agriculture instruction in agricultural mechanics. In order for the farm operator and farm workers to have the knowledge and skill necessary to make decisions regarding the selection, operation, maintenance, and repair of their machines and facilities, they must have adequate training.

To provide instruction to meet the needs of future farm operators and workers in these areas, adequate equipment, tools, and reference materials are necessary. Instructional programs will vary from one school to another. This fact makes it almost impossible to publish a basic list of equipment that will be adequate to all situations. Several factors influence the recommendation of tools and equipment for instruction in agricultural mechanics. They are: (1) number of students, (2) available space, (3) local budget, and (4) objectives, type, and extent of program being offered.

USE OF THIS PUBLICATION

The items in this publication are listed alphabetically. The description of each item is not, in all cases, a complete specification so this list should not be copied verbatim. When asking for bids from suppliers, the description should be studied to ascertain if it is adequate for the item that is being considered. Brand names are being used as a guide to quality and as an aid to the buyer and supplier. The use of brand names shall not be construed as an endorsement of any one make.

Six (6) vertical columns are used to show the item needed in the four (4) areas in the vocational agriculture program, that is, Agricultural Mechanics, Soil Science, Animal Science, and Plant Science. Water Management, though usually in Agricultural Mechanics, is included in with Soil Science due to the close alliance of the two fields.

Since a great majority of the items will be used in Agricultural Mechanics, this area has been divided into Electric Power and Processing (electricity, electric motors, materials handling, etc.), Farm Power and Machinery (tractors, auxiliary engines, trucks and agricultural field machinery), and Agricultural Construction, Buildings and Maintenance (carpentry, concrete and concrete

masonry, preserving, fencing, hot metal work, cold metal work, tool fitting, arc welding, gas welding, domestic water systems and disposal).

The numbers used in these columns are based on a class of 16 students, working in groups of 4 each. The highest number opposite an item is the quantity of that item needed in a department. For instance, in the case of the first item, "Air, Blow Gun," 2 is the total needed for a particular department. It is realized, however, that the quantity needed for a particular purpose may vary across the State. For example, two-man, 6-foot, crosscut saws may not be necessary where forestry is not important.

The list prices are prices obtained from catalogue and dealers located in Florida. The prices are subject to change and are for estimating purposes only. These prices vary in different communities. Some dealers offer discounts, others do not. Consideration should be given to whether the supplier will deliver the items set-up and ready to operate or whether they will arrive in pieces for the buyer to set-up. Dealer service is also a point to consider. Firm bids on items should be obtained to arrive at an exact cost. The prices shown are unit prices.

The "Total" column has been left blank so it can be used for extensions of the list price (unit price) after it has been determined if the quantities of a specific item are adequate for a particular department. The last column, "Notes," has also been left blank for the use of the individual department.

Tools and equipment purchased should be of high quality and from reputable manufacturers. Factors to consider in purchasing tools should include adequate size, adequate numbers, quality, availability of service and parts, and cost.

A list of consumable supplies is included on pages 39-42, but no quantities or prices are shown.

The equipping of a shop is only the beginning. It is also essential to delegate responsibility for proper care, storage, use, repair, and inventory of tools and equipment.

A very important matter is that of adequate financing for the shop program. The old recommendation of $5.00 per student and $2.50 per student for maintenance of equipment is outdated in view of current cost and program objectives. A more realistic figure would be $8.00 per student for consumable supplies and $4.00 per student for equipment maintenance.

On the power tool list, certain tools have been marked as essential for a vocational agriculture shop. The other power tools are highly desirable and should be added as soon as possible to complete the shop. No attempt has been made to make such a distinction between the items on the tool and equipment list. As

stated before, a careful study of each individual shop should be made taking into consideration the factors already discussed.

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TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Air	Blow Gun, Schrader	2	2	2	2	2	2	3.50		
	Hose, 25' 1/4", B.F. Goodrich Type R	2	2	2	2	2	2	6.50		
	Tire, Adapter for Hose; Sears 30A-16270		2					.75		
Ammeter	AC, 0-25 AMPS, Simpson	1		1				22.95		
Altimeter	HAGA, (NASCO)						1	40.50		
Anvils	Blacksmith, Steel Face 100#, Eagle		1	1				70.50		
Anvil Stand	Metal		1	1				13.50		
Awl	Scratch, Crescent #73	2	2	6				1.20		
Axe	Single Bit 4 pounds, True Temper	1	1	1	2	1	2	7.05		
Balance	Double Beam, 200 by 10 Gram Lower Beam, 10 by 0.1 Gram. Upper Beam 2 K G Capacity)HAUS # K9-15505, (NASCO)		1		1	1	1	27.00		
Auger	Soil 40" x 2" (NASCO S1)			1	4			6.60		
Bars	Crow Pinch Point 1 1/2 x 66", ATLAS	1	1	2				6.60		
	Planting (Dibble) NASCO #H63						8	4.95		
	Pry 1/2" x 16", Sears # 9A4283	2	2	4				.98		
	Wrecking Goose Neck, 3/4" x 30" #130, STANLEY	1	2	4				3.30		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Battery	Strap, BISHMAN #180		1					.70		
Bender	Conduit - 1/2" and 3/4" Hickey Type, Less Handle, Rigid, B1711	2		2				4.00		
Bits	Auger - No. 4 Through 16 by 16th, IRWIN (Sets)	2		4				9.50		
	Extension 18", IRWIN	2		2				2.50		
	Expansive - 7/8" to 3" with cutters, IRWIN	2		2				3.00		
	Screwdriver - 1/4", 5/16", 3/8", and 1/2" with bit stock shank STANLEY (Sets)	2	2	4				2.50		
Braces	Ratchet-Carpenters, 10" sweep, self-centering chuck STANLEY #923	4	2	4				14.40		
Brooder	Electric, 150 Watts, 1/2" Mesh Wire Floor, Removable dropping pan, capacity 100 Day-old chicks, 24" x 35", HUDSON #253-91050						1	42.00		
	Infra-Red Steel Reflector with 6' cord and plug, wire guard and handle, NASCO # E211-111						1	3.10		
Brushes	Cattle, Rice Root, 6 1/2" x 2 1/4", STONEY # C99 (NASCO)						4	2.50		
	Dust, Counter, CSBCRN #378	4	4	4	4	4	4	1.55		
	Paint, 1", 2", 4" CSBCRN #444 (Sets)	2	6	6				7.22		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Brushes (CONT'D)	Steel 2" x 7" Straight Back, OSBORN # 1780	1	6	6	1	1	1	1.16		
	Wire, Shoe Brush Type, OSBORN #1784		2	4				.79		
BOB	Plumb 12 oz. Brass, STANLEY #172	2	2	4				1.80		
Borer	Increment 10", K & E #M564-800438						1	29.00		
Buckets	Water, 4 gallon, galvanized			2	2	2	2	3.00		
Cable	Battery Jumper, 6 GA Copper, 12 ft. SEARS #28A7199	1	2					3.99		
Can	Tapper and Pour Spout, Curved, SEARS #28A4641		2	1				.65		
Candler	Egg, NASCO #D61210					4		2.79		
Cant Hook	Loggers, 8" Opening, NASCO #M460-1507			2			2	7.10		
Castrating Tool	Knife, NASCO #C996-13C					1		2.25		
Containers	Gasoline 5 gallon, safety, Justrite #10800		4	1				10.60		
	Gasoline, 2 1/2 gallon, 2 1/2" hexagon filler cap, flexible spout, EAGLE #72 1/2		2	1				7.21		
	Oil Measuring & Dispensing, 1/2 gallon, BROOKINS		2					10.25		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Containers (CONT'D)	Radiator Filler, 12 qts., BROOKINS		2					3.47		
Chains	Obstetrical 60", NASCO #C336-915B					1		1.65		
	Towing, 3/8" x 16", with 2 hooks		2	1				20.80		
Chisels	Cold, 3/8", 1/2", 3/4" and 1" CINCINATI #200 (Sets)		4	4				5.00		
	Wood 1/4", 1/2", 3/4", 1", STANLEY #60 (Sets)	4		6				10.00		
	Wood 1 1/4", STANLEY #60			1				3.80		
	Wood 1 1/2", STANLEY #60			1				3.45		
Clamps	"C" 6", CINCINATI, #540P	2	4	6				3.46		
	"C" 8", CINCINATI, #540P	2	4	6				5.30		
	"C" 10", CINCINATI, #540P	2	4	6				7.36		
	Fixture, for 3/4" pipe (furniture), CINCINATI #600			6				3.78		
	Saw Filing 13", ATKINS, #3A			2				8.00		
	Hand Screw (Wood Clamps) 6", CINCINATI, # 706			6				4.20		
	Hand Screw (Wood Clamps) 8", CINCINATI, # 706			6				5.00		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Clamps (CONT'D)	Mitre and Corner, (Set of 4), STANLEY #404			1				8.40		
Coops	Poultry, 2 Compartment Display, NASCO #2163-21					1		5.85		
Cleaners	Tip, Oxy-Acetylene, 75-49 Drill Size, THERMO #7825			6				1.80		
Clipper	Animal, Complete with motor and head assembled and 1 set of extra blades Sunbeam, #C2124-EN310					1		59.50		
Combs	Curling and Dressing, Coarse Teeth, NASCO, #C130					4		1.25		
	Marking and Lining, NASCO, #C95-345					4		.95		
	Scotch, medium blade, NASCO, #C1569					4		1.75		
Cords	Extension Electrical - 25' Heavy Duty, #14, 3 Cond. with Parallel Ground Connector & Cap	2	3	4	1	2		7.30		
Compass	Foresters, SILVA, Type 15			1			1	14.95		
Creeper	Mechanics - 16" x 36", 2 1/2 wheels PAXTON, Model JE		2	2				9.95		
Cruising Stick	Foresters, Folding Pocket, LUFKIN #M151-55 1/2						16	1.70		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Counter-sinks	Bit Stock - 3/4" cutting edge, for use in 2 jaw chuck for wood or soft metal, STANLEY, #139	1	1	4				1.50		
Cutters	Bolt - 24", capacity in soft metal 3/8", beleveled cutters, H.K. PORTER #0190 MC	1	2	2				17.40		
	End Nippers - 18" long, tempered steel jaws, CRESCENT, #72-8"	1	2	4				4.50		
	Glass, RED DEVIL #024			6				..65		
	Pipe - 1/4 to 2" capacity, RIGID, #2A	2	1	4	2			15.70		
	Weed, sling type 14", TRUE TEMPER #26TT			2	2	2	4	2.25		
Drafting Set	Complete with 20" x 24" - 1/2" drawing board, T-square, 8"-45° triangles, 8" 30" - 60° triangles, architects scale and set of drafting instruments, CRAFTSMAN	4		6			2	14.00		
Dehorner	Electric, 150 Watt, RHINEHART, #X30					1		6.25		
	Saw, 12" stainless steel blade, DISSTON, #4					1		6.00		
	Barnes, Small calf, NASCO, #C180					2		2.49		
	Barnes, Large calf, NASCO, #C181					1		3.95		
Drawknife	Wood, 1 1/2" x 10" Blade, GREENLEE, #600			4				4.95		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Dresser	Abrasive Grinding Wheel, CALDER, #0	1	1	2				1.50		
Dies	Pipe-Ratchet Type 1/8" to 1' Capacity, RIGID, #OOR	2	1	2	1			50.00		
Diggers	Post Hole, 9" Blade, 4' Handle, ATLAS #10	2	2	6	4	1	1	7.00		
Divider	Solid Nut 8" Spring Type, STARRET, #83		1	4	2			7.00		
Drills	Hand - Heavy Duty, 3/8" Capacity, 3 1/2" speed gear, STANLEY, #624	1	2	3				11.74		
	Masonry - 1/2" shank, carbide tip, Sizes: 1/4", 3/8", 1/4", 3/8", and 1/2" (Sets)	2	2	3				5.00		
	Star - 12" long, Sizes: 1/4", 3/8", 1/2", and 3/4", STAR (Sets)	1	2	2				2.50		
	Twist High Speed, Straight Shank 1/16" to 1/2" by 32nds, HANSON SISA (Sets)	1	2	2				21.80		
Edgers	Cement curved blade 2 3/4" x 5 3/4": GRAVES, #5			4				.60		
Emasculator	Plain, NASCO, #C286-9492					1		16.95		
Duster	Rotary, Hand Crank, 8-12 lb. capacity complete with tubes and WYE attachment, HUDSON, #801				1	1	1	32.00		
Engines	Small gasoline, BRIGGS STRATTON Or Equal		4					25.00		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
File	Card 2" x 4" w/handle, SIMMONDS	2	2	2				.45		
Files	Mill 8" smooth, SIMMONDS	2	4	4				.80		
	Mill 10" smooth, SIMMONDS	2	4	4				1.03		
	Mill 8" bastard, SIMMONDS	2	4	4				.60		
	Mill 10" bastard, SIMMONDS	2	4	4				.78		
	Round 6", smooth, SIMMONDS	2	4	4				.70		
	Round 10" smooth, SIMMONDS	2	4	4				1.08		
	Triangular - 6" Regular Taper, NICHOLSON	2	4	4				.55		
	Triangular - 6" Slim Taper, NICHOLSON	2	4	4				.45		
	Triangular - 6" Extra-Slim Taper - NICHOLSON	2	4	4				.45		
	Handles, Adjustable, General, #890	2	4	4				.96		
Flaring Tool	3/16" to 1/2" flaring tool, 1/8" to 1 1/8" cutter, IMPERIAL #1225F	1	1	1				9.55		
Funnels	Utility 3", HUFFMAN, #410-12		3	1	1	1	1	1.10		
	Utility 6", HUFFMAN, #410-12		2	1	1	1	1	1.40		
	Utility 12", HUFFMAN, #410-12		2	1	1	1	1	1.70		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Fork	Manure - 6 Tine, TRUE TEMPER, #054 1/2				6	4		6.60		
	Spading - 4 Tine, 30" handle, SEARS, #99A8261C				6		6	3.77		
Furnaces	Plumbers - Gasoline, 1 gal. capacity, SEARS, #9A5428			1				23.75		
Gage	Drill 1/16" - 1/2", STARRET, #187	1	1	2				5.95		
Gauges	Calipers - Inside 10", STARRET, #73		2	4				5.20		
	Calipers - Outside 10" length, STARRET, #79		2	4				5.20		
	Compression - Offset stem, 0-300 lbs., PROTO, #C-50-A		1					6.95		
	Micrometers 0 to 4" Outside, STARRET, #224AA-RL		1	1				48.00		
	Tire-Pencil clip type, chrome plated-reads 5 to 50 lbs. (low pressure or water tires) SEARS, #28A1077		2					1.25		
	Vacuum - 3 1/2" dial, 0 to 30" vacuum, 0 to 10 lbs. pressure. Rubber adapter, 1/8" to 3/8" reducer bushing, PROTO, #V150		1					7.95		
Germinator	Seed, 300 watt, 22" x 18" x 11" complete with all controls, NASCO, #Z2448						1	119.50		
Grader	Egg, NASCO, #D58-517					4		1.79		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Groovers	Cement 2 3/4" x 5 3/4" blade, GRAVES, #3			4				.55		
Guns	Balling, Bovine or Horse, Stainless Steel, NASCO, #C302-923					1		3.70		
	CAULKING 9" frame, SOUTHERN PAINT, #ER-35			4				1.60		
	Grease-Hand, 3-way loading, 20 oz. cap., ALEMITE, #4045C		3					5.05		
	Soldering, kit, includes tips and carrying case, WEN, #250K	4	2	1				11.96		
	Staple, Heavy Duty, DUCFAST, #CT830	1		1				10.00		
Gloves	Asbestos, PAXTON, #514 (Pr.)		1	1				4.50		
Goggles	Clear Plastic, WILLSON, #201		8	8	8			1.70		
Hammers	Ball Peen - 8 oz. forged steel head, hickory handle	1	2	2				1.89		
	Ball Peen - 12 oz., DITTO	1	2	2				2.13		
	Ball Peen - 24 oz., DITTO	1	2	2				2.43		
	Blacksmiths - 32 oz. heat treated head, hickory handles, STANLEY, #402		2	2				5.90		
	Claw - 13 oz. curved claw tubular steel handle, STANLEY, #ST2	2		2				5.70		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Hammers (CONT'D)	Claw - 16 oz. curved claw tubular steel handle, STANLY, #ST-1 1/2	2		6				5.70		
	Claw - 16 oz. flat face, straight claw, tubular steel handle, STANLEY, #ST-1 1/2A			2				5.70		
	Engineers - 48 oz., cross peen, STANLEY, #393	1	1	2				6.20		
	Plastic Tip 16 oz., one tip vinyl, one tip plastic, hardwood handle, STANLEY, #593		2	2				2.60		
	Sledge 8# 32" handle, STANLEY, #850-H	1	1	1				8.80		
Hatchet	Half 3 1/2", TRUE TEMPER, #TFH	2		2				5.00		
Hoes	Garden - 4" x 6" blade, 52" handle, TRUE TEMPER, #PLC64 1/2				16		16	3.19		
	Mortar- 6" x 10" blade, 2 holes, TRUE TEMPER, #M210			2				7.40		
Hose	Water - 100 ft., 5/8" heavy duty		1	4	3	4	4	12.00		
Holder	Hog, heavy duty, 3/16" cable, NASCO, #C769					1		3.50		
Incubator	Electric: 65 egg capacity, thermostat control, equipped with moisture pan, window on top, pilot light, hygrometer and thermometer, LEAHY, #D30					1		35.00		
Indicators	Speed - 2 rubber tips, STEWART-WARNER, #757W	1	1	1				12.10		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Implanter	Cattle, pellet				1			6.30		
Iron	Caulking 1/2" x 6 1/4", SEARS, #9A43305			2				1.25		
	Soldering-200 watt, heavy duty, 5/8" replaceable copper tip, HEXACON, #P-200	2	1	2				14.95		
	Yarning 1/2" x 8", SEARS, #9A43275			2				1.25		
Jacks	Hydraulic-automotive, 2-3 ton, SIMOLEX, #3HJ		4	1				19.05		
Jointers	Bricklayers- Flat and curved, SEARS, #9A43215			4				2.50		
Kit	First Aid	2	2	2	2	2	2	7.50		
Kit	Soil test for nitrogen, phosphorus, potash, and acidity, SUDBURY				1		1	39.95		
Knife	Budding and grafting, 2 blade, NASCO, #H57-716					4		3.00		
	Putty - 1 1/4" wide, carbon steel, flexible RED DEVIL, #P 1-1/4 F		6	6				1.30		
	Linoleum - 2-1/2" blade, RED DEVIL, #K23			2				1.25		
Ladders	Extension-Aluminum 16', SEARS	1		2				40.00		
	Step-Wooden 6', HEAVY DUTY, THOR	1		2				11.55		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Ladles	Melting and Pouring - Cast iron, 11 1/2" long, capacity 1 1/4 lb. lead, W. M. JOHNSON, #373-2 1/2		1	2				1.10		
Lens	Hand Magnifier, 10 Power, NASCO						6	1.00		
Lariat	Stockmens, Nylon 30', 3/8" diameter, PLYMOUTH					2		8.60		
Letters	Steel - 1 set 1/4" letters, YOUNG BROS.	1	1	1	1	1	1	11.20		
	Steel - 1 set 1/4" figures, YOUNG BROS.	1	1	1	1	1	1	3.74		
Levels	Abney, Topographic with case, David White or equal, NASCO, #M22A-80-0165			1	4		1	38.60		
	Carpenters- 24" aluminum, six glasses, 2 double plumb & one double level COLUMBIAN, #724	2	1	2				8.75		
	Carpenters and Masons - 48" aluminum, 2 levels vials, 4 plumb vial, COLUMBIAN, #748	1		1				15.50		
	Hand sighting, 5" length, DAVID WHITE			4	4		4	3.00		
	Line, SEARS, #9A3980	1		4	1	1	1	.54		
	Farm, Telescope 16 or 18 power with tripod, compass, rod and target, DAVID WHITE or Equal	1		1	2	1	1	125.00		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Lines	Chalk - Aluminum alloy case and reel, self-chalking, 100', STANLEY, #1100	2		2	2			2.40		
Light	Timing, PRCTO, #PTL-120		2					29.75		
Lights	Trouble - 25' shockproof, 2 convenience outlets in handle with guard, TROUBLE-LITE #I-313-25	2	2	2				3.30		
Lighters	Flint, WELDING PRODUCTS, #180			6				.30		
Mallets	Wooden - 3" face, 6" dogwood head, hard-wood handle, DRUM, #104			4				.84		
	Rubber or Plastic, 1#, STANLEY, #593		4	4				2.60		
Mattock	Cutter type, 36# handle, SEARS, #9A5085C			4			2	3.67		
Melter	Lantern, alcohol, MERRIBROOKE, #H72-99						1	9.80		
Microscope	Double revolving nosepiece magnification, 100 x 430 x A.O. SPENCER or Equal, NASCO, #K172				1	1	1	94.50		
Miter Box	Wood, Adjustable, STANLEY, #346-A			1				87.80		
Nipper	Hoof, NASCO, #C234-104					2		4.50		
	Tooth, NASCO, #C2275					1		3.55		
Notcher	Ear, NASCO, #C24-65					1		3.75		
Oilers	General Purpose - 4" straight spout, 10 oz. capacity, PLEWS, #491-4	2	4	2				1.25		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Oilers (CONT'D)	Trigger, 6 oz., 6" spout, forced fed, PLEWS, #N1105	2	4	2				2.50		
Oven	115 Volt, 12" x 11" x 10", NASCO, #21881-10-200				1			55.00		
Pins	Surveyors with carrying ring (Set of 11), NASCO, #M30-596				1		1	6.00		
Pliers	Arc Joint - 9-1/2", water pump, 5 adjustments, chrome plated, CHANNELLOCK No. 420 or equal	2	4	2				3.20		
	Battery - 7-1/2", 40° Angle head, PROTO, #218G	2	2	2		2		2.40		
	Cutting Diagonal - 6", CRESCENT, #942SC	4	2	2				4.15		
	Fencing, CRESCENT, #1936		2	2				3.60		
	Ignition - 5-3/4", 40° Angle Jaws, capacity 0 to 5/8", PROTO, #235		4					1.43		
	Hose Clamp, 8", PROTO or CRESCENT		1					2.00		
	Lineman's - 8" long, heavy duty, beveled nose, side cutting, CRESCENT	2	2	3				4.90		
	Needle Nose, 5", CRESCENT, #666-6"	4	1	4				3.45		
	Slip Joint - 6" side cutting, 2 adjustments, CRESCENT, #LS26	4	4	4				2.65		
	Vise Grip, 10", VISE GRIP, #10R	2	4	4				2.45		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Picks	Railroad - 6 pounds, 23", pick point, 36" handle, KLEIN LOGAN, #6	1		4	4			5.00		
Pincers	Carpenters - 8", CRESCENT, #72	1		4				4.70		
Punches	Center (Set 1/4, 3/8, 1/2, and 5/8), CINCINATI, #284	1	1	4				4.00		
	Leather, Revolving, OSBORN, #155			1		1		11.50		
	Line Up (Drift) - 3/16", 1/4", 3/8", CINCINATI, #620 (Sets)	1	4	4				6.00		
	Pin, 3/32", 5/32", 1/4", 5/16", CINCINATI, #2866 (Sets)	1	4	4				3.50		
	Solid, 1/4", 5/16", 7/16" point, CINCINATI, #263 (Sets)	1	4	4				4.00		
Pullers	Fuse - Fiber or plastic, for fuses up to 200 amps, IDEAL #34-002	2		1				1.50		
	Gear - Auto-grip, jaw spread 0 to 6" and 0 to 8", ARMSTRONG, #1001-1002A	1	1	1				13.00		
	Battery Terminal, SEARS, #9A47145		1					2.07		
Planes	Block - 6" long, 1-3/8" cutter, blade at 12°, STANLEY, #9-1/4			2				5.25		
	Jack - 14" long, 2" cutter, STANLEY, #5			2				12.00		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Planes (CONT'D)	Smoothing - 1-3/4" x 8", STANLEY, #5			4				9.00		
Planimeter	Fixed Air Type, direct reading, NASCO, (K & E)				1			45.00		
Pots	Melting - Cast iron, bail handle, 4-3/4" top top diameter, capacity 12 lbs., molten metal, W.M. JOHNSON, #398			2				1.80		
Probe	Backfat, NASCO, #C155					4		.25		
Rake	Garden, 15" Head, 60" handle, TRUE TEMPER #B-15			4		16		2.37		
	Potato Rakes, TRUE TEMPER, #4BOH			4		16		5.80		
Rasp	Cabinet - 10" half round Bastard, SIMMONDS			6				2.30		
	Cabinet - 12" half round Bastard, SIMMONDS			6				3.15		
	Hoof - 12", NASCO, #C245					4		1.50		
	Wood - Flat 12", SIMMONDS			6				2.23		
Reamers	Burring - Capacity 1/4" to 1-1/4", CLEVELAND, #233	2	1	4				5.50		
Respirator	Cartridge Filling Type, WILLSON, #841-CP		2	2				5.20		
	Filter Chemical for farm sprays, WILLSON, #600A		2	2	1	2		4.75		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Ringer	Hog, NASCO, #C258				1			.75		
Ruler	Yield Grade					1		.39		
Rules	Bench - 2', maple with brass tips, 1/8" and 1/16" graduations, STANLEY, #34VR		6	6				2.40		
	Folding - (Zigzag), 6', inside outside reading with 6" extension bar for inside measuring, LUFKIN, #X46	4	6	6				2.90		
	Push-Pull - 8' power return, 1/32" graduations, LUFKIN, W608	2	6	6				2.00		
Runners	Joint - Asbestos, 3/4" diameter, capacity 2"-6" pipe, SEARS, #9A5439			2				2.09		
Saws	Back - 13 point, 12", 3-3/4" width, ATKINS, #3	2		4				5.00		
	Coping, ATKINS, #50	4		2				1.50		
	Cross Cut, 1 man, 4 ft., SIMMONDS, #225			2	1		2	11.50		
	Cross Cut, 2 man, 6 ft., SIMMONDS, #133			2	1		2	16.95		
	Hand Cross Cut, 8 point, 26" straight back, light weight, ATKINS, #200	3		5				6.00		
	Hand Rip - 5-1/2 point, 26" straight back, light weight, ATKINS, #200	1		3				6.00		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Saws (CONT'D)	Hole, Metal or Wood, 1" to 2-1/2", ARCO, #600	1	1	1				5.95		
	Nest of - Interchangeable blades, 10" keyhole blade, 14" compass blade and handle, DISSTON, #7	2		2				4.60		
	Hack - Adjustable frame, 8", 10", 12" blades, 3-1/4" depth, CRESCENT, #1046	4	4	6				3.00		
	Pruning, Pole type with 8' pole, ATKINS, #16			1			4	2.95		
	Saw Horse Brackets, SEARS, #9A2849	2	4	4				3.59		
Scales	Utility, 60# capacity, HANSON, #E72060	1	1	1				14.00		
	Platform, 1/4# to 1000#, HOWE, #54SB			1	1	1	1	150.00		
Scrapers	Cabinet Adj., 2-1/2" blade, 12" handle, STANLEY, #292		1	6				2.00		
Screwdrivers	Electricians' - 3", 6", 10" small blade, plastic handle, IRWIN, #400-C (Sets)	4	1	2				2.75		
	Standard Bit - 3/16" x 4", 1/4" x 4", 1/4" x 6", 5/16" x 8" and 3/8" x 12", mechanics, heavy duty, plastic handles, IRWIN, #400 (Sets)	2	4	4				6.00		
	Phillips, #1 for No. 4 and smaller screws, STANLEY, #2701							.65		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Screwdrivers (CONT'D)	Phillips, #2 for No. 5 to 9 Screws, STANLEY, #2702							.70		
	Phillips, #3 for No. 10 to 16 Screws, STANLEY, #2703							.85		
	Phillips, #4, for No. 18 & larger Screws, STANLEY, #2704							1.00		
	Off-set - Standard bit, forged steel 3", PROTO, #35-1/4		6	4				.75		
Seamer	Hand - 7/8" x 3 1/2", WHITNEY, #44			2				7.75		
Sets	Circular Saw, DISSTON, #34			1				9.75		
Sieves	Hand, Seed, 9" x 9" with perforations 1/25 to 7/64 (Set)						1	40.00		
	Soil, 5" diameter with top cover and bottom pan, .005, 1.25, 1.5, 1 and 2 MM perforations, NASCO, #F174-50				1			39.50		
Sets	Nail - 1/16", 3/32", 1/8", 5/32" square head, STANLEY, #11-1/2 (Sets)			4				1.00		
	Rivet - No. 6 and 8			2				4.20		
Shears	Hedge, 8: serrated blade and limb notch, NISS, #8A						4	4.95		
	Pruning, Anvil Type, TRUE TEMPER, #105						4	7.00		
Shovel	Square Point, #2 D handle, AMES, #901			2	2	2	2	4.46		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Shovel (CONT'D)	Grain scoop size, 10", AMES, #312				1			6.86		
	Round Point Size 2, 50" handle, AMES, #903		4	6	2	4		4.90		
Snips	Tinners - Curved Bill, 10", WISS, #M-1		1	4				4.75		
	Tinners - Straight Bill, 10", 2 3/4" cut, WISS, #M-2		1	4				2.50		
Spade	5" x 14" blade, 27" handle, AMES, #128			2	6		6	13.00		
Splicer	Fence Wire, NASCO, #104			6				.49		
Sprayer	3-1/4 gallon, pressure type, complete with hose and nozzle, HUDSON				1	1	1	9.50		
	3-1/4 gallon, ditto, for herbicide, HUDSON				1		1	9.50		
Squares	Combination - 12" grooved blade, graduated in 8th, 16th, and 32nds inch, 4 1/2" handle with level, STANLEY, #21S	2	1	4				3.90		
	Combination - w/center and protractor heads 12", STARRETT, #9	2		2				23.90		
	Framing, Steel, 24" x 2" body, 16" x 1-1/2" tongue, 1/16, 1/12, 1/8 graduations, and 100th scale, with rafter tables, STANLEY, #R-100	2	2	4				3.00		
	T-Bevel, 8", STANLEY, #25TB		1	4				2.40		
	Try 8", STANLEY, #12TS		1	4				2.85		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Stones	Sharpening - Combination coarse and fine, 8" x 2" x 1", BEHR-MANNING JB	2	2	4	1	1	1	3.22		
Stretchers	Wire - Complete with chain ratchet handle for woven wire, 50" fence capacity, complete with clamp, NASCO, #E299W1			2				36.20		
Stripper	Cable - Non-metallic sheath, BROADHEAD-GARRET, #45-018	4	1	1				.75		
Syringes	Serum set (one), complete with 1-40 cc syringe graduated in 1 cc's, and 1-10 cc's syringe graduated in 1/2 cc's, 2-16 gauge and 2-18 gauge hypodermic needles, NASCO						1	7.60		
Tattoo	Set, complete with pliers set of figures from 0-9, set of letters from A-Z, and tattoo ink, STONEY, #C580-C22					1		17.00		
Tape	Steel - 100' nickel black markings, marked in feet, inches, and eighths, LUFKIN, H456	1	2	2	3	1	1	9.40		
	Steel - chain type, surveyor's			1	1			16.00		
	Weighing cattle, NASCO, #B124					12		.25		
Taps and Dies	Combination screw plate, 59 piece auto mechanics set, 23 cuts, 1/4" to 3/4" N.C., 1/4" to 3/4", N.F., 5 machines screw sizes, 1/8" and 1/4" pipe, thread gauge and screw extractors, No. 1-5, GTD LITTLE GIANT, #5	1	1	2				75.00		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Tester	Anti-freeze - 4 oz. bulb, 8-1/2" tube,b ball type float, with temperature correction, GRAVES-HUMPHREYS, #808		1					6.00		
	Circuit - 230 volts, neon tube, AMERLINE	4	1					.50		
	Battery Cell - Adjustable legs, 6 and 12 volts, MARQUETTE (Model 2)		1					7.00		
	Battery Hydrometer - Sealed temperature correction chart, no-stick float, 0° to 160°, BISHMAN, #121		1					1.95		
	Crop Moister with built-in thermometer and direct reading dial, SAFE-CROP, #G529					1		154.00		
	Soil model A-110 solu-bridge, Soiltest or equal				1			150.00		
	Soil Tissue Kit for nitrogen phosphorous and potash difficiencies, SUDBURY, #F176				1			4.95		
Thermometer	Animal Vet with case, TAYLOR, #C1581					1		2.95		
	Soil, 20° to 180°, NASCO				1			6.00		
Taps & Dies	Pipe, Ratchet Threading, 1/8" to 1", RIGID, #OOR	2	2	2				40.00		
Tongs	Blacksmith-Straight lip, 24" long, STANLEY, #10		1	4				5.00		
Tools	Small gas engine, BRIGGS STRATTON, #291661		2					23.88		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Tools (CONT'D)	Valve Refacer, BRIGGS STRATTON		1					3.25		
	Valve Grinder BRIGGS STRATTON		1					2.35		
	Ridge Reamer BRIGGS STRATTON		1					6.67		
	Piston Groove Cutter BRIGGS STRATTON		1					3.10		
	Piston Ring Expander BRIGGS STRATTON		1					1.47		
Torch	Blow - Gasoline or Kerosene, 1 qt., CLAYTON LAMBERT, #158A	2	2	2				9.60		
	Propane - Complete Kit, TURNER, #LP555	2	2	2				8.98		
Trocar	Cattle size, complete with cannula, NASCO, #C309-856L					2		2.15		
Trowels	Brick - Steel blade, 5 5/8" x 11", ROSE, #112			4				4.00		
	Cement Finish - Steel blade, 11" x 4 3/4", MARSHALLTOWN, #MX3			4				3.75		
	Pointing - Steel blade, 2 3/4" x 5 1/2", MARSHALLTOWN, #45			4				1.13		
	Transplanting, 2" x 6" blade, NASCO, TRUE -TEMPER			1				.84		
Tube	Soil Sampler, 16", NASCO, #F213				4		2	4.79		
Vise	Drill Press - 2 5/8" jaw opening, PALMGREN #20	1	2	2				9.85		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Vise (CONT'D)	Machinist - 4 1/2" jaw, opens to 7" Malleable cast iron with replaceable steel jaws, COLUMBIA, #504-1/2	1	2	4				56.00		
	Pipe-Hinged, capacity 1/8" to 2 1/2", RIGID, #22	1	1	2				16.45		
Vises	Woodworking, 4" x 10" continuous screw, COLUMBIA, #10RDW			4				30.00		
Volt-Watt Meter	Electric Portable - 0-260 volts, A.C. - D.C., 0-3000 Watts, SIMPSON or equal	1	1	1				43.95		
Wheelbarrow	Contractor Type, 4 cubic feet, ballbearing sheel, 8" x 4.00, pneumatic tire, JACKSON, MN	1	1	4	2	2	2	24.00		
Wrenches	Adjustable - 8" - 7/8" capacity, CRESCENT, #AT1B	2	4	4				2.00		
	Adjustable - 12" - 1 5/16" capacity, CRESCENT, #AT112	2	4	4				3.75		
	Box end - 6 piece set, 3/8" to 1", LECTROLITE, #360 (Sets)	1	2	2				8.98		
	Combination, Box and Open end, 7/16 to 1" by 16ths., BILLINGS, #L-1109	1	2	2				8.98		
	Ignition - 8 piece, combination midget, 13/64 x 7/32 to 3/8 x 7/16, GRAVES-HUMPHREY'S, #1711 (Sets)		2					6.55		

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Wrenches (CONT'D)	Lug - 4 way, 22" arms, 5/8" diameter, fits 3/4", 13/16", 7/8" and 15/16" hexagon nuts GRAVES-HUMPHREY'S, #622 (Sets)		2					1.60		
	Pipe - Heavy duty, 10", 14", 18", RIGID, 10-14-18, (Sets)	1	2	4				13.00		
	Open end - 6 piece set, 1/4" x 7/8", SHERMAN-KLOVE, #560B (Sets)	1	2	2				5.75		
	Set Screw - (Allen) set of 10, 1/16" to 5/16" STANDARD (Sets)	1	2	4				1.25		
	Sockets, 1/4" square drive, 19 piece complete with all handles and ratchet, 3/16" to 7/16", PROTO, #4700-C		1					20.25		
	Sockets - 1/2" square drive, deep, spark plug, 5/8" to 15/16", SHERMAN-KLOVE (Sets)	1	2	1				5.00		
	Sockets Set, 1/2" square drive, 3/8" to 1-1/4", complete with flex-handlebar, extension, universal joint, speeder, flex-handle, sliding "T" handle, extension, reversible ratcher, 12 point sockets, 8 point sockets, and metal box, BILLINGS, #LS-29	2	2	2				38.20		
	Tappet, Set, PROTO, #3400G		1					6.75		
	Torque - 1/2" square drive, 0 to 105 ft. lbs., SHERMAN-KLOVE		2					9.50		

POWER TOOLS AND EQUIPMENT

Item	Description	Number Needed	List Price
Chargers	Battery, Heavy Duty, Slow Charger, W/Silicon Rectifier, Capacity Six - 6 volt, three - 12 volt, or one - 24 volt batteries. 115 volts, 50/60 cycle, 10 amp input, complete with battery jumper cables, leads, 3 wire power cord with 3 prong parallel grounding type plug and switch. Charger to be delivered complete and ready to operate Marquette No. 304A or equal.		$89.50
*Compressor	Air, complete with 1-1/2 h.p., single-phase, 60 cycle electric motor with automatic start-stop control. 3.4 CFM displacement, 60 gallon tank with operating pressure up to 150 PSI, safety valve, outlet valve, and gauges, 3 wire power cord with 3 prong parallel grounding type plug. Compressor to be shipped with all wiring, piping, control equipment, and ready to operate. Worthington No. 1-1/2 T-1 or equal.	1	375.00
*Drill	Portable, electric 115 volt, ball bearings, 1/4" capacity, piston grip type, complete with switch and 3 wire power cord and 3 prong parallel grounding type plug. Drill to be delivered assembled and ready for use. Balck and Decker No. 345 or equal.	1	34.50
*Drill	Portable, electric 115 volt, heavy duty end handle drill, ball and needle bearings, 3/8" capacity, complete with switch and 3 wire power cord and 3 prong parallel grounding type plug, Black and Decker No. 706.	1	67.00
*Drill Press	15" variable speed, floor model, standard tilting table, 1/2" key chuck, 3/4 h.p., single-phase, 1750 RPM, 115/230 volt motor with push button switch and magnetic starter, spindle speeds 300-3100 RPM, complete with belt, motor pulley belt and pulley guards, 3 wire power cord with 3 prong parallel grounding type plug. Mortising attachment, with 1/4", 5/16", 3/8", and 1/2" mortising chisels and bits, and 1-Quick Set Vise, 2-1/2" x 1-7/16". Drill press to be delivered set-up and ready for use. Delta No. 15-310 or equal.	1	388.95

*Essential to agricultural mechanics program.

POWER TOOLS AND EQUIPMENT (CONT'D)

Item	Description	Number Needed	List Price
*Grinder	7" pedistal type, 1/2 h.p., 115/230 volt, 3450 RPM totally enclosed motor with on-off toggle switch, complete with water pot, twin-lite safety shields with bulbs, wheel guards, tool rests, two grinding wheels, 1-wire wheel and 1-buffing wheel and 3 wire power cord with 3 prong parallel grounding type plug. Grinder to be delivered set-up and ready to use. Delta No. 23-221 or equal.	1	189.40
*Grinder	7" bench-type, 1/2 h.p., 115/230 volt, 3450 RPM totally enclosed motor with on-off toggle switch, complete with water pot, twin-lite safety shields with bulbs, wheel guards, tool rests, two grinding wheels, (1"), 1 wire wheel and 1 buffing wheel and 3 wire power cord with 3 prong parallel grounding type plug. Grinder to be delivered set-up and ready to use. Delta No. 23-201 or equal.	1	151.40
Hacksaw	Power, dry-cut, 6-3/4" x 6-3/4" capacity, 1/2 h.p., 1750 RPM, 115/230 volt, motor with on-off switch, automatic-stop, four-speed, 12"-14" blade, variable pressure-feed control, with pressure relief on reverse stroke and automatic lift, and 3 wire power cord with 3 prong parallel grounding type plug. Hacksaw to be delivered set-up and ready for use. Keller 3-B or equal.		285.00
	Blades, power machine, Milford.		1.90 ea.
Hoist	Chain, 1-ton capacity, Budgit No. 903220 or equal.	1	50.00
	"A" frame, portable, complete with castors and trolley, Budgit No. 903154 or equal.	1	274.00
*Jointer	8" long bed, 2-way tilting fence, both tables raise or lower on inclined dove-tailed ways with adjustable gibs, bed at least 5-1/2 feet long, cast-iron stand to fully enclose motor, belts, dust chute and pulleys, 3-knife cutterhead, 1 h.p., 115/230 volt 60-cycle, 1725 RPM motor, and 3 wire power cord with 3 prong parallel grounding type plug. Jointer to be shipped complete and ready for operation. Delta No. 37-331 or equal.	1	511.75

POWER TOOLS AND EQUIPMENT (CONT'D)

Item	Description	Number Needed	List Price
Mixer	Concrete, 4-1/2 cu. ft. capacity, 2-1/2 cu. ft. batch, complete with 1/3 h.p., 115/230 volt motor with on-off switch, and 3 wire power cord with 3 prong parallel grounding type plug. Sears No. 64A 536 N or equal.		110.00
Planer	13" x 5", 2 h.p., capacitor start, 115/230 volt, 60 cycle, single-phase, 1725 RPM motor with magnetic starter complete with motor pulley, V-belt, cover plate and 3 wire power cord with 3 prong parallel grounding type plug, floor model complete with base and equipped with safety clutch, planer to be shipped complete and ready for operation. Delta No. 22-121 or equal.		788.25
Press	Hydraulic, 25-ton capacity, complete with table plates, V-blocks, pressure gauge and self-locking table hoist. Dake No. 25H or equal.		450.00
Sander	Electric, portable, 3" x 21" belt, spur-gear drive, ball and needle bearings, complete with 3 wire power cord with 3 prong parallel grounding type plug. Porter Cable No. 153 or equal.		85.00
*Saw	Band, 14" metal-wood cutting, 8 cutting speeds, 40-3000 RPM, guide blocks and back-up bearings to be independently adjustable for safety and accuracy, direct-reading tensioning scale, table machined for rip fence guide rails, 1/2 h.p., 115/230 volt, single-phase motor, switch, 3 wire power cord with 3 prong parallel grounding type plug, totally enclosed cast-iron stand, guard for V-belt, matched set of V-belts, fence attachment, sliding gauge, and 2-1/4", 2-3/8", and 2-1/2" wood cutting blades, 2-1/4", 2-3/8", 2-1/2" skip tooth blades for soft metals, 2-1/2", 14-tooth metal cutting blades. Delta No. 28-380 or equal.	1	461.45
	Blade, Butt Welder, 115-volt, 60-cycle, single-phase, 1/2" capacity, complete with built-in grinder with guard, carrying handle, brackets for bench mounting and 3 wire power cord with 3 prong parallel grounding type plug. Delta No. 28-463 or equal.		245.00
	Chain, 7 h.p., McCollough or equal.		225.00

POWER TOOLS AND EQUIPMENT (CONT'D)

Item	Description	Number Needed	List Price
*Saw (Cont'd)	Electric, portable, 7-1/4", 115-volt, single-phase motor, complete with guard, electric brake, ball and needle bearings, kit with rip fence, and steel carrying case, switch and 3 wire power cord with 3 prong parallel grounding type plug. Black and Decker, No. 997 K or equal.	1	108.00
*	Tilting Arbor Table Saw, 10", 1-1/2 h.p., 115/230 volt, single-phase, 3450 RPM capacitor motor with on-off switch, 3 wire power cord with 3 prong parallel grounding type plug, jet-lock rip fence, miter gauge, front graduated guide bar, rear guide bar, table insert, motor pulley, 3-matched V-belts, stop rods for miter gauge, motor cover with screws, "Uniguard" safety shield with disappearing splitter, 2-10" combination blades, 1-10" rip blade, 1-10" crosscut blade and 1-Dado head set. Delta No. 34-450 or equal.	1	670.75
*	Radial arm 12" -14", double overarm, construction with 360° track rotation, controls to be located in front of saw, 3 h.p., 115/230 volt, single-phase, 3450 RPM, totally enclosed motor with magnetic starter, 2-12" combination blades, 1-12" rip blade, 1-12" crosscut blade, complete with blade guard, 3 wire power cord, with 3 prong parallel grounding type plug. Machines to be delivered set-up and ready to use. Delta No. 33-640 or equal.		775.55
*	Sabre (Portable Jig Saw) adjustable tilting shoe with quick-clamp lever for bevel cutting to 45°, combination rip fence and circle guide, roller and needle bearings, 5/8" stroke, complete with switch, 3 wire power cord, with 3 prong parallel grounding type plug, 2 fine tooth metal cutting blades, 2-medium tooth cutting blades, 2 coarse tooth wood cutting blades. Black and Decker No. 41 or equal.	1	53.67
*Sprayer	Paint, suction-feed, complete with spray gun, 2 one-quart metal cups, 1 quick detachable stem for spray gun, 1 25-foot air hose with quick detachable connector on one end and standard connector on other end, 1 air transformer with gauge. Devilbiss No. P-MBC-510-30EX or equal.		143.75

POWER TOOLS AND EQUIPMENT (CONT'D)

Item	Description	Number Needed	List Price
Truck	Hand, 2-wheel, semi-pneumatic tires, Model 46K, American or equal.		38.50
*Welder	180 amp., electric arc, transformer complete with accessories, power cable, receptacle, leads with ground and electrode holder and wheels. Lincoln No. A C-180-S or equal. (1 machine for each 4 students)	3	120.00
*	250 amps., A.C./D.C., electric arc, transformer rectifier type, continuous dial type control complete with on-off switch, polarity switch, accessories, power cable receptacle, leads with ground clamp electrode holder and wheels.	1	362.00
	Brushes, Weldor's. Osborn No. 1807.	6	2.00
*	Carbon Arc torch for arc welding machine. Lincoln or equal.	1	10.50
	Chipping hammers, brush combination cleaning tool. Marquette No. 2077.	4	3.50
	Screen, Demonstration, plastic 20" x 50", Lincoln WC-37.	2	5.00
	Gloves, leather, reversible design. Single No. 1123, or equal.	4	3.50
*	Helmet, fiberglass, curved with #10 minimum - #12 maximum lens and flip-up lens holder. Marquette No. SE91-0-1 or equal.	6	13.50
*	Oxy-Acetylene outfit, complete with oxygen and acetylene regulators, 25 foot hose, torch handle, #1 - #7 welding tips, cutting assembly; goggles, tip cleaners, torch lighter, wrench and box, (capacity of cut 1/8" to 5/8"). Marquette No. GW1-04-4B or equal.	2	147.40
*	Oxy-Acetylene outfit as above, less oxygen and acetylene regulators and cutting attachment. Marquette.	2	46.40
*	"Y" connector for oxy-acetylene outfit for connecting 2 torches to 1 set of regulators: Oxygen - Marquette No. GW8-4-1	2	8.50
	Acetylene- Marquette No. GW8-4-2	2	8.50

POWER TOOLS AND EQUIPMENT (CONT'D)

Item	Description	Number Needed	List Price
Welder (Cont'd)	Acetylene Air torch kit. Turner No. T861-LP99-2.	1	9.98
	Cylinder truck, rubber tires, Airco No. 815-2616.	2	39.50
*	Goggles O-A Welders, adjustable shade, #5 lens. Quick lift type. Marquette No. SE92-O-3 or equal.	6	5.95

FIELD EQUIPMENT

Field equipment for departments of vocational agriculture will vary over the state. In all likelihood, no two departments will have the same requirements. With this in mind, considering what will be suitable for providing sound basic instruction, we have arbitrarily selected a 30 horsepower, 2-bottom plow tractor upon which to base our figuring and have selected equipment that could be used on this size tractor. Since tractor prices will vary greatly from locality to locality and since the price depends greatly upon the accessories ordered with the tractor, we have based the price upon the following general formula: (1) Gasoline tractors @ $90.00 per drawbar horsepower, (2) L.P. Gas tractors @ $95.00 per drawbar horsepower, and (3) Diesel tractors @ $100.00 per drawbar horsepower.

FIELD EQUIPMENT

Tractor	30 drawbar horsepower, 2-bottom plow, 4 or more forward speed ranges, adjustable front axle, rear treads adjustable from 48" to 76", electric starter and lights, live power take off land lever or foot pedal controlled with 2 speeds, 546 and 1000 R.P.M. 3-point hitch hydraulically controlled and equipped with operation hour meter. (Based on above formula for a gasoline operated tractor)	$2,700.00
Blade	6' rear mounted, 3-point hitch with adjustable pitch and blade angle and reversible for back-fill operations.	125.00
Cultivator	2-4 row ridged shank, with 11 shanks sweeps and rolling coulters.	270.00
Fertilizer Spreader	8 ft. pull type, ground driven (seeder attachments optional), 14" wheels for pneumatic tires.	245.00
Grain Drill	Pull type, 13 drill spouts, 7" spacing, 14" wheels for pneumatic tires, ground driven.	1,085.00
Harrow	Rear mounted, 3-point hitch 18-20" cut out disc, 9" spacing in front, 7-1/2 spacing in rear, quick angle change and equipped with triple seal permanent lubricated ball bearings.	400.00
Hay Baler	Pull type, PTO driven, 14" wheels with pneymatic tires, twin tie, slip clutch protection.	2,000.00
Mower	Rear mounted, 3-point hitch, 7' cutter bar, hydraulic controlled, PTO driven.	568.00
Planter	Rear mounted, 3-point hitch, 2 row, corn, peanuts, cotton, etc., with fertilizer distributor.	375.00
Plow	Rear mounted, 3-point hitch, 2 bottom 16" moldboard with rolling coulters and spring trip shanks.	325.00
Rake	Rear mounted, 3-point hitch, side delivery, 10' raking width, 5 bar self cleaning, and equipped with adjustable castor gauge wheels.	555.00
Rotary Cultivator	Rear mounted, 3-point hitch, 2 row to cultivate 32" to 36" rows, PTO driven, gear box mounted on top and equipped with gauge wheels and fenders.	695.00

FIELD EQUIPMENT (CONT'D)

Rotary Cutter	Rear mounted, 3-point hitch, PTO driven, 5 ft. cutters with slip clutch or sheer pin and tail wheel.	$ 325.00
Scoops	Rear mounted, 3-point hitch, reversible bucket, heaped capacity 10 cu. ft.	116.00
Seeder	Rear mounted, 3-point hitch, Cyclone type, capacity 1 bushel, for all type seeds.	50.50
Sprayer	Kit, rear mounted, PTO driven, complete with pump, hoses, and fittings, nozzles, gauges, pressure relief valve, control manifold and suction strainer. Capacity up to 305 lbs. pressure.	90.00
Wagon	4-wheel, 5th wheel type, 9000 lb. capacity with 14" pneumatic tires.	200.00

OTHER FIELD EQUIPMENT

Cattle Squeeze	Loading chute, and trimming stock, portable, Hildebrand or equal.	465.00
Cultivator	Push type, 24" wheel, complete with 5 tooth weeder, turning hill plow, reversible shovel and wrench.	9.39
Rotary Tiller	Walking type, 3 h.p. engine, forward and reverse speeds and 17" minimum tilling width.	125.00
Sprayer	Garden, 15 gallon capacity complete with 2 h.p. gas engine, hose and nozzle, pressure up to 150 PSI.	132.00

OFFICE AND CLASSROOM EQUIPMENT

Item	Description
Office Equipment	Adding Machine 10-key Remington
	Chair, swivel
	Chair, straight
	Desk
	2 File Cabinets, legal-size, per teacher
	1 File Cabinet, letter-size, per teacher
	Typewriter
	Bookcase
Classroom Equipment	Bulletin Board, 36" x 72"
	Cabinets, storage, 36" x 18" x 78"
	Chairs
	Desk
	Files, bulletin, complete with center divider and pressboard guider for bulletins
	Magazine Rack
	Notebook Racks
	Tables, student

SHOP EQUIPMENT

Item	Description
Benches	Wood, 30" x 72" x 33" high (may be constructed in shop) sizes vary Hallowell 600-R-630-33 Metal, 29" x 72" x 33 (may be constructed in shop) sizes vary, Hallowell 600-X-629-33
Blackboard	Portable and reversible, 4' x 6'
Bleachers	3-tiered, portable type
Cabinets	Storage, metal, 36" x 21" x 78"
Tables	Arc welding, with see through shield, 36" x 36" Paxon #AW3 2 Oxy-acetylene, with fire brick top 2 Oxy-acetylene, with cutting top

VISUAL AIDS

Item	Number	Description	Cost
Easel	1	Folding - all metal adjustable, 6 feet in height, sufficient to hold material up to 3' x 5'	$33.00
Filmstrip-Slide Projector	1	For 2" x 2" frames and film strips; 750 watts	97.50
Motion picture Projector	1	16 MM sound; 750 watts	469.00
Overhead Projector	1	1000 watts, with forced draft centrifugal blower, 115 volts, A.C., with minimum of 4" lens and with roll attachment	255.00
Screen	1	Daylight - 50" x 50" on tripod	37.50
Tape Recorder	1	1/4" tape, 4 track, capacity 7" reel, portable, self contained amplifier, 2 reg. response 50-15,000 CPS, capstan drive, 7-1/2, 3-3/4, and 1-7/8 speeds, digital index counter complete with microphone, cords, extra reel, and level record indicator	175.00

CONSUMABLE MATERIALS AND SUPPLIES

Due to the varied nature and scope of instruction in vocational agriculture and the many different kinds and types of materials available, it is difficult to prepare a specific list of essential items suitable for all purposes. Some items create storage problems is purchased in quantity. For such items it is suggested that they be added as needed. However, in most cases, the quantities of consumable supplies and materials needed for one school year should be obtained in the summer before the opening of school.

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Acetylene		X	X	X						
Alcohol						X	X			
Bolts		X	X	X						
Boxes, Electrical		X								
Brake Fluid			X							
Brazing Rod, Oxy-Acetylene				X						
Brushes		X	X	X						
Carbons (Arc)				X						
Caulking Compound										
Cement				X						
Chalk		X		X						
Cleaning Agents		X	X	X						
Conduit, Electrical		X								
Conduit Fittings		X								
Copper Wire		X								
Crayons, Marking				X		X				
Detergent			X	X	X	X	X			
Emery Cloth			X	X						
Electrical Wire		X								
Electrodes, Arc Welding				X						
Emery Wheels		X	X	X						
Entrance Cable		X								
Fasteners, Corrugated				X						
Fence Posts				X						
Fertilizers							X			
Files, and Rasps		X	X	X						
Flux, Soldering		X	X	X						
Flux, Welding				X						
Fungicides							X			

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Gasket Material			X							
Greases		X	X	X						
Glue				X						
Ground Clamps		X								
Gravel				X						
Gasoline			X							
Herbicides							X			
Hinges				X						
Hormone Solution							X			
Insecticides						X	X			
Kerosene			X				X			
Lag Screws				X						
Lead				X						
Lenses, 3 Hand				X		X	X			
Lime				X						
Chalk Line		X	X	X						
Lumber				X						
Lye				X						
Medicine, Animal						X				
Metals				X						
Moth Flakes										
Nails				X						
Nuts				X						
Oils, Automotive		X	X	X						
Oxygen				X						
Paints		X	X	X						
Pipe Fittings				X						
Pipe, Iron				X	X		X			
Pipe, Plastic				X	X		X			
Pipe Straps				X						
Plant Starter							X			
Rags, Wiping		X	X	X						
Rivets										

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Roof Covering				X						
Rope				X		X				
Receptacles, Electrical		X								
Refills, Propane Torch		X		X						
Refills, Soil Test Kits					X					
Romex		X								
Sand				X						
Steel Wool		X	X	X						
Sandpaper		X	X	X						
Screws				X						
Serum, Animal						X				
Stains				X						
Shellac				X						
Soap, Hand			X	X	X	X				
Soap, Mechanics			X	X						
Solders		X	X	X						
Solderless Connectors		X								
Staples, Fence				X						
Staples, Romex		X								
String					X		X			
Switches s.p., 3-Way, & 4-Way		X								
Tubing Material			X	X						
Thinners, Paint		X	X	X						
Tape, Electrical		X								
Tape, Masking			X	X						
Tape, Scotch					X	X	X			
Tape, Double Stick							X			
Soapstone, Marking			X	X						
Varnish				X						
Vinegar				X						

TOOLS AND EQUIPMENT

Item	Description	Elec Power & Proc	Farm Power & Mach	Ag Const, Bldgs & Maint	Soil Sci & Wtr Mgt	Animal Science	Plant Sci & Forestry	List Price	Total	Notes
Washers, Flat			X	X						
Washers, Lock			X							
Washers, Hose				X			X			
Welding Rod, Oxy-Acy				X						
Wire, Fence				X						
Wire, Farbed				X						
Wire, Plant Tying							X			

VT 000 929
Klaurens, Mary, And Others
Careers in Distributive Education.

Minnesota Univ., Minneapolis. Dept. of Distributive Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 64 28p.

*DISTRIBUTIVE EDUCATION; *INSTRUCTOR COORDINATORS; *EMPLOYMENT OPPORTUNITIES; *TEACHER ROLE; TEACHER QUALIFICATIONS; PROGRAM DESCRIPTIONS; *OCCUPATIONAL INFORMATION

Information concerning the nature of various teaching positions in distributive education is presented. The topics include definition of distributive education, a history of distributive education, a case study of a distributive education coordinator, roles of the teacher-coordinator, requirements of education and training, employment opportunities, and professional organizations. (SL)

VT 000 929

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26 pgs 929

AREERS

IN

DISTRIBUTIVE EDUCATION

TEACHER

TEACHER-COORDINATOR

ADULT EDUCATION TEACHER

COLLEGE INSTRUCTOR

TEACHER EDUCATOR

1964

VTCCC929

Distributive Education is a vocational program providing instruction in marketing and merchandising for those engaged in retailing, wholesaling and service businesses. It offers instruction for high school and post-high school students and adults employed in distributive occupations.

WHAT DOES A CAREER IN DISTRIBUTIVE EDUCATION OFFER YOU?

--Challenging work in an expanding field of education.

--A variety of opportunities, both in education and in business.

--An opportunity to serve young people, the community and the Nation.

--Many opportunities for leadership and responsibility.

--The respect of the community.

--A good income and financial security.

--An opportunity for advancement.

--Many personal satisfactions.

"Careers in Distributive Education," was prepared by Mary Klaurens, Teacher-Coordinator of Distributive Education at Patrick Henry High School, Minneapolis, Minnesota; Charles Swanum, Counselor at Mounds View High School, New Brighton, Minnesota; John Hinsverk, Distributive Education Coordinator at the Vocational and Adult School, Eau Claire, Wisconsin; under the direction of Warren G. Meyer, Associate Professor of Education at the University of Minnesota, and Howard C. Rosenwinkel, State Supervisor of Distributive Education, Minnesota Department of Education. This project was financed with re-allocated George-Barden Funds through the Vocational Division of the Minnesota State Department of Education, and funds contributed by Red Owl Stores, Inc.

Distributive Education
College of Education, University of Minnesota
Minneapolis, Minnesota 55455

A YOUNG MAN LAUNCHES HIS CAREER

Harold Hansen's high school teachers spoke of him as a "live wire." He had better than average ability and might have earned better grades if he had concentrated more on his school work. He liked school because he liked being with his friends, but he wasn't particularly impressed with what he had to study. He also liked working on the yearbook and his part-time job selling for a local retail store. He enjoyed selling, but he was not sure that he wanted to spend his life at it. He knew that he wanted to work at something that had to do with people.

Harold tended to see the practical side of things. He didn't rebel at theory, but on the other hand he did not apply himself well unless he saw the practical value of an assignment. Perhaps this was why he liked business--everything seemed practical there. However, the only business subject he had taken was typewriting, and he didn't "set the world on fire" in that class either. The school had no distributive education program as yet, so he had no exposure to the field of distributive education.

During his senior year, when the time came to make decisions concerning college registration, Harold was interested in furtherir his education. He was undecided as to where he wanted to go or what he wanted to study. After several meetings with the guidance counselor, Harold decided to investigate a career in distributive education which seemed to call for the combination of traits and interests he possessed. In essence, here is what Harold said: "As I see it, my test scores indicate that I have the scholastic ability necessary to succeed in college. I rank in the upper half of my class, though my grades could have been better. I have strong social service interests and rank high in persuasion on personality tests. I believe I am intellectually curious and that I do apply myself when I see the practical value of an assignment. Of all the careers mentioned as possible vocational choices, I am especially interested in learning more about distributive education."

Harold read all the literature he could find which dealt with

the work of a distributive education teacher-coordinator. As a result, he decided to enter the distributive education teacher-preparation program at a large university where he combined education and business courses.

Because he did not have much financial assistance, he earned part of his expenses in a distributive occupation which also helped him prepare for his future work as a teacher-coordinator in a city of 8,000. He had charge of both the high school cooperative part-time and the adult education programs. Harold enjoyed his daily contacts with business and received great satisfaction out of the successes of his students. After three successful years he transferred to a large suburban school. Upon completing his Master's degree he took a position as supervisor of distributive education in a junior college.

Harold is now 26 years old. He is very happy with his work and earns a good salary. His business contacts have brought him the pleasure of a good social life. He is a respected member of the community because he has helped people to become successful in their careers and because he has contributed his knowledge and personal skills to the business community. Occasionally he does some training consultant work which increases his prestige and supplements his regular income. If he wishes, he can continue in his present occupation indefinitely. Then too, he can enter the field of distribution, or with further training, become an educational administrator or college professor. Harold's background of education and experience prepared him for several career goals. He is not on a one-way street . . . . . .

The purpose of this brief story was to give you some idea of the kind of person who usually becomes a successful teacher-coordinator and to point out what can be expected by way of initial employment in distributive education. The central figure of this story, who is a composite of many people in the field, could just as well have been a young lady. Although the majority of teacher-coordinators are men, there are many women who succeed in this career also. We shall drop Harold Hansen at this point and, after defining distribution education and giving you a brief history of it, we shall look at what a teacher-coordinator does in some detail.

WHAT IS DISTRIBUTIVE EDUCATION?

A teacher-coordinator visits parents to discuss the distributive education program.

Distributive education is a comparatively new field of vocational education which provides instruction for youth and adults who follow careers in distribution. "But what is distribution?" you may ask. Simply stated, distribution includes marketing, merchandising, and management. It deals with the distribution of merchandise and services.

Distribution is a very broad field which includes professional buying, selling, storing, transporting, risk-bearing and financing. In fact, it includes all of the activities that take place in the market from the time a product is made until it is purchased by the consumer.

Distributive occupations (those for which Harold Hansen's students prepared) are found in a variety of business establishments including retail stores, wholesale distributors, consumer service businesses and business service establishments.

Now let's look briefly at the educational program which helps people succeed in distributive occupations. Distributive education is offered at several grade levels, usually extending from senior high school to post-college instruction. The beginning level is called preparatory or pre-employment education. In high school, this is usually followed by cooperative part-time instruction in which students combine practical business experience with courses in school.

After high school a distributive education graduate may go directly into full-time employment in a distributive occupation, or he or she may prepare for a supervisory position by enrolling in a post-high school distributive education program in a junior college or area technical-vocational school.

Those who wish to become marketing and merchandising executives in large firms may continue their education in collegiate schools of business or attend adult distributive education classes. Thus, you see that distributive education is truly a broad field preparing for careers in a wide variety of positions in many different kinds of business firms.

BRIEF HISTORY OF DISTRIBUTIVE EDUCATION

The history of distributive education reads like a classic success story. From a humble beginning it has risen to a position of recognized importance in the field of training workers for employment in distributive occupations. Distributive education, as we know it today, got its start in Boston in 1905 when Mrs. Lucinda Prince, in cooperation with the Women's Educational and Industrial Union organized the first school which provided training for persons interested in retail store work. By 1906 a number of stores had agreed to participate in this training program, allowing students to acquire practical experience by working in their stores on a part-time basis while attending classes in retailing.

The early success of this program resulted in the development of similar programs in other cities. In 1910, Providence, Rhode Island, organized a school for retail store workers similar to the school in Boston. By 1912 the first classes for teaching retail store selling in high school had been organized to fulfill the need for instructors capable of teaching the store training courses. Program development was slow in smaller communities, though the need for such training was great. Recognition by Congress of the importance of training for the distributive occupations led to inclusion of Federal support for distributive education in the Smith-Hughes Act of 1917 and a series of other Federal vocational education acts which provided Federal funds to financially support distributive education in public high schools, junior colleges and adult education classes.

Today, there are some 1600 distributive education coordinators of the cooperative part-time training programs in the country. Under their direction and leadership approximately 50,000 high school students are trained annually to fill the ever-increasing number of job openings in distributive occupations. In addition, over 4000 adult education instructors teach more than a quarter-million evening school students marketing and merchandising courses of various kinds--buying, credit, display, insurance, real estate, advertising, salesmanship, retailing, wholesaleing, and dozens of others. Distributive education includes all instruction in the distribution of goods and services--all the way from the functions of industrial giant corporations to those of the corner grocer.

WHAT IS THE JOB OF A TEACHER-COORDINATOR ?

While there are many occupations in the field of distributive education, that of the teacher-coordinator provides the basic experience for launching a successful career. For most distributive educators it is the entry occupation, and for many it becomes a lifetime work because they enjoy their association with young people and with the businessmen in the community.

The work of the distributive education teacher-coordinator is varied and interesting. His most important job is that of train-

ing students for careers in distribution. This includes instruction in retailing, wholesaleing, buying, selling, advertising, market research, display, and many other activities performed in moving goods and services from the producer to the ultimate consumer. In addition to his classroom teaching the coordinator makes direct personal contact with the businessmen of his community who provide training and part-time employment for his students. A teacher coordinator also serves as sponsor for the local chapter of the Distributive Education Clubs of America (DECA), a nation-wide organization of future marketing and merchandising employees, similar to that of the Future Farmers of America and the Future Homemakers of America.

In addition many teacher-coordinators assume the responsibility for the administration of the adult distributive education program, and some of them teach evening school courses when they have the time and the necessary background. Of course, teacher-coordinators take an active part in community affairs, particularly when the activities have a bearing on their work. Thus, they usually belong to a service club, such as Kiwanis, Rotary, Lions, Junior Chamber of Commerce, or other similar organizations. We shall look into the teacher-coordinator's job in more detail to see what each of the activities mentioned really means.

--AS A CLASSROOM TEACHER

Most distributive education teachers enjoy their classroom experiences, partly because of the interesting activities that take place and the practical subject matter covered, but mostly because of the enthusiasm of the students they teach. The students have chosen the course to prepare for an occupation and career. This has a strong influence on the learner's attitude toward the content material. Thus, if the teacher uses good judgment in selection of content and methods, student interest runs high. Also, students electing the distributive education program usually are somewhat of the outgoing personality type, and it is easy to stimulate discussion or use other learning activities that involve student participation. Usually the class is fun for pupils and teacher alike.

There are really two kinds of high school distributive education classes-- (1) pre-employment classes that prepare a student to enter a distributive occupation after completing the course, and (2) cooperative part-time classes for students who are also receiving on-the-job training and experience in a local business firm as a part of their school program. Pre-employment distributive education classes in salesmanship or retailing are usually open to all who wish to enroll to gain some knowledge of marketing and merchandising in preparation to enter the cooperative part-time program, to acquire the salesmanship skills that are vital to success in many career fields, or to qualify for a beginning job in distribution.

Cooperative part-time students are those who spend a part of each school day on a real job putting into practice what they learn in the classroom. They have been selected for this program because they are interested in a career in distribution and can meet the qualfifcations specified by the employers in the business community. With the help of other teachers and the guidance counselor, the teacher-coordinator selects students for the cooperative part-time program who will benefit from the training and who are employable. The employer, of course, has the final word in accepting the student for on-the-job training in his place of business.

In the classroom the distributive education teacher teaches his students salesmanship, retailing, merchandising, display, sales promotion, finance and control, personnel management and a host of other subjects relating to their career objectives in the field of distribution. The classroom instruction is correlated with the work experiences of the students. Some skills and concepts are common to the needs of all workers and this instruction is presented in group activities and class discussions. The students are helped to develop desirable business traits and valuable insight to business problems through sharing their on-the-job experiences.

The teacher-coordinator of distributive education is concerned with helping the student develop the ability to communicate effectively, to apply principles of art and design to merchandising, to perform clerical duties efficiently, to under-

stand principles of good marketing and merchandising, to get along well with employers and co-workers, to manage personal affairs efficiently, and to plan for further development and attainment of a satisfying career. The concepts of economics, mathematics, sociology, psychology, English, art, science and other studies are applied to the effective performance of distributive occupations.

Time is allotted for individual conferences and training sessions with individual students. Students receive supervision and guidance in the study of their specific jobs and in accordance with their individual career plans. The teacher-coordinator maintains a library of current instructional materials and prepares individual lesson assignments that are related to the needs of each student.

--AS A COORDINATOR IN THE BUSINESS COMMUNITY

A teacher-coordinator works closely with employers to plan a program of training for his students.

The teacher-coordinator works in the business community daily at a variety of interesting and challenging tasks. First, he must carefully select the business firms for which his co-operative part-time students, called student-trainees, will work. Only businesses that have high standards and can meet the rigorous requirements of his criteria are selected. He works closely with the employer in developing a plan of experiences for the student-trainee which will give the student a good background for a variety of distributive occupations. He works with the training sponsor (the student-trainees on-the-job teacher) to follow the progress of the student on the job, to relate job training to school instruction, and to evaluate the student's job performance. Through his calls on employers he finds out many interesting new things that he brings back to the classroom. He keeps informed on current business practices and business conditions which he shares with his student-trainee's as a part of their classroom instruction.

Most coordinators get a great deal of help and satisfaction from working with an advisory committee made up of representatives of management and employees from local business firms and representatives from the school. The committee counsels the teacher-coordinator on problems that he submits to them and the committee lends support when needed.

The coordinator often makes visits to the homes of the students to explain the program to parents and to better understand the needs and personality of the student. Occasionally the parents are called upon to help work out problems of adjustment to school or work.

--AS A CLUB SPONSOR

A very popular and valuable educational activity now being carried on in cooperative part-time programs is the Distributive Education Club. Usually the local club is affiliated with a state-wide organization of Distributive Education Clubs and the Distributive Education Clubs of America, a national organization, called DECA. Through participation in state and national conferences, students are given the opportunity to demonstrate

leadership and high standards of performance in distributive skills.

The teacher-coordinator's main responsibility in the club activity is to provide the initial impetus for getting it started, after which the operation is primarily the responsibility of the club members and their elected officers. Most coordinators are enthusiastic about the club as a learning activity. They feel that through the club they learn to know their students better and often discover talents that otherwise might have gone unnoticed. The club program affords the student an opportunity to plan and participate in social activities, civic projects, student-planned learning activities, and group membership. These experiences develop leadership and stimulate a professional attitude toward work. Thus, it helps the student to prepare for business responsibilities. Even though clubs sometimes entail extra work and responsibility professionally minded teachers feel that the club makes an important contribution to the the development of workers and citizens.

--AS A CITIZEN OF THE COMMUNITY

The teacher-coordinator plays an active role in community life. Through many out-of-school contacts with businessmen, parents, clubs and other groups, he has an opportunity to exercise his leadership abilities. Participating in civic affairs serves as a good public relations medium for the distributive education program.

The coordinator serves the general public by helping merchants provide better service to customers, lowering selling costs, and general upgrading of marketing and merchandising practices.

The coordinator serves the school by effecting closer cooperation between the school and the community. The school administration enjoys more contacts with local businesses and

homes, and experiences fewer criticisms from those who want practical courses offered in the schools.

The coordinator serves parents by helping their children make an effective adjustment to the responsibilities of adult life and achieve economic independence.

The coordinator serves employers in the careful selection and training of future full-time employees, upgrading those adready employed, and in reducing costly personnel turnover. Employers gain the goodwill of the community through cooperation with the school in preparing youth for employment.

Many times the coordinator is called upon to speak before civic groups to explain the program or to report the successes of students who have received the training. Coordinators are consulted and asked to help in the solution of community unemployment problems. There are many opportunities for the coordinator to bring his training and experience to bear on community activities.

--AS AN ADULT EDUCATION COORDINATOR

In large cities responsibility for evening school classes rests with one or more specialists whose duties are confined to adult education in distribution. Suburban teacher-coordinators may or may not have charge of this work. However, in most communities outside the metropolitan areas one of the teacher-coordinators has the responsibility for the administration of the adult distributive education program. This may include the direction of the entire adult education program--general education classes as well as those in the various vocational fields.

The adult distributive education program must be carefully planned if it is to be effective. First, training needs must be identified and thoroughly analyzed to make certain that the instruction reaches the proper people and provides the right kind of content. Usually a good coordinator conducts an occupational survey of the community which furnishes him with authentic information pertaining to training needs. Fortunately, when im-

portant decisions are to be made he can consult with members of his advisory committee of local business personnel.

Among the more important decisions the person in charge of the adult program makes are the selection of courses and the selection of capable instructors, who are experts in the field. Since most evening school instructors are successful businessmen who may not have had formal training in teaching methods the adult education coordinator or director is responsible for acquainting them with modern teaching methods. Most teacher-coordinators enjoy their association with the adult program and benefit from the experience.

--AS AN ADULT INSTRUCTOR

Teaching an adult class is optional for most teacher-coordinators, however many of them teach adult classes for several good reasons. They enjoy the extra income, of course; but more important, they learn while they teach. Adult education is seldom teacher-dominated, textbook learning. Through the exchange of ideas, everyone, including the instructor, benefits; thus the teacher-coordinator enriches his knowledge of his field. They also enjoy the friendships that develop with businessmen and the prestige of leading an adult class. Students in well taught adult classes are usually very appreciative of their instructor's efforts.

The people enrolled in an adult class have joined it because they have a desire to learn. It is up to the instructor to keep their interest alive and to help them achieve their objectives. Thus a good adult instructor understands his students; he knows specifically what they expect to derive from the course, and he learns to know them as individuals including their needs, tastes, and desires. He realizes that if his students are not comfortable, happy, and conscious of their progress toward their goals they will not return to class. Adult education is a challenge, but a real source of satisfaction.

WHAT ARE THE PROFESSIONAL TRAINING REQUIREMENTS?

--YOUR HIGH SCHOOL CURRICULUM

The high school curriculum of the prospective distributive education teacher-coordinator is not restricted to specific courses. He will find that some courses may be more helpful than others, but many of these can also be taken in college. A student who has been a distributive education student in high school has an excellent background for understanding the coordinator's job. Typewriting and bookkeeping, or the economics courses, would be valuable to success in the college program. Courses in math and science are not required but are desirable. The study of a language is optional. Since entrance requirements vary at different colleges, the student should check carefully, the requirements of the college he plans to attend to be sure his high school curriculum will meet these requirements.

--YOUR COLLEGE PROGRAM

Training Institutions. The institutions for training distributive education teacher-coordinators are designated by the State Departments of Education. For instance, in Minnesota, the University of Minnesota is the only institution so designated at the present time, however, St. Cloud State College offers a program that prepares teachers to teach the distributive subjects. A student can enter the University of Minnesota College of Education as a freshman from a Minnesota High School if he is in the upper sixty percent of his graduating class, or he may choose to spend two years in the liberal arts college or a junior college and then transfer to the College of Education for the last two years.

Program The student takes at least 18 quarter-hours in technical distributive subjects, such as marketing, retailing, advertising, display, and salesmanship, in addition to the required courses in business administration and economics. The special professional education requirement is 12 quarter-hours in approved professional education courses. These requirements are subject to change from time to time and vary in different states. Preparation for teaching distributive subjects without coordination of a cooperative program, includes the same technical

courses but may vary in the professional courses taken.

Costs of Training. Educational costs for training as a distributive education coordinator may vary with the institution. but even then will likely be no more than the regular tuition plus incidental fees, as established by the institution for all students.

--YOUR BUSINESS EXPERIENCE

Most states require a minimum of two year's experience and employment in a distributive occupation. It is possible to meet this requirement while attending school through part-time work. The position held and the types of experience gained contribute to the qualifications for a teacher-coordinator position and the ability to relate classroom learning to the practices students encounter on the job. The most valuable business training is a position in which one receives training in the various functions of merchandising, such as selling, display, stockroom operation, unit control, pricing, etc., and one in which he has some exposure to the problems of management, buying, and store operation. In some cases provisional certificates are given when the teacher-coordinator applicant has less than the minimum requirement, on the condition that additional hours of approved occupational experience will be obtained within a given period.

EMPLOYMENT OPPORTUNITIES FOR DISTRIBUTIVE EDUCATION TEACHER-COORDINATORS

Now that you understand the nature of the teacher-coordinator's work and know something about professional training requirements you will be interested in the employment opportunities in the field--questions such as:

How does one enter the field?
What is the demand for teacher-coordinators?
What about stability of employment?
How much do teacher-coordinators earn?
What are the working conditions?

HOW DOES ONE ENTER THE FIELD?

Certification requirements. The teacher-coordinator must be a graduate of an accredited college or university with a degree in distributive education or must have completed a sequence of courses approved by the State Department of Education in the state where he wishes to teach. Then too, he must have had two (or more) years of work experience in distributive occupations, depending on the requirements of the particular state in which he is to be employed. Requirements vary from state to state but will fall into somewhat the same pattern.

Job placement. A qualified teacher-coordinator may find employment in a number of ways. He may register with the placement bureau of the college from which he graduates or with the State Department of Education which usually has an employment service for teachers. He may also learn of opportunities from people in the field of distributive education, such as the state supervisor or a college advisor. Some candidates make inquires directly to a school administration for which they would like to work. Most placements are made through the college placement bureaus.

WHAT IS THE DEMAND FOR TEACHER-COORDINATORS?

Educators are becoming increasingly dedicated to the principle that our schools must provide for the needs of all youth regardless of occupational objective. The general attitude seems to be that every youth has the right to try to become an expert in any field he chooses--no closed doors. Dr. James B. Conant, the renowned educator and scientist, said in his book, The American High School Today, that distributive education should be available in high schools where the community is willing to provide work experience for students. With this philosophy being voiced by leading educators, and the fact that distributive education is growing steadily, there are good reasons to believe that there is a promising future for qualified teacher-coordinators in the field.

Enrollments for the year ending June 30,1962 in Federally reimbursed distributive education cooperative part-time and adult classes were over 321,000 as compared to approximately 36,000 in 1938. During this 24-year period the cooperative part-time pro-

A teacher-coordinator counsels individual students in career planning and specific training needs.

gram has increased 1200 percent. The program did not "mushroom", but enjoyed a steady growth. There are about 2500 schools offering federally reimbursed distributive education courses with going programs in all of the fifty states. This steady growth in the numbers enrolled at the high school level and in other public schools offering distributive education courses, together with the increasing percentage of the gainfully employed in distributive occupations, indicates that there will be an increased demand for teacher-coordinators. In a United States Department of Labor publication, Manpower--Challenge of the 1960's, we are told that the number of people employed in distributive industries will increase more rapidly than the total number of people employed in all occupations for the next ten years.

In a recent survey on the needs for an expanded program in education for distribution, conducted by the National Association

of State Supervisors of Distributive Education, it was indicated that a major need was for personnel in all phases of distributive education. In the period between 1960 and 1970, the number of high school programs should be doubled—with an anticipated need for over 1000 more coordinators of high school cooperative distributive education programs. The number of post-high school programs are expected to increase 500% with a need for approximately 400 additional coordinators.

Thirty-two states have stressed the need for more qualified personnel. This includes state department staff, itinerant teachers, coordinators, and supervisors. The qualified teacher-coordinator of distributive education will have a wide choice of geographical location and opportunities for advancement in the field.

The "Vocational Education Act of 1963" provides for pre-employment classes in distributive education and will create an additional demand for teachers of distributive subjects, or pre-employment classes in addition to the cooperative part-time programs.

HOW MUCH DO TEACHER-COORDINATORS EARN?

The teacher-coordinator's salary is determined by the local school system for which he works. Normally he will be on a salary schedule set up by the local administration with adjustments made for additional time required by the program. Most schools provide an extra two weeks or month of employment for coordination activities that are necessary before school starts and after it has ended. Beginning salaries for distributive education teacher-coordinators in 1964, in the State of Minnesota, ranged from $5000 to $7400, without counting compensation for coordinating the evening school program or teaching adult classes. Annual salaries may vary with the amount of education, distributive occupations experience, and other factors, depending on the local school policy.

The following chart shows the average salary, the number of positions listed, and the number of graduates without experience

eligible for those positions for a recent five-year period, in the State of Minnesota. The chart also shows how average entrance salary for distributive education graduates compares with average entrance salary for other secondary education graduates.

ENTRANCE SALARIES
FIVE YEAR COMPARISON
Distributive Education Graduates and All Secondary Education Graduates
University of Minnesota

School Year	No. of D.E. Graduates	No. of D.E. Positions	D.E. Average Entrance Salary	Secondary Education Average Entrance Salary
1958-59	12	41	$4724	$4370
1959-60	5	31	4883	4565
1960-61	9	49	5210	4600
1961-62	7	70	5375	4932
1962-63	7	59	5860	5056
1963-64	9	*	6000	*

* At the time of this printing the total number of D.E. positions and the average entrance salary for all secondary education graduates had not been completed. It is important to note that all of the nine 1963 - 64 graduates had accepted positions by the middle of April, 1964.

Of course persons with Master's degrees and people with teaching experience were placed at much higher salaries. Career oriented educators should plan on earning a Master's degree within two to five years following graduation. The following figures indicate the range and average annual salary of a group of fifteen coordinators in the State of Minnesota for the 1962-1963 school year.

AVERAGE ANNUAL SALARIES FOR FIFTEEN COORDINATORS IN THE STATE OF MINNESOTA, 1962-1963

	0-5 years experience	6 years or more of experience	entire group	(Most of this group was employed for 42 weeks. The average number of years of experience for the entire group was 7.4 years.)
Average Salary	$7,599	$9,019	$8,309	
Salary Range	$5,145-9,946	$8,300-9,946	$5,145-9,946	

Many coordinators earn additional income for administration of the adult education program and teaching of adult classes.

WHAT ABOUT STABILITY OF EMPLOYMENT?

As the large elementary school population reaches high school, many shortages will exist in our educational system. A shortage of teacher-coordinators will likely exist for some time to come as a result of the population explosion and the expansion of distributive education into new schools both on the high school and the post-high school or junior college level. Coordinators have not been faced with lack of employment opportunities, and the increased awareness of the need for specialized preparation for entry into the job market by educators and businessmen makes the future look promising.

WHAT ARE THE WORKING CONDITIONS?

A D.E. classroom is equipped with a model-store unit where students practice the skills used in their jobs.

Most of the large "comprehensive" high schools built during the last decade have provided a special distributive education classroom designed for distributive education learning activities. Many schools have made sizeable investments installing model stores, display areas and other equipment necessary for teaching the distributive education courses. This equipment adds realism to the classroom learning experiences. Proper equipment makes the teacher-coordinator's job more productive, more interesting, and more satisfying, as he can more readily see the results of his efforts. The coordinator usually has an office adjoining the classroom where he counsels with students.

A teacher-coordinator has a wonderful opportunity to meet many people in the community because his coordination activities take him into the homes of his students and into the businesses in the community. The combination of part-time in the classroom and part-time in the business environment provides a variety of experiences and personal contacts. The outside calls on business firms and homes of students also afford the teacher-coordinator a certain amount of physical activity and the opportunity to be out-of-doors. He gets to know the community well and becomes informed on community activities and business conditions.

WHAT ARE THE PERSONAL SATISFACTIONS?

The occupational success and the accomplishments of the student-trainees is a major source of satisfaction in the teacher-coordinator's job. As a student-trainee becomes more efficient and skilled he will progress to positions of greater responsibility. It is rewarding to the teacher-coordinator to see his students develop skills, understandings, and attitudes that will contribute to successful living. By nature of the close association the coordinator has with his students, he gets to know them better than do most teachers. As a result, he becomes more involved with what they are doing both in and out of the classroom. Students are grateful for the training that has helped them realize success in their career field. Usually the teacher-coordinator is kept informed on the accomplishments of student-trainees long after they have completed the school distributive education program.

An effective teacher-coordinator contributes to the success of a business community. The results of good training of dis-

tributive workers are profitable business operation and satisfied customers. The coordinator often helps to set high standards for efficient distribution and thereby enjoys the high regard of busnessmen and citizens in the community.

OTHER FIELDS OF EMPLOYMENT OPEN TO DISTRIBUTIVE EDUCATION TEACHER-COORDINATORS

The high school distributive education coordinator can advance to many positions in the distributive education field. With the increasing number of junior colleges and technical-vocational schools offering distributive education programs and courses, there is a need for teachers and coordinators at the post-high school level. Universities and colleges employ teacher-educators and instructors to prepare future teacher-coordinators. For the person who likes to travel, there are field instructor opportunities, where a person moves from one location to another giving short courses in distributive subjects needed in different communities. With the exception of a few states, there are opportunities to advance to the position of State Supervisor of Distributive Education, and in some cases assistant supervisors are employed. Large cities employ supervisors or consultants to supervise a number of programs operating in the same trading area. A coordinator may also find opportunities with the U.S. Office of Education as a program specialist or research worker.

The training and experience of a distributive education teacher-coordinator qualifies him for a variety of other fields of employment, both in education and business. Some coordinators have chosen to go into school administration, having had valuable administrative expereince in the operation of the distributive education program. Counseling and guidance of individual student-trainees serves as an excellent background for a position in counseling and guidance. A number of coordinators have taken positions as public relations directors or business managers for the schools after having gained related experience as a coordinator.

The college preparation and training of a distributive education teacher-coordinator is much like the preparation for a career in business administration. In the business world, the distributive education teacher may find opportunities for which he qualifies in sales

management, personnel management and training, or store operation. Many coordinators have been offered excellent business career opportunities through their contacts with businesses and employers.

PROFESSIONAL ORGANIZATIONS

People in all fields of education participate in professional organizations which are established for the betterment of the teaching profession. The teacher-coordinator will likely be a member of several such organizations. On the local level, this might include a chapter of a state or national education association which includes educators from many fields. In larger cities there are professional organizations of business teachers and vocational teachers; and coordinators often are members of guidance organizations because of the coordinator's role in vocational guidance.

National professional organizations include the National Education Association, The American Vocational Association, The National Business Education Association, and The National Association of Distributive Education Teachers. These organizations also have state affiliated associations so that there are many opportunities for active participation and professional growth among members.

Professional organizations offer the teacher-coordinator an opportunity to participate in conferences and meetings that are related to his field. The various organizations sponsor speaker programs whereby members have many opportunities to gain new ideas and information from outstanding leaders in education and business. Members may take part in research projects and contribute articles to be published in the journals sponsored by these organizations. Through a professional organization a teacher-coordinator enjoys a close association with other members of the profession and gains many new ideas he can utilize in his work.

SUPPLEMENTARY INFORMATION

One of the best ways to learn more about a career field is to talk to people working in that field. Talk with a Distributive Education Coordinator. Write the State Supervisor of Distributive Education in the State Department of Education of any of the states, or contact the U.S. Office of Education, Occupations Branch, Washington 25, D.C. Many universities, particularly state universities, offer distributive education teacher-preparation programs, and are able to supply specific information about requirements and training in their respective institutions.

Some additional sources of information include:

PAMPHLETS

Education for Marketing. Sales and Marketing Executives In- 630 Third Avenue, New York 17, N.Y.

Facts You Should Know about Distributive Education. American Vocational Association, 1010 Vermont Ave., Washington 5, D.C.

The Importance of Education in Distribution. Office of Distribution, U.S. Department of Commerce, Washington 25,D. C.

Working Together. Education Department, National Association of Manufacturers, 2 East 48th Street, New York 17, N. Y.

A Career in the Distributive Occupations. Future Business Leaders of America, 1201 Sixteenth Street, N.W., Washington, D.C. 20036 (10¢)

BULLETINS

A Study of Curriculum Development in the High School Cooperative Program. Vocational Division Bulletin No. 281, Distributive Education Series No. 28.

Educational Values in Club Programs. Vocational Division Bulletin No. 294, Distributive Education Series No. 31.

Digest of Annual Reports of State Boards for Vocational Education.

Vocational Education in the Next Decade. (1961)

(All of the above mentioned bulletins are published by the U.S. Department of Health, Education, and Welfare, Office of Education, Washington 25, D.C.).

TRADE AND PROFESSIONAL JOURNALS

The American Vocational Journal
American Vocational Association, Inc.
1010 Vermont Avenue, N.W., Washington 5, D.C.

The Business Education Forum
The National Business Education Association
1201 Sixteenth Street, N.W., Washington 5, D.C.

The American Business Education Yearbook
New York University Bookstore
18 Washington Place, New York 3, N.Y.

The Distributor
Distributive Education Clubs of America, Inc.
1010 Vermont Avenue, Washington 5, D.C.

FILM

The Story of Distributive Education

Association Films, Inc. 347 Madison Ave., New York 17, N.Y.

VT 000 937

Guidelines for Conducting Follow-Up Studies of Vocational and Technical Education Students. Bulletin No. 2152.

Michigan State Dept. of Public Instruction, Lansing. Div. of Vocational Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 65 16p.

*GUIDELINES; *VOCATIONAL FOLLOWUP; QUESTIONNAIRES; *VOCATIONAL EDUCATION; TECHNICAL EDUCATION; *RESEARCH METHODOLOGY

This publication was prepared to provide guidelines for planning and carrying out follow-up studies of vocational and technical graduates. The guidelines cover (1) initiating, (2) supervising, (3) functions, (4) planning, (5) establishing purposes, (6) determining scope, (7) planning method, (8) preparing mailing list, (9) locating participants, (10) estimating cost, (11) setting time limits, (12) preparing forms, (13) gathering information, (14) tabulating data, (15) interpreting data, and (16) preparing the report of the follow-up study. The appendix contains a sample letter and questionnaire. (EM)

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GUIDELINES FOR CONDUCTING FOLLOW-UP STUDIES OF VOCATIONAL AND TECHNICAL EDUCATION STUDENTS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Bulletin No. 2152

Published by
Division of Vocational Education
Michigan Department of Education
Lansing, Michigan

1965

Alexander J. Kloster
State Superintendent

VT000937

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INTRODUCTION

The Vocational Education Act of 1963 opened up new horizons for vocational-technical education. Already many Michigan schools have developed new, expanded, or improved programs for preparing youth for employment in wage-earning occupations. It is important that these programs prepare youth for existing jobs and that schools use every available means for determining the location and extent of employment opportunities for young workers.

One of the commonly used methods of locating job opportunities for young workers is through follow-up studies of former students. These studies will indicate the kinds of jobs found by former students and their locations. This publication was prepared to provide guidelines for the planning and carrying out of such studies.

Schools having reimbursed preparatory or cooperative programs will be asked to provide the Division of Vocational Education with certain information relating to former students who were enrolled in these two types of programs. Each September suggested follow-up sample forms will be mailed to schools having preparatory and cooperative programs for obtaining the following information about last year's graduates and drop-outs:*

1. Course title
2. Total number of students who completed program requirements, male and female
3. Number not presently available for placement:
   a. Entered armed forces
   b. Continued full-time school
      (1) Unemployed
      (2) Employed part-time
4. Number employed and/or available for employment
5. Number employed full-time:
   a. In the occupation for which trained
   b. In a related occupation
   c. In a non-related occupation
6. Number employed part-time (and not in school)
7. Number unemployed (and not in school)
8. Number whose employment status is unknown
9. Number who left prior to normal completion time with marketable skills

The above information will be asked for on separate forms for all reimbursed programs of vocational education and will be compiled by the State office staff to be forwarded to the U. S. Office of Education.

Alexander J. Kloster
State Superintendent

*See sample follow-up study form in Appendix.

GUIDELINES FOR CONDUCTING FOLLOW-UP STUDIES OF FORMER VOCATIONAL AND TECHNICAL EDUCATION STUDENTS

Initiating a Follow-Up Study

Carrying out a follow-up study successfully requires careful planning. Much more is involved than simply developing a follow-up form and mailing copies to former students. A first step should be to consult with other staff members who will use the tabulated results and give them an opportunity to contribute items to the form which will enable them to evaluate course content, instructional methods and techniques, and other aspects of instruction, counseling, placement, and administrative activities. Staff members who are involved in a follow-up study from the planning stage to the tabulation and interpretation of the results are more likely to take seriously any suggestions from former students which point to a need for instructional or other changes or improvements in their programs.

Likewise, students should be informed of the school's plans to follow-up systematically vocational-technical graduates as well as those who drop out. This orientation of students should start two or more years before they are scheduled to graduate in order to impress upon them the value of such studies in program improvement, and the urgent need for each to complete and return the follow-up questionnaire to the sending school. Obviously, the greater the percentage of returned follow-up forms the more reliable will be the results.

In addition to verbally informing students about the follow-up plan, many schools have found it profitable to invite students to study the form and make suggestions which make it more functional. There is usually a direct positive correlation between the extent to which students are acquainted with the form, especially the questions it will ask, and the percentage of usable responses. Since this bulletin is concerned with the follow-up of vocational-technical students, the orientation of students should be done by the person responsible for the follow-up activity or by vocational education teachers. It is recommended that follow-up of vocational education oriented students be carried out separately and apart from any general follow-up studies the school may make. This will permit the questionnaire to be of shorter length and thus will attract a greater percentage of responses.

Supervising the Study

The several related activities which comprise the follow-up process require that some one individual have general supervision of the project. This person should be thoroughly familiar with the purposes of the study and with the techniques to be employed in carrying out each step. The major activities requiring coordination, leadership, and supervision are:

1. Establishing the general and specific objectives of the study.
2. Determining the scope and methods.
3. Selecting the graduated classes to be studied.
4. Preparing the mailing list.
5. Estimating costs and time requirements.
6. Preparing the follow-up form.

7. Gathering, tabulating and reporting the data.
8. Interpreting the data.
9. Preparing the follow-up study report.

Functions of a Vocational-Technical Education Follow-Up Study

An important function of the secondary school is to provide occupational preparation for varying percentages of its students. The instruments and procedures commonly used in a follow-up study of former students will provide information basic to continuous appraisal of the program of vocational-technical education, and should indicate curriculum areas needing revision, modification or expansion. They will provide, also, means of appraising certain practices and techniques employed by the school for the purpose of insuring high quality occupational preparation for students and improved occupational adjustment of these young workers. The introduction of new practices or techniques may be suggested, and these in turn can be subjected to continuous evaluation through use of later follow-up studies. Moreover, the facts gathered will be particularly useful in acquainting the community with changes needed in the school's vocational-technical education program, and as a source of material for the public information program.

Some of the specific purposes of a follow-up study of former vocational-technical students are these:

1. To determine the number and kinds of employment opportunities available to young workers in the local and regional labor market.
2. To discover the occupational difficulties encountered by former vocational education students.
3. To accumulate information useful in counseling and placement.
4. To discover the types of assistance youth utilize in obtaining employment.
5. To discover the extent of occupational mobility among former students.
6. To learn the extent of employment opportunities for young workers in various businesses and industries in the local community and region.
7. To learn the uses which former vocational students have made of their job training.
8. To obtain information about post-secondary school occupational training opportunities which former students have utilized.
9. To study such factors concerning former vocational students as:
   a. Occupational stability and adjustment of graduates as compared with drop-outs.
   b. Length and frequency of periods of unemployment of former students since leaving school.
   c. Need for job placement or re-placement services by former students.
   d. Need for further counseling or training to improve employment stability.
   e. Opinions and judgement of former students with respect to the adequacy of the vocational-technical education program.
   f. Stability of vocational interests as expressed or measured while in the vocational-technical education program.

While these objects represent only some of the many specific ones common to follow-up studies, they serve to illustrate the detailed purposes of such studies.

Planning a Follow-Up Study

It has been suggested above that the planning of a follow-up study of school-leavers should involve all vocational education teachers even though the carrying out of the process may be assigned to a designated member of the staff. If the vocational staff is too large to attempt to operate as a planning committee, each vocational field should have at least one representative involved in the planning. Each committee member should invite his colleagues to contribute suggestions and questions as the procedures and questionnaire are developed. When the follow-up form is roughed out, each vocational instructor should be given a copy for review and recommendations. Not until this is done should the form be considered ready for the final draft.

Establishing the Purposes of the Study

The follow-up questionnaire should not be started until the following four questions can be fully and satisfactorily answered:

1. What information do we want about each former vocational student?
2. What items or questions will elicit the desired information?
3. Will the information obtained in response to each item or question lend itself to usable tabulation?
4. Of what specific value will each item of information obtained be to the school in light of the stated purposes of the study?

The specific purposes listed under the heading, Functions of a Vocational-Technical Education Follow-Up Study, should be recognized as incomplete. Neither should the sample follow-up form in the Appendix be considered complete. Both the sample form and the list of purposes of follow-up studies are intended only to be suggestive.

Determining the Scope of the Study

Before developing the follow-up questionnaire, the group to be included in the follow-up study should be decided upon. The study should be confined to former vocational education students in preparatory and cooperative vocational programs. Drop-outs should usually be followed-up along with the class with which they would normally have graduated.

Deciding upon the number of former students to be contacted and whether by mail, telephone or personal interview, or by a combination of these methods, is necessary before the cost of the study can be estimated. The scope of the information to be sought from each respondent should likewise be determined before beginning to develop the questionnaire.

Planning the Follow-Up Method

In many follow-up studies a combination of personal interviews, telephone interviews and mailed questionnaires are employed. Though it may not be feasible to interview personally all former students living in the local community, it is desirable to interview a reasonable number. One of the values of this procedure is the "trial run" experience gained with the questionnaire. Personal interviews often reveal weaknesses of the questionnaire such as, questions which former students misinterpret or which do not elicit sufficient information. Since mailed forms cannot be interpreted for recipients, it is important that they contain clear, concise items in order to assure uniform interpretation by all respondents.

Preparing the Mailing List

The first step in preparing a follow-up study of the previous years' vocational-technical education graduates and drop-outs is assemblying a complete mailing list. In the Preface the reader will find described the types of classes and the detailed information which the Division of Vocational Education must compile from all reimbursed preparatory and cooperative programs and forward to the U. S. Office of Education. Every reasonable effort should be made locally to establish contact with former students and encourage them to provide the requested information concerning their employment status as of October 1 in the year following their leaving school.

Locating Former Students

While the school's records will likely provide current addresses of many graduates of the previous year, some will not be located through their last known address. Some sources of unknown addresses of former students are:

1. Students now in school
   Relatives and friends of former students who are now in school may be able to provide correct addresses of some potential respondents. A list of persons whose present addresses are unknown might be prepared and presented to students by their teachers. Usually the plan of attempting to obtain such addresses by posting lists on school bulletin boards gets only scattered results.

2. Parents
   Parents of former students living in the local community are usually the best source of information. A number of high school students might be designated to obtain addresses of former students from parents by telephone.

3. Other former students
   Former students living in the local community are frequently in touch with former classmates now living in other communities. If a formal alumni organization exists, its members can usually be depended upon to assist in securing addresses of former students.

4. Former employers
   Local ex-employers of former students are often helpful in locating former students. School records will often contain information concerning part-time and vacation employment of former students and thus provide the names of the former employers.

5. Community organizations
   Former students known to have participated in the activities of community organizations may be located through those organizations. Religious, civic and student organizations are examples of groups likely to know the present addresses of former students.

6. Public employment offices, former co-workers and persons who are known to have been associated with former students in some connection should not be overlooked as possible sources of information about addresses of former students. Every source of potential information should be explored before the current address of a former student is marked off as unavailable.

Estimating the Cost of the Study

The clerical services needed in carrying out a follow-up study can often be obtained through business education classes at no cost to the school. The tasks of preparing mailing lists, mailing forms and tabulating returned questionnaires usually require more time than the regular school office staff has available. The cost of supplies and mailing is nominal.

Experience in previous follow-up studies indicates the desirability of printed follow-up forms over Mimeographed ones. The added prestige of the printed questionnaire is likely to bring a greater percentage of returns than when Mimeographed. The additional cost of printing will be partially offset by the lesser number of repeat-letters required for getting questionnaires returned by respondents. The usual cost of postage will be ten cents, including a self-addressed, stamped envelope with each questionnaire mailed. The total cost of the study, including repeat mailings and printing usually does not exceed fifteen to twenty cents per former student.

Setting Time Limits

An essential part of the planning of a follow-up study is the setting of a deadline for the return of questionnaires by respondents. Several days before the deadline is reached, repeat questionnaires should be sent to those former students who have not returned the completed questionnaire. Usually a second repeat request brings little results.

Preparing the Follow-Up Form

The content and length of the follow-up form will be conditioned by the purposes of the study. The task of preparing forms may be assigned a planning group, or it may be prepared by the study coordinator and then reviewed by a committee or staff. In any event, the actual formulation of the items to be included should be based upon the information desired and the uses to be made of it.

Some general rules to be observed in preparing the follow-up form are the following:

1. Keep items as brief and concise as possible.
2. Require respondents to do a minimum of writing. Provision for replying through use of check marks should be made when possible.
3. Where written replies are required, provide adequate space.
4. Provide a space for the former student's signature on the follow-up form. Check off each student's name as his returned questionnaire is received.
5. Avoid unnecessary items. Do not include items for the reason that the information obtained "might be useful."
6. Keep in mind that there is usually an inverse ratio between the length of the form and the percentage of returns.
7. Set a deadline date for returning the questionnaire.

In addition to the follow-up form, a cover letter should be prepared to accompany each one mailed. A Mimeographed cover letter will suffice with the original mailing. Repeat requests should be accompanied by a personal letter from the principal, follow-up coordinator, or a vocational teacher who knows the former student well. A sample cover letter is included in the Appendix.

Gathering the Follow-Up Information

The data-gathering process by mail is a relatively simple one if the study has been carefully planned from the beginning. Be sure that names and addresses of former students are correct in every detail and that the follow-up form is properly designed to obtain the information which will achieve the purposes of the study.

Respondents who have not returned the questionnaire within two or three weeks should be sent a second one accompanied by a personal letter urging immediate action. A third appeal should be resorted to sparingly and then only if there is reason to believe it will produce results.

Except for testing the follow-up form on several former students in the local community, follow-up by personal or telephone interview is usually not practicable. The interview method should usually be confined to known former students in the local community who have not returned the printed questionnaire within a reasonable period of time.

Tabulating the Data

If responding former students are identified by name on the returned questionnaire, they should be checked off the master mailing list as their returns are received. A plan for tabulating individual responses on an item-by-item basis should have been developed by the time returns start coming to the school. Tabulation will be less difficult for checked items than for those which require written replies. However, items requiring essay-type responses should not be entirely ommitted in the interest of ease of tabulation if more meaningfulinformation will result from written replies.

Since some of the information obtained through the follow-up study will have greatest significance when reviewed along with the former student's high school record, the cumulative folder of each former student included in the study might be set aside in a separate file for use in data interpretation. Possible interpretations presented under the topic, Interpreting the Data, will suggest the need for studying the high school records of respondents in relation to the data contained on the follow-up questionnaire.

Interpreting the Data

The examples of data interpretation below are intended only as illustrative. With the exception of the follow-up items which will provide data required by the Division of Vocational Education for its report to the Office of Education, follow-up questionnaires will vary from school to school.

The major value of a follow-up study lies in the interpretation and use of the information obtained. It is assumed that the follow-up questionnaire will have been planned to secure information from former students for specific purposes. The information obtained should either suggest ways of improving the school's vocational-technical education program or it should confirm the adequacy of the existing program.

Since the majority of high school graduates and drop-outs terminate their formal education upon leaving high school, every effort should be made to learn of their needs and develop a vocational education program which will prepare youth to become gainful workers.

Listed below are four categories of information often sought in follow-up studies of former students. Under each are suggestions relating to possible interpretation.

1. Present employment status. In this area, information is usually sought concerning the kind of job held, earnings, degree of job satisfaction, means by which the job was obtained and its relation to the individual's interests and job preparation while in high school. It may be found that an excessive number of former students who followed a program of occupational preparation while in high school are actually finding jobs in unrelated occupations or are unemployed. Does this finding suggest too many are being trained in the occupational field concerned? Does the school know how many job opportunities are available in this field each year? Is the training inadequate for the jobs available? Are the jobs found which are unrelated to training more in line with individual interests as expressed in high school than those for which they received training? If so, should the school improve its vocational guidance and counseling services? Does the school need a placement service? If so, what community resources are available for assisting the vocational department placement service?

   The places of present employment of former students will indicate the occupational mobility of individuals and of the group. Are they leaving the local community for employment elsewhere? If so, why? Are they finding jobs in other communities comparable in nature and earnings to jobs existing in the home community? If the answer is in the affirmative, why are they? Does the school and cooperating agencies have current information on job opportunities in the local community?

   These are a few of the many implications arising out of responses of former students. The questions above refer primarily to graduates. The inferences which may be drawn from the replies of drop-outs may be even more significant. Their reasons for leaving school may point directly to the limitations of the vocational education program or to lack of effective vocational guidance and counseling.

2. The area of further training. The successes and failures of former students who enter technical or business schools, apprenticeships, on-the-job training or other job training situations will usually suggest ways of making the vocational education and vocational guidance counseling programs more effective. Though not always the case, failures of former students in the above areas may point to the need for strengthening or expanding the program of vocational-technical education at the high school level.

   It may be found that some former students are obliged to seek further pre-employment training to qualify for jobs even though school authorities may consider the in-school vocational program adequate. It may also be found that the greatest number of available jobs above the unskilled level are in occupational fields in which the schools offer no training. Properly stated items in the follow-up questionnaire should serve to point out the strengths and weaknesses of the school's occupational training program.

3. The area of occupational interests. The present employment of former students might be profitably checked against any information in school records relating to the expressed or measured occupational interests. If tested interests are available for most students and are reasonably predictive of future occupational role, counselors should be urged to make the results available to vocational education teachers. If, as suggested earlier, measured interests are reviewed along with student's post-school occupation, some indication of their predictive reliability can be gained.

4.. The significance of other areas. The areas mentioned above serve only to suggest some of the kinds of information which might be sought through follow-up studies. The types of information to be obtained from school-leavers will be determined in each scool by the purposes of the study. These purposes must be established before beginning the preparation of the follow-up questionnaire.

Follow-up studies can be helpful in evaluating aspects of the school curriculum which enroll vocational education students and bear upon the effectiveness of the occupational training program. Certainly if the school's curriculum is directed primarily at college preparation, a majority of graduates should properly be expected to have entered college. If, on the other hand, a majority of former students will be seeking employment upon leaving high school, provision should be made for fully meeting needs of students for vocational-technical preparation. Again, if the follow-up study reveals that appreciable numbers of vocational education graduates are employed in the local community, there may be a need for supplementary training or retraining for this group.

Preparing the Follow-Up Study Report

The report of the study is essential to the implementation of its findings. It should be written in a manner readable to lay persons as well as teachers, administrators and students. It should include a clear, concise statement of the purposes for which it was made and some description of the procedures followed in planning and carrying out the study. The report should present a tabulated summary of the completed study so that readers may better understand the basis upon which interpreted conclusions were drawn.

A statement of the implications of the study should be included together with recommendations concerning the action necessary to carry out those implications.

A P P E N D I X

SAMPLE LETTER TO ACCOMPANY FOLLOW-UP QUESTIONNAIRES SENT TO FORMER VOCATIONAL-TECHNICAL EDUCATION STUDENTS

Date_____

Dear_____

The Vocational Education Department of _____ High School is asking all former students of last year's class to fill out and return the enclosed brief questionnaire. Please answer the questions as they apply to your employment status on October 1, 196_.

We want to expand and improve our vocational program as rapidly as possible, but we want to do it knowing that we are making the right changes. By learning which of our former students are being most successful in obtaining employment in jobs for which they received vocational training, we can plan our future program more intelligently.

We have kept the enclosed follow-up form as brief as possible and have provided check spaces whenever possible to reduce written answers to a minimum. The information we receive from you will be treated confidentially. If there is anything we can do to help you, please let us know. We will look forward to the return of your questionnaire.

Sincerely,

P.S. Please return your completed questionnaire as soon as possible but no later than October 15. Whether you graduated from _____ High School or not, we are anxious to have your reply.

SAMPLE FOLLOW-UP STUDY FORM

Name_____ Address_____

City_____ State____ _____

1. I am not presently available for employment because:

   a. Continued full-time school to take training in the field of_____
   _____

      (1) Employed part-time while in school? Yes_____ No_____

   b. Entered armed forces? Yes_____ No_____

   c. Not employed because_____

2. If presently employed full-time, are you:

   a. In the occupational field for which trained? Yes_____ No_____

   b. If not, are you employed in a related occupation? Yes_____ No_____

3. If employed part-time, in what occupation?_____

4. If unemployed, are you seeking work? Yes_____ No_____

5. If you left school before completing the training program you were enrolled in, did you find employment in the occupational field for which you were training? Yes_____ No_____

Answers to the above questions will provide the Division of Vocational Education with the information needed for reporting the employment status of former vocational-technical students to the Office of Education.

Other questions designed to obtain evaluations of former students relating to the vocational-technical education program, in whole or in part, may be added if the local school wishes. It should be recognized that the shorter the follow-up questionnaire, the greater percentage of returns will likely be received. The singular purpose of this publication is to assist local vocational-technical education personnel to follow-up former students with particular emphasis upon the employment status of graduates and drop-outs in preparatory and cooperative education programs.

VT 000 938
What's Happening to Colorado's Vocational Agriculture Graduates?

Colorado State Board for Vocational Education, Denver. Agricultural Div.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 63 8p.

*VOCATIONAL AGRICULTURE; *HIGH SCHOOL GRADUATES; *VOCATIONAL FOLLOWUP; *GRADUATE SURVEYS

Questions regarding the curriculum emphasis in vocational agriculture and the availability of job opportunities in agriculture, in light of the declining number of farms, prompted a state followup of vocational agriculture graduates. Graduates of 1958 and 1963, 846 former students, were surveyed to determine their current occupational status. The findings revealed that, for the 1958 group, none of those available for employment was unemployed. Employed were 47 percent in production agriculture, 14.3 percent in off-farm agricultural occupations, 19.1 percent in occupations related to mechanical skills, and 19.5 percent in non-agricultural, non-mechanical occupations. Of the 1963 graduates, 2.1 percent were unemployed, 37 percent were in college, and 53 percent were available for employment. Of those employed, only 4.3 percent were in non-agricultural occupations while 75 percent were in agricultural occupations. Plans were established to gather data each year on the current class and the class which had been out of school for 5 years in order to identify trends which may have implications for curriculum planning. (JM)

VT 000 938

ED0 30001

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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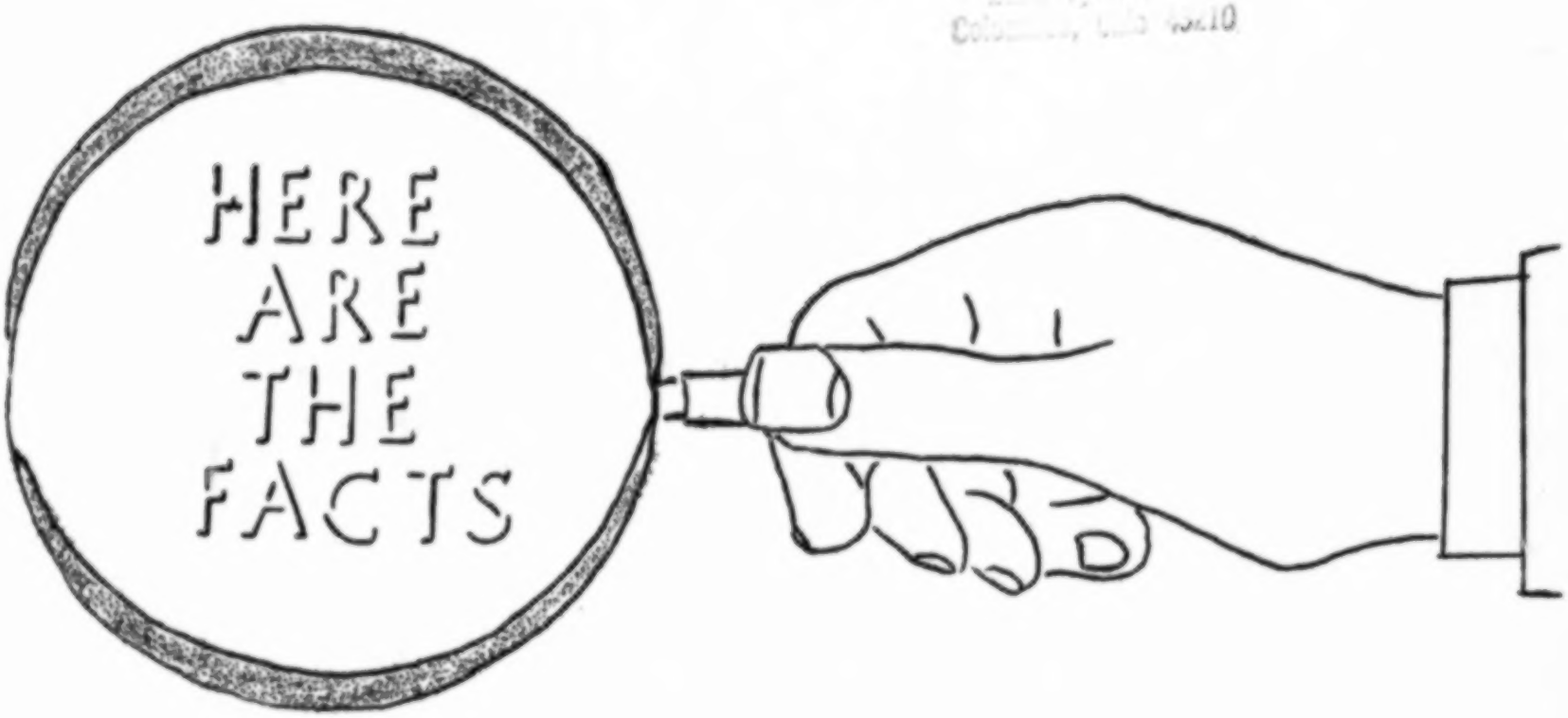
WHAT'S HAPPENING TO COLORADO'S VOCATIONAL AGRICULTURE GRADUATES?



1965

THE STATE BOARD FOR VOCATIONAL EDUCATION
Agricultural Division
510 State Office Building
Denver, Colorado
80203

VT 00938

* * * * * * * * * * * * * * * *

FOREWARD

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Much concern has been expressed in recent months about the need for and the value of vocational agriculture education. The decline in numbers of farms has caused people generally to question the emphasis now placed on agriculture education in rural schools. Questions have also been raised about the job opportunities which might be available for graduates of vocational agriculture programs at the high school level.

In order that the answers to these and many other questions concerning the vocational agriculture program be more readily available to interested persons, the State Board for Vocational Education inaugurated a continuing follow-up study to determine the employment status of vocational agriculture graduates.

This explanation of this study, its findings and implications, are summarized in this report.

Sincere appreciation is due the Colorado vocational agriculture teachers for their cooperation in making this a complete study. Every school now offering vocational agriculture in Colorado participated in the study, and only 10 boys out of a total of 846 graduates were listed under the heading "occupation unknown."

It is hoped that a continuing study conducted annually for the current year's graduates, and the class of 5 years previous will establish trends which may be used in program and curriculum planning.

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INTRODUCTION

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This study is the first of an annual attempt to determine the occupational status of graduates of vocational agriculture programs in Colorado High Schools.

Every high school in Colorado now offering vocational agriculture surveyed their 1958 graduates and their 1963 graduates to determine their occupational status.

In December of 1964, a similar survey will be made of the 1959 and 1964 graduates. This procedure will be continued annually for the purpose of compiling data which may be helpful in determining job opportunities for graduates as well as program and curriculum changes. Data for this study was gathered by questionnairs mailed to all vocational agriculture teachers in the State. One hundred percent response was received on both the 1958 and 1963 graduating classes.

Although data from a continuing study of this kind becomes more valuable when compared with previous years, it was felt that the findings of this year were significant enough to publish without the benefit of previous studies.

It is interesting to note that the findings of this study are similar to those found in other states.

THE OCCUPATIONAL STATUS OF THE 1958
GRADUATES IN DECEMBER OF 1963

TOTAL 1958 VOCATIONAL AGRICULTURE GRADUATES.....412

1. NOT AVAILABLE FOR EMPLOYMENT.....119

Armed forces.....66
Enrolled in colleges of agriculture.....19
Enrolled in colleges other than agriculture..22
Sick or deceased..... 7
Unknown..... 5

2. AVAILABLE FOR EMPLOYMENT..... 293

Employed in ranching and farming.....138
Employed in other agricultural occupations.. 42
Employed in occupations requiring
mechanical skills... 56
Employed in non-agricultural occupations.... 57
Unemployed.....None

NOTES OF INTEREST:

Perhaps the most significant finding of this study is the fact that none of those who were available for employment were unemployed.

47 percent of those available for employment were engaged in production agriculture.

14.3 percent of those available for employment were engaged in off-farm agricultural occupations.

19.1 percent of those available for employment were engaged in occupations which required a mechanical skill. These occupations included: Carpentry, electricians, welders, mechanics, heavy duty operators and plumbers.

Only 19.5 percent of those available for employment were engaged in non-agricultural and non-mechanical occupations.

Of the 42 that were employed in agricultural occupations other than farming and ranching -

13 were in agricultural professions (teaching, forestry, agronomy, etc.)
26 were in agri-businesses such as: livestock markets; farm equipment sales and service; feed, fertilizer and chemical sales; food processing and feed processing.
1 was in the Peace Corps
1 was an artificial inseminator
1 was a Dude Ranch employee.

THE OCCUPATIONAL STATUS OF THE
1963 GRADUATES IN DECEMBER OF 1963

TOTAL 1963 VOCATIONAL AGRICULTURE GRADUATES.....434

1. NOT AVAILABLE FOR EMPLOYMENT.....202

Armed forces 37
Enrolled in colleges of agriculture.....83
Enrolled in colleges other than agriculture..77
Unknown..... 5

2. AVAILABLE FOR EMPLOYMENT.....232

Employed in farming and ranching.....138
Employed in other agricultural occupations.. 36
Employed in occupations requiring
mechanical skill.... 43
Employed in non-agricultural occupations.... 10
Unemployed..... 5

NOTES OF INTEREST:

Three of everyfour of those available for employment were engaged in an agricultural occupation.

Only 2.1 percent of those available for employment were unemployed.

37 percent of all graduates were enrolled in college the first term following graduation from high school.

53 percent of all graduates were available for employment immediately following graduation from high school.

Only 4.3 percent of those available for employment were engaged in non-agricultural and non-mechanical occupations.

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SUMMARY

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It appears that vocational agriculture in Colorado is passing the test of placing its students in occupations for which they are trained. The primary objective of training present and prospective farmers continued to be valid in the light of the annual need for trained farm operator replacements and the continuing educational need throughout the active careers of our present farm people. In addition to this primary responsibility, the training received in vocational agriculture is evidently providing training that is valuable for entry level employment in occupations related to farming and for a large number of other mechanically oriented occupations. This indicates that the agricultural mechanics that is taught as part of vocational agriculture programs is contributing to employment in many occupations.

The findings of this study would indicate that vocational agriculture is doing its share to meet the challenge of jobless youth. The fact that none of the 1958 graduates and only 2.1 percent of the 1963 graduates, who are available for employment, are unemployed has great significance when reviewed in the light of the National unemployment rate of one in every six for this age group.

Thirty-seven percent of the 1963 vocational agriculture graduates enrolled in college last fall, with over one-half of these in colleges of agriculture. Vocational agriculture in high school seemingly does not deter graduates from attending college.

Although this study does not reveal how well these students are doing in their college work, the number of 1958 graduates who are still in college added to those who are engaged in professional work in agriculture indicates that a large percentage of those who enter college are successful in this endeavor.

It is recognized that the number of vocational agriculture graduates employed in agricultural occupations is only one measure of the success of a statewide program. In this day of high unemployment it appears significant, however, that boys who graduate from vocational agriculture programs have saleable skills as well as the knowledge and ability to succeed in programs of studies in institutions of higher education.

VT 000 941

Schaefer, Carl J.; Shemick, John M.
Pennsylvania Meets the Challenge of Retraining; Case Studies of a Three Pronged Attack, Project Sponsored by the Pennsylvania Dept. of Public Instruction, From July 1962 to December 1963.

Pennsylvania State Univ., University Park. Dept. of Vocational Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 64 96p.

ADULT VOCATIONAL EDUCATION; UNDEREMPLOYED; *VOCATIONAL RETRAINING; *UNEMPLOYED; *CASE STUDIES (EDUCATION); *PROGRAM EVALUATION; *JOB PLACEMENT; FOLLOWUP STUDIES; INDIVIDUAL CHARACTERISTICS; TEACHER QUALIFICATIONS; COURSE DESCRIPTIONS; SEWING MACHINE OPERATORS; SHEET METAL WORKERS; MACHINE TOOL OPERATORS PENNSYLVANIA; WILKES BARRE; POTTSVILLE; PHOENIXVILLE; AREA REDEVELOPMENT ACT PROGRAMS; PENNSYLVANIA RETRAINING ACT PROGRAMS; *MANPOWER DEVELOPMENT AND TRAINING ACT PROGRAMS; MDTA PROGRAMS; PTA PROGRAMS

Three training situations for retraining the unemployed and underemployed were studied with special emphasis on the trainers. Steps included identification of initial status, collection of explanatory data, evaluation, and recommendations for adjustment and improvement. The cases were: (1) The Wilkes-Barre Case under the Pennsylvania Retraining Act (PRA), 120 hours for power sewing machine operators, (2) the Pottsville Case under the Area Redevelopment Act, 624 hours for sheet metal machine operators, and (3) the Phoenixville Case under the Manpower Development and Training Act (MDTA), 1,560 hours for machine tool operators. The overall quality of instruction in each program was questioned. The most significant fact was the high positive relationship between length of training and earning power--the MDTA group earned 58 percent more per hour than those trained under the PRA. Recommendations were: (1) Some form of job trials should be incorporated as part of the selection process to assist trainees in making a valid occupational choice, (2) Permanent facilities for training the unemployed should be established throughout the state, (3) Retraining programs should emphasize proper work attitudes as equally important as occupational skills, (4) There should continue to be provisions for retraining programs of a job-, intermediate-, and field-oriented type to meet the needs of all unemployed individuals. (SL)

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PENNSYLVANIA

MEETS THE CHALLENGE OF RETRAINING

CASE STUDIES OF A THREE PRONGED ATTACK

A STUDY CONDUCTED BY THE PENNSYLVANIA
STATE UNIVERSITY FOR THE PENNSYLVANIA
DEPARTMENT OF PUBLIC INSTRUCTION

VT800941

PENNSYLVANIA MEETS THE CHALLENGE OF RETRAINING

CASE STUDIES OF A THREE PRONGED ATTACK

CARL J. SCHAEFER
AND
JOHN M. SHEMICK

PROJECT SPONSORED BY
THE DEPARTMENT OF PUBLIC INSTRUCTION, COMMONWEALTH OF PENNSYLVANIA
FROM JULY 1962 TO DECEMBER 1963.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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DEPARTMENT OF VOCATIONAL EDUCATION
THE PENNSYLVANIA STATE UNIVERSITY
UNIVERSITY PARK, PENNSYLVANIA
1964

FOREWORD

The plight of the unemployed in Pennsylvania is serious. Heads of households, as well as youths, are faced squarely with the problem of moving to new places of employment or learning new skills that are needed in today's technology.

The study reported, herein, is one of retraining. Pennsylvania has been a pioneer in the field of remolding its human resources to fit into a rapidly changing industrial society. In many respects, Pennsylvania's (2508.3) Retraining Act of 1952 was a forerunner of the Area Redevelopment Act (ARA) of 1961 and the Manpower Development and Training Act (MDTA) of 1962. How local programs have been conducted under these pieces of legislation; how effective each is in its own right, and what might be done to improve them were problems of this study.

The study does not profess to give insight into the total retraining effort being exerted throughout Pennsylvania. It is too early to tell what impact is being made by programs of training the unemployed. This study does, however, supply valuable and necessary information for the future establishment of such training classes. Nor, would it be proper to infer what is said here, about the programs studied, is applicable to all such retraining efforts. In fact, if similar programs were studied, they may be found as successful, more successful, or even less successful than those investigated and cited herein.

Research of various kinds have been envisioned as an indispensable aspect of vocational trade and industrial education for a number of years. The establishment in 1959 of the State Research Advisory Committee for Trade and Industrial Education attests to the forward thinking of Pennsylvania's leadership. This study represents but one more facet in the accumulation of knowledge about the many problems faced in our highly industrial state.

The findings contained herein should be of particular interest to the local and state leadership of vocational education, school administrators, school board members, and individuals from labor and industry.

George L. Brandon, Head
Department of Vocational Education
The Pennsylvania State University
University Park, Pennsylvania

PREFACE

This is a final report of a research project sponsored in part by a special grant of Ford Foundation money emanating from Dr. Gerald Somers, Professor of Economics, University of Wisconsin.

The study was undertaken as a result of the Somers' parent project, "A Critical Appraisal of Retraining and Relocation of Unemployed Workers in Distressed Areas". In addition the study received the approval and support of the State Research Advisory Committee, Trade and Industrial Education, of Pennsylvania. It was begun on July 1, 1962 and completed on December 31, 1963.

Pennsylvania Meets the Challenge of Retraining, consists of three case studies of the attack being made on the problem of retraining the unemployed and underemployed. As case studies then, these are intensive investigation of each training situation with particular focus on the individuals who made up the trainees.

The case method of research was chosen because of its probing technique. Steps that were followed included identification of initial status, collection of explanatory data, diagnosis of certain causal factors (evaluation), and recommendations toward adjustment and improvement. An inherent weakness of the case method, however, is its inability to generalize from the individual cases. It is important, then, that this fact be understood relative to the study reported herein.

Each of the cases provides a picture in actual setting of retraining, its problems, ways of meeting these problems, anticipated end results, and pitfalls to avoid. Each, then, becomes a guide to be followed when similar programs are established in other communities.

The cases and conclusions reached from their study are reported only after detailed analysis of all the available data. Nevertheless, the recommendations or findings made as a result of the research do not necessarily carry endorsement of the Pennsylvania Department of Public Instruction.

Many individuals have made a significant contribution to Pennsylvania Meets the Challenge of Retraining. Several are acknowledged as part of the preface for each case. In addition, special mention should be made of the following: Jerald A. Griess, Franklyn C. Ingram, Alson I. Kaumenheiwa, and Jerry R. Eggers, Graduate Assistants; Peter Yasenchak, Kenneth Muchler, and William Rothstein for their assistance in interviewing; and Carol J. Rockey and Geraldine R. Orr for their secretarial competency. Jerald A. Griess is also acknowledged for his many hours of coding the data.

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1. THE SITUATION

OUR MOST VALUABLE RESOURCE

A PARTIAL ANSWER -- RETRAINING

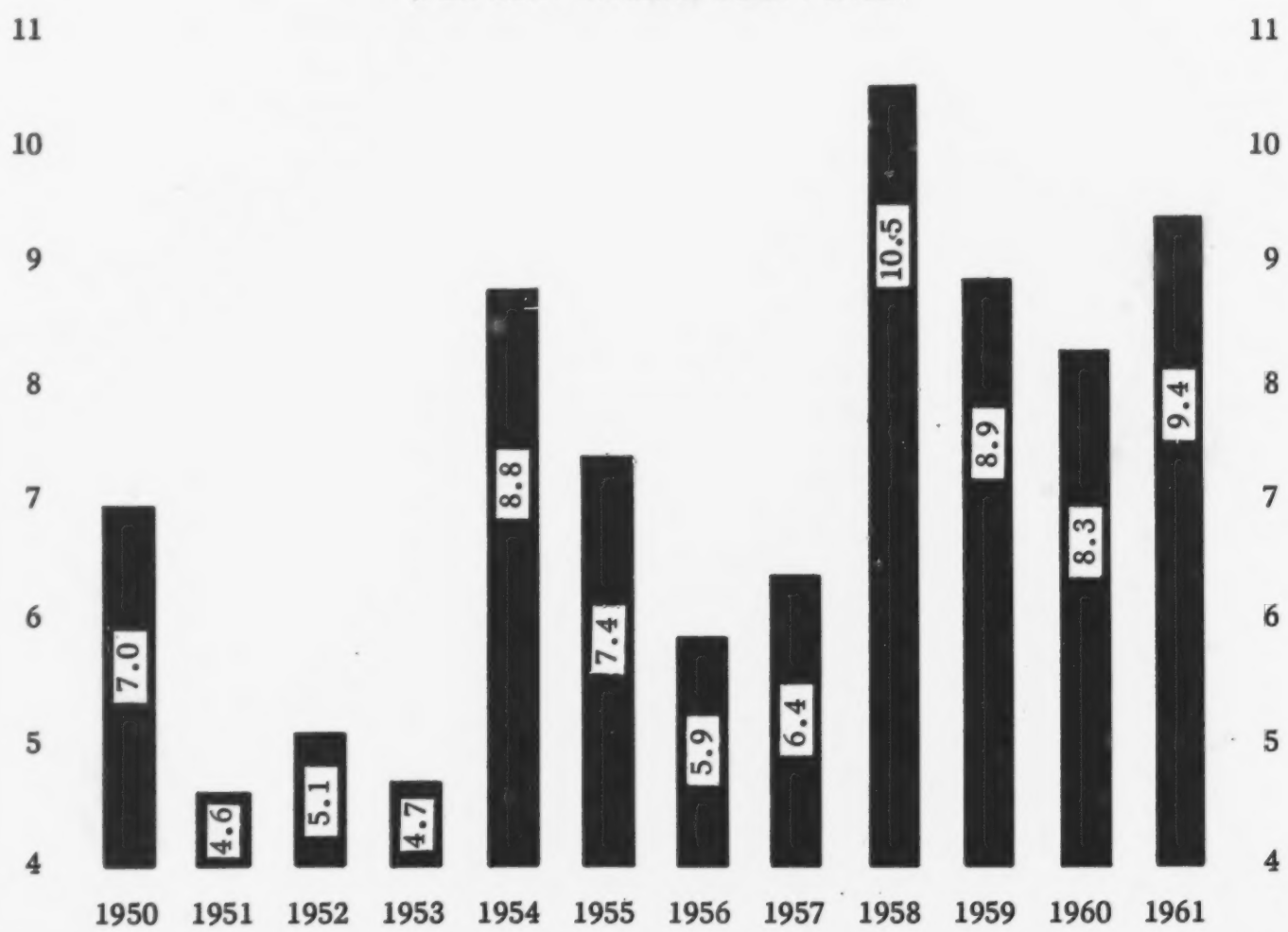
1. THE SITUATION

Acute unemployment has focused attention on Pennsylvania. At the turn of the century, Pennsylvania's industrial strength was well known throughout the nation. Now, Pennsylvania is known for its problem of unemployment and rapidly deteriorating rate of industrial growth.

With the exception of the Korean War years, Pennsylvania's unemployment trend has been cause for concern. Figure 1 depicts the reason for alarm. It clearly shows the

FIGURE 1

PENNSYLVANIA'S UNEMPLOYMENT TREND 1950 – 1961[a]
(PER CENT CIVILIAN WORK FORCE)



[a] Commonwealth of Pennsylvania, Pennsylvania's Statistical Abstract, 1962, p. 198.

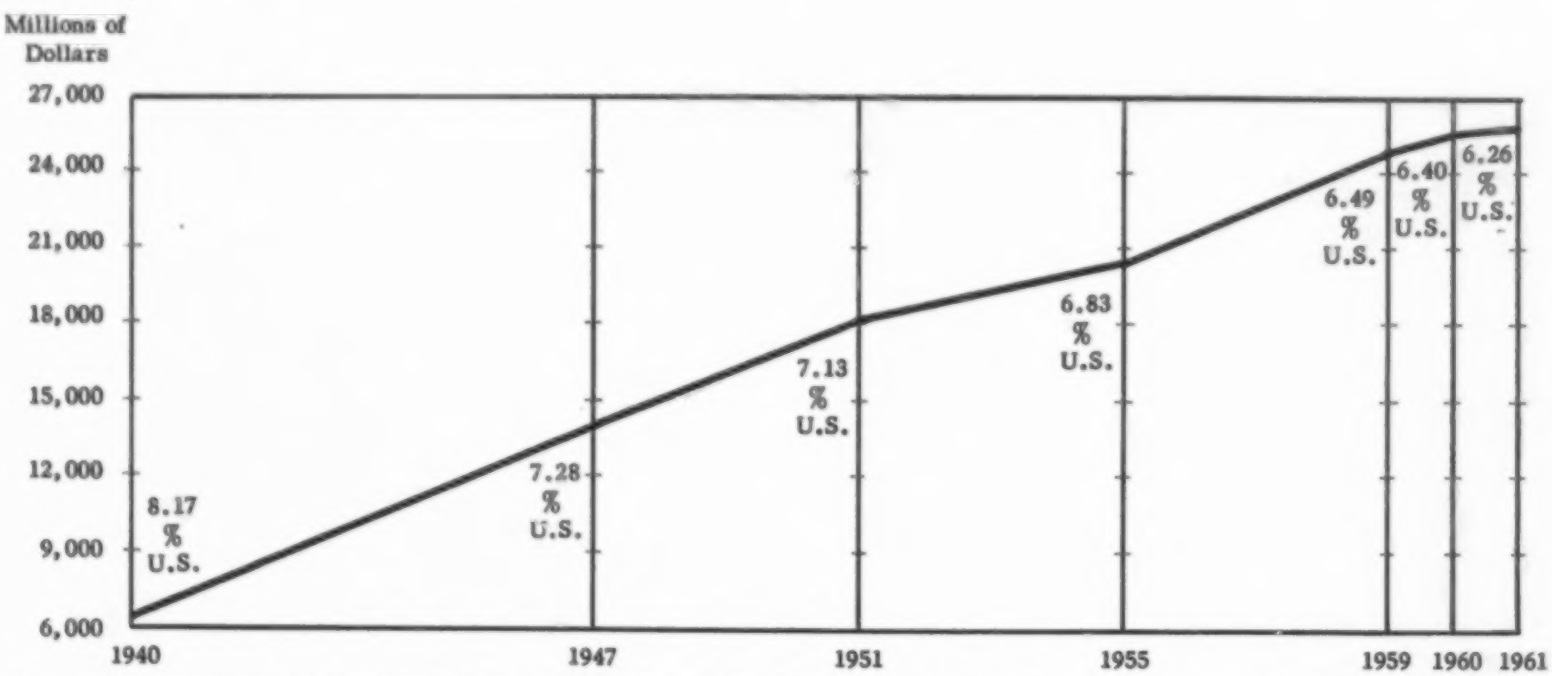
unemployment trend with a high in 1961 reaching 10.5 per cent of the total civilian work force. In July 1961, unemployment in Pennsylvania alone accounted for nearly one-half million out of the nation's four and one-half million jobless individuals. The extent of chronic unemployment is persistent throughout Pennsylvania, particularly in mining, railroad repair shops, and manufacturing. Twelve chronic labor surplus areas, which covered nearly seventeen counties, accounted for 26.1 per cent of the total unemployment distribution (Kaufman and Golatz, 1960). It is essential that the labor potential of these individuals be salvaged through training in new skills so as to improve their employability. A recent Governor's Committee Report (1961) on retraining of the unemployed states, "The magnitude of the problem of unemployment in Pennsylvania and the crucial situations which exist in areas of acute economically distressed districts because of changing technology calls for and requires immediate action on an emergency basis to retrain thousands of unemployed workers whose acquired skills have become obsolete or are no longer in demand."

As recently as April 1961, 51 out of Pennsylvania's 67 counties were declared, by official federal governmental definition, as depressed. Unemployment benefits amounting to over 28 million dollars was the largest single source of income in the Scranton-Wilkes-Barre area during 1961 (Shapp and Jurkat, 1962). Current estimate of unemployment places Pennsylvania at a 9 per cent plus level as compared to a 7 per cent national average.

Coupled with the unemployment picture is the fall of personal income. Figure 2 shows that during a time of general dollar increase and inflation, Pennsylvania's personal income has reached almost a plateau. The pocketbooks of Pennsylvania's total labor force have remained fairly constant from 1959. This is to say, although rising wages and prices have put more dollars into circulation, the personal income of the total Pennsylvania civilian work force has remained about the same. At the same time, the percentage of Pennsylvania's personal income to the total U.S. personal income has dropped considerably during the last two decades.

FIGURE 2

PENNSYLVANIA'S PERSONAL INCOME AND PER CENT OF U.S. TOTAL[a]



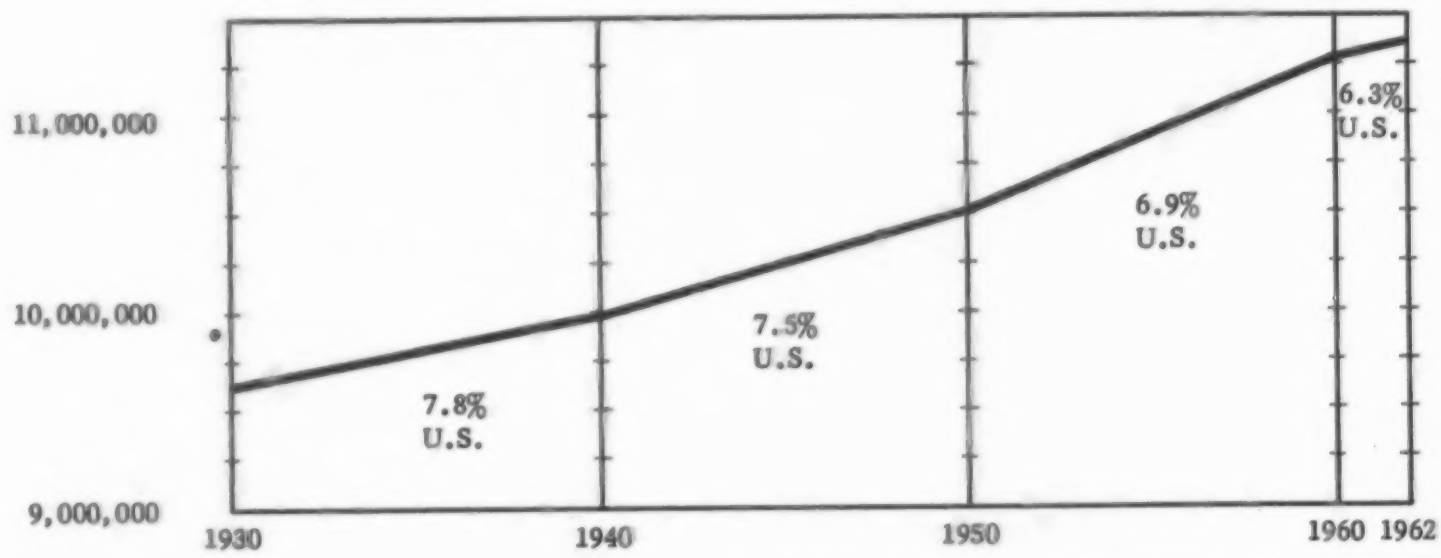
[a] Commonwealth of Pennsylvania, Pennsylvania's Statistical Abstract, 1962, p. 13.

This is but another indication that Pennsylvania is becoming increasingly poorer rather than richer.

When Pennsylvania's population is compared to that of the nation, a similar downward trend is observed. Figure 3 shows, although population has increased over the last thirty years, 1930 to 1960, at the same time its percentage of the national total has spiraled downward. The inability to maintain a constant per cent of increase in population deprives Pennsylvania of its most valuable resource; its people. The industrial might of the state can be no stronger than its human resources. A loss in labor force, through sheer numbers of potentially skilled people to perform in an ever increasing technological age, provides a situation tantamount to slow but certain paralysis. The human element in the problem, then, was of prime concern throughout this study.

FIGURE 3

PENNSYLVANIA'S POPULATION 1930 – 1960 AND PER CENT OF U.S. TOTAL [a]



[a] Commonwealth of Pennsylvania, Pennsylvania's Statistical Abstract, 1962, p. 2.

Our Most Valuable Resource

The thesis of this report is that people are Pennsylvania's most valuable resource; that the strength of the state lies not in its abundance of natural resources, but the availability of a well-trained and energetic work force. Paradoxically, Pennsylvania's unemployed find themselves out of work yet job opportunities going unfilled. New industries crave manpower who possess new and creative skills and knowledges. Employees who can not only assume day-by-day tasks, but who can adapt to new and constantly changing situations are much sought after. Sources of productive and skilled manpower are held high on the list of prerequisites when a company looks for a new location. It is a known fact that redevelopment commissions often fail in selling a company on their particular location because they cannot assure the necessary prime labor force.

Pennsylvania's high school level vocational trade and industrial training programs train only 1 out of 20 youth while in high school (DPI Report, February, 1963). Similarly, adult evening vocational training programs reached only 17,510 (Office of Education Report, 1963). Ohio, a similar industrial state, had over twice

as many adults, 36,817 enrolled in vocational industrial evening courses during the same period. In 1961-62, retraining opportunities for unemployed individuals in Pennsylvania were extended to only 3,780 (3,170 plus 610, 2508.3 and ARA) persons. All-in-all, Pennsylvania's vocational training effort falls far short of meeting the need for providing skilled manpower.

A Partial Answer -- Retraining

The remolding of that portion of the labor force that has been cast off to swell the ranks of unemployment constitutes a paramount problem. A recent study of chronic unemployment in Pennsylvania (Kaufman and Golatz, 1960) recommended that training and retraining play an important role in combating the problem. Moreover, the report advocates training and retraining for three primary reasons; training for industrial development, training for new skills, and training for migration. As near as can be determined, presently constituted retraining programs have not been specifically designed to accomplish these separate and distinct objectives. However, the attack being made on the problem by Pennsylvania's few and meager retraining efforts does lend encouragement. Job opportunities are being made available to retrained workers. Placement is reported to average better than 80 per cent of those who complete such programs. It is further reported that requests for federally approved retraining are increasing. In this respect Pennsylvania stands as a leader in the nation in the number of approved training programs for the unemployed.

This points to a need for more knowledge about such programs; how they are organized, what they teach, how they operate, and what actually happens to those who enroll in them. It is the intent, therefore, of this study to look into the retraining programs being offered by Pennsylvania to see the impact they are having on the lives of the individuals who take part in them.

In order to accomplish this, three case studies were conducted. These were investigations in depth and not mere statistical analyses of the over-all picture. Research of this method, although limited to only the actual programs involved, provides real insights to the retraining problem as well as the strong points and weaknesses of working with individuals to rehabilitate for employment. Pennsylvania in many respects has pioneered in the field of retraining. Through its own legislation dating back to 1952, the Retraining of the Unemployed, now known as section 2508.3 of the School Code, was conceived as an attack on the problem. Subsequent federal acts, namely the Area Redevelopment Act of 1961 and the Manpower Development Training Act of 1962, have provided additional programs of the types which were studied. Each of these approaches to the problem have been investigated thoroughly by means of the case method and are reported in the succeeding chapters.

The last section of the report compares the three separate approaches to the problem and tries to point up similarities and differences among not only the programs but the trainees as well. Some attempt has been made to evaluate each in respect to the job it accomplished in providing initial employment opportunities as well as future opportunities for those who completed the training. It is important to understand, however, that no inferences or generalizations from these three case studies can be made to similarly designated programs. In fact, detailed study of other such programs may reveal them as good, poorer, or better than those that have been reported.

2. A 2508.3 ATTEMPT

PENNSYLVANIA'S TRAINING OF THE UNEMPLOYED

SHORT TERM RETRAINING (120 HOURS)

POWER SEWING MACHINE OPERATOR (6-27.502)

THE WILKES-BARRE CASE

THE COMMUNITY

THE PROGRAM

DEVELOPING THE CURRICULUM

THE TEACHERS

THE TRAINEE

EVALUATION

2. A 2508.3 ATTEMPT

PENNSYLVANIA'S TRAINING OF THE UNEMPLOYED

A middle age woman sat intently before a device which appeared similar to a home sewing machine. Her attention was focused on a piece of fabric which fed through an oscillating needle at an incredible rate. Obviously this machine was not of the home type. This was an industrially designed power sewing machine; one which is capable of sewing yards of cloth and stitching literally miles of thread in a single hour. The woman stopped the machine, held up a partially completed garment and gazed at it with an expression of satisfaction. She said, "Now I'm getting the knack of it. You know, it isn't so hard once you learn not to be afraid of these machines."

Mrs. Janowitz was learning to operate a power sewing machine prior to securing employment in a garment industry. Her previous employment had been a knitter in a silk mill, and when the mill moved out of town she found herself on the rolls of the unemployed. Mrs. Janowitz's weekly pay check, or at least until she became unemployed, went to send one of theirsons to college; it made the difference, she said, "Between an education for my boy or him having to be just a plain mill hand like his Dad."

Now she was learning something new; a new occupation where there was ready employment. Again her weekly pay check would make the difference and her son would have his opportunity to the occupation he desired; an engineer. Such has been the service provided over 17,000 Pennsylvanians by the State's own effort to retrain the unemployed. The story of one such program (power sewing operator) is recorded as part of this report.

PA's TRAINING OF THE UNEMPLOYED
(Section 2508.3 - School Laws of Pa., 1957)

In many respects, Pennsylvania has been a pioneer in its effort to provide training for unemployed and underemployed adults. The State Program for training the unemployed was initiated in May 1952 under provisions of Act 134A. This act was superseded at the close of the 1953-55 biennium by the passage of Act 78A. In July 1959, the provisions of this retraining program were permanently incorporated into the Public School Code of Pennsylvania (Act 398) which amended Section 2508 (1953), "Distribution of (Federal) Unencumbered Funds for Vocational Education," by adding Section 2508.3 to provide for vocational training of recipients of public assistance and unemployment compensation.

The new section stated, "The State Board of Vocational Education shall establish rules and regulations and thereunder approve and authorize payment of the full cost of intensive vocational education classes for qualified assistance recipients or other unemployed to take definite available employment which may be contingent upon such training." (Commonwealth of Pennsylvania, 1957). Pennsylvania, thus, became one of the first states to recognize the need for full reimbursement to local school districts for training the unemployed.

The pursuant procedures and regulations governing training of the unemployed, as established by the Department of Public Instruction, provide for training on a cooperative basis among the local school district , the Department of Public Instruction, Department of Public Assistance, and Department of Labor

and Industry.

Procedures are established and regulations supervised by the Trade and Industrial Education Service of the Department of Public Instruction. Assistance in organizing local programs is provided by nine Area Coordinators of Trade and Industrial Education.

Appropriations for training the unemployed have amounted to over a million dollars with $237,391.00 set aside for this purpose during 1961-62. Since 1952, training has been offered in approximately 40 different and diverse occupations which indicates the broad scope of the program.

Purpose of the Act. -- The purpose of the Pennsylvania program is to provide brief, intensive vocational training for unemployed and underemployed adults. The training is designed to equip recipients of public assistance and other unemployed with the basic skills and technical knowledge required for entrance into a local industry. The training areas are broad and course titles need not be restricted to industrial occupations, but are limited to available employment opportunities.

The controlling purpose of this program is to prepare public assistance recipients or other unemployed persons for immediate employment opportunities. Programs are limited to those occupations in which job competency can be developed within a short period of time. Occupations for which training may be provided are limited to those indicated as "demand" occupations by the Pennsylvania State Employment Service.

Training Provisions. -- Section 2508.3 of the Public School Code of Pennsylvania makes possible the training of public assistance recipients or other unemployed persons. Courses must be initated cooperatively by representatives of the local school district, The Pennsylvania State Employment Service, and the Department of Public Instruction. Other interested governmental agencies and civic groups, such as the local Chamber of Commerce, Redevelopment Commission, and so forth, are usually consulted.

The yearly amount of appropriation available is limited; therefore, consideration is usually given to requests in the order they are received with emphasis upon the relative need for training and available opportunities for employment.

Course applications must be supported by letters from representatives of Public Assistance and Employment Service setting forth approval of course, objective, availability of trainees, and probable opportunities for employment following training.

Selection of Trainees. -- Trainees are cleared through the Pennsylvania State Employment Service and cannot be required to pay for pre-entrance examinations. Age cannot be a factor in the selection of applicants and all applicants must be residents of Pennsylvania. Local employment offices have the responsibility of assuring the unemployed status of all individuals referred to training courses. It is understood that local employment offices are responsible for the referral and placement of relief recipients, and the proper notification of referrals, separations, and placements to the county boards of assistance.

Local employment offices also assume the responsibility of trainee placement. In turn, the local school district has the responsibility of reporting these placements to the Department of Public Instruction on a monthly basis. Inasmuch as applications are submitted on the basis of a local determination of the need and suitability of training, the continued operation of the program is dependent upon placement of at least 60 per cent of those completing the course.

The Type and Length of Courses. -- Courses are not restricted to industrial occupations and applications (Title I) are reviewed by a committee composed of representatives from the departments of Commerce, Labor and Industry, Public Instruction, and Welfare. Health service applications (Title II), which are mainly in the area of practical nurses training, are reviewed by the Office of Trade and Industrial Education. Approval of Title II applications is based on the recommendation of this office and availability of funds. Since the conception of the program, training has been provided in 29

counties by 47 school districts with enrollment approximating 17,000 individuals.

Courses are generally limited to a maximum of six months duration for any one trainee. Classes are conducted for a minimum of 30 hours per week.

A partial listing of courses to provide some idea of their breadth follows: auto body repairman, bricklayer, industrial carpenter, diesel mechanic, electrician, letterpress printing, radio repairman, tracer (drafting), welder, shoe manufacturing, sign painting, and so forth.

Allowances for Trainees. -- Normally there are no allowances provided to trainees. Unemployment compensation claimants are generally considered good potential trainees. However, if provided referrals during the training program, they must be willing to quit the training course to accept suitable employment.

If a training course includes a stipend to the trainee related to the actual on-the-job performance, placement credit may be recorded at the point in the training where performance on the job begins and stipend is received. This is particularly prevalent in the Title II training of practical nurses.

It is apparent from this brief summary of Training of the Unemployed (Section 2508.3, Public School Code) that Pennsylvania is at least attempting to make maximum utilization of state and federal funds to meet its unemployment problem.

In actual practice, these training programs have resulted in short intensified periods of training for new industries, such as shoe manufacturing and hosiery finishing which move into a community as part of industrial development. Such occupations require, at the most, a semi-skilled level.

Short Term Retraining (120 hours)

Short term retraining is served partially by Pennsylvania's 2508.3 program. The training of power sewing machine operators in a 120 hour course is a typical example. Training of a similar nature has been conducted in the occupational areas of:

paper hanger and interior decorator
industrial carpenter
electrical motor repair
hosiery finishing
radio and television repair
shoe manufacturing
waiter and waitress
power sewing machine operator
autobody repairman
electrical assembling
furniture repairman
polyethylene extrusion operator
sheet metal fabrication
television service
wood worker, hand and machine

Power Sewing Machine Operator (6-27.502)

The Dictionary of Occupational Titles (1949, p. 1181) defines the power sewing machine operator (any industry) as, "one who performs any or all sewing operators on fabrics or similar materials by use of a sewing machine to produce articles such as garments, upholstery, awnings, or hand bags; places spools and wound bobbins on machine; draws thread under tension spring, through guides into eye of needle, adjusts tension on thread and raises presserfoot of machine to admit piece for sewing, lowers presserfoot onto material, starts machine and guides material to be sewed under needle." In most cases, power sewing machine operators are designated according to the type of machine operated and classifications of sewing machine operators are made according to the industry in which the work is done.

THE WILKES-BARRE CASE
Power Sewing Machine Operator

The following case is based on Pennsylvania's 2508.3 legislation. The Wilkes-Barre City School's program was singled out as being an outstanding example of this type of retraining. The authors of this report are indebted to the Wilkes-Barre school authorities, especially Messrs. William J. Morgan and Kenneth J. Muchler, Director and Coordinator respectively of Vocational-Industrial Education; The Pennsylvania State Employment Service, Wilkes-Barre-Hazelton Office and its manager, Mr. N. J. Haydock, and the industries, employees, and teachers of the power sewing machine retraining course for their splendid cooperation and contribution to the study.

The Community

Wilkes-Barre serves as the seat for Luzerne County. It is situated on the east bank of the Susquehanna River in the Wyoming Valley approximately ninety air miles from Philadelphia and one hundred air miles from New York City. The city has a population of approximately 63,500 and is considered the financial, industrial, and commercial core of a metropolitan district which embraces thirty separate but contiguous municipalities having a total population of over 191,000.

This district is the center of the Wyoming Valley complex of cities, boroughs, and townships which have an aggregate population of approximately 278,000 people. Most of Luzerne county's population is located in Wyoming Valley's one hundred and fifteen square mile area. The balance of the county's vast eight hundred and ninety one square mile range consists of scenically rugged countryside dotted with lakes and resort areas. The Pocono Mountain slopes have their beginning along the eastern rim of the valley.

Historically, Wyoming Valley was first settled by the New England colonies in 1769. Wilkes-Barre city incorporated as a borough in 1806 and as a city in 1871. The territory served as the battle ground for fierce Yankee-Pennamite wars and conflicts with Indians which reached a high point during the Wyoming Massacre in 1778.

Wilkes-Barre and the surrounding communities take pride in their exceptional fine public and parochial school systems. Additional educational opportunities are provided by the Wyoming Seminary, one of the East's leading preparatory schools (primary through secondary) and St. Ann's Academy for girls; two outstanding private institutions. Four colleges, namely Wilkes College, Kings College, Misericordia, and The Pennsylvania State University Commonwealth Campus offer programs of a post secondary nature.

The Economy. -- The area was initially agrarian with timber and mineral products playing a minor role. Discovery of high quality anthracite coal (1808) spurred an epoch of mining industry which hastened the development of a great network of railroads and beckoned a rising tide of immigration from the British Isles and Europe.

The coal industry provided for a high degree of prosperity that reached its peak in 1918 when 37.7 million tons of coal were mined in the Wilkes-Barre-Hazelton area. Peak employment of 67,207 workers was reached in 1926. Over the years the decline in production of this commodity has been steady. Production dwindled to a point where in 1960, when a mere 5 million tons were mined; only 6,002 individuals were employed.

The Employment Picture. -- Comparison of sources of employment for the years 1959 and 1960 with the primary source of information coming from the Pennsylvania State Employment Service and the Community Research Center,

Wilkes College, Wilkes-Barre, Pennsylvania, is reported in Table 1. Per cent changes in mining, manufacturing, and government are of particular interest.

Table 1
COMPARISON OF EMPLOYMENT, 1950-1960
Wilkes-Barre-Hazelton Area[a]

Source of Employment	Persons-1950	Persons-1960	Per cent change
Mining	34,500	6,200	-18
Manufacturing	37,300	41,400	+ 9
Self employed	15,600	15,600	0
Wholesale and retail trade	20,600	18,900	- 9
Government	10,300	11,500	+ 9
All others	24,000	24,300	+ 1
Totals	142,300	117,900	- 8%

[a]Greater Wilkes-Barre Chamber of Commerce

The unemployment problem in the anthracite mining industry can be traced with authenticity as far back as the post-Civil War Era, and represents nearly a century of recurrent economic tribulation and frustration to the hard coal industry. The high losses in production and employment in recent decades are directly attributable to the in-roads of the competitive fuels, oil and natural gas, which have captured a considerable share of traditional anthracite markets. A sobering example of the decline in employment in the hard coal mining industry can be seen when comparing the all time high of 180,899 mine workers in 1914 with 24,186 workers in 1958. At the present time, mining represents but 1.3 per cent distribution of employees in Pennsylvania. On the other hand, manufacturing accounts for over 37 per cent employment throughout the state (U.S. Department of Commerce, 1962).

Employment change in select industries as of October, 1962, when compared with October 1961 figures in the Wilkes-Barre-Hazelton labor market area, appears in Table 2. Here, too, in a single year the downward trend continues.

In general, employment statistics for the manufacturing industries in Pennsylvania show a low but steady decline. For example, total employment has declined over the 1960-61 period at the rate of 3.5 per cent. Accompanying this decline, the apparel and related products manufacturing, which is of particular interest in this study has declined over the same period at the rate of 1.3 per cent (U.S. Department of Commerce, 1962). In Luzerne County, the apparel industry accounted for the largest portion of employment engaged in manufacturing during the year 1961 with a total of 16,662 or 39 per cent of all individuals employed in manufacturing (Commonwealth of Pennsylvania, 1962). In the Wilkes-Barre-Hazelton area (Luzerne County) up-to-the-minute figures indicate a slow but steady employment decline of apparel and related products workers. Despite this steady decline, there appears an everlasting need for power sewing machine operators. It is a well known fact that women in the manufacturing occupations are not as stable in their employment as males. Therefore, to merely keep pace with turnover needs, it is important that the Wilkes-Barre Program train approximately 200 women per year as power sewing machine operators.

Job Training Needed (90 hours). -- The operation of a power sewing machine is a semi-skilled occupation. For this reason, short intensive

Table 2
EMPLOYMENT CHANGE IN SELECT INDUSTRIES - 1961-1962 COMPARED[a]
WILKES-BARRE-HAZELTON LABOR MARKET AREA
(In Thousands)

Industry	October 1961	October 1962	Change
Total Civilian Work Force (est.)	129.7	128.3	-1.4
Total Unemployed	13.9	12.1	-1.8
All Manufacturing	40.5	40.8	+0.3
Apparel & Related Products	3.2	3.0	-0.2
Leather Products	2.6	2.7	+0.1
Non-Manufacturing	60.9	61.1	+0.2
Mining	4.8	3.8	-1.0

[a]Bureau of Employment Security, Labor Market Letter, Wilkes-Barre-Hazelton Area, October, 1962.

training is needed to: (1) acquire the necessary skill, and (2) to give the operator self-confidence necessary to not only operate the machine, but to fit into the production pattern. Most women have some time or other throughout their lives operated a domestic sewing machine. Production equipment is, in some respects, similar to the domestic sewing machine, however, it operates at a much higher rate of speed.

Analysis of the required operations pointed toward 90 to 120 hours on the average needed to develop both the self-confidence and required skill. This, then, is short term training of such a nature as not to require the highest in either mental or physical aptitude. Training of this type is often left entirely up to the industry itself to be provided on the job or of the vestibule type.

How The Needs Were Determined. -- In the Wilkes-Barre case, as will be found in most instances where school authorities have established proper rapport, the industry itself (both garment and shoe) did not hesitate in expressing their problem, which was the need for a supply of basically trained power sewing machine operators.

In 1952, the Wyoming Valley area was selected as the relocation site by a large number of garment shops. Many of these manufacturers migrated from the New York City area in an attempt to find a more suitable working climate. Initially, they were dispersed over a wide area, setting up production in storerooms and other make-shift physical facilities. Although handicapped by such a lack of facilities, they were even more hindered by a critical shortage of trained sewing machine operators. The industry assured all individuals, who possessed any ability and knowledge of power sewing operation, full employment. The Wilkes-Barre City School authorities recognized the plight of the industry and the evolving unemployment picture caused by the closing of local coal mines and volunteered to establish a power sewing machine operator retraining program. Initially, the facilities consisted of 12 machines with 3 separate class shifts run each day. As promised, the garment industry immediately employed all individuals who satisfactorily completed the training program.

The Program

The turn of the century found the Wyoming Valley area suffering from the impact of a rapidly declining coal industry. Unemployment had spiraled to serious proportions and it was obvious the situation would become increasingly worse if new jobs and new skills for the

manpower potential could not be developed. In 1952 the Wilkes-Barre City School authorities became directly involved in a retraining program to assist in alleviating the situation. The garment industry, in particular, transmitted a need to the public schools for trained power sewing machine operators. The industry offered to establish an advisory committee (about seven individuals) to explore further, with the school authorities, the problem of providing a training program. An attempt was made to carry on a program of training power sewing machine operators, within the plants themselves, making use of the factory equipment, and supervisory staff serving as instructors. This vestibule type training proved unsatisfactory to both the employers and the school as it distracted from both production and instruction. After about a year, it was agreed to recognize the program on an "in-school" basis with the public school providing the physical facilities and the industry the equipment and materials. The program has operated under this plan throughout the years. Figure 4 gives some idea of a typical power sewing machine operator class situation.

The training idea was first conceived to "weed out" those individuals who did not possess the mechanical aptitude to handle a power sewing machine and to acquaint the trainee with the simple and fundamental operations applied to the garment industry. The first course ran only 60 hours. This was thought to be ample time to acquaint the trainee with the bare essentials of power sewing machine operation. The companies then took over and provided any detailed training peculiar to their type of machinery and product. The garment power sewing machine operator program was carried on in this manner for the next seven years. During this time, it functioned as a trade extension course offered as part of the adult education program of the Wilkes-Barre City Schools.

In the interim, the shoe industry of the Wyoming Valley observed the success of the program and requested similar assistance in training power sewing machine operators for the manufacture of shoes, leather and plastic goods. Again, an advisory committee was formed and in 1956 a program for the training of individuals to operate power sewing machines for the shoe industry was organized.

It is interesting to note that in the early operation of the program no specific student selection requirements were established for either program. Students registered directly with the school and "flunked" the program only after it was determined definitely that they did not possess the aptitude to become a power sewing machine operator. The notion behind this procedure was that the school was to help prepare for employment and they were only too willing to accept any and all who desired the retraining. During the first seven years of the program, approximately four hundred individuals were trained annually for absorption by the two types of manufacturers requiring power sewing machine operators.

Since 1960, the Wilkes-Barre school authorities have taken advantage of section 2508.3 of the Pennsylvania retraining act. Prospective re-trainees have been screened and selected by the Pennsylvania Employment Service, who use the General Aptitude Test Battery and their multifactor interview technique to determine chances of success if enrolled in the training program. Detailed study by the P.S.E.S. has revealed considerable understanding of the aptitudes needed by power sewing machine operators and an individual's mastery of the skill is almost guaranteed if he passes the screening process.

Placement of graduates from the program appears to provide no problem. The garment industry has an exceptionally large and rapid turnover in employment due to normal conditions. The preponderance of female workers creates the problems of marriage, raising of families, and so forth, which are met by a continual migration in and out of the occupation. Therefore, trainees, with the aid of the Pennsylvania State Employment Service, have little difficulty in securing employment in this occupation even when the industry itself is not expanding. Ads appear almost daily in the local newspaper beckoning experienced and even learning sewing machine operators to busy shops. The typical ad reads:

SEWING MACHINE
OPERATORS
Experienced and Learners
Steady Work
Day and Nite Shifts

The steady demand for trained power sewing machine operators has projected, what school authorities originally thought was, but a timely need into a permanent type program now in its eleventh year of operation. And, still, there is no end in sight. Such permanency, or taking for granted, that there will always be a power sewing machine operators school as part of the Wilkes-Barre system does, however, present some problems which will be discussed more adequately in the section on evaluation. Nevertheless, it is fitting here to say that employers themselves, rating the value of the training on a dollars and cents basis, say it saves them from $95 to over $400 per new employee. Moreover, they are quick to admit that, without a source of already trained operators, they would soon be in a bind.

Developing the Curriculum

The training of power sewing machine operators constituted a new educational endeavor of the Wilkes-Barre City School authorities. Not only was it necessary to determine what should be taught, but physical facilities, instructor qualifications, teaching techniques, and procedures all had to be determined. In order to arrive at the best and most realistic answers to these problems, it was requested that the industry provide an advisory committee to give advice and counsel to the entire program.

The Advisory Committee was constituted with seven top officials from the industry. They were charged primarily with determining: course content, qualifications of the instructor, proper and adequate equipment, and standard practices in the occupation. One of their first tasks was to approve the curriculum and set the number of hours of training. It was established that the course objective would be to identify those individuals who possessed the aptitude and dexterity to become sewing machine operators. It was agreed that the school would serve best in the role of proving basic training with the industry itself giving on-the-job detailed training. Initially, the committee agreed that approximately 60 hours of classroom instruction, (which now has been increased to a maximum of 90 hours for the garment industry and 120 hours for the leather goods industry), would be ample. The initial cooperation of the advisory committee and school has continued throughout the years.

Following are course outlines for the power sewing machine training program for the garment, upholstery, and shoemaking industry as conducted by the Wilkes-Barre City Schools.

POWER SEWING COURSE
Garment Industry

Topic

A. Machine Theory - single needle (95-1 and 95-10 lockstitch)
   1. Explaining the machine
   2. Sewing without thread for control
   3. Threading machine and bobbin winder

B. Operations:
   1. Sewing straight lines and making square corners (foot spacing)
   2. Sewing circles (foot spacing)
   3. Edge stitching
   4. Tacking
   5. Joining straight seams and top stitching
   6. Joining curved seams and top stitching
   7. Joining curved seams to straight seams and top stitching
   8. Joining two opposite curves and top stitching (yokes)
   9. Making square collars, turning and top stitching
   10. Making round collars, turning and top stitching
   11. Setting collars with bias binding
   12. Back stitching collars and setting labels
   13. Hemming square pockets
   14. Setting square pockets and top stitching
   15. Making round pockets and top stitching
   16. Setting round pockets and tacking
   17. Shirring skirts and setting bands
   18. Making blouse darts
   19. Making V darts
   20. Making curved darts
   21. Making slit darts

22. Making french cuffs
23. Making sleeve plackets (slit)
24. Making skirt and blouse plackets
25. Setting side pockets
26. Setting skirt zippers
27. Setting dress placket zipper

C. Attachments:
1. Up turned facing hemmer
2. Under facing hemmers and setting labels
3. Right side top stitching
4. Left side top stitching
5. Rolled hemmer (1/4 inch)
6. Setting binding on collars and necklines
7. Cleaning and oiling machine
changing machine and bobbin winder thread
changing needles
8. Joining long strips for speed and handling material

Upholstery Machine

Topic

1. Machine Theory (111-W-155)
   a. Explain machine
   b. Sewing without thread for control
   c. Threading machine
2. Sewing squares and making corners
3. Sewing foot spacing circles
4. Locking
5. Joining straight strips and tacking
6. Joining curved seams and tacking
7. Joining curve to straight seam and tacking
8. Joining two opposite curves and tacking
9. Boxing
10. Cording
11. Cleaning and oiling machine
changing thread
changing needle
changing stitches
12. Joining long strips for handling and speed

TOTAL 90 hours

Shoemaking Industry

A. Type of machines in classroom
   1. 31-15 or 41-17 Flat Machine (lockstitch)
   2. 51-W-54 Post Machine (lockstitch)
   3. Union Special Machine (chainstitch)
B. Functions of machines
C. Important parts of machine
   1. Needle
   2. Bobbin - no bobbin in Union Special
   3. Foot treadle
   4. Knee lift
   5. Foot
   6. Feed
      a. Wheel and gear feed
      b. Dog feed
   7. Stitch adjuster - length
      a. Various sizes of stitching
D. Lubrication
E. Putting machine into operation
F. Stitching
   1. Flat Machine (Lockstitch 31-15 or 41-17)
      a. Straight lines
      b. Curves
      c. Top lines
      d. Designs
      e. Closing
      f. Putting two pieces together as overlays and underlays
      g. Binding
   2. Union Special Machine (2600 chain-stitch)
      a. Straight lines
      b. Curves
      c. Closing
      d. Sach stitching
      e. Rapper stitching
   3. Post Machine (51-W-54 lockstitch)
      a. Straight lines
      b. Curves
      c. Top lines
      d. Designs
      e. Binding
      f. Counter packets
      g. Back straps

TOTAL 120 hours

Planning and Installing the Facilities. -- It is obvious that commercial equipment of the type needed to train power sewing machine operators comes with a high price tag. Even more acute was the dire need for space allocation in an overcrowded Wilkes-Barre school system as far back as 1952. The first attempt to establish facilities was made in a factory. Here in-plant training was given for several months. In October 1953, the program was moved to the old Grant Street Elementary School where it occupied a 30 x 40 foot space.

As is often the case, when necessity is the mother of a lot of things, someone came up with the idea to utilize approximately 3500 square feet of floor space which was located in the James M. Coughlin Annex Building. Modification of this area was made in 1962 and the program took up permanent and more adequate residence where it has been located ever since.

Equipment has not been too great a problem. From the start, the industry allocated 15 sewing machines to the program. With the addition of the leather goods machines, it is estimated that approximately $10,000 worth of equipment has been provided by the industry for training purposes. This is in addition to the donation of scrap materials for instructional purposes.

The facility and equipment arrangement is shown in Figure 5, although admittedly not spacious or even ideal. It should be noted that ample storage space is an essential consideration; along with a rest room, and lavatory facilities for both men and women. The arrangement of the equipment into work stations can, of course, be varied to suit the method of instruction. The Pennsylvania garment industry is mainly operated on a production basis -- that is, each operator doing one or a few operations. Therefore, the closeness of machines and production line atmosphere provide a realistic setting for the trainees.

The Teachers. -- The recommendation of teachers of the Wilkes-Barre power machine operator program has been a function of the Advisory Committee. In this respect, it is interesting to note that one of the teachers has been in continuous employment since the inception of the program. Obviously, any teacher must have command of the subject area being taught. This principal was followed as both teachers are recognized experts in the occupation, having held responsible positions in the industry with records of experience of 12 years in one case and 15 years in the other.

An advantage, implicit in the Wilkes-Barre power sewing machine program, which is not typical of 2508.3 retraining programs, is that it has continued to thrive over the years. The teachers, then, have become a permanent part of the scene and have experienced a considerable amount of professional preparation so that one now holds a masters equivalent certificate having amassed 90 hours of college work and the other a vocational extension certificate. All-in-all, both teachers have eminently qualified themselves to handle the task of training power sewing machine operators.

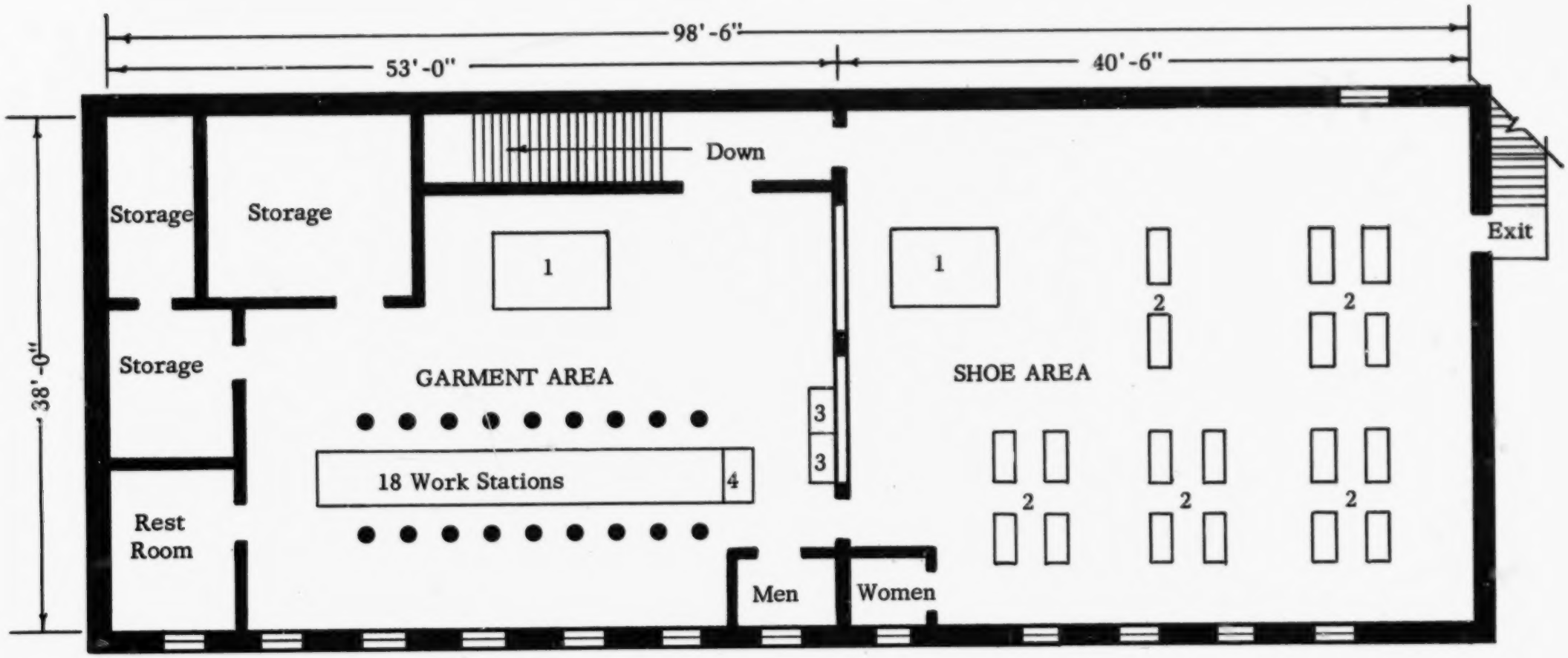
It is felt by those who supervise the Wilkes-Barre Program that the following should be adhered to as minimum in teacher selection irrespective of the length of the retraining program. The teacher training topics that are desirable to assure success are also mentioned.

MINIMUM TEACHER QUALIFICATIONS
Retraining Program (2508.3)

Formal education	High School Graduate
Experience	6 years in the occupation
Teacher preparation	A minimum 10 clock hour course in teaching techniques
Certification	The basic certificate (emergency)
Personal qualities	Ability to work with and handle adult groups

FIGURE 5

POWER SEWING FACILITY



KEY

1. cutting table
2. machines
3. sink
4. motor

DESIRABLE TEACHER EDUCATION
Topics[1]

Organizing the Class
Planning the Instruction
How We Learn
How We Teach
Oral Presentation
Demonstrations
The Art of Oral Questioning
Teaching Aids
Guiding Individual Performance
Testing
Grading
Self Evaluation

[1] Department of Public Instruction, Teaching Vocational Education Subjects, Harrisburg, Commonwealth of Pennsylvania, 1960.

An understanding of the aforementioned topics represent but the basic rudiments of good teaching. Each topic must be presented and mastered by any teacher, whether employed or on a full or part-time basis, if instruction is to be effective. It is, therefore, recommended by those involved in this retraining program that a preservice teacher training program be established for the teacher well before the appearance of the students. This can be accomplished either on an individual instruction basis or in a group setting where several retraining instructors are brought together for the instruction. Under no circumstance should this important aspect of teacher preparation be ignored. Usually, this type of specialized training requires the seeking out of a teacher with specific skills and abilities, the like of which will not be found in those pursuing a regular teacher preparation program. Undoubtedly, Advisory Committee recommendations will be most valuable in locating teachers for short term retraining programs. Other sources would include:

- Graduate from teacher training programs
- Retirees from Armed Services (Many of these retire at an early age)
- Industrial personnel who can be granted leaves of absence
- Graduates from a similar program who have had experience in industry
- Representatives of manufacturers associations whose services are available for putting on short courses.

Selection of Trainees. -- Trainees for the program were selected by the Pennsylvania State Employment Service. Job orders (descriptions) provided the necessary job information and a number of standing orders are a normal practice. Minimum requirements specified that females under 45 years of age were preferred. Specific standards of selection included a testing program involving factors S, M, and O of the General Aptitude Test Battery. Counselling to help make a decision about enrolling in the training course was not necessary for all applicants.

The Trainee

The Pennsylvania Training for the Unemployed (2508.3) Act requires that the Employment Service screen and select the applicants for training. In this process, The Pennsylvania State Employment Service through its local offices tests, interviews, and advises unemployed individuals as to their capabilities and opportunities to take part in retraining programs.

The Wilkes-Barre School authorities have found this procedure highly satisfactory, however, they do reserve the right to reject any of the trainees as being unsatisfactory throughout the retraining period.

Even though the occupation of power sewing machine operator is classified at a semi-skilled level, it is said that the meticulous screening requires the processing of almost five individuals to find one who possesses the necessary requirements to assure success.

General Characteristics. -- Investigation by the authors of this report found the trainees to possess the following general characteristics as

measured by the California Mental Ability Test, (Short Form), and the Sims SCI Occupational Rating Scale:

Table 3
GENERAL CHARACTERISTICS OF POWER SEWING MACHINE TRAINEES

Characteristics	Findings
1. Mean chronological age	33.6 years
2. Mean grade placement	7.0 years
3. Mean I.Q.	77.0
4. Normal population I.Q. compared	10.0 Percentile
5. Social status (self perceived)	Worker

The characteristics in Table 3 are probably typical of the average power sewing machine operator trainee. This is to say the typical individual, whether male or female, who selects the operation of a power sewing machine as an occupation is mature, has a limited educational background, and perceives himself as a member of the working class. More intensive insight into the personal history and background of the individuals who were preparing to become power sewing machine operators, was uncovered through a depth interview with each. The significant results from these interviews typified the average individual learning to be a power sewing machine operator in the Wilkes-Barre program as:

Depth Interview. -- A depth interview lasting approximately one hour was conducted with each trainee. The first half of the interview was held at the school. The second half, or follow-up, was conducted approximately three months later either at the place of employment or at the trainee's home. The following description of the group stems from this depth study:

- Personal Characteristics

Personal characteristics of the power sewing machine program trainees reflect a good deal of pertinent information. In essence, trainees themselves become the "raw material" from which will be fashioned the best and most competent workers possible. Following are characteristics of the trainees:

Sex -- 9 were male and 13 female

Age -- 11 of the 22 were under 25 years of age, 6 were from 25 to 50 years of age, and 5 were over 50. The oldest was 54 years and the median age of the group was 25 years.

Residence (Local) -- 16 of the trainees (72.7%) lived in the community all their life. 3 years was the shortest time lived in the community.

Residence (State) -- All 22 trainees were residence of Pennsylvania from birth.

Marital Status -- 10 were single, 10 were married, and one divorced.

Social-economic Status -- all 22 classified themselves in the working category.

Living Accommodations -- 5 owned their homes, 5 rented, 11 lived

with a parent or guardian, and 1 had a home provided by a relative.

Relatives -- 14 of the 22 had relatives living in the immediate area. The number of relatives ranged from 1 to 42.

The trainees apparently constitute a heterogeneous group as far as age and marital status are concerned. However, they are all native born Pennsylvanians, and the result of our own unemployment problems. All considered themselves workers and over half of them have strong family ties in the immediate community. The fact that 5 out of the group, or almost a fourth of them, own homes points further to their deep community roots.

- Family Characteristics

The characteristics of the families of the trainees appear as follows:

Household Members -- 11 trainees came from a household with 3 or less members, and 11 from households with 4 to 8 members. A total of 86 household members were reported by the group or an average of 3.9 per household.

Youngsters in Household -- 14 came from households that did not have youngsters 16 years of age and under. One had 5 such youngsters and the remainder 1 to 3.

It appears that the trainees for the power sewing machine operator program do not come from large families. At the same time, except for one case, the households are represented by older, more mature individuals and there is a decided lack of those under 16 years of age. The one exception is 5 youths all under 16 years were reported in one household.

- Socio-economic Origins

Socio-economic origins of the trainees appear as follows:

Father's Occupation -- Ten of the trainees had fathers who were employed the majority of their lives as non-farm laborers; 4 were, or had been either owners or managers of small businesses; 3 were operatives in a factory; 2 craftsmen or skilled mechanics and 1 was classified as not being in the labor force the most of his life.

Socio-economic Status -- Ten of the fathers' occupations could be classified as lower working, 3 working, and 2 middle working.

Of the 22 trainees, almost half of them came from fathers who earned their livelihood as laborers. This places them in the lower working socio-economic category. However, as potential semi-skilled power sewing machine operators, they (the trainees) aspire to the working classification. In other words, being a "common" laborer, who possesses little if any skills is not for them.

- Employment Status of Family Members

The effort being put forth by other family members in respect to employment appear below:

Number of Family Members (over 14 years) Not Going to School -- A total of 37 family members over 14 years of age were reported in the households of the trainees. This represents on the average less than 2 per household.

Family Members Employed -- 20 of the household members were employed full time and 1 was

employed part time; in other words, over half of those eligible (56.7%) for employment.

From this description, it can be seen that those eligible to work in the trainee's family are attempting to carry a share of the family financial burden.

- Employment History

The employment history of the trainees follows:

Number Times Employed -- Five of the trainees (25%) had never been employed before. Ten of them were employed 1 time previously and the remainder 2 or more times. Only 1 was employed previously more than 3 times.

Location of Employment -- All 15 who had been previously employed had been so in the immediate community.

Type of Employment -- Forty per cent had been employed at an unskilled job and 60 per cent at a semi-skilled job. None were employed in a skilled position.

Distance from Home -- Thirteen of those who held previous employment traveled a distance from 1 to 5 miles. Only 1 traveled over this distance.

Wages Earned -- The median wage earned was from $40 to $49 per week. Only 3 jobs held paid over $60 per week.

It is obvious that the work history of the trainees was somewhat varied. However, a fourth of them (5) were apparently preparing for their first employment experience. Moreover, most previous employment had been in the immediate community and at a relatively unskilled level.

- Previous Training

Previous training of the group appears as follows:

Number of Times Taken -- Only 5 out of the group (22.8%) had taken any previous occupational training.

Helped Get Job -- Of the 5, only in a single case did it help secure employment. And, at no time did it lead to a job in another city.

Length of Course -- The median length of training was 17 to 26 weeks. In 2 cases, it was 27 to 52 weeks and, in 2 cases, 9 to 16 weeks duration.

Type of Training -- Training in 2 cases was in nurses aide, 1 in beautician, 1 in clerical, and 1 in other services.

Results -- 1 said it helped get a new job, and in another case it helped get a promotion.

This group was certainly not training wise. Only 5 had ever had any previous training. Limited results, to say the least, were reported as a result of this previous training.

- Educational Background and Cultural Values

The educational background of the group may well serve as a measure of future success even in an occupation as repetitive as power sewing machine operator. Similarly, the value held of education is important to not only the individual's accomplishment but to those with whom he associates. Educational background and values of the group appear as follows:

Formal Education -- Only 2 of the 20 completed high school.

Educational Achievement -- 11 of the 22 (50%) indicated they had done about as well as other students when in high school. 5 thought they did better and 5 admitted they didn't do as well as other students in high school. The group, as a whole, had a 77.0 I.Q. on the California Short Form Test of Mental Maturity and a grade placement of 6.9.

Favorite Subjects -- 9 of the group recalled the physical sciences (biology, chemistry, mathematics, etc.) being their favorite subjects, 4 liked English, 1 preferred the humanities (English literature, poetry, music, etc.); 3 each business subjects, and social sciences (history, sociology, economics, etc.), and only 1 manual skills, i.e., home economics, or shop. In the main, the subjects liked best resulted in the highest grades.

Higher Education -- 1 went to college, but did not complete. 1 admitted giving college serious thought but for "financial reasons" would not attend.

More Education -- 17 out of the 22 readily admitted they would have gotten more education if they had it to do over again. 7 would have finished high school; 2 college; 4 high school and college; 2 trade school, and 1 business school.

Educational Values -- When asked about the value of education for youth, either in their immediate family or acquaintances, 18 of the group (81.8%) felt all should finish high school. Moreover, 9 of this number expressed a need for youth to go on to college. 4 of the group merely said, "youth should go as far as they can in school." 13 of the group felt that boys, under no circumstance should drop out before completing high school, and as to how far boys and girls they know will actually go in school, they held the opinion 3 to 1 that most would complete high school.

- Cultural Values

Cultural Values -- All of the trainees claimed to regularly read at least one newspaper. Five read more than one local and 3 read local and out-of-town papers. Five said they did not read any magazines regularly and 3 did not watch TV regularly. One out of 4 did not know the name of the governor and 1 out of 6 did not know the name of their congressman. Only 5 had any idea of who the largest employer was in the community.

Societal Values -- Seventeen out of the 22 were church members, 2 were members of the PTA either presently or in the past, and 2 belonged to a sports or hobby club. None belonged to a social club, political organization, but 3 were members of a union.

It is evident from this picture of educational background and cultural values that the group of trainees were quite limited in both. This group left much to be achieved in the way of formal education. Little advantage seems to have been taken of the mass media of TV, periodicals, and the like. It is assumed, however, since over half of the trainees were female, that little time was available for leisure activities after the completion of home chores.

- Aspirations and Occupational Mobility

Aspirations for either one's self or sons and daughters could have some bearing on the problem of mobility. Trainees of the power

sewing machine course held the following aspirations and attitudes toward mobility.

Aspirations for Sons and Daughters -- The make-up of this particular group of trainees and the fact that they were either extremely young (11 of the 29 were under 25 years of age and 5 were over 50) somewhat precluded answers to this item. Of the group, 1 expressed the desire for her son to be an engineer and 1 a craftsman. No aspirations for daughters were reported.

Self Aspirations -- Fourteen out of 22 (63.6%) admitted desires to do some other kind of work than they either had been doing or for which they were being trained. These aspirations ranged from such occupations as registered nurse to bank teller. However, only 4 of the group felt a strong chance of ever achieving their ambitions.

Mobility versus Retraining -- Thirteen per cent of the group (59.1%) felt it would be more difficult to move to a new community where there were employment opportunities in their old occupation than to be retrained for a new occupation and remain where located.

Returning to Old Occupation -- Only 3 of the group felt they had an excellent chance of getting their old job back; 4 said "no chance," and 8 said "fair" chance.

Mobility of Residence -- Seventeen out of 22 (77.3%) indicated they expected to be living in their same community 5 years from now. Reasons for the 5 not holding this feeling were, "no jobs in area," and "don't like area."

Encouraged Mobility -- If provided encouragement and a free choice to move anywhere in the U. S., 11 would go on living in their communities, 7 would move elsewhere, and 4 didn't particularly care. Of the 7 who would prefer to move (31.8%), they chose a metropolitan area in a contiguous state.

Cost of Mobility -- $5,000 to $5,999 was reported as the median family income which would be considered necessary to be as well off financially in another community.

Mobility Problem -- Reasons for not wanting to move were: "would have to leave family," "higher cost of living elsewhere," "this is good place to raise children," "like geography of this area."

Mobility of Youth and Neighbors -- Ten indicated they would want their sons and daughters to remain in the community after finishing high school and 12 felt they should move away for better opportunities. Opinions were split 9 to 9 whether or not neighbors out of work should stay or move away.

Change of Occupation -- Twenty-one out of the 22 (95.5%) were of the opinion that it is desirable to take any kind of work if unemployed for a period of 6 months.

It is apparent that this group somewhat leans in the direction of mobility. 31.8 per cent of them desired to leave the community and an additional 18.2 per cent indicated it didn't make any difference to them whether or not they moved. In other words, 50 per cent (11 out of

22) were inclined to move if encouraged and the opportunity presented itself. This attitude toward mobility was further emphasized when 12 out of the 22 felt if they had sons or daughters they would want them to move from the community for better employment opportunities.

EVALUATION

A case study of the Wilkes-Barre power sewing machine operator program (2508.3) would not be complete without providing some idea of its effectiveness and real value. Although it has been chosen as a typical example of a Pennsylvania training for the unemployed (2508.3) program, it obviously does not exemplify in detail all such programs. Therefore, it is impossible from this one case to make inferences about other 2508.3 programs as conducted throughout the state. A study of other such programs may reveal them as good, better, or poorer than reported for the Wilkes-Barre attempt.

General

It was obvious from the start of this study that the Wilkes-Barre 2508.3 program was making a significant impact in terms of alleviating the unemployment problem. Just how great an impact as compared to other types of retraining programs, mainly the ARA (Area Redevelopment Act) and MDTA (Manpower, Development, and Training Act), will be discussed separate and apart from this evaluation. The effectiveness and end results of the Wilkes-Barre program in terms of generally conceived good practices of student selection, instruction, physical facilities, teacher selection, and so forth will be delved into here.

Before specifying in any detail the evaluation, it is important to again emphasize that study of this one program does not provide a basis for making generalities about other 2508.3 retraining efforts. Only this particular program was studied and what is said here must not be interpreted to apply to any other such undertaking.

Trainee Selection

The occupation of power sewing machine operators presents some unique problems relative to the selection of trainees. Undoubtedly, the selection process being carried out by the Pennsylvania State Employment Service is serving an important function. Considerable time and effort was exercised in testing, interviewing, and counselling potential trainees for the program. Moreover, placement (initial at least) of those who satisfactorily completed the course appears to be effectively and efficiently carried out. A spirit of cooperation prevails on the part of the school authorities and P.S.E.S. personnel which makes for a good working relationship and helps to assure a successful program.

Evaluation of the trainees by employers, however, indicates there is some feeling that selection standards may be too low and more care should be exercised in "weeding out" those who have a poor attitude toward work.

Admittedly, the selection of individuals for any retraining provides a knotty problem, however, the identification of trainees presents the single, if not crucial, key to the success of the entire program. Therefore, every possible means should be continually explored to provide the best possible material for the retraining program. Of course, the fact that there exists but one such opportunity (power sewing machine operator) to the exclusion of types of other training greatly limits the possibility of choice.

Over-all Quality

In attempting to evaluate the program, it seemed desirable to compare it with some measure of accepted standard. Therefore, it was determined to use the form developed by Pendered (1957) which provided a qualitative rating on factors of Physical Conditions;

Instructional Programs; Methods, Management and Housekeeping, and The Teacher. The sum total of all 77 items provided an over-all quality rating. The factor ratings as well as the over-all rating of the Wilkes-Barre, power sewing machine operator program, scored independently by three individuals who were well acquainted with educational practices and satisfactory conditions and maximum instructional effectiveness follow:

Factor	Per Cent - Quality
Physical Condition	65.0
Instructional Program	71.0
Methods, Management and Housekeeping	50.7
The Teacher	64.6
Over-all Quality	62.0

● The physical facilities that house the Wilkes-Barre power sewing machine program and their condition received a rating of 65.0 per cent. This rating represents a slightly above average facility in which to carry on the important task of instruction. Some of the weak features consist of:

Poor ventilation and temperature control.
Inadequate and poorly arranged storage space.
Worn out and need for new hand tools.
Worn but still serviceable power machines.
Soiled ceiling.

Probably one of the most distasteful aspects, yet an unrelated factor to carry on good instruction relative to the physical facility, was the external appearance of the structure that houses the power sewing program. The main entrance to the facility consists of an alley way, shadowy stair case entrance which immediately creates a feeling of depression. The gateway to a new learning experience, such as any retraining program represents, would do well to reflect something better than such a "cast-off" atmosphere.

In general, employers and trainees alike evaluated the physical facilities as satisfactory for the activity. Several employers indicated the need for new and up-to-date equipment; a situation that they themselves control since they supply the machinery for the course. Unfortunately for both the school and the employers themselves, several stated frankly they had never seen the facility, but expressed a desire to do so if an invitation was extended.

● The instructional program received an aggregate rating of 71.0 per cent. This is to say it was well above average in the eyes of the evaluators.

Items that received high ratings were: course aims and objectives, activities in shop suited needs and interests of pupils, course of study, lesson planning, and community resources. Items that apparently could stand some improvement were: evaluating pupil progress, and materials used (aids) in shop instruction.

● Methods, management, and housekeeping received a total rating of 50.7 per cent. General housekeeping appeared good; however, some improvement could be made in condition of stock and storage, safety procedures, bulletin board displays, audio-visual aids, methods of instruction, and personnel system.

● The teacher(s) were rated on 18 separate items and scored 64.6 per cent; the highest of the teachers rated among the three retraining programs studied. These were above average teachers with an ability to deal with the problems of adult training. However, as could be expected, their tenure and type of employment placed them in an unusual position in the eyes of the profession. Both had made concerted efforts to prepare themselves for their task by taking teacher preparation courses. One held a master's equivalent certificate. Scores in this category were high in industrial work experience, personal appearance, voice, manner, poise, interest in teaching, and the like. However, ways must be found to help these and other teachers of the retraining programs to assume more of the role of the profession through taking part in

professional organizations, reading professional books and periodicals, and in generally being accepted as an integral part of the profession. Status of this nature is, of course, most difficult to achieve under any part-time or "crash basis" type program which is presently exemplified by the approach being made to the retraining problem.

● Over-all quality of the Wilkes-Barre power sewing machine program was rated above average at 62.0 per cent. Naturally, such a rating leaves room for improvement.

Employers and trainees rated the over-all quality very good to good. However, surprising enough, several employers did not know the program well enough to feel qualified to give a rating. Certainly, as the recipient of the results of the program, one would think they would make every effort to understand and aid it in every way possible.

Employment and Placement

Program effectiveness, of course, must be measured in what it did toward making individuals employable. Initial employment (one week) after completion of the training found 96 per cent of the group employed. This represents outstanding evidence of the program's worthwhileness.

Follow-up interviews with the trainees indicated their appreciation for the assistance given them both by the P.S.E.S. and school authorities in finding them jobs. Initial employment experience do, however, point to some disallusionment as to "what it was like" to be a power sewing machine operator under actual working conditions.

It was apparent from the interviews with both trainees and employers that employee mobility (local) within the garment industry is an accepted practice. A large number of the trainees were, after three short months, working at their second or third place of employment. Job changes were attributed to such things as: "work was getting slack," "I thought I'd like the other place better," "my supervisor left and I went with her," "I could make a little more money."

Employment of the trainees at the end of three months indicated that 80 per cent of them were still in the occupation for which they had been trained, their average weekly earnings were $50.53 and they worked on the average 40 hours per week. Ninety-five per cent said they would take the same training over again if they had the opportunity. And, all-in-all, they were satisfied with the results of the course.

A Final Word

It is the opinion of the school authorities who have worked long and hard on this program that its success lies in (1) employer interest as reflected by the advisory committee, and (2) the student selection as made by the P.S.E.S. Without these two ingredients, any similar program cannot be a success.

3. AN AREA REDEVELOPMENT ACT ATTEMPT

THE AREA REDEVELOPMENT ACT

- MEDIUM TERM RETRAINING (624 HOURS)
- SHEET METAL MACHINE OPERATOR (6-94.202)

THE POTTSVILLE CASE

- THE COMMUNITY
- THE PROGRAM
- THE TEACHER
- THE TRAINEE

EVALUATION

3. AN AREA REDEVELOPMENT ACT ATTEMPT

The counselor abruptly laid down his pencil and said, "You have the ability and aptitude to become a sheet metal machine operator; that's for sure! Moreover, you are eligible to take advantage of such training for a period of sixteen weeks in the new class that is being formed at the Peacock Street Vocational Shop." The discussion taking place was between a representative of the Pennsylvania State Employment Service and an unemployed adult who could not expect to secure full-time employment without training. The training being discussed fell under the Area Redevelopment Act of 1961 and was being conducted by the local public schools.

What did such an opportunity mean for an unemployed individual? To those selected for the training by proving they possess the ability to profit from it, it meant a paycheck. Yes, a weekly check for going to school; for learning a new trade. A paycheck in many cases represented the first income of an earned nature for many weeks. Furthermore, at the end of the training period there was a better than even chance there would be a job waiting. To the unemployed person, the person who had been looking for weeks and possibly months for work, this in itself was motivation to want to learn a new skill.

To be selected for retraining was indeed an opportunity for those Pennsylvanians who had become outmoded in their occupation and needed to learn new skills which were being sought after on the labor market.

THE AREA REDEVELOPMENT ACT
(Maximum 16 weeks)

The Area Redevelopment Act 1961 of the federal government is intended to help hard-hit communities to help themselves to a better way of life. Over the years, some skills have practically disappeared and new kinds of work requiring different skills have emerged. Total industries have likewise changed in terms of numbers and kind of workers needed, and industrial plants have moved location from one section of the country to another reducing employment opportunities for workers in some areas and increasing opportunities in other areas.

For those communities whose leaders and citizens are resourceful, imaginative and forward looking, the Area Redevelopment Act offers a hopeful challenge. To meet this challenge, the act attempts to bring together in a common effort local community resources, state aid, and Federal assistance.

Purpose of the Act. -- The purpose of the Area Redevelopment Act is to establish an effective program to alleviate conditions of substantial and persistent unemployment and underemployment in certain economically distressed areas. It calls for a continuing program providing job opportunities, study of the causes of unemployment, underemployment, underdevelopment and chronic depression. Moreover, it encourages the formation and implementation of national, state, and local programs to raise income levels and to otherwise bring about solutions to depressed area problems.

Administration of the Act is vested in the Department of Commerce. Specific

responsibilities are assigned to the Department of Labor; Health, Education and Welfare; Agriculture; Interior; the Small Business Administration, and the Housing and Home Finance Agency. There is, also, a provision providing for a Federal Advisory Policy Board and a National Public Advisory Committee on Area Redevelopment.

Determination of a "Redevelopment Area" is based on average rates of unemployment over an extended period of time. These rates cover specific geographical areas where unemployment is current 6 per cent or more and has either averaged 6 per cent or more and has been at least 50 per cent above the national average for three of the preceding four calendar years; or 75 per cent above the national average for two of the preceding three calendar years; or 100 per cent above the national average for one of the preceding two calendar years. Redevelopment areas may constitute a county or several counties in which a high number of low income families exist and a substantial or persistent unemployment or underemployment situation prevails. Such interpretation makes eligible typical rural areas in contrast to the industrial areas where the yardstick of unemployment may be rather clearly defined.

Loans are obtained from the Federal Government for the purchase or development of land and facilities including machinery and equipment for industrial or commercial usage. This may include the construction of new buildings; the rehabilitation of abandoned or unoccupied buildings; and the alteration, conversion, or enlargement of existing buildings.

The Act not only carries a provision for loans, but in some instances provides for grants for the acquisition or development of public facility usage and the construction, rehabilitation, alteration, expansion, or improvement, of public facilities within a redevelopment area. Moreover, and paramount to the study reported herein, the act provides for the training and retraining of individuals. The training provisions are intended to help unemployed or underemployed workers prepare themselves for new or different jobs. To do this, it brings together in a common effort local community resources, state aid, and Federal assistance.

Training Provisions. -- The Act contains important provisions for the training and retraining of the unemployed and underemployed so they can acquire the skills that available jobs demand. Training or experience is always an important factor in the workers ability to get a job and keep it. Therefore, courses may be offered at public high schools, vocational schools, trade schools, vocational technical schools, community and junior colleges, universities, and any other institution in which the program would be under public supervision and control. Such courses may be carried on during the day or evening and must provide for training in occupations in which there is a reasonable expectation of employment.

Selection of Trainees. -- The Department of Labor through the Pennsylvania State Employment Service has the responsibility for selecting individuals for the training. This is generally done through the local public employment offices in the community. These offices select and refer trainees on the basis of qualifications for training and on a reasonable expectancy for obtaining employment as a result of the training. The local employment office, in addition, is responsible for providing assistance in job placement after training is completed. The individual must reside in a city or county declared a redevelopment area to be eligible for selection. Moreover, he must register with the nearest local office of the employment service, and he must be willing to take tests or otherwise qualify to participate in a training program. The local employment office has the responsibility of referring individuals for training on a merit basis, and if selected the individual must attend classes regularly and perform satisfactorily.

The Type and Length of Courses. -- Courses may range from a few weeks of instruction for jobs requiring only a little pre-employment to more prolonged preparation for highly skilled work. Assuming jobs are in prospect, some examples of training courses are: (1) refresher or supplementary training in skilled trades or services such as automobile mechanics, carpentry, radio and TV, or in high-level clerical

operations such as stenography, for individuals who have already had considerable experience or training in the same or related type of work, (2) training such as automobile mechanic helper, TV and radio service helper, beginning draftsman, salesworker, or bookkeeping machine operator for individuals with a high school education or its equivalent but whose experience has been a line of work which there has been little demand, (3) training such as machine-tool operator, truck or bus driver, nurses aid, etc. for individuals without a high school education or relevant experience.

Training courses must be for occupations in which there is a reasonable expectation of employment. The length of courses is determined by the amount of training required and may vary from several weeks to several months. However, in no case shall they exceed 16 weeks in duration. If state boards for vocational education are unable to provide the facilities and services needed to conduct the training, the Secretary of Health, Education and Welfare may provide for them by agreement or contract with public or private educational institutions.

Allowances for Trainees. -- The payment of retraining subsistence benefits is administered by the Department of Labor through the same offices that handle claims for unemployment benefits. The amount per week is based on average weekly unemployment compensation payments in the particular state (for Pennsylvania this is $33 per week) for a maximum period of 16 weeks or for the duration of the course whichever is the shortest. The Act authorizes annually for the payment of 10 million dollars of subsistence benefits.

It is apparent from this brief summary of the Area Redevelopment Act that the intent is to assist local communities in solving the unemployment problem by updating the skills of its work force. Limitations of the Act, particularly the 16 week training period, mandate short intensified courses of a refresher and/or semi-skilled nature. Such limitations obviously raise a question as to how effective and efficient this training can be when measured over a longitudinal span.

Medium Term Retraining (624 hours)

Forty hours per week for sixteen weeks of training extends the opportunity to a medium length of 624 hours. What can be accomplished in this length of time? It appears from reports and records submitted by the Department of Public Instruction that the following skilled and semi-skilled trade areas would fall under this classification:

Welder
Draftsman
Aluminum sash and door maker
Stenographer (class 1 and 2)
Sewing machine operator
Production worker (shoe)
Presser (hand)
Ward attendant
Typewriter serviceman
Machine tool operator
Appliance tool operator
Automatic transmission specialist
Maintenance mechanic
Sheet and metal machine operator
Drycleaner
Spotter (general)
Fireman (stationary engineer)
Maintenance man (building)

These represent but a few of the many possible occupational classifications which are possible under the ARA Act.

Sheet Metal Machine Operator (6-94.202)

The Dictionary of Occupational Titles (1949, p. 1194) defines a sheet metal machine operator as one who "operates a number of machines used in the fabrication of sheet metal articles or equipment; performs such duties as bending pre-marked sheets into various shapes, cutting specified sizes of sheet metal into tubular or uniform covered shapes." A number of job titles correspond with the particular machine being operated such as: brake operator, hand; brake operator, machine; square shear operator; rotary-shear operator; and forming-machine operator.

THE POTTSVILLE CASE
Sheet Metal Machine Operator (Entry)

The following case is based on the ARA Legislation just reviewed. Pottsville Area School District recently completed a course in Sheet Metal Machine Operator under the provisions of this Act. As a result, the course was identified as being an outstanding example of ARA retraining effort. The writers of this report wish to acknowledge the cooperation and assistance of the Pottsville school authorities, especially Arthur E. Stabnau, coordinator of vocational education; Ray T. Bakey, manager, Pottsville Office, Pennsylvania State Employment Service; the local industries who participated in the study; Warren Mills, Jr., the teacher of the course; and the trainees who participated in the classes.

The Community

The Greater Pottsville Area is situated in the southern fringe of the anthracite coal region in Schuylkill County, Pennsylvania. The city of Pottsville serves as the county seat and hub for the surrounding area. Over 50,000 people live within a five-mile radius and 100,000 within a 10 mile radius of the city. Pottsville itself has a population of approximately 22,000 according to the 1960 census. The terrain is variable in the city located 627 feet above sea level and surrounded by mountains varying from 900 to 1200 feet.

The history of the Greater Pottsville Area is that of Schuylkill County and the anthracite industry. It was in 1790 that anthracite deposits were first discovered by Necho Allen and subsequently mined for industrial use. And it is in Schuylkill County that the largest unmined anthracite resources remain today. Hand-in-hand with the discovery and production of the anthracite industry went the building of canals, railroads, and highways which opened the County to extensive settlement. The "Black Rock" industry expanded in its production from a few wagon loads to more than a million tons in a week. The coal area of the County covers over 210 square miles.

The County was sparsely settled during the early days. Dense forests, swamp land, and marshes provided an excellent dwelling place for the Delaware Indians. The French and Indian war years (1754-1763) saw marauding Indian expeditions made up of the Shawnee and Nanticoke tribes. Fort Henry was a popular place to take refuge.

The settlers were predominently German and of German extraction. As late as 1833, when Governor Wolf sent a message to the legislature, a thousand copies were printed in English and five hundred in German for those who read only that language.

Schooling became one of the early concerns of the settlers. The first schools were built as early as 1765. Today, the Pottsville area takes pride in its public school system which consists of eleven buildings including a senior high school and one junior high school. Enrollment accounts for 3,221 pupils with an instructional staff of 128. Three parochial grade schools add another 1,371 pupils with twenty-seven instructors. Advanced education opportunities are provided for by the Pottsville center of The Pennsylvania State University; the Ford School of Business; the Pottsville Hospital School of Nursing; the Institute of Practical Nursing, Empire Beauty School, and Rembrant Beauty School.

Transportation links the area by means of thirty-one motor carriers, four of which operate terminals in the city. Rail is served by the Reading Railroad Company and The Pennsylvania Railroad Company. Five commercial airports are within one and one half hour of Pottsville with the Joseph Zerbey Airport being the largest.

The Economy. -- Growth in population and industry came about through the mining of coal. Mining and the manufacturing of machinery for

mining changed the economy of the county from that of agriculture to one of industry. Lumbering, for awhile, was a prime source of income. The mountains were originally covered with great pine trees and a fine stand of Hemlock. Powder mills, for a time, contributed to the economy of the area. Their frequent explosions provided a long and colorful history.

Railroad prosperity was tied closely to the coal industry, and car repair shops employed large numbers. Products of manufacture depicting the early years, some of which are still being produced, include: shoe manufacturing, distilled spirits, cigar manufacturing, bricks, sewing machines, and food stuffs.

The linkage of coal and iron is well-known in Schuylkill County. For almost a century, prosperity flourished because of these two commodities alone. In 1854, coal was selling at $3.50 a ton. Other prices were "high" for those times, too, and pork was 10 1/2¢ a pound and beef 12¢.

Labor unrest became common in the anthracite industry, and the rise of unionism was steady. The eight-hour day was won in a 1916 contract and the seven-hour day, five-day week in 1936. Currently, the United Mine Workers in Schuylkill County have about 20,000 members. Strip mining came into the picture around the turn of the century and in 1925 approximately 2.5% of the industry's total output was mined in this manner.

The decline of the coal industry has had a sobering effect on the area's economy. Labor continues to be one of substantial male surplus. A peak rate of 14.5 per cent of civilian labor force unemployment, one of the highest in the Commonwealth of Pennsylvania, was reached in 1959. Through self-determination, the area is fighting its way back; diversifying its industry, retraining its workers, and gradually improving the economy of the area. To say that much remains to be accomplished is a fact well known to the leadership of the Greater Pottsville Area.

The Employment Picture. -- Employment or more realistically, unemployment is tied closely with the economy of the area. A 1959 survey of the area indicates a high per cent of skilled and semi-skilled out of work. These two broad categories constitute a valuable human resource which cannot be let go to waste.

A more recent survey conducted by the Department of Public Instruction (Survey report 1960) further indicates a predominent need for skilled workers in the sixty-six industries who took part. Both the need for skilled workers and their supply is of paramount importance to the future of the area.

Fabrication of metal products appears to be on an increasing employment trend in the Pottsville labor market area. Table 4, besides showing an increase of 1600 in the total work force, shows a 300 increase in fabrication of metal products industries compared with a year ago. As can be seen, mining continues its downward spiral with a decrease of 100 when compared to the same month a year previous. Unemployment as a per cent of the available civilian work force in the Pottsville area stood at 12.7 per cent in February 1963 as compared to 13.7 per cent in February 1962. This net reduction of 1 per cent represents a major effort on the part of those individuals who are seriously concerned over the economic picture. Current unemployment is said to stand at a 9,300 figure.

Fabricated metal products industries remained steady in their unemployment throughout the years 1960 and 1961, whereas both the U. S. and Pennsylvania totals were decreasing, Table 5. Current information indicates an increase of approximately 200 workers in the fabricated metals area over the figures reported.

Medium Training Needs (624 hours). -- The sheet metal machine operator occupation, when placed on a skill level continuum, stands somewhere between that of semi-skilled and skilled. This is to say, the sheet metal machine operator needs to possess more manipulative ability and more related knowledge than the semi-skilled individual, yet less of these two factors than the highly skilled. To acquire such a level of skill, training of a medium length and breadth is essential.

All males do not possess the aptitude and metal ability to achieve such a level of skill. For those who do, and are motivated to the level of occupational endeavor, training of

Table 4
EMPLOYMENT CHANGE IN SELECT INDUSTRIES
1962 - 1963 COMPARED[a]
Pottsville (Schuylkill County) Labor Market Area
(In Thousands)

Industry	February 1962	February 1963	Change
Total Civilian Work Force (est.)	71.6	73.2	+1.6
Total Unemployment	9.7	9.3	+0.4
All Manufacturing	23.8	25.0	+1.2
Fabricated Metal Products	0.6	0.9	+0.3
Non-Manufacturing	26.9	27.7	+0.8
Mining	4.8	4.7	-0.1

[a]Bureau of Employment Security, Labor Market Letter, Pottsville (Schuylkill County) Area, February 1963.

a 16 week duration as provided by the ARA Program seemed ideal.

Analysis of the required operations necessary to the sheet metal machine operator occupation dictated the need for a 624 hour training duration. This is near the maximum of 640 as normally provided for under the Act and the objectives of the Pottsville program.

Table 5
FABRICATED METAL PRODUCTS
EMPLOYMENT TREND (1961-1962)
(In Thousands)

Employment	1960	1961	Change
U.S. Total[a]	1,129.0	1,077.0	-4.7
Pennsylvania Total[b]	110.8	108.5	-2.5
Pottsville Area Total[c]	7.0	7.0	0.0

[a]U.S. Department of Commerce, Statistical Abstract of the U.S., 1962, p. 220.
[b]Commonwealth of Pennsylvania, Pennsylvania Statistical Abstract, 1962, p. 3.
[c]Bureau of Employment Security, Labor Market Letter, Pottsville (Schuylkill County) Area, November 1961.

How the Needs Were Determined. -- It is obvious from the community spirit described throughout this report, the plight of the unemployed did not go unrecognized for long. The Greater Pottsville Area Development Corporation and the Chamber of Commerce have been for some time making an effort to create new payrolls and job opportunities. The slow but steady rise of fabricated metal products industries in the Greater Pottsville Area can largely be attributed to the initiative of these two organizations. In addition, local school authorities were quick to pledge their support and training know-how. When soliciting new and expanded industries, training opportunities as provided by the Pottsville Area School District are held out as an added incentive.

It is no wonder, then, that a spirit of cooperation prevails. Therefore, it proved rather easy to conduct a survey of sheet metal machine operator needs among the existing industries. Results of this survey indicated an immediate or future need for approximately 80 individuals who possessed ability and knowledge of sheet metal machine operation.

The Program

In 1952, gloom was cast on the Greater Pottsville Area. People spoke of it as "blighted," "depressed," and "doomed." The last quarter century was one of decline in industry, labor, and business. Civil, business, and school leaders did not stand idly by, however. Efforts were being made to revamp and restructure the economy, the industrial, and the manpower resources.

The public schools recognized the need for vocational training, and the building of a new high school in 1933 included the present vocational training facilities. Through this effort, high school programs in auto mechanics, carpentry, machine shop, and electricity were established. From these sources approximately 55 high school students are presently being graduated each year. Adult evening classes have been conducted in an ever widening variety of subjects over the years. It was not surprising, then, to find the school authorities of the Pottsville Area School District making available, to the people of the area, the benefits of the Area Redevelopment Act.

Approval for the establishment and operation of a sheet metal machine operator program was granted by Mr. Willard Wirtz, Secretary of Labor, U. S. Department of Labor, Washington, D. C. in a letter dated December 22, 1961. The first section of this course was conducted for a period of sixteen weeks with a second section running from July 1962 to November 17, 1962. Approval to commence the retraining job represented the end result of much detailed planning and hard work on the part of a number of individuals and organizations. Under the provisions of the Act, an Advisory Committee had to be formed, the need for the training clearly established, and a reasonable assurance of employment had to be substantiated. Paper work had to be completed setting forth the entire program plan. Leadership for the task was mainly vested in the competent hands of the Pottsville Area School authorities and Employment Service personnel. The Area Occupational Training Advisory Committee, consisting of 13 individuals representing labor, management, and the public, put their shoulder to the task and one by one the hurdles confronting the program establishment were eliminated. Through the committee's act of participation, a survey of employer interest and employment prospects was completed. Planning was effected and survey data completed and facts pointed to the need of such a retraining program.

The intent of the training was to develop skills in the operation of brakes, forming presses, spot-welding machines, a knowledge of metal characteristics, blueprint reading, and metal shaping; all in keeping with requirements as set by industry. The plan called for the identification of twenty individuals for each of two sections who could be trained to the desired proficiency of a sheet metal machine operator. Classes were established for five days a week, eight hours a day for a sixteen week period.

The Pennsylvania State Employment Service was the agency responsible for searching out and identifying those individuals from their unemployment rolls who possessed ability to absorb the training. Their General Aptitude Test Battery (GATB - B-329 factors G, S, P, and M) were used in this process. By combining a program of testing and interviewing, each

selected trainee was assured a better-than-average chance of successfully completing the program.

Placement, too, became a responsibility of the PSES. The initial survey of employment opportunities provided a measure of need so an accurate prediction could be made without "flooding" the market. Recent establishment of a number of sheet metal fabrication industries, several of which are nationally recognized for their cabinets and panels, provided employment opportunities for trainees.

Ninety-five per cent of the first section of the program were placed with little difficulty. Due to a cancellation and slow down of orders, second section placement proved a knottier problem. In the main, those completing the program secured jobs either as sheet metal machine operators or in related fields. Several cases were reported, where an entrance occupation had to be taken until seniority enabled the employee to move into the higher skilled level.

With the close out of the second section of the sheet metal operator program, the training in this area was terminated. At least for the immediate future, the supply of sheet metal machine operators in the Greater Pottsville Area had reached the demand. Employers appear grateful for the training program as do the trainees. The vast amount of effort that went into the planning and execution of the program apparently was well worthwhile. Training of this type (medium in length) does, however, constitute some special problems which are discussed in the section on evaluation.

Developing the Curriculum. -- The training of sheet metal machine operators constituted a new educational endeavor for the Pottsville Area School authorities. All facets of the program had to be studied and planned, i.e., physical facilities, teachers, curriculum and so forth. Experience throughout the years has proved the value of using an advisory committee for such an undertaking.

A thirteen-member advisory committee composed of representatives of labor, management, the PSES, school authorities, and the public was organized. Officially known as the Pottsville Area Occupational Training Advisory Committee, this group actively participated in the planning, consultative, and advisory phases of the entire program.

Development of the curriculum constituted a major undertaking. After much analysis, the following course was agreed upon:

SHEET METAL MACHINE OPERATOR COURSE

Topic	Hours
A. Use of Measuring Tools	10
B. Use of Layout Tools	20
C. Simple Math	10
D. Simple Locations on Flat Material	10
E. Locations on Bent Material	25
F. Bending Layouts	20
G. Safety	10
H. Cutting by Machine	65
I. Cutting by Hand	20
J. Punching and Notching	100
K. Bending by Hand	50
L. Bending by Machine	300
M. A. R. Bending	15
N. Spotwelding	50
O. Drilling and Topping	45
P. Portable Power Grinder	20
Q. Projects	35
TOTAL	800 hours*

* Later revised to 640 hour total.

Planning and Installing the Facility. -- Classroom and shop space was available for training purposes, but equipment was limited and needed to be procured. The facility consisted of a somewhat antiquated, but useable, NYA (National Youth Administration) industrial type building which was constructed in the early thirties. Throughout the intervening years, this facility had been used for veterans training, vocational school, and now ARA classes. Figure 7 shows the floor plan and arrangement of equipment.

Equipment mounting to an estimated $60,000 was used in the program. Instead of

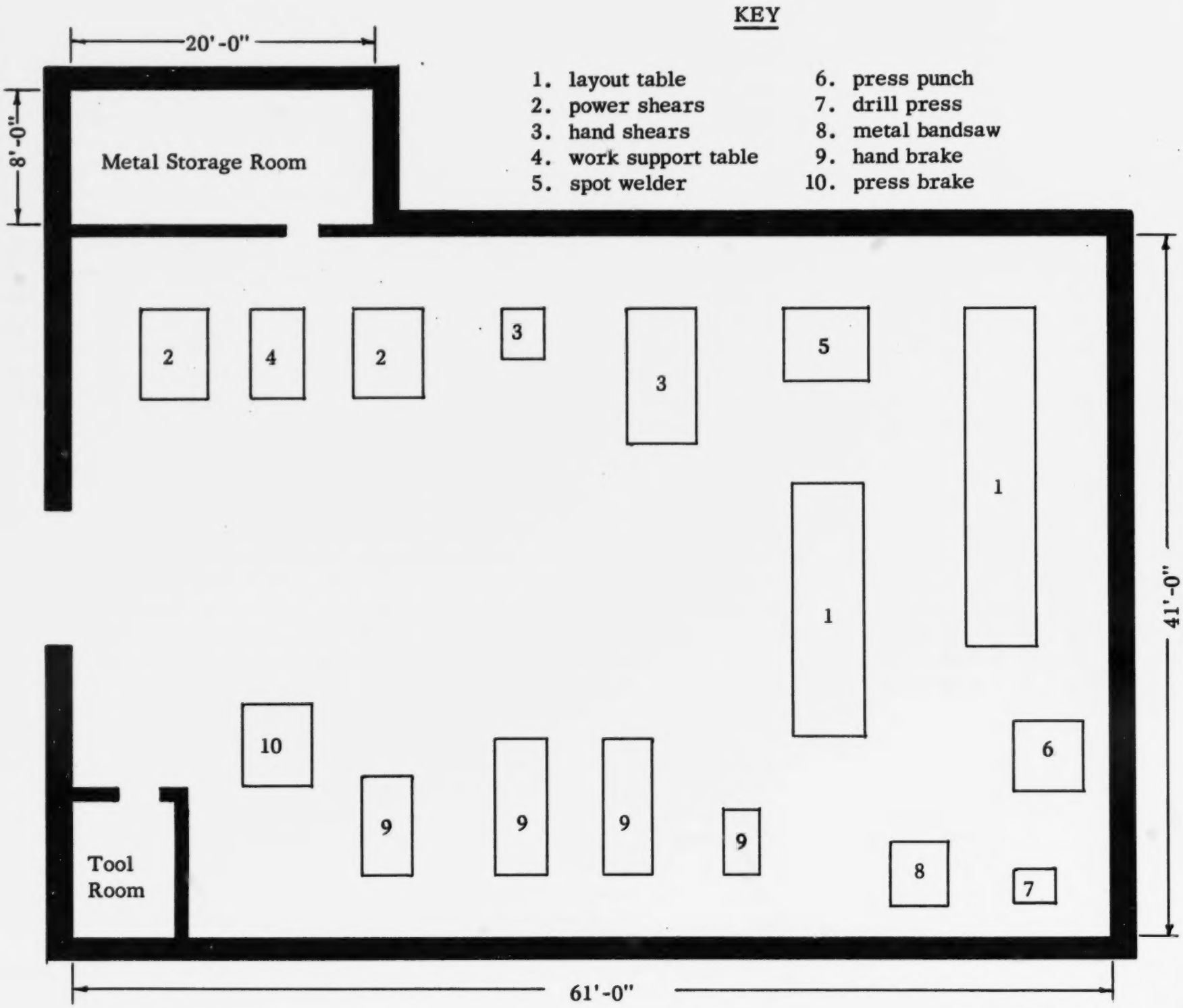


FIGURE 7 -- SHEET METAL MACHINE OPERATOR FACILITY

purchasing the equipment, it was rented at a cost of $2,500. This decision was made because the program was to be one of a terminal duration.

The Teacher

Upon the recommendation of the Advisory Committee, a teacher was recruited directly from industry. The individual selected for this position had to possess unquestionable mastery of the skill being taught as well as the necessary patience and understanding to be a teacher.

Agreement was reached to release, on a leave basis, a foreman from one of the nearby companies who had 21 years of experience in the sheet metal fabrication industry. Such an arrangement did not jeopardize this individual's employment and since he was actually paid more than he would have received had he remained on the job, the arrangement suited both parties. Preparation for the teaching assignment consisted of a ten clock hour teaching course.

It is felt by those who supervised the Pottsville program that the following minimum requirements should be adhered to in selecting a teacher. In addition, certain teacher education topics should be provided through formal teacher training courses to assure success.

MINIMUM TEACHER QUALIFICATIONS
Retraining Program (ARA)

Formal education	High School Graduate
Experience	6 years in the occupation
Teacher Preparation	A minimum of 10 clock hour course in teaching techniques
Certification	The basic certificate (emergency)
Personal Qualities	Ability to work with and handle adult groups

DESIRABLE TEACHER EDUCATION TOPICS[1]

Organizing the Class
Planning the Instruction
How We Learn
How We Teach
Oral Presentation
Demonstrations
The Art of Oral Questioning
Teaching Aids
Guiding Individual Performance
Testing
Grading
Self-Evaluation

[1]Department of Public Instruction, Teaching Vocational Education Subjects, Harrisburg: Commonwealth of Pennsylvania, 1960.

The point should be emphasized that the Advisory Committee serves as the best single source of teacher recruitment. Other sources would include:

- Graduate from teacher training programs
- Retirees from armed services (many of these retire at an early age)
- Industrial personnel who can be granted leaves of absence
- Graduates from a similar program who have had experience in industry
- Representatives of manufacturers associations whose services are available for putting on short courses.

Selection of Trainees. -- All the trainees for the program were selected by the Pennsylvania State Employment Service. Employer requirements were ascertained and job orders analyzed and written. The following standards for selection of trainees were used:

Male, age 18 to 40
Unemployed and/or underemployed

Preferably a high school graduate
Mechanical inclination as indicated by past work experience
Receptive to training
Satisfactory scores on GATB on B-329 factors, G, S, P, M

Perference was given to applicants who had some previous training or experience in the occupation. In a few instances, applicants had been employed, i.e., helper, brake operator and helper, press operator, and were interested in developing fuller skill. No preference was given to younger applicants and the age distribution ran from 20 to 48 years.

Final selection was made only after the above criteria were met and confirmed by a counselling interview.

possess the following general characteristics as measured by the California Test of Mental Maturity (Short Form) and the Sims SCI Occupational Rating Scale:

The characteristics in Table 6 are probably somewhat typical of the average sheet metal machine operator.

Depth Interviews. -- In order to "get to know" each trainee, a depth interview of approximately one hour duration was conducted with each trainee by the authors of this study. The first half, a preliminary interview, was conducted at the site of the training. Approximately three months later, the second half, or follow-up interview was held either at the place of employment or at the home of the trainee. The sum total of these interviews revealed the following information about the group:

Table 6
GENERAL CHARACTERISTICS OF SHEET METAL MACHINE OPERATORS

Characteristics	Findings
1. Mean chronological age	27.2 years
2. Mean grade placement	9.2 years
3. Mean I.Q.	92.2
4. Normal population I.Q. compared	30.0 percentile
5. Social status (self perceived)	Worker

The Trainee

The ARA Act requires the selection of trainees to be made by the Employment Service. The process used by the Pennsylvania State Employment Service, through their local offices, involves testing and counselling with eligible individuals. This procedure has proved satisfactory, however; the school authorities reserve the right to eliminate any of the trainees if they prove unsatisfactory throughout the training period.

General Characteristics. -- Investigation by the authors of this report found the trainees to

- Personal Characteristics

Personal characteristics of the Pottsville sheet metal machine operator trainees are as follows:

Age -- ten of them were under 25 years of age with the oldest being 35. The median age of the group was 21.5 years.

Residence (local) -- Twelve of them had been life members of Schuylkill County. The remaining two claimed 6 years and 1 year

residence in the same community.

Residence (state) -- All fourteen of the trainees were born in Pennsylvania. None migrated into the state.

Marital Status -- eight were single and six married.

Social-economic Status -- All fourteen placed themselves in the working category.

Living Accommodations -- seven lived with their parents, five rented, one was making payments on a house, and one had a home provided by relatives.

Relatives -- All had relatives living in the area. The smallest number was one and the largest was 88 with a median of 77.

The training program was made up of a relatively young group with 71.3 per cent of them being 25 years of age or under. This seems to underscore the plight of unemployment among Pennsylvania's younger population. Moreover, all of the group (100%) were native Pennsylvanians. Obviously then, the problem of retraining at this level (ARA) is one from within the state itself and has not been made by any population influx. Eight of the trainees being single and six married emphasizes the fact that unemployment is contagious irrespective of marital status. Strong family ties are reflected by the large number of relatives the trainees have in the immediate community. One had a total of 88. Seven of the trainees lived with their parents which reinforces the family tie argument which in turn may reflect in a desire to remain in the local community regardless of employment opportunities.

- Family Characteristics

The trainees' family characteristics appear as follows:

Household Members -- Nine trainees came from households with four or more members. All in all, a total of 58 household members are found among the group of fourteen trainees. This represents a mean of 4.1 per trainee.

Youngsters in Household -- There are a total of sixteen youngsters found in the homes. Four came from households having two members 16 years of age or under, one with four, one with three, and one with one.

Certainly the families of the trainees cannot be considered overly large. The somewhat surprising young age of the trainees reflects a fair number of youngsters as members of the households who are 16 years of age or under. The assistance these youths are making toward the family income is discussed in a following section.

- Socio-economic Origins

Social economic origins of the trainees appear as follows:

Father's Occupation -- Five of the trainees had fathers who were employed the majority of their lives as craftsmen, and 5 were non-farm laborers, 2 were operatives in a factory, 1 was a route man, and 1 was identified as unemployed.

Socio-economic Status -- Seven of the fathers' occupations could be classified working, 4 as lower-working, and 2 as middle-working.

Of the 14 trainees, almost a third of them came from parental backgrounds of craftsmen. Another third from families of non-farm laborers.

- Employment Status of Family Members

The employment status of family members is reported as:

Number of Family Members (over 14 years) not going to school -- A total of 28 individuals or 2 for every trainee were reported as being over 14 years of age, not going to school, and at home.

Family Members Employed -- A total of 14 members of the household were reported employed full-time and 1 part-time. This represents 50 per cent of the family members 14 years or over being employed in some capacity or other.

It appears that those family members of trainees who are eligible for employment are making an effort to augment the family income.

- Employment History

The employment history of the trainees appears as follows:

Number Times Employed -- Three of the trainees (22%) had never been employed before. The remaining 11 had held from 1 to 3 jobs and 1 had been employed over 3 times.

Location of Employment -- Eleven of the trainees had all of the previous employment experience within the local community, 2 within the state, and 1 outside the state.

Type of Previous Employment -- Sixty-nine per cent of the trainees had their previous employment experience as unskilled workers and 31 per cent as semi-skilled. None could be classified as having held highly skilled jobs.

Distance from Home -- The median distance of previous employment from home was 1 to 5 miles.

Wages Earned -- Previous employment wages were most frequently reported from $40 to $59 per week.

It is obvious that the work history of the trainees has been somewhat erratic. Moreover, most of their employment history has been with the immediate community and of an unskilled nature.

- Previous Training

Previous training reported by the group appears as follows:

Number of Times Taken -- Half of the group (7) had received some type of training previously.

Helped Get Job -- Three out of the 7 reported the training helped them get a job. In 2 of these 3 cases, the training itself lead them to look for work in another city.

Length of Course -- Four reported their previous training to have lasted from 9 to 16 weeks in length. One reported it to last 17 to 26 weeks, and one over 52 weeks.

Type of Training -- Two were trained as mechanics, one in food service, one in business skills, and one in business machine repair.

Results -- Two received better pay and promotions as a result of the training, two learned new skills, and two reported no tangible results.

It is somewhat surprising to find 50 per cent of this group claiming they had taken some sort of occupational training previously. The results were not too outstanding, however, since only two reported receiving better paying positions.

- Educational Background and Values

The educational background and values held by the group are obviously reflected in their ability to achieve success in their present endeavor. For this reason, the description of the group relative to this report is extremely important.

Formal Education -- Eight of the trainees (57.1%) completed high

school, and six did not.

Educational Achievement -- Nine of the 14 reported that they had done about as well as most other students while in school. The group as a whole had a 92.2 I.Q. on the California Short Form Test of Mental Maturity and a grade placement of 9.2.

Favorite Subject -- Six professed to hold subjects such as physics and chemistry (physical sciences) as their favorite. Four manual (industrial education), 1-langugage, and 1-social studies were also declared favorite. In the main, best grades were claimed in these subjects, although 10 trainees said they received high grades in physical education.

Higher Education -- One trainee reported he had enrolled in college but did not graduate. Three thought about going to college. The most frequent reason for not going to college was "financial."

More Education -- Nine out of the 14 would have availed themselves of more education if they had it to do over again. Of this number, four would choose high school; two, trade school; two, college; one, business school; and one, post education of some kind.

Educational Values -- The group shows some mixed feelings on the question, "Is it okay to quit school before finishing high school?" Relative to boys, 6 said "yes" and 6 said "no" to this question. Answers for girls produced 5 "no's" and 7 "yes's". When the "yes" answer was given, it was usually qualified with an "it depends" response. When asked, "How far will those youth in your family or neighborhood go in school?", the response was somewhat different. For boys, 13 responded they would go through high school with 3 college bound. Twelve thought the girls would finish high school and one indicated a desire to see girls complete both high school and college.

Cultural Values -- All of the trainees claimed to regularly read at least one newspaper. Four read both local and out-of-town papers and one read more than one local paper. Four did not read any magazines regularly, and three did not watch TV to any extent. Two out of five did not know who was the governor of Pennsylvania although this was an election year. Ten did not know the names of their congressman, but ten knew the name of the largest employer in the community.

Societal Values -- Twelve belonged to a church, four to some sports or hobby clubs, one to a union, and one to a volunteer fire department. None belonged to a PTA, lodge, or political club. The 14 trainees currently belonged to a total of 24 organizations with six belonging to one, two belonging to two, two belonging to three, and two belonging to four. Only two trainees had belonged to additional organizations (one each) in the past four to five years in which they did not currently hold membership.

The preceding picture of the groups' educational background and values appears somewhat clouded. The group reflects a desire for more education for both themselves and those youth with whom they are acquainted. They indicate, if they had it to do over again, they would get more education. Yet, the cultural and societal values that they have at their disposal are grossly ignored. They do not read much of anything, they don't belong to any great extent to community organizations and groups, and they apparently are not keenly interested in watching television. Real questions could be asked as to how leisure hours are spent and to

what degree there is a sincere quest for self-improvement.

- Aspirations and Occupational Mobility

The trainees reported the following aspirations and mobility attitude:

Aspirations for Sons and Daughters -- 9 of the trainees had sons or daughters. Of this number, 5 held aspirations for them to achieve a middle or upper socio-economic status. This is to say, to be employed in a profession such as engineer, doctor, nurse, etc. The remaining 4 parents indicated it was entirely up to their son or daughter what level they achieved.

Self Aspirations -- Nine of the 14 trainees admitted holding desires for some other kind of work than they either had been doing or for which they were being trained. Seven of these 9 felt that sometime they may achieve this ambition.

Mobility versus Retraining -- When asked, "Which is more difficult to move to a community where there are jobs, or to stay in the same community and learn a new occupation?", 9 indicated the latter was more difficult. In other words, it is harder to stay and learn a new occupation than it is to move to where there are job opportunities.

Returning to Old Occupation -- Four out of 10 felt there was no opportunity for them to return to their old line of work even if economic conditions improved. This was in spite of their good health and physical condition.

Mobility of Residence -- Twelve out of the 14 indicated they expected to be living in their same community five years from now. The 2 who indicated a move gave reasons of, "no opportunity here," and "not liking the community."

Encouraged Mobility -- If given encouragement and a free choice to move, 6 of the trainees would move and 8 would remain in the community where they now live. Only 1 of the 6, who indicated a desire to move, indicated preference for another state.

Cost of Mobility -- Nine of the group didn't have any idea of how much annual income would be necessary to provide comparable living as they were now experiencing. Of those who answered this item, (5), it appears a mean annual income of $5,000 would be required.

Mobility Problems -- Reasons for not wanting to move were: "would have to leave parents," "hate to leave friends and relatives," and "higher cost of living."

Mobility of Youth and Neighbors -- The group indicated 8 to 6 that the youth would be better off if they left the community after completing their education. In fact, 7 provided an unqualified recommendation to have their own son move away and an additional 4 felt the same way but in a qualified sense. Moreover, 9 of the group (64.3%) felt that their neighbors who were out of work should move to other communities to get employment.

Change of Occupation -- When asked whether or not it is desirable for a man to take any kind of work if out of a job for 6 months or longer, all 14 expressed any kind of work was better than nothing. In a like manner, 11 out of the 14 approved of wives working if the husband could not find work but she could.

The preceding description of the group's aspirations and occupational mobility reflects one of despair. For example, they strongly

express the need for mobility in their youth to the point of recommending outmigration because of a lack of opportunities. Yet, for themselves, even though they possess probably as most individuals do some hidden ambitions, they see no future even if they themselves become mobile. Only 2 of the group made outright statements as to their desire to leave the community. A further point seems to indicate when faced with the difficult decision of learning a new occupation or moving, although the former seemed the most difficult to do, they preferred to learn the new occupation. This certainly makes for a difficult choice.

EVALUATION

The case study of the Pottsville sheet metal machine operator offering (ARA) necessitated delving into its value and effectiveness. Here too, as with the 2508.3 program, the results cannot be used as generalizations for other ARA program endeavors. Others may be as good, better, or poorer than reported for the Pottsville attempt.

General

The effort being extended in Pottsville by the school, P.S.E.S., industry, and lay leaders to combat unemployment through retraining of the unemployed is indeed commendable. Employers and trainees alike expressed their appreciation for the program. Job opportunities in the Greater Pottsville Area are expanding upward to a higher skilled level. As reported from interviews with employers, recent difficulty had been in filling jobs of a technical and skilled craft nature. Retraining can help fill this need.

Trainee Selection

The selection of trainees for the Pottsville sheet metal machine operator program provided a challenge for the Pennsylvania State Employment Service. Apparently, this organization carried out their function to the very best of their ability and made a conscientious effort to identify individuals who (1) wanted to be retrained, and (2) could profit from the instruction. There is but a slight indication that payment for taking the training (training allowance) was central to the desires of some trainees. This is to say, without payment some of the trainees would not have been at all interested in taking the training.

Nevertheless, the cooperative spirit and close working relationship between school authorities and the P.S.E.S. was obvious and those who were selected certainly stood a better chance of being able to master the training.

Evaluation of the trainees by employers indicated they were of the opinion that selection standards were about right. A poor attitude toward work was reported on several occasions by employers. This was also reported by the teacher for a couple of the individuals while taking the training. An attempt to measure "work attitude" as a variable as an entrance requirement for a retraining program might be well considered and delved into as part of the selection process. Attitudinal measurement is admittedly a knotty problem, however, the change of attitude may, in some cases, be more important to prospective trainees success than the actual development of new skills.

Overall Quality

Here again the form for over-all program evaluation developed by Pendered (1957) was used. This instrument provided a qualitative rating on factors of physical conditions, instructional program, methods, management and housekeeping, and the teacher. The sum total of all 77 items provided an over-all quality rating. The factor ratings as well as the over-all rating of the Pottsville sheet metal machine operator program, as scored independently by

two individual's who were well versed in educational practices and satisfactory conditions for maximum instructional effectiveness follows:

Factor	Per Cent Quality
Physical Conditions	60.4
Instructional Program	69.5
Methods, Management, and Housekeeping	56.7
The Teacher	56.6
Over-all Quality	59.3

● The physical facilities and their condition for conducting the Pottsville sheet metal machine operator program received a rating of 60.4 per cent; the lowest of the three programs studied. Although the best facility available at the time, an antiquated and shabby N.Y.A. (National Youth Administration) structure, it left much to be desired in way of achieving a proper educational setting in which to conduct the program. Some specific weak features were:

Range of temperature of shop.
Lighting, in some locations, inadequate.
Soiled walls and ceiling.
Operator of one machine working in danger zone of another machine.
No non-skid floor covering protection.
Equipment worn, but serviceable; 75% in satisfactory operating condition.
Condition of hand tools; some sharp, many dull.

Again the physical facility used for this program provided an atmosphere of a "crash" arrangement but was the best at hand. A question thus could be raised, "Under more ideal educational conditions would the effectiveness of the program have been appreciably improved?" The evaluators are of the opinion the handicap under which the program was carried out was indeed great. In support of this statement only 21 per cent of the trainees felt the equipment was satisfactory, both in amount and type.

● The instructional program received a rating of 69.5 per cent. This reflects an above average evaluation.

Items that received high ratings included: course aim and objectives, activities in shop suited needs, course of study, and lesson planning. Items where there could have been improvement were: instructional techniques, i.e., development of safe working practices, study of working conditions, use of reference books, instruction sheets, trade literature, and evaluation of trainee progress.

● Methods, management, and housekeeping was rated at 56.7 per cent. The general housekeeping appeared good. However, some improvement could have been made in condition of stock racks, storage, finishing area, tool panels, safety guards, bulletin board, variety of methods used in providing instruction, and methods of stimulating student motivation. It appeared the student interest was not constant and often quite low.

● The teacher was rated on 18 separate items and scored slightly above average at 56.6 per cent. This individual, although not specially trained in pedagogy, performed well in the situation. Nevertheless, if maximum effectiveness of instruction was to be realized, improvements could have been made such as: preparation for teaching, command of English, enthusiasm, interest in trainees, professional interest and the like. The industrial work experience and knowledge of the subject of the teacher were considered excellent. Ability to provide instruction, however, is of importance and can only be acquired after similar preparation. The "part-time" teacher, as necessitated by a crash approach to retraining raises a serious question as to maximum instructional effectiveness.

- Over-all quality of the Pottsville sheet metal machine operator program was rated at 59.3 per cent. This naturally suggests there was room for improvement. Employers rated the trainees as "good" which speaks highly of the quality of the program. Definite concern was, however, expressed by employers that work attitude was a short-coming among several trainees. Possibly more could have been done along this line.

Employment and Placement

Program effectiveness is, of course, measurable in terms of what happened to the trainees after completing the course. Initial employment was not highly successful. Only 59 per cent of the trainees were placed on jobs, and then it took on the average of 17.2 days for placement. This does not represent outstanding success for those who sought job opportunities through the retraining program.

Follow-up interviews with trainees indicate their unhappiness over the situation. For those who were placed and still working approximately three months later, only 1 individual (6% of the group) was actually working in the occupation for which training was given. In addition, 9 individuals were working in what might be called a related occupation and were waiting to move into a real sheet metal machine operator spot. The delay in several cases was caused by probationary periods and labor agreements which required acquisition of seniority. Transfer of training to other job opportunities requiring similar mechanical ability appeared lacking. Apparently, the limited breadth of training did not make such transfer possible. Employment of the trainees at the end of three months indicated that those working were making an average weekly wage of $65.40 and an hourly wage of $1.59.

Only 57 per cent of the trainees said they would take the same course over again if they had the opportunity. This reflects their strong disappointment in the end results after a 16 week endeavor which taxed the best efforts of many individuals to organize and conduct the program.

A Final Word

It is the opinion of the school authorities that the major pitfalls in attempting to carry out such an undertaking are: finding the time required to organize such training programs when other duties and responsibilities are also pressing, the vast amount of "red tape" required for operation of the program; the difficulty in finding adequate physical facilities and equipment; getting a good teacher; utilizing community resources, selection of students who can profit from the instruction and lack of uniform policies as set by state agencies relative to rules and regulations of class attendance.

4. A MANPOWER DEVELOPMENT AND TRAINING ACT ATTEMPT

THE MANPOWER, DEVELOPMENT AND TRAINING ACT

- THE FIELD ORIENTED RETRAINING (1,560 HOURS)
- MACHINE TOOL OPERATOR (6-78.905)

THE PHOENIXVILLE CASE

- THE COMMUNITY
- THE PROGRAM

EVALUATION

4. A MANPOWER DEVELOPMENT AND TRAINING ACT ATTEMPT

A middle aged man, with fixed attention upon his face, watched the hot metal chips curl from the tip of the cutting tool. His keen sense told him the cut was about correct for the type of steel. A few months ago, this same individual had been employed as a maintenance man in a small plant. When his employment terminated, he faced an important decision; whether to uproot his family and move to a new location where he could continue being a maintenance man, or whether to seek training in a new occupation and learn new skills so as to be able to stay in his life-long community. His choice, although he considered it the most difficult of the two, was to remain and learn a new skill.

The course, in this particular case, was one in machine tool operation. This meant learning how to operate precision machinery that could shape metal to a thousands or even a 1/10,000 of an inch. To be retrained for such a highly accurate occupation has provided long sought after opportunities for a number of unemployed individuals who are mechanically inclined but who never had the chance to learn such skills.

THE MANPOWER, DEVELOPMENT AND TRAINING ACT

It has been said that the Manpower, Development and Training Act of 1962 constitutes a milestone among legislation in behalf of working men and women of our country. President Kennedy said when he signed the measure into law, "It is perhaps the most significant legislation in the area of employment since the historic Employment Act of 1946." Secretary of Labor Goldberg lauded the act by stating, "The Act will make possible the training of hundred of thousands of workers who are denied employment because they do not possess the skills required by our constantly changing economy. Their training is important both to them as individuals and to the economic health of the nation."

Purpose of the Act. -- The Act is prefaced by the statement, "There is a critical need for more and better trained personnel in many vital occupational categories including professional, scientific, technical, and apprenticeable categories; that even in periods of high unemployment many employment opportunities remain unfilled because of the shortage of qualified personnel and it is in the national interest that current and prospective manpower shortage be identified and that the persons who can be qualified for these positions through education and training be sought out and trained." The Act provides for operation of training programs from July 1, 1962 to June 30, 1965. Programs begun prior to June 30, 1965, however, may be continued to December 30, 1965. There is no cost to trainees for any training received under the Act. Prior to June 30, 1964, 100 per cent of the training programs for unemployed persons will be paid by the Federal Government through the Department of Health, Education, and Welfare. However, the Federal Government will pay only 50 per cent of the cost with respect to other than unemployed persons and the States will pay the other 50 per cent. After June 30, 1964, the states are required to match both institutional training costs and training allowance payments on a fifty-fifty basis.

More specifically, P.L. 87-145 provides for three separate titles: Title I.

Manpower Requirements, Development, and Utilization; Title II. Training and Skill Development Programs; and Title III. Miscellaneous and Reporting. Title II is of major importance to this study and is, therefore, the only one treated in some detail.

Title II, Training and Skill Development Programs

The Act stipulates a program of direct action is to be undertaken under Title II. This part of the Act authorizes a program of training workers for job opportunities that have been found through a research program and through other means such as labor market surveys.

Training Provisions. -- As required under the Act, the occupations for which training will be offered are those in which there are employment opportunities. The State Employment Service plays a key role in checking with employers to find out the present and prospective needs for trained workers. After selection by the local office of the State Employment Service, the trainee is referred to a specific vocational training course or to an appropriate on-the-job program or some combination of both.

Those To Be Trained. -- In order to be eligible, trainees must be classified in one of the following categories: (1) unemployed, (2) working below their skilled capacities, (3) working substantially less than full time, (4) working less than full time or unemployed because their skills have become, or are becoming, obsolete, (5) members of farm families with less than $1,200 annual net family income, (6) sixteen years old but not yet twenty-two and in need of occupational training and further schooling.

Selection of Trainees. -- The State Employment Service is responsible for providing a program of testing, counseling, and selection of those individuals who can qualify by being unemployed and underemployed workers, farmers, and youths. Furthermore, the State Employment Service is charged with providing counseling and placement services to those who have completed training programs and are responsible for terminating allowances and subsistence if trainees do not have satisfactory attendance records or are not doing satisfactory work in training courses ... such persons cannot be reinstated before a one year lapse of time.

The Type and Length of Courses. -- Specific vocational training courses are under the supervision of the Secretary of Health, Education, and Welfare and the various Departments of Education of the States. On-the-job training courses may be set up by states, private or public agencies, employers, trade associations, labor organizations, and other industrial and community groups. Maximum duration of training courses cannot exceed fifty-two weeks.

Allowances to Trainees. -- Eligibility for allowances (not to exceed one year - 52 weeks) is established under the Act for those individuals who meet the following: (1) are unemployed, (2) have at least three years experience in gainful employment, and (3) are the head of a family or household.

The amount of the regular training allowance is generally the average of payments of State Unemployment Compensation (in Pennsylvania the rate is $35 per week). In addition, it is possible to qualify for transportation and subsistence allowances when training facilities are not located within commuting distance of regular place of residence. The subsistence allowance may not be more than ten cents per mile. Training allowances are available for unemployed young people who are 19 and under 22 years of age and who would not qualify for the regular training allowance as indicated above. This youth training allowance cannot exceed $20 a week. In no case will youths, sixteen to eighteen, be eligible for allowances.

In the final analysis it might be said that the Manpower, Development, and Training Act of 1962, through its programs of research and training, provides our nation with the most far reaching program of manpower development yet realized. The Act as initiated provides a "crash program" which, if fully pursued and soundly established, could conceivably result in a permanent and longitudinal attack on the

nation's manpower needs.

The Field Oriented Retraining (1,560 hours)

What can be accomplished in 1,560 hours of training? It appears from the records of the Department of Public Instruction that MDTA legislation has provided for the following high skill training.

Statistical quality control assistant
Mechanical draftsman
Electronics mechanic
Operating room technician
Tailor (retail store)
Automotive mechanic
Auto body repairman
Welder (combination)
Welder (inert gas)
Sheet metal worker
Appliance repairman
Instrument man
Refrigerator repairman
Machine tool operator
Office machine serviceman
Sewing machine serviceman
Clerk, stenographer
Template maker
Restaurant cook

Machine Tool Operator (6-78.905)

A machine tool operator general (machine shop) is one who works from blueprints and drawings to set up and operate various machines such as engine lathes, drill presses, grinders, shapers and milling machines; makes adjustments on machine after positioning part, uses micrometers, calipers, verniers, gauges and other precision making instruments; works to close tolerances, works on aluminum, brass, cast iron, copper, stainless steel, and high speed steel; is required to compute angles by using trigonometry; uses the fundamentals of time and motion study; and must understand the differences between high speed and carbon steels. Moreover, this individual will be required to produce custom work rather than production.

THE PHOENIXVILLE CASE
Machine Tool Operator (general)

The following case is based on the MDTA legislation just reviewed. Phoenixville Area School District has recently completed a course in machine tool operator (general) under the provisions of this act. Even before the course was completed, it was identified as being an outstanding example of MDTA retraining effort. The authors of this report wish to acknowledge the cooperation and assistance of the Phoenixville school authorities; in particular Ray Straub, Director of Vocational Education; Minnie C. Shaw, Manager, Norristown Office Pennsylvania State Employment Service; the local industries who participated in the study; Robert Kozach, the teacher of the course, and the trainees who participated in the class. Figure 8 depicts the machine tool operator (general) skill.

The Community

Phoenixville lies in the northeastern section of Chester County in close proximity to the Pennsylvania Turnpike. Its borderline location places it contiguous to the Central Montgomery complex of Norristown, and Philadelphia. Within a one hundred mile radius of this area, approximately one sixth of the entire population of the United States reportedly resides. The borough of Phoenixville boasts a 1960 census of 13,797. The school district population incorporates a somewhat larger population of 14,700. The terrain is rolling farm country.

The history of the area reflects the influence of William Penn dating back to the year 1704. Originally settled by the Lenni Lenape Indians, the land was purchased honorably from

them. Early settlers included Dutch, Germans, Swedish, Welsh, and English as well as southern European immigrants. Colonial merchants and military men traversed the area during the frontier days. The area is rich in Revolutionary War history with Washington's army encampment (Valley Forge) nearby. Phoenixville marks the most westernly penetration of the British regulars in Pennsylvania during the revolution.

Following a decree in 1682 by William Penn that the Governor and Council, "shall erect and order all public schools and encourage and regard the authors of useful science and laudable inventions," education became a strong force in the guidance and cultural development of youth. Today, besides a strong and outstanding elementary and secondary school program, the area boasts more than adequate opportunities for education beyond high school. Within a short 35 mile radius lies the higher education opportunities of the entire Philadelphia area, a portion of which includes the Pennsylvania State University, Temple University, La Salle University, Villanova University, Spring Garden Institute and Drexel Institute. In addition and close at hand are found West Chester State College, The Penn State University Commonwealth Campus, and Williamson Trade School.

Three great seaports are close by: New York within 91 miles, Philadelphia 17 miles, and Baltimore 88 miles. A vast network of highways and railroads branching out in all directions and ease of access to the great Pennsylvania Turnpike makes the area a hub in land transportation. The Reading, Pennsylvania, Philadelphia and Western Railroads serve the area as well as two interurban bus lines and three private airports.

The Economy. -- The area has always been divvesified with industrial skills and never a "one industry area." Leading products are beverages, carpets, chemicals, drugs, coke, iron, industrial equipment, lumber, mill work, mine and quarry products, paper, plastics, printing, steel, rubber, textiles, and many others. Phoenixville proper refers with pride to the Phoenix Iron Company founded in 1783, the firm of Griffith, Smith and Hill, famous for its Majolica China and McAvoi Vitrified Brick Company. Anthracite and bituminous coal fields are within easy reach and iron and steel manufacture has been of long standing. Phoenix Steel and Phoenix Bridge Companies are both subsidiaries of the Barium Steel Corporation, with the latter now the third largest producer of structural steel in America, employing over 2,000 persons. National economic surveys consistently list the area as a rich market with a higher than average standard of living. Recent expansion includes the development of the vast King of Prussia industrial complex which includes such well known companies as General Electric, Pennsault Chemical Company, Atlas Powder Company, American Seating Company, Yale and Town Research Center, Philadelphia Gear Company, and Robert Fulter Controls Company.

During the last decade, Pennsylvania's population grew 7 per cent while this area increased 48 per cent according to census data. Industrial expansion accompanied by occupational shortages is due to follow this trend.

The Employment Picture. -- Nearly 2,800 employers are represented in the Norristown, Conshohocken, and Phoenixville labor market area. These employers account for an employment total of approximately 63,000. The labor market area, because of its great diversification in industry, usually has less unemployment than the state as a whole. However, because of diversification, expansion, and changes brought about by technology, a problem of unemployment exists especially for untrained or undertrained workers, the combined expansion of the King of Prussia, Whittain, Whitemarsh and Lower Providence areas, with emphasis on research and development underscores the need for highly skilled manpower.

Employment by industry in the Norristown, Conshohocken, and Phoenixville Labor Market area is led by the electrical machinery manufacturing industry with some 9,000 employees. This is followed by the primary metals industry which formerly occupied first place with approximately 6,500 employees. Third is the machinery manufacturing group with 4,000; followed by the rubber, stone, clay and glass industries with approximately 3,500 employees. The chemical industry, federal and state government, wholesale and retail trades, and the service and food industries are grouped with about

2,000 employees in each category. The textile, apparel, and paper industries accounts for an additional 1,500. At one time, the textile industry alone held second place with some 4,500 employees but has declined in importance rapidly over recent years. It is anticipated that upwards to 15,000 new employees will need to be added to the total employment over the next 5 years.

The greater Philadelphia labor market area lies contiguous to the area being studied. There is an increasing trend in unemployment. At the same time there is encouragement in the particular area of machinery manufacture, which in itself accounts for a relatively large employment outlet for machine tool operators, see Table 7. When comparing machinery manufacturing with the state and nation, a substantial increase can be seen in the Philadelphia area.

A February-March, 1963, Labor Market Letter from the Norristown, Conshohocken, Phoenixville area indicates employment in mid-March stood at 40,941 with an increasingly favorable outlook. However, the same report calls to attention that the Philadelphia labor market area, of which the Norristown, Conshohocken and Phoenixville area is a part, maintains substantial unemployment with a ratio of unemployment to the total labor force from 6.0 to 8.9 per cent.

Table 7
MACHINERY (EXCEPT ELECTRICAL) MANUFACTURE EMPLOYMENT TREND. (1961 - 62)
(In Thousands)

Employment	1960	1961	Change
U. S. Total[a]	1,471.0	1,402.0	-68.0
Pennsylvania Total[b]	110.4	110.3	- 0.1
Philadelphia (Area)[b]	20.7	27.3	+ 6.6

[a] U.S. Department of Commerce, Statistical Abstract of the U.S., 1962, p. 220.
[b] Commonwealth of Pennsylvania, Pennsylvania Statistical Abstract, 1962, p. 3.

Field Oriented Needs (1,560 hours). -- The machine tool operator skill, when compared to others, is generally considered of a high caliber. In other words, the machine tool operation is more than a mere machine operator. For this reason, it requires a higher degree of manipulative ability and related technical knowledge than the semi-skilled performance level. Consequently, training of a broad nature including mathematics, science, blueprint reading, and the like is essential. The selection of individuals who possess the aptitude and mental ability to achieve such a skill level as possible under the MDTA type program of 52 weeks duration provides for opportunities of a field-oriented nature.

Analysis of the required training indicated the need for 1,560 hours of intense training to produce machine tool operators of an employable caliber. This was the objective of the Phoenixville program.

How the Needs Were Determined. -- The Pennsylvania State Employment Service, Norristown Office, accepted the responsibility for determining the need for machine tool operators in the area. Through direct contact with employers there was determined a need for approximately 100 individuals possessing machine tool operator skills. Of this number, it was estimated 50 would be required for expansion and another 50 for replacement. Employment records indicated only 10 unemployed persons available and qualified for the 100 opportunities.

A series of meetings was held involving the PSES, Vocational Director of the Phoenixville Area High School, and Foreman from the

Philadelphia Gear Corporation, Wiedemann Machine Company, Daystrom, Inc., and Hale Fire Pump Company. As an outgrowth of these meetings, it was determined that the need for the establishment of an MDTA retraining program in machine tool operation was indeed very much possible. Application was subsequently made through proper channels and approval received to begin the program in September 1962.

The Program

The Phoenixville Area Schools displayed a long history of concern for vocational education as part of their high school offering. As early as 1923, a program of vocational education consisting of three shops was incorporated into the school program. The completion of a new high school in March of 1958 included outstanding vocational facilities. The curriculums of electricity, carpentry, machine shop, auto machanics, and drafting are presently being offered and graduating about 40 students each year. The cost of the machine shop facility alone is estimated at over $138,000. The adult education offerings of an occupational nature accounted for an enrollment of 112 during the year 1962-63.

It was not surprising, therefore, to have the school authorities led by the vocational director take the initiative in meeting the need for machine tool operators. In March 1962, the vocational director contacted the Norristown PSES Office to discuss with them how the school facilities could assist with the MDTA retraining effort. As a result, the machine tool operator program with its general objective of making men employable in the machine tool classification was undertaken. More specifically, the objectives of the program included:

1. To develop skills in the setup and operation of engine lathes, milling machines, grinders, shapers, drill presses, cut-off machines, turret lathes, and contour sawing machines.
2. To develop knowledge of metals.
3. To develop knowledge of mathematics required in the machine operator trade.
4. To develop the skills in blueprint reading necessary to perform as a machine tool operator.

Approval for the establishment of the course was granted and the training started on September 17, 1962. Classes met after school hours from 4:30 in the afternoon until 10:30 p.m., thirty hours a week for a period of 52 weeks. In this manner, the existing school facilities were used to the maximum and little or no expense of costly equipment incurred.

Both the selection and placement of trainees, which is discussed in some detail later in this report, fell the responsibility of the Pennsylvania State Employment Service.

Developing the Curriculum. -- With assistance from representatives of labor, management, the PSES, and school authorities, an analysis of the machine tool operator occupation was made and a curriculum developed. The curriculum agreed upon follows:

MACHINE TOOL OPERATOR, GENERAL COURSE

A. THEORY . . . . . 160 hours
   1. Orientation and safety practices
   2. Mathematics
   3. Blueprint reading (elementary)
   4. Metals
   5. Heat treating
   6. Fundamentals of time and motion study

B. MEASURING, LAYOUT TOOLS AND BENCH WORK. . . . . 120 hours
   1. Care and use

C. LATHE OPERATION. . . 400 hours
   1. Engine Lathe
   2. Turret Lathe

D. DRILL PRESS OPERATION. . 55 hours
   1. Safety
   2. Drill press parts identification and uses
   3. Care of the drill press
   4. Drill press operation

E. MILLING MACHINE OPERATION . . . . . 350 hours
1. Horizontal
2. Vertical

F. SHAPER OPERATION . . . . . 125 hours
1. Safety
2. Parts identification and uses
3. Shaper care
4. Shaper operation

G. SURFACE GRINDER OPERATION . . . . . 130 hours
1. Safety
2. Parts identification and uses
3. Care of surface grinder
4. Surface grinder operation

H. PEDESTAL GRINDER OPERATION . . . . . 30 hours
1. Safety
2. Parts identification and uses
3. Care of grinder
4. Grinder operation

I. POWER CUT-OFF MACHINE OPERATION . . . . . 20 hours
1. Safety
2. Types of power cut-off machines
3. Care of machine
4. Operation of cut-off machine

J. CONTOUR MACHINE OPERATION . . . . . 60 hours
1. Safety
2. Parts identification and uses
3. Care of contour machine
4. Operation of contour machine

K. HEAT TREATING . . . . . 60 hours
1. Safety
2. Introduction and inspection of hardened and annealed steels

Planning and Installing the Facilities. -- Classroom and shop facilities were readily available since the MDTA class was to be conducted after regular school hours. The facilities were relatively new, having been constructed in 1958, and the equipment up to date. Figure 9 shows the floor plan and arrangement of the equipment.

The total estimated value of equipment was in the neighborhood of $138,000; a substantial investment if the program had started from scratch. In addition, $2,375.51 worth of small tools and accessories were acquired out of MDTA funds to assist in the conduct of the program.

Teacher. -- Uniquely, the teacher selected for this position was a Phoenixville machine shop (in-school program) graduate with some 14 years experience in industry. This individual had long held a desire to teach in the public schools and was, at the time, preparing himself for such a position by taking extension courses at the University of Pennsylvania. At the time of his employment, he had accrued 10 semester hours of teacher credit.

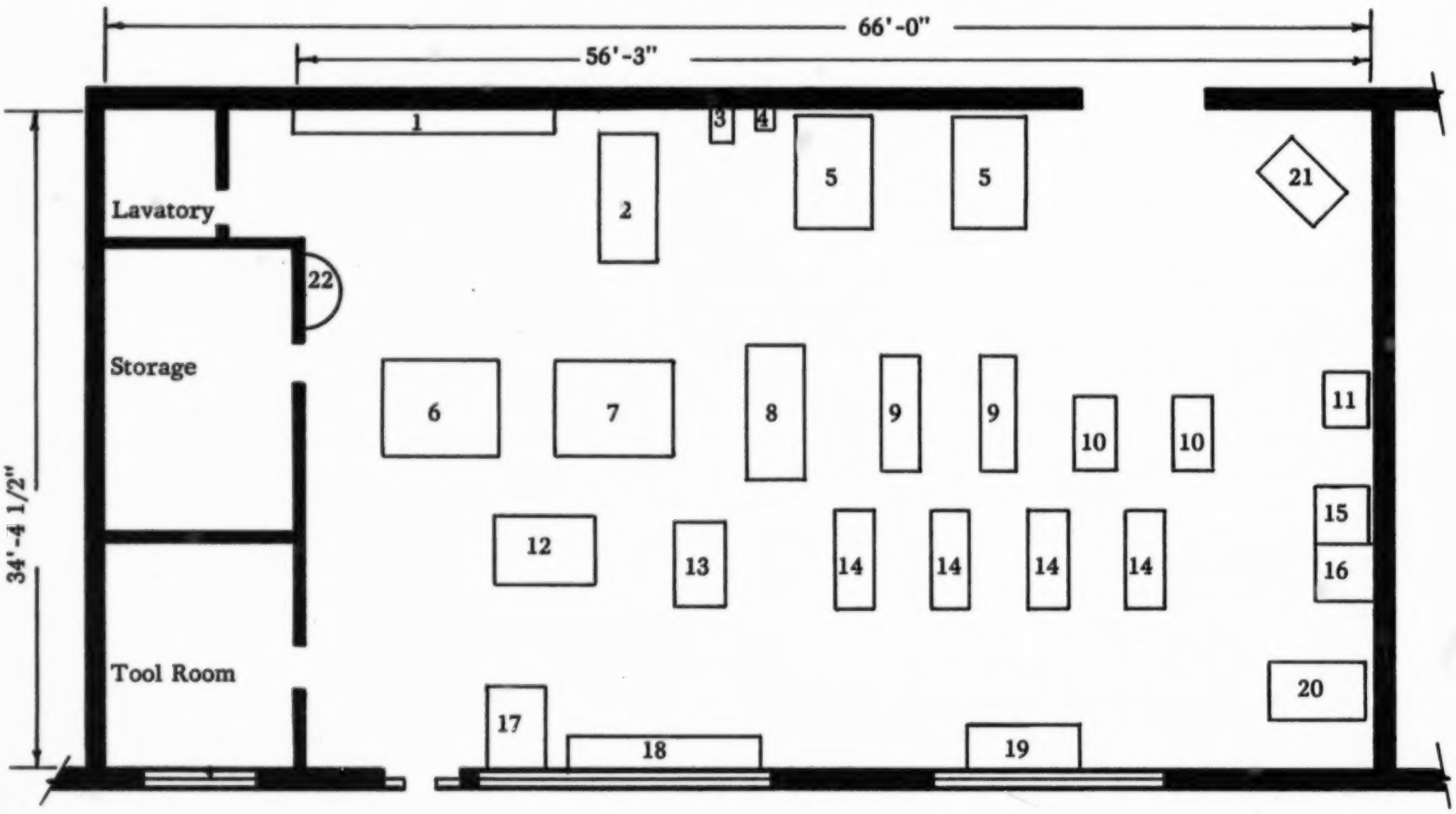
It is felt by those who supervised the Phoenixville program that the following minimum requirements should be maintained in teacher selection. In addition, teacher education topics should be provided through formal teacher training courses to assure success.

MINIMUM TEACHER QUALIFICATIONS
Retraining Program (MDTA)

Formal Education	High School Graduate
Experience	6 years in the occupation
Teacher Preparation	A minimum of 10 clock hour course in teaching techniques
Certification	The basic certificate (emergency)
Personal Qualities	Ability to work with and handle adult groups

FIGURE 9

MACHINE TOOL OPERATOR (GENERAL) FACILITY



KEY

1. 24 lockers
2. 1/2 h.p. power hack saw
3. arbor press
4. 1/3 h.p. grinder
5. 3 h.p. shaper
6. 3/4 h.p. vertical miller
7. 5 h.p. universal miller
8. 1-1/2 h.p. 16" lathe
9. 1-1/2 h.p. 14" lathe
10. 3/4 h.p. 10" lathe
11. 1/2 h.p. sheer grinder
12. 1 h.p. surface grinder
13. 1 h.p. Do-All saw
14. 1 h.p. 13" lathe
15. electric furnace
16. work bench
17. 1/3 h.p. floor drill press
18. work bench
19. layout bench
20. 1 h.p. large drill press
21. instructor's desk
22. wash stand

DESIRABLE TEACHER EDUCATION TOPICS[1]

Organizing the Class
Planning the Instruction
How We Learn
How We Teach
Oral Presentation
Demonstrations
The Act of Oral Questioning
Teaching Aids
Guiding Individual Performance
Testing
Grading
Self-Evaluation

[1]Department of Public Instruction, Teaching Vocational Education Subjects, Harrisburg: Commonwealth of Pennsylvania, 1960.

Selection of Trainees. -- Trainees for the program were all selected by the Pennsylvania State Employment Service. A job description based on the wants of all employers was written by the PSES. Both the job order (description) and course description were used as criteria in selection of applicants. These minimum requirements were:

Male or female, age open
Willing to receive training
Preferably high school graduate with one year of algebra
Satisfactory scores on B-217 factors G, N S, and M.

Preference was given to the younger applicants because of their potential adaptability and the fact that they more easily met the mathematical (one year of algebra) requirement.

Selection was made only after all of the requirements were met and confirmed by an interview.

- Personal Characteristics

The personal characteristics of the trainees enrolled in the Phoenixville machine tool operator (general) program are interesting to note.

Sex -- all 12 were male
Age -- 7 were under 25 years of age with the oldest being 38. The median age of the group was 24 years.
Residence (local) -- 8 of them had either been life long residents or lived 20 years or longer in the community. The remaining 4 claimed 1 to 6 years permanent residence at their address.
Residence (state) -- 9 were Pennsylvanians from birth. The other 3 migrated from North Dakota, Virginia, and Florida.
Marital Status -- 8 were single and 4 married.
Social-economic Status -- 8 classified themselves as working, 2 mid-working, and 1 low-working.
Living Accommodations -- 7 lived with parents, 2 rented, 1 owned his own home, 1 had his home provided by a relative, and 1 lived in a trailer.
Relatives -- all had relatives living in the immediate vicinity. These were recorded as 30 in one case with a median of 9.

It might be said that this group comprises a relatively young group of trainees with 58 per cent of them being under 25 years of age. It can, also, be said that they are truly Pennsylvanians as 3 out of 4 were born in the state. In no way could they be classified transients as half of them had lived all their life at the same address. The fact that 8 of these trainees were single is somewhat indicative of the appeal of retraining of the longer type (52 weeks) to the individual who does not have too large a family responsibility. Moreover, it is evident that all had strong family ties within the community and that mobility, even after training, may constitute a problem. No stronger ties can be reflected then by the 7 trainees who still lived at home with parents even though they ranged from 21 to 33 years of age.

- Family Characteristics

It appears evident that the trainees do not come from excessively large households. Moreover, in half of the cases, there were a number of youngsters (16 years or under) represented in the household.

Household Members -- 5 trainees came from a household of 4 members, 1 from 5, and 1 from 7. This was a total of 46 members, or an average of 3.8 per household.

Youngsters in Household -- 6 came from households with no youngsters 16 years or under, 2 with 1, and 4 with 2.

Obviously, the often cited relationship between large families and unemployment is lacking in this group of trainees. The plight of these individuals is definitely not a cause of "cultural deprivation" which is frequently persistent among large families in a low income bracket.

- Socio-economic Origins

Origins of a social-economic nature of the trainees appears as follows:

Fathers Occupation -- fathers of the trainees throughout most of their lives were: operatives (4), craftsmen (3), construction laborer (1), non-farm laborer (1), farmer (1), salesman (1), and foreman (1).

Socio-economic Status -- classification indicates: 1-lower worker, 7-working, and 4-middle working origins of the trainees.

Obviously, trainee origin is generally from the working class. Better than a third had the benefit of contact with a father who was a craftsman.

- Employment Status of Family Members

During times of unemployment, especially if such a status befalls the head of the household, it is often necessary for other members of the family to seek employment.

Number of Family Members (over 14 years) Not Going to School -- A total of 24 individuals or on the average of 2 per trainee were 14 years or over and still at home and not going to school.

Family Members Employed -- 13 of the household family members were employed full time and an additional 2 on a part-time basis. This represents 63 per cent of those eligible for work being employed in some capacity or other.

It is apparent that members of the families of these trainees are making an effort to sustain themselves by working.

- Employment History

The employment history of the trainees appears as follows:

Number times employed -- two of the trainees (17%) had never been employed before; four or 33 per cent had been employed only once before; 3 or 25 per cent had been employed two to three times; while 3 or 25 per cent had been employed over three times.

Location of employment -- Nine or 90 per cent of the trainees had their previous employment experience within the local community; only one had been employed outside the state.

Type of previous employment - Twenty per cent of the trainees had their previous work experience as unskilled workers and seventy per cent as semi-skilled. Only ten per cent could be classified as having held skilled jobs.

Distance from home -- The median

distance of previous employment from home was 1-5 miles.

Wages earned -- Twenty per cent of the trainees report former wages being between $50 - $59 per week while eighty per cent earned over $60 per week.

- Previous Training

Some of the group had taken specialized training previously. The extent of which is deserving of reporting.

No. of Times Taken -- Half of the group (6) had received some previous specialized retraining. Five had taken it once and 1 had received it twice.

Helped Get Job -- 3 times out of the 6, it helped individuals get jobs. In the same 3 cases, it led to looking for a job in another city.

Length of Course -- In 3 cases the training was 52 weeks or longer.

Type of Training -- 2 training cases were of a mechanic nature, 1 apprentice, 1 nurses aide, 1 barber, and 1 the armed forces.

Results -- 3 got new jobs because of it; with 2 it helped in the present job, and 1 received a promotion. In 3 cases, it led to another city. 1 got better pay and 3 learned new skills.

Retraining obviously was not new to this group since 50 per cent of them had previously availed themselves of such opportunities. Apparently, it helped all 6 individuals in some way or another. It, also, assisted in mobility as 3 of the 6 did look for work in other cities after its completion.

- Educational Background and Values

Ability to master the training being offered is to a large extent reflected in one's educational background. In a like manner, values held of formal education are important and are reported in the following:

Formal Education -- All of the trainees (12) either completed high school or the GED equivalency.

Educational Achievement -- 8 of the 12 indicated they had done about as well as most other students while in school. The group as a whole had a 98.9 IQ on the California Short Form Test of Mental Maturity and a grade placement of 10.9.

Favorite Subjects -- social subjects, manual (industrial education), and the physical sciences were reported as favorite subjects. Best grades were claimed in these categories.

Higher Education -- only 1 trainee went to college although he did not graduate. 4 thought about going to college and 8 did not. The most prevalent reason for not going to college was given as "financial".

More Education -- 11 out of the 12 would have gotten more education if they had it to do over again. 7 would choose higher education and 4 either trade or business education.

Educational Values -- The value of education was overwhelmingly expressed by the group's response that "both boys and girls should complete at least 12 grades of school," "it is not right to quit high school," and "most youth in their family will complete high school and some college."

Cultural Values -- 9 trainees read regularly either a local or out-of-town newspaper. Three do not read any newspaper regularly. Five read mass circulation sliks and pictorials such as Life, Look, Readers Digest, etc. Interest in TV was shown by 10 who watched television regularly; 2 did not. Five knew

their congressman by name; 7 didn't. All 12 knew who was the governor of the state. Eleven out of the 12 knew the name of the largest employer.

Societal Values -- 9 belonged to, or held membership in a church; 3 were members of a volunteer fire department; 4 belonged to some sports group organization; 1 to a lodge; 3 were either active or former members of a union, and none belonged to a PTA or political organization. Cumulatively, 5 were active in two organizations; 3 belonged to 3, and 1 to 4 organizations. Evidence indicates but a slight curtailment of membership in belonging to organizations during the past 4 to 5 years.

It appears rather clear from the aforementioned description that the trainees of the machine tool operator program (MDTA) represent an educationally alert group. They know the value of education and are sensitive to the need for an adequate educational base. On the other hand, the cultural and societal values of the group leaves something to be desired. Their mediocrity in taking part in community activities and in their own self improvement through reading, may reflect their state of depression or may even be a contributing factor to their unemployment predicament. Further study on this entire category would be most interesting.

- Aspirations and Occupational Mobility

The trainees reported the following aspirations and attitude toward mobility:

Aspirations for Sons and Daughters -- 6 of the group held aspirations for their sons and daughters for an occupation or profession in the middle-working or upper-working category.

Self Aspirations -- 5 out of 7 admitted secret aspirations to do some other kind of work than they either had been doing or for which they were being trained. Only 3, however, felt they would some day realize this ambition.

Mobility versus Retraining -- the group was split down the middle (6 to 6) on the question whether or not it is more difficult to move to a new community where there is employment or to be retrained for a new occupation and remain where located.

Returning to Old Occupation -- Three-fourths of the group indicated there was literally no chance of their ever returning to their old job. This is in spite of their good health and lack of physical handicaps.

Mobility of Residence -- 11 out of the 12 indicated they expected to be living in their same community 5 years from now. The one descendant said opportunities were limited and he would prefer to move.

Encouraged Mobility -- If given encouragement and a free choice to move anywhere in the U.S., 9 would remain and 3 would move. Of the 3; 2 would seek some other state and 1 would remain in Pennsylvania.

Cost of Mobility -- $4,000 to $4,999 was reported as the median family income which would be considered necessary to be as well off financially in another community. However, to actually "move," the median income would have to be in the $6,000 to $6,999 bracket.

Mobility Problems -- Reasons for not wanting to move were: "hate to leave family," "opportunities exist here," "this is a good place to raise kids."

Mobility of Youth and Neighbors -- 7 out of 12 indicated they would want their sons to remain in the

community. 9 were in favor of their neighbors remaining.

Change of Occupation -- 10 out of 12 thought it desirable to take any kind of work if unemployed for 6 months. Nine approved of wives working if husbands were out of work.

If there is any relationship between aspirations and necessary mobility to achieve such ambitions, it is not evident from the above description. Indeed, it might be said that the trainees are not mobile conscious. They are satisfied not only for themselves but for their children that opportunities within their immediate community are about as good as any place in the state or country.

EVALUATION

Study of the Phoenixville machine tool operator (general) under The Manpower Development and Training Act necessitated evaluation in some depth. As typical as the Phoenixville case may be, it can not be assumed that generalizations can be drawn from it. This is to say, this single evaluation can not assure other MDTA programs being as effective as reported for the Phoenixville case.

General

The MDTA effort of the Phoenixville school, The Pennsylvania State Employment Service, industry and lay leaders can be looked upon with pride. It is obvious that the diversified nature of the labor market area will require a continuing upward spiral of skilled workers. Retraining then, becomes a major factor in maintaining an effective labor force.

Trainee Selection

The Pennsylvania State Employment Service (Norristown Office) apparently carried out its responsibility for the selection of retrainees in a most sincere and conscientious manner. All candidates were given two interviews, the first consisted of general orientation and testing, and the second, a depth interview to assure sincerity on the part of the candidate to complete the retraining program.

Employers indicated for the most part, that the trainee selection standards were about right. This is further evident in their satisfaction with those they hired. Only in a single case, had a trainee been dismissed because the employer felt he was too slow in grasping the essential on-the-job knowledge. Moreover, all employers interviewed said they hired the trainees because they felt they had been well screened prior to their entrance into the training.

Overall Quality

The Pendered (1957) "upgrading instruction" form was used to evaluate the overall quality of the instructional program. This instrument provided a qualitative rating on factors of physical conditions, instructional program, methods, management and housekeeping and the teacher. The 77 item ratings were scored independently by two individuals well versed in educational practices required for maximum instructional effectiveness. The per cent quality on the four factors as well as the overall quality follows:

Factor	Per Cent Quality
Physical Conditions	84.4
Instructional Program	69.1
Methods, Management and Housekeeping	73.2
The Teacher	69.0
Over-all Quality	69.8

- The physical facilities in which the Phoenixville machine tool operator program was conducted were rated well above average at 84.4 per cent. This was undoubtedly because the program was held in a relatively new high school which had a well equipped vocational machine shop. By scheduling the retraining program after school hours, the availability of such a desirable instructional setting was assured. No major weaknesses of any kind were found in the physical facilities. Minor deficiencies were observed in connection with: the absence of non-skid floor coverings in some machine areas, the need for an expanded library of reference materials, and greater accessibility to audio visual aids.

- The instructional program was rated above average at 69.1 per cent. Items receiving high ratings were: course aims or objectives, activities, activities in shop suited needs, course of study, group projects (jobs) planned to develop cooperative attitudes, and project interest. Items where need for improvement was indicated were: instructional techniques, i.e., development of safe working practices, study of typical working conditions, use of reference books, trade literature, and evaluation of trainee programs.

- Methods, management, and housekeeping was rated at 73.2 per cent. This above average rating is indicative of an orderly and clean instructional facility. Methods of instruction were also rated high. Progress charts were used, records were in order and class control was good. Pupil motivation, although not of an eagerness degree was noted at a constant level of interest.

- The teacher was rated on 19 separate items and scored above average (69 per cent). It was interesting to note that this individual was seriously considering teaching as his life career. Evident strengths were in his poise, personal appearance, voice, manner, interest, and command of the subject (skills) taught. The fact that this individual desired to make teaching his life work and was making preparation in that direction (by taking teacher education courses) was evident.

- Over-all quality of the Phoenixville machine tool operator (general) program was rated at 69.8 per cent. This was the highest of the three retraining cases studied. Employers signified the trainees were "good" or "about right" in their quality which spoke highly of the program. They hoped to see the program continued and there was no general consensus as to specifics for its improvement. Items mentioned during interviews with employers varied from, "more related mathematics," "more skill at grinding tools and drills," and "reading of instruments weak." One employer felt the equipment used in the instructional process should have been of a larger, more industrial variety.

Employment and Placement

What happened to the trainees after completion of the course? More than anything else this provided the real criterion measure of effectiveness. Initial employment was reported at 100 per cent. In other words, everyone who completed the course got a job. It took an average of 9.9 days for the graduates of the program to find a job but all got one. This is an outstanding achievement and speaks highly of the program and the placement efforts of the Pennsylvania State Employment Service.

Through follow-up interviews some 90 days after initial employment, it was found that 82 per cent were still working in the occupation for which they were trained. Those not employed were either looking for work or doing odd jobs while waiting for employment along lines for which they were trained.

Earnings of the trainees at the end of the first three month period indicate a mean earning of $95.73 per week and an hourly rate of $2.11. It should be noted that this group worked on the average of 44 hours per week which represents four hours over-time pay when compared to a normal 40 hour week.

Satisfaction with the course and employment opportunities was registered when 92 per cent of the trainees indicated they would enroll in the course again if they had to make the choice over. This represents an outstanding endorsement of the 52 week endeavor and major investment in terms of time and energy on the part of the trainees.

A Final Word

The MDTA retraining course, as conducted by the Phoenixville Area School District, represented a major effort to provide broad base training far beyond that attempted by either Pennsylvania's 2508.3 or the ARA approach. This meant organizing curriculum, providing facilities, and securing teaching personnel for a total of 52 weeks (1,560 hours). Utilization of regular school facilities (the machine shop) after hours appeared not to impose any particular hardship on either students, teachers or facilities. In fact, the longer length program, once in operation appeared to take considerable pressure off those responsible for its administration. This is to say, the necessary paper work and "red tape" was no more involved to operate a long program than one of shorter length. The problem of keeping the class together until successful completion of the entire course was compounded by the fact that employers were anxious to hire some of the class and had to be pleaded with to "leave their hands off" until the course ended. Admittedly also, attendance on certain "spring like" days and reporting for class in the late afternoon caused some concern. The fine student selection and qualified teacher assisted measurably in assuring success of the program.

5. EMPLOYMENT AND SOCIETAL EFFECTS OF RETRAINING PROGRAMS

FOCUS OF STUDY

THE PROCEDURE

THE FINDINGS

- PROGRAM DIFFERENCES
- THE TRAINEES
- TRAINEE AND EMPLOYER EVALUATION
- INITIAL JOB OPPORTUNITIES
- LONG RANGE OPPORTUNITIES
- EMPLOYEE MOBILITY

DISCUSSION

- TRAINEES
- THE PROGRAMS
- FIELD VERSUS JOB ORIENTED RETRAINING

RECOMMENDATIONS

5. EMPLOYMENT AND SOCIETAL EFFECTS OF RETRAINING PROGRAMS

THE PROBLEM

The problem of retraining the unemployed has many facets. One is the degree of training intensity or specificity that should be pursued. This is to say, how narrow or how broad should retraining programs be conceived? Should they include but a few, even though complex manipulative abilities of a repetitive nature, or should the programs be broad in nature so to provide for transfer of knowledge and skill? Moreover, questions can be raised as to the efficiency of retraining in a narrow or specific sense (job oriented) when measured over a longitudinal period as compared to the value of broad (field oriented) training.

Pennsylvania has been a pioneer in providing retraining programs for the unemployed. As early as 1952, the State Legislature passed the Pennsylvania Retraining Act (2508.3). Subsequent Federal legislation (the Area Redevelopment Act and the Manpower Development and Training Act) was almost immediately implemented into the retraining structure of the State. Each of these pieces of legislation are geared to serve a different purpose, to provide a different type of retraining, and expected to produce different results. It was, therefore, opportune to view such retraining programs, one of each type in Pennsylvania, through a detailed case study method. To this end, the problem became one of delving into three different, yet similar, programs which were providing retraining for the unemployed.

FOCUS OF THE STUDY

This, then, became a descriptive study delineating the cases in terms of when, where, how and what. Answers to the following questions supply an indication as to what actually happened when the three retraining approaches were applied.

Answers to the following six questions were sought to assist in drawing this picture.

1. What were the initial or job entrance opportunities for individuals trained broadly (field oriented) as compared to individuals trained narrowly (job oriented)?
2. To what type of persons did the differently oriented types of retraining appeal? What were the differences in personal background, formal education, etc.?
3. What were the long-range opportunities for individuals who had received these kinds of training?
4. What were the differences in efficiency in terms of time, instructional cost, facilities needed, and operation of the types of training?
5. How do employers evaluate the end results of the types of training?
6. Was one type (job versus field) more conducive to employee mobility and lend itself more to acceptance of relocation?

THE PROCEDURE

The limitations imposed on this study necessitated using the case method which required (1) the selection of three cases: one job oriented (2508.3 program), the other field oriented (MDTA program), and an intermediate case (ARA program); (2) evaluation of the respective programs in terms of instructional content, teaching techniques, training facilities, ability of trainees to profit from instruction, socio-economic status of trainees, etc.; (3) ascertaining initial job placement as a result of the training; and (4) follow-up of the trainees three months to a year after completion of the retraining program.

THE FINDINGS

The findings which follow represent a detailed study of each case in relation to the six questions that were delineated. Moreover, it is emphasized that the findings reported here apply only to the cases studied and in no way can they be generalized for other programs. This is to say, other programs may prove as effective, less effective, or even more effective than those studied. There are, however, noticeable differences emerging as end results among the programs which are reported here.

Program Differences

Differences in conducting the three programs studied were mainly in length, curriculum, cost of providing instruction, and the equipment (hardware required). Table 8 shows these differences. Although there are differences among the programs, they should not be miscontrued to represent generalizations of what has been termed narrow (job oriented), intermediate, and broad (field oriented). These data represent only the programs studied.

The Trainees

As stated previously, the Pennsylvania State Employment Service had the responsibility in all three cases of screening and selecting the trainees for each program. Naturally, the various program levels required different trainee prerequisites. Differences among the groups became obvious when they were studied both during and after their training.

Probably the most noticeable difference among the groups was in mental ability (Table 9). It can be seen that intelligence and grade placement account for major differences between the 2508.3 and the MDTA groups. The ARA group falls somewhere between these two extremes.

Table 8
PROGRAMS COMPARED BY TIME, COST PER STUDENT, VALUE OF EQUIPMENT[a]

Program	Curriculum	Length of Program-hrs.	Cost of Student-hr.	Value of Equipment
2508.3	Narrow (Job)	90	$0.33	$ 10,000
ARA	Intermediate	640	$0.61	$ 60,000
MDTA	Broad (Field)	1,560	$0.45	$138,000

[a]Data supplied by local schools.

Table 9
MEAN SCORES FOR FACTORS OF THE
CALIFORNIA SHORT FORM TEST OF MENTAL MATURITY[a]

Factor	Program		
	Job (2508.3) N = 20	Intermediate (ARA) N = 14	Field (MDTA) N =
Sensing Right and Left	13.8	15.5	16.7
Manipulative of Areas	3.6	5.5	7.4
Total	17.4	21.0	24.1
Similarities	6.1	8.8	9.6
Inferences	6.4	8.4	9.9
Total	12.5	17.2	19.5
Number Series	2.1	4.3	4.1
Numerical Quantity	3.0	5.4	6.2
Total	5.1	9.7	10.3
Verbal Concepts	9.0	13.9	16.1
Total	9.0	13.9	16.1
Language Data	18.4	27.7	32.2
Non-Language Data	25.6	34.1	37.8
Chronological Age	33.6 yrs.-mos.	27.2 yrs.-mos.	28.10 yrs.-mos.
Language I.Q.	79.0	93.0	98.3
Language G.P.	7.2	9.4	10.7
Non-Language I.Q.	77.0	92.0	99.4
Total I.Q.	77.0 (1)	92.2 (2)	98.9 (3)
Total Intelligence (M.A.) G.P.	7.0	9.2	10.9
Normal Pop. I.Q. Percentile	10.0	30.0	50.0

t (1) (3) = Significant at .01 level
t (1) (2) = Significant at .01 level
t (2) (3) = NS
NS = not significant

[a]California Short Form Test of Mental Maturity, Los Angeles, California Test Bureau, 1957.

Table 10 supplies further evidence of differences when compared with normal population I.Q. differences. When compared with normal population I.Q.'s, it can be seen that both the 2508.3 and the ARA groups are below the national average in intelligence. When social

Table 10
TRAINEES GENERAL CHARACTERISTICS

Factor	2508.3 N =20	ARA N =17	MDTA N =12
Mean Chronological Age[a]	33.6 yrs	27.2 yrs.	28.1 yrs.
Mean Grade Placement (Non-Language)[a]	7.0	9.2	10.9
Mean I.Q.[a]	77.0	92.2	98.9
Normal Population I.Q. (percentile)[a]	10.0	30.0	50.0
Mean Social Status[b]	Worker	Worker	Worker
Marital Status (%)[c]			
Married	45.5	57.1	66.7
Single	27.3	42.9	33.3
Widowed	18.2	0.0	0.0
Divorced	9.1	0.0	0.0

[a]California Short Form Test of Mental Maturity, 1957.
[b]Sims SCI Occupational Rating Scale, 1952.
[c]Interview schedule data.

status (self perceived) was measured, it was found to fall at a "worker" level for all three groups of trainees.

Formal education values as expressed through an interview show some distinguishing differences (see Table 11). Data indicate only 9.1 per cent of the 2508.3 group completed high school whereas 57.1 per cent of ARA, and 91.7 per cent of MDTA claimed to have finished high school. Other apparent differences were 40 per cent of the MDTA group did not like any particular subject whereas the individuals comprising the other groups held a greater number of subjects as "favored." It is also interesting to note that those with less formal education tended to emphasize the need for boys completing high school and college more than those who had acquired more formal education. On the other hand, those with less formal education felt girls do not need as much formal education as boys.

The 2508.3 group (job oriented) to a large extent came from lower working, and labor family backgrounds (Table 12). Both the ARA (intermediate oriented) and MDTA (field oriented) groups came from predominantly craftsmen or operative families of a working or middle-working background. The size of the family, or number in the household, as a family origin of the trainees appears moderate and would not seem excessively large.

Table 13 shows that only 25 per cent of the job oriented (2508.3) trainees had ever been unemployed prior to the training period; compared with this, 78 per cent of the ARA trainees had been unemployed. It appears from this that the 2508.3 program was in a major sense providing almost initial training opportunities of a job-type for the trainees. In other words, this could well have been the first opportunity ever offered to them to learn salable and marketable occupational skills.

Moreover, Table 13 presents a picture of relatively little job mobility, working at an unskilled or semi-skilled level and for

Table 11
TRAINEES FORMAL EDUCATION[a]
(In Per Cent)

Factor	2508.3 N = 20	ARA N =14	MDTA N =12
High School Graduate	9.1	57.1	91.7
Educational Achievement			
Did about as well as others in school	50.0	64.3	66.7
Favorite Subjects			
Physical sciences	40.9	46.2	10.0
Manual	4.5	30.8	20.0
Social studies	13.6	7.7	30.0
No preference	31.0	15.3	40.0
More Education (if had opportunity)	77.3	64.3	91.7
Educational Values Held For:			
Boys			
High School	40.9	42.9	66.7
College	40.9	7.1	0.0
As far as they can	18.2	42.2	33.3
Girls			
High School	18.2	64.3	91.7
College	54.5	0.0	0.0
As far as they can	18.2	21.4	8.3
Up to her	9.1	14.3	0.0

[a]Interview schedule data

Table 12
TRAINEES SOCIO-ECONOMIC ORIGINS AND FAMILY CHARACTERISTICS[a]

Factor	2508.3 N = 20	ARA N = 17	MDTA N = 12
Father's Occupation (%)			
Craftsman	9.6	35.6	25.0
Operative	14.3	14.3	33.3
Laborer	47.6	35.7	25.0
Other	28.5	14.4	33.3
Socio-economic Status (%)			
Lower working	47.6	28.6	8.3
Working	14.3	50.0	58.3
Middle working	28.6	14.3	33.3
Didn't know	9.5	7.1	0.0
Size of Families (mean)	3.9	4.1	3.8

[a]Interview schedule data

Table 13
WORK HISTORY (Prior to Training) OF TRAINEES[a]
(Frequency and Per Cent)

Factors	2508.3 (N=20)		ARA (N=14)		MDTA (N=12)	
	f	%	f	%	f	%
Times Employed (Since 1955)						
0	5	25	3	22	2	17
1	10	50	4	30	4	33
2	3	15	5	36	1	0
3	1	5	1	6	2	17
Over	1	5	1	6	3	25
Location of Employment						
Local community	15	100	8	72	9	90
In state (Pa.)	0	0	2	18	0	0
Outside state	0	0	1	9	1	10
Type of Employment						
Unskilled	6	40	8	73	2	20
Semi-skilled	9	60	3	27	7	70
Skilled	0	0	0	0	1	10
Distance from Home						
Less than 1 mile	7	46	4	36	1	10
1-5 miles	7	46	5	46	6	60
Over 5 miles	1	7	2	18	3	30
Wages						
Less than $30	2	13	1	9	0	0
$30 - $39	4	27	2	18	0	0
$40 - $49	4	27	4	37	0	0
$50 - $59	3	20	1	9	2	20
$60 - Over	2	13	3	27	8	80

[a]Interview schedule data

comparatively low wages. Surprisingly enough, the individuals studied had not jumped from one job to another, but were found to have been fairly stable in the number of jobs they had held. Then, too, their jobs were mainly located in the immediate vicinity, usually within a 5 mile radius. Low level of skill is reflected throughout, since no one in either the 2508.3 or ARA groups could claim having held a skilled position. However, in contrast the MDTA group seemed to possess a somewhat higher level of skill and were paid considerably higher wages.

Trainee and Employer Evaluation

Trainee evaluation of the programs appears in Table 14. In general, it can be said that the trainees were satisfied with the instruction they received including teacher, equipment, length of course, and skills covered. In effect, this speaks highly of those who had the responsibility for the establishment and administration of these courses. A weak point in the ARA program apparently was that the course was felt to be too short while a third of the MDTA group

Table 14
TRAINEE EVALUATION COMPARED[a]
(In Per Cent)

Factor	2508.3 N = 20	ARA N = 14	MDTA N = 12
Was Course Satisfactory			
Yes	100	93	100
No	0	7	0
Coverage of Skills			
Good	95	57	100
Bad	5	43	0
Learned Skills Well			
Yes	90	93	83
No	10	7	17
Course Length			
Too short	25	50	8
Too long	0	0	33
About right	50	43	59
No comment	25	7	0
Quality of Equipment			
Satisfactory	78	21	59
Unsatisfactory	11	79	41
No comment	11	0	0
Quality of Teacher(s)			
Satisfactory	80	79	100
Unsatisfactory	0	0	0
No comment	20	21	0
Would You Make Same Choice Again			
Yes	95	57	92
No	5	43	8

[a]Interview schedule data

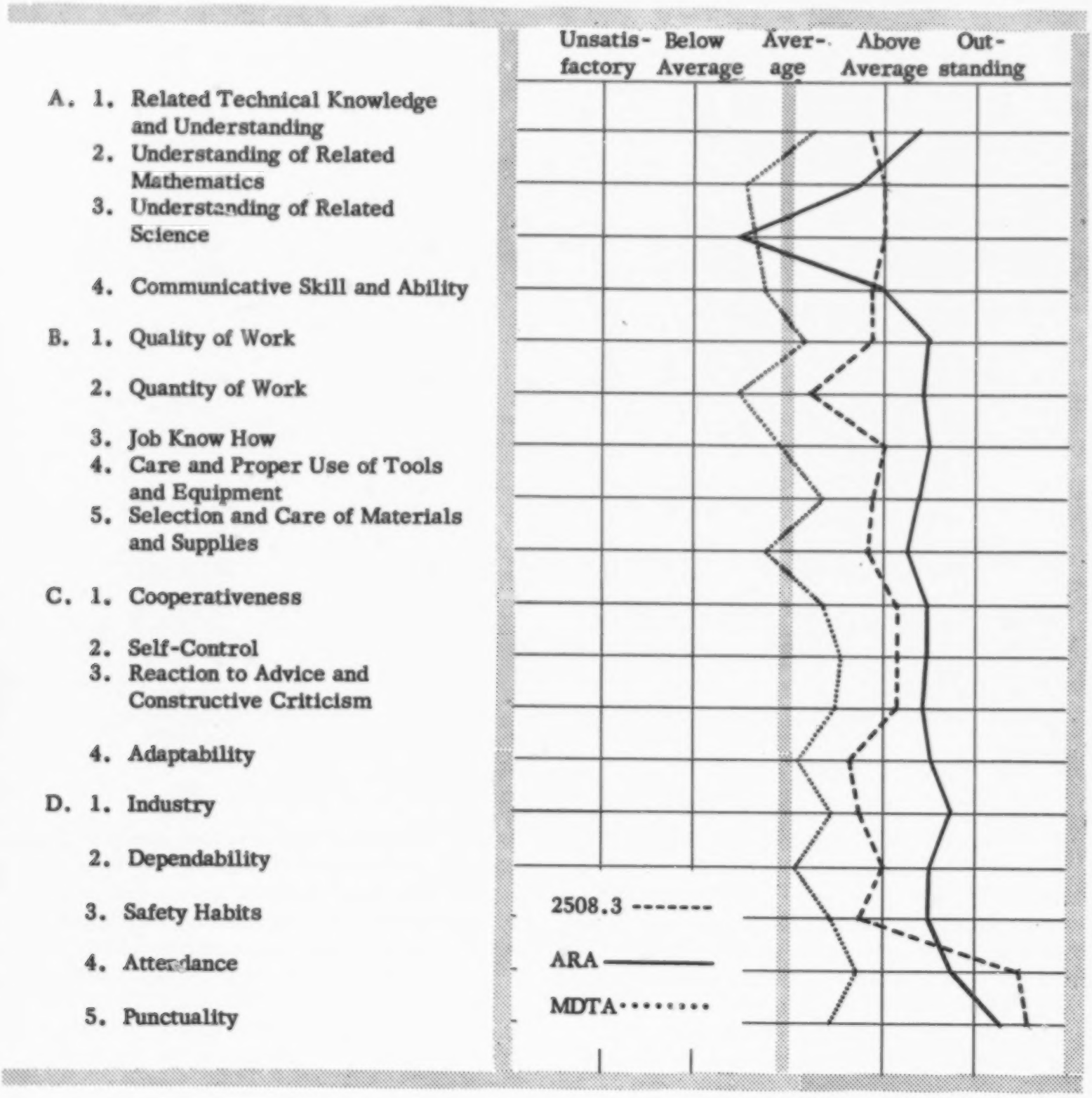
felt the course was too long. Both groups apparently felt that the equipment was not satisfactory for the best instruction. These two ratings were reflected in the ARA group feeling that the coverage of skills taught was somewhat limited. Moreover, only 57 per cent of the ARA trainees admitted that "if they had it to do over again" they would take the same course. Of the 43 per cent who preferred another course, their choices were in the areas of welding, auto mechanics, cooking, accounting, and electronics. In contrast, 92 per cent of the MDTA group would make the same choice again.

The 2508.3 (job oriented) group appeared more satisfied with their course: 95 per cent of them would take the course over again if they had the same opportunity; 50 per cent felt the length of the course was about right; 90 per cent felt they learned the skills well; and 95 per cent were of the opinion that there was good coverage of skills taught. However, only 78 per cent felt the equipment was satisfactory.

Employer evaluation based on 18 rating factors is shown in Table 15. Ratings were

Table 15

EMPLOYER RATINGS[a]



[a] Employer Rating Scale, The Pennsylvania State University, Department of Industrial Education, 1962.

made approximately three months after training and represent a mean of employers' scores. It can be seen that employers of the ARA trainees (intermediate oriented) scored their newly acquired employees higher, on the average, then employers of the 2508.3 (job oriented) trainees. Interviews with the employers indicate, in general, both groups were satisfied with the training programs and felt them to be effective. One comment made several times in connection with the job oriented (power sewing machine operator program) was that the equipment could stand updating. A more serious comment given relative to the intermediate program (sheet metal machine operator) concerned the attitudes of the trainees. Employers made clear that basic skills, although essential to secure employment in the first place, were not in themselves enough to hold a job. In other words, an employee must also be able to get along with his fellow workers if he is to hold a job.

Table 15 shows a consistently lower employer rating of MDTA trainees. Interviews with the employers revealed that they applied higher standards than did the 2508.3 and ARA employers. They tended to compare the trainee's performance with their regular workmen -- men with considerable experience. Although the trainees had more skill to offer, employers also expected more.

Initial Job Opportunities

Assuming the three approaches being used in Pennsylvania for the retraining of unemployed or underemployed are intended to meet a somewhat different need, this dissimilarity should emerge and be apparent in a number of respects. One of the first differences that was looked at was in the types of training or courses that are being offered. Table 16 indicates to some degree the different kinds of

Table 16
TYPES OF JOBS FOR WHICH TRAINING IS BEING OFFERED[a]

2508.3 (job oriented)	ARA (intermediate)	MDTA (field oriented)
Power Sewing Machine Operator	Sheet Metal Machine Operator	Machine Tool Operator
Hosiery Finisher	Welder	Statistical Quality Control
Waiter and Waitress	Ward Attendant	Electronic Mechanic
Production Worker (shoe)	Stenographer (1 & 2)	Automotive Mechanic
Furniture Repairman	Maintenance Mechanic	Auto Body Repairman
Electrical Assembler	Dry Cleaner	Sheet Metal Worker
Television Serviceman	Spotter (general)	Appliance Repairman
Industrial Carpenter	Door and Sash Worker	Instrument Man
Paper Hanger		Office Machine Serviceman
Interior Decorator		Sewing Machine Serviceman
		Template Maker

[a]Department of Public Instruction

jobs for which training is being given throughout the state. It is obvious that the narrower, less skilled needs are in the main being met by the 2508.3 programs; and the broader, more highly skilled level occupations through MDTA programs. Undoubtedly, there exists some overlap at both the low and high level occupations by the ARA offerings.

A more significant measure of job opportunities as well as program evaluation is reflected through actual job placement after completion of the program. Here, investigation was directed to determine what happened to the trainees once the course was completed. Did those who completed the training get jobs or didn't they? In the case of 2508.3 and ARA, it was found that 96 per cent of the job oriented, 2508.3 group, were employed within a little over a week after completing training, and only 59 per cent of the ARA trainees had their first job three weeks after training (see Table 17). Unfortunately, training needs must be based on intent and ability of employers to hire the trainees after the course has been completed; production conditions may change from the time the program starts until its completion. This was the case with the second section of the ARA Sheet Metal Machine Operator program, and circumstances were such that job opportunities (at least at the time of the follow-up interviews) were not available. Moreover, the instruction apparently was not broad enough to provide adequate transfer of training to assure initial or temporary employment in some related occupation.

Trainees initial employment experiences account for some interesting differences. When attempting to relate the training course with job results, it can be seen (Table 18) that the ARA group did not fare very well. Still more discouraging and only a short three months later, it appears that employment in the area for which training had been given to both groups declined sharply. It is, however, encouraging to see that a substantial percentage of the trainees admitted receiving help from the Pennsylvania State Employment Service in securing their positions. It is also encouraging to see that of the 100 per cent placement of MDTA trainees 83 per cent were still working in the occupation for which they were trained.

Long Range Opportunities

Probably the most difficult evaluation to make of each retraining program was its long range effectiveness. The length of time (approximately three months in each case) provided for a longitudinal study of this aspect is admittedly inadequate, and it is planned to follow-up trainees through their social security number for some few years. Therefore, this report reflects but an emerging picture of what might be expected to happen. Table 19 implies that after three months, those who received intermediate training (ARA) were being paid a somewhat higher hourly wage than those who received the job training. This is to say, there was a difference of 37¢ per hour and $14.87

Table 17
INITIAL EMPLOYMENT[a]

Program	N	No. Employed f	Per Cent Employed	Median Days to Employment
2508.3	25	24	96	7.1
ARA	17	9	59	17.2
MDTA	12	12	100	9.9

[a]Data supplied by Pennsylvania State Employment Service

Table 18
INITIAL EMPLOYMENT EXPERIENCES OF TRAINEES[a]
(Frequencies and Per Cent)

Factors	2508.3 N = 20		ARA N = 14		MDTA N = 12	
	f	%	f	%	f	%
Initial Placement (PSES)[a]						
Yes	20	96	9	59	12	100
No	2	4	8	41	0	0
Job Result of Course						
Yes	20	100	5	36	12	100
No	0	0	0	0	0	0
Neither Yes or No	0	0	9	64	0	0
Still Working as Trained (3 months later)						
Yes	12	64	1	6	10	83
No	7	36	4	29	2	17
Neither Yes or No	0	0	9	65	0	0
Job Secured with PSES Help						
Yes	18	90	8	57	8	67
No	2	10	6	43	4	33

[a]Pennsylvania State Employment Service and interview schedule data.

Table 19
INCOME OF TRAINEES[a]

Program	N	Mean hours Week Worked	Mean Weekly Earning	Mean Hourly Earning
2508.3	20	40	$50.53	$1.22
ARA	14	41	$65.40	$1.59
MDTA	12	44	$95.73	$2.11

[a]Data taken from interview schedule data.

per week in mean wages earned between the groups. Further study on this point will be needed to ascertain whether or not this difference becomes greater as the time of employment is extended. In other words, is the "worth" of the more skilled individual compensated for in increasing wages? Certainly the difference is evident in the field trained case (MDTA). However, it should be noted that the group averaged four hours overtime pay.

It is interesting to note that those who received the higher skilled training appear more satisfied in their jobs, as indicated by the Brayfield and Rothe, Index of Job Satisfaction. Table 20 shows a significant mean difference between the 2508.3 and ARA scores. In other words, those who received the broader training and the higher paying jobs tend to be more self-satisfied than those who were more narrowly trained.

The MDTA score might have been higher had not two trainees been placed in inspection rather than production jobs. They felt they were not trained for inspection although the employer felt that their training was a necessary prerequisite.

Employment experiences, after training, (Table 21) provided some interesting differences. Three months after training 92 per cent of the field oriented (MDTA) and 80 per cent of the job oriented (2508.3) were still employed, while 50 per cent of the ARA (intermediate oriented) group were still employed. Of those employed, 86 per cent of the job oriented and 82 per cent of the MDTA trainees were still working in the occupation for which they were trained compared with 71 per cent of the intermediate oriented ARA group.

Table 20
JOB SATISFACTION COMPARED

Program	N	Standard Deviation SD	Mean X	Critical Ratio t
2508.3 (1)	19	4.17	59.7	
				1.79*
ARA (2)	6	3.33	63.2	
				1.53xx
MDTA (3)	12	4.50	62.3	

*Significant at .05 level
xxNot Significant
t (1) and (3) Not Significant

An attempt was made to ascertain any significant change in social status of the trainees as indicated by administering a pre-and post-test of the Sims SCI Occupational Rating Scale. It was felt that the training programs and initial job success might provide a stimulus for improving one's self-perceived social status. Possibly, unemployed individuals would perceive themselves as being rather low on a social continuum and, after becoming employed, their self-image might be raised. This was not the case and only a slight, if indeed any, change was noted between pre-and post-test scores made on the instrument.

Employee Mobility

At this time, only a slight feeling of each group of trainees on the question of mobility can be determined. Table 22 shows a preponderance, in each case, of trainees that expect to be living in the immediate area 5 years from now. The greatest portion of those who do not (22.7%) was found in the 2508.3 (job oriented) group from the Wilkes-Barre power sewing machine program. Even when given a free choice to move anywhere, there was still no large scale desire to move away from their local community. Here

Table 21
EMPLOYMENT EXPERIENCES (After Training)[a]
(Frequency and Per Cent)

Factors	2508.3 N = 20		ARA N = 14		MDTA N = 12	
	f	%	f	%	f	%
Employed (3 months)						
Yes	16	80	7	50	11	92
No	4	20	7	50	1	8
Still Working in Occupation						
Yes	14	86	5	71	9	82
No	2	14	2	29	2	7

[a]Data taken from interview schedules

again, the power sewing machine group (50%) were more prone to move than those in the other two cases. The payment of moving expenses did not appreciably affect the desire to move.

It is interesting to note, when trainees were asked to think in terms of young people and their chances for employment in the community, both the 2508.3 (Wilkes-Barre) and ARA (Pottsville) groups admitted it would be better if they moved to other communities where occupational opportunities may be greater. A similar expression was given relative to the question, "If you had a son finishing high school, would you want him to stay around here?"

It was noted that there were some mixed feelings as to which was more difficult: to move away to find employment of the kind already known, or to learn a new skill and remain in the community.

DISCUSSION

As emphasized in the opening section of this report, the research made use of the case study method. This is to say, generalizations cannot be made, and the findings reported herein only apply to the cases studied. Nevertheless, some pertinent information has been gathered in terms of what is actually happening in retraining situations where three different pieces of legislation are being applied.

Trainees

Undoubtedly, one of the most difficult problems faced when constituting a retraining program is in the selection of trainees. Ferreting out individuals who can profit from the instruction or placing square pegs in square holes, so to speak, is of paramount importance. The fact that differences of a noticeable degree were found in the mental and mechanical aptitude among the groups is an indication that those responsible for selection, The Pennsylvania State Employment Service, were taking their task seriously. Moreover, the more highly skilled training received potentially higher individuals: those who had a better chance to achieve at this level. This fact, as verified by the California Short-Form Test of Mental Maturity, Figure 10, shows the appreciable differences in intelligence and grade placement among the groups.

It is obvious that the selection process cannot be 100 per cent effective, and some "misfits" are bound to be accepted for the programs. Therefore, it would seem that even greater efforts, more testing, and counselling should be exerted at the point of selection. Realistically, the end product of a satisfactorily

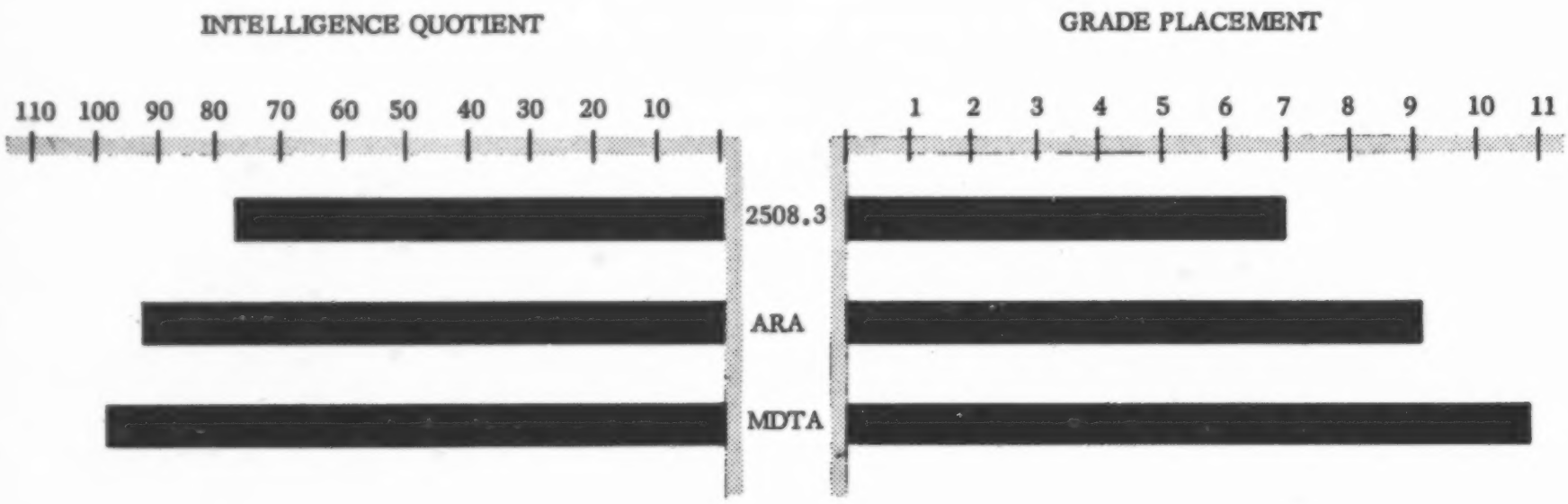
Table 22
MOBILITY OF TRAINEES[a]
(In Per Cent)

Factor	2508.3 N = 20	ARA N = 14	MDTA N =12
Do you expect to live here 5 years from now?			
Yes	77.3	85.7	91.7
No	22.7	14.3	8.3
If given free choice, would you move?			
Yes	50.0	21.4	25.0
No	31.8	57.1	75.0
Makes little difference	18.2	21.4	0.0
If your transportation were paid, would you move?			
Yes	27.3	28.6	8.3
No	18.2	7.1	75.0
Don't know	54.5	63.3	16.7
Should young people stay around here?			
Yes	32.7	31.4	58.3
No	53.7	47.2	0.0
Don't know	13.6	21.4	41.7
If you had a son finishing high school, would you want him to stay here?			
Yes	54.5	15.4	33.3
No	45.5	53.8	0.0
Don't know	0.0	40.8	66.7
When a man's regular work disappears, do you think it is harder to -			
Move and do same work	59.1	35.7	50.0
Learn a new job	40.9	64.3	50.0

[a]Data taken from interview schedules.

FIGURE 10

COMPARISON'S OF INTELLIGENCE AND GRADE PLACEMENT OF TRAINEES



California Short Form Test of Mental Maturity

trained worker is in direct proportion to the initial trainee selection, and much in the way of efficiency and success lies in this initial step.

The Programs

There are evident program differences wherein it appears that an attempt made to set the level of training in conformity with the desired end objectives. In other words, the 2508.3 program (90 hours) is striving to meet the more specific job needs; the ARA (640 hours) the semi-skilled and broader needs; and the MDTA (1560 hours) broadest or most highly skilled needs. Planning and organization of each program followed a sound and well-thought-out procedure, making maximum use of resource persons and community endeavor. Under the limitations imposed upon those who were responsible for establishing each program, the results were most commendable.

Evidence appears that each of the programs studied were provided satisfactory instruction. Both employers and trainees generally supported this statement. Nevertheless, and as effective as the interviews indicate training to be, some questions as to the overall quality of instruction can be raised. To the educator, who is continually striving for maximum quality, many shortcomings were apparent in each of the three programs studied. However, it should be remembered that these programs had been identified as being "outstanding examples" in each instance. To assist in uniformally evaluating their quality, a modified version of the Pendered Scale (1959) of program evaluation was administered independently by three individuals for each case. The results of this instrument, Table 23, suggests much to be desired in the overall quality of each case studied. Reasons for some of the low scores became apparent when it is realized the handicaps under which the instruction was being carried on. For example, the physical setting of the ARA program was conducted in a building of N.Y.A. (National Youth Administration) vintage compared with the modern school facility in which the MDTA program was being carried out. Other examples could be cited, but the fact remains the overall quality of programs could

Table 23
RATING OF PROGRAMS - EFFICIENCY IN PER CENT
PENDERED SCALE[a]

Factor	Program			
	2508.3	ARA	MDTA	Total
Physical Conditions	65.0	60.4	84.4	69.9
Instructional Program	71.0	69.5	69.1	66.8
Methods, Management, and Housekeeping	50.7	56.7	73.2	63.0
The Teacher	64.6	56.6	59.0	60.1
Overall Quality	62.0	59.3	69.8	66.2

[a]Norman C. Pendered, Upgrading The Industrial Arts Program. State College: Pa., College Science Publishers, 1959.

and should be improved if maximum effectiveness of retraining is to be realized.

Field Versus Job Oriented Retraining

Little, if indeed any, evidence has been accumulated to support the hypothesis that "programs for retraining unemployed workers will be more effective in terms of advancement opportunities and continued employment success if broadly oriented to industrial needs rather than specifically job oriented. Conversely, programs for retraining unemployed workers will be more effective for initial employment success if specifically job oriented rather than broadly oriented to industrial needs." There are indications from the two cases where follow-up has been carried out (job and intermediate oriented) that initial employment opportunities for the power sewing machine operator trainees were abundant. And if a trainee wanted a job, it was available. The same was not evident for the sheet metal machine operator group. After three weeks, 41 per cent of these individuals were still looking for work. This is in spite of the fact that the training was moderately broad to the extent that there could be some transfer of skill to other mechanical occupations.

Follow-up of the trainees indicated that those who had received the broader (ARA) training, and did find employment, were more satisfied with their jobs and earned a higher weekly wage than the job oriented (2508.3) trainees. Follow-up of the field oriented (MDTA) group further indicate some relationship between the breadth of training and job satisfaction. However, perhaps the most significant fact is the high positive relationship between length of training and earning power. The MDTA group earned 58 per cent more per hour than 2508.3 trainees.

RECOMMENDATIONS

Keeping in mind that the three cases studied cannot be used as empirical evidence, but as indicators of what might be expected if a larger sample of programs had been studied, the following recommendations are made.

- Some form of job trials should be incorporated as part of the selection process to assist trainees in making a valid occupational choice.

If it is agreed that the selection of trainees constitutes a major problem to retraining, then every possible effort should be made to assure success at this initial point. What may be construed in the mind of a prospective trainee to be a desirable and interesting job from its description may be far different from what exists under actual working conditions. This is to say, the operation of a power sewing machine, for example, even during the training period may be far different than actually operating the same machine in a garment factory. Some way must be found to acquaint the prospective trainee with "what is to come" after completing the course. One way to accomplish this may be to incorporate actual plant visitations, guided tours, etc., as a part of the selection process. Furthermore, an actual acquaintanceship might be carried on for a few hours to even a week (depending on the length of the retraining being considered) where the prospective applicant received an overview of the occupation and the necessary requirements (personal and physical) involved.

- Permanent facilities for training the unemployed should be established throughout the state.

It should be apparent to those who are engaged in the administration and supervision of retraining the unemployed that much remains to be done to "get geared up" to do the job. In fact it remains questionable, if under present circumstances (added local work load, crowded school conditions, teacher shortages, and limited local resources) the present "crash approach" to the retraining problem can be effective. Certainly, all indications point toward retraining as being a continual social problem for some years to come; in fact, almost a way of life in some labor market areas or even in whole states. Therefore, the best

long range planning should be considered. Duplication of effort and the haphazard development of retraining programs are an inherent danger of the present plan which could well be avoided if forceful and farsighted leadership is carried out at the state level. What seems to be needed is the establishment of permanent-type schools based on a master plan to serve the entire state for many years.

- Retraining programs, regardless of their type, should emphasize proper work attitudes as equally important as occupational skills.

Initial job entrance skill training is not enough. Although several skills may assist in securing initial employment, once the job is obtained worker attitudes play an increasingly important role. For this reason, retraining programs should make a special and concerted effort to incorporate proper attitudinal development throughout the course. Just how this might be accomplished is most difficult, but without its consideration all of the skilled training in the world may be of no value. Certainly, talks by those skilled in human relations and personnel problems, the use of mass media such as movies, and the like, should not be overlooked in attempting to instill proper attitudes.

- There should continue to be provisions for retraining programs of a job, intermediate, and field oriented type, to meet the needs of all unemployed individuals.

The occupational potential of individuals varies tremendously. Opportunities should be available for retraining at any level, and in far more occupations than are presently being conducted. A plan that meets the aspirations of all individuals to acquire knowledge and skills throughout a life span is certainly worthy of endeavor, and one which would recognize the State's most valuable resource; its people.

This report is concluded by asking the question, "Who among local, state, or national leadership feels enough effort is being put forth in the direction of developing our human resources to their maximum?" If maximum effort is not made at the local, state, and national levels, we must be prepared to accept an increasingly larger percentage of unemployment-people who are unable to meet the vigorous needs of today's industry. The solution, at least in part, lies in providing vocational education of the best possible kind at every stage of life's span.

SOURCE MATERIALS

Commonwealth of Pennsylvania, Trade and Industrial Education and Retraining The Unemployed. Report Prepared by the State Committee on Vocational Education to the State Council of Education, Harrisburg: Governor's Committee on Education, 1961.

_____ Pennsylvania's Statistical Abstract, Fifth Edition, Harrisburg: Department of Internal Affairs, Bureau of Statistics, 1962.

_____ The Present Status of Trade and Industrial Education in Pennsylvania. A Report Prepared by The Department of Public Instruction, Harrisburg: State Director of Vocational Education, February, 1963.

Kaufman, J. J. and Golatz, H. J., Chronic Unemployment in Pennsylvania, University Park: Pa., The Pennsylvania State University. Bureau of Business Research, 1960.

Shapp, M. J. and Jurkat, E. H., New Growth -- New Jobs for Pennsylvania. Philadelphia: Pa., The Shapp Foundation, 1962.

U. S. Department of Commerce, Statistical Abstract of the United States, 83rd Annual Edition, Washington: D. C., Government Printing Office, 1962.

Sullivan, Elizabeth T., Clark, Willis W., and Tiegs, Ernest W., California Short Form Test of Mental Maturity, Los Angeles, 1957.

Brayfield, Arthur H. and Rothe, Harold F., Index of Job Satisfaction, The Department of Industrial Education, The Pennsylvania State University, 1962.

Sims, Verner M., Sims SCI Occupational Rating Scale, New York: Harcourt, Brace & World, Inc., 1952.

Pendered, Norman C., Upgrading The Industrial Arts Program, State College: Pa., College Science Publishers, 1959.

U.Ed. 4-300

VT 000 942
Pendered, Norman C.
Principles for Arranging, Mounting, and Storing Hand Tools in Industrial Arts Shops.

Pennsylvania State Univ., University Park. Dept. of Industrial Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 1Jun63 11p.

*HAND TOOLS; *INDUSTRIAL EDUCATION; *SCHOOL SHOPS; *EQUIPMENT STORAGE

The primary objective of this study was to derive principles for arranging, mounting, and storing hand tools in industrial arts shops. The research was based on the assumption that general principles for tool storage could be tentatively established by the unanimity of opinion of a representative group of qualified personnel. Criteria consisting of 35 statements were derived from relevant literature and submitted to 51 secondary teachers, city supervisors, local directors, state supervisors, and teacher educators. Response data for each criterion were grouped into two categories: (1) the number of jurors accepting the statement or criterion as a principle, and (2) a combination of jurors not accepting the criterion, jurors accepting the criterion if reworded, and jurors not responding to the criterion. The degree of acceptance for each criterion was assigned a percentage weight, and the data were tested for reliability by computing the standard error of the percentage. The 32 derived principles included: (1) A tool panel should be of such height and depth and so located that the average student will be able to remove and replace any tool, (2) Each tool should have a definite place, (3) Design should facilitate tool accountability, and (4) Facilities for locking the panel should be made. (EM)

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PRINCIPLES FOR ARRANGING, MOUNTING, AND STORING HAND TOOLS IN INDUSTRIAL ARTS SHOPS

A report to the

Central Fund for Research
The Pennsylvania State University
University Park, Pennsylvania

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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VT000 042

by

Norman C. Pendered
Department of Industrial Education
June 1, 1963

I. Purpose of the study

The primary objective of this study was to derive principles for arranging, mounting, and storing hand tools used in industrial arts shops.

II. Need and justification for the study

For many years it has seemed to the investigator that tool panels, tool mountings, and tool arrangements were neglected aspects of industrial arts shops. Examination of the tool panel in the typical industrial arts shop will reveal that, in most cases, major improvements could be made. In too many shops the hand tools seem to be hung up haphazardly or arranged without much evidence of careful planning - even from the standpoint of student safety. Often there is no visible system of tool accountability.

In all probability few will deny that a real need exists for help and guidance in planning tool handling systems for industrial arts shops. This need was corroborated informally by the investigator in interviews with some of the Area Coordinators of Industrial Education, with certain teacher educators, and with many industrial arts teachers at the secondary level. Unfortunately, little if any, emphasis has been placed on designing tool panels in teacher training curriculums. One reason for this may lie in the fact that almost no published data, founded on research, is available for inclusion in shop layout courses. It can be safely stated that up to this time there has been little or no scientific study of this particular problem in industrial arts education. Although a considerable amount of opinionated information is available on tool panels, there is no known set of principles for guidance in designing and constructing tool panels. In this respect, the purpose of this study is unique.

III. Those to whom results of this study may be useful

The findings of this study should be of special value to teachers, supervisors, and administrators of industrial arts programs at both the secondary and the college levels. The results should also be useful and of interest to personnel in other educational programs where hand tools are used, such as, vocational-industrial, vocational-agriculture, art education, and special education. In addition to facilitating the daily management of such shops and laboratories, the findings of this study should be extremely helpful in planning and organizing tool storage facilities in both new and old shops.

IV. Limitations of the study

This investigation was limited to the tool panel/s or tool room/s containing the common hand tools used in an industrial arts shop. Not included in this study were the following: (1) stationary or mobile tool racks for machine tools or accessories, (2) storage facilities for cleaning equipment, supplies, or materials, (3) drafting-room tools or equipment, (4) vocational shops (vocational-industrial or vocational-agriculture), art education or special education laboratories.

V. Assumptions

This research was based on the assumption that general principles

for mounting hand tools in industrial arts shops can be tentatively established by the unaminity of opinion of a representative group of qualified personnel. This premise is supported by Friese who states:

> We say that we have established a principle when we have tried out procedures that we believe to be sound and have found that they appear to achieve the ends for which they were set up. If there is evidence that they do the thing that was intended, we accept them as part of general practice awaiting the time when experimental evidence or long-established usage shows that they are sound and that they are truly principles or that they are not.[1]

Thus, it was assumed in this study that if, by statistical means, it can be shown that when a selected group of well-qualified judges accepts a particular criterion concerning a tool panel as sound and holding true in all situations, that criterion can then be tentatively accepted as a principle until experimental research or common usage supports or refutes its claim to be a true principle.

VI. Procedure

A. Preliminary criteria for arranging, mounting, and storing hand tools in industrial arts shops were formulated by the investigator after careful consideration of the following:

1. Review of the periodical literature in the field from 1915 to the present.

2. Study of textbooks and manufacturers' catalogs.

3. Survey of lists of master's and doctor's theses.

4. Study of state bulletins and brochures.

5. Perusal of other published and unpublished materials available to the investigator.

B. The criteria were subjected to critical evaluation, revision, and restatement before attaining their final form. Duplication and overlapping were either eliminated or minimized by consolidation or rewording. Improvements in content, coverage, and form were accomplished by means of informal discussion of the criteria with selected industrial arts teachers including teacher educators, secondary-school personnel, and graduate students.

C. The final draft of the criteria consisted of thirty-five statements which were readied for presentation to a selected national jury of experts for the purpose of validating their claim to be principles for arranging, mounting, and storing hand tools in industrial arts shops. Items numbered 100 and 101 (see page 6) were not believed to be principles-in-the-making, but were purposely included in the final draft as a check on the jury to see

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[1] John A. Friese, Course Making in Industrial Education, (Peoria: Charles F. Bennett Company, Inc., 1958) pp. 55-56.

if they were just blindly agreeing with the investigator's proposals.[2]

D.. The jury of experts were selected on the basis of demonstrated ability or experience on the design and construction of tool panels or tool holders. Thirty-seven of the fifty-one persons comprising this jury were chosen because of their published writings on this topic within the last five years as noted in the periodical literature of the field. In addition, the names of nine other teacher educators were included on the jury because of their national reputation as teachers of professional courses in industrial arts. And finally, eight secondary-level teachers were invited to participate in the study because of their accomplishments in designing school-shop tool panels. In all, fifty-five persons were invited to participate on this jury of experts. Of this number, four did not respond to the invitation, leaving fifty-one jurors. Geographically, this jury represented nineteen different states; professionally it included high school teachers, city supervisors of industrial arts, local directors of industrial education, a state supervisor, and teacher educators.

E. Each juror was informed of the primary objective of the study and given full directions concerning his role in the study. Essentially, the task of each juror was to study each cirterion or statement and to indicate his decision as to whether or not he accepted the statement as a principle of tool panel planning. Space was provided, also, to indicate acceptance if the juror wished to reword the statement and to write-in additional statements.

F. As soon as the returns were received,[3] thoughtful consideration was given to any write-in statements submitted by the jury. These proved to be exceedingly few in number and their concepts were not adjudged to merit inclusion with the original criteria. Then, data for each criterion were grouped into two categories: (1) the number of jurors accepting the statement or criteria as a principle and (2) a combination of (a) the number of jurors not accepting the statement as a principle, (b) the number of jurors accepting the statement if it were reworded, and (c) the number of jurors not responding to the statement. This dichotomy simply provided a group of data for which there was 100% acceptance on the part of the jury and a second group of data concerning which the jury was in various degrees of disagreement. The degree of acceptance and non-acceptance of the jury concerning a particular criterion was now expressed in percentage. These data were tested for reliability by computing the standard error of a percentage by means of Garrett's[4] formula and interpreting it in terms of Student's table of t[5] for use in determining the reliability of statistics.

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[2]Note: This check worked effectively because neither item was accepted by the jury.

[3]It is interesting to note that jury response was 100%. Not a single reminder letter was sent to any juror.

[4]Henry E. Garrett, Statistics in Psychology and Education, (New York: Longmans, Green and Company, 1947), p. 218.

[5]Ibid, p. 190.

G. Within the limits of time available to the investigator for study of this problem, visitations were made to numerous industrial arts shops for the purpose of photographing and making dimensioned pencil sketches of tool panels, tool arrangements, and tool holding devices which supported the principles established by the jury of experts in this study.

The majority of the photographs were taken in industrial arts shops that were recommended by the nine Area Coordinators of Industrial Education as shops having outstanding tool panels, tool arrangements, or tool holders. A two-page questionnaire was prepared to procure these recommendations.

VII. Summary of the principal findings

As outlined in the Procedure, the criteria submitted to the jury of experts were subjected to statistical analysis. Those criteria meeting the test for reliability at the 1% level of confidence were accepted as principles for arranging, mounting, and storing hand tools used in industrial arts shops. A list of these principles follows:

1. A tool panel should be adequately lighted,preferably by both natural and artificial light.

2. A tool panel should be pleasing to the eye and give a feeling of orderliness.

3. A tool panel and its toolholders should be of simple, cleancut design and construction to require a minimum of maintenance and cleaning.

4. A tool panel or cabinet should be economical of wall or floor space, yet large enough so that;
   (a) several students can use the panel simultaneously.
   (b) it will hold all present shop tools with sufficient space for future expansion and acquisition of additional tools.

5. A tool panel should be of such height and depth and so located that the average student will be able to remove and replace any tool.

6. A tool panel should be designed so that each tool has a definite place.
   (a) it will be convenient (require short travel distance) to work stations where the tools will be used.
   (b) it will have sufficient space on front and sides to prevent student congestion.
   (c) it is on or near natural traffic routes.

7. A tool panel should be designed so that each tool has a definite place.

8. A tool panel should be designed to facilitate tool accountability.

9. A tool panel should have smooth, unbroken surfaces to permit the mounting of tools in any location on the surface.

10. A tool panel should utilize a simple method of tool identification to differentiate among:
    (a) tools in different areas of the same shop.
    (b) tools in different shops of the same school.

11. A tool panel should be designed and constructed so that it can be locked.

<u>The Following Principles Refer Specifically to Tool Arrangement</u>

12. Tools should be arranged on the panel so that their withdrawal or replacement will not interfere with the other tools.

13. Large, heavy tools should be arranged near the bottom of the tool panel.

14. Small, light tools should be arranged higher on the panel or on doors (if doors are utilized), but in such a manner that they will not cause interference or annoyance in opening or closing the doors.

15. Tools should be arranged on the panel in logical, organized groupings based on a balanced judgment involving the following:
    (a) Group together all tools of one area or activity (i.e., all woodworking tools together, all metalworking tools together, etc.)
    (b) Group together all tools of one area that are used together (i.e., brace and bit, rule and scriber, etc.)

16. Tools that are used most frequently should be located in the most accessible positions.

17. Tools should be arranged so that students are not subject to safety hazards in removing or replacing tools.

18. Tools should be arranged to conserve space on the panel wihoout overcrowding.

<u>The Following Principles Refer Specifically to Toolholders</u>

19. Toolholders should be sturdily constructed of durable material to withstand heavy, frequent use.

20. A toolholder should be designed so that only the proper tool can be returned to the empty holder.

21. A toolholder should protect the tool from damage or undue wear.

22. A toolholder should be designed so that the tool can be replaced in one position only.

23. A toolholder should facilitate the swift, easy removal and replacement of the tool:
    (a) The simplest means of tool removal is a straight off-the-

holder motion; replacement is a straight on-the-holder motion.

(b) The next simplest means of tool removal is an up-and-off-the holder motion; replacement is a down-and-on-the-holder motion.

24. A toolholder should support the tool so that its handle or other natural grasping point may be utilized in tool removal and replacement.

25. A toolholder should support the tool firmly so it cannot be jarred from its proper place by shop vibration, opening or closing doors, etc.

26. A toolholder should permit quick and easy identification and selection of sized tools.

27. A toolholder should require simple installation (preferably from the front) to facilitate easy replacement or relocation.

28. A toolholder should be designed to facilitate a brief visual inspection for missing parts of the tool.

29. A toolholder should offer the maximum safety protection to those who use the panel.

30. A toolholder which supports one of several tools of the same size and type should be constructed so that any one of the designated tools will fit into it.

31. A toolholder which supports more than one tool of the same size and type should have a means of indicating how many tools belong on this toolholder.

32. A toolholder should support the tool so that its weight causes the tool to hang straight and in proper alignment.

Included in the list submitted to the jury of experts were the following criteria:

100. A tool cabinet of the floor-model type should be designed with a slanting shelf at the bottom to:
    (a) prevent tools being piled at the bottom.
    (b) provide greater visibility of tools stored on the bottom shelf.
    (c) provide greater ease in selecting and replacing tools stored on the bottom shelf.

101. Long-handled tools (i.e., hammers, framing squares, etc.) should be arranged near the top of the tool panel.

102. Tools should be arranged on the panel in logical, organized grouping based on balanced judgment involving the following:
    (c) Group together all tools of one area that are used in sequence (i.e., center punch and twist drill).

103. 103. A toolholder should provide some means of tool identification.

Item 100c (above) was found to be reliable at the 5% level of confidence, but not at the 1% level. The other items (100a, 100b, 101, 102c, and 103) were found not to be reliable at either the 5% or the 1% levels of confidence (see Table 1).

The pictorial drawings of tool panels and toolholders which support the principles formulated in this study are not included in this report.

VIII. Immediate uses for the findings of this study.

A. A summary of the findings of this investigation is presently being considered for publication by one of the professional magazines in the industrial arts field.

B. Pertinent data from this research will be presented in the form of a paper to be read at the 8th Annual Conference of the Pennsylvania Industrial Arts Association at Hershey, Pennsylvania on Friday, October 23, 1959. If departmental approval is forthcoming, it is anticipated that a summary of the principal findings will be duplicated and disseminated in a special leaflet to those present at the conference.

C. Data from this study will be incorporated immediately (Fall, 1959) into two courses in shop layout and management (I.Arts 400 and I. Ed. 450v). As a result of this investigation, a special unit of instruction on tool panels and toolholders will be added to the present syllabi of these courses.

D. Plans are underway to expand this study by revising the format of the principles so that they can be weighted for use in evaluating tool panels and their tool holders in an objective manner.

Table 1

Summary of Statistical Analysis of Data

Item Number	Number of Jurors Accepting Statement	Number of Jurors Not Accepting Statement (*)	Percentage of		SE of %	Significant at levels of confidence	
			Acceptance	Non-Acceptance (*)		5%	1%
7,8,12 19,25	51	0	100	0	-	Yes	Yes
2,3,18 27,29	50	1	98.03	1.97	1.95	Yes	Yes
6A,16 17,26	49	2	96.07	3.93	2.72	Yes	Yes
6B,16 17,26	48	3	94.11	5.89	3.29	Yes	Yes
10A,22 32	46	5	90.19	9.81	4.17	Yes	Yes
4A,10B 20,28	45	6	88.23	11.77	4.51	Yes	Yes
1,5	44	7	86.27	13.73	4.82	Yes	Yes
14,23	43	8	84.31	15.69	5.09	Yes	Yes
31	42	9	82.35	17.65	5.34	Yes	Yes
30	41	10	80.39	19.61	5.56	Yes	Yes
9,15	40	11	78.43	21.57	5.76	Yes	Yes
15,23	39	12	76.47	23.53	5.94	Yes	Yes
4B,6C 11	35	16	68.62	31.38	6.50	Yes	Yes
100C	33	18	64.70	35.30	6.69	Yes	No
101,102	31	20	60.78	39.22	6.84	No	No
100B	30	21	58,82	41.18	-	No	No
103	29	22	56.86	43.k4	-	No	No
100A	27	24	52.94	47.06	-	No	No

(*) Also included number of jurors not responding to item and number of jurors who accepted statement if it were reworded.

VT 000 981
Annual Ohio Apprenticeship Conference Report (15th, Dayton, Ohio, October 16-28, 1965).

Ohio State Apprenticeship Council, Columbus
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 66 180p.

*APPRENTICESHIP; *PROGRAM DESCRIPTIONS; *PROGRAM IMPROVEMENT; OCCUPATIONS; FEDERAL LAWS; *ON THE JOB TRAINING; LABOR UNIONS; CONFERENCE REPORTS
*OHIO APPRENTICESHIP CONFERENCE; ECONOMIC OPPORTUNITY ACT; MANPOWER DEVELOPMENT AND TRAINING ACT; MORRILL ACT OF 1862; SMITH HUGHES ACT OF 1917; VOCATIONAL EDUCATION ACT OF 1963; GEORGE BARDEN ACT OF 1946

Persons from Ohio, Michigan, Indiana, Kentucky, Arizona, Missouri, Illinois, Maryland, Pennsylvania, West Virginia, Idaho, Minnesota, California, and the District of Columbia attended the 15th Annual Ohio Apprenticeship Conference. The conference represented industry, labor, education, government, associations, and other organizations. Topics presented at the general meetings were: (1) "Economic Opportunity Act," by Richard Werner, (2) "Manpower Development and Training Act," by H.R. Przelomski, (3) "Education Departments' Apprenticeship Legislation," by Harry F. Saxis, and (4) a slide presentation on the Negro American Labor Council by Frank Evans and Joseph S. Kopas. Individual craft meetings were held by the (1) barbering trades, (2) bricklaying and stone mason trades, (3) carpentry and woodworking trades, (4) cement masons, lathers, and plastering trades, (5) electrical trades, (6) graphic arts industry, (7) industrial maintenance trades, (8) iron-working trades, (9) machine tool and metal trades, (10) operating engineering trades, (11) painters, decorators, and paperhangers, (12) plumbing and pipe fitting trades, (13) roofing trades, and (14) sheet metal trades. A complete transcript of all speeches, question and answer sessions, and group meetings is given. (EM)

VT 000 981

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Fifthteenth Annual Ohio Apprenticeship Conference

REPORT

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LABOR MANAGEMENT EDUCATION

OCTOBER 26, 27, 28, 1965
SHERATON-DAYTON HOTEL
DAYTON, OHIO

Sponsored by
OHIO STATE
APPRENTICESHIP COUNCIL
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INDUSTRIAL RELATIONS

VT 00981

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THE
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TRADE AND INDUSTRIAL EDUCATION SERVICE
OHIO DEPARTMENT OF EDUCATION

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Columbus, Ohio 43207
1966
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CONFERENCE SITE

The Fifteenth Annual Ohio Apprenticeship Conference sponsored by the Ohio State Apprenticeship Council in cooperation with the Bureau of Apprenticeship and Training of the U. S. Department of Labor and the Trade and Industrial Education Service of the Ohio Department of Education was held on October 26, 27, 28, 1965, in Dayton, Ohio.

The Sheraton-Dayton Hotel served as the Conference Headquarters and also accommodated the various sectional and general meetings.

ATTENDANCE

The conference was attended by 625 guests representing the following states: **Ohio, Michigan, Indiana, Kentucky, Arizona, Missouri, Illinois, Maryland, Pennsylvania, West Virginia, Idaho, Minnesota, California,** and the **District of Columbia.** This was one of the largest conference held to date.

All segments of Industry and Labor were represented including representatives from schools, government, public, associations and other organizations.

The attendance record at this conference definitely indicates the wide interest that is being shown in organized apprenticeship throughout Ohio and surrounding states.

GENERAL STATEMENT

The Executive Secretary and Members of the Ohio State Apprenticeship Council along with the Bureau of Apprenticeship and Training and the Trade and Industrial Education Service, wish to thank all the conferees for their interest in the various sessions. It was because of **your** participation and many contributions that made this conference such a success.

We of the Ohio State Apprenticeship Council welcome any suggestions you may have to improve the Conference Program. Please feel free to send any comments or suggestions you care to make to us at: **220 Parsons Avenue, Columbus, Ohio** 43215.

SPECIAL TRIBUTE

We wish to give a special thanks to the Frigidaire Division, G.M.C., Plant in Dayton for their willingness to permit the conferees to visit and view the operations of their establishment. This was another session which contributed immensely to the success of the Conference.

The Dayton Building Trades Council provided clerical assistance for the various sessions while the Dayton Convention Bureau assisted with the registration activities which was deeply appreciated.

We want to thank the Ohio Construction Council for sponsoring the 'Hospitality Welcome Night' on Tuesday evening which was thoroughly enjoyed by all the conferees.

And finally, we also extend thanks and appreciation to the staff of the Sheraton-Dayton for the efficient way they handled all the many conference details while being subjected to the hazards of a renovation program which was underway at the hotel.

CONFERENCE PLAN

The Fifteenth Annual Ohio Apprenticeship Conference officially opened on Tuesday, October 26, 1965, at 9:15 A.M. with the Apprentice Instructors Workshop. Mr. Ralph C. Neal was the Coordinator for this session. He is the Apprenticeship Consultant for the Trade and Industrial Education Service, Ohio Department of Education, Columbus, Ohio. The session was broken down into two groups - Basic Instructor Training Course and the Advanced Instructor Training Course. The instructors were Mr. William Stewart and Mr. Paul Muntz who reported that there were 57 in attendance at the Basic and 49 in the Advanced making a total of 106 who participated in this particular Workshop.

At 2:00 P.M., Tuesday, the conferees attended the General Meeting to hear Mr. H. R. Przelomski, Mr. Richard Wenner, and others speak about the **Manpower Development and Training Act**, the **Economic Opportunity Act** and **Education Departments' Apprenticeship Legislation.** There were 245 who attended this Opening Session.

At 6:30 P.M., Tuesday evening the conferees met in the Grand Ballroom for the Open House "Hospital Welcome Night" sponsored through the courtesy of the Ohio Construction Council.

The program for Wednesday, October 27th included individual craft meetings of the Building and Construction Industry; sectional meetings covering the Barbering Trade, the Graphic Arts Industry, the Industrial Maintenance Trades and the Machine, Tool and Metal Trades. The program also included a visit to the Frigidaire Division, G.M.C., Dayton, Ohio.

At 6:00 P.M. Wednesday, October 27th the conferees assembled in the Grand Ballroom of the Sheraton-Dayton Hotel for the Conference banquet which was followed by the main general meeting featuring the principle speaker, Mr. Charles W. Danis, Manager and President, B. G. Danis Company, Dayton, Ohio. Mr. Michael Liskany, Executive Secretary, Building Trades Council of Dayton, Ohio, served as the Toastmaster for the evening session.

The Honorable William O. Walker, Director of the Ohio Department of Industrial Relations, welcomed the conferees on behalf of Governor Rhodes and himself.

The program for Thursday morning, October 28 included a Joint Session for the Building and Construction Industry and a second session for the Industrial Maintenance Trades and the Machine, Tool and Metal Trades.

The Conference closing session commenced with a luncheon at 12:15 P.M. in the Grand Ballroom of the Sheraton-Dayton Hotel. This session consisted of an informal program which was presided over by Mr. John E. Morley, Builders Association of Mahoning Valley; Member, Ohio State Apprenticeship Council, Youngstown, Ohio. The Conference was summarized by Mr. William C. Webb, Director, Region VI, Bureau of Apprenticeship and Training, U. S. Department of Labor, Cleveland, Ohio.

REPORTS OF MEETINGS

5/6

GENERAL MEETING

Tuesday **Opening Session** **October 26**

PRESIDING

Ray J. Flory, Representative, Maumee Valley District Council of Carpenters; Member, Ohio State Apprenticeship Council, Toledo, Ohio.

SPEAKERS

H. R. Przelomski, Representative, Bureau of Apprenticeship and Training, U. S. Department of Labor, Washington, D. C.

Richard Wenner, Rural Task Force, Office of Economic Opportunity, Washington, D. C.

Harry F. Davis, Supervisor, Trade and Industrial Education Service, Ohio Department of Education, Columbus, Ohio

Frank Evans, International Executive Board Member, Allied Industrial Worker Union, Cleveland, Ohio

Dr. Joseph S. Kopas, President, Human Engineering Institute, Cleveland, Ohio

* There were 245 in attendance at this meeting.

GENERAL MEETING

Mr. Ray J. Flory, Representative, Maumee Valley District Council of Carpenters, and Member, Ohio State Apprenticeship Council, Toledo, Ohio, opened the meeting and then introduced **Mr. Richard Wenner,** Rural Task Force, Office of Economic Opportunity, Washington, D. C. who spoke on the following topic: "Economic Opportunity Act."

"I would like to visit with you for a little while this afternoon about one of the real fascinating things that is happening on the American scene today. Some of the most progressive bits of legislation and programs have happened these last few years. There was a great spirit of new things and new ideals in the New Frontier of Mr. Kennedy, and, of course, Mr. Johnson has gone on this last year and a half or two years with a fine program to better our society - all the way from Medicare to Highway Beautification. The Economic Opportunity Act is probably going to stand out in history as one of the real break throughs in our society.

"The Act is administered by an organization in Washington called the Office of Economic Opportunity - the formal or maybe the fancy words for what is called War on Poverty or the Anti-Poverty Program. Let's go back a little bit and think about why Mr. Kennedy and Mr. Johnson undertook this program, what is its interest to you as a citizen of Ohio, to you as leaders of labor and management, to you who are active in the job development field.

"The real beginning started with a book written by a man by the name of Michael Harrington, called the 'Other America'. The story goes when Mr. Kennedy read this book he turned around to some of the staff and said 'Is it really so?' The staff went to work on this and particularly so in the Department of Justice and Juvenile Delinquent Divisions. Under his brother, Robert Kennedy, they did staff studies which were coming along but were not completed before his assassination.

"Mr. Johnson, looking over the things that were in the files at the time he assumed the presidency, saw the staff studies and told them to get them done. When he had a chance to look at them, they appealed to him because of his background, remembering that he came out of a poor circumstance in Texas and that he had been active in the National Youth Administration in Texas, during the New Deal. He had been concerned with the CCC operation. Much of what he saw in these staff studies appealed to him so the word went out throughout the departments in Washington, 'Let's put together a package we can call the Anti-Poverty program to face this issue that was started sometime ago.'

"Well, what did Michael Harrington's book, 'The Other America' talk about and what is the 'Other America'? The facts are about this way, that of the forty-five million families in this nation as of the 1960 census, 9.3 million of them have average family incomes of less than $3,000 a year. Three thousand dollars therefore is the

figure that became the arbitrary benchmark for defining a poverty income.

"It is a good figure and it gives you a starting point to talk about statistics, but, frankly, we come to understand because there is a great difference between $3000 to an elderly couple on a small farm with a big garden that they own themselves in down state Ohio, than there is between $3000 for a family with nine kids in downtown Cleveland. So, $3000 is a pretty arbitrary thing. The other thing that is wrong with it is there are more ways of being poor than just plain monetary poor. There may really be enough money in the family but somehow it doesn't get to the right place. The children may still be at a disadvantage because they may not have the opportunity that they should have.

"We really are very excited about that figure, but it still gives us a benchmark that nine million out of the forty-five million families in the United States have an income of less than $3000 a year.

"The other word that is going around in our country in the last few years is that we have an affluent society. Most of us are able to have a good cut of steak once or twice a week, get most of our children to college, own two cars, and own or are buying homes, that this is a pretty well off nation.

"I was talking with one of your members and he said that in the metropolitan area in his part of Ohio the employment is down to two per cent. In my Pennsylvania, it is down to 3.8 per cent, and I can remember five to eight years ago in the 50's when it was nine per cent. So, we basically, have an affluent society and yet there is in our midst twenty per cent of the families who are kind of out of the main stream of the society, out of the main stream of our economy, and it is to this group that we have been looking to see how we can bring them into our society economically and socially. There is no doubt about it, we are quite aware that one of the real solutions to poverty in this nation in this group is a continuing of the expanding of economy.

"As I said in Pennsylvania with an expanding economy in this day and age, we have 3.8 per cent unemployment but back five or eight years ago when we were in a deflationery economy and when it was the attitude of the people to hold things back instead of expanding our economy, we had a nine per cent unemployment rating in Pennsylvania. So, if we can continue in the series of devices that you are aware about in the Federal government and elsewhere to continue expanding economy, we will in part get at the problem of poverty but this is not going to get at everybody.

"We still have the problem of a great number of people who were more affluent in that the total economy is not going to reach and it is at this 'hard core root' that our program is pitched. You might say we are a group of dreamers but we operate on the basic theory that there is no part of our society and no group in our society that should be a group of second class citizens.

"The average family income according to a census taken last year in the nation was $7,400. So, if the average income throwing the Rockerfellers and you and me together is $7,400, there is no reason why there should be twenty per cent of the families with incomes of less than $3000, and it is at this 'hard core root' that we are addressing a series of programs.

"The Economic Opportunity Act is a collection of programs only three of which are really administered by our agency, and if anybody tells you about a great bureaucracy that we have in our agency, the latest figure on employment in the Office of Economic Opportunity is 1,362 people who administer our program at this day and age. We really administer only three programs by ourselves one which is 'The Community Action Program' - which I want to come back to - 'The Job Corps Program' and the 'Domestic Peace Corps.' The other programs are farmed out.

"Mr. Johnson said to the department 'What can we do?' 'How can we put together a package of programs for a War on Poverty?' He went around to the Department of Labor and to the Department of Agriculture and elsewhere and said 'What do you have?' 'What do you propose?' So, they made proposals and these proposals have really been farmed back to them for administration. Mr. Schriver is responsible for the over-all coordination but the majority of the programs are administered by the departments. Let us just run down through the titles to give you a picture of the various things that are being tried and the services that can be available in your community to your neighbors, to the young and old people of whom you are aware.

"Title I provides for a Neighborhood Youth Corps Program which is very similar to the National Youth Administration of the New Deal. This is for young people, boys and girls 16 to 21 years of age to work in their own communities. The first intent of the program is to keep the youngsters in school so they may receive a high school diploma or to get them back in school if they do not have a high school diploma because in this day and age it is a pretty darn indispensable tool. Number two is to provide a meaningful work experience for them and an opportunity for them to learn what a boss looks like, to take orders to get to work on an appointed hour to learn just a few good decent work habits. The third intent is to earn some money which may help to clothe the person and perhaps leave some at home in order to provide some direction for this young person. And the final intent is the hope that out of the work training there would become the beginning of a vocation for this young person, that he might go on and become a part of your workers and become a contributing member of our society.

"Another program under Title I is the 'Job Corps Program.' This is like the CCC of the New Deal. There are residential camps for boys and girls 16 to 21, where they go away if they do not have a high school diploma or can't read or write to help them catch up so that they become literate. If they can't read, write, or do arithmetic, or if they have a health deficiency, this program helps to get them straightened out, to give them some good physical exercise and teach them how to roll out of bed at a good early hour in the morning to do a good hard day's work. They are tested for a vocation and taught some vocational skills. In some of the urban camps there will be extensive vocational training so when a boy or girl comes out of a 'Job Corps Camp' he can be a contributing full member of society.

"The last program under Title I, is a college study program where young people in college can do a meaningful job on the college campus for the institution. Perhaps off the college campus in town, earning income to support himself in college and get himself through

college. We administer the 'Job Corps' and the Department of Labor administers the 'Neighborhood Youth Corps' project, while the Department of Health Education and Welfare administers the 'College Program.'

"Under Title II, in addition to 'Community Action,' there is an adult literacy problem to train people to read, write and do arithmetic. If you read the statistics of this nation, there is still an appreciable number of people who literally cannot read or write. We have just funded a project in Mississippi, where they intend to train a hundred thousand which will be primarily Negro farm workers to read and write to start them on the beginning of a vocation to be a part of our Educational Welfare, through your State Department of Education - the local school district.

"Under Title III, there are small loans for farmers and for cooperatives, administered by the Department of Agriculture and there are programs for migrant farm workers and for Indians because these two are part of our nation who have been pretty much left behind as time went by.

"Under Title IV, the small business administration has a loan program to provide a special type of small loans for people who cannot presently qualify for any other type of credit even the rather liberal credit terms of the Small Business Administration. Here the plan is to set up in the communities small business development centers which will be sort of a focus point to help people who want to form a small business to get loans to get them started and to provide some national assistance, some in-service training, how to keep books, collect bills, and run a small business.

"I would think you people would be interested in this small business program administered by the Small Business Administration. Many of the folks in your trades are self employed and under this type of loan a person can get enough funds to start out a business in general, and this type of business or economic development contributes to the total economy of your community.

"Title V, is a program administered by the Department of Health Education and Welfare, for work experience for fathers or heads of families. It can be for mothers who are on public assistance. This is another program where we are trying to get at the people, who are presently sittings around taking relief, to get them out of their homes—away from a bar or wherever they may loaf away their time and get them in a meaningful work experience to start training them for a job or vocation of some kind so eventually we can get them off public assistance into a full-time occupation.

"I think it is kind of obvious that some of the old programs, as fine as they are, have not gotten to the roots of poverty. They have kept families together and have kept them from starving to death, but they have not gotten to the inner problems of these people. They have not gotten to the problem of motivation; they have not talked about a new job, a new way of life for this type of person, so in the Economic Opportunity Act, we are going to try with a variety of tools and with some experimenting to see if we cannot get at this group of people. We do not expect to succeed at every instance, but we shall do the best we can.

"Sometime a little while ago someone asked Secretary of Labor,

Wirtz, on television what he thought was the minimum amount of permanent people out of work. He said in answer to that question that there were no statistics since there was no research on this subject at all but that in his judgment there was perhaps one per cent who were so disabled and incapacitated physically and mentally that they could not contribute any work to society. He further thought that there might be another one per cent of similar people who have problems of motivation and psychological ones that they likewise could not be trained or anything else. In his judgment the figure was something like two per cent of our people who have to be taken care of by us. But, two per cent is a lot different than twenty per cent which is what we are confronted with in our business.

"The last part of the Economic Opportunity Act, before I go back to the basic program of Community Action, is Vista. Vista stands for the first letters in Volunteers In Service To America. This is the Domestic Peace Corps where people are asked to sign up for a year just like the Peace Corp's people who go abroad to contribute a year of their lives to their fellow men. We are getting lots of college kids who after the first four years of college, and before they go into law school or something like that sign with us. We are getting a good share of retired people too as you have no doubt heard in the recruiting of Peace Corps and Vista. We are also looking for people in the prime of life who can take a year or two out of their lives to contribute to their fellow man.

"If you know people in these circumstances, here is a real opportunity to do something. We have fascinating stories about these people who are going into these communities that have been passed by that they are really rendering a great service.

"I am sure you have been reading in your papers about the Community Action Program and some of the good points and bad points about it. We get a lot of publicity.

"We are not a conventional agency nor are we working with programs that have been proven in laboratories or colleges or by another governmental agency. We are not an old bureaucracy. We are a completely new organization that is trying to use a variety of tools to do a very novel job to get at a sector of our society that is not easy to get to. We are going to ruffle some feathers; we are going to change things, we are going to make an occasional mistake, but the basic trend is always upward.

"When you work with a man like Sergeant Schriver he wants action and he is willing to take a risk now and then. He is interested in trying something new. In the Community Action Program, we are generally saying that this group should be quite independent of the other agencies, both public, the government, and private, the United Funds, and the social welfare agencies.

"We want an agency that is independent and has a flexible approach to things on a board of directors (governing body) of Community Action agency. We are asking that everybody and every sector of the community be represented. We are asking the mayor or someone from the county government, or someone from the city government to be on the Community Action Committee. We are asking that the private agency such as the Health and Welfare Council and members of management and labor to be on these too.

"We go back to a very fundamental face in our democracy that even the poor understand the issue of their day. He has a better understanding of the problems that face his city, or his rural slums than the white collar guy who went to college who thinks he knows it all. These people have been thinking about their problems and they know what is wrong, and where they have been by-passed. They know how hard it is for them to get equal things. We are requiring that we live up to the faith of what is happening in this day and age in our society and that we include the minority on these boards. The Negro, the Indian, or the Mexican American community whatever it may be will be on the board in the same relationship that they are in the communities. These people are citizens—one man one vote—just like the rest of us in this democracy and they ought to be represented in the decision making process when we start talking about them.

"The purpose of this Community Action Agency is not to become a new super government, not to take over everything such as the city hall, the county government, the health and welfare council, the Manpower Development and Training Act, or the Department of Public Welfare. They aim directly at the low sector of our society and where one of these programs does not have the resource financial or otherwise to do a particular problem then we will use the funds from the office of Economic Opportunity.

"Basically, when it comes to training programs we say training is part of the Department of Labor and is under the Manpower Development and Training Act, and that is where training programs should come. We turned down applications from all over the nation because they come to us saying that the Department of Labor isn't doing anything or we have never heard of MDTA, out here in this rural county in Missouri. We go back and say to them the purpose of your Community Action Agency is to mobilize the existing resource of your state. You just go find the Department of Labor people in Missouri and the Vocational Education people in your state and get them busy. At the same time we on the Washington level will call Hank Przelomski and Tom Royal and the other good guys over in the Department of Labor and say 'Do you know that nothing is happening in the MDTA, in Southeast Missouri. So they will say 'I am not sure, but I'll soon find out.' And this is the way we get Community Act.

"If a training program just does not fit under MDTA—there was a question in some area where they wanted to train babysitters, this was a way to provide a service to the community and some income to some young girls. This could not come under MDTA, then maybe the office of Economic Opportunity could move in. The problem in the rural America is that we do not have good counselors. We are still leading farm boys to a future in agriculture. While there is a future in agriculture for a few commercial farmers, there isn't a great future in agriculture as there was in past years. The statistics on this if you are interested is this; that we are losing farms at a rate of 120,000 a year and we are now down to 3½ million farms from five million in 1950. The projection is that by 1980 we will lose another million and a half farms and we will be down to something like two million farms by 1980. So there is a continuing exodus from the farms and from rural America and they are coming to town.

"There is an estimate, that a million and a half Negro farm families or rural families (some are non-farmers) will move out of the

South in the next five years. A million and a half, rural families will move out of the South. Why?? Because, where I worked in the Delta country of Mississippi there used to be on these big plantations a couple hundred shacks with Negro families, where these people used to hoe and pick cotton. Now, the only type of labor that is necessary is the tractor operator and cotton picker operator. A cotton picker costs twenty thousand dollars. Agriculture is becoming mechanized and there is just no place for this. The reason for the Watts incident in Los Angeles is very simple, the Negro population in suburban Los Angeles between 1950 and 1960 increased by a hundred and seventy-seven per cent and nothing was done to take care of this one hundred and seventy-seven per cent increase.

"I was reading in a magazine today that the mayor of Los Angeles still has not gone into Watts. This is the way we turn our back on the Watts and the rural and urban slums.

"To you folks who represent leadership in local communities, we ask you to join the war on poverty if you don't mind the word 'war'. Become active in your Community Action Agency. Make sure the Community Action Agency has a good economic job development sub-committee where you can put on a series of people from labor and management who understand about the job market and understand the needs of the economic community in which you live. Provide leadership to your local people in this area of job development. The Economic Opportunity Act, is really two things, as I have pictured it, and you can see a great deal is motivation and it is aimed at the human spirit.

"Vice President Humphrey, while making a speech one day said 'Poverty of the pocket book is bad enough, but poverty of the soul is worst.' I think all of us can appreciate this situation. It is not the American Spirit to want to sit around and take relief checks. That is not what made this nation what it is today. These people are not anti-American they are just our brothers who have somehow not gotten into the swing of things the way the average American has.

"The second part of the Economic Opportunity Act, is the person, motivating him, training him, and so forth. There has to be an economic opportunity for him in terms of a job which in dollars and cents contributes to an expanding economy.

"The whole theory of the income tax reduction in the last year is that the reduction will continue to build a larger—a more accelerating economy. If we can bring the lower income groups into a larger scale where their average income is up about four, five, six or seven thousand like the National average, it would more than accelerate our over-all economy. While the war on poverty is two things to you, to me it is one method of expanding our economy and provide jobs for everyone and try to continue to make our United States a more highly sophisticated economy enterprise. And, the second thing, it is a great humanitarian effort to help our brothers to become a part of our affluent society."

Question: by **Arthur Schrader,** Board of Education, Toledo, Ohio, "What approach would you suggest to motivate the 'Hard Corps Group' who resist and resent effort and retraining and remedial education?"

Answer: "We are sure that the place to begin is as young as

possible. We are not absolutely sure that you can motivate a fifty year old farmer or coal miner who has given up on the world. Occasionally, you can get him in a new setting with some training with something that appeals to him. Our basic approach is to get down at the bottom—to get the school child who is falling behind and who is about to fail third grade, to get remedial reading so that he doesn't fail and become a school drop out.

"I am sorry that there is no pat answer to this, but we feel that in a local community if you sat five, ten or fifteen of the leaders of the community down around the table with the school folks, the welfare folks, and with the labor, management and so forth, that you can find out why people are hard core and don't want to retrain and can get at them. We suggest that in a survey they be more than just looking for a bunch of statistics, but trying to find out what is wrong in the family, why the father does not work, why the last three kids are school dropouts and try to get at the more hidden things—the deeper problems of people."

Question: Mr. Schrader, "How do you suggest that the illiterate people be brought into the adult programs and by whom?"

Answer: "There is no doubt that our efforts in adult literacy are insufficient. We are going to need a lot more money in the years ahead if we are really going to do things that we think and know what the local people are demanding of us. We have divided up our current proportion by counties and by cities. We get applications from cities for ten times as much financially as we can give them.

"I am hoping that we have a billion and a half appropriation this year. I hope that we will have a five billion dollar appropriation in a year of two. If we are going to sift these people out and get them going, it is going to take a lot of money. This should not be a permanent expenditure. One of the interesting things of our Mr. Schiver is that none of us are supposed to think upon ourselves as having a permanent program. That we are pretty much one shot operators.

"The other thing that underlines our business is that the Schriver concept and the whole concept of the Act is that we nudge conventional forces along. In other words, we would just like to drag the Mayor into Watts and make him feel ashamed of himself and get the Los Angeles City Government to take care of its own problems instead of waiting for Uncle Sam in Washington 3,000 miles away to do it.

"Education is not just one to twelve with English and History or Math. There are such things as counseling and such things as remedial reading.

"I know a child from a family both of whom were college graduates who had a divorce last year and this child failed the first grade. The child has an I.Q. of 140, but he failed first grade, because he has physchological problems.

"In this school system there is no school psychologist. This is the sort of thing that we need to do. In the long run we are going to have more ourselves and we are going to have to push the local community."

Question by **Calvin J. Malone,** Operating Engineers #66, Pittsburgh, Pennsylvania, "What can you expect to gain with these ten weeks training programs for 16 and 17 year old boys if they are not placed on a job after the training has been completed?"

Answer: "If these programs are to be done right, they should tie in closely with the State Employment Service. If we are just going to pay kids twenty dollars a week to wash dishes which is just a dead-end occupation in a schoolcafeteria, this is about as good as nothing. In fact in this type of job experience, let's face it, these are human beings too. If all they get out of a ten week's training program is that life is washing dishes in a cafeteria, they may give up at this point.

"It may be simple to take relief checks for the rest of their lives because there isn't much romance in washing dishes for the next fifty years of your life. You must have a meaningful program that will teach them to work with a good supervisor who might be teaching them how to trim evergreen trees on the school lawn or do work around the parks and so on."

Question: by **Ray Lesniok,** IUE Local 707, Cleveland, Ohio, "For the development of an affluent society, how are we to develop the responsibility that goes with this hard core group?"

Answer: "In the 'Neighborhood Youth Corps' program part of this will be developed through good work habits and things of this sort. How you retrain an adult on responsibility is a much more difficult problem. If we get at them young, we hope we can win most of them."

Mr. H. R. Przelomski, Representative, Bureau of Apprenticeship and Training, U. S. Department of Labor, Washington, D. C. was then introduced as the next speaker who spoke on "Manpower Development and Training Act."

"Primarily, I am going to talk about on-the-job training program. We don't have much on-the-job training in Ohio, as we would like to see it.

"I will save that for the end so you can get at me when I am done. I think it is only fair that we take a look at what is happening in the program.

"I think most of you know that the Manpower Development and Training Act of 1962 has authorized one of the most ambitious national programs of job training and manpower research ever undertaken in this nation, and at that time, I was in the City of Detroit, as State Supervisor of Michigan. We were developing programs to retrain people at Chrysler. At that time we had a large lay-off at Chrysler. Some part of Michigan the unemployment rate was approximately 23 to 28 per cent. The State average at that time was 8 or 9 per cent. Ohio at that time was around 6 or 7 percent. Ray informed me this afternoon the rate of unemployment in Ohio was approximately 3.3 per cent. This is true in the state-wide picture. I think there are sections and pockets in Ohio where the unemployment rate is a little higher.

"So, recently, the Secretary released some statistics that are exciting, and it is pretty much the opposite of what we had in 1962. However, our problems are not over, in fact, some of the statistics

we release do not mean too much to people. Maybe if we say it this way, you will understand it a little better.

"The gross National Product is increasing at the rate of 4½ per cent a year. There are 2⅓ million more of non-farm payroll jobs this September than there were a year ago and that unemployment in September droppd 4.4 per cent for the first time in eight years. This is the other society that Dick Wenner was talking about the affluent society. Now, to give you a better idea.

"Nearly 10,000 more people are going to work on pay-roll jobs each morning now on the average so we are cutting down unemployment at the rate of 4,000 people a month. Ninety-eight out of every 100 married men who are available for work have jobs. Production worker on manufacturing payroll are averaging $3.49 more earnings each week than they were a year ago.

"This summer we absorbed the biggest wave of young workers that ever came along, and we still reduced unemployment in this group. Now, we still face the problem of unemployment among teenagers. Three quarters of the million teenagers looking for work can't find it. This is twenty-five per cent of our total unemployment.

"Unemployment among non-white groups, mostly Negroes, is two times the general rate. We have civil, meaning equal rights, now we still don't have civil results. We have to concentrate on these areas. The interest is in the Manpower Development Training Program.

"The fiscal year (66) will be directed towards this group although we will try to have the balance in a mix of all types of programs.

"The Economic Expansion is essential but it is not enough. The rest of the answer is better education, better retraining programs, better matching of people in jobs. When I came down I was reading the want ads of one of the New York papers, and it is amazing the number of columns of want ads that appeared in the paper. Now, since there are so many labor management people here, I think you are all aware that the labor dispute picture has really shown excellent improvement. Within the past sixty days the Marathon strike has been settled, there was a settlement in steel, the coal field problem solved itself, the Arrow-Space dispute has been worked out, the nationwide shut down in the oil industries was prevented in the last hour, new contracts have been signed covering most of the telephone industries, new contracts have been signed covering the papers, thus the newspaper strike is over in New York, and we now have newspapers in New York City. United Auto Workers reached an agreement recently. So, with the economy of the country moving, you sometimes feel that the problem of unemployment has been dissolved.

"Going back again to this growing picture that we make, and as Dick mentioned about the affluent society, which includes most of us here, the great majority of Americans are all well-trained, have steady jobs, enjoy good health, good housing, normal family life, and they benefit from government efforts to expand the economy through such measures as the recent tax cut. It includes a million Americans who have been side tracked from the central path of national growth usually either by reason of color or because they live in the rural backwaters, inadequate training, they have trouble finding and holding jobs.

"While the Gross National Products have been rising, they in passing on poverty from generation to generation, the final etching of the statistical profile of the two Americans can be found in the figure and they will repeat some that I have already mentioned.

"It was just released at the third quarter during the past three months the Gross National Products have jumped by eleven billion dollars to reach an annual record rate of 677,000. The jump exceeded by 20 per cent the projection of the Council of Economic Advisory; progress was at an annual gross rate of about five per cent double the rate of the Eisenhower years. What's more, the gross has been imbalanced and has affected all sectors of the economy. It has not been accompanied by any raises in wholesale prices, and wage rates have held about even with the increase.

"Pre-activity on the employment side the gross is fully reflected in the figure for white people. During the last quarter, the rate for unemployment for a white person average 4 per cent, the lowest quarterly figure since the third quarter of 1957. In July and again in September the figure dipped slightly below the 4 per cent in unemployment among white teenagers also on a down grade and drop 12.9 per cent to June 11.4 per cent in September, the non-white unemployment in the last quarter actually showed an increase. It is up from 8 per cent to 8.3 per cent. While white unemployment decreased in one month, the non-white rose in the next three months.

"The only decrease we had in the non-white unemployment was in the youth, and it was during the period of August when there were 10,000 trainees in the 'Neighborhood Youth Corps' one of the poverty programs. So, as we go into September with the summer program ending, non-white teenagers in unemployment rose by 7 per cent to high of 27.5 per cent. More than a quarter of the non-white teenagers in job market in other words are unemployed.

"Poverty next generation is already in sight and this is not to say that we didn't make any progress. The total unemployment has dropped from 6 per cent back in 1962 when we were talking about the Manpower Development and Training Program down to 4.4 per cent in the recent years. During this period you realize that a million persons newly entering the job market each year have been absorbed so the poverty program that has been lost, the special program for meeting the problems of the poor that are beyond the reach of the general economy group, may even show that this picture will look better a year from today. So, that gives you pretty much of a picture of where we stand, where we have been, and where we are going.

"Let's talk about the Manpower Development and Training Program. When I talk about this program, I must be very careful because this is one program that involves two Executive Departments of government—the Department of Labor and the Department of Health, Education and Welfare. Most of the training in the Manpower Development Training program today is primarily in the schools of our country. In August we did not receive any money, but the schools took hold and moved quickly. And immediately before the end of the first year in 1962, the program was moving, and it has been moving since. We have been doing it for years (training & re-training) - so, when you think of the Manpower Development & Training

Program, most of the training today has been in the vocational schools and they have done an exceptionally good job.

"There is another agency involved - Health, Education and Welfare - they are primarily the Executive Department. When you come down on a state level, I am actually talking about the State Department of Public Instruction. On a local level, we are talking about the local vocational people on the education side; on the labor side, the Secretary of Labor, using the facility of the Federal and State Employment Service, delegated the responsibility of selection referral counseling and testing to the Employment Service.

"So, you have the State Employment Service and your local employment service doing the selecting and referral and determining the needs for the program and the local vocational school in terms developing the curriculum program to take care of those needs.

"The third delegation of the program was to the Bureau of Apprenticeship and Training which is the Bureau that I represent, and we are delegated the responsibility of the 'On-The-Job-Training Program.' The 'On-the-Job Training program is primarily a program of training in industries. Primarily, it was one of the programs that was slow getting started in fiscal 1963 - one of the reasons being, the Bureau has a very small staff, and second, we were going into a new program where the Bureau was actually handing out money, where the Bureau was passing on reimbursement to employer and to other people for work done in training. So, it was important that we move slow to develop good practice and procedure and develop procedure in such a way as to get the maximum use of the dollar in the program.

"Now, many people get the wrong conception of the 'On-the-Job Training Program.' They hear about large reimbursements being made to employer or union or to other types of groups that do the training. I think we shall clear up the air on some of this, primarily, what the Bureau says to our department is this, 'We have a number of marginal people who we are willing to accept and train - we are willing to pay reasonable training costs, but there is no attempt of the department or the Bureau to pick up the whole tab of cost of training in the program.'

"We are not allowed to subsidize on going programs. They have to be programs - new programs - that are expanding programs. We are not going to use any of the Manpower Development and Training Program to pick up the cost of previously operated programs.

"If there is any idea here - someone may ask me about the one million three hundred dollars we gave to Chrysler - I assure you they didn't make a profit on it, but we will get into that a little later. The 'On-the-Job Training Program' started a little slow in 1963 with approximately only 1500 training, but in 1964, the program really started moving. We had approximately 10,000 trainees.

"In 1965 we finished up the fiscal year with about 40,000 trainees. Congress in its hearing was quite impressed with the result that the Bureau was getting with the 'On-the-Job Training Program', and so, suggested the Secretary to increase the goal for the program. The goal for the Department this year is to attempt to develop, approve and put into training approximately 100,000 trainees at the cost of approximately fifty-seven million dollars which is the average cost of $570 per trainee.

"I would like to report to you that we are going forward and reaching our goal. I hope from this meeting the Ohio employers and unions realize that instead of recruiting out of the city and state that they consider using the vehicle of 'On-the-Job Training' and the 'Institutional Program' to take care of their needs, because I assure you that all the high I.Q. boys are all gone - they are not out there - so there is no use looking for them - they are all gone.

"I don't necessarily say you should lower your standards, but you should seriously consider some of these young people that have dropped out of programs - they do have the I.Q., they have the ability, all they need is the opportunity. Our goal for the 'On-the-Job Training Program' in Ohio is approximately 5,000 trainees for this fiscal year.

"The Manpower Development and Training Act is funded by the Secretary of Labor allegating all the money to the states, and for the first six months, this money remains in the states, and after six months, the states are given notice if they do not use their funds, they could be transferred to other states that are using it.

"I am not indicating anything, but I do hope that Ohio does not have to give up any money, because I am sure the need is great here. I know that some people feel that labor is not supporting the 'On-the-Job Training Program' as well as it should, however, I don't think that is necessarily so. We have a number of International Unions that sponsor programs. One of the first programs that we sponsored was up in South Dakota, where they were building a facility of some type and they had a large number of carpenters and millwrights that they needed and they developed a program where some carpenters were given some training and were able to qualify to do work on this site.

"The Operating Engineers was one of our first and stronger supporter. In the program the operating engineers developed a project out in California where they used the facility of Camp Roberts. This was a combination program where we trained over 300 operating engineers in heavy equipment operations and where they did some useful work for Camp Roberts. The marine cooks developed a cook's program, so the trainees even received their food by trainees who were training to be cooks. That was a very successful, exciting, and very expensive program. We like the operating engineer program. We feel that we will fund one or two more this very year.

"The bricklayer has come into the program by way of pre-apprenticeship where they develop pre-apprenticeship programs and using the facility of vocational schools move into 'On-the-Job'. So, there are a number of different types of programs.

"With the labor market tightening up, we will give a lot of emphasis to the 'On-the-Job Training Program', to the 'Hard Core' and to the minority groups. Last year approximately 75 per cent of the programs and trainees that we had approved, trained, and developed were primarily in **enter** occupation. Only about 15 or 17 per cent were in up-grading area and about 5 or 6 per cent in the apprenticeship and the pre-apprenticeship so you can see that we hope that with the changing skills, we will do more; however, we will find that we will run into a problem in developing programs for up-grading because primarily most of the 'On-the-Job' trainees are employees. When you mention an up-grading situation, we usually run into the

problem of people being presently employed bidding for jobs. We run into problems where industries have primarily been doing some training, and we have no intention of picking up the tab of training that they have previously been doing and so we have moved as well in the up-grading area as we expected to.

"The Bureau and the HEW anticipated greater movement possibly in the Up-grading Program and the Vocational Program more so than On-the-Job; however, we are not going to give up on them - we attempt to stretch programs to fit the needs.

"I thought you might like to know something of the 40,000 trainees we put into training last year. Primarily, most of them were in the semi-skilled occupation. They made up about 33 per cent. Thirty per cent or so was in the skilled - about 11 per cent was in the service trade - we hope to do more in the service trades. We expect growth in the service trades, however, it is an area that is hard to work with since it is an area that is not organized. It is an area where rates are low and the Department of Labor is especially interested in supporting and subsidizing projects in low wage areas; however, we do recognize that there is a limit sometimes to some of the applicants that we are working with - how far you can take them for the first time.

"We haven't done very much with the professional or technical area because we have a restriction primarily on professional areas so we probably never will do too much in that area.

"As a whole, we expect to reach our goal, and we will reach it if the industries of the United States and labor support us in this effort. I think that the fact that most of the trainees in 'On-the-Job Training Programs' are employees and have employed an employer relationship is a good indication.

"We did a study recently to see how we will make out in a cost of our program. We realize that we are reimbursing and we are especially interested in knowing how long it will take the average OJT trainee to pay back in the income tax the amount of money we are investing in him. It turned out that in some of the shorter occupations where trainees are receiving about 15 or 19 weeks of training, they will probably return the money to the government within a year. In the longer programs (52 weeks) it may take a little longer to do. Most of the reimbursements that we make to the employers are so small that generally the employers pay the trainees more wages than they receive in reinbursements from the government.

"We think that it is a good program, and it is a type of program where actually the trainee is doing something. He is working at the work site, and it makes for good training.

"We did a little study on our trainees and found that 47 per cent of them completed high school; 24 per cent was in the 11th grade; 7.1 per cent was around the 8th grade, and less than the 8th grade made up only 6.7 per cent; so you can see that we have done a little bit of cleaning. We have been taking the cream of the boys. We haven't been getting down deep enough to the 'hard core' minority group, and you can see why this year we will probably stretch our program primarily more to people than to industries. I thought you might like to know that 74 per cent of all the trainees in our programs are male and 25 per cent female. This may not mean

very much to you, but we have been critized in California because there was a larger number of females in the programs; but the fact is that we only have 25 per cent—so we feel that we are doing all right.

"You might want to know what kind of breakdown we have in the minority group participation. In the white group the percentage was 78.3—21.7 was minority groups—so we are running around 21 per cent. We feel that this per cent will probably be increased this year.

"Now as far as vocational programs, we have some programs in the 50 states.

"Now, for the question and answer period. We have a staff here, so if there is anything that we haven't gotten across to you, and if there are questions you don't care to ask in front of the group, we will make arrangements so you can meet with any of our boys who will be happy to assist you."

Question: by **Edward F. Pelteson,** Greater Cleveland Manpower Program, Cleveland, Ohio, "Is M.D.T. cooperating in any direct way with employers in developing an actual job before any training begins?"

Answer: by **Mr. Przelowski,** "This question should be directed to the Employment Service representative since the Employment Service is primarily responsible for determining the needs of the program. They determine if this should be an 'On-the-Job' or a 'Couple Project' or if it should be a straight 'Institutional' one—that is the way it is done.

"I hope that the employer is getting enough opportunity to participate in the program. If you are not, I assure you, you should have."

Question: by **G. T. Wood,** Manpower Advancement Program, Cleveland, Ohio. "What can be done on behalf of trainees under M.D.T. programs who have completed their training and there is no job opening for them? A survey has been made and shows there is a job shortage in that occupation by the State Employment Office?"

Ray Flory, Member, Ohio State Apprenticeship Council, Toledo Ohio, "I would like to make one statement in answer to that before I ask Hank Przelomski to answer.

"I was on the committee of the M.D.T. and a survey was sent out for a particular occupation in an area and it came back showing a hundred job openings. Supposedly, the jobs were there, but they wouldn't put anybody to work after they were trained."

Mr. Przelomski: "In answer to your question Mr. Wood, I assumed that you must be aware of some trainees who completed the program and were not placed. Well, in all fairness, when a survey is made, many times and in many cases at that particular moment there is a need and by the time the program is started and by the time the trainees are selected and referred, the picture may change. But let me say this, the placement figure on the 1964 institutional program (you have to watch on this because we have a ITP and a OJT program in the 'institutional program') was 75 per cent of the trainees who completed were employed.

"I assure you that it is not the desire or the intent of the Employment Service or the Department to just train people to fill up a classroom.

"As Ray mentioned to you, the first survey indicated that one hundred trainees were needed and by the time they really got down to it and said 'how many will you specifically take' the figure disappeared. I'll be very honest with you—some employers say 'Well, you know, I an not hiring anybody, but if things break right, I can use two or three.' Well, the person who is making the survey puts down two or three—maybe he writes down the larger number—three—sometimes the figure can be a little inflated. When you figure about 70 or 75 per cent are completing and entering jobs that is not a bad record."

Question: by unidentified person. "What is to be done with many of today's youth who are unskilled and who do not qualify for MDT courses?"

Answer: "Paul, that is a good question and the type of question I like to hear and present to this particular group because you are the people who have had years of experience in the field of training. After all apprenticeship is one of the oldest methods of training and has been around since time began.

"We feel there is going to have to be a better relationship with the local employment services, the industries, the schools, and the B.A.T. instructor programs, so people of the type that you are asking about, start into a basic educational program, then into a pre-vocational program, then maybe into 'On-the-Job' or 'Occupational Program.' But we are going to have to develop a number of different ways of doing it, because many of the applicants that we will have are the ones that we can't move immediately from the streets into an apprenticeship program or into some of the other programs.

"I think that the Secretary of Labor is making extra money available for the Bureau to encourage the Bureau to develop 'Couple' or 'Pre-job' vocational type school and work type jobs in this fiscal year because we feel that the applicant that we receive will probably have to have this training for they can go on the job."

Question: by **Charles Swyers,** Electricians, J.A.C., Toledo, Ohio, "Three years ago we had more trained people than work available, now it is just the opposite. Can you help business cycle become more stable? So, the apprentice training, can have a more stable program.

Answer: "When we have a lot of good, beautiful, strong looking American applicant kids walk into the office who will give their right arm to get into an apprenticeship program, we don't have a program. Now, we have the programs, but we don't have the people. I can assure you, if I knew how we could get the two cycles together, we would have it made. We have the jobs, but we don't have the applicants so now we have to develop our own applicants."

Question: by **Bill Roark,** Structural Clay Products Institute, Washington, D.C. "Is anything being done to speed up the long period of time it now takes to process OJT contracts?"

Answer: "There has been some criticism of the Division of 'On-the-Job Training', because of the amount of time it takes for us to approve a program. We try to be careful, but we don't want to be so careful that we jeopardize the program.

"I would say this, we have delegated the Regional Directors with the authority to approve projects under 50 thousand, but those projects that are reimbursed for more than 50 thousand will have to be sent to Washington. We hope that this will expedite approval.

"I might say something else. We had a large number of inquiries when the program was started. We thought we wouldn't bother with one or two trainees. We would just go for the big numbers, ten, twenty, one hundred, and two hundred trainees. We found, however, that there are a lot of small industries/businesses in this country that can't hire that number of trainees, so we have now developed a short form so that any small employer who wants only one or two trainees can now have a program for a minimum amount of time in getting it approved. We hope this will stimulate more interest in the program, and that it will get at many of the small businesses that we have been missing."

Question: by **Ronald Peters,** Supervisor, Vulcan Tool, Dayton, Ohio "What can be done with MDT apprentices that would be drafted before getting 1,000 hours on the job training? Do you feel that the Selective Service Department should work together with this problem with BAT? Will this be done?"

Answer: "Ronald, depending on how you say or ask that question. As you know, we do have an arrangement with Selective Service for the deferment of apprentices in skilled occupations and in occupations that are so needed in the national defense of our country. There are apprentice deferment forms—SS 171; however, in the regular Manpower Development and Training Programs that arrangement has not been made as of yet."

The next speaker was **Mr. Harry F. Davis,** Supervisor, Trade and Industrial Education Service, Ohio Department of Education, Columbus, Ohio who spoke on the topic "Education Departments' Apprenticeship Legislation."

"Education and training is probably one of the largest businesses that we have in the country today. During the fiscal year of 1966, which started July 1st of this year, there is expected to be some 8.6 billion dollars of federal funds, provided for education and training. Just two years ago we only received federal assistance at the rate of 4.5 billion dollars.

"I think that we must remember that when we talk of the billions of dollars spent on education and training and federal assistance, we must remember that for every billion dollars that are coming out of Washington, roughtly $3.00 is being spent by the local people on education and training. Of this 8.6 billion dollars there will be 3.3 of it that will pass directly through the hands of the Department of Health, Education and Welfare. Now, again I need to draw a comparison just two years ago there were only $645,000,000 passing the U. S. Office of Education's hands in federal assistance education. This has been a tremendous increase from six hundred forty-five million to 3.3 billion. I think that this emphasizes that education and training is our largest industry.

"One thing that disturbs me, however, with all the funds coming out of Washington, there are 18 pieces of legislation that have to do with education and training. There are some forty-two departments,

agencies, and bureaus of the government on the national level, administering these programs. Now, this only points out one thing, that cooperation is essential if we are to succeed in the training of our people. Without cooperation the job cannot be done. When you have forty-two departments, bureaus, and agencies on the federal level administering the training program you just cannot do the job if you do not have cooperation.

"The major emphasis for federal assistance for education is conducted in the area of training which encourages people to go out in this world and work. It is also interesting to note that almost all the legislation having to do with education and particularly training was formulated as a result of crisis. I can certainly say we are in a crisis today.

This crisis was actually started sometime back in the mid-eighteen hundreds when it was realized that our population was growing. Turmoil was being created in our industrial force because of the new advances coming into the fields. So, really as a result of this industrial revolution that we started into about that time, the first Federal aid program to education was initiated and this came about in the ~~Moral~~ L. L. MORRILL Act of 1862. The Federal government was concerned with educational institutions that would give training primarily for agriculture and engineering. And as you may know, these institutions are normally known as the land grant colleges of our nation which have grown into universities which have established agricultural schools and engineering schools. I point this out because this was the Federal government's first venture in the Federal aid for education. Although the aid came in terms of actual land, it was an assistance to local communities. Then back about 1910 there was a commission assigned to the president, as there has been recently, to study the problem of meeting the manpower shortages caused by (the same thing we are talking about today) automation. It was in a little different form, because progress was going along at a pretty rapid pace. Then the turmoil in Europe came about and this invited the effort of congress just as it did today.

"To look further and deeper into the problem of meeting the manpower training, congress looked at the turmoil in Europe, and decided that Germany was getting ahead in production—so, they decided to do something about it. As a result, the first actual funding legislation for vocational education was passed. As many of you know this is referred to as the Smith-Hughes Act, which is really the father of all Vocational Acts that provides training for entering into an occupation. Since the passing of the Smith-Hughes Act in 1917 and up to this date this country has been passing legislation dealing with the employment of people. Up to 1917 and up to the World War II, which was another crisis, a numberal of Acts were passed. They were substituted and re-written to meet the demands of manpower.

"If you study some of the vocational laws you will see that the early Act was still based on the need for agricultural production in our country. I say that agricultural is changing in this country. There are still great demands for agricultural occupations but not on farm production as it has been in the past.

"In 1940 Congress began making appropriations to train Defense Production Workers. They were renamed the War Production Workers and a war production training program was initiated again caused by

a crisis. Under this program more than eleven million were given specialized training in occupations necessary for the war effort.

"Then in 1946 congress acted again with the passage of the George-Bardon Act, authorizing an increase in the annual appropriation from fourteen million to twenty-nine million dollars annually. This provided for the training of people more realistically in line with the need of industries and not specifically based on agricultural training. The G. I. Bill which followed after the passing of this Act has been acclaimed to be the best dollar investment in education and training that there ever was.

"In 1958 the George-Bardon Act was amended to include a title of another act that was actually initiated. This was a National Defense Educational Act. In 1958 this Act was brought on by a crisis and that crisis was the launching of the Spudnix. So included in the Vocational Act the George Bardon Act was really the title VIII of the National Defense Education Act, which concentrates its effort in the training of technicians. The National Defense Educational Act concentrated its efforts primarily for the need of science engineers and technicians.

"Then we plotted on for a few years and we realized that this concentrated effort in science and engineering did not solve the ills of manpower. If everybody was going to be a scientist or everybody was going to be an engineer, who in the world would make the machines, build the launching pads for the missiles, and build the buildings that these brains had to live in with there computers. They realized that they forgot something along the way, that education still needs progress along with the classman.

"So, to solve this problem, congress authorized some 97 million dollars the first year for the Manpower Development and Training Act. This Act provided and concentrated in the areas of training and retraining for employment for those who were unskilled and needed to be up-graded.

"Through a committee that was appointed by the late President Kennedy, the Vocational Act of 1963 was initiated, and this Act authorized a permanent program of Federal assistance for vocational education which amounted to 108.5 million dollars last year. It will be 177.5 million dollars in the fiscal year that we are in now and 225 million dollars every year there on if we do the job, and I am confident that we will do the job.

"Ohio actually will receive out of this amount approximately five per cent. Now this is a pretty good average for Ohio when you figure there are fifty state. So, Ohio is getting a pretty good share of it. Last year Ohio received approximately 5.2 million dollars to expand vocational educational. Actually, this meant an expenditure of over ten million dollars.

Remember to use the federal dollar you must match the federal dollar locally. This year we will go to somewhere around 7.4 million dollars to expand vocational education and the following year some nine million dollars.

"I have related the brief history of education and training and legislation that had to do particularly with vocational education merely to point out the available source of funds to do the job. It is

from these Acts that money is provided for instruction for pre-employment training and instruction for apprenticeship training.

"Last year we spent some $148,000 for apprenticeship training in the State of Ohio through the Vocational Act. Now, this is not a very high amount when we talk in the number of dollars that we have available to do the job.

"Last year we gave related instruction for apprentices employed in industries to approximately 67,000 people—in roughly twenty occupations. This was an increase over the previous year. In fact Ohio has shown an increase in two years in apprenticeship training which is encouraging. This was brought about by the effort of the Federal government which brought about the focus of apprenticeship training from local and state agencies but the focus isn't enough yet. It has to be focused a little wider so as to initiate the apprenticeship program and to use effectively the funds available. We need group action, and I think every speaker that was up here today indicated group action in education and training because the educational institutions cannot do the job alone.

"We need the action of the employer and the employees and we need the action of the educational institution on the local community, and we need the action of labor because sound education is always based on need, and it is up to the parties involved that need it and want it to initiate it.

"Apprenticeship training in Ohio can grow if we make it grow.

"Now let's turn for a moment to what we can do with journeymen under the Vocational Act. You know, and I know that your job and my job is changing and changing rapidly. Where else can we get related instruction to supplement the knowledge we need in our changing job. This can be done through public education, but only if the need is expressed. You people have long been involved in training and I think we need to get a cooperative effort if we are going to see apprenticeship grow. Sure we have problems. One of our problems is the selection of people. True, we have the problem of our changing job, but the job can be done.

"The signs are encouraging gentlemen. Apprenticeship will grow —apprenticeship training is on the increase—it is not as great as it should be at this moment—but the awareness is there. I think it is up to us as a cooperative effort to initiate it."

Question: "The 1960 census showed over 70% of high school youth interested in vocational training, yet over 80% of Ohio high schools are college prep schools. Why can't we have more vocational education? And, how can the Department of Labor help do this?"

Answer: "Legislation has already been adopted in the State of Ohio which says that vocational education will now be offered in all school systems through-out the state. Now, there is still some question in the minds of people as to how we will intiate this. This is going to be a difficult job because remember this, the cost of vocational education is high but action has already been taken by people in Ohio by their saying that vocational education will be given in the high school as part of the curriculum. And they go even further to say before a student can drop out of high school (manatory law) he must go through a vocational program of some type to make him employable before he can obtain a working certificate. So, we are retooling our educational system in Ohio, and I think this is evident in legislation."

Question: by **Art Schrader:** "What funds are available for equipment and buildings for apprentice training? Journeymen training places are added burdens on local school boards. Will the State subsidize these programs 100%?"

Answer: "I think it really all boils down to the assistance that is being given now from primarily the Vocational Act of 1963. This is the Act that actually designates construction and equipment for vocational facilities. It still boils down to initiating a total vocational education program in the State of Ohio and limited funds to do it with.

"The State Board of Education has more or less designated the need to be on the high school level. Now this doesn't eliminate, in my opinion, the possibility of funding for apprenticeship, but funding for apprenticeship directly is coming through reimbursement for instruction; and to my knowledge I don't know of any funding for equipment for apprenticeship programs that can be used in existing vocational programs. This will become quite costly. I think we are getting dual use of the equipment".

Mr. Frank Evans, International Executive Board Member, Allied Industrial Workers Union, Cleveland, Ohio, remarked "I really didn't come here to talk I came here to present a program of slides but in order to present the program I must have something to say.

"I am the representative for organized labor, but I am also Vice-President of the Negro American Labor Council, of which A. Phillip Randolph is the President. To familiarize you with the organization as such, the organization is not a labor one within the meaning of the Act. It is an organization which was formed back in 1960 in Detroit, Michigan. The purpose of the organization was to attempt to break down racial discrimination within labor industries and government. Today, the organization is an accepted one by the top leadership in organized labor; namely, by President George Meany of the A.F.L.—C.I.O.

"In a meeting with Assistant Secretary of Labor, Jack Henning, in Washington, D. C., he asked me and the organization to develop a program that would be in step in keeping with Title VII of the Equal Employment Opportunity Act. He said that by helping the government to get this training program on the road.

"We are not here to criticize any program as such but we are here to present to you a program in our opinion that can be accepted by organized labor. It is hard for labor to accept programs that deal with the training of people who are out of work or the unemployable person. But, we feel that we do have a program—a program that has been accepted by all of the Departments in Washington; to include, the Department of Labor, the B.A.T.; the H.E.W. and its Research Department."

Mr. Evans then presented the slides to the audience while **Dr. Joseph S. Kopas,** President, Human Engineering Institute, Cleveland, Ohio, narrated the projections.

Mr. Ray Flory, Chairman for the General Meeting, closed the session at 5 P.M.

BARBERING TRADE

Wednesday **October 27**

CHAIRMAN

Frank J. Blazina, Cleveland, Ohio

TOPICS

National and State Barbers Apprenticeship Standards

Organization and Operation In Metropolitan Areas; Bowling Green, Canton, Cincinnati, Columbus and Dayton

PANEL MEMBERS

John E. Johnson, Akron, Ohio
Charles J. Moscarino, Cleveland, Ohio
Robert B. Walters, Bowling Green, Ohio
William W. Fisher, Cincinnati, Ohio
Joseph D. Scarberry, Springfield, Ohio

CONSULTANTS

Walter E. Ink, Secretary, State Board of Barber Examiners, Columbus, Ohio

Ralph C. Neal, Apprenticeship Consultant, Trade and Industrial Education Service, Ohio Department of Education, Columbus, Ohio

Oscar R. Poole, Representative, Bureau of Apprenticeship and Training, U. S. Department of Labor, Cleveland, Ohio

SECRETARY

Charles J. Moscarino, Cleveland, Ohio

BARBERING TRADE

Mr. Joseph Scarberry, Secretary of Ohio Barbers Association, Springfield, Ohio, opened the meeting. Silent reverence was held for Clarence Wright, President of Ohio State Barbers Association. Mr. Scarberry then made a few remarks on apprenticeship; he introduced all the members of the panel, who were also members of the Barbers State Apprenticeship Committee and then turned the meeting over to **Mr. John E. Johnson,** Chairman of the State Apprenticeship Committee, Akron, Ohio. Chairman Johnson spoke briefly on apprenticeship, the need for more participation and also the benefits.

The Chairman then introduced the first speaker, **Mr. Ralph Neal,** Apprenticeship Consultant, Trade & Industrial Education Service, Ohio Department of Education, Columbus, Ohio, who has been working very closely with the barbers on their related instruction program. Mr. Neal thanked Mr. Johnson and said the Barbers Union, State Apprenticeship Committee and local apprenticeship committees must keep in mind that the apprentice program for Ohio's Barbers is the responsibility of the state and local apprenticeship committees, not the State Barbers Board or the International Union,

He further stated that more direction must be given to local apprenticeship committees and unions interested in apprenticeship by the State Joint Apprenticeship committee.

Mr. Neal recommended the following:

1. The Barber Union and Barber Board of Examiners acquire more realistic and useful statistics.
2. The State Joint Apprenticeship Committee must be the prime group to initiate and help local committees to accept the apprenticeship program.
3. The State Joint Apprenticeship Committee should bring in the Barber Board of Examiners and operators of private schools to help set up the guidelines for apprenticeship training. This will give all factions an opportunity to participate in the program.

Mr. Neal stated that the International Union had asked him to serve on an education committee and after a week at union headquarters in Indianapolis, he felt like he could now pass the examination to be a barber. He said his experience in Indianapolis was a pleasant one. A great deal was accomplished in school accreditation, curriculum, physical facilities and apprenticeship. Mr. Neal's opinion was that the union president was a real salesman. He was honored and enjoyed working on the committee.

Here are some of his conclusions during the meetings:

There will be three sources of training for the journeyman barbers:

a. On-the-job training in accredited schools-either private or vocational.

b. Uugrading programs in conjunction with local school boards

and State Departments of Education, Trade & Industrial services.

c. Private schools with their own programs financed by fees.

The on-the-job training program is being sponsored by the International Union. This is being financed by a grant of $257,000. Do not confuse this OJT program with the State local apprenticeship programs. This is an upgrading program for barbers. The philosophy back of the International OJT program is to train the journeyman barbers to do more than haircutting and he (the journeyman) will give other services which will open a place for an apprentice in his shop.

The upgrading programs in conjunction with local boards of Education and Vocational Education is the program promoted by your State Joint Apprenticeship Committee and is funded by the Department of Education and the apprentice, school or apprenticeship committee.

A few private schools are starting a program of upgrading, available to journeymen barbers and funded by a fee charged by the school.

The training of apprentices with OJT federal funds cannot be done at this time. However, it is hoped that funds wil be available later for the apprenticeship program.

It is the plan of your International Union to prepare and make available educational materials for apprenticeship committees, both state and local. President DePola also stated that the International is working successfully with those states that have no private schools but operate barber training through state vocational schools. Wisconsin and Connecticut are examples of states operating in this manner and cooperation is excellent.

In conclusion, he stated that it had been a real experience to work with the State Apprenticeship Committee this past year and he looked forward to continued progress in the year ahead.

Mr. Johnson introduced the next speaker, **Mr. Frank Blazina,** 10th Vice President of the International Union, Cleveland, Ohio, and also a member of the State Apprenticeship Committee. Mr. Blazina thanked Mr. Johnson and said the barbers now have a national apprenticeship program and he would like to briefly review the National Standards. The barbers if they are to progress must take advantage of this program. All the locals through the country have been notified of these standards and though they have been accepted by the U.S. Department of Labor, B.A.T., some of the states may have to vary their program. Changes will probably be made from time to time since different state laws may conflict with the program that has been set up, so the standards must be flexible. After reviewing the standards, Mr. Blazina stated that a National Barber's Apprenticeship Committee had been appointed and it was composed of three representatives from the employer groups and three representatives from the Journeyman Barbers International Union.

This committee met in Indianapolis on October 19, 1965, at the International headquarters with the barber representatives from all over the country, together with a representative from Washington, D.C., Jack Currie, U.S. Department of Labor, B.A.T. Mr. Blazina went on to explain the purpose of the Committee, stating that its

purpose was to get the best of all state programs into a working force for the International Union program for proper training of apprenticeship students. The first order of business by the committee was to approve a program of apprenticeship for the International. The committee carefully studied the National program section by section. Each and every section was approved with a few exceptions where changes had to be made.

Accreditation of schools and accreditation standards were gone over by Mr. Blazina along with problems confronting the schools and the current OJT program now put into action by the International Union. Mr. Blazina was strongly in favor of the advanced training program and he saw nothing wrong in giving apprentices this valuable training. Proprietors must be sold on going along with this program. "We must all put our shoulders to the wheel and go forward." He urged all delgates to get behind the program. "This is a must. This is it."

The next speaker was **Mr. Oscar Poole,** Representative, Bureau of Apprenticeship and training, U.S. Department of Labor, Cleveland, Ohio, who spoke on the OJT program sponsored by the B.A.T., U.S. Dept. of Labor and International Barbers Union. He said the program was set up to upgrade registered barbers into new skills and new services so that it would open new opportunities for the barber apprentices and bring in new entrants. To get the program rolling, 30 demonstrators from 24 key cities in the United States were trained at the International Barbers Union School at no cost to the government for facilities and supplies. The course to train demonstrators lasted 2 weeks and these demonstrators were to carry on upgrading programs in their home areas upon completion. Mr. Charles J. Moscarino, State Apprenticeship Secretary, was selected by the International Union as a demonstrtator.

Classes of not more than 15 would be set up in the demonstrator's home city or nearby communities and could be held in the evening for registered barbers who wished to participate. The course would last 12 weeks, 3 hours per week, making a total of 36 hours. This program would be open to all registered barbers at no cost to them for the course. The training would consist of razor cutting, hair pieces, hair coloring, hairtreating, shear blending and salesmanship. The cost of this program to the U.S. Government would be $257,824. Ohio had been alloted $10,482 to train 125 registered barbers. A program will begin shortly in Cleveland. Two classes are ready now but final approval must be received from various government agencies involved.

Mr. Poole then thanked Mr. Neal, Mr. Blazina, Mr. Moscarino and others for their willingness to get the apprenticeship programs rolling.

He then spoke on the current set-up, the new standards, accreditation of schools and pointed out that there was room for improvement in barbering but it must be done by the barbers themselves.

The State Apprenticeship Committee would have more authority now and local committees should get started with their programs. There were men available from the Bureau of Apprenticeship and Training to give help wherever needed. He also stated the training for these new services to upgrade the barber was necessery to show

the public and the legislature that there was more to barbering than cutting hair.

Although the OJT program was designed for registered barbers only, it should be included in related training also to create a desire by the apprentice and be good for the barber business as a whole.

The next speaker was **Mr. Charles J. Moscarino,** Secretary of Barbers's Local 129 and Secretary of the State Apprenticeship Committee, Cleveland, Ohio.

Mr. Moscarino thanked the delegates who attended the sectional meeting because it meant that there was an interest and desire from their areas to raise the barbers standards and elevate the barber business.

For the first time in years our barbers were doing something constructive along these lines, mainly, setting up National Apprenticeship Standards and setting up an OJT program for registered barber under B.A.T., U.S. Dept. of Labor and the International Union of Journeyman Barbers. The barbers had finally broken through that imaginary shell that was surrounding them and they themselves had come to realize that there was more to barbering than cutting hair and to exist they would have to learn more services because the patronizing public was demanding it. He stated we have been a one-service business too long and it was time we make a move. "There are new techniques and skills that are sweeping the barbering industry from coast to coast and our International wants us to learn these new techniques because by acquiring these new methods, you not only will gain the respect of your customers but of your fellow barbers themselves. Only through education can we upgrade the barbers. We cannot rely on price increases to exist. We must learn new services to better our income.

"Years ago, barbers sold more services than today. They not only cut hair, they shaved, gave massages and shampoos. Today, we are in a hurry and we have forgotten that our customers want more services and they are willing to pay the price of these services. Already it has been proven in various parts of the country. We cannot sit back and wait because we will be left behind. The barber is his own worst enemy. He complains that business is bad but does nothing about it. Who has a greater opportunity to sell than the barber. Once the man sits in the barber chair, the barber has a captive audience. There are many salesman who would love to have the opportunity to just talk to a prospective customer for a few minutes to sell his products but the barber has his customer in the chair at least 15 minutes and he talks about everthing but the services he can give and he lets hundreds of dollars slip through his hands every day.

"Did you know that the hairgrooming business is the 6th ranking business in the United States? What part do you think the barbers play in it? Very, very little. The women and beauticians account for 85% of this multi-billion dollar business. Can you imagine that?

"Don't you think its about time we reached out for our share of this. I think it is time now.

"There is money to be made in barbering and you can do it if you learn these new skills—mainly—hairstyling, hair coloring, wig measuring, razor cutting and hair straightening.

"The opportunity to learn is available, but it is up to you."

Mr. Moscarino then pointed out how barbers have hurt their shampooing services by using the incline method instead of the recline method which is so much superior and comfortable to the patron. He also concurred with the delegates that a new curriculum would be needed to encourage more apprentices to attend related instruction.

BRICKLAYING AND STONE MASONS TRADES

Wednesday October 27

CO-CHAIRMEN

Richard Chaney, Business Representative, Bricklayers Local Union No. 22, Dayton, Ohio

William Keitler, Representative, Allied Masonary Company, Xenia, Ohio

PANEL MEMBERS

Robert Dalton, Assistant Executive Director Manager, Building Trades Employers Association, Cleveland, Ohio

Thomas Davis, Secretary, Ohio Conference of Bricklayers, Lakewood, Ohio

John Locke, Brickmason and Stonemason Contractor, Toledo, Ohio

Daniel L. Powell, Financial Secretary, Bricklayers Local Union No. 23, Barberton, Ohio

SPEAKERS

William Roark, Director, Mason Relations Department, Structural Clay Products Institute, Washington, D.C.

Edgar E. Baker Seventh Vice President, Bricklayers, Masons, and Plasterers International Union, Columbus, Ohio

George Miller, Secretary, Mason Contractors of America, Chicago Illinois

RECEPTION COMMITTEE

Dayton Bricklayers' Joint Apprenticeship Committee

CONSULTANTS

Daniel T. McCarthy, Representative, Bureau of Apprenticeship and Training, U.S. Department of Labor, Cleveland, Ohio

Frank Oliverio, Representative, Trade and Industrial Education Service, Ohio Department of Education, Coumbus, Ohio

SECRETARY

Harold Kuhfeld, Apprentice Coordinator, Max S. Hayes Trade School, Cleveland, Ohio

BRICKLAYING AND STONE MASONS TRADES

First and Second Sessions

The conferees were welcomed to the 15th Ohio State Apprenticeship Conference by **Thomas Davis**, Secretary of the Ohio Conference of Bricklayers; he outlined the program for the morning session, and introduced the guests and panel members. Mr. Davis then introduced the Chairman of the morning session, **Mr. Richard Chaney** Business Representative of Bricklayers Local No. 22.

Mr. Chaney introduced the afternoon Chairman, **Mr. William Keitler,** and then asked everyone to introduce themselves and their affiliation. The Chairman made some remarks of welcome and commented on the number of management representative that turned out this year.

Chairman Chaney called on **Mr. Edgar Baker,** 7th Vice President of the BM&PIU to make a few remarks.

Mr. Baker was very brief in his remarks, but did comment on the importance of training an adequate number of apprentices. He also pointed out how the Manpower Training & Development Act of 1962 could be utilized by the Bricklayers JAC's in Ohio. He referred to a program now operating in Ironton, Ohio. Mr. Baker also congratulated the State Joint Apprenticeship Committee on their performance since reactivation. He also stated his appreciation as an I.U. officer at the attendance of both management and labor at this conference.

The next speaker was **Thomas Davis.** Mr. Davis explained the revised State Standards, why the standards were revised, the changes that were made, etc. He also explained the Statewide Suggested Selection Procedures. Mr. Davis reminded the conferees that it is necessary for J.A.C.'s to adopt or devise selection procedures of their own because of Federal Regulation, Title 29, CFR Part 30.

He pointed out that candidates for apprenticeship must be selected based on qualifications only. He then explained the "Evaluation Sheet." This must be filled out for each applicant, selection must be based on the person attaining the highest number of points and progress downward until the number of apprentices being indentured is met. The balance of applicants remain on availability list until another group of apprentices are selected. These "Evaluation Forms" and other pertinent information must be retained for two (2) years. Mr. Davis reminded all conferees that it is necessary to re-register all programs with the Ohio State Apprenticeship Council.

Mr. Robert Dalton, Chairman of the State J.A.C. was introduced as the following speaker, and he again covered the Standards and Selection Procedures. Mr. Dalton spoke about testing of candidates for apprenticeship, the personal interviews, and the various methods of obtaining information from candidates during the interview.

He compared the procedures with others he has had experience with and explained the difference in the apprentices selected in the

prescribed manner. There then was a question and answer period from the floor which was interesting and informative. Summation of these questions and answers:

The "suggested selection procedures" have been accepted by Ohio State Apprenticeship Council, Local JAC's can make changes in standards as long as they are not lowering any standard prescribed in the State Standards, i.e. (raise or lower the age maximum, increase the total hours of related instructions). Indenture agreements are sent to the local Bureau of Apprenticeship & Training Representative not to the Secretary of Bricklayers Conference.

Chairman Chaney introduced **James Platt** of Structural Clay Products, Region IV, **Martin Graham,** Secretary, Ohio State Building & Construction Trades, and **Joseph Boquette,** Business Representative, Local #7, Michigan. Mr. Boquette was asked to speak, he compared the attendance at this conference with the last conference in Michigan; he also stated their conference was the following week. He discussed the apprenticeship programs in Michigan, also on all weather construction conference, and masonry promotion programs. He explained how he thought they all tied together.

He also mentioned that in Michigan there was some shortages of Bricklayers, but there is no alarm. He stated the related classes are filled to capacity where they exist. He commented that proper selection is becoming more important because fewer sons of bricklayers are coming into the trade.

Mr. Platt was the next to make some remarks: He said that Brick load bearing construction is rapidly growing, but he did predict that a lack of mechanics will hold back a promising growth of further expansion. He felt that young people are not coming into the trade because they are not knowledgeable of the opportunities available to them. He also stated that if promotion of year around work is successful this will aid opportunity for apprentices.

A question was asked; "How about the high bond mortar program?" The answer was that because of the requirements of pure water, etc., makes this unsuitable for open market use, also little follow up by tradesmen has not helped the program.

Another question: "How do you get new people into the apprentice program? i.e. (Recruit boys and reluctant contractors.)

Suggested Solution: Utilize the Employment Service, Local schools, relatives, organizations, etc., make a recruitment drive. Then indenture young men to the local J.A.C. and assign to a contractor. Move boy when required and don't expect same contractors to start all the apprentices.

A discussion about ratios started up and it was stated that Ohio is short 400 to 500 bricklayers, and that each local J.A.C. should try and determine its needs 5 to 10 years from now and then proceed to develop men to meet that anticipated need. It was further stated that each area should have a stabilized program and assume a given supply of journeymen.

Mr. **Martin Graham** was the next speaker, and he confirmed the suggestion to indenture boys to the J.A.C. He stated the work will come, hence the boys must be recruited. He further stated that retirement and deaths are taking its toll of journeyman bricklayers. The

advantage of indentureship to the J.A.C. is greater diversity of experience for the apprentice, he would complete his apprenticeship not as a specialist but as a journeyman with well rounded experience.

Mr. Graham also spoke on the masonry industries responsibility to lobby for more brick construction and less curtain wall construction, pre-stressed concrete construction in public work.

The conferees then got into a great discussion about the substitute materials, why they are used, the lack of bricklayers, buildings planned for brick, shortage of mechanics changed them to pre-cast material.

Meeting adjourned at 12:10 P.M.

* * *

The afternoon session was opened by **Daniel T. McCarthy,** Bureau of Apprenticeship & Training Representative, Cleveland, Ohio. Mr. McCarthy stressed the importance of signing the roster sheets being sent around the room, adding that this was the method used for mailing the minutes of the sessions. He also expressed his thanks to **Mr. Davis, Mr. Dalton** and the **Dayton Joint Apprenticeship Committee** for their cooperation in preparing the program for this conference.

He stated he appreciated the fine turnout of management representatives, labor representatives and other interested persons attending the conference. Mr. McCarthy then introduced the Chairman for the afternoon sessions, **Mr. William Keitler**, Contractor and Joint Apprenticeship Committee member in Dayton, Ohio.

Mr. Keitler made some opening remarks then introduced **Mr. George A. Miller,** Executive Secretary, Mason Contractors Association of America. Mr. Miller discussed the pre-apprenticeship programs being conducted around the country, he mentioned they have been an aid to the industry, he remarked that the contractors were more receptive to training an apprentice because they arrive on a job site somewhat productive.

Mr. Miller also talked about the financing of apprenticeship programs. He warned the conferees to be sure that their plans were approved by the Internal Revenue; he gave some examples of different training plans, but also suggested the best method was "so much per hour" contribution was the most practical because all contractors paid even though they were not training an apprentice.

He stated that the National Apprenticeship Committee for the Masonry Industry has received approval of the Revised National Standards and they should be available shortly. He discussed "Course Material" such as the Structural Clay Products Manual and others that can be found in the directory published by the Mason Contractors Association of America. He said that films are also available and that they are useful for related instruction or career days in schools.

Mr. Miller also brought out the importance of "Foremanship Training"; he stated this should be part of the activity of the J.A.C., contractor can be a big help to this type of program because they recognized foreman material. He said that all training programs must be sold to Contractors and Business Representatives, when their Psychological Attitude is properly shaped they are more receptive to all types of training.

Mr. Miller suggested to the conferees especially to the J.A.C. members that they should review their responsibilities as members of Joint Committee, practice them and by using common sense your programs shall be strong and continue to grow.

Mr. Keitler thanked Mr. Miller who then excused himself because of transportation schedules.

The next speaker was **Mr. William Roark,** Structural Clay Products, Washington, D. C. Mr. Roark started by saying "Let us look at our Industry." He stated that at present the Masonry Industry was healthy, there is a renewed interest in the use of brick. The industry is making a startling comeback after the invading forces of "Thin Wall Construction and Pre-Cast Paneling." Statistics show the need for doubling the amount of buildings in the next decade.

The reason for the comeback in our industry is because of "Improved Products and Promotion of Product by Labor and Management." Mr. Roark sounded an alarm because the inroads that have been made to recoup are now endangered because of Manpower Shortages. Most Architects when designing a building, have two sets of plans, masonry and others. If manpower is not available in the area of his choice he goes to his alternate plan. So, it behooves the Masonry Industry to be sure the Manpower is available.

Mr. Roark suggested and stressed the use of pre-apprenticeship classes in Vocational Schools, make use of the Manpower Development & Training Act of 1962. He said this has been used very successfully in Connecticut, North Carolina, South Carolina, Georgia, Kansas City and Charleston, West Virginia.

He went on to state that the MDTA was available to anyone and that if apprentices were not trained by the J.A.C., someone else may end up training mechanics for us. He further stated that a program under MDTA would be and should be utilized by the J.A.C.'s. Mr. Roark stated there were forty-four (44) groups within the realm of government in the training field, and that he was sure that with these funds available, effective use of government funds would meet the complaints noted concerning the lack of manpower.

Mr. Roark mentioned the State J.A.C. in Ohio was preparing a proposal for MDTA funds and asked Mr. McCarthy to highlight the proposal. Mr. McCarthy stated the reason for the proposal by the J.A.C., in actual count the ratio of apprentices in Ohio is 1 to 100 journeymen. The average age is approximately 52 years of age. This proposal should provide funds to train adequate apprentices in Ohio.

The proposal provides for one (1) Project Director, three (3) Coordinator Instructors for a period of one (1) year. Their purpose is to stimulate interest with contractors to employ apprentices. They will work with Local J.A.C.'s. They will recruit the applicants. The Coordinator will conduct (6) week pre-apprenticeship programs and provide eighteen (18) hours of on-the-job training for each apprentice. All apprentices would be indentured and registered as they are now. The proposal provides for 140 apprentices in the first year and 100 in the second year, if the first year is successful.

At this point a general discussion took place, many questions were asked and answered. The body then recommended that the State J.A.C. continue to pursue funds from the Manpower Development & Training Act.

Mr. Keitler introduced **Mr. William Webb,** Regional Director, Bureau of Apprenticeship & Training, Region VI. Mr. Webb explained the problem the J.A.C.'s have encountered with Ohio Department of Health because apprentices are not registered properly.

Mr. Frank Oliverio made these comments: To get into a high school to recruit applicants - see the Guidance Counsellor. To get Pre-Vocational programs into schools, members of this group could be influential in helping to choose the desired programs.

Meeting was adjourned at 4:45 P.M.

CARPENTRY AND WOODWORKING TRADES

Wednesday **October 27**

CHAIRMEN

David Nahra, Contractor, Akron, Ohio

D. E. Bowman, Business Agent, Summit, Medina, Portage District Council of Carpenters, Akron, Ohio

SPEAKERS

Fred Weber, Executive Director, Vocational Education, Akron, Ohio

W. S. Coulter, Public Information, Columbus, Ohio

Harry F. Davis, Supervisor, Trade and Industrial Education Service, Ohio Department of Education, Columbus, Ohio

Leo Gable, General Representative, International Brotherhood of Carpenters and Joiners of America, Washington, D. C.

PANEL MEMBERS

Forest L. Sollmann, Secretary, Miami Valley District Council of Carpenters, A.F.L. - C.I.O., Dayton, Ohio

Joseph Beck, General Construction Superintendent, F.K. Minigan Construction Company, Dayton, Ohio

Paul H. Loper, President, Lake Erie District Council of Carpenters, Norwalk, Ohio

J. Neil Crowley, Assistant Secretary, A. Bentley & Sons Company, Toledo, Ohio

CONSULTANTS

Thomas A. Wendt, Representative, B.A.T., U. S. Department of Labor, Toledo, Ohio

Charles Thurman, Representative, Trade and Industrial Education Service, Ohio Department of Education, Hartville, Ohio

Milan Marsh, Executive Secretary, Carpenters District Council, Youngstown, Ohio

Joseph Loris, President, Loris Construction Company, Mansfield, Ohio

Ray J. Flory, Member, Ohio State Apprenticeship Council, Toledo, Ohio

RECEPTION COMMITTEE

Albert C. Scheer, Secretary, Ohio Valley District Council of Carpenters, Cincinnati, Ohio

D. E. Bowman, Business, Summitt, Medina, Portage District Council of Carpenters, Akron, Ohio

Paul H. Loper, President, Lake Erie District Council of Carpenters, Norwalk, Ohio

David Nahra, Contractor, Akron, Ohio

SECRETARY

A. E. Yutzy, Secretary-Treasurer of the Maumee Valley District Council of Carpenters, Toledo, Ohio

CARPENTRY AND WOODWORKING TRADES

(First and Second Sessions)

Mr. David Nahra, Acting Chairman introduced the first speaker, **Mr. Fred Weber,** Executive Director of Vocational Education, Akron, Ohio. He spoke as follows:

"Let's understand first that I do not come before you as an expert on apprenticeship training. Rather, I'm a school administrator in a big city system with one of my major responsibilities being Vocational Education—along with Interscholastic Athletics, Physical Education, Health Education, Driver Training, Industrial Arts, Home Economics, Distributive Education, Practical Nursing, and special assignments as the occasion demands and the boss decrees.

"For a few moments, you will be listening to views of one whose background is academic—or was until a half dozen years ago. In recent years, I've learned a lot in the area of training, and I feel that Apprenticeship is one of the most interesting and among the very important. Having attended these conferences a number of times, maintaining silence, and listening, now hear this.

"Prior to an assignment in Vocational Education, my conception of the status of Apprenticeship training was pretty vague—a period of semi-servitude in which a young man could work and learn for an indefinite period of time, if he had a father, or perhaps an uncle, who would take him on, and then he could join the ranks of the 'Drunken Plumbers', or some other, and ply a trade.

"I had some hearsay information about a pretty fair industrial apprenticeship program in one of our factories at home. The impression was that this was practically unattainable and you had 'to know some one', to get in, thus, we point up problem No. 1 — not enough people know about Apprenticeship Training—especially the young men who are the likely candidates. School principals and counselors are not too well informed; but we've found that when they are, they become enthusiastic.

"This is a good place to point out to you that educators when informed look upon apprenticeship training as one of the finest and most sensible approaches to education. To combine the talents of contractors, labor, and the school, into joint apprenticeship committees in which the needs are made clear, the training planned, the curriculum built, and proper materials and facilities are identified, is to insure adequate training. Our Board of Education is enthusiastic about it.

"The Apprentice Program of Related Instruction in our community is conducted by the Adult Vocational School along with Pre-Employment Training and Trade Extension. **Mr. Jesse Gerber** is in charge of this school under the direction of **George Wetzel** who is Director of Trade and Industrial Education. Both are involved in the various J.A.C.'s. Both are here if you have questions or discussion when I am through.

"Here are some observations based on observations of our local program which currently enrolls nearly 600 apprentices and 40 instructors in seven building trades (Bricklayer, Carpenter, Cement Mason, Electrician, Sheet Metal, Painter and Plumber) and in pattern making, machine shop, and industrial programs at Chrysler Motor and Firestone Tire and Rubber. You will detect problems together with accomplishments.
Six observations:

-1- There is the occasional personality problem, but the best of relationships exist between the school, industry, and labor. J.A.C. members of all three give unlimited time and effort to the task. Some are better than others. I would suggest here that regularity of meetings is a requisite for continuity, progress, keeping up to date, and looking to the future.

-2- Public schools need to go all out in providing facilities. Ours do - within the limits big cities find themselves faced with. Recently, our plumbers needed a laboratory facility. We found space under the grandstand which used to be part of the county fair grounds, next to our auto shop.

The Board spent a tidy sum in plumbing and wiring, contractors donated the equipment, and labor did some of the work. We're in business. Good facility. The training time has been increased by 50% to get done the job all three felt needed to be done with the boys. In other programs, suppliers furnish the materials we need, copiously and gladly.

-3- The foregoing indicates the need for a brief mention of that old bugaboo - finance. We have had some differences over the matter of tuition. We keep the charge to trainees at a minimum, but we feel that a tuition charge adds meaning. Boards of Education are constantly pressed for money. The pay scale is not always adequate to get the calibre of instructors needed. We combat this in ways familiar to most of you, but the gratifying thing in this respect is that a quality program will attract at least **some** instructors who place money **second**, love of job and value of program **first.** We point with pride to college graduates and industrial experts sprinkled through our apprenticeship instruction staff.

-4- I have observed steady progress in recent years with three problems common to all of you.

(1) Selection procedures - requiring candidates to be high school graduates or the equivalent; working in cooperation with employment service, testing and studying interview procedures can reduce mortality from as high as 50% to as low as 5% over a 4 or 5 year period. We have experienced this. A good test to apply is whether a boy is just looking for 'A Job' or can he see he needs and wants **training.**

(2) Curriculum—here is an area which demands that J.A.C.'s meet regularly plus being on call on occasions. As mentioned before, in one we have increased training time by 50% just because it is 1965 and 1970 is pretty soon.

(3) Records - the approach of the teacher to student in the classroom, augmented by the employer-employee relationship on the job, and the role and responsibility of the worker to his labor organization—when these three are coordinated fully, you have a sure-fire

success formula. In working this out, attendance records, grades, and students-school policies are invaluable.

-5- Another important observation. Give stature and status to your training. Recognize achievement through graduation ceremonies, wine and dine the graduates, make awards for perfect attendance, high academic standing, etc. Make a ritual of the presentation of local, state, and national certificates. I have seen the positive effects of these things. In my short half dozen years, I have seen, just by **looking, knowing** very few graduates personally—that the caliber of apprentices becoming journeymen has improved perceptibly and steadily. You can look at graduates and see without question, good material for future instructors (we have them) and men important to the industrial system as leaders.

-6- My final observation is this—the steady attention by J.A.C.'s to some of the things mentioned can and will result in an ever-increasing caliber of product. I see the need in some areas for journeyman training, because, as you know, it is not uncommon for a journeyman to be sitting on the bench while a quality apprentice graduate is being snapped up as a superintendent or foreman.

Now, about you Carpenters—to quote from **George Vrabel** when he spoke at last year's conference in Columbus, Ohio, he said 'The output of the skilled craftsmen today is declining in our industry whether we believe it or not. The first of this year, we had 987 apprentices in the program. The latest report—June 1st showed only 917 with in the program. 'We can sit back and watch this program decline and keep on declining or we can take interest in it and then never have to worry **where are we going to get the craftsmen** to supply the demands of the industry.'

"The decline George referred to has been arrested. Our beginning carpentry apprentice classes this fall represent an increase of 300 per cent. Machine shop increased 60 per cent. Industrial programs 100 per cent. We are on the upswing. We realize we have found ways to attract and train quality people. We must work hard to keep it up.

"In closing, I'll revert to the academic—as I see it, the biggest problem of all is the fact that not enough fine young men are receiving the splendid opportunity to pursue apprenticeship training in some areas. Eighty-five per cent of our high school students are pursuing college prep or general courses in Ohio. I won't enlarge on statistics, but not nearly that number actually enter. Among those who do not, there are thousands to identify and train as craftsmen. We must find ways to do this."

Mr. Nahra introduced the second speaker, **Mr. W. S. Coulter**, Public Information, Columbus, Ohio, who was substituting for Mr. Thomas Gallagher, Supt. of the Division of Safety and Hygiene. Mr. Coulter's topic was "How a Safety Program can be Conducted in an Apprenticeship Program."

"Safety programs for certain segments of industry are being written by those who are directly connected with this type of industry as they are on the ground floor and they know what the industry needs in safety programs.

"Safety is a product that the Division of Safety & Hygiene is selling to labor, management and industry.

"The necessity of safety programs in apprenticeship training is obvious. Training an apprentice in the necessity of job safety not only makes him safety conscientious but a better mechanic mindful of his welfare and his employer also.

"Films for Visual Education are available in safety on the job. The films cover safety problems in various types of construction. Films can be obtained from the Division of Safety & Hygiene but sample time should be allotted in ordering same as the demand for all films must come from the Columbus office.

"Where journeymen apprentices have the proper on-the-job safety training, the ratio of accidents is reduced from a 5 to 1.

"Everyone interested in safety must take an active part. The accident frequency rate last year was the lowest in years.

"A committee of any size could be established to keep advised on safety programs needed to teach apprentices in any branch of the Building and Construction Industry.

"The industry can send men to learn on-the-job safety and then have them return to their branch of industry and teach others.

"The contractor who travels in the construction field is constantly training new employees to keep the accident ratio on the job at a low level.

"The Division of Safety and Hygiene has 127 empoyees of which 70 are in the field."

A panel discussion followed the remarks of Mr. Weber and Mr. Coulter.

The question and answer period took up the rest of the time allotted to the morning session of which there were 37 persons in attendance. Section adjourned at 12:25 P.M.

* * *

Chairman, **D. E. Bowman**, introduced the first speaker, **Mr. Harry F. Davis**, Supervisor, Trade and Industrial Education Service, Ohio Department of Education, Columbus, Ohio, who made the following remarks:

"By 1970—just five years from now - it is projected there will be 85 million Americans at work or looking for jobs. Almost 20 million of these Americans will be young people 14 to 24 years of age. 50,000 young people in this age group are entering the job market every week. 7142 a day — 297 every hour — 5 every minute. Since I acknowledged to the chairman and made my opening remarks and to this moment - approximately 10 young people in this country became a candidate for employment.

"Education, or the lack of education has, and will continue, to play a most important role in the success or failure of these young people - to find - and to hold a job. For approximately 1/5 of these young people will not be employed. Many who are employed will lose out to job changes.

"Actually - more jobs are looking for people than there are people looking for jobs. True - we have four million unemployed in this country today - but have you looked in the want-ads lately?

The newspapers are loaded with advertisements for men who can perform the needed skills and services of an increasing - fast moving technical society - men and women with the training and ability to meet the challenge of automation.

"There has been a constant fear that automation will erase skilled labor, and in fact, most jobs. If we were to start counting the skilled occupations automation has erased so far - we couldn't even use up one hand-full of fingers. But, by the same token, if we were to count the jobs (unskilled - semi-skilled) that automation has erased - all the fingers in this room wouldn't be enough. Yes, even the nature of skilled occupations has been changed - even more significant have been the results.

"To illustrate — many of you enjoy getting into your modern automobile - made comfortable and easy to operate through the automation adopted by the industry and sometimes only two weeks after it first started through an assembly line - and driving that modern piece of machinery over the old roads to take in the beauty and quietness of the countryside.

That **old** road probably was the main road of twenty years ago - which has been replaced by a modern 4-lane highway. While you drive on the old road - you notice it follows the contour of the land, if there is a hill ahead, the road takes the lowest part around the hill or along its edges to the top. Today - they cut a path through it - or slice a path up it - or even totally remove the hill. Just how many skilled jobs did modern automation erase in this industry? No, it will be a long time before a machine can make a machine. Machines can duplicate man's thoughts, but they will never duplicate man's dreams.

"Let's go back to these young people who are entering the job market. The number who have entered since I opened is now up to about 20 or 30. Let's look a moment to see what education means for their future.

"If I did my mathematics correctly — according to statistics — about 35% of these young people did not receive their high school diploma. Many of these dropped out of school before they reached the 10th grade. The majority have no saleable skills to offer an employer. Some will serve an apprenticeship and reach the skilled — journeyman level—but, only after renewing their acquaintance with education.

"There is statistically a direct relationship between un-employment and years of completed schooling. Plotted statistics show that the less years of school attained by an age group, the more un-employment will exist in that same age group. To further emphasize the relation of education to successful employment - government studies show that over a working lifetime, high school dropouts earn $32,000 less than high school graduates.

"A study made by the National Chamber of Commerce shows that the grammar school dropout earns an average of only $3100 a year. Statistics show that the relationship between education and employment is measurable in terms of dollars. And dollars have a direct relationship to the economy of our country.

"So — it is not surprising that education is progressing in this country to raise the attainment of every person. It fluctuates back and

forth because of the inadequacies of man to determine what education is best for the masses.

"You remember Sputnik and the concerted effort in education to convert the classroom into a scientific laboratory - **until** we realized that someone had to make the laboratory equipment - and build the launching pads - and build the laboratories - and service the equipment. We forgot the education of the craftsman and the technician. We forgot that his need for knowledge increased in a larger proporion. So — we re-tooled to meet the demand.

"We have learned that the capability of man's mind has only been pierced to just below the surface. The new methods in education are reaching and penetrating faster the attainment of success in learning. The three R's are learned faster today - supplemented by science. The ability to do the three R's is established early.

"Have many of you tried to help your children do their homework lately? That just **may be** Greek they are studying. Yes - there is a pre-requisite for employment today - Education. The effect on apprenticeship is being felt. The demands of necessary education to fulfill the requirements to enter apprenticeable trades will increase because of the change in our technical society. The environment of your job today will not be recognized tomorrow.

"The relationship between education and employment is known. The change in your job and mine has been projected. How we get the two together - job and education - and impart this knowledge to young people still remains a problem. But we had better hurry. Already in the last 20 minutes or so - over 100 young people were disappointed."

Chairman, **D. E. Bowman** introduced the second speaker, **Mr. Leo Gable,** General Representative, United Brotherhood of Carpenters and Joiners of America, Washington, D. C.

Mr. Gable's speech as follows: "The Carpenter Apprenticeship Standards and Their Application to Local Apprenticeship Training".

"The National Joint Carpenter Apprenticeship and Training Committee composed of representatives of the United Brotherhood of Carpentry and Joiners of America and the National Association of General Contractors of America, Inc. have revised their National Joint Standards this year.

"In making our revisions we considered the changing aspects of the building industry and the need for streamlining the work processes and the inclusion of new materials and techniques.

"The Revised Standards include Standards for

(1) Carpenter apprentices
(2) Millwright apprentices
(3) Mill-Cabinet apprentices

"Further, the Standards provide for future expansion, as new needs for training develop, by permitting the addition of supplements to these Standards when jointly agreed to by the members of the National Joint Committee.

"Included as a part of each of the three Apprenticeship Standards is an outline of the Related Instructional Topics that are to be considered as a minimum for the related training programs. To assist

the instructor a list of the recommended Text and Reference books are included.

"It should be noted that section 9 of the Revised Standards dealing with the **Selection of Apprentices** does not include all of the language recommended in Title 29 Section 30 from the U. S. Department of Labor. The National Committee objected to certain provisions of Title 29 Section 30 notably that applicants should be selected on the basis of merit alone and without regard to sex and physical handicap. Therefore, the Committee prepared their own statement on selection.

"Incidentally, these Standards including the Committee's Statement on Selection of Apprentices have been approved and registered with the U. S. Department of Labor, Bureau of Apprenticeship and Training as attested to by the letter addressed to the National Joint Carpentry Apprenticeship Committee and signed by Mr. Hugh C. Murphy, Administrator.

"Now on the Application to Local Training Programs.

"Those of you who are members of the United Brotherhood of Carpentry will know that our Constitution and Laws provides that the First General Vice President is responsible for the development of uniform procedures and training materials to be used in the organization of apprenticeship programs and the related instruction of apprentices throughout the jurisdiction of the Brotherhood.

"It is also the intent of the National Joint Committee to bring about greater uniformity of training and higher standards of efficiency and service for those entering all branches of the field of carpentry, regardless of the locality of their training, than has been achieved in the past.

"Therefore, the National Standards do have an important and vital bearing on the Local Training Programs.

"The National Joint Committee being fully aware of the needs of local committee for assistance in complying with new government apprenticeship regulations have prepared a qualifying test for apprenticeship and training applicants and the Brotherhood Committee has revised the apprentice application, apprentice agreement and the master record keeping system, thus providing the means whereby local joint committees can be assured they are in compliance."

Panel discussion followed the two speakers. Panel composed of **Mr. Harry F. Davis, Mr. Paul H. Loper, Mr. J. Neil Crowley** and **Mr. Leo Gable.**

The question and answer period followed the panel discussion and took up the balance of the afternoon session.

Motion by **Mr. Joe Loris** and seconded by **Mr. Paul Loper** to give the two honored guests who were speakers at this afternoon session a vote of thanks for the wealth of information they were able to give us in their speeches and discussion period this afternoon. Motion carried.

Mr. Leo Gable spoke about the selling job needed in getting the contractors to take a more active part in apprenticeship training as a lot of contractors and builders are contributing through certain apprentice funds and do not have any apprentices in training.

Session adjourned at 5:00 P.M.

CEMENT MASONS, LATHERS, AND PLASTERING TRADES

Wednesday **October 27**

CHAIRMAN

William Letcher, Business Representative, Operative Plasterers' and Cement Masons, L.U. #1, Cincinnati, Ohio

SPEAKER

Alan Montague, Supervisor of Field Engineers, Portland Cement Association, Columbus, Ohio

REMARKS

Augustine E. Birch, Supervisor, Apprenticeship Information Center, Cincinnati, Ohio

John R. Anderson, Local 801, Dayton, Ohio

Donald Snyder, Cement Masons 886, Toledo, Ohio

Salvatore Scherma, Cement Masons #404, Cleveland, Ohio

Eddie Campbell, Business Agent, Cement Masons, Local 524, Cincinnati, Ohio

Gilbert Wolf, Instructor, Bureau for Lathing and Plastering, Cincinnati, Ohio

Hugh M. Smith, Timmons Butt & Head, Inc., Dayton, Ohio

Walter Sells, Coordinator, Board of Education, T & I Education, Toledo, Ohio

CONSULTANTS

Paul Sherck, Representative, Trade and Industrial Education Service, Kent State University, Kent, Ohio

Joseph L. Phillips, Representative, Bureau of Apprenticeship and Training, U. S. Dept. of Labor, Columbus, Ohio

Charles Overly, Secretary-Treasurer, Plasterers' and Cement Masons' Local Union #49, Columbus, Ohio

SECRETARY

Frank Saffel, Business Representative, Operative Plasterers' and Cement Masons' Local Union #524, Cincinnati, Ohio

CEMENT MASONS, LATHERS, AND PLASTERING TRADES

(First & Second Sessions)

Mr. William Letcher, Business Representative, Operative Plasterers' and Cement Masons, Local Union No. 1, Cincinnati, Ohio, called the meeting to order at about 9:45 A.M., after welcoming the conferees, and then turned the meeting over to **Mr. Alan Montague**, Supervisor of Field Engineers, Portland Cement Association of Columbus, Ohio.

Mr. Montague passed out a list of available films that would be applicable for use at union meetings and apprenticeship schools. These films are available free of charge by writing or phoning the Portland Cement Association. He stated: "We send them out with a return address card so all you have to do is paste it on and return the film to us. These films would only be of interest to the cement masons. In my opinion, we do not have anything for the plasterers, but we do have a piece of literature about which I will tell you later on."

Mr. Montague proceeded to show a film entitled "Concrete in the Sixties", explaining the film and pointing out that contrary to what many may have thought, the precast units used on precast buildings shown in the film were cast and finished on the job.

"Every year we put out a new movie. We try to keep up on the latest stuff that is happening - new techniques in finishing, different types of structures, etc. Precast stuff is not finishing on the job as we have done it; it is a new era. We are trying to get a market for concrete that we do not normally have: wall construction, how to make patios and how to make loops and curlicues, etc.

"All the movies we put out are equipped to help you with your finishing in any way you like. We can provide these movies for you; we can obtain literature, or we can help you with the classes wherever it is necessary, and we are always willing to do this.

"The book I am now holding is the instructor's manual. How many of you are familiar with it? I know you are using it in Cleveland. This is a book that was made up specifically for teaching in high schools and in cement mason classes.

"This book gives you, I would say, a year's course in concrete technology. It is a very good manual and copies of it are available free of charge through the Portland Cement Association.

"I believe the International charges $2.00 a copy for your student manual which is no different from the instructor's manual, other than it is not as big a book being that it does not contain construction pages. The instructor's manual has more material in it since it was developed for use in your cement mason classes. It is being used in trade schools as just a trade course. But as I say, this manual is available to you for your cement masons' apprentice classes and it works out quite well. For your information, it would not be bad to have one.

"We need very desperately in the concrete industry today - technicians. - journeymen with technical knowledge of concrete and concrete design. The Portland Cement Association now has such men; however, many more are needed in the industry.

"Now I am not being derogatory because I have worked with you guys too long to feel that way, but you know some of you boys just aren't as good as some of you other boys. Some of you learn a little faster than the other fellow and so everyone is not gifted with the ability to be a good finisher, and certainly everyone is not gifted to take that ability and teach it to others.

"As you noticed in this film, the trend is to decorative concrete, to special finishes, and precast work. We have had inquiries from many places that are building these precast units, these fancy decorative panels, etc. for a man who can work with this concrete that knows what it takes to finish it and mix it and get it into place. See what they are looking for?

"They can hire an engineer who can slip the slide rule and say, 'Yes, boys, this is the right concrete.' But a lot of this stuff is being put into areas where we never tried to put concrete before, and we are using a lot of different materials which you guys are not too fond of, but nevertheless, this is the present trend.

"We desperately need the men who can tell us whether or not a particular method is right. There are certain things I know, but I am not a finisher. You have to be a finisher to understand whether you are using the proper materials under the right conditions.

"The finisher says, 'It is not right.' We need someone who can make it right. The engineer does not really know what the problem is, does he? The finisher knows what the problem is - he knows there is something wrong, but the need is for a guy with enough education to design this light weight aggregate, pearlite, or hard granite stuff — anything you want to talk about, in a measure that is right in the plant.

"We are talking about precasts for now, about a new growing industry in the United States, and they definitely need these boys. True apprenticeship skill is the only way I know of for me to be able to sell somebody on the idea that this is a necessity. It must be someone who is willing to study and work hard to become a finisher because this is a desperate need.

"We tried for three years to find a journeyman finisher to work with the Portland Cement Association as a lecturer and a demonstrator for cement finishing techniques, and we now have one. He is available for 7 states throughout the midwest, so we only get 1/7 of his time, but it took us a long time to find a guy who could do the things I was talking about. For everyone we find, we need 100 like him.

"Every big ready-mix operator in Ohio could use the man I described. Most of them now have a technician of some kind to do their mix design. Almost every big ready-mix man in Ohio has salesmen out on the job. Think what a salesman would be who was also a cement mixer. I believe that this may be something you haven't thought about.

"We think eventually that ready-mix people will want to have on their staff a man who is carrying a union card. Perhaps you don't care whether he does or not, but what I am saying here is this 'We have a need for the men who are familiar with ready mix concrete'.

"I think we should be able to sell contractors on the idea of apprenticeship and tell them that the horizon is unlimited. When you go out, recruit these apprentices and talk to them about studying to learn the techniques of the trade.

"It takes about a year or year-and-a-half before these fellows begin to realize that there is more to it than just the ability to finish. I know that if we are able to get across to these boys that just a little bit of this book learning is going to be of benefit to them, it is going to be useful.

"In closing may I repeat again that we have people available to help you with your apprenticeship programs and to demonstrate methods of applying various textures and finishes on concrete surfaces. Our films are available to you as well as our literature.

"We have worked together and shall continue to work together as we have more to do to promote apprenticeship training in our industry."

Mr. Letcher thanked **Mr. Montague** for a very comprehensive discourse and a very constructive movie.

Mr. Augustine E. Birch, Supervisor, Apprenticeship Information Center, Cincinnati, Ohio, was then introduced and he explained the function of his organization. The information Center gives aptitude tests to potential apprentices, and after the testing they determine from the testing procedure for what trade or industry the applicant is best suited. They also refer these applicants to the various trades, upon the request for such people from the trades.

Mr. John R. Anderson, Local 801, Dayton, Ohio, remarked "I have been working a long time with the Civil Rights Committee and I have been advocating the same thing as Mr. Birch—more education and training for young people. I am in full accord with the concept of apprenticeship training."

Mr. Donald Snyder, Cement Masons 886, Toledo, Ohio, reported on the desire of International Organizer, Donald B. Johnston, to initiate an apprentice program for Heavy and Highway construction and through the Ohio Contractors Association's Collective Bargaining Agreement with O.P. & C.M.I.A. It has been proposed that the apprentice be indentured to a state committee, he said.

Mr. Snyder expressed his concern about training of apprentices specifically for road work. He said "What we have in the Toledo area is a Joint Apprenticeship Committee. The boy is indentured to the Joint Committee and through this three-year apprenticeship training program, this committee moves this boy from highway, to house work, to commercial floors, to basements so that he gets a well-rounded education in the trade of the cement mason. If they indenture people in highway work and they stay on heavy highway work only, when this work ends, all you have is a bunch of unqualified cement masons. We can't let this happen. These apprentices must have a well-rounded education as a Cement Mason."

Mr. Salvatore Scherma, Cement Masons 404, Cleveland, Ohio, also commented about the disadvantage of having apprentices work on road construction for an extended period of time.

"They learn only so much on the road and do not get the diversification that makes a good journeyman. If he works with a contractor

on road construction for say two years, and then is placed with a home construction contractor, his pay scale is too high for his lack of knowledge on home construction; therefore, the contractors balk at employing highly paid apprentices who are incapable of performing the type of work they need."

Mr. Eddie Campbell, Business Agent, Cement Masons, Local 524, Cincinnati, Ohio, inquired where the apprentice could receive related instruction.

Mr. Snyder reported that it has not as yet been set up.

Mr. Joseph L. Phillips, Representative, Bureau of Apprenticeship and Training, U. S. Department of Labor, Columbus, Ohio, related the position of BAT by informing the group that BAT is insistent that apprentices receive the diversification that their work schedules call for and that they receive a minimum of 144 hours of bona fide related instruction per year in order to qualify for a certificate of completion for apprenticeship.

"It is the responsibility of all concerned to assure that accurate records are kept regardless of the manner in which related is acquired. It can be in local systems, in evening classes; it can be in accepted correspondence courses, or it can be in home-study assignments, but there must be an accurate and bona fide record of the number of hours spent in related.

"It is true that a contractor opposes paying a second or third-year apprentice his rate if he is absolutely incapable of performing any of his needed tasks because of lack of experience. It would be ideal if the state committee could be established and apprentices indentured to that committee and moved rather frequently from road to home construction so that they would gain experience in both. This then, would make them valuable throughout their whole apprenticeship in both road and home construction."

Mr. Gilbert Wolf, Instructor, Bureau for Lathing and Plastering, Cincinnati, Ohio, reported on training in the Cincinnati area. The situation there is unusual in view of the fact that this J.A.C. insists that new apprentices be started as apprentices, then become journeymen to sustain the number of men the industry needs in long-range projection.

"This is in spite of the fact that for the past year or so the construction industry has had such a small amount of work that many journeymen are sitting idle. You cannot, for the good of the industry, constantly vary the number of apprentices on spasmodic work conditions.

"They train apprentices how to handle 4 x 8 sheets and try to keep abreast of the main technological changes that are occurring, and will occur in the future.

"The plasterers may adopt a 1¢-per-hour training fund. The lathers now do.

"Cincinnati moves their apprentices around into different situations to keep them going because the work is so bad in Cincinnati.

"He related he has a dual job, as he represents the plastering industry and is also a teacher of the apprentices.

"In industry promotion the apprentices do civil projects. Last year they worked with the zoo to make an Otter Island. The boys

worked on their own time and all material was furnished, and the finished project donated to the zoo. This year they are going to sculpture two life-sized horses for the Park Board. This will also be donated. This is the type of project that people can enjoy and is real good industry promotion.

"Another thing they do to provide good experience for apprentices is take them to sites where materials are made. It helps the apprentice know more about the material; therefore, he is more adept in its use."

Mr. Letcher stated that other industries could profit from similar projects. "In Cincinnati they had to drop five apprentices in the plastering trade because they lost interest. Some of them were even related to the journeymen and contractors. This highlights the importance of careful selection to assure that the apprentices have all the necessary interest to become journeymen, and their training especially in related instruction is so important to the interest."

Mr. Campbell: "It is also now quite obvious that the upgrading of journeymen to keep them abreast with the changing times is as necessary as training apprentices In fact journeymen who do not receive any upgrading courses are often bypassed by men who are still apprentices in their knowledge of the industry needs and the use of new equipment."

Mr. Hugh M. Smith, Timmons Butt & Head, Inc., Dayton, Ohio, remarked "Dayton has a 2¢-per-hour training fund which is working out very well to provide the financial needs so that apprentices can have the finances that will permit many training experiences that could not be had without the advantage of this fund."

Mr. Walter Sells, Coordinator, Board of Education, Trade & Industrial Education, Toledo, Ohio, spoke about education in general and its benefits.

"Kent State University recognizes 7 years of in-trade employment and certification of instructors. If he has been processed through a 4-year apprenticeship program, then 3 years of in-trade employment will qualify him for certification.

"There is a close relationship between the Vocational Schools and good apprentices. Selection of apprentices who are enthusiastic and interested in apprenticeship make for much better journeymen, and graduates of the Vocational Schools are a good source of good apprentices."

The following summary was then given of the points of interest discussed during the two sessions of the conference:

1. Apprentice Information Centers, their purposes and effectiveness.
2. Apprentices traveling from the jurisdiction of one program to the jurisdiction of another program and what effect this would have on the apprentice's related training.
3. A state joint apprenticeship committee to coordinate and unify the curriculum of the various programs throughout the state.
4. Ways and means to send qualified applicants from an area with high unemployment and a surplus of qualified applicants

to an area enjoying full employment with a shortage of qualified applicants.

5. Apprentices presently registered in the three trades in Ohio

Cement Masons	97
Lathers	21
Plasterers	19

6. Utilization of pre-employment training programs through M.D.T.A. in localities where there is a shortage of qualified applicants.

Meeting adjourned.

ELECTRICAL TRADES

Wednesday **October 27**

CO-CHAIRMEN

Jerome Lyons, President, Mutual Electric, Inc.; Chairman, Joint Apprenticeship and Training Committee, Dayton, Ohio

John Allen, Instructor and Member Electricians Joint Apprenticeship and Training Committee, Dayton, Ohio

OPENING REMARKS

Russell Lane, Business Manager, Local Union #82, I.B.E.W., Dayton, Ohio

SPEAKERS

George Pennington, Chief Electrical Inspector, City of Dayton, Dayton, Ohio

H. B. Blankenship, International Vice President, Fourth District International Electrical Workers, Cincinnati, Ohio

Lee Kletzly, Ohio Bell Telephone Company, Dayton, Ohio

Robert J. Coates, Ohio Civil Rights Commission, Cincinnati, Ohio

Andrew Phillips, Assistant Director, National Apprenticeship and Training Committee for Electrical Industry, Washington, D. C.

PANEL MEMBERS

Harry E. Wells, President, Local Union #82, I.B.E.W., Dayton, Ohio

Dave Snead, President, Bohn & Snead, Inc.; Member, N.E.C.A., Dayton, Ohio

Dr. D. H. Price, Department Head, Trade and Industrial Education Service, University of Cincinnati, Cincinnati, Ohio

Lowell Mittlehauser, Vice President, Garber Electric Co., Springfield, Ohio

CONSULTANT

E. R. Puterbaugh, Representative, Bureau of Apprenticeship and Training, U. S. Department of Labor, Dayton, Ohio

RECEPTION COMMITTEE

The members of the Dayton Joint Apprenticeship and Training Committee for the Electrical Industry

Russel G. Lane
Hank La Chance
William Traynor
John Allen
Charles Helldoerfer
J. P. Lyons
Carroll Studebaker
Robert W. Haines

SECRETARY

Dorothy H. Case, Official Stenographic Reporter, Centerville, Ohio

ELECTRICAL TRADES

Mr. Russell G. Lane, Business Manager of Electricians Local #82, I.B.E.W., Dayton, Ohio, opened the meeting by welcoming all the delegates on behalf of the Dayton Electrical J.A.T.C. He gave credit to the various members of the Joint Apprenticeship & Training Committee who were responsible for arranging the program, and then introduced **Mr. Frank Elardo,** Owner of G.E.L. Electric Company as Master of Ceremonies for the morning session.

Mr. Elardo made a few remarks and then introduced the first speaker for the day, **Mr. H. B. Blankenship,** Vice President of the I.B.E.W., and his speech 'Apprenticeship—Our Promise to the Future.' Mr. Blankenship spoke as follows:

"Although I did not elect this subject about which to speak, I think that probably this covers the most important and the most explanatory reason for apprentices at all. Naturally, we all grow older as the years roll by. Naturally, we are interested in our industry. One, because we have helped build it from a rather haphazard installation of unknown things called electricity, and most of us have given our life to the industry and of course received many rewards in the process of doing so and one more is that most of us look forward to receiving a small portion of protection from the industry, and; therefore, we want to leave it in good hands when we retire and step down.

"I have thought that we would expand a little bit on on 'Our promise to the Future', and of course, this theme will not be a surprise to some of you. Some of you may take issue with me. I took the precaution earlier and got a promise from Pat Patterson from Akron, Ohio, in case you people do throw me out, however, I do not believe that will be so unless there are too may present apprentices in the room.

"I think there is no doubt that we have made progress, and we have better mechanics and better facilities and more equipment, but the question arises, are we going to give too much attention to the highly technical aspects of the training and neglect the area in which the journeyman will be spending the best portion of his time? It is true that the well trained journeyman of today must know the basic and should be trained in the modern methods in this industry.

"There is no question about that, and I believe the apprentice program is doing a wonderful job along these lines. The fact remains that conduit must be bent and installed and wires and cable should be pulled, motors and panel boards must be installed on the job and a certain amount of fabrication must be done on the job, and houses must still be wired and, of course, in most of these issues you get your hands dirty. In some cases, it requires the putting out of muscle power.

"My concern is that we might possibly be attempting in some cases to make electrical engineers out of our apprentices and overlook the fact that once we make electrical engineers out of these journeymen, they might feel put upon when somebody tells them to get in a

ditch to install some conduit and get their hands dirty by pulling in some cable.

"We must not train specialists. We must remember to turn out journeymen. I know that this is not strictly the trend. I believe that it is possible; that we should still remember that although we would like to believe that the electrical construction industry is a profession, and I will agree with you that it is to a certain extent, and there is a lot of manual labor connected therewith, I would like to suggest that you re-examine the matter of discipline and review the problems of many of the apprentices and training committees, and in so doing we would get the impression that there is a critical shortage of young men. You know, and I know that the opposite is true. We have a backlog of applicants for apprentice training.

"You that are on the committees and in this program give a lot of attention to the attitude and aptitude and so forth in the selection of apprentices. This should not be confined to the selection of these men and the attitude of the young men that you are spending your money and time on to train to take your place in this industry. I believe it follows that if he is going to be a good journeyman his attitude of cooperating, of learning, of cooperation with the training committee and the director, where you have one; his learning and preparation of his assigned subject, his attendance at the classes and so forth, would be an important thing.

It is my opinion, and I believe that you will agree with me, that if the young fellow that you are training has this attitude during the years that he is going to the apprentice program he is going to make the type of journeyman that we would want to be proud of. I urge the committees to adopt strict rules and see that they are enforced in seeing that the apprentice that you are giving your time to will be worthy to be a journeyman in this industry.

"You might ask, what rules and how should they be enforced? I would like to suggest a few. You know most apprentice programs provide for eight to ten months, most of them are eight month periods, at the end of which time the apprentice receives a wage increase. This applies to the apprentice who barely manages to remain as well as the best student. I would suggest that this be eliminated and substitute therefore eight grades.

"The progress of the apprentice would be reviewed at the end of each period to determine if he should be passed along to the next grade. Now, I know that this is a very good subject to argue over. What I have in mind is that there must be an incentive for the apprentice to prepare his subjects and for him to attend classes although it might be convenient for him to do so. Now, so many of you are or will have one or two or three apprentices that do not show the cooperation you need. You will get your committee together and hold a meeting to talk with him.

"I agree that you should do this once, at least once. You give up an evening, your evenings just because he is not fulfilling the obligation that he has. He is receiving an education that he could not receive any other place in the world and he is assured when he completes his education of a job in an industry that carries some of the highest wage rates and incomes in the construction industry. All of this is done for him. The least he could do is to appreciate, and I don't mean that he

gets on his knees to you, but he could show his appreciation by doing the things that are assigned to him and required by the committee.

"I suggest that when an apprentice is in danger that he be given, in writing, the requirements that will keep him in the program and that he be required to strictly adhere to those requirements. What I mean is that the training committee develop rules and regulations whereby when he is in danger that you say to him, 'These are the conditions under which you will have to operate and you will have to comply and if you do not, then you can no longer participate in our program.'

"I know you have called your apprentices in, and it sounds, I suppose, that we are rather soft on them from time to time, and I have talked to a few apprentices, and I have never heard so many excuses from them, but I believe they should have this in writing for two main reasons; one is that we do not want to waste your time and your money in training a journeyman . . . you know, I don't want to call attention to the reporter here, but I did, almost . . . well, you know the most popular part of the training is, and what the young men say, that, 'pay day is good and you know what the boss is.'

"If the young man doesn't get interested enough to cooperate then he should be in something else. Let him become a doctor or a lawyer or something like that. We want the best in our industry. I don't expect you to go back home tomorrow and adopt this program, but I would urge that all of you who are interested in this training program, I suggest that you do consider these subjects and suggestions and start thinking along those lines. To me, and I don't believe I am being too tough, but see that this apprentice gives his attention and cooperation, or get him out of the program.

"We will hear from some of the best and they will say that we will wind up short in this training program, and we might indenture fifteen or twenty each year, but if we do these things, we might only graduate, say, ten, or twenty men. Well, in the first place if that seems to be the trend, then indenture a few more. Another would be that if you do wind up with a few short you certainly will have a more efficient journeyman.

"Thank you very much. I appreciate being here. I am glad that Pat could stand by. Thank you very much."

Mr. Elardo remarked "Thank you. Do you have any questions? This is the question and answer period."

Mr. Clarence Kistemaker, Local #38, Cleveland, Ohio, asked "Are there by any chance locals, along this line or subject, is there a copy or do you have a copy of the presentation they would make to the apprentice?"

Mr. Blankenship: "Do you mean the rules?"

Mr. Kistemaker: "Has anyone set up any in this line?"

Mr. Blankenship: "No, I don't have anything of that kind. I would not recommend that we try to put out a standard. I believe that you, on the committees, should develop those regulations yourself. Of course, according to areas it might be necessary to vary this. As an example, the apprentice and training on inside construction it varies enough from the outside to warrant this. Mr. Phillips might have something along that line. We do not need hard and fast rules."

Question (party unidentified)

"Might I have your opinion on the national electrical construction material for apprentices, and do you believe that one instructor should stay with that group four or five years?"

Mr. Blankenship: "In my opinion, yes. I believe if it is possible for the instructor to stay with them, provided that he is right kind of instructor, but I mean certainly he gets to know his people and the answers, and the personalities of the people, provided he does not get too 'buddy-buddy' or too soft in handling the apprentice. As to the other, well, I am not too familiar with the material, but I am sure you will get a chance at Andy Phillips on that a little later on. He is quite familiar with this material."

Mr. Elardo: "Any further questions. Well, could we go forward now with our other speaker?"

Mr. Lane: "Yes, I think so. Go ahead."

Mr. Elardo: "The meeting will come to order. Our next speaker is Sales Manager of Ohio Bell Telephone Company Marketing Department. He joined Ohio Bell in 1961 and was transferred to Dayton in 1963. He has a B.A. in Philosophy. This is **Mr. Kletzly** of the Ohio Bell Telephone Company. Mr. Kletzly spoke as follows:

"Thank you very much, thank you, and I want to thank Mr. Lane and all of you for asking Ohio Bell to send a representative over here today. As you know, this is the Amazing Laser. We have it mocked up here for a demonstration later.

"As you heard of this subject you probably wondered why I am here today. Also you heard that I have a B.A. in Philosophy, and you might wonder about my subject. This is a very non-technical, layman's broad view of the Laser. I don't have the background to get too technical. Speaking to you as a group of electrical industrymen, I might get out of my class. However, if there are questions, I might answer them for you. This covers a wide range of subjects.

"You are taught about light in physics and chemistry and radio. We might use as our theme something from Robert Service. He said, 'the northern lights have seen strange sights.' Light is our subject and although we might not see strange sights light has been with us for one long time.

"The Bible says that God created light. There was a religion years ago that worshipped the sun as God. I mentioned this one time, that there were various religions that did worshipped the sun, but I don't know of a religion today that uses the sun as their God . . . but, any summer in this day and age you might see the 'burnt offerings' lying on the beaches.

"We read about light and that it travels 186,000 miles per second. It allows us to see. It is made up of a jumble of frequencies and wave lengths. As we learn more and more about light, it kind of gets you. And this is the basis, the fact that it is noncoherent. It is made up of wave lengths going off in different directions. And, as man became more and more informed there came the time when the light bulb was invented and people said, 'So what?' And 'I still like the gas' or 'Would want and prefer candle light.' I want to say some things about the light bulb, and it could be a light bulb in the home, or perhaps anywhere. We press a switch and it is out. Before the light bulb man had to walk up and blow the candle out.

"This light from the bulb and the light from the sun have one basic property. Noncoherent light. This (pointing out display) would, if left on long enough would have energy enough to light. What happens when we could get coherent light, or at a very high frequency so that every other light might come out and come to a crest at the same time. What would happen if we could have this? We would like to have coherent light, so they started experimenting. Let's think of grade school, on the last day of school in June and the doors open up and the children rush out and one goes this way and one goes another way. This is non-coherency. Now, think of the Military Academys and when they leave classes. They are marching in step and in uniform and walking in the same line. This is coherency. Instead of getting it off in different directions we get it in one beam.

"Laser development goes back to 1958 to when Doctor Shellow and Doctor Terns who were brothers-in-law, and they came up with a paper called 'the infra-red optical laser.' The way this was done they took a piece of rod of ruby color and they basically did this; they circled this with a light space and set off that flash bulb and that caused the atoms in this, and they got coherent light in this manner. This was what they started with, and they only put 25¢ in this and got only a nickle out of it. They did not get their proper effect, and then they started using gases and they have gone back to this and they are using this and that. I realize that I am kind of rushing this and I will explain this when we get into that. In 1958 is where the real strides in Laser development go back to.

"Also, we have Doctor Maimon from Hughes Aircraft, and we do want to talk about the gas laser. I don't know what you might have read about in the way of laser. If you saw the movie, James Bond in 'Goldfinger' in which they were going to cut him in half with the laser light . . . the word laser is heard and you have heard the word 'optical laser' and I will start telling you what this means. Laser and Maser are really acronyms. Maser, and it stands for microwave application . . . and in talking about light amplification, Laser is light amplification by the, that means that if I talk like I am now and then raise my voice, so. Light application by the stimulated emission of radiation. So, it is an acronym.

"Let us now get into the meat of this thing. We have here a glass tube. In the Laser wave we have helium and neon. Ten to one gases that are mixed together. Into this we put a radio signal. We put this fuse into that and take the helium atoms and give them a 'hot-foot.' This causes them to become excited so that they become something other than what they are. It disrupts the atoms or causes the gas to raise to a new high level of energy. They in turn bombard the neon atoms. We disrupt the atomic structure of the two gases. This gets rather technical.

"Let us make this very simple. We send in a frequency, a stimulant into this and it causes the atoms to raise to a high energy level and they become something other than what they are, or were. They in turn to get back to what they were before, and in so doing they cause photons of light to be emitted. It is like getting overheated and trying to cool off, and if you do so, you might feel the heat coming from your body. They, the atoms, get out of their normal estate and try to get back and in so doing they emit photons of light. What happens is that the photons generate something just like themselves and

the effect is that the tube has these generating back and forth inside the tube and they are looking around and in each end of the tube there is a mirror and they reflect back and forth in the tube and keep moving around inside and they just about get out of the end here, and then they are reflected back to the other end. If they should burst out this light energy is going to come out as coherent light. So that taking the two gases and with both of them trying to get out they each make photons of light and you get coherent light as this generates back and forth in the tube.

You might try to look at this light now as it tries to distribute its weight over a certain area so that this pressure, like a woman's high heel, it concentrates the energy into one little beam of coherent light. The highest frequency we get is fifty billion particles of light per second. This is four hundred trillion cycles per second. It is very high frequency. The gases in the rod are dependent upon what they want to do with it. It is dependent upon what they were to use it for. The gases, helium or neon, this is dependent upon what they want to do, this will tell them what to use to get the proper effect. This was very broad in expression. It is interesting, and I think it is the most interesting part, to think of what we might do with this amazing light.

"I would like to go into five areas in which the Laser is being used today and can be used in the future. I use the letters S.I.C.M.M. This is a program done in five areas of science. I think it is very common knowledge that we are trying all five of these on the flights at the Cape, and we do want to eventually land on the moon some day, and to get there we must overcome some problems. As you can see, from the letters S.I.C.M.M. we can get 'sick 'em' . . . which we intend to do. At this point, they are sending up rockets to take pictures of the moon, and it is now thought that beaming this light this Laser from the earth to the moon, and it is now thought that beaming this light this Laser from the earth to the moon we could get the topographical features of the moon and predetermine where we might land on the moon safely. Massachusetts Institute of Technology has already used the Laser beam to the moon and it is possible, as we now know.

"There is a story that when it was beamed to the moon they were trying to record the rebound. They did not, or could not find any indication that it did come back down. They discovered the beams were moving over in another place and they lost the beam. It was coming back but it did not record as it came back too fast for them to properly record. They have another problem on the moon, that is that it is fourteen times longer on the moon, one night equals fourteen days. The Laser beam travels from the earth to the moon at a speed of about . . . beaming about one mile in diameter . . . I am not being too clear on this, say we took a search light and tried it on something like 25,000 miles in diameter and took this 25,000 miles in diameter and reduced it to one mile in order to concentrate it on the moon. This is a general idea of the concentrated power.

"Eventually, they will have a lot of other equipment and power and they might take the Laser beam and use it as a kind of high tension wire and reconvert it back into power for equipment. In the space race they believe the Laser will have good application. The Russians did try, they claim, to measure with the Laser light, and on the last shot they made they tried to communicate with the earth on the Laser beam.

"Right now the scientists are talking about the 'Gillette Power', or how many blades stacked together could be used to cut with the Laser beam. Lindy Corporation had the Laser beam here for sale in the welding of materials and for welding of things that we cannot now weld together. We also mentioned communications and this is where the telephone industry is interested. Say you have a two-lane highway, or four lane, or six lane, or eight lane. You can have two, four, six or eight automobiles. The bigger the highway, the more cars they carry. Same thing with the Laser, the higher the frequency they have the more information you can carry. One Laser beam can carry all the phone, television and data you want to transmit on one Laser beam. That one beam can carry all of this.

"They talk about uses, the wave guide to carry the Laser beam under the ocean, or the ground, they talk about taking the conduit and shooting the Laser through it and out the other end, and you can bend the beam, it works like a flash light and it will reflect this Laser beam, it is line of sight only; as it was used for aerial towers it is a line of sight and might go off into space. It is for communication with the satellites or space capsules.

"One of the two things that will affect the Laser beam is the band waves. Also you have noise and other things that cause interference and that cause it to become distorted. It is possible to fire it fifty miles out into the atmosphere, shooting it up into space the clouds will distort it, and even birds can distort this beam. It is possible to carry communications by the Laser beam. It has been done in Indianapolis and it carried conversation two blocks away. They did it here last spring. They did fire it down south into Kettering to determine what atmospheric conditions would do to the Laser beam. They did beam it from the west and south of Dayton.

"Now, we have here the telephone receiver and the mock-up of the Laser beam, and you have the speaker over here. When I talk through here my voice should come out down there. My voice should be coming out down here. I talk into this receiver, my voice goes down the wire into the gismo here and goes over there. As I am talking now and I put my hand here you would notice the difference. If I talk and take my hand away it comes back here. If I were in New York and I might pick up my telephone and through the Laser Beam, I might be received in San Francisco, and so it can be used for communications. As I said, it was used in Indianapolis, Indiana. Whether or not it will ever be practical for communications because they are very expensive is the question."

Question asked by an unidentified party—"Do you need booster stations on that?"

Mr. Kletzley answering: "Yes. You will have to have towers every twenty five miles for space communications here on earth and in outer space. There was one thing, they can take this Laser and by using materials to get blue or green out of this beam, possibly of such color that it would not be filtered out by the water of the ocean it might be used for direct communication with submarines.

"Medicine is a great field of experimentation. In one area, through accident or disease it is possible for the retina of the eye to become detached from the eyeball. There are now about ten hospitals who are using the Laser beam for this purpose. What it involves is

getting the retina in the position where it should be connected to the eyeball and using the Laser beam and firing it into the eye. As distaseful as it might sound, actually they are searing the retina into place. It is rather like searing a piece of meat on a grill. They weld the retina in place with the Laser beam. The Duke of Windsor had this done, and they, I understand, seared his retina on his eyeball. One of the places close to home here is the University Hospital in Columbus, Ohio, and also Mt. Sinai. They do have this Laser and are using it for the detached retina searing process. This use has reduced the hospital stay to two to four days. The cost of the Laser beam is $15,000.00. The light is fifty-five times greater than the sunlight. You might get an idea of the power of the Laser beam from these, tumors and cancer after shooting at them with the Laser who some effect on them. It seems only to affect the cancer cells and not the healthy ones.

"They have had some good effect using the Laser as cancer cure on animals. There were, I understand, some side effects. It does instantly coagulate blood. They might be able to fire it right on the blood vessel or artery and sear it shut. Knifeless surgery they are thinking of as a means to remove tumors from the brain. Right now neuro-surgeons are doing some things that we thought impossible to do. A Laser beam, I am told, using it as applied to tumor cutting from the brain, is like wanting us to take a hedge clipper to operate on a phone line. This is kind of crude. But this is how fine they can use the Laser beam for these operations as it is perfected. The tumors are below the surface and if exposed they might help with the Laser. I have mentioned only a few areas possible.

"The last area is the military area. Do you remember the Old Buck Rogers light beam? They are now talking about the Laser beams for the radar devices. The Laser beam might be able to give us an outline or a silhouette of what might be flying in the air, or whether or not is an aircraft. It might be someone elses aircraft and it might be possible to render it useless in the air or they might vaporize an aircraft, and it is possible. You might say they are 'way out', but there is a picture of the Laser rifle which was developed using the Laser, and it is ruby rod Laser, and it is possible to use it as a long range means of setting off explosions. They claim they can vaporize paper clips using the Laser beam. There are now about four hundred companies all together working on the peaceful aspects of the Laser and thirty to forty working on the Military aspects of this beam. And, some these things that I have mentioned to you are only scratching the surface.

"They are working out here at the base on this but the Russions have said that 'If you don't behave we might orbit a type of bomb around the earth', and it is possible that the Laser might take control of the device they might use and possibly explode their bomb out in space.

"At this time, I would like to demonstrate the Laser beam in attempting to break this baloon. I am sure that most of you have seen the Buck Rogers type of gun in the comic sheets. It looked something like this gun I have here. It is possible to perhaps . . well, the balloon did not break . . but it is possible to maybe take control of a bomb and may be send it back where it came from, or to destroy it in space. As a military device the Laser does have possibilities. As a radar tracking system and for space vehicles that we might have.

"When I started mentioning the applications of the Laser beam, I was about to tell you that some of these things I mentioned are being done and some are in the planning stages. When I talked with the EUB Men's Club recently out north of town, one of the fellows was from Wright-Patterson A. F. Base and he was head of the Laser research there and he explained it to us. I asked him if some of the demonstrated things were possible and they were very cautious in their aproach to this. These things are not all being done. The cancer cure and that type of thing are only in theory now."

Mr. Lane; "You talked about the mirror which would reflect this. Would this be an effective defense against the beam?"

Mr. Kletzley: " Yes, it would be possible if you had a mirror to reflect the light it might be possible to deflect it from an airplane. Now, we need a material to penetrate the plane. You might have defenses and offenses and a mirror will bend the beam. I am sure you can take a certain mirror which would reflect some laser light and the next one might penetrate it. I think is is quite possible to do that, yes. This is more like the intensity of the magnifying glass moving it back and forth in the sun and regulating the lenses on the ends and getting it spotted or concentrated."

Mr. Harry M. Wells, President, Local #82, I.B.E.W., Dayton, Ohio, "You mentioned the detached retina. These men are all electricians. The ultra-violet rays are very painful on the eye. Wouldn't this be also?"

Mr. Kletzley: "I meant on the cancer tissue. I did mention the Duke of Windsor. There was some successful retina attachments, but the side effects were in the cancerous cells. What the side effects were I am not sure of that."

Mr. Fuerst, Hamilton, Ohio: "What particular material is that tube there, and does it get hot?"

Mr. Kletzley: " This is not an actual Laser Beam. This is the glow from the helium neon. I understand in the real beam it does get pretty hot. To do actual work with this beam they have to have glasses to protect the eyes. This, if real, definitely would get very hot."

Mr. Elardo: " If there are no further questions, we will take a break for coffee at this time."

Mr. Elardo: "Gentlemen, will you please be seated again? We are right on time, and we will now introduce the next speaker. It is my pleasure to present **Mr. Robert J. Coates,** Deputy Excutive Director, The Ohio Civil Rights Commission. His talk is going to be on 'Apprentice Selection - Ohio vs. Federal Civil Rights Laws.' Mr. Coates."

"The problem of discrimination in the State of Ohio has been the subject of legislation from the very year in which this State was admitted to the Union, namely, 1803. The legislators over the years from 1803 until 1959 passed a number of laws dealing with discrimination on the basis of race, color, and religion. These laws concerned themselves with the opportunity for people to have equal access to service as jurors, candidates for office, witnesses, as well as the opportunty to enjoy the advantages of places of public accommodations and to be able to purchase life insurance. The important thing to realize about these laws was that the remedy of the problem

was a public matter and went through the courts. These laws met the problem on a case by case basis and resolved the problem of discriminatory treatment only for the action presented to the court. In other words, a place of public accommodations under the old law could discriminate against a person time and time again, and the person who felt he was discriminated against would have to file separarate court actions in order to have the matter resolved. All of this action was public.

"Shortly after World War II the states and municipalities approached this problem of discrimination in a different way. In 1945 the States of New York and New Jersey passed the first Fair Employment Practices Law and set up commissions to administer the law. The approach to the problem was one of conciliation, mediation, and persuasion.

"On July 29, 1959, Ohio became the 16th state to have in effect the Fair Employment Practices Law. Now better than half of our 50 states have this type of legislation dealing with discrimination in employment on the basis of race, color, religion, national origin, or ancestry.

"The Ohio Law simply stated, says that an employer of four or more persons, a labor organization, a joint apprenticeship committee and an employment agency cannot discriminate against a person because of race, color, religion, national origin, or ancestry, in any area of employment, for the very initial recruitment stage to final discharge, pension or lay-off. The law covers the privileges of employment as well as the conditions of employment. In this area it would cover segregated wash and locker rooms, it would cover the persons opportunity to partake in educational programs of the given employer, or labor organization as well as to take advantage of participation in recreational and cultural programs.

"It is important that we realize that discrimination means segregation and separation and further, that discrimination is a behavior situation, it is an activity which is designed to segregate or separate people because of race or religion or national origin. Prejudice on the other hand, is a mental situation and is not, and actually cannot be, legislated by law. Discrimination, then, is a tool of prejuice.

"In employment, the Ohio Civil Rights Commission moves into investigation in two ways. First, it may move itself into an investigation as we are doing in the investigation of the Cincinnati Building Trades Industry. In other words, the Commission may self-initiate its own investigation.

"Secondly, the Commission is moved into investigation when a person files an affidavit charge setting forth an allegation of discriminatory action on the part of some type of resondent. This discriminatory action must have taken place within the six months prior to the filing of the case with the Commission. The legislature gave to the Commission certain necessary tools with which to effectuate its investigation. The Commission may place witnesses under oath and may subpoena witnesses and documents. Following a through investigation the Commission staff makes its report and recommendation to the five-member body serving as the Ohio Civil Rights Commission.

"In cases where there has been a violation of the law, the Commission then is authorized to move forward and attempt to con-

ciliate the matter. This conciliation procedure is the heart of this type of legislation dealing with problems of discrimination. In conciliation, the Commission staff sits down wth the respondent - employer or union or joint apprenticeship committee and attempts to point out where the problem is as well as a given remedy for the problem. The given remedy is set forth in a document we refer to as a Conciliation Proposal. This is discussed at length and in the Proposal the provisions are set forth for action by the respondent to resolve the matter. A third ingredient is very important here, and that is that the Commission tries to impress on the respondent that it wants to help the respondent meet the problem.

"If the Commission is successful in conciliation, then the Respondent and the Commission together sign a conciliation agreement and the respondent then sets to work in resolving the problem. The Commission conducts what we refer to as compliance reviews over a period of months to see if the respondent has fulfilled his responsibilities in resolving the problem, and then the case can be closed.

"If the Commission fails at conciliation, in other words, if the Commission is not successful in conciliation the problem, then the matter becomes public and the Commission issues a notice of public hearing. Up until this point, the Commission's activity with regard to any case is held in confidence.

'In the public hearing, the matter is set forth anew, and the hearing examiner, appointed by the Commission, then makes his report to the Commission, and the Commission may then issue a Cease and Desist Order hoping to resolve the matters. If the Respondent does not comply with the Cease and Desist Order within a certain prescribed time, the Commission can submit the case to the Court of Court of Common Pleas and the Court then can issue a cease and desist order. If the Respondent fails to comply with the Cease and Desist Order issued by the Court, then he will be in contempt of court and this is punishable by a fine or imprisonment or both. This is the ultimate power of this type of regulatory agency.

"The Ohio Commission is better than six years old, and in better than 2,000 employment cases, the Commission has been unsuccessful in conciliation only twice. In other words the Commission has had to go to Public Hearing with a Respondent on only two occasions and actually, both of those cases were resolved as a result of the public hearing. So, the Commission has never had to take a Respondent to Court to resolve any problem brought to the Commission.

"With regard to a comparison to the Federal Equal Employment Opportunity Commission's activity and the Ohio Commission's activities, we must point out that the Ohio Commission is actually doing the work of the Federal Commission in this State.

"All of the cases referred to the Federal Commission are sent to the Ohio Commission for Investigation and Conciliation. The Ohio Commission has a certain number of days, usually, 60, in which to resolve the problem and under Ohio Law. The Ohio Law is much broader than the Federal Law and covers many more respondents. The Ohio Law further has more teeth in it, in that it is more enforceable than the Federal Law at this time.

"We have had a number of cases referred to us by the Federal Commission since last July 1st, and we have every reason to believe

that we have moved these cases forward as we do in a case that is referred to us by the Complainant.

"In the matter of keeping records of your respective activities, as an organization covered by the Ohio Law, I would suggest that you retain records of all persons who have applied to your organizations for membership or employment and as well as tests and the results of interviews conducted by you or your employees or agents.

"It would be prudent for you to retain these copies for at least one year so that if there is an investigation, the records would be available to the investigator so that he might make a proper determination of the facts.

"If you have any questions, speak up."

Question from an unidentified person. "Does the State law forbid the attachment of a picture to an application?"

Mr. Coates replied "Technically, it does. We have not had a very heavy caseload with regard to apprentice discrimination and that problem has never been positively analized. We have put out a publication with regard to questions that are lawful, and unlawful, in that it says there should be *no photographs prior to hiring. I would apply* the same measurement to the apprentice, in that he is not an apprentice until he is approved and and qualified, and I would say that it is best not to have a photograph prior to his being qualified for the program. The problem is that you may be concerned about people taking tests and there again unless you have a volume of people involved, my advice would be not to have photographs."

Mr. McKiernan (Firestone) "Along that same line, how can you come back, after running the tests and four weeks from now, say, and a three member Board does interview these people, and how do you remember three hundred or even two hundred people if you do not have a picture?"

Mr. Coates: "This is a problem, and we do understand. You can use various means of identification, and I will have to be blunt with you, a photograph is out."

Mr. Bertke (Cincinnati, Ohio) "What protection does the union have, and actually when the charges are filed do we have any redress in regaining our copies, if the charges are proven baseless?"

Mr. Coates: "The protection you have is that there is no publication of the charge. This is all in confidence to protect people from harassment. Sometimes people go to the newspapers and tell them about the charges and we are called, and when they call we tell them, 'No comment.' There is nothing in the law that will give you redress, and I do not know of any case taken to Civil Court for damages. This is not publicized."

Mr. McKiernan replied "If this man goes to the paper, if the charges are not true, there might be libel."

Mr. Coates "I think this would be true only if it is publicly known."

Mr. Hager (Cincinnati, Ohio) "Could I ask why you chose Cincinnati to start these investigations?"

Mr. Coates "The City Council asked us to do this, to conduct the investigation."

Mr. Hager "Did you find cooperation in the investigation?"

Mr. Coates: "We have not completed it, and are holding the information."

Mr. Hager "You can't say what your position is at this point?"

Mr. Coates "No. No, I can't make any statement. I can't make any statement with relation to any particlar company or union. We must be fair with all who are involved."

Mr. Ray Schmidt, Attorney, Dayton, Ohio, "I think you might be interested in knowing what happens where a complainant files a charge against a party, whether it be a union or employer, and if you have gone beyond agreeing what you do when not one of them, one party or another is not willing to agree, what you might do. I think this is a general question."

Mr. Coates: "I will talk with you in the meeting on that. He is talking about a specific situation which is somewhat this, and I hope to resolve this in a few weeks; in an employment situation where there is a contract with the union, it seems to me that all unions involved, all unions are involved and concerned and they should be notified about this. If there is a union problem where they might be charged with race or color, or religion or lack of classification or lack of maintenance of records on the job, or whatever, it the union is involved it is something that might affect management, then management is involved.

"In Cincinnati we are investigating all, specifically the training and journeymen programs, to see if there is discrimination in there. This is nothing unique in Cincinnati. All states have these problems. They are passed to the city fathers and by the local civil rights groups that these conditions exist and the problem as it may be, and if there is a problem of discrimination it has never been solved, and if there is one in Cincinnati, we do have an opportunity to resolve it and be the first to do so.

"We have taken down more information regarding the contractors and unions which are involved than has ever been amassed in any city in the United States. It is very difficult and takes time to answer all the calls regarding this, and I wish we could resolve it if there is a problem. Generally speaking, we have had excellent cooperation and we have had some resistance but I think we can resolve it."

Mr. Eging (Cleveland, Ohio) "Did I hear you mention that there are other tools to identify the applicants, other than photos?"

Mr. Coates "Height, weight, color of eyes, whether they have glasses, type of hair, mouth, nose, scars, and so forth."

Mr. Hauck (Cincinnati, Ohio) "I want to bring up what does the JATC Committees do when they ask for a transcript of the high school grades and there is a photograph on it? We do not ask for it, but it is given to us."

Mr. Coates: "The same thing would apply there. If the applicant sets in motion his own photograph, you did not ask for it, and he gave it to you voluntarily. If you write the high school and ask for it you would be discriminating. If he does it on his own, it is strictly on his own."

Mr. Bader (Cincinnati, Ohio) "I am very interested in the definition of discrimination. I know that you investigate the discrimina-

tion pattern in the Cincinnati area. Is it discrimination to have a numerical proportion? Is this in fact discrimination? I would like to see how you would . . .

Mr. Coates (Interposing) "A pattern of discrimination does not only take into consideration the numerical make-up but the statistics in the situation. For instance the absence of negroes in the program or the employment rules of a particular employer are some examples. The absence does not indicate that there has been discrimination. There are other wide and various factors in this. It is very difficult to say that out of a thousand there may be twenty who are discriminated against. Any apportioning is illegal under the law. We go into several factors involved. They said Dayton has a 12.1 per cent for negroes and we have 12.1 per cent of employment here, therefore we do not discriminate. If it is 24 per cent or 5 per cent that doesn't mean there is a violation of law."

Mr. Wells (Dayton, Ohio) "Do you go into these meetings or hearings with an open mind, or do you weigh the scales for the person who says, or cries discrimination."

Mr. Coates: "About March of 1960 I got a call that a negro employee of a school system north of here was to be dismissed and he had been there for eighteen years. They had a meeting that night, a meeting at which he was to be dismissed and they told me to get up there, and I thought, well, I will drop over to this meeting. The item of interest was thirteenth or forteenth down the line and they got to it at about 11 P.M. It was a very hot, emotional meeting. He later filed a charge, but it was very emotional, and my wife commented that it was tough to keep your emotions out of these meetings. I think I have attempted to do this, and we have had stories come to us that would make anyone emotional. We try to judge the case on the basis of the facts involved. I have trained myself this way personally, and I hope that we are just and prudent in every case. It is very difficult to do so. It is a very emotional situation."

Mr. Wells (Dayton, Ohio) "Have you, in fact, found any cases of racial discrimination to be unfounded?"

Mr. Coates: "Oh, yes. Yes. I have found cases of no probable cause. Yes, very definitely, we have had cases involving racial discrimination filed by all types of people. White, black, and based on religion. Ninety per cent of our cases involve negroes."

Mr. Farrington (Columbus, Ohio) "How does your organization justify sending out questionnaires pertaining to minority groups where we do not take down these?"

Mr. Coates: "The only thing you feel you do not take down is the race of the individual. A complete investigation throughout the State of Ohio of all contractors doing business with the State of Ohio on highways, and construction in this southwest region, we have forty-three of these contractors, and they will shortly receive a questionnaire from us."

Mr. Farrington "What type of questions will they contain?"

Mr. Coates "I am not sure. I have seen it, but I haven't had a chance to study it."

Mr. Lane (Dayton, Ohio) "Gentlemen, it is time for the noon recess. Shall we break now and try to be back here at two o'clock?"

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Mr. John Allen, Instructor and Member Electricians, Joint Apprenticeship and Training Committee, Dayton, Ohio, welcomed the conferees to the second session of the electricians meeting and then introduced **Mr. George Pennington**, Chief Electrical Inspector for the City of Dayton, and Montgomery County.

"You will notice these books. In a sense they are props. They mean a lot also as far as codes are concerned. (Holding aloft a book) I know that in your training program that code is not all of the program. I believe that the electrical code is very much a part of this. An application of the codes to life as it stands, and in the books here as the National Electrical Code Handbook that is revised from 1962 and now we are getting into the 1965 code book. These are some of the changes that you might get into and it brings you up to date. I believe most of you will recognize it as the 'New Testament' of electrical work. I carry this for a number of reasons.

"Now, some of you might be aware of this. I am a Baptist Minister at Lewisburg, Ohio. You might wonder what is compatible between this and being a preacher. I have no conflict of doctrines, and I find that the Bible itself is a code book and to all of those with religious scruples and, properly applied, is a great element in fire prevention of the eternal fire, and in the life hereafter. The code book is also for fire prevention and safety. Most of the things in it are like the lights at a railroad crossing. They never are installed until after a tragedy has occurred. The lights are installed because of tragic things that happen. Most of the things that go into this National Code book go in there as a result of tragedy that has happened and to prevent the same type of thing from occurring again.

"As we look into this you will realize that life is a series of codes. Codes go back a long way. Take the laws of Hamorabe. It might interest you. They were very restrictive laws, back before the days of Moses. He wrote building codes. You might think we are tough as electrical inspectors but at least if something you do causes somebody's son to be electrocuted, or somebody does something that causes your son to be electrocuted, you would not electrocute his son in turn. That does not mean you would pay with your life or your son's life.

"We find that Moses wrote code concerning the laws under which people would live. They also had penalties. That was the law of 'an eye for an eye and a tooth for a tooth'. In fact, I think a lot of people try practicing that law today. We go beyond his time, past Moses' time back in the book of Kings and we find a number of specifications for building. In these we will find there were laws and many people tell us today that from Second Kings is where Masonry gets its direction. We go further into the New Testament and we find that God established laws and that the perfect law was that we should treat our neighbor as ourselves, or 'do unto others as you would want to be done by', and bringing ourselves down to what we call modern times in the essence of what was modern because it seemed that older things worked better than those of the modern times.

"Taking a look at the National Electrical Code, and I believe that you are interested in training people to be more proficient in the electrical code, and I talked with Mr. Patterson who tells me that he has been with the electrical industry since 1919, and I do have in my possession one of the first National Electrical Code Handbooks which was the Board of Underwriters at that time. In New York City . . .

and in the back of this book there is a history of the publishing of this book, this set of standards that they had so many installations in the City of New York, and the fires were so numerous that it came to the point where the insurance companies would not insure your house if it had electric wiring in it.

"They decided then to come up with a code or standard whereby people might have a reasonably safe installation. They wrote the first code book, about the size of this book here (again holding aloft a book) and it is really interesting reading when compared to the complexity of the book today. It did not refer you back to the sections and paragraphs, however, it did not end with this particular time.

"I brought two copies along to illustrate the changing trend. This change is coming about because the technology itself is changing. It is necessary that the code be revised regularly, and in fact, our reporter here today was talking to the gentlemen here when we came back from lunch today, and she was telling them, (and this is not to embarrass you, Mrs. Case,) but to illustrate my point, that when she moved into her new home on Alexandersville-Bellbrook Road how she got into the bath tub and the water had gotten cooler than she anticipated and that she reached for her hot water faucet and in so doing she found herself in the position of being in the electrical sense—'hot'. Fortunately for her she was able to pull loose with the aid of a towel, and then she and her husband called the electrical people to come and look at the situation and they told her that it was 'impossible', and they checked the thing by having her husband touch the water faucet and place his hand in the tub and he got enough of a jolt that it was found to be quite possible.

"They checked it out and found it was energized. That was one of the things that came out in the '50's and plastic items were then made for safety. Code said that you could go to the ground or use the water system. It was optional. Consequently, what happened there, they had driven a ground and the plumbing had been energized through something else and the bath tub being connected back into the earth gave her a perfect return.

"We have had numerous occasions to clip from the paper cases of this kind where the people were killed; and I will say, we are glad this did not happen to the lady here, and I will say that I can prove that this was perfectly possible, and that it has happened. I want to thank Mrs. Case for mentioning this to us. It comes close to us sometimes, doesn't it?

"Across the country we have revised the code to standardize this so that the plumbing fixtures would be joined to the plumbing itself and ground the electrical system to make sure your neutral was always grounded. These are the things that make up the code and go into making them up. I might now mention how your training would affect us. It might surprise you to realize that this apprentice program affects you as electrical men who are using these through your programs. And the man inspecting is affected somewhat along these lines. He is not on the job to make problems, and in making his inspection he also inspects the relationship between the trainee and the electrical contractor. Say it does cost you money for the program, you would still be mad if you had to go back on a job and correct the system; and as far as I am concerned that training, whatever it might be, is one of the greatest things to be able to do—to do a job and do it right.

"There are two ways of learning things. Many learn by accident. Fortunately, they are not killed while learning. We can learn things by doing them over and over again until we have a reasonably good knowledge of it. I have talked with Mr. Patterson about learning by accident or learning by repetition. We agreed that this is all well and good; and we do need experience, but if this is all we have—practical experience, and you take and start employing men without background or knowledge, (and some haven't even had high school training) many of us would lose our hair over it, if it didn't turn gray in the process of the training program; because the apprentices make so many errors in learning, and it might just about break a man. I grew up with the electrical profession, and I learned the value of going both directions.

"I believe most of you started at the time when it was much less complex than it is today. And, you take the complexities that are added to today's profession, and now the man who does the residence wiring and he must figure about how high and how wide, and figure the service that is necessary to take care of all of the needs in the home. And men do fall by the wayside because they cannot figure this. Contractors in the business for many years who cannot figure the low for the service and the various circuits going through a large building, particularly one with several businesses in it, and also a basement. There are many who cannot do this because they have to learn by accident. This costs them. You should expect your men to follow prints as journeymen and to be able to go forward without your being there all of the time.

"I maintain that it is impossible for a person to go out and gain by accident what a man can gain in an apprentice program in the same length of time. I might add, with your apprentice training program in this area, in this program of apprentice training, that this is the only way of training journeymen in the Dayton area. We have no other way than the trial and error way . . . trial and error both are changed . . . and I will repeat what I have heard again and again, that we would like, and much rather have a man that is trained. And I know when you go and send a man out to train and he works along at the same time, and practical experience is a necessity, and you send that man out and he would run into many things that he did not have in the schooling program. You take an untrained man and you will have a tremendous time getting performance from him. We are thankful that there is a method of training men other than by trial and error.

"I believe that is about all, other than the fact that I say again that I appreciate this opportunity to bring our opinions of your training program. Our opinions are high and we appreciate it, and are thankful for this program, and if we can contribute to this as part of the Montgomery County Electrical Inspecting Team we shall be happy to do so. Again, that which makes your job better makes our job much easier, so, consequently, when we enforce the code that does affect the contractor, and they are aware that there is a code that will be enforced, and having a code enforced helps you to train to an end whereby everybody can expect the same thing. We have been told that there is no code across this country today or anywhere in the world that is as effective as the National Electrical Code. This code is revised by people who work with it. Any of the contractors

who wish may belong to the National Association of Electrical Inspectors.

"We do have state-wide meetings each year and we share the things that are good, and things that are needed in the way of changes and we take them to the section meetings and we do have panels that are N.F.P.A. men and M.F.P.U. men, and these people take our recommendations, and they sometimes take fifteen years to get into the code, and it is written by much thought and much trial and error and much practice.

This is what accounts for the code being a dependable code. It is carefully written and many people find out that it is written as a safety code. We have to keep the code a safety code and at standards necessary for safety. You might impress upon your people that it will never hurt you to go the code one better.

"Again, I would like to thank you for this opportunity, and I would like to repeat again, that taking the code and studying it and learning its value and applying it as controlled by inspection authority will add some of the greatest fire prevention that this country has ever seen . . . and so that nobody will feel unsafe for fire reasons. I thank you very much."

Mr. Wells replied "Mr. Pennington has been speaking about something which is very close to my thinking. I am a practicing electrician and have been for many years. During my tenure as an electrician, I have been in this apprentice program and I have attempted in all ways to impress upon our aprentices that which is set up in the National Electrical Code. I have attempted to point out that the code is not to give you a book to go by, but a book for maintaining standards below which you should not deviate, and if you do deviate, you have a set of conditions which are not very safe.

"Mr. Pennington pointed out the question of grounding. Grounding is too much misunderstood. You do apply the code but, you have other things to think about. You have the character of the soil, and the illustration here, with our reporter, is a very good thing; because of improper grounding you set up a condition in which a person may not be grounded at all.

"But, I have one very big complaint with the inspectors and the code, and I think the inspectors are deliberately trying to make the code hard to understand. You start reading a section of the code and you meet so many cross-references you get lost. It was, years ago, a cross-section of the code. The first thing or number that showed up in the cross-reference would show you whether or not it was involved with what you might have to do. If you are familiar with the code the cross-reference was not particularly interesting to you, but now the inspectors, and I say this with venom in my voice, and the Corps of Engineers are deliberately trying to confuse the thing so that the man on the job doesn't know what he is doing. According to the code they might say you have not done a good job. I thing the inspectors hew too close to the book. Here in Dayton we do not go into the code books—it is the law. We say you do this because this is the reason behind the law. I would like to have Mr. Pennington's reactions to that."

Mr. Pennington replied "I want to do the best I can with both of these things. One time they said that 'the code used to be difficult

and now it is impossible.' However, that is part of what I talked about with regard to training. You have been with the code for a long time and have grown up with it—and take a young man coming in with the specific training and, in say four years, what you have given in twenty years, it would be impossible for him to accomplish in that four years what you have done in twenty.

"Now, as to making the code difficult. I will say that the code is not the easiest book to read. It is not an instruction book. It is a book of legal requirements. If you sit down and read it as an instruction manual you are lost. It is only the answers to the problems. In order to do that you would have to go from one to another system, and to other things, and from there to perhaps hook up a non-explosion type or explosion proof motor; and they do use the code book in sections and paragraphs, and I assure you that it would be rather difficult to print this book any clearer than it is.

I present the program put on by the N.E.C.A. boys. I assure you or anyone else that if you have trouble finding a section in the code book my office is open eight hours a day and five days a week, and I will be glad to sit down with you and show you how to clearly understand it. Otherwise it is illegal. I regret that this cannot be a small, simple volume. This is far too complicated to put into one little book. I have on my desk the Engineer's Handbook. It still doesn't cover the entire electrical field. It is more than this has given. This is a book of requirements and not a book of instructions. You must keep abreast of the changes, otherwise you will have difficulty interpreting the code."

Mr. Wells: "I am not looking for instruction. As I stated I am an electrician and have been for many years. It used to be that if you had a particular problem dealing with a conduit you would look under that section. If you had a wiring problem you would go to the wiring section. Not too long ago I called one of your men whom I respect very highly. He is well qualified. And I want to tell you something. Also I have heard a lot of people complain about the inspector. I believe we have got to have safety. Now, when you want to check upon something, we have sections dealing with sizes of grounding and so forth, and that other section depending on the size of the conductor . . .

Mr. Pennington (Interposing) "In the case of one using the common grounding conductor you have two tables. One is on fielding or ground and the other on . . .

Mr. Wells (Interrupting) "You have to have some sort of rules. If we field the grounding according to the amount of current you have to have a bigger connection. When I talked with John and I brought up the questions and the ambiguous statements in the code, and when these ambiguous statements came up, I asked him where do we go and he says, 'Curly, you know about that as much as I do.' There was a case where the code book did not give an answer. I believe, that while the inspectors are here today, and I have been invited into this type of thing, and I refused because I had a very bad impression with the Corps of Engineers with discussion on what is or what is not within the limits of the code. So, I refused to accept the position on these code panels because I was afraid that it would rub off on me. I believe it should be simplified as to being able to pick that particular part out of the index and say "This is it.'

"To go to a section dealing with branch wiring and find other tables at the end of this book, it is a very unworkable thing. I think I will respectfully request that it should be put back in the place where it is simpler for the man to understand, and for a man to go in there and pick out his particular problem and this does not mean I am trying to . . . that I am directing this at you personally, Mr. Pennington, believe me, I am not looking at it for instructions, but in order to simplify this book for all of the workers and to make it easier for him to make a decision and to say 'This is right'. I have pointed out to my boys all along that if you understand the rules behind it you don't need the code, and if you think and are convinced you are right, it makes it simpler."

Mr. Pennington: "In answering you, as far as the Corps of Engineers is concerned, that has nothing to do with us. That has very little to do with the national electrical code, and if you are dissatisfied in there, you have the right to ask for changes and revisions; and if you can back it up with statements, you are all right. I don't think there is a contractor in this meeting that wants to go back to 1937, and if you are going to make progress from 1937 to 1965 you have to revise the code book, and it is not much more complicated than back in 1937."

Mr. Hauck, Cincinnati, Ohio, "We use that book every day in our program—The American Electricians Handbook. There is one thing that I would like to ask. Using the 1965 Code, tell us why the solid black line is on every page?"

Mr. Pennington: "The solid black line indicates there is a change in that particular paragraph. The 1965 Code has been re-edited many times. It is liberlized from 1962, such as the section regarding the bonding on a swimming pool, there, and it is to alert you to the fact a change has been made and for you to check it out."

Mr. Haggard, Local #212, Cincinnati, Ohio, "I think we in Cincinnati realize this problem in understanding the code and they have set up a code committee who will receive from each district and they are making progress now, and I think it will be printed soon, and it will be much more easily understood by everybody."

Mr. R. Zickerlee: (West Lake) "I am Chief Electrical Inspector of West Lake. I am in full accord with Mr. Pennington. This idea of you people saying this isn't understandable. I come from the trades also. Read the first Section under Article 100. This code is well written by people in the know. Instead of just sitting back, get on that code making panel. We don't need the I.Q. to arrange the code but we do need more committees to work on this together. Don't bring personalities into this. Work with this and not against it. If you had to attend the meetings that we have to attend . . . our office is always open to explain the code . . . if you don't want to listen or to follow . . . I may sound rough . . . but . . ."

Mr. Schrader: (Toledo, Ohio) "I would like to have a ruling from the Chair, and I don't htink this should be entered into in this meeting. This is an apprentice and training meeting."

Mr. Allen: "I believe this is well taken. This should come to a halt."

Mr. Kistamaker, Cleveland, Ohio, remarked "This problem is common in many areas. Is there anything in the Dayton area or an-

other area where because of this so called understanding between the contractors and the inspectors and the union, and if by chance this is set up every six months and they meet and discuss this in order to get the true interpretation, and if something is set up, and if so, what is your opinion on this?

Mr. Pennington: "Yes, I would say so. I speak for some of the other groups. I do speak on this, and if you do have a problem with the contractors of the City of Dayton, I am unaware of it. I do believe that as far as the City of Dayton as a whole is concerned, I think if we took a show of hands of the contractors in this area that our relations are pretty smooth in this area. As I said in the beginning, the National Electrical Code is one of the best guides and the best standards and to be without it would be cutting your own throat. But, it is not perfect. This one is. This one changes regularly. It is changed to meet the conditions that exist. If you have anything to offer, I am sure that this gentleman is not aware of the writing of the code by all members. Everybody has a voice in that."

Mr. Wells, "I would like to make a statement."

Mr. Allen "I think, gentlemen, we will bring this to a close. We are fortunate to have with us today the Supervisor, or rather the Assistant Director of the National Apprenticeship and Training Committee for the Electrical Industry, **Mr. Andrew Phillips** from Washington, D. C. and he has a program to present to us. Mr. Phillips.

"Thank you, Mr. Allen. Mr. Chairman, gentlemen, I am very glad to be at this Ohio State Conference. I am originally from Hamilton, Ohio, and I have attended these sessions for many years, and I am now working in the capacity of Assistant Director, as Mr. Allen mentioned.

"I am here in the interest of apprenticeships. I know that we are behind schedule and the rest of the program is really the meat of the group here in which you share or exchange your experiences with each other, so I will keep myself brief in my remarks.

"However, I would like to comment on a few things, and I know most of you personally, and I am sure you have contacted our office at some time or another, and that our office is jointly sponsored by the National Organization. In 1941 the I. O. and N. E. C. A. decided they could do collectively what they had not been able to do individually. They them formed the National Joint Apprenticeship Committee in 1941. A group from I.B.E.W. and N.E.C.A. met and laid down certain rules and did certain things. In 1952 they employed a National Director, Bill Damon, whom most of you know. He promoted interest and encouraged people to look into the field of training. Thereafter, he left and they employed another fine man. We work full time in the apprenticeship field. We work only in an advisory capacity. We are here to serve and want to help you in any way we can. I think the chief function of our office is to make within limits an effort to put forth in industry a position of solidarity of team efforts.

"I know you have heard many times what we do, and in spite of that we find that certain groups do not always take advantage of what we try to do. From our office we issue contract clauses that are to be negotiated in your local labor. They provide for financing of the program and they spell out what is expected of the committees

on training. You only have authority to operate as is derived from the contract. If your contract is not developed you may find yourselves without the backing of the groups which are appointed to do the job. If you have a proper contract and the language is correct, you have a full one, including the number of apprentices, and the deploying of them, and again you can adopt any language you approve. And we suggest that you take a look at the language used, and just like the code book, we have to search under certain sections.

"In 1959 the Labor and Disclosing Act came into this and it brought about the necessity for Federal Legislation pertaining to Joint Funds. It is necessary that we have training treasury funds. We did not sit down and write them, each of you had the right to go to an attorney and write up an agreement, and you would have no way of knowing if it was valid or not, so the industry voluntarily executed the proper papers to make it possible for you to legally expend monies.

"The I. O. and the N. E. C. A. lawyers concurred in this and we hope you will adopt it. We also prepared National Standards. Basically what we try to present to you is a program. Our office also produces the National material which most of you use . . . nationally and almost universally. We set out to produce four years of material in four years. We were on schedule last year for the first time. We appreciate comments on the material from you people and this is our way of finding out if we are on the right path. It was found that there was a void between the prints that we had, and we added a couple, and it became apparent to us in talking with our people, that the best way to learn about material is to teach it.

"We have several other things, as you know, we have tried to move cautiously in the field of training. Brother Blankenship made some rather pointed remarks this morning. It is apparent that we are being timely and meeting the needs of the industry. Yesterday you had a small workshop upstairs here, and I think you all realize the value of these things. We do have a recommended film list. We now have several demonstration boards, and after you teach 'why', then you demonstrate.

"Brother Blankenship talked about the level of training. Quite possibly you saw this little drawing yesterday. It is called the 'Bullseye'. I am sure you have seen it. Each time that I write a lesson I find I must tell myself 'to be a journeyman wireman you must know certain things.' If you do not know these things that fall in this 'bullseye' you are not properly trained.

"There are other things that you should know and you get them from experience. Over here are other things that are nice to know, but in this field of training 144 hours for four years we must concentrate in this 'Bullseye.' We are very conscious of this. As a teacher, I love to talk about this, and this is where the apprentices, if you permit them, will drag you to. This is very interesting, this 'Bullseye'. For example, if I were to try to write on the Laser Beam, could we do this and justify it?? . . . No . . . this has nothing to do with our code. Anyone that isn't teaching code and blueprinting is not doing the job assigned. In preparing this material, this is the big job.

"Before we had organized training we did have a lot of good men in the I. B. E. W. that had a lot of skills and that had a lot of

knowledge. We did have some others and those of you who are mathematically inclined, and others who had not kept abreast of the pace of this industry. We are trying to establish some base or level for properly training in this industry so that the men may be trained for, and qualify for it, and we have tried to bring everybody up to this level. (Pointing out on chart drawn on blackboard) And, we hope that when properly used and executed by you in the classroom that there will be a few who will go forth with some of the good things in mind to make for attaining the level of the recently graduated apprentices.

"We have eight journeyman courses. Six are lifted completely out of the apprentice material. Throughout all four years of the apprenticeship, code is taken and they are packaged into a journeyman's course. It takes about fifty-two hours. It contains what you ought to know to understand the code and clear up problems, or rather problems about the code. It was recently revised and is now based on the 1965 code. We did get a few copies before it was released and it gave us an opportunity to prepare and get this out to you with the release of the '65 code. You have a cross-index in order that you might use the '65 code.

"After these six courses, A. C. Theory, Basic Theory, Blueprint Reading, Code, Motor Control, and Electronics, we lifted right out of that the hopes of bringing our people to that level. We do have people who want to go on into other things. We have new work opportunities that come to us. Our employers want to go after this work because they have men trained and qualified to do that type of work. We are now adding things in the training field, however, we are making a change in the operation of our training.

"Journeyman training is a must if we are to keep abreast of things, and it is your preogative to do this. Some of you have tried and have not had much success. There are those who fall on their face in attempting it. We do have ways to cope with the situation. We see very definite results with this. We have ways to cope with this situation. We see very definite results with this.

"We have one program in which seventy-eight people wanted to take the electricians course. There is nothing that sets you back so much as a failure. You do have to know certain things and you have to understand theory.

"We suggested to the Director of the Training Course that he take all three courses and give them to all 78 people, and he found three out of them that did well on all three courses. He told two of them that they would not do well in these. The other type is the man that is not qualified to be there. He finally did end up dividing the 78 men with the two knocked off between the basic and the original theory. There is another phase, and last year while in Long Island they heard us speak on training as I am doing now.

"He did have training in the Engineers Corps, and this fellow did not know you could not do journeyman training, and a couple of weeks later, I received a letter asking me 'could you supply a hundred and fifty training books?' I wrote to him and I did not hear from him, and I really did not expect to hear from him, and finally I received an order for 186 of these and several weeks later I dropped in on him and he had had less than two per cent absence. He sent

out a questionnaire to all members of the local union and said 'if you are interested simply send this in', and he received a number of replies, hence it is apparent that these people did express an interest.

"The next thing he did was to send them out and requested that they attach their check for $20.00 and then report on a certain date. The first night they came to class he told them that the people with 85% attendance would get their $20.00 back. One hundred forty-nine completed the course. Some of these people are now taking A. C. Theory. You can square people away in this manner, but he has a good system going now. There those people do believe in training and the ones who want training and participate in it are really loving it.

"There are a couple of more points I would like to make before turning this over to the committee. I told you I was long winded. Brother Blankenship made a couple of remarks that I concur with one hundred per cent. He did talk about discipline of the apprentice—what is expected of them, and how you go about bringing them into conformity. This is taken care of in the National Standards. In too many cases we adopt things without studying them. There is a lot of information in these standards. In too many cases we do adopt them to fulfill the legal aspect.

"For example, if your committee suggests you look at Section 3R of the standards, it says as follows: 'The Committee shall prepare and distribute to the apprentices, indentured under these standards, a written policy statement which sets forth the current rules and regulations for the conduct of the local program. Such policy statement shall be subject to revision by the Committee without notice.' Now, what does this mean?? In your standards you do not want to write a bunch of rules and regulations that are subject to necessity. You must have a written policy in this also to solidify this point and pin it down.

"Section 21 says as follows: 'The rules and policies of the Committee as presently in existence or as may be adopted from time to time shall have full force and effect under these Standards.' If you have not written this policy statement let me suggest you do so. Write down what you expect of your apprentice and give it to him and make him live up to it.

"Another thing was about raises. Should one who does not meet the actual performance you expect of him be promoted?? The only way to control the apprentice is to control his money. By all means look at Section Eleven under 'Wages.' That should be Section 12, and it says, 'Apprentices shall be employed on a stipulated hourly wage basis, as provided in the collective bargaining agreement. The schedule of apprentice wages will be stated in per cent of journeyman rate and provide for eight periods of 1,000 hours of employment each. Increases shall be subject to satisfactory progress on the job and in related instruction.'

"Now in Section 11, which is regarding advancement of the apprentices. It reads: 'At the end of each 1,000 hour period of employment the Committee shall examine the progress of the apprentice on the job and in related instruction. Action must be taken on each apprentice to approve advancement, extend present rating for a specified probationary period, or cancel his indenture.'

"Is the apprentice due a raise at 1,000 hours, or eight months?? It depends upon how long he has worked. Going on, it says the Committee shall examine the progress of the apprentice on the job, and so on. In other words in many cases our Committee uses the negative approach to this. Unless there is something wrong he should get a raise at the end of six months. One thing to consider is the requirement of 1,000 hours on the job, and he must meet both requirements as such and he must be acted upon for his raise by the Committee, and if not, he should not get the raise."

Mr. Farrington: "On this 1,000 hours, do you keep this on the basis of a forty hour week? What if you have an over-time job?"

Mr. Phillips: "If he has worked on the job a specified number of hours, you would use your own judgment. The important thing is a sensible decision by you on this apprenticeship."

Mr. Valentine, Toledo, Ohio; "Have you had any experience with any Joint Apprenticeship and Training Committee adopting the program of National Standards or do you have statistics on the number graduated per cent, per local?"

Mr. Phillips: "We based the preparation of the National material on what the industry thought was the appropriate apprenticeship of four years. Several of the areas have a five year program. If you want a program of this length there is no objection to it. I am going back to the blackboard again. We found that at the end of an apprenticeship most of our employers agree that a man has been given what he needs at the end of the four years. If there is anything he lacks, it is knowledge as related to instruction. We do think you can increase your number of hours. The man hours is one hundred forty four (144). This, normally, is four hours per night for six or eight, or so many weeks. If you desire a five year program that is fine. But we do not feel that five years is required to do the job of training. As I said, we do have a five year program in some areas and they do use these journeyman courses in the five year apprenticeships. We find that we can only recommend what we consider the ideal situation normally. We think it can be done in four years if applied properly and if you get performance out of the classroom.

"Now, in answer to your next question. How many apprentices are turned out on a National basis? This surely is impossible to determine. Selection of the apprentice is one of the prerogatives of the committee. It would be impossible to arrive at a proper figure through any other method. Many feel that you should not have excessive men. It is, in some cases, a valid thought.

"If, on the other hand, we do not turn out properly trained people we cannot possibly completely compete in this area. We are going to have to supply good men. This decision should be made by the Joint Committee. You should determine how many apprentices you are to take. The electrical industry needs more than we could now determine. The dollar value of the work installed takes fewer hours and we do have to allow for hours and allowances for our men. Don't cease your training program because of this, and by the same token don't throw down the barriers and take too many men so that the Joint Committee should carefully study the reports and see what the picture has been for past ten years and you can see how many men are working in the area.

"You must consider the work available to you, and on this you can try to lend your experience and come up with a reasonably good number. I have a rule of thumb on this, and this is they should have something like fifty apprentices in an area of 500 working. You have to look at the local situation, but don't let your apprentice program fluctuate with your local situation too far afield.

"One area had two first year, 26 third year men, and so many in the fourth year. They did not take a very long view of this program. You don't do this and still meet the requirements of apprenticeship. There is no set formula. We do need the experience and judgment of you men on the local committees to get this training job done. Analyze this locally, and we are always available to you to get the job done. I live in Washington, D. C. and I don't think the National Leaders can sit in judgment on the job."

Question from an unidentified person "Is the National Committee still supplying Efficiency Certificates?"

Mr. Phillips: "Yes, sir. When you request them, please give the completion date of the course. We do not want the date of the letter on it. Another little thing that came up in several areas in the state that **I should mention and this is an indenturing apprentice, under Davis-Bacon work.**

"If what you call an apprentice is working on a David-Bacon job the employer must pay him as a journeyman. You might send him out on a house job or something, but stabilize your actions by indenturing him before sending him out. He is registered and this makes him eligible as an apprentice.

"There is one more point. It has to do with selection fo all the men. Some of the local committees are getting into some trouble in this area. I should review what is going on up until the present time. There are several laws on the State books pertaining to non-discrimination. President Kennedy did get the ruling on this.

"There is one more point. It has to do with selection of all the organized labor is very concerned about the impact on our industries. At the time the Labor Department was acting on the compliance with non-discrimination, the Non-discrimination Act, there was C. I. J. C. going on and meeting regularly among themselves and with the government and they were formulating a policy by which we could conduct ourselves in complying with the various laws. This C. I. J. C. is made up of seventeen (17) International Trade Unions. Tom Freeman and Pete Schumaker of the plumbers, and all top level people, they came out with a policy statement which we think is completely fair and workable.

"From this policy statement we did prepare a selection procedure and N. E. C. A. has recommended it to us, and it is issued to each of the committees and they have had very few problems. Title 29 is the implementation brochure that spells out how you go about complying with the intent of non-discrimination. When this selection procedure was prepared it was reviewed by everyone and we did get a committment from the Secretary of Labor, and that, when it was used in good faith it would be acceptable. It also provided that those states which had state approved Councils should adopt it and submit to the committee for approval.

"Thirty of the 50 are council states. Most of the thirty did adopt Title 29 and meant it to be subject to interpretations of the various

individuals. Of the thirty states, we have had only a few problems. In two states we have had some difficulty. In Ohio there seems to be very minor differences, and I believe it is a matter of semantics, and approval, I believe, has been slow in developing and it is quite a bit different than the State of New York.

"What the outcome there will be I do not know. Mr. Coates is interested in cases of discrimination. Title 29 clearly states that industry should write their procedure. On what basis is it discriminatory? It is non-discriminatory, and we put out a cover letter and it says this will protect your program and it will also improve your selection program.

"It is very workable. We do recommend it to you. How this will be resolved, and something will have to be arrived at, and we will have to clear it up, but the selection procedure we know in our own minds will do the job of selecting the best qualified people for our industry without regard to race, color, religion or national origin. The problem is, can we use the approved methods of selecting the people qualified regardless of any other situation?"

"It has been very pleasant being here and we do thank you for having us here. I have spoken quite at length, and I appreciate the extra time allotted me. It has been a pleasure talking with you."

Question from an unidentified party: "It seems to be the policy in Cleveland that a man has to be indentured in the local, that is, before he is indentured into the local himself . . .

Mr. Phillips: (Interposing) "There is no such thing as indenturing an apprentice in the local. He is indentured in this case to the local Joint Apprenticeship and Training Committee. This means he serves under their direction, and what he does is sign an apprenticeship agreement in which he agrees to bind himself to the committee, and this covers the job.

"What you are referring to is membership in the local union. This has nothing to do with it. An apprentice does not have to be a member of the local union. He may come into the union after one year. This is why the probation period is for one year. If a man is in the program you have a year to get rid of him to exercise your prerogative to get him out of the program before the year is up.

Mr. C. Kistemaker: "I am involved in the Journeyman Training Program. I am trying to encourage a number in the area to step this up a bit. There is no reason when they cannot do this because I have called on their office a number of times, and I have all the information that I have asked for, and if you tell them what you want, they do dig an answer out for you. I want to point out that there is so much help coming to us from them, it is so foolish not to write them or to phone them on this."

Mr. James M. Pate, Secretary, J.A.T.C., Hamilton, Ohio, asked: "Is there a place for pre-apprenticeship in the program, and what is the status of groundmen in our system?"

Mr. Phillips: "The pre-apprenticeship has gotten to be a nasty word. The government has entered into this field, in some cases almost unilaterally, and so as far as pre-apprenticeship in this industry is concerned it is an open door policy, anyone can apply. We have so many advantages in our industry and we do turn away perfectly qualified

people because there is not enough job opportunities for them. I think it would be assinine to take people to field jobs which do not exist. We do have more applicants than we can accommodate."

Mr. Pate: "What's the status of the groundman? What's he??"

Mr. Blankenship: "You are referring of course to the only place in the I.B.E.W., that is in the outside construction work. What we call line work. It is not limited to line work. It is outside construction. The groundman has the status of the laborer in the electrical industry. We don't call them laborers. In the inside branch of the trade there is no such thing as a groundman. You do have a general foreman and so forth, and we did have, under the Fourth District Line Construction Agreement, we did have, for a number of years, the first six months of apprenticeship training where he would operate as a groundman. The young fellow would work as a groundman and at the end of six months he could apply and qualify for appenticeship. With the negotiations this year they eliminated that and they now go directly into the apprenticeship program. There is now no connection between them."

Mr. Pate: "Regarding pre-apprenticeship. If any local lets themselves get involved in a pre-aprenticeship program you will have the local politicians sticking their noses into these. They are trying now to. do this. They call it 'equal opportunity.' The boys that normally want to go into the trade have no way of going into these and unless you are from an indigent family you can't get in. It has no purpose whatsoever except you pass these tests that they give and if you want into the program, and pre-apprenticeship would be a problem for you. There are only one or two formats that can be considered desirable by the large majority of the people. Pre-apprenticeship gives you a big headache."

Mr. Allen: "Any more questions? If not, Mr. Phillips we do thank you for your time and your comments and your speech."

"At this time I would like to introduce you to a gentleman, **Mr. Charles Helldoerfer** who is a member of the Electricians Joint Training Committee, and he has been for a number of years, and he is President of the Helldoerfer-Castellini, Inc. here in the City of Dayton. Mr. Helldoerfer wil be our panel moderator."

Mr. Helldoerfer: "There is quite an area to cover here today. Before we start I would like to introduce our panel. **Mr. Blankenship** on my left. And **Mr. Phillips. Dave Snead,** Bohn and Snead, Inc., **Harry Wells,** President of Local No. 82, **Paul Snyder,** Principal of the Dayton Public Schools Night School Program, and **Roy A. Kistner,** Columbus, Ohio, Field Representative of N.E.C.A. There are lots of questions to be asked of you, and I want to ask Andy Phillips, and this is something that the apprenticeship committee wants to ask him, In what fashion does our local J.A.T.C. group, are they authorized as an authority on this program?"

Mr. Phillips: "Training is a joint responsibility. We think this is the ideal situation: In many cases getting back to contract clauses, many of these set up the joint apprenticeship committees, and that means this committee is to be the joint training and apprenticeship committee and that training is to be conducted by this committee.

"This does not mean that certain areas are included. Some are separated. Roy spoke on this, and the journeyman training is done

unilaterally. Some of them always will probably fill the void. Here, if you have a committee of journeymen training and do that to the very best of your ability, you might find there are other ways of so doing, but it is your prerogative to do this, and in the long run you will find it is time and money well spent."

Mr. Helldoerfer: "The first question is to determine the progress of the journeyman and Harry Wells might answer this for you. What about testing to determine progress?"

Mr. Wells: "I would say that I am very much in favor of not only periodic testing, but I am also in favor of maintaining our valuation of them as to whether or not they can carry the lines of the trade. As a journeyman and as a foreman in the trade, I would like to say that during the time that we were taking in apprentices that came in other than under our present procedure, and you have seen the man on the job losing out because they did not have a formal training, I believe it is for us to realize that it is very important then that we should not let go of our standard of evaluation. We should not let go of it."

Mr. Helldoerfer: "The second item was covered by Mr. Williams. He did cover that by stating that there should be 1,000 hours of work performed before you changed their grade. The next question would be, How effective have our apprenticeship procedures been over the past years, and so forth?"

Mr. Ray Schmidt, Attorney, Dayton, Ohio, answered by saying: "I think our programs have been very effective, and one important thing is, and I think this is very important, that a journeyman or you make out the report sheet on the apprentice, and that it be made out honestly, and actually he should make comments about the man's ability, and this gives the employer more to go on. I would say that our drop-outs are very few because of this. We don't want other than good mechanics. We are now at the point of getting real fine, qualified people in our programs, and I think if they do drop out it happens in the first year."

Mr. Helldoerfer: "Are there any questions from the floor?"

Mr. Merle Patterson, Member, Electrical J.A.T.C., Akron, Ohio, asked "What percentage of drop-outs are you talking about?"

Mr. Helldoerfer: "I would say you lose two out of ten."

Mr. Patterson: "Our drop-outs were minus five over a ten year period."

Mr. Helldoerfer: "That is real fine."

Mr. Patterson: "We have five year courses."

Mr. Helldoerfer: "Mr. Blankenship, should unionism be taught in regular programs or separately?"

Mr. Blankenship: "In the past few years I have changed my mind on this. I have always thought that unionism should be taught right along with the journeyman program. I still believe that basic unionism could be tied in with the training program. However, I believe that both subjects are entirely . . . well, that you are going to have 8,000 hours, and you have hardly enough time to teach either of them, so I would say to this extent that some of the basic principles of unionism should be brought into the class. However, if it is necessary to teach unionism, lets set up separate classes and not interfere with the training program. I must say, if asked this same question five years ago, I might have answered differently."

Mr. Patterson: "The state school board will not allow unionism taught in the public schools."

Mr. Paul Snyder, Consultant, Trade and Industrial Education, Dayton, Ohio, "I have never had any rules or regulations laid out for me on these classes. You have to realize that the school board is very sensitive to public opinion. Now, I don't know of any state laws, you see the money comes to the state government to us. The fund out of which your instructors are paid comes from the Federal government. We have to put public funds into these classes. If a taxpayer should file suit against us, then you could get the answer to this particular question. It has never been challenged in Dayton."

Mr. David Snead, Bohn & Snead, Inc., Dayton, Ohio, remarked: "I would like to say that certain people look on the word 'unionism' as a dirty word. It is not a dirty word because to me unionism is that we must work with them and not the contractor and against the union, but with the basic principle of working together for our common good."

Mr. Helldoerfer: "What about basic management? Can it be covered in this training program?"

Mr. Snead: "I don't think so. Regarding basic management do you mean management directly? As far as customers relationship is concerned? I think that when you send a man out to call on a customer he should create a good customer relationship while on the job."

Mr. Helldoerfer: "It is a matter of keeping records and helping to know something of the management requirements in the field, and it seems to be important as a part of the field work."

Mr. Snead: "There should be certain records. No, I don't think it should be. . . ."

Mr. Helldoerfer: (Interposing) "What should be the status of a returning serviceman who was drafted shortly after his probationary period?"

Mr. Blankenship: "My opinion is that the returning serviceman is in two catagories. If he did qualify during the probationary period he has been accepted into the program. I believe when he returns there are two factors. One is, Has he taken any electrical training? Many times this is done in the Navy, and also the Air Force, and in my opinion, he should be given an examination on his return and placed in the category where he best qualifies; however, if he hasn't had further training in the service, it is unfortunate, and in that case, he would have to begin where he left off. That is my personal opinion."

Mr. Phillips: "I think there is a good question here. It is one of legalities. I think you are obligated to keep his place for him. His military service doesn't disqualify him. I think you must reserve a place for him. I did think he would have to reapply within sixty days (60) days of the termination of his military service, and if he doesn't, he then forfeits his standing in the program. This is one of the requirements of the G.I. Bill, that he would have to apply within ninety (90) days, or so."

Mr. Helldoerfer: "Roy, this is for you. What do you think of paying over the scale for apprentices?"

Mr. Hauck, Cincinnati, Ohio, "I am looking at it from two angles. This was policy with some people and that is that always two months before he was going up, to give him a little raise. The minute he might

get some additional money every apprentice in the class finds out, and they get unhappy. I think in fairness to everyone he should be paid the going rate and stay with it because the guy you aggravated somewhere along the line will be a journeyman some day.

"In answer to this business of the next time an apprentice comes in and says 'I did not get it', I do tell the man that the other man did show enough initiative, and I show him that I would be happy to do for him the same as I did for the other boy. And this makes him try harder, and he will produce this little bit more for you, this little spark of initiaitve. And if you penalize the boy by taking away the initiative, and take it away from him to give it to somebody else who is sitting there on his fanny, well, a man won't do better if you take something away in this manner."

Mr. Blankenship: "If you do this in an area it is a different matter. You do get into this sort of thing. There are a lot of different opinions on this, and there might be other opinions. . . .

A remark was made from an unidentified person: "Along this line, I think we might very well build this same fire under all our journewmen. I believe if they sign a contract to work under certain wages they are entitled to the same per hour and the same number of hours. I don't know of anything that will put knives in another's back more quickly. It, I don't think it is a fair situation."

Mr. Robert W. Bertke, N.E.C.A., Cincinnati, Ohio, "In answer to that, you do have the same competition. These journeymen do show ability and end up in your supervisory places. They will supervise in the contractor's office sooner or later. I am in competition every day, and we try to do our job a little bit better than the others do. It goes right back to initiative, and if you don't get compensation for your initiative, then what is the use of going out and working."

Mr. James E. Golden, Electricians, J.A.T.C., Columbus, Ohio, "Mr. Kistner knows about me. I am Jim Golden from Columbus, and I agree with his statements somewhat. I would like to say we are not here to create a 'tongue war', and we are not here to baby our apprentices either.

"Number one, the boy is a four year apprentice. I go over here, and I know of cases where a boy makes a $1.80 per hour, and the contractor raises him to $1.90 per hour, which might be ten cents higher than he should make, and he goes and tells the other boys in the class 'I am making $1.90 for this certain contractor', and I don't think this is right. I agree that he serves a four year apprenticeship, you don't baby these boys, you do make them good men. You don't care what they do as long as they turn out as a good electrician. The next year the boy next to him that doesn't get a raise might turn out to be a better man than he is. We don't try to baby them. They are here to learn to be an electrician."

Mr. Blankenship: "In the district which I cover we have forty-seven apprenticeship programs. In a few of these cases they have paid apprentices over the scale. I can't think of anything for this, and I have never known in one single case where it hasn't caused trouble when you start paying apprentices more than they are entitled to. It causes trouble in every single case that comes to our attention."

Mr. Hauck: "I think they are forgetting one thing. That is, when and any time you go to a bargaining table for wages that is a minimum

wage that you pay your general foreman and right on down to the apprentice, it is a minimum wage and if a contractor so sees fit to pay him five cents or ten cents more on the hour, well, J.A.T.C. isn't. Don't pay that man one cent per hour less than that negotiation was signed for!"

Mr. Phillips: "I would like to make this point, reward and proper attitude enter into this. And I might say, we overlook the fact that the contractor only sees one phase of the boy's operation. A businessman might think he should be on a higher scale. The Joint Committee should decide the bid of apprentices . . . some of these things are already made and set down for you. The committee should control the apprentice wage. If you want to control the apprentice you control his pocketbook."

Mr. Wells: "I believe this, we are in this to build good apprentices into good journeymen. We do have problems, yes. We only have room for so many apprentices. We don't take in all of the apprentices that everybody wants. I believe there should be certain rules set up as to how many we are going to take in. That depends on the contractors and the union. How many can we provide work for? We have certain contractors who say we need apprentices to build it up, so when you have one graduate, give him to us. I feel this way, that we should analyze the thing and that our committee members should be instructed as to what they think, and if they need ten or eleven people to make up the losses, I don't believe we should ask the committee for thirty, or fifty, or even eleven or twelve.

"The contractor has a different feeling about this than we do. They take an apprentice and sometimes they get rid of him right before he becomes a journeyman and they let him go. And the contractors on this committee, the contractors do have an idea of loading up knowing that when they are through with them they know this is what we have. When they come into the local union we have them from that day forward."

Mr. Helldoerfer: "Anything further on this? All right. There was one question here interested me. 'Which is the best period of time of day to carry on the instruction program?' 'Day time or night time?' "Dave."

Mr. Snead: "I just can't answer that for you."

Mr. Helldoerfer: "Paul, what about that?"

Mr. Snyder: "We have an apprenticeship day program, and all others are on the night program. At one time there was a daylight class. But, due to certain difficulties on the jobs it was changed to night. I don't see a whole lot of difference. The apprentice might be tired in the evening after a full days work. We do have other people on the adult program and they work just as hard and drive, and are very interested in the program.

"On the other hand you have to make the apprenticeship program attractive enough that we might feel he is getting something from it. You have a weak contractors' association in this program. You have a strong union and a strong contractor. If you have a representative really working you will have a very large amount of interest in that program. I will say this, if you have a joint committee you must have representation."

Mr. Helldoerfer: "Harry, what about the day or night program?"

Mr. Wells: "Do we want to take in people whom we have to pay to go to school? I believe we get an entirely better type of apprentice when we require him to put something into the program. We have had a program where they went to school in the daytime and they felt that somebody was taking their freedom from them when they were asked to go to school at night. But these other boys are rather happy, and I would go so far as to say they were real happy that they are going into that, not because they have four hours to spend in school, and a lot of times they want to stay overtime and get into the meat of the thing. These boys that we have in there now feel, and I feel that whether or not they go to school in the day or night time is irrelevant. In my opinion I don't believe the apprentice should be given an opportunity to go to school at somebody else's expense and get paid also for going there too."

Unidentified party: "I don't agree with that. In an area like Cleveland . . . I can't help but feel that a night program would be out of the question. By running a day school you would have access to full time instructors. The wage scale in our area, it is such that it is comparable to four days pay. You can't come up with an unqualified answer and say that a boy is being paid for something he doesn't earn. It is true that labor is up considerably for the employer but we find in our area that the day school seems to work out best for us, and it depends upon your local school board; and we have had a lot of cooperation in our area. They have full time instructors whom, I feel, give you a better teaching situation."

Mr. Blankenship: "Gentlemen, I do have a plane to catch. I want to say that I am very happy to be with you here today. If you will excuse me I will leave now and make a run for the plane."

Mr. Helldoerfer: "Thank you very much Mr. Blankenship. It is a pleasure to have been with you today."

Mr. Hagar, Cincinnati, Ohio, "Could I go back and say, at Washington we did have a meeting of the E.M.C.A., and I.A. and they recommended that employment should be the total of the disabled, deceased, and entire journeymen through that particular year, plus the other percentage. . . ."

Mr. Helldoerfer (Interposing) "I am sorry, it has been about three hours, and it is a pretty long session for today. I think this is very fine, and I thank you for this. I would like now to close this meeting."

GRAPHIC ARTS INDUSTRY

Wednesday **October 27**

OPENING REMARKS

R. Reid Vance, Executive Secretary, Printing Industry of Ohio, Member, Ohio State Apprenticeship Council, Columbus, Ohio

CHAIRMEN

Ken Morse, Jr., Assistant to Personnel Manager, Reynolds & Reynolds Company, Dayton, Ohio

Daniel Beatty, Vice President, Allied Printing Trades Council, Dayton, Ohio

DISCUSSION LEADERS

Howard Massman, Printing Trades Coordinator, High School and Technical Education Program, Dayton, Ohio

Kemp Allemang, Supervisor of Employment, McCall Corporation, Dayton, Ohio

William L. Stickney, Administrative Assistant, Printing Industry of Ohio, Columbus, Ohio

Irvin G. Feldman, Representative, Bureau of Apprenticeship and Training, U. S. Department of Labor, Cincinnati, Ohio

CONSULTANTS

William Stover, Representative, Trade and Industrial Education Service, Ohio Department of Education, Columbus, Ohio

William Stewart, Representative, Trade and Industrial Education Service, Ohio Department of Education, Cincinnati, Ohio

R. Reid Vance, Executive Secretary, Printing Industry of Ohio, Member, Ohio State Apprenticeship Council, Columbus, Ohio

Irvin G. Feldman, Representative, Bureau of Apprenticeship and Training, U. S. Department of Labor, Cincinnati, Ohio

GRAPHIC ARTS INDUSTRY

(First and Second Sessions)

Mr. R. Reid Vance, Executive Secretary, Printing Industry of Ohio, and Member, Ohio State Apprenticeship Council, Columbus, Ohio, opened the meeting at 9:15 A. M. with a few words of welcome and then introduced the Chairman for the morning session, **Mr. Ken Morse, Jr.,** Assistant to the Personnel Manager, Reynolds & Reynolds Company, Dayton, Ohio.

Following brief introductions of individuals attending the meeting, Mr. Morse introduced **Mr. Irvin G. Feldman, Representative,** Bureau of Apprenticeship and Training, U. S. Department of Labor, Cincinnati, Ohio. Mr. Feldman discussed recent federal legislation (generally referred to Title 29) designed to afford equal apprenticeship opportunities for all individuals, including the areas of race and religion. It was also noted that worthwhile contributions can be made in this respect by the effective use of joint-apprenticeship committees.

Mr. Kemp Allemang, Supervisor of Employment, McCall Corporation, Dayton, Ohio, was next introduced and reviewed the selection system of apprentices at the McCall Corporation. In this organization, emphasis is placed in obtaining the most qualified person. Mr. Allemang outlined the existing methods. The last discussion leader to be introduced by Mr. Morse was **Mr. William L. Stickney,** Administrative Assistant, Printing Industry of Ohio, Columbus, Ohio. Information was presented relating to the reasons for testing in the apprenticeship program. Emphasis was placed on the need for the graphic arts industry to survey and utilize a testing program that best meets its needs. Mr. Stickney brought along several types of tests and other related information that were available and examined by the group members.

Following the presentation and informal question and discussion period lead by Mr. Morse ensued. Twenty individuals were in attendance.

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At approximately 1:30 P. M. **Mr. Vance** introduced the Chairman for the afternoon session, **Mr. Daniel Beatty,** Vice President, Allied Printing Trades Council, Dayton, Ohio. Mr. Beatty then introduced the Discussion Leader, **Mr. Howard Massman,** Printing Trades Coordinator, High School and Technical Education Program, Dayton, Ohio, and the four consultants, **Mr. Vance, Mr. Feldman, Mr. William Stover,** Representative, Trade and Industrial Education Services, Ohio Department of Education, Columbus, Ohio, and **Mr. William Stewart,** Representative, Trade and Industrial Education, Ohio Department of Education, Cincinnati, Ohio.

Mr. Massman lead the group utilizing the conference technique in determining the skills required to enter the graphic arts trade as well as the methods an individual may use to up grade himself on the job. An outline of a new test that is being constructed by the Trade and Industrial Education Services, Ohio Department of Ed-

ucation, Columbus, Ohio, was presented to the group. It is planned that the test will be given on a nationwide basis to graphic arts students. Suggestions for improving the outline were requested by Mr. Massman and a constructive discussion followed.

This was followed by Mr. Massman leading the group in a discussion concerned with future training in the graphic arts field. Considerable interest was focused by the group in the relationship of technical schools and vocational schools with the overall graphic arts program.

Upon concluding the discussion, the meeting was adjourned at approximately 4:15 P. M. Nineteen individuals were in attendance.

INDUSTRIAL MAINTENANCE TRADES

Wednesday **October 27**

CO-CHAIRMEN

Willard G. Thuma, Labor Relations, Frigidaire Div., G.M.C., Dayton, Ohio

Lester Irvin, Chairman, Skilled Trades, I.U.E. - (GMC) Plants, Dayton, Ohio

PANEL MEMBERS

J. J. Eyre, Manager, Eng. Squadron & Apprenticeship Program, Goodyear Tire & Rubber Company, Akron, Ohio

E. R. Elkins, Director, Skilled Trades, U.R.W. International Union, Akron, Ohio

John P. Heinz, Apprentice Coordinator, Ford Motor Company (Foundry & Engine Div.), Cleveland, Ohio

Robert J. Usher, Chief Training Branch, N.A.S.A.—Lewis Research Center, Cleveland, Ohio

SECRETARY

Mrs. Ray Lesniok, I.U.E., Local 707—AFL-CIO, Cleveland, Ohio

CONSULTANTS

Dr. D. H. Price, Department Head, Trade & Industrial Education, University of Cincinnati, Cincinnati, Ohio

Ralph C. Neal, Apprentice Training Consultant, Ohio State Dept. of Education, Columbus, Ohio

William J. Kacvinsky, Representative, Bureau of Apprenticeship & Training, U. S. Department of Labor, 386 The Arcade, Cleveland, Ohio

Richard Swain, Representative, Bureau of Apprenticeship & Training, U. S. Department of Labor, Detroit, Michigan

INDUSTRIAL MAINTENANCE TRADES

First Session

At 1:00 P.M., conferees assembled in the hotel lobby of the Sheraton-Dayton for transportation to the Frigidaire Division, G.M.C. Plant in Dayton where their first session was held. The meeting was called to order by **William J. Kacvinsky,** Representative, Bureau of Apprenticeship and Training, U. S. Department of Labor, Cleveland, Ohio. Mr. Kacvinsky welcomed the delegates to the 15th Annual Ohio Apprenticeship Conference and thanked **Mr. Willard Thuma** for the extensive and interesting plant tour of the Frigidaire Refrigerator Appliance Division. He also expressed his thanks to **Mr. Lester Irvin,** Chairman, Skilled Trades, I.U.E. (GMC) Plants, Dayton, Ohio, for his help in arranging the tour.

Mr. Kacvinsky then introduced Mr. Willard Thuma, Labor Relations, Frigidaire Division, G.M.C., Dayton, Ohio who discussed apprentice selection at Frigidaire by the point system. He stated that one of the most important facets of a good apprentice is a thorough screening. At Frigidaire they have a uniform method of selecting apprentices, and have had no problems with discrimination. Selection of apprentices must be in order of rank at the time of selection. Ranking lists can change daily, weekly, monthly, by the highest scoring apprentice being put on top of the ranking list.

"To initiate the original apprentice program, records were kept on 1,400 journeymen. This material was then computed and evaluated, and from this information we determined which tests to use in our apprentice selection. The new law says that notices must be posted with schools, the Board of Education, and the Ohio Employment services when you are establishing selection of apprentices.

"Our program requires non-employees to be 18 to 26 years of age; employees 40 years or younger must have no physical limitations to perform the trade or craft he chooses. Apprentices must be a high school graduate, or equivalent, with at least a C average. The apprentice also must provide a transcript of his scholastic grades before selection, from his school records. Our applicants may make three (3) craft choices. He will not necessarily be given the craft of his choice, this is determined by his scores on his tests.

"On selection of apprentices, we must make people aware that there are unscrupulous schools who will train people to take tests for training programs. The people who enroll in these schools may score high on evaluation in these tests, but do not necessarily make good apprentices. In fact, many know nothing about a craft. They also fail as apprentices."

A delegate from Thompson Ramo Wooldridge, Inc., Cleveland, Ohio, asked if the tests given by Frigidaire were standard tests. Mr. Thuma answered yes, but said that they will not give this information to the public. If they did, a person could study for the testing and as a result score high and not necessarily be good craft material. Mr. Thuma then introduced Mr. Lester Irvin, Chairman, Skilled Trades, I.U.E., (GMC) Plants, Dayton, Ohio, for a few remarks.

Mr. Irvin went on to explain the need for better understanding of apprentice selection today. He said that years ago a person was just put on the job as a helper and then became a journeyman if he could perform the work. The equipment of today will not permit this. It is too complex and too technical. That is why it is very important to have a good selection program for apprenticeship training. It must be kept uniform and meet the needs and standards of todays complex methods.

Mr. Richard Swain, Bureau of Apprenticeship and Training Representative, U. S. Department of Labor, Detroit, Michigan, asked what the breakdown was on points.

Mr. Lester Irvin explained that they have an 8,000 hour program. The apprentice is paid his hourly rate for 4 hours of related instruction at Patterson School, this is during working hours. Each apprentice is given approximately a $37.50 tool allowance also. The schools will cooperate completely with their needs of apprenticeship training.

Mr. John P. Heinz, Apprenticeship Coordinator, Ford Motor Company, Foundry & Engine Division, Cleveland, Ohio, asked how many hours of related instruction was given to the apprentices at Frigidaire. Mr. Irvin answered that 672 hours of related instruction was given at Patterson School of Dayton.

Mr. J. J. Eyre, Manager, Engineering Squadron & Apprenticeship Program, Goodyear Tire and Rubber Company, Akron, Ohio, asked how the apprentice received his automatic increases. Mr. Irvin explained that he received them every 916 hours.

Mr. Ray Lesniok, Representative, I.U.E., Local 707, Cleveland, Ohio, asked if the apprentice receives his journeyman card after 8,000 hours or is he required to work 1,000 hours additional. Mr. Irvin explained that he receives his journeyman card after 8,000 hours. No additional hours are required.

Mr. Kacvinsky then stated that he hated to interrupt the open discussion but it was necessary to adjourn this meeting in order to load the bus for the trip back to the hotel so that the bus could beat the rush hour traffic and get the conferees back in time for the evening banquet. The meeting adjourned at 3:50 P. M.

IRONWORKING TRADES

Wednesday **October 27**

CO-CHAIRMAN

James A. Watters, Sr., Chairman, Ironworkers Joint Apprenticeship Committee, Member, Ironworkers L.U. #290, Dayton, Ohio

Herbert Henry, Representing, Maxon Construction Company, Dayton, Ohio

SPEAKERS

D. A. Samuelson, President, A. G. Samuelson Construction Co., Springfield, Ohio

J. W. Hardesty, Apprenticeship Director, International Association of Bridge, Structural and Ornamental Ironworkers, A.F.L.-C.I.O., St. Louis, Missouri

PANEL MEMBERS

The members of the Dayton Area Ironworkers Joint Apprenticeship Committee:

James A. Watters	Lester Detrich
Edward Binegar	Charles Davis
Richard Hopkins	Mac McCallum

CONSULTANTS

Dr. Charles Nichols, Representative, Trade and Industrial Education Service, Ohio Departmental of Education, Kent, Ohio

James Noel, Representative, Trade and Industrial Education Service, Ohio Department of Education, Columbus, Ohio

Harry S. Quine, Representative, Bureau of Apprenticeship and Training, U. S. Department of Labor, Akron, Ohio

IRONWORKING TRADES

(First & Second Sessions)

Co-Chairman **James A. Watters, Sr.,** Iron Workers, Local 290, Dayton, Ohio, opened the conference by welcoming the conferees to Dayton and then he gave a brief outline of the program for the day.

As first speaker, he introduced **Mr. J. W. Hardesty,** Apprenticeship Director, Int'l. Association of Bridge, Structural and Ornamental Ironworkers, AFL-CIO, St. Louis, Missouri. Mr. Hardesty stated that the selection of apprentices for the trade had been done entirely by local Joint Apprenticeship Committee action and selection standards had been flexible according to individual committee operations.

"Now there are Federal and State regulations which bring the selection of apprentices into line with Equal Employment Opportunity requirements of both State and Federal laws. In these selection standards there are now several basic requirements; non-discrimination clause; selection according to qualifications and dissemination of information regarding applications. This information must include the number of openings and the date, place and time of application.

"In June of 1964 a package suggesting selection procedures was mailed to all local unions and apprenticeship committees. It outlined the State and Federal regulations, selection procedures to be followed and samples of applications, applicant evaluations, tests, and a form for the dissemination of information on applications. The law says that the local employment service and local schools must be notified. This may be done either directly or by notifying the local B.A.T. Representative, or the Apprenticeship Information Center if there is one in the community.

"In the final selection of applicants the points for relatives are out in spite of the efforts of the International Union." Mr. Hardesty read a list of Ohio JAC's to secure information on those who are in compliance with E.O. Regulations or the reasons why not. Material was mailed to the JAC's from the Iron Workers International Office and they contained the entire procedures for Equal Employment Opportunity compliance.

Mr. Hardesty stressed the importance of adopting National Pattern Standards by local JAC's so that there would be uniformity in the training.

The International Union is preparing a folder containing all material on apprenticeship to date. When it is approved a copy will be sent to all local unions and JAC's. This folder is in work at the present time, but there may be changes before it is issued. The folder is designed as a handbook to JAC's and contains material which will assist them in making decisions in the operation of apprenticeship programs.

Mr. Hardesty touched briefly on the history of apprenticeship both in general and in the Iron Workers trade. At the 1951 convention, President Lyons started action on developing essential standards to be included in the constitution as a guide for local unions. This

was done at the 29th convention. In 1955 the National Apprenticeship Director was appointed to coordinate apprenticeship activities for Iron Workers throughout the country and to develop material to assist local committees in operating their programs. The standards were flexible and there were no definite selection requirements.

"In 1964 the apprenticeship standards were removed from the constitution, since by that time there were both U. S. and State apprenticeship laws and regulations passed concerning apprenticeship.

"Pattern standards were developed and sent out to all locals and JAC's. These pattern standards are still flexible and are to be regarded as a sample. The International Union does not dictate to the local unions, but they do point out what they find best and make recommendations accordingly.

"In considering the objectives of apprenticeship, there are four bodies involved; the employer, the industry, the union and the apprentices."

In answer to questions from the floor Mr. Hardesty stated that the transfer of membership of the apprentices between unions should be done in accordance with the constitution. He also stated that JAC reports to local union meetings are not required but are highly recommended, to keep the membership advised of the current activities and problems of the Joint Apprenticeship Committee. These reports should be given under "good and welfare."

Mr. D. A. Samuelson, President, A. G. Samuelson Construction Co., spoke on the subject "Is the Program Important to the Contractor?"

Mr. Samuelson remarked that as a former member of Local 290 he had a good understanding of the people and their problems in the Iron Workers field and that he had a personal view as well as views as an employer. As an employer's view of apprenticeship he made several points on applicant qualificatios. First, the applicants must have potentials for the trade. It is nice if he is a good fellow, but he must have personal qualifications. Education is important in terms of the man's ability to become a qualified journeyman. He must have the mental qualities to learn on the job and in the related classes. The man must want to learn the trade, aside from earning joureyman's wages.

In addition to the work of the trade the man must be safety conscious and be aware of the value and need for good workmanship. Accidents are costly to the employer, the union and the man. Industrial compensation is a burden to the industry as a part of the overhead, but there is no real compensation for accidents.

In the related classes the instructor must inspire the man to learn and develop a continuous interest in learning. The instructor must be tolerant of younger people and must have the knowledge and have ability to transmit it to the apprentices. If possible, he should have special instructor's training. Iron Workers are builders, and are creative, they must have pride of workmanship.

Mr. Samuelson came from a family of bricklayers and he considered the pride or workmanship was fifty per cent of their qualifications.

Big jobs are fine, but they are a small percentage of the con-

sidered total, and in apprentice training attention should be paid to the needs of small employers.

Management must participate more actively in the development of their operations of apprenticeship programs, as well as furnish the necessary funds. Rules and regulations are necessary, but the industry must develop their own manpower to meet its own needs. They must sell the trade to apprentices. Work is now being lost due to lack of competent manpower. The industry sells services, but manpower and not equipment is the problem. The employers are seriously interested in apprenticeship and are more than willing to cooperate.

Mr. McDonald, Iron Workers, Local 17, Cleveland, Ohio, gave his views on present problems affecting workers in his area which included minority problems. Cleveland has minority problems which will increase with time. The Government encourages minority group individuals to move into the construction trades. They had no great previous interest in these trades.

The Cleveland J.A.C. has adopted E.O. selection procedures, but the turnout from the minority groups has been very disappointing. They had 50 applicants of whom 10 were negro. In spite of lowering entrance standards, only one Negro qualified and is now on the program. The pressure from minority group organizations is still on, especially on Federal construction. There are still a number of conflicts with labor. Cleveland has an examination coming up for both apprentices and journeymen, and they will stick to qualifications for both types of men. The minority problem affects the larger cities now, but will come up in smaller cities very soon.

Mr. Walter Moore, Local 17, Cleveland, Ohio, stated that they have had good results from their program. The last group of applicants numbered 150. Sixty showed for instruction, 49 applied for the tests, 30 were interviewed and 19 accepted. With better selection absenteeism dropped and Cleveland now has 98 per cent attendance in related classes. In training the apprentice on the job he should be shown not only "How" but "Why". If a man is working under a permit, he should be kept off work involving Federal funds. Mr. Moore has found that apprentices lacked knowledge of the conditions which prevail in the construction industry and did not understand lost time due to the fluctuation of work.

Also the sponsors lack information in promoting applications for apprenticeship. Following the above remarks, the Chairman called for questions or discussions from the floor. There was active participation by all the conferees until the Chairman closed the discussions for lunch.

* * *

Co-Chairman **Herbert Henry,** Maxon Construction Company, Dayton, Ohio, opened the afternoon session, and after brief remarks he again introduced Mr. Hardesty who reviewed and expanded on his presentation in the morning session.

He again referred to the apprenticeship manual which is being prepared by his office. The manual will contain a number of sections which cover important factors in the operation of apprenticeship programs. He considers the indoctrination of apprentices to be very important, and that section has information and instructions for the guidance of the apprenticeship committee.

There is a section on Joint Apprenticeship Committee rules for the operation of the program. It contains the rules that govern both the apprenticeship committee and the apprentices, and suggests penalties for the infraction of the rules. The apprentices must be under the control of the J.A.C. at all times.

There is also a list of tools to be purchased by the apprentices during the term of apprenticeship. Included also is an article on apprenticeship by Robert M. Earley, Bureau of Apprenticeship and Training. This article was published in the "Iron Worker" in August 1964 and Mr. Hardesty recommends that this be read by all apprentices. He also read "One Dozen Ways to Cancel Your Apprenticeship Agreement." He then asked for questions from the floor.

There was a floor discussion and questions regarding the value of the manual. Its correct name is "Reference Manual and Guide on Establishment and Operation of Iron Workers Apprenticeship Program." Mr. Hardesty hopes to have the manual ready by February 1966.

A representative of the Cincinnati Apprenticeship Information Center visited the afternoon session. He stated that his purpose in being present was to secure information for screening applicants for the Iron Workers trade. He explained the operations of the A.I.C. in screening and referring applicants to particular trades.

There was a general discussion involving very active participation by all conferees and covering many subjects bearing on the operation of apprenticeship programs; apprentices completing before their time; instructional materials used by instructors; up-grading and procedures, and effect on deferment; Manpower Development and Training Act as applied to the construction industry; incentives for training, laws in Congress, tax deductions; non-union shops; union problems; Right to Work Laws; affect of automation on Iron Workers; compensation of instructors.

There is a trend for Iron Workers J.A.C. to set up their own related facilities. The reasons were explored together with the advantages and disadvantages.

Mr. Henry closed the session with his thanks to the conferees for their attendance and for their participation in a very interesting conference.

Meeting adjourned 4:45 P. M.

MACHINE, TOOL & METAL TRADES

Wednesday **October 27**

OPENING REMARKS

Gerald D. Biddle, Member, Ohio State Apprenticeship Council, and International Representative, Skilled Trades Department, U.A.W., C.I.O., Toledo, Ohio

CHAIRMAN

John Sieger, Manager of Training, Ford Motor Company, Dearborn, Michigan

SPEAKER

Roy Harp, Training Specialist, Ford Motor Company, Stamping Plant, Bedford, Ohio

PANEL MEMBERS

Joseph Milgski, Jr., M.E.S.A.—Local #4, Toledo, Ohio

George E. Freiberger, Chairman, Skilled Trades Committee, Local 87, U.R.W., Dayton, Ohio

Frank Gagliardi, Representative, Skilled Trades — U.A.W.-C.I.O. Cleveland, Ohio

John Sieger, Mgr. of Training, Ford Motor Company, Dearborn, Michigan

H. E. Meeker, Personnel Mgr., International Harvester Co., Springfield, Ohio

Roy Harp, Training Specialist, Ford Motor Co. (Stamping Plant) Bedford, Ohio

CONSULTANTS

Robert M. Reese, Trade and Industrial Education, Ohio State University, Columbus, Ohio

Oscar R. Poole, Representative, Bureau of Apprenticeship and Training, U. S. Dept. of Labor, Cleveland, Ohio

MACHINE, TOOL & METAL TRADES

(First Session)

Mr. Gerald D. Biddle, Member, Ohio State Apprenticeship Council, International Representative, Skilled Trades Department, U.A.W., C.I.O., Toledo, Ohio, introduced members of the panel and welcomed them to the 15th Annual Ohio Apprenticeship Conference sponsored by the Ohio State Apprenticeship Council.

He then turned the meeting over to **Mr. John Sieger**, Manager of Training, Ford Motor Company, Dearborn, Michigan, who was to serve as Chairman of the Session.

Mr. Sieger: "We are meeting here today because of our interest in apprenticeship. Most of us have been engaged in this activity for many years. The importance of qualifications and selection of apprentices are factors which make for successful apprenticeship.

"Today, **Mr. Roy Harp,** Training Specialist, Ford Motor Comany Cleveland Stamping Plant, will talk to you about: Apprenticeship Qualifications and Selection."

Mr. Harp: "Thank you, Mr. Sieger. It is indeed a pleasure to be at this 15th Annual Apprenticeship Conference.

'I have had the good fortune of being able to attend each Conference since my transfer to Ohio in 1955. I have appeared on various panels in the past few years but this is the first time I have had the honor of being a principle speaker.

"Our Session Topic is, **'Apprenticeship Qualifications and Selection.'** This is a subject that has been discussed—at least briefly—at most of the past Conferences that I have attended, but I don't believe these past discussions have given us something concrete to use in our various selection procedures.

"Possibly today we can combine our methods of selection and determine what the requirements should be—to give us a candidate with the necessary qualifications—so that at the end of four years of training, we have a good journeyman.

"I believe that this is the tougest job we have in Apprenticeship Training. All of us, I am sure want the best and most deserving men on our programs. I am also sure that this is not always accomplished for a number of reasons. A candidate may look good on paper but not possess the mechanical ability, or he may have excellent mechanical ability but lack the mental capabilities to complete his related school work.

"Each time we have put a young man on our Apprenticeship Program, the thought has always come to my mind that there is another young man who is being condemned to a job in an unskilled occupation. Frankly, this frightens me a great deal.

"Most of you in this room have been given this power to shape the destinies of many young men, and I am sure that you try to be fair to your company and fair to the candidates—to do this we must

use every tool available to select the best man for the job—the most deserving man for himself.

"I really don't believe there is a sure way to be 100% successful in selecting the right man for apprenticeship all the time—but I do believe we can reduce the number of dropouts by combining our ideas in this area of Qualification and Selection.

"I am employed by a company that has graduated almost 11,000 apprentices into the ranks of 27 different Journeymen Classifications, and it would seem that we would have our selection programs down to a science that would defy improvement. Unfortunately, I don't believe that this is true—or maybe I should say fortunately; and I am sure most other persons in Apprentice Training at Ford don't believe this is true, because the moment you think you have the best that there can be in any field, that is the moment you stop looking for better ways to do the job and you and your company begin to stagnate.

"Through the years, our apprentice selection procedures have changed several times and each time we have seen improvements in the number of completions compared to the number of enrollments. This would indicate that we are at least moving in the right direction.

"The last time we changed our procedures was in September of 1964. At that time, the requirements for apprenticeship at Ford was lowered. This may sound strange at a time when everyone is trying to improve their selection procedures, but I would like to explain our thoughts in this area a little later if you don't mind.

"First, I would like to go back into a little history or apprenticeship training at Ford, and in this way explain how we have reached our present selection procedures.

"Apprenticeship training first began at Ford in the year 1915 and the candidates were picked simply by appearance or because of relationship to a Ford employee. The apprentice would be placed in the Apprentice School set up on the balcony of our Highland Park Plant. If they looked they had mechanical ability, they were allowed to complete the apprenticeship. If not, they were either terminated or placed on a production job.

"We did have one excellent source of apprentices in 'Ford Trade School Graduates.' Until the closing of this school in 1958, all graduates were automatically placed on an apprenticeship if they desired.

"It wasn't until approximately 1941 that Ford started testing all applicants for hourly employment. The applicants with the best scores on these tests were placed on the Apprentice Program. Through all of this time, Ford was operating without a Union. In 1941, the hourly employees voted in favor of Union membership. In the latter part of that year, the Joint Apprenticeship Committee was formed and certain, more uniform selection procedures were established.

"The J.A.C. held its first meeting on November 11, 1941, and in this meeting, it was agreed that Ford Trade School Graduates would continue to be automatically eligible for apprenticeship. They also agreed that all production workers between the ages 18-21 who were qualified, would be eligible for apprenticeship and that those qualified would be placed on the program in order of seniority.

"It wasn't until 1945 that selective tests were given to apprentice candidates—but they still continued to use seniority as the basis

for placement as long as the tests were passed and high school records were satisfactory.

"Finally, in October 1947, the J.A.C. changed the policy of selecting apprentices from one of seniority to one of seniority and qualifications. A motion was made and approved that an applicant with outstanding qualifications would be given preference over the seniority man. Until that time, our hands were tied in the selection procedure in that we could not take young men out of high school no matter how good their qualifications might be because they were not seniority employees.

"It was not until 1949 that any studies were made to determine how successful our selection procedures had been— 34 years after the start of Apprentice Training at Ford, and after approximately 5,000 apprentices had graduated to Journeymen status. The results of these studies were alarming. To get these 5,000 journeymen—close to 15,000 young men had been placed in apprenticeship training.

"Needless to say, action was started immediately to improve this situation. In 1950, the Manager of Training assigned a psychologist to work with the Aprenticeship Training people to select standard tests which would do a better job of screening applicants. Two tests were selected—one was the Wonderlic Personnel Test to measure mental ability and the other was the Bennett Mechanical Comprehension Test to measure mechanical ability. Also an organized system of following the progress of the Apprentice and direct counseling with corrective action was inaugurated.

"In 1956, the selection procedure was refined by the J.A.C. to include qualifications in addition to the psychological tests. With this procedure the applicant is given points in various areas—test results, high school record, work experience, Ford employment, and an evaluation by the Company and Union interviewers.

"In 1958, a comparsion was made between groups placed on course from 1947 to 1957, and the graduates through the same period. It showed the completion percentage to be 60.6%. A similar study was made a year later showing further improvement to a completion rate of 64.1%—30% greater than the 34.1% in 1949. Also during 1959, two studies were conducted to isolate the groups who had taken the tests adopted in 1950 from other apprentices—the group placed on course from 1951—1955 was compared to the graduates from 1955-1959. The completion rate was 68.5%.

"All terminations of apprenticeship in 1961 were tabulated. Eighty per cent of the terminations represented graduation to Journeyman status. The other 20% were divided among those who:

Quit to go to college
Quit to accept other employment
Removed at their own request
Removed for cause by J.A.C.
Unable to continue because of illness or accident.

"Through the years—unlike most industries—the J.A.C. at Ford has, on occasion, lowered the requirements for filing application for Apprenticeship.

Example: 1957 removed upper age limit for apprentice applicants who are seniority employees.
1964 lowered high school requirements to completion for 10th grade.

and at first glance, it appears that we are lowering our standards for apprenticeship—This is not the case at all. We still select the candidate with the highest point accumulation on his application evaluation.

"What we have done is broadened the area in which apprentices may be selected. Because a man has passed his 27th birthday does not mean that his learning powers have vanished. True, in some cases they diminish to some degree, but we have proven that those in the the upper age bracket that meet our selection requirements can make very good apprentices and in turn, first-rate Journeymen.

"As to the lowering of our high school requirement—I will say that at this early point since this has gone into our system the only effect felt, as least at Ford's Cleveland Stamping Plant, is that we test a larger number of applicants and experience a greater number of failures on these tests. The majority of the applicants taking our tests with only a 10th grade education, fail to pass the tests. The few that have passed have not been able to accumulate enough points in other areas to be considered for apprenticeship.

"Gentlemen, I am well aware that some companies have a much more rigid selection procedure than we have at Ford. Their tests, I understand, are much lengthier and possibly reveal more information about the candidate than ours do. Maybe we at Ford should change our tests or our procedures in other areas. Or—maybe some of you would like to adopt some or all of the procedures at Ford. That is what we are here for—to exchange ideas—to improve apprenticeship training in any way possible.

"I would like to state a word of caution in setting standards for apprentice selection—remember, that our primary job is to increase the number of working journeymen in the trades. If standards are set too high we will have a group of apprentices and eventually, journeymen that will not be happy in their trade. They will drop out to enter college or seek jobs in managerical positions. I certainly have nothing against any man advancing himself, but we must have the majority of our apprentices stay in the trades or we are failing in our responsibility to increase the number of skilled tradesmen necessary to meet the challenges of our advancing technologies."

Mr. Sieger then thanked **Mr. Roy Harp** for his fine presentation on qualifications and selection used at the Cleveland Ford Stamping Plant.

An exchange of ideas followed. Many questions were asked of the panel members on qualifications and selection for all metal trades apprenticeship.

Examples were cited by representatives of various companies on their methods of selecting apprentices.

Chairman **Sieger** thanked all participants and panel members for their contributions and interest shown at this session. Meeting adjourned at 4:30 P. M.

OPERATING ENGINEER TRADES

Wednesday October 27

CHAIRMEN—MODERATORS

Kenneth W. McKee, Vice president, J. D. Fowler Company; Chairman, Mahoning Valley Operating Engineers Joint Apprenticeship Committee, Youngstown, Ohio

Calvin J. Malone, Secretary and Coordinator, Valley Operating Engineers Joint Apprenticeship Committee, Youngstown, Ohio.

Ray E. Stephens, Vice President, International Union of Operating Engineers Local No. 18, Cleveland, Ohio

Charles W. Rinehart, Manager, Industrial Relations, Ohio Contractors Association, Columbus, Ohio.

SPEAKERS

Vance Harper, W. L. Harper Company, Cincinnati, Ohio. Topic: "Training Concepts"

William L. Sells, State Supervisor, Bureau of Apprenticeship & Training, U. S. Department of Labor, Columbus, Ohio. Topic: "Federal Laws Affecting Apprenticeship Training."

John W. Palmer, Attorney, Knepper, White, Richards and Miller, Columbus, Ohio. Topic: "Federal Laws Affecting Aprenticeship Training."

Walter K. Bulford, Business Manager, Local #66, Pittsburgh, Pennsylvania Topic: "Progress Reports"

H. R. Przelomski, Representative, Bureau of Apprenticeship and Training, U.S. Department of Labor, Washington, D. C. Topic: "MDTA Operating Engineers' Programs"

CONSULTANTS

Paul A. Moore, Representative, Bureau of Apprenticeship and Training, U. S. Department of Labor, Youngstown, Ohio

Jack Volkmer, Representative, Trade and Industrial Education Service, Ohio Department of Education, Findlay, Ohio

OPERATING ENGINEERING TRADES

(First & Second Sessions)

The Chairmen and Moderators for these sessions were: **Kenneth W. McKee,** Vice President, The J. D. Fowler Co., Youngstown, Ohio, Chairman of the Mahoning Valley Opertaing Engineers, J.A.C.; and **Calvin J. Malone,** Director of Apprenticeship and Training, Local #66, Pittsburgh, Pennsylvania.

I. Welcome: Introduction and Opening Remarks by Chairmen

Robert L. Miller, Secretary and Coordinator, Mahoning Valley Operating Engineers Joint Apprenticeship Committee, Youngstown, Ohio.

"Welcome, Gentlemen, to the Operating Engineers Sectional Meeting of the 15th Annual Ohio State Apprenticeship Conference. I would like to introduce **Mr. Robert Emrick,** Coordinator of Local #542 the Philadelphia Joint Apprenticeship Committee, Mr. Emrick's territory extends to twenty-nine counties of eastern Pennsylvania and the entire state of Delaware. I would also like to recognize **Mr. George Pearson,** Local #370, Spokane, Washington; **Mr. Bob Kinghorn,** Local #370, Pocatello, Idaho and **Mr. Scott Spaw,** Local #428, Phoenix, Arizona.

"At this time let me introduce the two men who will act as Co-Chairmen and Moderators for this morning's session. (Mr. McKee and Mr. Malone were then introduced.)

"Without any further preliminaries, I'll turn this session over to Mr. McKee."

II. **Remarks:**

Mr. McKee—"At this time, I would like to introduce **Mr. Clarence C. Hanna, Executive Vice President of the Builders Association of Mahoning Valley."** "Mr. Hanna."

In the Youngstown area, I believe we enjoy one of the finest labor-management relationships in the United States. I have found Local #66 to be one of the most responsible labor organizations with which we deal. As a word of advice to other people thinking of starting an apprenticeship program, I would point out that mutual trust is manatory between the parties involved.

"To demonstrate, since the Mahoning Valley Operating Engineers Joint Apprenticeship Committee was founded, they have had their office in the offices of the Builders Association. The respective coordinators—all members of the local union—have enjoyed a privilege which is probably unique in the fact that they have had keys to the offices of the Association. They can at any time enter the building and, should they wish to, examine any of the files of the contractors association. This trust has never been abused and not one paper has ever been disturbed or any secrets violated. Gentlemen, I submit that only when mutual trust like this is maintained, can true cooperative effort be put forth to initiate an apprenticeship program to upgrade the industry. Gentlemen, I thank you for your attention."

Mr. McKee—"Thank you, Clancy. Now, gentlemen, at this time I would like to introduce **Mr. Jack Volkmer, Trade and Industrial Education Service, Ohio Department of Education, Columbus, Ohio.** Mr. Volkmer."

"It has been my privilege to sit in on your session for the past several years, but this has been my first opportunity to offer my comments. I might say that the State Division of Vocational Education is happy to cooperate and assist your programs in any way possible. Some of the ways that we assist the apprenticeship programs are:

1. A certain percentage of the instructors' pay is reimbursed to the local boards by the State Division.
2. We sponsor institutionalized MDTA training programs.
3. We assist in helping apprenticeship programs plan their curriculums.

The State Vocational Education Division will welcome any opportunity to assist you along these lines. Thank you, Gentlemen."

Mr. McKee—"Thank you, Jack, for your observations. Now let me introduce to you our local representative, **Mr. Paul A. Moore, from the Bureau of Apprenticeship and Training, U. S. Department of Labor, at Youngstown, Ohio.** Mr. Moore has worked very closely with our program through its development and we greatly appreciate his services as a consultant. Gentlemen, I give you **Mr. Paul Moore.**"

"Since I see by the agenda that we have a heavy schedule, I just want to say 'hello' and wish you a successful meeting at this time."

III. Greetings from International Headquarters and Round Table Discussion

Mr. McKee—"Thank you, Paul. Gentlemen, at this time, I would like to introduce to you **Mr. Reese Hammond, Director of Organization, Research and Education, International Union of Operating Engineers, Washington, D. C.** Mr. Hammond will bring us greetings from the International Union, and while he is still on the floor, we will have him report on the national progress in the Operating Engineers training endeavor. Gentlemen, I give you **Mr. Hammond.**"

"I'm sorry, Gentlemen that our International President Hunter P. Wharton could not be in attendance at this meeting because of previous commitments and because of the death of our International Trustee, Edward S. Walsh. Mr. Wharton, a member of Local #66, always points to the training program in Youngstown with justifiable pride since it was founded in his own local and he notes that the Youngstown Program has been very cooperative in sharing their information. He is always glad to send representatives from the International Union to attend these conferences in which Local #66 and the other surrounding locals participate. All that is needed is a letter, (in fact, a phone call will suffice) to secure men from the International Union to participate in these affairs. Mr. Wharton regreted deeply his failure to be in attendance, but as I have explained, the death of Mr. Walsh made this impossible. However, he asked me to convey his wishes for a successful conference.

"In the round table discussion, I see that I am supposed to give a national progress report. We have been in the past primarily interested in apprenticeship training, but due to changing times we have become involved with various other types of training. We have had to

concern ourselves with retraining of journeymen so that they might be more employable in the industry. Also, whether we like it or not, there are people entering the trade, through means other than apprenticeship; therefore, we have changed our approach, and at this time, we are working closely with the Job Corps and the Appalachia Program.

Our various locals are deeply involved in the MDTA training programs. Later this afternoon we will explore MDTA programs much farther. I think in the next 5 years the future of our union will depend on our ability to put good men in the driver's seat. In conclusion, all of us from the International are involved in every phase of training, retraining and the war on poverty."

Mr. McKee—"Thank you, Reese. May I introduce **Mr. Jack Kenney, Assistant Business Representative, Local #66, Youngstown, Ohio. Topic: 'Training Concepts—Specialist Versus the All-Round Operator."**

My topic this morning is the specialist versus the all-round operator. Today we are living in a world of specialization. It used to be that a family doctor treated all the ailments of the whole family. Today, in the age of specialists, we have obstetricans and pediatricans, doctors who specialize in internal medicine, surgeons, etc. to meet the various needs of the family.

"Attorneys also specialize in criminal cases, labor relations, divorce cases and real estate management. In sports, a definite trend is for the specialist. For example, in football there are offensive and defensive teams and specialists employed for kicking field goal attempts. I maintain these specialists are fine for their specific job, but in our craft we have found that the specialist cannot survive. Back not too many years ago, an engineer was a specialist to the point of running one type of machine. He had to travel all over the country in order to make living. He had no permanent home, and therefore, was looked upon as a shiftless individual—not respected by the community.

"Today, however, the engineer is part of the community in which he lives; he owns his own home, takes part in church and civic affairs and, in most cases, has become a respected member of his community. In the Operating Engineers, I believe we cannot afford to become specialists to the point of being able to operate only one machine. In our area we have all types of construction—home building, commerical, roads, bridges and a great amount of work in the steel mills. This diversified construction requires a variety of types of machine operators, and the operator who can only run one type of machine will have a hard time earning a living. I belive that all operators are better at one type of machine then others; however, he must not depend on his ability to operate only one specific machine.

"In our apprenticeship program, we are trying to develop a diversified type of operator who can run universal machines as well as dozers, scrapers and hoists. Our work seems to come in cycles, that is, where we may need crane operators one day, there could be a shortage of scraper operators the next. One of the most discouraging things for a business agent is to have 50 men out of work and still be unable to supply a contractor's needs. So, gentlemen, I maintain that by diversified training, these men will be more employable. A

business agent is a salesman selling labor and he must have versatile men available who can fill the needs of the contractor. The specialist is great in some fields, but not for the Operating Engineers."

Mr. Malone—"Thank you, Mr. Kenney. Total training is the only way to help them become all-round workers and citizens."

Question from Mr. Hanna—"What is the philosophy of the specialty training they do in the far west?"

Answer from Mr. Hammond—"The smaller the membership of the local union, the smaller the number of work opportunities. The point being that if you have a broad enough area of employment, there is probably more opportunity for a person who is a specialist in a certain trade classification than if you are dealing with a smaller field."

Answer from Mr. Spaw—"We can't train for un-necessary jobs. We train to fill the need."

Question from Charles Rinehart, Manager, Industrial Relations, Ohio Contractors Association, Columbus, Ohio—"In the highway industry where fifteen dirt movers are needed to one crane operator, isn't it more important to train men to specialize in dirt moving than to be versatile?"

Answer from Mr. Kenney—"Operators look on operating as a romantic job. The operating engineer enjoys sitting on the seat and operating a large earth mover when he is a young man, but when he becomes 35, he is no longer able to compete at this type of work. What are you going to do with a man who is no longer physically able to operate the scraper? We have an obligation to train him for all types of work so that he might be employable for the remaining thirty years of his productive life."

Answer from John Possehl, President, Local #18, Cleveland, Ohio—"I feel that in addition to the point that Jack made about the number of men unemployed who we cannot fit into the jobs available, we have many members working who are limited to one or two jobs. We need more adaptable men made so by training."

Answer from Mr. Malone—"We would ilke to train a better grade of operator with which to supply the contractor."

Observation by Mr. McKee—"The ones taking over the training of these people have an obligation to them for the future as well as the present and to train them for all phases of the trade."

Observation from Gregor Peterson, Secretary, Western Pennsylvania Operating Engineers Joint Apprenticeship Committee—"Dirt men are limited to five or seven months of employment a year. They must be able to run another machine or live on unemployment compensation the rest of the year."

Observation from George Pearson, Local #370, Spokane, Washington—"The immediate problem facing us is the progress of the construction boom caught us before we completed our plans for the training program."

Observation from Earl Whitehurst, Business Manager, Local #103, Fort Wayne, Indiana—"In Indiana, we find that the contractor has become a specialist too. So in many cases, he does not need an all-round engineer. However, the men find themselves unemployed when the particular contractor does not have a job."

Observation from John Hobbs, Assistant Business Representative, Local #18, Akron, Ohio—"If you don't have all-round training you will wind up with young men who will, in a relative short time (10 years), become physically unable to operate these machines. Therefore, an all-round program is desirable."

Observation from Mr. Hammond—"If we are faced with a need for specific kinds of people, we have to be cautious. If we have to waste money on these crash retraining programs in order to meet a need that we didn't forsee, then we had better learn something from it and get ourselves into a position that we can economize on."

Observation from Mr. Kenney—"I believe the weather conditions in various parts of the country dictates the type of training needed whether specialized or more comprehensive. Earth movers are employable part of the year in colder climates and need all-round training, whereas, in hot climates, weather permits dirt moving throughout the year."

Observation from Mr. McKee—"No one program can fit all areas of the country nor can if fit any area constantly. It will have to be changed periodically to meet everybody's all-round needs.

Mr. Malone—"At this time, I would like to introduce **Mr. Vance Harper, W. L. Harper Company, Cincinnati, Ohio.** Mr. Harper."

"My opinion of training needs are:

1. Do you want to train your men to do everything and do it half well or be specialists?
2. There is a tremendous shortage of good mechanics. Not only a shortage of mechanics, but also a shortage of operating engineers.

"This past summer, we were unable to obtain competent mechanics. As a result, we had to work our men 60 to 80 hours a week. This was costly to the contractors because of the overtime pay involved and because of the loss of efficiency due to the great number of hours these men had to work. Due to the shortage of trained men, some of our equipment had to remain idle for a couple of weeks, because the operators who had previously run these machines had quit to take more attractive jobs. Gentlemen, I maintain that it is the responsibility of the apprenticeship committee to train men to fulfill the needs of the contractor.

"I feel that the reason I have been selected to speak at this time is that I am a trustee of the Training Fund of the statewide organization. I am rather new in this capacity so, gentlemen, I welcome this opportunity to participate, and I feel that I will learn much at this conference."

Questions from Earl Erwin, Assistant Business Representative, Local #18 Cincinnati, Ohio—"Mr. Harper, did you contact the office in Cincinnati for skilled mechanics?"

Answer from Mr. Harper—"No, not me personally, but Mr. Sloan who handles this for me said that no mechanics were available."

Comment from Mr. Erwin—"Competent mechanics were available throughout the summer."

Comment from John Franks, Assistant Business Representative, Local #18, Cleveland, Ohio—"In the Cleveland area, competent

mechanics were available throughout the summer; in fact, many of them had to take employment as operators rather than mechanics in order to work."

Comment from Mr. Harper—"I will make note of this and check on it."

Mr. Malone—"May I introduce **Mr. Williams Sells, State Supervisor of Apprenticeship and Training, U. S. Department of Labor, Columbus, Ohio,** Mr. Sells."

"Before I begin my speech, I would like to say that there are quite a few people trying to face up to the same problems you are facing today. Apprenticeship, as I see it is going to be, to a degree, the solution for these problems, but it is not the complete answer. I do believe that in working your apprenticeship out, you should give basic training that will enable these men to change from one job to another at various times in their lives.

"I have been asked to speak at this conference on the federal laws affecting the training. We have under Labor Title 29, Part 30 issued by the Secretary of Labor, December, 1963, a regulation covering nondiscrimination in apprenticeship selection as follows:

> 'Selection of an apprentice under the program shall be made from qualified applications on the basis of qualifications alone and without regard to race, creed, color, national origin, sex or physical handicap irrelevant to the occupational requirements in accordance with objective standards which permit review, after full and fair opportunity for application. This program shall be operated on a completely nondiscriminatory basis.'

"Each apprenticeship program registered with the Ohio State Apprenticeship Council shall operate on the basis of the following standards: The selection of an apprentice shall be made on the basis of qualifications alone in accordance with objective standards which permit review after full and fair opportunities for application.

"Examples of these standards by which comparative qualifications may be determined are fair aptitude tests, school diplomts, age requirements and personal interviews to determine desired qualifications. Gentlemen, I might urge that you keep all records pertaining to application and selection of apprentices to permit review.

"This means that these records of selection must be made available to the Council or its designated representative upon request. Such records must be maintained for at least two years. Nothing contained in this state plan shall be construed to require any program, sponsor or employer to select or employ an apprentice in the proportion which their race, color, creed, or national origin bears to the total population, the number of company employees or any proportionment factor. The law also requires prior to taking application that you notify the various school systems and state employment agencies in the area which you serve. I might also point out that in the final selection of an apprentice, the ranking system is applicable. That is, for example, if 30 apprentices qualify and only 17 are to be selected that the 17 with the highest ranking would be selected and the rest could reapply on following years. I might urge you again to keep a full record that would permit review at any time."

Mr. Malone—"Thank you, Mr. Sells. I would like to introduce now **Mr. John W. Palmer, Attorney, with the firm of Knepper, White, Richards and Miller, Columbus, Ohio. Topic: 'Federal Laws Affecting Training.'** "

"There is probably no other field of endeavor that is so subject to laws, both state and federal. When we think about laws aflecting training, we immediately think of Labor Title 29 which deals with discrimination, but many other laws also apply. The Davis-Bacon Act is one of many such laws.

"The David-Bacon Act states that the prevailing rates must be paid on projects where federal funds are involved. A contractor cannot pay an apprentice rate unless the apprentice was indentured into a program registered with the Bureau of Apprenticeship and Training or a State Council, and the apprentice rate on file with the U. S. Department of Labor.

"The Labor-Management Disclosure Act of 1959 requires that all apprenticeship programs have a properly drawn trust.

"The Joint Committee can only spend money on that which is covered in the trust agreement. For example, if the Committee wants to upgrade training the trust agreement should make a provision for just that. Apprenticeship training alone will not solve all the training problems due to the constant changes and demands of the industry. So, I recommend that the trust agreement and standards be flexible enough to make this possible.

"The Joint Committee is required to make an annual audit that can be reviewed by the Internal Revenue Service or the Department of Labor.

"Federal law 501 C5 Internal Revenue code touches on income tax where the Joint Committee, to be tax exempt, has to comply with this section of the code. To conform with this they have to keep a complete and accurate record of all expenditures made and what each are for.

"Labor Title 29 governs the selection procedures of apprentices. Labor Tiltle 29 is an equal opportunity act with which every standard and trust agreement must conform. Proper selection procedures required that all records be open for review at any time and all records should be kept for at least two years. It would be advantageous to the Committee to conform and keep such records. In my opinion, if you were to notify county school boards and main employment services in the respective counties that the apprentice program services, you would be conforming with the laws as far as proper notification is concerned. I also suggest that when you notify the county school systems and state employment service offices that you list the qualifications you desire in new applicants and especially that you list motivation, that is, that you require that a man be interested in the trade.

"If present laws are not obeyed then other laws will be passed that will be more stringent and confining. In conclusion, I remind you that the Bureau of Apprenticeship and Training, U. S. Department of Labor is not an enforcement agency but rather it is only to advise and help to develop training programs. They are a wonderful organization whose services are always available, and I suggest you keep in touch so that they will be able to steer you in the right direction at anytime."

Upon completion there was a general discussion on sending notices to boards of education and employment services. Mr. Palmer again reiterated that if JAC's notify the county school system with a request that they notify all local branches in their jurisdiction and notify the main unemployment offices in each county that they service and request that they in turn notify their offices then they would be in compliance with the laws as he interprets them.

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I. **Opening Remarks—By Chairmen**
Ray A. Stephens, Vice President, International Union of Operating Engineers Local #18, Cleveland, Ohio; and **Charles W. Rinehart,** Manager Industrial Relations, Ohio Contractors Association, Columbus, Ohio

Mr. Rinehart— "I would like to introduce **Mr. Walter K. Bulford, Business Manager, Local #66, Pit tsburgh, Pennsylvania as our first speaker.** Gentlemen, Mr. Bulford."

II. **Program Progress Reports**

Walter K. Bulford, remarked "Gentlemen, I would like to thank you for inviting me to take part in your conference this year. I would like to report that Pittsburgh has an apprenticeship program that is working at this time with two classes of indentured apprentices. Also, we are submitting our Manpower Development O.J.T.—3 application for approval in the next several days. We are genuinely interested in retraining our journeymen who have not been so employable in the past.

"We have been working constantly to secure better wages and conditions and we are attempting to train more qualified workers for our employers' needs. Lately, I have been investigating several programs with the possibility of keeping our men employed throughout the winter months. I intend to establish a district form of government in Local #66 and I have the attorney working on this at present.

"I know that you are all familiar with the apprenticeship program in Youngstown which is part of our local. These boys have greatly assisted us in formulating our program.

Gentlemen, I have to catch a plane to be at a meeting in Pittsburgh, so if there are any questions I will attempt to answer them at this time."

Question from Mr. Miller—"Mr Bulford, would you elaborate on your future apprenticeship program for the outlying thirty-three counties of western Pennsylvania?

Answer from Mr. Bulford—"I plan to establish at least two other apprenticeship programs within the next year."

Question from Mr. Possehl—"Do teachers have to take any training program to teach?"

Answer from Mr. Bulford—"They have to pass an aptitude test."

Question from Mr. Possehl—"Are all your instructors from your membership?"

Answer from Mr. Bulford—"Yes."

Question from Mr. Possehl—"What are the requirements to qualify for an instructor?"

Answer from Mr. Bulford—"High school graduate or trade school, which would be an equivalent and experience in the trade."

Question from Mr. Possehl—"Who certifies these people?"

Answer from Mr. Bulford—"We pick the journeymen and they are certified through the Department of Public Instruction."

Comment by Mr. Miller—"In Ohio we have our instructors certified by the boards of education. We select the instructor and recommend him as being qualified and they certify him upon our recommendation."

Question from Mr. Rinehart—"Do you have any schedule for retraining the instructors?"

Answer from Mr. Bulford—"No, but the more he teaches, the more he learns about how to teach correctly."

Question—"After they receive their certification, does the school board pay their salary?"

Answer from Mr. Bulford—"They do."

Mr. Stephens—"If there are no further questions we will permit Red to leave to catch his plane and thank him for his remarks."

"Now. I want to introduce **Mr. Henry R. Przelomski, Chief, MDTA Section, Bureau of Apprenticeship and Training, U. S. Depart- of Labor, Washington, D. C.**

III. Round Table Discussion

"We have a number of Operating Engineers' MDTA programs coming in for approval now. A couple of these, no doubt, will be approved, some are receiving final consideration now. I might point out because of the cost involved, these programs are not as easy to secure approval for as others. Each one is a little different from the other. The needs of each state are different. We would like to come up with some basic programs that each local could adopt for its own needs. We would like some ideas on the length of these training programs, the number of hours of classroom work in relation to field training, the ratio of trainees per instructor. I hope after I leave today that a subcommittee could be appointed to come up with recommendations in regards to these matters."

Mr. Stephens—"We are ready for questions now."

Question by Earl Whitehurst—"Would it be permissible to have a journeyman working on the job as part of a retraining program at a reduced rate? Is this in conflict with the Davis-Bacon law?"

Answer from Mr. Hammond—"My reaction is that I would hesitate to set up wage skill rates without a pretty thorough understanding of what was going to happen. I feel that at some later time some employers might try to misconstrue this to their advantage."

Question from Mr. Hammond—"How much of the time that a person spends in training can we consider as on-the-job training?"

Answer from Mr. Possehl—"The time he spends in the seat, improving his manipulative skills in the field, safety instruction and time spent in observing other students, I feel could be considered O.J.T."

Question—"In this local due to bad weather, it is possible that the training program might have to lose several days of actual operation and if these trainees were lectured in the classroom during this time, could this be considered O.J.T"

Observation from Scott Spaw—"In Arizona, they do not have this problem because they can work everyday with their training program."

Comment from Mr. Possehl—"It is obvious that men training in this local cannot receive the same amount of actual on-the-job training as a trainee in Arizona."

Question from Mr. Stephens—"Why not conduct all training in Arizona?"

Comment form Mr. Przelomski—"I hope we do not try to tie the weather factor into the length of the training program."

Comment by Mr. Peterson—"The operator must acquire all the time possible at the controls, actual 'doing' is what makes an operator."

Question from Mr. Pearson—"Relative to field training, what ratio of trainees to machines would be applicable? Would a three to one ratio be acceptable?"

Answer from Mr. Stephens—"This apparently would be a very good ratio."

Question from Mr. Rinehart—"Why haven't the employers been brought into this retraining program?"

Answer from Mr. Stephens—"You are part of the program—that is the reason you are here on the program today."

Question from Bob Kinghorn, Local #370, Pocatello, Idaho—"How would this equipment for retraining be acquired?"

Answer from Mr. Stephens—"We hope to acquire some surplus equipment from the government, some by equipment rental and have to borrow some from the Ohio Contractors Association that is not being used."

Question—"Isn't it true that most people brought into this program will have four years of service to the industry."

Answer from Mr. Stephens—"Yes."

Question—"What are the federal regulations as to who is eligible for this program?"

Answer—"Everyone who is underemployed according to records ascertained from pension and welfare funds. It will be the younger, ambitious persons."

Comment form Mr. Hammond—"I think the safest cut-off point is the eligibility for pension funds."

Question—"What inducement do we have to get persons to enter these retraining programs?"

Answer from Mr. Hammond—"He is paid up to $5 subsistence while at a training camp, in addition, up to $5 per week for each dependent (up to 4) plus unemployment, plus $45 a week while in training. A man can receive as much as $95 per week."

Question from Mr. Kinghorn to Mr. Hammond—"Hasn't the law been changed since the Camp Roberts training program in regard to payments to trainees?"

Answer from Mr. Hammond—"Yes a man no longer has to be a husband to be considered as head of the house."

Question from Mr. Kenny—"Could there be a survey made as to the length of time it would take a potential trainee to repay his

training cost to the Federal government by his increased payment of income taxes?"

Answer from Mr. Stephens—"A survey taken of the trainees from the Camp Roberts program indicated that at this time, it is estimated that it would take four years to repay the cost of training."

Mr. Hammond—"Would you, gentlemen, who have MDTA-type programs under consideration at this time please explain your program in two minutes for the benefit of those of us present?"

1. **Mr. Stephens**—"Our program will be held in the Appalachia area of southern Ohio in Monroe County. In the small town of Woodsfield, there is no industry there. We were received there with open arms. We intend to level off a hill to make an improved dirt land strip, an addition to the present airport. We intend to grade a dirt road, build some small dams and stack brush piles for wildlife preservation.

"We will have 3-6 week courses in which we hope to train 100 men each. We will train men in three occupations: grading machine operation, heavy duty mechanics and technical engineers. The trainees will be housed and fed in the 4H building at the local fairgrounds."

2. **Mr. Spaw**—"Our program will be conducted at Ft. Huachuca in Southeastern Arizona. Our project will include demolishing concrete foundations, preparing several athletic fields and building earthen retaining dams. Emphasis of training will be on the operation of scrapers, blades and tractors. We plan two consecutive four week sessions with each session retraining 30 equipment operators, 10 heavy duty mechanics and 10 grade checkers. Equipment for training will be rented from available contractors, equipment distributors and rental firms. For a nominal fee, our men will be housed, fed and necessary training facilities furnished by the Army Signal Corps at Ft. Huachuca."

3. **Mr. Kinghorn**—"Our program is going to involve a 5 7/10 mile road in Teton County in Idaho. This road has been proposed for many years but there has never been any funds available. It will not beat any legitimate contractor out of work, and it will result in the opening up of a ski area in the community where there has been no employment or enterprise of any kind. We hope to billet our trainees at a 4H camp in the nearby area and to feed them in the local high school cafeteria."

4. **Gilbert M. Bosworth, Business Manager, Local #841, Terre Haute, Indiana**—"Our program is not very far developed at this time, but we intend to stay at Fort Benjamin Harrison and use their facilities for housing and feeding our men. The improvements we intend to make will be at Fort Benjamin Harrison."

5. **Richard Mawhinney, Assistant Business Representative, Local #66, Pittsburgh, Pennsylvania**—"In Pittsburgh, we have had a frustrating time finding a site to hold our training program. We finally selected Camp Fatima, (Catholic Youth Camp). We are going to build a dam and a lake, relocate the 1 1/2 mile road, cut down the hills, build a playground area, put in 1 1/2 mile gas line and build a ski slope. The men will be housed and fed at existing camp facilities."

Question from Mr. Possehl—"Since it is religious owned land, how does it qualify as public land?"

Answer from Mr. Hammond—"I feel it is acceptable since in Virginia they did some work for a religious order home."

Mr. Stephens—"I would like to thank all of you at this conference for your participation. At this time let me introduce **Mr. Clair Arnett, an instructor for the Mahoning Valley Joint Apprenticeship Committee. Mr. Arnett:**

"Since as of now, our program is well on its way, there are many points that can be covered by an instructor. However, I want to dwell on one which— in my opinion—is one of the most important at our level of operation and a point for others who are starting a program to consider for future use.

"Our apprentices are in the field on equipment one day a week. This is good but still not the best. Everybody is striving for improvement and, of course the more time an apprentice has to operate, the more he improves. This extra time on the equipment isn't possible without an instructor present. So, my point is, if an instructor is available on the training site, then when an apprentice isn't working he can go to the training site and practice and, thereby, improve on equipment he may be weak on.

"Naturally, in our program as well as every one else's, the cost of such a man must be carefully considered. Here are some of the things to think about.

"Since this man is there all the time, he can keep the equipment in better shape, keep a better record system on greasing, oil changes and over-all maintenance. He is available for any equipment transfer or moving newly purchased equipment in to the school. He is also available to make up teaching aids to help himself, other instructors, apprentices and the committee.

"I think he would pay his way in this besides the additional help to the apprentices."

"As it was said this morning, the movement of the trade makes more or less specialization necessary. With this man available, a crash program would work easily to train these men on special machines. We have found from the two classes we have graduated that it isn't too much of a job to take these young men who have been trained on all equipment to specialize on any one machine."

Mr. Stephens—"Thank you, Mr. Arnett, for your observations. I want to call upon Mr. John Possehl for Local #18's progress report."

Mr. Possehl—"We have been working on an apprenticeship program in conjunction with Local #66. At the present time, we have established a trust agreement for the purpose of collecting moneys to operate the training program when we get started. **Mr. Gene Engle, Mr. Vance Harper,** and **Mr. Suttlelin** are representatives for the OCA.

Mr. John Franks, Mr. Earl Erwin and **Mr. Ray Stephens are** trustees from Labor. We are going to have a program determining whether we should organize a school in each district or establish a large training area to serve the whole state. However, probably to start, we will need to establish only one school for the present."

Mr. Stephens—"Gentlemen, may I introduce **Mr. Richard Mawhinney** who is substituting for Mr. Calvin Malone."

Mr. Mawhinney—"We have decided to go OJT all the way if

this is possible. The B.A.T. man in our area **Mr. Heinbaugh** has been cooperating with us very well. Our courses will consist of two training periods of six weeks duration in which time we hope to retain one hundred men. We have had excellent cooperation from the local offices and members in our union."

Mr. Rinehart—Summary of the Conference

"I think the contractors and union must have this mutual trust and faith in each other that Mr. Hanna refered to earlier today in order to develop an apprenticeship program. This is absolutely necessary.

"We do have a problem in the highway construction industry. After we train people to operate equipment, there isn't enough work to entice them to stay. So, I agree that we must train them in all phases of the trade to insure they do not leave us after we have invested money in their training.

"At this point, I will call for any further questions from the floor. There being none, let me turn the floor over to **Mr. Stephens.**"

Mr. Stephens—"Thank you. This conference would not be complete without Mr. Paul Moore's observations."

Mr. Moore—"Because I am the B.A.T. representative in Youngstown, I have been assigned to work in the past year with the operating engineers throughout the State of Ohio. In the past year, I appreciated this association because I have learned quite a lot to pass on to other trades and that is the function of the BAT to pass this information back and forth.

"I was very glad to hear **John Possehl** report that Local #18 had established a statewide J.A.C., and I am looking forward to working with **Mr. Engle, Mr. Harper and Mr. Suttlelin** from Management and with **Mr. Franks, Mr. Erwin** and **Mr. Stephens** from Labor. I would like to say that I will still continue to work with Local #66 in Youngstown, and I hope that in my new assignment—working with the operating engineers of the rest of the State—that I will continue to have the same relationship that I have had with the group in Youngstown as in the past, and a similar relationship with the new group.

There being no further comments, **Mr. Ray Stephens** adjourned the meeting at 5:00 P.M.

PAINTERS, DECORATORS AND PAPERHANGERS

Wednesday October 27

CHAIRMEN

Joseph Cerveny, Apprentice Coordinator, Brotherhood of Painters, Decorators and Paperhangers of America, Washington, D. C.

Glen Craven, Administration Assistant, Painting & Decorating Contractors Association, Chicago, Illinois

PANEL MEMBERS & SPEAKERS

Anthony Iosue, Financial Secretary, Brotherhood of Painters, Decorators and Paperhangers of America—Dist. Council #6, Cleveland, Ohio

Charles Tubman, Exec. Sec'y., Painting & Decorating Contractors Association of America, Cleveland, Ohio

Richard Bohls, Sr., Contractor, Columbus, Ohio

RECEPTION COMMITTEE

Dayton Joint Apprenticeship Committee

CONSULTANTS

Charles Romine, Bureau of Apprenticeship & Training, U. S. Dept. of Labor, Lansing, Michigan

Daniel T. McCarthy, Bureau of Apprenticeship & Training, U. S. Dept. of Labor, Cleveland, Ohio

VOCATIONAL EDUCATION

Donald Hogan, Ohio Trade and Industrial Education, Kent State University, Kent, Ohio

SECRETARY

Fred Haering, Secretary, Ohio State Conference of Painters, Columbus, Ohio

RECORDER

Mrs. Jeanne Smiley, Dayton, Ohio

PAINTERS, DECORATORS AND PAPERHANGERS

(First & Second Sessions)

The Wednesday morning session was called to order by **Daniel T. McCarthy** Bureau of Apprenticeship & Training, U. S. Department of labor; he welcomed the conferees to the 15th Annual Ohio State Apprenticeship Conference.

Mr. Joseph Cerveny, Apprenticeship Coordinator, Brotherhood of Painters, Decorators & Paperhangers of America, Washington, D.C. was introduced as Chairman for the A.M. session. Mr. Cerveny outlined the program for the entire day, the purpose being to exchange ideas, iron out apprenticeship problems and have a question and answer period. He complimented the conferees of the 14th Annual Ohio State Apprenticeship Conference on the contributions made last year, they reactivated the panel Contest which will stimulate the Apprenticeship and Training Program.

Mr. Cerveny introduced the Panel Members and Speakers, and then asked each conferee to introduce himself and their affiliation, Mr. Cerveny made comment of the fact that there were more contractors in attendance than any previous conference; he thanked them for attending.

Mr. Cerveny then introduced **Mr. Anthony Iosue,** Financial Secretary, Brotherhood of Painters, Decorators and Paperhangers of America, District Council No. 6, Cleveland, Ohio.

Mr. Iosue: "In my judgment, the Apprenticeship Program is a basic part of our over-all objective to create a better public image for the union painter.

"We know that a good painter does not appear instantaneously on the scene. Unfortunately, the general public does not realize the skills and experience necessary for one to become a master painter.

"The major paint companies with their do-it-yourself advertisements and their promotion of the idea that anyone using their paint, having a brush and half an hour to spare can do an excellent job of painting a 40-room house have not helped the cause of professional painting.

"In addition to our other efforts in the line of promoting professional painting, we try to emphasize the number of courses an apprentice painter may take, and the fact that they are college grad courses. At the present time, we are working with the Cleveland Community College to set up a program of grants and scholarships keyed to the apprentice painter to help to re-emphasize the fact that it takes not only good schooling, but years of experience to develop a professional in the painting industry.

"We urge not only our apprentices but our regular painters to continue their education to learn all they can about new techniques, of new materials and the like, because we realize that many of them will become supervisors and some of them will become contractors.

"One of the most encouraging aspects of our Apprenticeship Training Program has been our Coordinator Program. This is handled very ably in Cleveland by Ted Kramer, and I respectfully urge that those of you who do not use a coordinator, might be wise to consider the feasibility and practicability of doing so.

"What does a coordinator do? What purpose does he serve? In a nutshell, he fills the gap between the contractor on the one hand and the apprentice on the other.

"If there is a clash of personalities between a contractor and an apprentice, the coordinator is on the spot to smooth out the difficulties; to listen to both sides, and help to create a good working team.

"If an apprentice begins to miss school sessions, the coordinator is on the job right away—not months later . . . When it is too late. Is the apprentice losing interest? Is the contractor putting road blocks in front of the apprentice's training at the school? Or just what?

"The coordinator even serves a very vital purpose long before the apprentice comes to our school. He scours the high schools in the area to encourage likely candidates to make painting their profession.

"The time has long since passed when we could rely on heresay information to encourage young men to go into the painting trade.

"We must maintain our objective of selling ourselves to the public as men with professional status, fully as expert in their field as attorneys are in law; as accountants are in business procedures and methods; as doctors are in their treatment of the sick.

"We ourselves have to believe in this ideal-we have to insist on it. We must bend our every effort to maintain and enhance our professional status. Otherwise the painting profession will stagnate and deteriorate into a do-it-yourself mish-mash which will not be beneficial to us or to the general public."

Discussion followed and a lot of interest was indicated on Mr. Iosue's presentation. There were other questions asked, but particularly about how each area financed their Promotional and Apprenticeship Programs.

Mr. Ted Kramer, Coordinator in Cleveland, Painters, J.A.C., was asked to explain their program financing. Mr. Kramer spoke briefly on the Employer-Employee contribution and its advantages. He also explained how a coordinator was paid from these funds. It was concluded that a major problem of the Apprenticeship Program is financing.

The next speaker was **Charles Tubman,** Executive Secretary of the Painting & Decorating Contractors Association, Cleveland Chapter, Cleveland, Ohio. His subject was "Training Skilled People—The New Painting, Decorating and Paperhangers Textbook". The new National Painting and Decorating Manual was introduced to the conferees. It includes all the material used in the Apprenticeship Program, four books in one with an attractive cover, color illustrations on the pages. Also new this year are the Apprenticeship Manuals.

Mr. Tubman also explained how the books are obtained and paid for. He also announced the Apprenticeship Coordinator's office is now located in Washington, D. C. Mr. Tubman stated that bro-

chures would be sent out with information concerning the new textbooks this fall. The question was asked as to who could order the books. Mr. Tubman explained all orders must be countersigned by a union officer or an officer of a JATC.

Mr. Glen Craven, Administrative Assistant, Painting & Decorating Contractors Association, Chicago, Illinois, introduced the Chairman and Secretary of the Dayton JATC, **Mr. Gail Koogler,** Painting & Decorating Contractor, and **Mr. Frank Surd, Union #249.**

A discussion was started on "Why some contractors will and why some contractors will not hire apprentices?" Mr. Cerveny stated that a lack of communication between the JATC and the contractors was the big factor. The contractor somtime feels it is too expensive to hire an apprentice, although cost accounting procedures proved apprentices make just as much money for his employer as the journeyman.

Some contractors want to select their own apprentices and do not want to go by the standards of the JATC. These contractors must understand these standards, such as high school graduate means the apprentice is more capable to keep up with the class training. In some areas the JATC checks the progress of the apprentices every six months to be sure he is learning all phases of the industry; this is where selection by the established standards show up. After much discussion it was concluded that the Duties and Responsibilities of a JATC are:

1. Establish standards and procedures for selection of apprentices; careful selection means a more durable program.
2. Find good facilities for classroom instruction and utilize all available tools.
3. Place apprentices with qualified contractors.
4. Be sure all apprentices are registered with the appropriate registration agency, from the beginning date.

The panel was asked, if through the Grovernment programs to educate or upgrade High School Dropouts were developed, could these people enter the Painters' program and into the union. It again was established that the standards have been developed and that no exception should be made. They will be considered if they meet the standards, pass the aptitude test and are screened by the Committee.

Mr. Cerveny commented that our trade is an institutional program and we will meet with the Federal Government to explain the program, but when there is no more room for apprentices, the Government must not put men on the job training. If the applicant does not meet the standards he must be turned down. And if there is any Pre-Apprenticeship Program, it must run in conjunction with the Apprenticeship Program.

Mr. Cerveny noting the time suggested the meeting recess for lunch. He invited all conferees to the afternoon sessions, which would convene at 2:00 P.M.

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The afternoon session was called to order by **Mr. Glen Craven, Chairman.**

Mr. Craven introduced **Mr. Martin Graham,** Secretary Treasurer of the Ohio Building and Construction Trades. Mr. Graham gave a

short discourse on methods of successfully introducing young people to the Building and Construction Trades.

Mr. Craven stated that before starting on the material slated for the afternoon that the Painting & Decorating Industry had very little problems since the Civil Rights Laws went into effect. There are no charges against the program, the standards are set on an honest basis and the industry lives by them.

The first discussion for the afternoon session was Instructor Seminars. Mr. Craven stated that interest in the apprenticeship programs is stimulated by qualified instructors, he further stated that fourteen (14) cities would be selected where Journeymen Seminars shall be conducted. The Manual will be used, hitting on courses for about four (4) weeks.

Mr. Craven stated that all contractors benefit if the journeyman is qualified in painting and paperhanging. He appealed to all JATC members that if there is interest in an area, contact him or Mr. Cerveny for advice on developing Journeymen Training Courses.

The conferees were asked about their apprenticeship programs and the journeymen classes, and how they presented the program to hold interest.

The need for visual aids was then discussed. It was concluded that slides and films would benefit the classes, both apprenticeship and journeymen. It was agreed this should be a national project as it is too costly to be done on the local level. It was suggested that films be developed to coincide with the text books, therefore allowing the apprentices to see as well as read their assignments.

The last subject discussed was Safety. Mr. Craven explained the amount of free instruction that is available such as the Red Cross for first aid instruction and the Department of Safety & Hygiene here in Ohio; these people are here for your benefit and for your use, they are happy to schedule safety meetings for you.

The afternoon session ended with a General Discussion. Many things were discussed, many gripes were heard, but the session ended by the conferees thanking Mr. Craven, Mr. Cerveny and the Panel Members for a very educational and fruitful day.

There being no further business the Meeting was adjourned at 5:15 P. M.

PLUMBING AND PIPE FITTING TRADES

Wednesday **October 27**

CO-CHAIRMEN

David R. Bradford, Representing Bradford Plumbing and Heating Company, Dayton, Ohio

Robert Peacock, Chairman, Plumbers and Pipe Fitter J.A.C., Dayton, Ohio

SPEAKERS

C.B. Hurst, Director of Vocational Education, Patterson Co-op High School, Dayton, Ohio

Richard Clemens, District Director, N.A,P.H.C.C., Clemens Plbg., Dayton, Ohio

Leo L. Grove, Supervisor, High Pressure Piping, Ohio Dept. Industrial Relations, Columbus, Ohio

Dr. Robert A. Vogel, Director, Montgomery Board of Health, Dayton, Ohio

Joseph L. Phillips, Trng. Coordinator, Int'l. U.A. Trng. Fund, Washington, D.C.

John W. Lewis, Chief Plbg. Inspector, State of Ohio, Dept. of Health, Cols. Ohio

Colonel Wm. P. Richardson, Chief, Manpower Div., Ohio Selective Service System, Columbus, Ohio

CONSULTANTS

Paul Snyder, Representative, T & I Education Service, Ohio Dept. of Education, Dayton, Ohio

Robert Greeny, Plumbing Instructor, Apprentice Training School, Fairborn, Ohio

Bud Mumma, Chairman, Ohio State Plumbing and Pipe Fitters Joint Apprenticeship Committee, Toledo, Ohio

Merle R. Hemple Representative Bureau of Apprenticeship and Training, U. S. Department of Labor, Youngstown, Ohio

Joseph L. Phillips, Trng. Coordinator, International U. A. Training Fund, Washington, D. C.

James E. Malony, Apprenticeship & Training Representative, U. S. Dept. of Labor. Bureau of Apprenticeship and Training, Lexington, Kentucky

RECEPTION COMMITTEE

Ralph Haas, Business Agent, Plumbers and Pipe Fitters L.U. #162, Dayton, Ohio

Warner Malone, Bus. Agent and Pipe Fitters L.U. #162, Dayton, Ohio

Bert Wilhelm, Representing, Wilhelm Plumbing and Engineering Company, Dayton, Ohio

Robert Bricher, Representative, Bricher Plumbing Company, Dayton, Ohio

Herbert Vonderheide, Secretary, Master Plumbers Association, Cincinnati, Ohio

Ray Doxey, Representative, Plumbers and Pipe Fitters L. U. #392, Cincinnati, Ohio

David R. Bradford, Representing, Bradford Plumbing and Heating Company, Dayton, Ohio

Robert Peacock, Chairman, Plumbers and Pipe Fitters J.A.C., Dayton, Ohio

PLUMBING AND PIPE FITTING TRADES

(First & Second Sessions)

Co-Chairman, **David R. Bradford,** Contractor, Bradford Plumbing and Heating Company, Dayton, Ohio, opened the meeting with a few remarks and then introduced the first speaker, **Mr. Richard Clemens,** District Director, N.A.P.H.C.C., Dayton, Ohio who spoke as follows:

"It is really a pleasure to be able to appear before you this morning and bring you the best wishes of the National Officers and Association. I represent the National Association in Ohio and Michigan as Director from District 8.

"This morning the subject that I have chosen is 'Building a Force for the Future.' Actually, that is what you are doing. You are welding together the links to perfect your educational system for the apprentice and journeymen to make for a better grade of journeyman. According to history, back in 1883, when the National Association was organized in New York, one of the principal reasons for the formation of the Association was to establish an appropriate system to help in the program of training journeymen for the job of plumbing and heating.

"It has been brought forth in the records of the Association that a community school of education is desirable for teaching each apprentice so that he can become a master plumber. This was 83 years ago, and during the past 83 years the National Association through its state and local levels, has consistenly strived to improve the techniques in all training of the apprentice; but training the trainer individually has become increasingly important in the last few years.

"In 1961 there were 399 instructors. This year there are 600 registered from every state in the Union. During the past four years, the demand for the Purdue Seminar has increased and shows that there is a need for the industry to help the educator or the trainer of the trainees. This work could not have been completed as successfully if it had not been for the United Association. It is through the cooperation of the different groups of the National Association that this work has continued and progressed the way it has.

"There has been developed the essential and necessary information to further the training and preparation. The complete lay-out has been worked out between the two groups so that your job and training has been simplified. I think that everyone here possibly has more of an insight of this than I do. I have been away for six years and have not been exposed to certain reports of the advances you have made.

"If I can be of any further assistance to you, I will be happy to answer any questions. Thank you for your kind attention."

Question—Bud Mumma, Chairman, O.S.J.A.C., Toledo, Ohio.

"In regards to the instructors and students in Ohio, how do we rank percentage wise?"

Answer—Mr. Clemens: "I do not have that figure. Ohio has progressed. There are some areas on the west coast where there are very fine schools, but not as many as in Ohio.

The next speaker introduced by Mr. Bradford was **Mr Charles Hurst,** Director of Vocational Education, Dayton Board of Education, Patterson Co-op High School. Dayton, Ohio

"It is good to be here. Preparing young people is my business, too. I am not a plumber by trade. I am a printer. I commend the plumbing industry for the essential job it has done. I think the plumbing industry has a real concept of the need of the public. I think you have really done an exceptional job. I can't say, however, that you have done a better job than the printers.

"You have a big job to do. We have to think big. It is a big job to train and serve the public.

"A banker was on his way to work one morning when he saw a little boy playing. 'Think Big.' he said. Next morning he saw the little boy playing again and asked him if he was thinking big. This went on for aweek. Then one morning the little boy had a sign that read, 'Dog for Sale—$50,000.00' This was thinking big! The following morning the sign was gone. The banker asked the little boy if he sold his dog. 'Oh, yes.' was the reply, 'but you know I had to take two $25,000.00 kittens in exchange.' That was thinking big.

"We in education must think bigger than we have been. We must think big together. Vocational and technical education are preparing these young people for this important work in education.

"Apprenticeship has an early history. As early as 1883 in New York—back when the masters had a responsibility of teaching the Three R's—moral standards were the basis of education. Finally, the masters got together and decided to hire teachers. That was the development of public schools as we know them today. Those early schools were an outgrowth of the need of the young person to be taught. The master felt a responsibility in fulfilling his aim. Between parent and master is an interesting picture of differences in ideas. Education today seems to be taking a front line position—it is an important part of the pattern. Emphasis has been on training young people for a profession. One fourth go on to higher education but not all of them complete this education. Less than 10% realize professional goals. Dropouts are high.

"In plants and industry where training is given, I believe the apprentice reaps a real form of process and theory. Fifteen thousand people of high school level were enthusiastic about it. You have your work cut out for you. Technology is changing.

"I made a survey concerning maintenance and plumbing. The question is 'What do your apprentices need in addition to what they are getting?' This is the challenge, and we must work together to meet it. Some of the local people remember Perry Ritchie who did much to help the plumbing industry. You people have done a good job of education. Attitudes toward planning spell the difference between an effective job of education on special theory and programming. Attention to the big approach set standards and definite goals. Young people need goals. You have the ways and means of motivating. People buy things they see—even beetle hair cuts. So,

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the emphasis is on the governing of the attitudes of men. Schools in general will reflect different attitudes toward a college education or training skilled workers.

"Guidance will have an important job to do and we need additional staff. Preference of occupational class study of pertinent information should be available to classes. One guidance counselor commented in a way that did show sympathy. He told the class he wanted some information about becoming a plasterer. One young man pointed out that he would pick a person highly skilled as a guide. Skills required in higher types of work should merit a real examination. Much time is taken up with testing people going on to higher education and there should be emphasis along this line. **Education is the basis for entry into any field.** It is a job to keep abreast. If you have a diploma, you may or may not realize the need for additional education. Encouragement is needed. Education today in schooled fields as well as in technical fields does not mean you are finished when you graduate from high school. Look for continuing classes and instruction in addition to reading all that you can.

"It is our concern that we introduce all persons in this school to the industry upon entering the field. Some companies get people who can maintain and keep high standards which you have set. Human resources are our big job.

"In Switzerland one third of the territory is land and mountains; one third unproductive and one third with no minerals, no oil, and no resources. The country is composed mostly of skilled workers.

"In the interest of apprenticeship, I would like to express an idea. I have wondered about a trade preparation course in connection with vocational preparatory school.

"This thought has occurred to me. Our industry, banded together with young people and their parents, should get a common course of understanding relationships. It would seem to me that if there were to be a foundation established to help the local board of education, it could be taught. This may not be a wild idea. I suggest it, but education costs money. It takes a little doing to get the money. It is available. We should get the whole picture and explore these ideas. A person should have a broad grasp of the people who make up the total industry. In this, gentlemen, I would have ways to explain and show young people who have considered some phase of the industry so that they can get a better grasp of the duties.

"As we plan and prepare together we can get the job done more effectively. We do try. We give attention to the things that need attention. We are grossly understaffed. I would like to see the things that hinder the industry ended. As I see the picture, with the demands being made, there is going to be more and more importance given to the trade—the way you want it. Think big. Do not deviate to get the job done. Sometimes we get the idea they want more and more pay for less and less work. I don't think this is basically true. You are known by your respectable work. All work is important if it is pursued nobly.

"One man who liked to see things built walked around where some men were working. He went to one fellow and said 'Sir, what are you doing?' The bricklayer said 'I am laying bricks.' He was doing it with SKILL. He asked another workman what he was doing. This

workman said with pride, 'I am building a good wall.' We now add PRIDE. After a while he inspected another part of the building and here he saw a man taking particular pains with the job he was doing. When he asked the same question the workman stepped back, viewed his work and said, 'Sir, I am building a cathedral.' This man added VISION.

"If there is anything I can do, I will be glad to be of help."

Mr. Leo L. Grove, Supervisor, High Pressure Piping, Department of Industrial Relations, Columbus, Ohio, explained the operation of his department and spoke on Senate Bill 631 and House Bill 361. He said that the classes should devote more time to teaching what is in the codes. He said he would be happy to come to any apprenticeship school and explain codes to them. If the codes are taught, it will make the job easier for everyone and eliminate confusion in the field.

Question—David R. Bradford, D. R. Bradford Plumbing and Heating, Dayton, Ohio asked "What will be the make up of this proposed advisory board?"

Answer—"I think actually that it will be made up of two from the Board of Building Standards. We would like to have a laborer or contractor. Most are in favor of having a board of a contractor, a laborer and additional members from each organization. I have no idea if we will accept this. Four or five names have been submitted by contractors to the Association. We are working on a program to try to get a qualified board established.

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Mr. Robert Peacock, Chairman, Plumbers and Pipe Fitter Joint Apprenticeship Committee, Dayton, Ohio, served as Chairman of the afternoon session. He opened the meeting by introducing **Dr. Robert A. Vogel,** Director, Montgomery County Board of Health, Dayton, Ohio, who spoke on plumbing and its importance to the health of a community. He stated "Health education is important in plumbing." He would like the counties to have the same licensing powers as cities. He further stated that the apprentices need to know what they are doing and why they are doing it. "Some think they know all about plumbing when they can handle a pipe wrench. They need examinations, both oral and written."

The next speaker was **Joseph L. Phillips,** Training Coordinator, International U. A. Training Fund, Washington, D. C.

"Again, it is my pleasure to be with you in another very successful state apprenticeship conference. Briefly, I am going to outline a few of the aims and objectives in the area of training. Much will be repetitious of statements already made.

"First of all the International training fund is one reason why training has taken on such importance. We, as plumbers, are members of this service organization. If our employers are successful, our journeymen will be successful. Much emphasis is placed on training. There will be additional textbooks for training departments. The training program at Purdue is outstanding. It is gratifying to see the results. We have at our disposal a reservoir of teaching talent. The purpose of all of this is to provide each student with the finest

teaching aids and assistance. Those receiving state funds must go to contest or the fund will be withheld.

"There are 23,000 indentured apprentices and 30,000 journeymen. How do you get the journeymen to attend school?

1. Get the house in order and take advantage of all devices
2. Make certain it is well recognized
3. Make sure the instructor is well qualified.

"Congratulations to you for having taken the time to recognize your local training program."

Discussion followed which was led by **Mr. Merle R. Hempel,** Representative, Bureau of Apprenticeship and Training, U. S. Department of Labor, Youngstown, Ohio. He gave the following statistics concerning active apprentices as of 10-1-65:

PLUMBERS

	ACTIVE APPRENTICES 1-1-65	872
Registered	148	
Reinstated	3	
Canceled	71	
Completed	21	
Honor Roll	2	
	ACTIVE APPRENTICES 10-1-65	929

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PIPEFITTERS

	ACTIVE APPRENTICES 1-1-65	229
Registered	89	
Reinstated	3	
Canceled	7	
Completed	26	
Honor Roll	4	
	ACTIVE APPRENTICES 10-1-65	284

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PIPEFITTER (MAINTENANCE)

ACTIVE APPRENTICES 1-1-65	27
NO ACTIONS—APPRENTICES ACTIVE 10-1-65	27

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PLUMBER (MAINTENANCE)

ACTIVE APPRENTICES 1-1-65	2
NO ACTIONS—APPRENTICES ACTIVE 10-1-65	2

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STEAMFITTERS

ACTIVE APPRENTICES 1-1-65 0

Registered
Reinstated
Canceled
Completed
Honor Roll

ACTIVE APPRENTICES 10-1-65 0

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SPRINKLER FITTERS

ACTIVE APPRENTICES 1-1-65 233

Registered	185
Reinstated	7
Canceled	45
Completed	12
Honor Roll	

ACTIVE APPRENTICES 10-1-65 368

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Following this discussion period, **Mr. John W. Lewis,** Chief Plumbing Inspector State of Ohio, Dept. of Health, Columbus, Ohio, made a few remarks on the progress of training and services available from the state level.

The Chairman Mr. Peacock then introduced the last speaker for the afternoon, **Colonel William P. Richardson,** Chief, Manpower Division, Ohio Selective Service, Columbus, Ohio.

"Mr. Co-Chairman, Consultants and Friends of Apprenticeship. It is always nice to receive an invitation to attend this annual conference, and I might say I would be quite disappointed if I didn't receive my annual invitation. It is a delight to be permitted to come and visit with all of you again.

"I always look forward to learning each year of the conference theme. Again, there has been an excellent choice in 'Apprenticeship —A Sound Investment for the Space Age.'

"We are in the space age and apprenticeship training is to be commended for giving recognition to modern trends, and we take note from your book and try to keep all of the Selective Service System as modern as can be possible.

"When we think of the space age we wonder what lies ahead, and, of course, we look ahead. It is at that point that we jointly recognize the importance of creating skills for the future and certainly we in the Selective Service System want to do all we can to assure a future.

"Sometimes in these discussions, and our discussions outside of this conference, in our day-to-day work it occurred to me that persons who didn't know us might get the idea that no young man

wants to serve America and that no employer is ever willing to give up an apprentice for military service; even possibly that with the induction of one or several that a company or a corporation or joint apprenticeship committee might fall apart. In actual practice, however, we know this is not quite true.

"I do know that our highly accelerated activity has created some problem and, of course, we have many times reminded you of this saying, 'The only problems that will go away if they are constantly ignored is adolescence and snow.'

"I think we are all coping with our problems, that is, you are not losing very many, if any, apprentices, and you are getting your programs in for review and approval.

"As I talked to you last year, we had 466 approved apprenticeship programs creating a variety of skills in this state. Opposing this, I was informed when leaving the headquarters yesterday afternoon that we now have 632 in this state.

"Now, it would bring up one pont—because as I talked to you last year we had small induction calls, possibly 6, 7 or 8 thousand nationally a month. Right now we are preparing for calls of 45,000 per month. So you see our activity has not doubled, but has gone to roughly six times what we were doing a year ago.

"With the approval of the many new programs (new to us as approved programs, not necessarily new programs, because many had been in operation for years), we must inform you that our local boards are tightening up in many areas of deferment so they are now holding to the requirement of our regulations that in order for an apprentice to be deferred he must have completed two thousand hours, if in the non-critical area, or a minimum of one thousand hours, if in one of the critical occupations.

"It is extremely important that I point out to you here that you should not wait until an apprentice has completed two thousand hours if non-critical, or one thousand hours if critical, before filing the request for deferment.

"We not only do not object but strongly urge that the minute an apprentice begins training under one of the approval programs that you file a request for deferment on the regular form and the number of hours completed will show of course 'zero.' By filing this form you are placing the Selective Service Board on notice that you are interested in this young man—then after he has reached the one or two thousand hour level the form should again be filed and annually thereafter.

"This brings us up to the point that with our highly increased calls, the induction age has rapidly gone down and this is certainly not an unlimited source of supply.

"So, it will probably be necessary very soon, possibly in December or January, to begin the induction of those persons who were married before August 27, 1965, and who had been, up until now, in a selection group which we would not have reached had the calls remained at a lower level.

"Therefore, it becomes imperative in all of these programs that you select the youngest qualified men you can find with the object

that they will have their year of training in before they reach age 19. In other words, if you do not start an apprentice until age 18½ he will not have accumulated the necessary hours before he would be reached for induction.

"Today, we are in an age of demonstrating against policies in Viet Nam and, of course, some isolated cases of burning and destroying their draft cards. Opposing this, of course, are letters from service men who are in Viet Nam and they in many instances are taking extreme pride in serving America and being there to do his bit to stem any further expansion of communistic advances.

"On the other hand, there is the inductee that was asked what he thought of Army draft and he said, 'I have three reasons for being in the Army. First, it was an opportunity to serve my country, second, I knew it would build me up physically; and third, the darn draft board came and got me.'

"However, on the serious side we want to do all we can in the Selective Service System (as pointed out earlier) to continue to assure through deferment a steady stream of apprentices into the journeyman status and at the same time we want to assure the induction of the required number of persons so that there will not be a question about our future in the space age.

"I have reminded you many times, and the past year has been a classic example, that you should not wait to file an apprentice training program for our review. Don't wait until you have a man under order for induction. In fact don't wait until you have a man under order for physical examination.

"If you have any young men 18-25 who are not veterans, you should have a program because already I have cautioned you that the single registrants are not in sufficient abundance to fill these high calls and that we are going into the married group. Whether we will have to go beyond that into the older people, 26-35, is not yet known.

"Whether the program is registered with the Council or not will not effect the ability of the employer or joint apprenticeship committee or labor from filing a program for review.

"I must say that most of our programs are those that have the approval of the Ohio State Apprenticeship Council, and while I am speaking of the Council, I must again point out the fine cooperation that John Kostyo and his office afforded the Selective Service System.

"I would also be remiss if I did not tell you of the excellent cooperation extended by Bill Sells and his area representatives of the Bureau of Apprenticeship and Training. We in the State Headquarters lean heavily on these two agencies, and I want to acknowledge the immeasurable help that they have given our Manpower Division over the years.

"Now, if there are any questions about filing a program, you should immediately get in touch with the nearest office of the Bureau of Apprenticeship and Training. These people have the necessary forms and instructions and complete 'know how' and by the time any program is submitted (after following their guidance), you can bet there are very few questions that we in State Headquarters must have answered.

"I think all program holders are to be commended for the modern and realistic approach to the related trade instruction; in that more programs every year are providing in excess of the minimum of 144 hours of related trade instructions for the apprentice. Thus there is not the fear when the apprentice misses a class or two that he does not meet the minimum and thus might face reclassification.

"So, here we are in 1965 and we do not have to look back too far to remember the Korean problem, the Berlin Air Lift, Formosa, more Berlin build up, the Lebanon scare, problems in Santa Domingo, and, of course, South Viet Nam.

"We do not know what might come next, but we do know that the Selective Service System stands ready at all times to furnish manpower under almost any conceivable circumstance and still provide deferments to keep the very fine balance that must be maintained.

"Please remember this is the 25th anniversary of the modern day Selective Service System. All of us have learned many lessons, so we shall proceed through the space age with complete confidence that we can meet our military commitments and create skills that might be very seriously needed, even more so then, than right now.

"We will not be shutting off the supply of these skills until it is absolutely necessary—meaning that there would be absolutely no alternative.

"I close with assurance to all of you that apprentice training in Ohio has a great firm friend in the Selective Service System.

"Many thanks."

Mr. Peacock closed the meeting by saying that a bus was waiting to transport all who desired to tour the Dayton Plumbing School to its location on Second Street.

Meeting adjourned.

ROOFING TRADES

Wednesday **October 27**

CO-CHAIRMEN

George J. Murphy, Representative, The West Side Roofing Company, Cleveland, Ohio

Emerson C. Sager, Business Agent, United Slate, Tile & Composition Roofers, Damp & Waterproof Workers Association, Local Union No. 86, Columbus, Ohio

SPEAKERS and TOPICS

Les Kautz, Marketing Manager, Build-Up Roofing Products, The Phillip Cary Manufacturing Company, Cincinnati, Ohio

Joseph A. Mihalka, Chief—Testing, Ohio State Employment Service, Columbus, Ohio

Walter Kunath, International Representative, United Slate, Tile & Roofers, Damp & Waterproof Workers Association, Cleveland, Ohio

CONSULTANTS

C. O. Tower, Assistant State Supervisor, Trade and Industrial Education Service, Southern District, Cincinnati, Ohio

Clayton B. Gabel, Representative, Bureau of Apprenticeship and Training, U. S. Department of Labor, Canton, Ohio

Paul Muntz, Industrial Leadership Training, University of Toledo, Toledo, Ohio

SECRETARY

Pearl Swank, Apprentice Roofer Instructor, Columbus Apprentice School, Columbus, Ohio

ROOFING TRADES

First and Second Sessions

The meeting was called to order at 9:30 A.M., by Chairman **Emerson Sager,** Representative of Roofers Local Union #86, Columbus, Ohio. Mr. Sager noted that the session would be devoted mainly to the State Roofers Joint Apprenticeship Committee, the new schools in operation, problems they may have, etc. He then announced that there were no bills for approval presently. Following these remarks Mr. Sager welcomed delegates and guests and requested those present to introduce themselves and state the respective organization represented. Upon completion of introduction by delegates and guests, Mr. Sager introduced **Mr. Gregory Murphy,** Vice President of West Side Roofing Company, Cleveland, Ohio, and Co-Chairman of the meeting.

Mr. Sager then opened the meeting for discussion of the statewide roofers apprenticeship program and asked if Canton had started school as yet. The question was answered from the floor. There has not been a program of schooling started as yet, however, arrangements for it are being discussed.

Mr. Sager then asked Mr. Murphy if Cleveland had established a school, and if so, was the program doing well. Mr. Murphy replied that Cleveland does have a school in operation. He then went on to speak of the difficulty in obtaining qualified young men interested in attending school and working at the same time; the problem of lack of work caused by weather conditions; finances; etc. At this point, Mr. Sager interrupted and stated that he would like to make the following comment; there is a definite problem due to fast turnover of work, whereas other crafts may be required to spend a considerable amount of time on a job, the roofer may complete his work within a week or ten days, in contrast to perhaps six months time required by the electrician or plumber or heating man. He stated that throughout the 88 counties in Ohio there are approximately 1300 roofers, which is indicative of this situation. Following this comment, Mr. Sager asked Mr. Murphy to continue.

Mr. Murphy stated that he felt their apprenticeship program was a good one, that their classes were conducted at Max Hayes Trade School, Cleveland, by a very qualified instructor, however, he also said he believes the program is too long since it is a three year course. He further stated that their committee had requested the government people to look into the possibility of a one year program. Mr. Murphy continued to say that at the present time they have 18 apprentices, with a union membership of 400 card men. He further said that since there is very little slate and tile work done, and they have only three contractors who still do this work, it seems highly improbably that they can train all their apprentices with only these contractors, insofar as slate and tile is concerned, along with the fact it seems rather unnecessary since the training will be little used in comparison to the time required to train for this phase. As an example, he cited the fact that two years ago the Cleveland local had 21 qualified slate and tile men out of an active membership of 300.

Mr. Murphy went on to discuss the problem of maintaining the interest of apprentices who are in their second and/or third year of training while introducing new students to the program. One instructor is used for all classes and the difficulty of the program is clearly understood. Also, Mr. Murphy remarked on the problem of rotating apprentices so they receive all phases of training because some of the larger yards in Cleveland are more or less specialized and the apprentice may be moved from a position where he is needed to some other location to receive training he will not use.

Can something be done to help alleviate these problems—such as cutting the required schooling program? Mr. Sager suggested this questions be directed to **Mr. Gabel,** Reprensentative, Bureau of Apprenticeship & Training, U. S. Department of Labor, Canton, Ohio, whereupon Mr. Gabel replied, " that state and national standards require a minimum two-year program with 288 hours of related classroom instruction. The three-year program is not a Federal requirement, it is a point of negotiation set at the local yevel. Some areas have a two-year program, others have three or more."

Mr. McKinnon, Toledo JAC Member — Fortunately, we in Toledo do not have these problems, actually we have a four-year program of which three years are spent in schooling and on-the-job training, with the fourth year served as an apprentice before journeyman status is obtained. We in Toledo, feel our program has been successful, and can normally maintain a class of 15 apprentices each year and we supplement the classroom instruction with field trips during normally slack time, slides and movies relating to the trade, various speakers and manufacturers' representatives. We also use training in connection with the Red Cross Safety Program, which is quite important to our program. Classroom credit is given for all these additional, but necessary, supplemental classes. I might suggest that you in Cleveland try to work closer to the book. What is your ratio of apprentices to journeymen?"

Answered by Mr. Murphy—"The ratio is approximately one apprentice for each 15 journeyman. However, we seem to be simply over saturated with card men. For instance, last year we had 42 permit men on jobs. We have only 18 apprentices, and these temporary permit men are not qualified to apply as apprentices."

Mr. Walter Kunath, Roofers International Representative, Cleveland, Ohio—"At this point, I would like to clarify the term 'permit men.' The term is illegal, they are either applicants or probationary journeymen."

Mr. Murphy said, "I believe in Cleveland the term probationary journeyman is used."

Mr. Salvator Ponzio, Business Agent, Roofers Local Union #71, Youngstown, Ohio, remarked "If you had only forty-two probationary journeymen last year, then how do you get just labor work done, such as work on gravel pile, etc.?"

Answered by **Mr. Owen McDermott,** Secretary, Roofers, Local #44, Cleveland, Ohio, said "We use very little temporary help with 300 on active membership."

Mr. Murphy stated this was true to the best of his knowledge and that since Mr. McDermott is the recording secretary his figures should be correct.

These statements were followed by further discussion concerning the length of the Cleveland program, with both Mr. Kunath and Mr. Gabel again stressing the fact that the minimum time requirements of National Standards must be met. Mr. Gabel pointed out also that it should take the required two years to properly go through the training manual and that since Cleveland program is relatively new it may take a little time for it to run more smoothly. Mr. Gabel stated he felt the primary concern should be training for the entire area and not just a localized situation.

At this time, Mr. Gabel stated he would also like to point out a printing error in the National Standards under the Selection Procedures, paragraph 4, sub-section D, page 9, which stated, "Applicants receiving a qualifying score will be interviewed by the Employer." The word "Employer" is in error, this should read "Joint Apprenticeship Committee" and that this error will be corrected.

Mr. Gabel further noted that as of January 1, 1965, there were 218 Roofing apprentices throughout Ohio, and as of October 1, 1965, there are 261 Roofing apprentices state wide.

Chairman Sager asked if there were any further questions or comments, and some discussion followed regarding the selection of apprentices, taking of applications, etc., by Cleveland since they do have a small apprentice class in proportion to Toledo, and it was generally agreed they should give their program time to settle down, and as this takes place, some of the problems will be resolved.

Mr. C. O. Tower, Assistant State Supervisor, Trades & Industrial Education Service, Cincinnati, Ohio, stated that it is very important to be sure an apprenticeship program provides more than just the bare essentials in order to hold the interest of the apprentice. The program must and should be augmented with movies, etc. There must be a method to recruit more men for the program if necessary, and they must be made to feel the program is worthwhile. Cleveland is not turning out the number of apprentices it should, at least it appears they are not. We must remember that as present members retire they will have to replace them with qualified men, who should be receiving their training now for the future.

Mr. Kunath requested time for a comment relating to this and said he would like to point out two things: (1) slate & tile men are scarce, they are practically all near retirement age, and as they retire, trained slate & tile men must be available to replace them; (2) there are many new materials in use today, many new methods of application in the field, be sure your program covers these points thoroughly.

The question was raised regarding advisability of having the business agent of a local union as a member of the local joint apprenticeship committee. It was agreed by all present that the business agent should be a member of the committee. It was suggested at this time if Cleveland does not have this, it would be worthwhile to check into it, since the business agent (s) of a local union are always closest to the work and the manpower situation.

Mr. Mike Liskany, Business Manager, Roofers Local #75, Dayton, Ohio, asked Mr. Murphy if their bargaining agreement covers provision for ratio of apprentices to journeymen. Mr. Murphy replied that it is not stipulated in the agreement, whereupon Mr. Liskany suggested it might be advisable to provide for it in future agreements.

Chairman Sager then asked Mr. Liskany how the apprenticeship program in Dayton is progressing. Mr. Liskany reported the Dayton program is doing very well and that the first class will be graduated this coming year.

Chairman Sager then asked for a report from **Mr. Ponzio** on the Youngstown program. Mr. Ponzio said their program is good and they have no particular problems. He did raise a question regarding payment of tuition and was advised by the various representatives how this is handled by their groups.

Chairman Sager called for further questions if any, or announcements.

Mr. Gabel inquired if there would be another State Roofers meeting soon. The answer was in the affirmative, possibly in February, 1966, if this would be satisfactory to all.

Mr. Murphy then suggested that if the next State meeting were held in Toledo, perhaps it would be possible to see the classroom setup used by the Toledo group. He received assurance that this could be done.

Chairman Sager stated that if there were not any further questions, the meeting would adjourn for lunch.

Mr. Liskany invited all present to be the guests of the Dayton Local at the Statler-Hilton Dayton Inn.

The meeting was then adjourned until the afternoon session.

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The afternoon meeting was opened by Co-Chairman **Emerson Sager** with the following remarks: First, Mr. Sager extended thanks to the Dayton Local for the luncheon; he then asked the Roofers and Roofing Contractors to please remain after the speakers had been heard, for another brief meeting. Mr. Sager requested delegates and guests present for this session to introduce themselves and state their affiliation for the benefit of those who were not present at the morning meeting. Following this, Mr. Sager turned the meeting over to Chairman **Gregory Murphy** for the afternoon session.

Mr. Murphy also expressed his thanks for the luncheon, stated the morning meeting had been a lively one with good results. After some additional words of welcome, Mr. Murphy introduced the first speaker of the afternoon, **Mr. Les Kautz,** Marketing Manager, Build-Up Roofing Products, The Phillip Carey Co., Cincinnati, Ohio. Mr. Kautz greeted the group, stated that he had anticipated addressing a group of apprentices and had prepared his speech for this purpose, and would give it anyway.

"Thank you, Mr. Chairman. It is a great pleasure for me to have this opportunity, and I feel highly honored.

"Dynamic is defined by some as involving those forces that produce change. We are in a rapidly changing industry. One in which you have programs involving young people. These young people become the key to our future success and better performing roofs.

"Have you ever asked yourself, 'Why does a business exist?' In my opinion business exists for three reasons: First, it is there to make a profit. Second, it is there to render a service. Third, to provide

employment and incomes that collectively further our economy. We are so very fortunate in America to be involved in a competitive system. One wherein the best product and the best service rendered at the least cost will be successful in spite of itself, but the efforts of every one in that business are important to that final success.

"I have spent over 25 years in this business, my first love has been B.U.R. Therefore, most of my remarks this afternoon will be confined to, or illustrated in, terms of the built-up roofing field.

"You are production workers as well as craftsmen. The products furnished to your employers by manufacturers today, and historically, really have no intrinsic value within themselves. A roll of felt, a tootsie of asphalt or a bucket of mud really does not mean anything until it is put in place. You are building custom made, finished products, on the job site and frequently under the worst conditions.

"To me it is interesting that in our business we are for the most part, working on top.

"That is a point within itself. We do think of the topside of the building being our work, but as you look into the future of your careers, your craft, and where you may fit into this business, keep in mind that many times there is as much business that involves your craft underground or within the confines of the building as there is on top. Even though we are topside men, this craft is looked down upon. Facing facts, we have earned a bad reputation. Many, many articles are written and a great many more unsubstantiated statements in certain instances are being made that attribute our problems to careless workmanship. It is common to say that a roofer just 'does not give a damn.' I do not believe this, but if any semblance of it is true, then it behooves everyone of us to do everything we can to change this impression the public may have.

"It's easy for us to reminisce, and looking back is easier than looking ahead. I think one of the great changes that brings this to our attention would be just a brief review of the vocabulary of the materials and equipments that existed in our industry just, well even ten years ago.

"We constantly referred to hot stuff, rolls, mud and when a job was being set up, there were not too many things to think about. You needed a kettle, some kerosene or coal oil, an ax, an 'A' frame, a rope, a pulley, a mop, a few extra buckets, some wheelbarrows, and a keg of nails.

"Now, we see a long list of new terms that involve things that people have to know. Bitumens, felts, adhesives, polyisobetylenes, neoprene, hypalon, polimers, elastimers, two-component systems, methelethelketone, poly-vinyl acetates, poly-vinyl chlorides, buytles, styrene butydyenes, urethane, poly-styrene, and then comes storage tanks, felt layers, gravel spreaders, propane gas, pumps, types of pumps, ratios of pumps, valves, seatings, hoses, recording thermometers, hoists, lativators, vapor barriers, perm ratings, well, yes, engineers, tube lock, as, hyde tack, labelle, and E. G. You will have to study; you will have to learn; you will have to read. We have become sophisticated.

"Our economy in America is growing so rapidly and the need for many new buildings, new types of buildings, is among our greatest

needs. Any phase of the workmanship that goes into the building of the structure that will protect costly equipment and precious time of expensively trained people, is just as important as the design of the building or the design of the missile that might go into it, or the life of that young boy or girl in the school house.

"I believe it would be interesting to tell you briefly about a new book that is being written. Probably two years will be required to write it. This will be 'The American Institute of Architects Comprehensive Design Manual for Roofing and Waterproofing Systems. A great many meetings have preceded the actual decision to go ahead with this book.

But prime among the things coming out of these meetings is that so many things, in fact everything in a structure and many times the occupancy can have an effect, pro or con, on the performance of the roof. We no longer just put an umbrella over the top of the building. (With a Bond)—too many things are interrelated, so we have to design systems.

"During World War II and the Korean conflict when the demand for structures was exceptionally *great, we started building structures* like your little boy builds with play blocks. Roofs were flat, walls were straight lines, supposedly, and we were dealing in cubes, rectangles or squares. Any engineer could put these things together and design a building. The architect was losing his place in the construction field. He had to put beauty into structures. There was a demand for esthetics. He had to change the design concept. Today, we are hearing new terms in the construction field—the same as we are in roofing. Terms such as: folded plates, rolling barrels, and hyperbolic paraboloids. We see designs that look like saddles and spheres and derby hats, and, the old roof concept that it is either flat or sloping is antiquated.

"The single ply laminate roof and the fluid applied roofing systems are taking a relatively small percentage of the American total market today, but there are a million squares involved in that small percentage, and it will be a growing one. Manufacturers are attempting to do everything they possibly can in their producing plants that will minimize the amount of labor in the field. You have to recognize this.

"There are old crafts that are gone, replaced for the most part by the do-it-yourselfer; such as the paper hanger and the residential painter. But these new roofing systems, single plies and fluid applied involve the techniques, the knowledge, and the pride in workmanship that those people had. When you only put on a single ply roof you have nothing but one ply and a piece of tape between you and the outside. Here the paperhanger's technique becomes real important, lines better match.

"If you do not learn these terms and learn these technologies and collectively encourage your employers to get into the new systems, then some other trade is going to take over because they are here; they are necessary, they have to be applied and they have to applied properly by knowledgeable people that care.

"New metals and new plastics are entering the field. You must also learn about them.

"As I look out over this audience, I can see the faces of some employers who learned their trade just like you are learning it. You can have no better background to be a future roofing contractor, a future salesman, a future executive, a comptroller in this industry, than actually being out on the jobs and learning how the materials are applied and knowing how the people whom you work for and with think. There is no limit to where you can go.

"I do not want to sound like a philospher, and I am sure you have heard these things from others—your Sunday school teacher, your minister, and your mother. But, do not ever forget, my friends, a great deal of satisfaction can be derived from a job well done. There is a compensation, and it does not have to be in dollars, for putting out that 'little extra'. Do your homework; do it well; develop a curiosity; come up with ideas. They may be wrong in some cases, but try them. Show initiative. This is what American industry is looking for. Don't let your guide be, 'doing no more than the fellow next to you.' He may be the bad apple in the barrel.

"You can read today of many new theories, some of them partially proven, a few of them totally proven, that affect the performance of our products as they are in place. Read about such things as thermal-shock, sonic booms, shrinking of rooking membranes, lateral co-efficients of contraction and expansion of components, humidity control within buildings, air conditioning, comfort control, condensation, dew ponts, 'C' Factors, 'K' Factors, you have to know a little bit about all of these things.

"You should learn to read specifications to interpret drawings and to avoid mistakes.

"Many apprentices will be foremen and job superintendents. One of the most common things today in our industry is the pre-job conference. Time-time, my friends, is the most precious thing we have, and, that is why we have pre-job conferences with the general contractor, the architect, in some cases the owner of the owner's representative, subcontractors and these people decide how they can do a particular job in the most efficient manner. Where are you going to set up, when are you going to start, who is going to be in your way. You have to be knowledgeable, and you also have to be a salesman to get these things across so that your company can do the best job, render the best service, make the most profit on the contract.

"It will be most helpful to you, I assure, fellows, if in addition to doing your homework you keep in mind some of your personal habits: be neat, clean, shave, be courteous, above all smile and try to place yourself in the other fellow's shoes.

"Our industry today is inflicted to a great extent with a new concept of inspectors and consultants, so-called experts in the field. Owners are depending upon people with partial knowledge to advise them, to damn, to criticize, the things that you and your predecessors have done. You can assist in minimizing these problems with your knowledge.

"Today, it is possible for you to read a great many articles, pros and cons, regarding the importance of drainage in roofing. I believe the majority of opinions in American is that roofs should not be swimming pools. They should not be designed so that they frustrate our wild fowl, who find themselves landing on roof tops rather than

lakes. You can talk about these things. You can see a drain going in the wrong place, you can see a drain pipe running up a column, you can see that there are no provisions made for water to get off of a building. You can report these things. You can talk about them, but first you have to learn why. Learning is so much fun and such a wonderful satisfaction.

"Thanks very much for your time."

The following questions were directed to Mr. Kautz:

Question—from **Mr. McDermott**—"Is there a probable date for purchase time of this new book?

Answer—"Hopefully, two years."

Question—from **Mr. Murphy**—"Will new materials help bring costs down?"

Answer—"Today, costs are high, however, once it is learned it will broaden. If Roofers don't learn it, some other craft will."

Question—from **Leonard Bishow,** JAC, Dayton—"Has Carey Company done anything insofar as movies, slides, etc., for schools? If so, how may they be obtained?"

Answer—"There will be available, maybe next month, five new films concering the Roofing trade, these films are approximately each 15 minutes long. They will be available through the Midwest Contractors Association or National Contractors Association. Carey puts out a film that deals strictly with Carey products and ideas, also we take tour groups through our plant."

Mr. Murphy thanked **Mr. Kautz** for his presentation and introduced the next speaker, **Mr. Joseph A. Mihalka,** Chief of Testing, B. U. C., Employment Service Division, Columbus. Mr. Mihalka spoke on 'Testing & Apprenticeship.'

He stated that O.S.E.S. is dealing in a commodity called people, from youth to the older worker. There are primarily three functions of O.S.E.S. (1) Collect contributions (2) Pay benefits, and, (3) Serve as an employment service. In the past this was relatively simple, however, this is not true today due to specialization, and a lack of communication caused by it.

"Since 1958 there has been an increasing emphasis on education, yet not everyone can go to college. So what becomes of the people who do not have enough education—they must take up a trade. There are presently several information offices that have apprenticeship material available. In Ohio there are 70 units throughout the state where testing can be conducted for potential trainees. The test battery for Roofing was developed in California with 50 apprentices employed at 33 firms and attending three vocational schools for supplemental training. The following factors were found to be significant in predicting success:

(a) **Form Perception**—required on the job to fit materials with spaces laid out on roof and to maintain uniform spacing or overlapping.

(b) **Motor Coordination**—required on the job for measuring and aligning composition shingles, feet or flashing, and in nailing and removing nails, shingles and felt.

(c) **Manual Dexterity**—required on the job in using hand tools skillfully and manipulating roofing materials.

"Ten of fifteen had a poor rating which indicated that approximately 67% would not have been hired had they taken the tests earlier, while 32 of 37 (87%) qualified as good workers. This example is intended only as a helping factor, not a cure-all. Most of these tests are culturally oriented. You cannot judge a person on the score alone, you must be able to judge the individual's reaction and allow for it. In fact, tests are not available for all occupations, and you cannot test a person already employed, for the employers' own purposes. If an employer or union wishes to make use of these tests you may be assured there is no misuse of the testing procedure, the test will be conducted by a qualified consultant who in turn will advise you of the results of the test but will not divulge the actual score. In other words, you will be advised whether or not the person tested would be suitable for the work.

"Please research possibility of using these services through your local offices, particularly Youth Opportunity Centers. Let the centers know of your apprenticeship training program. In closing, Mr. Mihalka stated the important thing in the changing world of work and automation is to keep well informed. In reply to a question by Mr. Murphy, he reviewed the cities where testing is available." (Specific Aptitude Test Batter—B-518 for Roofing trade.)

The third speaker for the day, **Mr. Walter Kunath,** Roofers International Representative, Cleveland, Ohio, was then introduced by the Chairman. After greeting the delegates and guests, Mr. Kunath stated that should a title be required for his message, then let it be called "Responsibility."

"It has long been my opinion that a satisfactory and conclusive apprenticeship training program should be instituted in our entire industry. We need it. Let me add that more and more each day, month and year, our people are becoming aware of this vital necessity, not only in the State of Ohio but throughout the entire area I represent. There does not seem to be a week that passes that I am not questioned as to how to arrange a program in a given area. So, **the interest is there,** however, like in the majortiy of endeavors to improve and progress, it is quite difficult to obtain people who will take the time and spend the effort to bring about the desired results. The dedication to these programs is lacking, because in most cases where a program is instituted every one is eager to carry out their particular duties, at first. Then, after a certain period of time a general laxity sets in and the progress is stablilized. We must somehow generate a feeling in our people to become dedicated to the jobs assigned to them in their programs. Whenever, I use the term 'our people', I am referring to our Roofing and Waterproofing Contractors as well as to the Roofers' committees. Somehow I hope we can find the answer to this problem—not enough time and effort is spent on making the programs work to the utmost.

"However, this problem is showing a great decrease in the State of Ohio, and this has been brought about by the recent adoption of the Ohio State Roofing & Waterproofing Standards, at which meeting I am happy to say I was in attendance. Let me compliment you on the program, and especially the originators of the plan, namely,

Mike Liskany, Emerson Sager, and Tom Wendt, who incidentally is now with the Bureau. My congratulations to all of you, and to the contractors who participated in setting up the original program, along with the Bureau Representatives. In my travels throughout our State, I am happy to report that 6 of our local unions have already acquired schools and two others are contemplating or are in the process of doing likewise. The progress here is exhilarating and indicates, beyond a doubt, that the Roofers of Ohio have shown this interest in bringing about programs in their various localities. This foresight, in addition to the efforts made by the people of Ohio, let me assure you, will bring you many merits and satisfaction. You are doing the job, and I am sure will continue to do so.

"Let us now take a look at what our purposes in an apprenticeship program should be. In my opinion we should **first: Realize we have a responsibility to the Apprentice.** This man, or boy, whichever the case may be, is entitled to all the privileges we can afford him. He should be given every opportunity to complete his course and become the finished product necessary to be an asset to BOTH the Employer and his fellow worker. Programs which detour from this basic idea tend to cause troubles in the plan. If the apprentice is not given an opportunity to learn the mechanics of the trade, step by step, and/or is relegated to a specific job for too long a period, he loses interest and becomes a specialist mechanic that is isolated in that particular position, thereby forcing the man into doing only one type of job and consequently defeating the purpose of the plan.

In addition, our responsibility to the Employer has to be considered. If this isolation of position is brought about because the man is unable to progress in the plan due to his inability to learn the various phases, then he should be demoted or dropped from the program by the Joint Committee without hesitation. Our real purpose is to produce mechanics, not burden the **Employer and Journeyman** with a semi-skilled or unfinished product.

"Let us send the employers the best because we then have a good arguing point at the negotiation tables. The type of people we need, (again I am referring to the qualified mechanic), are brought about by the Joint Committee enforcing the program without showing any partiality, and, by the **Employer and Foreman** on the various jobs seeing that the Apprentice is moved to the various jobs in the Roofing trade so **he is given the opportunity to learn all phases of the trade.**

How do we get apprentices interested in the Roofing trade? This has been a bone of contention for too long a period. My opinion is that it is absolutely necessary to go to the high schools and inform the students that are still undecided as to what they will do when they leave school that they can make a good living in an extremely interesting and important operation in the construction industry, by becoming a roofer apprentice. These young men should also be informed that many of the local unions now have fringe benefits which will also be available to them. We must **give of our time** to acquire these young men by selling them the idea of becoming a roofer.

"**Tell them** of the various types of roof construction, including the new materials now being applied, because today we are not 'hot

tar roofers' only. We now have many cold applications because of the new methods of roof construction coming into our field.

"It may also be advisable to make the starting rate of wages attractive enough, without of course, getting out of line in comparison to the journeyman rates. Set up the ratio to journeyman properly so that he can be assured of employment for a reasonable length of time. **However, and above all,** give him the opinion that he will be learning a trade in which he will be given a fair and honest chance to complete the program. All too often I hear young fellows making remarks, such as—'to heck with that job, all they want you for is the rush periods and then they forget all about you.' Do not let them say this about us.'

"These are our responsibilities and we must accept them. I suppose some of you are wondering what the Roofers International is doing to assist you in apprenticeship programs. Our National Apprenticeship Standards have been available from the General Office since their completed revision at the start of the year. Also, we have now finished a more complete training manual which is in the printing stages and will be available shortly. These new manuals may be obtained through requests received by the General Office. Last, but not least, personal assistance may be obtained through your request to the General Office.

In conclusion, I would like to say your conference theme 'A Sound Investment for the Space Age' is very appropriately titled, as this is the Space age, and we will have to adjust to it as we have had to adjust to the various changes in the past. However, if per chance we do start constructions on the moon or other planets, I hope our General President does not give me the first assignment on any particular problems that may arise there. Again, I thank you for inviting me to be with you and giving me the opportunity to speak to you. May best wishes to you for continued success, progress, and prosperity in your endeavors."

Again, Chairman Murphy thanked all the speakers for their information, and for giving their time to address this meeting.

At this time, **Mr. Gabel** briefly interrupted to introduce **Mr. William Webb,** Regional Director, Bureau of Apprenticeship and Training, U. S. Department of Labor, who had entered the room. Mr. Webb was warmly welcomed and his help in setting up the various programs was acknowledged by the Co-Chairman, Mr. Sager.

The meeting was opened for questions.

Question: by **Mr. Tower**—"Is there a point in the testing program, in the beginning for the above-average student?"

Answer: by **Mr. Mihalka**—"Yes, if we have this situation arise, a personal interview is first given."

Question: by **L. Bishow**—"Was a validation study made of the apprentices in California who participated in the testing."

Answer: by **Mr. Mihalka**—"Not as yet, however, it is hoped that with the addition of research people a long term follow through program will be established."

Following this, a brief general discussion was held, and the meeting was adjourned at 4:15 P.M.

SHEET METAL TRADES

Wednesday **October 27**

CO-CHAIRMEN

Richard Rigg, Representing, Riggs Sheet Metal and Roofing, Dayton, Ohio

Ralph Taylor, Business Agent and Chairman of Sheet Metal Workers Joint Apprenticeship Committee, Dayton, Ohio

SPEAKERS

Dr. Robert M. Reese, Department Head, Teacher Education Service, Trade and Industrial Education, The Ohio State University, Columbus, Ohio

Edward Hudoba, Secretary, National Joint Sheet Metal Industry, Minneapolis, Minnesota

E. T. Forsyth, Supervisor, Coated Steel Products, Armco Steel Product Corporation, Middletown, Ohio

Dr. William L. Ramsey, Superintendent of Schools, Penta County Vocational School, Perrysburg, Ohio.

CONSULTANTS

George Kosbab, Representative, Trade and Industrial Education Service, The Ohio State University, Columbus, Ohio.

Earl A. Shobe, Representative, Bureau of Apprenticeship and Training, U. S. Department of Labor, Cincinnati, Ohio

Dr. Robert M. Reese, Department Head, Teacher, Education Service Trade and Industrial Education, The Ohio State University, Columbus, Ohio.

REGISTRATION AND RECEPTION

William Budde, Representing, Budde Sheet Metal Company, Dayton, Ohio

Dalous Phillips, Business Agent, Sheet Metal Workers Local Union No. 224, Dayton, Ohio

SECRETARY

Melbourne F. Wargo, Business Agent, Sheet Metal Workers Local Union No. 65, Dayton, Ohio

SHEET METAL TRADES

(First and Second Sessions)

This session was called to order by **Ralph Taylor,** Business Agent and Chairman of Sheet Metal Workers Joint Apprenticeship Committee, Dayton, Ohio, at 9:20 A.M. There were 33 in attendance.

The speaker introduced was **Dr. Robert M. Reese,** Department Head, Teacher Education Service, Trade and Industrial Education, The Ohio State University, Columbus, Ohio, whose topic was "Setting Up and Operating A State-Wide Apprenticeship Contest".

Dr. Reese stressed prestige in education and communication to the public in getting good applicants. As values in the apprentice contests, awards are a vital thing for all participants, thereby rewarding all people not build just the top people. He stressed the importance of local, state and final committees, rules and procedures. In starting, the first thing is a sponsoring agent; second is a Location; third is Advance planning in order to acquire facilities; fourth is a Director; and fifth, Vital things necessary for promotion such as:

1. Funds Source
2. Selection of Judges
   a. Management
   b. Labor
   c. Education
3. Content
4. Supplies
5. Cost—Procedures—Materials—Etc.
6. Lunches—Banquets—Awards—Program
   a. Invite Guests & Publicity
   b. Location of Banquet
   c. Housing & Applicants
   d. Test Content
   e. Preparation of Meetings (Two a Year)
   f. Schedules of Contest
      1. Meeting of Judges
      2. Grading Procedures
      3. Records of Winners
      4. Preparation of Certificates
7. Do not start such a program until the industry is properly prepared
8. Selling a local committee on the contest
9. Proper location

Dr. Reese concluded with the final remark "POORLY RUN CONTESTS CAN DO MORE HARM THAN NO CONTEST AT ALL."

Questions—There were various questions of clarification asked and answered. Chairman Taylor thanked Dr. Reese for his remarks and then introduced **Mr. Edward Hudoba,** Secretary, National Joint Sheet Metal Industry, Minneapolis, Minnesota.

Mr. Hudoba outlined problems and steps necessary in a contest:

1. The National Committee selects the project based on experience of the apprentice.
2. Information sheet covering the facts including his employer.
3. Instructions regarding the project.
4. Questionnaire concerning the fitting and other items concerning the industry.
5. The fitting itself.
6. Regimentation and compulsory participation is necessary.
7. Caution—Human element should be given consideration.
8. Time limits are good.
9. Check sheets for judges to determine the job accuracy.
10. Publicity after the contest.

State contests are now being conducted in Connecticut. Various questions were asked of Mr. Hudoba with a further exchange of information on contest operation. Chairman Taylor asked for further questions; there were none.

Chairman **Taylor** then asked for a report from **Earl Shobe,** Representative, Bureau of Apprenticeship and Training, U. S. Dept. of Labor, Cincinnati, Ohio, which was given as follows as of January 1, 1965:

280 apprentices active

Registered	167
Reinstated	1
Cancelled	28
Completed	66
Lost To Armed Service	4

Active as of 10-1-65 ..... 350—A gain of 70 in 10 months

Some questions were raised at this point regarding the use of apprentices on federally financed construction. A synopsis of the information presented at this point is appended as, ATTACHMENT "A".

Mr. George Kosbab, Representative, Trade and Industrial Education Service, The Ohio State University, Columbus, Ohio, was introduced and gave a report on the progress of the achievement testing program for Sheet Metal Workers being developed by the V. E. Service of Ohio State and commended the members of the Ohio State Sheet Metal Workers JAC who had assisted in the program.

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Mr. Richard Rigg, Representing, Riggs Sheet Metal and Roofing, Dayton, Ohio, opened the afternoon session at 2:00 P.M. 32 persons present.

Mr. Ted Forsyth, Mr. J. H. Maynard, and **Mr. Beck** from Armco were introduced and showed an education film on steel manufacturing

and slides on zinc coated products. Also film on fire rating in ducts, steel, fiber glass, aluminum and asbestos.

These films were educational, informative, generally interesting, and were well received by the group. Considerable discussion on these films was carried on during a break period between this phase of the program and the one to follow.

The next speaker introduced was **Dr. William L. Ramsey,** Superintendent of Schools, Penta County Vocational School, Perrysburg, Ohio, whose topic was "The Area Vocational Schools Role in Apprenticeship and Skilled Trades Training."

Dr. Ramsey related his early experience in labor. Also effects of school on industrial training. Nineteen school districts for this one vocational school. Three divisions—Vocational High, Technical College and Adult Education. He also pointed differences in various programs programed to meet the needs of area being served.

Dr. Ramsey was a very dynamic speaker, well versed in his topic and made a very dramatic presentation of the close working relationship that is possible between vocational education and local industry and how vocational education can be instrumental in encouraging industrial growth in an area.

Since selection of apprentices are of vital importance in the operation of any apprenticeship program, and in order for you to determine if your plan meets the selection procedure as outlined in the plan adopted by the Ohio State Apprenticeship Council, a check sheet is appended as ATTACHMENT "B". This check sheet is not expected to be answered and returned but is merely intended to provide you with the necessary information to determine the status of your program.

ATTACHMENT "A"

STATE OFFICE
U. S. DEPARTMENT OF LABOR
BUREAU OF APPRENTICESHIP AND TRAINING
COLUMBUS, OHIO

EMPLOYMENT OF APPRENTICES ON FEDERALLY ASSISTED CONSTRUCTION PROJECTS

In addition to the proviso that there must be an official wage determination, including appropriate apprentice classification and rates, contractors must register their apprentices and adhere to certain other regulations published by the Secretary of Labor under Regulations, Part 5. These regulations establish Labor standards provisions covering federally financed and assisted construction for the guidance of administrative and enforcement officials of federal agencies.

On January 18, 1956, Assistant Solicitor of Labor, John J. Babe addressed the following memorandum of interpretation to W. F. Patterson, Director of Bureau of Apprenticeship, concerning problems related to the employment of apprentices on Federal or federally assisted construction projects:

INFORMATION FOR CONTRACTORS AND UNIONS

1. Summary of Regulation governing apprentice employment on covered construction.
2. Procedure for registration time limits.
3. Backdating of apprentice agreement approvals and registrations not recognized.
4. Wages to be paid unregistered apprentices.
5. Disproportionate employment ratio.
6. Wage determination provisions.

APPRENTICE REGULATIONS

Reg., Part 5, affecting Apprentices provides:

Sec. 5.2(3). The term "apprentices" means persons employed in a bona fide apprenticeship program registered with the State Apprenticeship Council which is recognized by the Federal Committee on Apprenticeship, U. S. Department of Labor, or if no such recognized Council exists in a State, in a program registered with the Bureau of Apprenticeship and Training, U. S. Department of Labor;

Sec. 5.5(a)(4). Apprentices will be permitted to work only under a bona fide apprenticeship program registered with a State Apprenticeship Council which is recognized by the Federal Committee on Apprenticeship, U. S. Department of Labor; or, if no such recognized Council exists in a State, under a program registered with the Bureau of Apprenticeship & Training, U. S. Dept. of Labor.

Sec. 5.6(2). In addition to the examination of payrolls and affidavits required by paragraph (d) of this section, the Federal Agency shall cause investigations to be made as may be necessary to assure compliance with the labor standards stipulations required by the regulations contained in this part and the applicable statutes listed in Sec. 5.1. Projects where the contract is of short duration (6 months or less) shall be investigated before the work is accepted, if feasible. In the case of contracts which extend over a long period of time, the investigation shall be made with such frequency as may be necessary to assure compliance. Such investigations shall include interviews with employees and examinations of payroll data to determine the correctness of classifications and **disproportionate employment of laborers, helpers, or apprentices.** Complaints of alleged violations shall be given priority and statements written or oral, made by an employee shall be treated as confidential and shall not be disclosed to his employer without the consent of the employee.

VALID REGISTRATION—LAPSE OF TIME

The employment of bona fide apprentices at wage rates determined for apprentices by the Secretary of Labor is permitted by Regulations Part 5. Since the Regulations require that for employment an apprentice must be under a bona fide apprenticeship program registered with State Apprenticeship Agencies or the Bureau of Apprenticeship & Training, and since the requirement of each program is individual apprentice registration or indenture, we will consider a worker for enforcement purposes to be a bona fide apprentice from the date of indenture execution provided the date of approval by the craft's Joint Apprenticeship Committee and the State Agency regis-

tration date are within 30 days (30 days) of the indenture's execution, and futher provided that State Law does not require otherwise. If the State Agency's approval or registration is not within 30 days of the date of the execution of the indenture, then the Committee's approval date will be accepted provided the State Agency approves or registers the indenture within 30 days of the Committee's approval date. In the event these periods are not observed the State Agency registration date will control.

In instances where State legislation requires individual indentures registration or approval as a condition precedent to bona fide apprenticeship training, we will consider such approval or registration date by the State official or his duly designated representative as conclusive evidence of bona fide apprenticeship training.

In instances where individual registration is made directly with a Bureau of Apprenticeship & Training Representative who has authority to execute the indenture and State Agency approval is not required, the Bureau of Apprenticeship & Training date will be accepted as authoritative.

BACKDATING—CREDIT FOR EXPERIENCE

Back dating of approvals by the Joint Apprenticeship Committee or of registrations by the Registration Agency is not acceptable in determining the actual date of registration controlling permission to employ apprentices at sub-journeyman wages on covered contracts under Regulations, Part 5.

Previous work credit granted in a registration will be accepted in determining the wage rate to be paid to a registered apprentice on a federal or federally assisted construction job covered by Reg. Part 5. However, previous work credit granted an apprentice on the term of apprenticeship will not be recognized for the purpose of backdating the apprenticeship. This is intended to avoid the device of paying sub-journeyman wages on covered jobs for periods of employment prior to registration.

Example: An apprentice is registered on January 1 and given credit at that time for 2 years' prior work experience. In determining the wage rate which he must be paid on covered jobs after January 1, the apprentice is entitled to the wage applicable to the next step following the 2 year level. This gives him credit for his 2 years' experience.

The apprentice's employment before January 1, while creditable for previous work credit on the term of apprenticeship cannot be considered in determining the proper wage rate to be paid before registration on January 1. The alleged apprentice is in no covered jobs prior to January 1. The journeyman's rate would be applicable to such employees doing part of the mechanic's work prior to January 1.

DISPROPORTIONATE EMPLOYMENT—RATIO

In the employment of apprentices on covered federal or federally assisted contracts to conform with Regulations, Part 5.6(e), providing against disproportionate employment, recognition will be given to acceptable prevailing area practices respecting ratios of apprentices to mechanics on individual construction projects. To meet the

requirements of these Regulations, the allowable ratio of apprentices to skilled workers permitted to work on a covered project or job shall not be greater than the ratio allowed the contractor as to his entire work force.

Example: A contractor has 100 journeymen and is allowed 10 apprentices the **ratio** is thus 1 apprentice to 10 journeymen. The contractor, on covered jobs for enforcement purposes, is allowed to employ 1 apprentice for each 10 journeymen or any fraction thereof. No apprentice will be allowed unless there is at least 1 journeyman on the job. After 10 journeymen are employed, the contractor may use 2 apprentices for 20 journeymen or any fraction thereof. After 20 journeymen are employed, he may use 3 apprentices for 30 journeymen or any fraction thereof, and so on up to his limit of 10 apprentices.

In State Council and Joint Committee arrangements, the craft—collective bargaining ratios will be accepted. In Apprenticeship programs where collective-bargaining ratios are not determined, the prevailing area practice as to ratios will be determined by the office of the Solicitor.

Where bona fide apprentices on covered Government or Government-assisted contracts are employed in excess of the proper ratio, those employed in excess of such ratio will be entitled to the journeyman's rate for each day of disproportionate employment on the project. Allowances will be made for journeyman absenteeism due to circumstances beyond the contractor's control. These matters will be decided on a case-to-case basis by the Solicitor's office.

WAGE DETERMINATION REGULATIONS

The Secretary of Labor, through the Solictor's Office of the U.S. Department of Labor, predetermines the prevailing wages for construction mechanics, laborers, and apprentices employed on federal or federally aided construction projects. Details of these regulations will be found in Part 5, Title 29, Subtitle A, Code of Federal Regulations, covering labor standards provision applicable to public contracts let under the following Acts:

1. Davis-Bacon Act., as amended—Applying to new construction alteration and repair (including painting and decorating) contracts of over $2,000 let directly by a Federal Agency.
2. National Housing Act, as amended (FHA)—covering multi-type dwellings for rental purposes. Individual homes are not included, except when constructed by co-operative or FHA projects of 12 or more homes. Insured housing on military installations is also covered.

ATTACHMENT "B"

In order for you to determine if your plan is in compliance with the Ohio State Plan on the selection of apprentices and if you would be able to justify your position on selection if you were faced with a

challenge of discrimination you should be able to answer Yes to the following questions.

1. Does your plan contain a non-discrimination clause in accordance with the Ohio State Plan, Section 6, Paragraph A?
2. Is the selection of apprentices based on qualifications alone and is there a provision for ranking in accordance with the Ohio State Plan, Section 4, Paragraph A?
3. Does your plan provide for the proper public notification and does you plan provide for a full and fair opportunity for application and for notification of openings in accordance with the Ohio State Plan, Section 5, Paragraph A?
4. Are you using objective standards which provide for a uniform procedure for all applicants in accordance with the Ohio State Plan, Section 4, Paragraph C?
5. Does your plan provide for review and the retention of records for at least two years in accordance with the Ohio State Plan, Section 4, Paragraph D?

If you are unable to answer Yes to the above questions you may find that you will be unable to adequately defend yourself against a charge of discrimination in your selection. If you need help in bringing your program into compliance you should contact the local apprenticeship and training representative in your area with whom you deal.

GENERAL MEETING

Wednesday **October 27**

EVENING SESSION

The main general meeting of the Fifteenth Annual Ohio Apprenticeship Conference featuring the keynote speaker commenced with a banquet at 6:00 P.M. in the Grand Ballroom of the Dayton-Sheraton Hotel.

Following the banquet, **Mr. Gerald D. Biddle,** Member, Ohio State Apprenticeship Council; International Representative, Skilled Trades Department, U.A.W., C.I.O., Toledo, Ohio, opened the meeting by welcoming all the conferees to the 15th Annual Conference. He expressed appreciation to all the conferees for participating in the meeting so freely thus contributing to a most successful conference —especially to those who so willingly accepted invitations to be an active program panel participant.

Mr. Biddle then introduced **Mr. Michael Liskany,** Executive Secretary, Building Trades Council of Dayton, Dayton, Ohio—the Toastmaster for the evening. After acknowledging the introduction Mr. Liskany introduced the following guests who were seated at the speaker's table:

Bryl R. Shoemaker, Director, Vocational Education, Ohio Department of Education, Columbus, Ohio.

Elmer W. Kizer, Former Principal, Hughes High School, and Member Ohio State Apprenticeship Council, Cincinnati, Ohio.

Theodore Ethington, Deputy Labor Commissioner, Department of Labor, Lexington, Kentucky.

Charles W. Danis, Manager and President, B. G. Danis Company, Dayton, Ohio.

Gerald D. Biddle, Member, Ohio State Apprenticeship Council, International Representative, Skilled Trades Department, U.A.W., C.I.O., Toledo, Ohio.

William O. Walker, Director, Ohio Department of Industrial Relations, Columbus, Ohio.

Glen Schimpf, American Association General Contractors, West Central Ohio Chapter, Dayton, Ohio.

William C. Webb, Regional Director, Bureau of Apprenticeship and Training, U. S. Department of Labor, Cleveland, Ohio.

John F. Kostyo, Executive Secretary, Ohio State Apprenticeship Council, Columbus, Ohio.

Mr. Liskany then introduced the first speaker, **Mr. W. O. Walker,** Director, Department of Industrial Relations, State of Ohio, Columbus, Ohio.

Mr. Walker spoke as follows:

"Mr. Liskany, Mr. Biddle, Mr. Kostyo, Delegates, Friends, Ladies and Gentlemen.

"It is a pleasure for me to welcome you to this, the Department's 15th Annual Apprenticeship Conference.

"The Department of Industrial Relations, with its many unrelated Divisions, however, all of them dealing with employment and working conditions, is glad to have as one of its responsibilities, the Ohio State Apprenticeship Council.

"We are further pleased to have as the Executive Secretary of the Council, **John F. Kostyo.** He is thoroughly dedicated to this work and brings to it, the talent and interest that has made our Council a model for the nation.

"We have met here for this 15th Annual Conference, at a critical period in Apprenticeship Training and Vocational Education.

"Never before in the history of the nation, has Federal and State governments made available so much money for training and retraining of young and old prospective workers.

"The statistics, as to the records in our Council will show, indicates that we now have a record number of enrollees in the various plants in the State.

"Yet, despite this big increase in trainees, there is a shortage of potential workers for the jobs available.

"There is also a cry from the ranks of the discriminated against for an opportunity to enter the mainstream of American employment.

"Then there is the rank of those who, because of automation, are being displaced and thereby forced into the ranks of the unemployed or the potential re-trainees.

"We can no longer then, close our eyes to the plight of those in need. We must find some way to help those who face this crisis. To open up training opportunities for them.

"The tug-of-war between business and labor over the factors that constitute the cost of production, neither side can afford to lose sight of the final obligations of both. Business must prosper and labor must be paid a living wage. The welfare of the whole nation is at stake in this conflict.

"There are some in the labor market who look with disdain upon training program of any kind. Most of these men themselves came up through the ranks the hard way.

"There are some in the training field who feel that early exposure to job training is not desirable. Therefore, they have hamstrung the whole field of youth employment with restrictions and do's and don'ts, that today, almost make it impossible for young people to start developing good work habits before idleness leads them into bad social habits.

"If Thomas Edison had been born during the last 25 years, the world would never have been the beneficiary of his genius. First, he would have been judged an incorrigible; then a school drop-out. He could not have gotten the jobs that enabled him to develop his own talent.

"The FBI reports show that crime among young people is continuing to rise at an alarming rate. This proves the soundness of that old saying that 'Idle hands are the Devil's workshop.'

"Labor unions are going to have to broaden the base and scope of their training programs. Scarcity of workers is not good economics. Lack of adequate training opportunities is the responsibility of government.

"We will not advance the cause of the industrial development of this nation by closing our eyes to these problems. We must not permit selfishness on the part of either business or labor to stymie an enlightened approach to solutions.

"The youth of America are no longer waiting. They are restless—they are on the move.

"We either prepare a way for them, or else they will run over us, and, in their haste, wreck the institutions we have so laboriously built, and the government we cherish so much.

"When the great liberal Thaddeus Stevens died, one of his colleagues said of him, 'All his life he held the outpost of thought.'

"Let this be said of those of us who are, of necessity, concerned with the training of the future workers of tomorrow and with the problems of the displaced of today.

"All is not well in our house. We are only kidding ourselves if we close our eyes to realities.

"I am glad you ladies and gentlemen have thought enought of our program and our operations in the field of apprenticeship training to come to this conference. I hope your attendance here will be profitable.

"We are grateful to each of you who have contributed to making up and carrying out this program.

"Governor James A. Rhodes has dedicated his whole administration to the industrial development of this State. He is now preparing to leave for Europe, next week, to try to sell the advantages of Ohio to European business firms.

"You can rest assured that Governor Rhodes will cooperate with us in our program of youth training. In this, I hope, we will move with greatest speed."

Following Mr. Walker's presentation, Mr. Liskany introduced **Mr. Charles W. Danis,** Manager and President, B. G. Danis Company, Dayton, Ohio.

Mr. Danis spoke as follows:

"Mr. Biddle, our Chairman, Mr. Liskany, our Toastmaster, Mr. Kostyo, Executive Secretary of Ohio State Apprenticeship Council, Conferees, and Guests.

"When Mr. Kostyo invited me to address this Fifteenth Annual Ohio State Apprenticeship Conference, I was surprised because apprenticeship training is an educational function requiring that a speaker for this conference be a promoter—a publicist—an organizer—a diplomat—a person experienced in state and federal laws—and, most of all, that he be a trained professional, proficient educator—all of which I am not.

"I am alarmed because this address puts me on the spot—a contractor speaking on apprenticeship to people who specialize in training apprentices.

"Well, I accepted Mr. Kostyo's invitation and I am pleased and grateful for this opportunity to present some opinions and views on apprenticeship training as it pertains to industry in general, and to the construction industry in particular in the State of Ohio. My address will center around the need for training people. The subject matter is meant to be applicable to the apprenticeship program, in general.

"Both you and I are thoroughly aware of the tremendous need for training men for the industry of tomorrow—for my industry and yours. The theme of this conference — "APPRENTICESHIP — A SOUND INVESTMENT FOR THE SPACE AGE" — suggests the ever-increasing need for skilled craftsmen. Are we aware of all the 'Whys and Hows' behind the need?

"We are told over and over again of the population explosion. We can see the continual introduction of new methods, materials and products, which calls for training and re-training of production workers. We, in the construction industry, can see the stimulation caused by urban renewal. We are working with the ever-changing, constantly evolving laws affecting the people of this country—all of the people, negro and white, Indian and Puerto Rican, rich and poor, white or blue collar. That horrible word 'automation' . . . fewer jobs on the production line, but higher pay for those with the greatest skill, and a tremendous increase of jobs in the service industries . . . all of these variables will influence our planning in training and re-training craftsmen for all industry—construction included. These important factors must be considered on a local level—right here in Ohio.

"There are 785,000 more people living in Ohio today than in 1960 . . . Industrial Expansion is creating the need for more skilled workman. It is estimated that 5.2 million new job openings will be available in the skilled occupations in the United States between 1965 and 1975. I have reached the inevitable conclusion that we have failed to supply sufficient apprentice training in the past and that we will not have sufficient apprentices in training in the next ten years unless we undo some of the unspoken restrictions that have existed, and do exist today, in the path of our children who are available to fill this need.

"Authorities in apprenticeship training believe that the United States should produce 250,000 skilled craftsmen per year just to replace our normal attrition losses through death and retirement. Currently there are around 170,000 apprentices being trained per year. A labor department study of manpower needs for 1975 forecasts 'A rising demand for workers with a high level of education and training and a lessening of opportunities for the unskilled and uneducated.' The trend toward early retirement will accentuate the problem even further.

If we are having the problem of skilled craftsmen with the retirement age at 65, you can well imagine what problems will arise as the retirement age is lowered to 62 and 60.

"Labor and mangement together must continue to provide the apprenticeship program. The local schools must provide the incentive

and interest in the skilled trades in order that qualified applicants will be available to enter the apprenticeship programs. The youth of today must be informed of the chances of success in being a skilled craftsman and the personal satisfaction of accomplishment which goes with working at a skilled trade. We must promote the need, sell the opportunity, and show to our high school students the satisfaction that is inherent in a job with an acquired skill. **A job recruitment programs at the high school level is a must.** We must face these problems now on a local basis and prepare to sell our product in competition with college education, before it is too late.

"Several years ago we should have somehow foreseen the change in Ohio's corporate tax laws and the obvious invitation to new industry. We should have anticipated our present-day needs for skilled workers in industrial construction. Our supply of skilled workers is exhausted today! We could have been ready for the almost overnight expansion of certain communities here in Ohio—their residential as well as their commercial and industrial growth.

"Our apprentice training programs should have been planned and manned ahead of time to prevent, for example, the necessity of having to call other areas for sufficient mechanics to man our jobs . . . they are not there either. We are using specialized mechanics in jobs where their skill does not meet the needs of the job.

"Now, you might say that I am presenting hypothetical examples —things that **could happen,** but **have not yet,** in your local area. Gentlemen, I can cite projects in quite a few areas where these manpower problems are having to be solved. I believe we need the foresight and appropriate planning in our apprenticeship training to prevent these problems from arising. Our programs must be flexible enough to cope with an industry that is always changing. We must be able and ready on a moment's notice to amend or supplement our standards, procedures, rules and regulations. We must be knowledgeable enough to introduce new subject matter into our programs' curriculum. **We must be able to intelligently indenture young men to our programs . . .** know when to indenture ten boys or know when thirty boys are really needed in a new class. We must strive constantly to accurately predict apprentice drop-outs and draft losses, and design our programs to adequately fill our needs.

"Let us look backwards for a while—

"Every man and woman in this room is the son or daughter of an immigrant to this country. When your forefathers and mine arrived, they joined the large group of unskilled workmen as laborers on the great projects - - - the canals, the railroads that opened up this country.

"The immigrants married, raised a family and the second generation was assimilated into the culture of this country and they and their families became acceptable to those who had preceded them. The children of the second, or perhaps the third generations, through the desire of the parents, began to find their way into the high schools, the colleges and universities . . . through this process into the white collar group instead of into the skilled crafts.

This process has accelerated until, at this date, the previous source of our good, smart, intelligent skilled craftsmen has dried up. They are not here any more . . . they are in college.

"There is, however a wealth of material for skilled craftsmen left in this country in a group that has been assimilated or accepted in the scheme of things as they exist in our skilled crafts.

"I am speaking of our large negro population. This group is now going through 'Operation Bootstrap—the beginning of the process of acquiring a desire for the educational and job opportunities that your grandparents, your parents, and you and I, as parents, have for our own children.

"It is from this group that you will find the next generation's surge into the skilled craft category. Open the doors of opportunity to them . . . do not lessen the job requirements that they must meet . . . provide the apprenticeship training that enables them to compete with all of us on an equal basis. To each of you I urge that you direct your efforts to remove any artificial barriers that keep any qualified individual from a skilled craft opportunity. We need the impetus that they will provide to meet the job requirements 1965-1975.

"The whole point of my message is that our apprentice committees can no longer operate according to past procedure or under the conditions of out-dated standards and practices. Our needs won't permit it. Each supporting agency and each individual committee member must be constantly watching for changes, must develop the skill to recognize how a change could affect the needs of the industry and, most important, be capable and ready to make the necessary changes in training to counteract industry, community and economic changes.

"I feel, and most of my contractor colleagues feel, that Ohio probably more than any other state has established an apprenticeship training structure which enables it to stay abreast of the needs of the construction industry, but only if local prejudices, conservative provisions to provide full employment and other factors which resist enlarging our programs, are discarded. Our Ohio State Apprenticeship Council, our State and Local boards of education, the U. S. Department of Labor's Bureau of Apprenticeship and Training and local Joint Apprenticeship Committees are doing a really fantastic job for us . . . and believe me, gentlemen it is recognized and appreciated. We must constantly strive for improvement . . . ther can be no 'treading water' in this business. The need for skilled craftsmen in the American system of competitive enterprise will sink us unless we pull our feet out of the quicksand of 'inaction.' ".

Mr. Liskany stated, "I am happy to be a part of this conference and to be a part of the apprenticeship training program." He then turned the meeting over to **Mr. Gerald Biddle,** who expressed appreciation and thanks to **Mr. Liskany,** the Toastmaster, for a job well done, to **Mr. Danis,** the featured speaker, for his fine presentation and to **Director Walker** for his encouraging words of welcome.

Mr. Biddle continued: "We want to thank the Ohio Construction Council for sponsoring the Hospitality Welcome Night on Tuesday evening. Everyone who attended this event was deeply gratified and appreciative of this hospitable and courteous gesture. We of the Ohio State Apprenticeship Council extend a special word of thanks to the individual members of the Ohio Construction Council as a small token of our deep appreciation."

Appreciation and thanks was also expressed by Mr. Biddle to the Federal Bureau of Apprenticeship and Training for the cooperation and assistance they rendered in the conference and in continually furthering the progress of apprenticeshiip in Ohio. Mr. Biddle asked the BAT representatives in the room to stand and be recognized.

Mr. Biddle: "Would the representatives of the Trade and Industrial Education Service please stand. We want to thank you also for your cooperation and assistance that you have always given to the Council through the years of its existence.

"And finally, we also extend thanks and appreciation to the staff of the hotel who have handled the many conference details so efficiently while being subjected to the hazards of a renovation program which, as you know, is currently underway at this hotel.

"As a closing comment, may I call your attention to the meetings tomorrow and again urge you to be prompt."

The evening session was declared adjourned at 8:00 P. M.

INDUSTRIAL MAINTENANCE TRADES

Thursday **October 28**

CHAIRMAN

Robert J. Usher, Chief Training Branch, N.A.S.A.—Lewis Research Center, Cleveland, Ohio

PANEL MEMBERS

E. R. Elkins, Director, Skilled Trades, U.R.W. International Union, Akron, Ohio

Lester Irvin, Chairman, Skilled Trades, I.U.E. (GMC) Plants, Dayton, Ohio

J. J. Eyre, Manager, Eng. Squadron & Apprenticeship Program, Goodyear Tire & Rubber Company, Akron, Ohio

John P. Heinz, Apprentice Coordinator, Ford Motor Company (Foundry & Engine Division), Cleveland, Ohio

Willard Thuma, Labor Relations, Frigidaire Div.—G.M.C., Dayton, Ohio

CONSULTANTS

Dr. D. H. Price, Trade and Industrial Education, University of Cincinnati, Cincinnati, Ohio

Ralph C. Neal, Apprentice Training Consultant, Ohio State Department of Education, Columbus, Ohio

William J. Kacvinsky, Representative, Bureau of Apprenticeship & Training, U. S. Dept. of Labor, Cleveland, Ohio

Richard Swain, Representative, Bureau of Apprenticeship and Training, U. S. Dept. of Labor, Detroit, Michigan

SECRETARY

Mrs. Ray Lesniok, I.U.E. Local 707—AFL-CIO, Cleveland, Ohio

INDUSTRIAL MAINTENANCE TRADES

Second Session

The meeting was called to order at 9:00 A.M. by **Robert J. Usher,** Chief, Training Branch, N.A.S.A., Lewis Research Center, Cleveland, Ohio, who introduced the panel members and also Dr. Price from the University of Cincinnati. Mr. Usher noted that last year the discussion was how to standardize the apprenticeship program. He went on that at a meeting in May of 1965 the panel members discussed the need to standardize maintenance trades. Mr. Usher stated that he would like to get the feeling of the delegates towards the establishment of a Joint Apprenticeship Council. Mr. Usher then introduced the first speaker **Mr. Lester Irvin,** Chairman, Skilled Trades, I.U.E., (GMC) Plants, Dayton, Ohio.

Mr. Irvin: " I feel that a joint committee is needed. We discussed in Columbus that minimum standards are needed in industry. Once this has been established throughout the state, and a man has gone through a recognized apprentice program with a little orientation, he may perform his craft in any industry. Through organization of this committee, which is the first of its kind on a national level, we will be able to have better apprenticeship programs. I would like to give Mr. Kacvinsky the credit due him for the difficult job of coordinating this program."

Mr. E. R. Elkins, Director, Skilled Trades, U.R.W., International Union, Akron, Ohio, spoke: "The Washington level should be the central information point for minimum standards and standardizing job training. These programs must be acceptable to all unions to standardize and identify common trades. This is important to organizations affiliated with the I.U.D. There will be a difference in programs, but minimum standards must be uniform with flexibility to maximum standards. We are trying to work out a reciprocal journeyman card agreement, but before this can be done, the apprentice program must be standardized. This must be accomplished in the near future if we are to move forward with apprenticeship training. This will be beneficial to both unions and companies.

Mr. Wallace Garvin, Apprentice Committee, Spicer Unit Local 12, UAW AFL-CIO, Toledo, Ohio: "What can be done to get greater participation from companies in apprenticeship training who are not willing to participate?"

Mr. Usher said "That is true. Many firms will advertise in newspapers for skilled help, who have gone through apprenticeship programs elsewhere, but do not participate themselves in apprenticeship training."

Mr. Ray Lesniok, Representative, I.U.E., Local 707, Cleveland, Ohio: "We in the Cleveland area recognize that what the two previous speakers said is true. In the Cleveland metropolitan area the A.I.C. was established, and its advisory committees duties are to develop apprenticeship opportunities in this area. This committee suggested

that there be a seminar for school counselors to acquaint them with our program. This seminar will be held November 16, 1965. I further feel that we need a similar seminar for industry, to open the door for apprenticeship programs in industry. I feel that this must be a team effort if we are to accomplish our aims and goals which will be beneficial to the whole country.

Mr. Usher: "Let me explain the function of the A.I.C. further. The A.I.C. forms teams who go out to high schools with speakers and film, to inform students of the opportunities within apprenticeship training. Also to familiarize them with the proper curriculum that is required for these crafts."

Mr. William Kacvinsky, Representative, Bureau of Apprenticeship & Training, U. S. Dept. of Labor, Cleveland, Ohio: "There is an apprenticeship information center also in Cincinnati. Columbus, Toledo and Dayton are being considered for A.I.C."

Mr. Ralph C. Neal, Consultant for Apprenticeship, Trade & Industrial Education Service, Ohio Department of Education, Columbus, Ohio: "The Department of Education reaches road blocks with some high school counselors because they are not familiar with the needs in this area. We commend Cleveland for their action in this field."

At this point an invitation was extended to Mr. Neal to attend the Seminar being held in Cleveland on November 16, by the A.I.C. He accepted and said he would attend.

Mr. Usher: "We will now discuss Related Training for Maintenance Crafts." He then introduced **Mr. J. J. Eyre,** Manager, Engineer Squadron & Apprenticeship Program, Goodyear Tire and Rubber Company, Akron, Ohio.

Mr. Eyre: "In May we discussed problems with related training in classrooms. I feel that we must have more maintenance trades classes. For example, a plumber in the building trades can get classroom training, but the industrial plumber has no such facilities. We have the problem of text books applicable to maintenance trades. The panel reached a tentative agreement that there is a need to provide course materials for maintenance trades. We are seeking recommendations. We are planning a meeting in early 1966 to discuss this problem."

Mr. Pollock—Toledo, Ohio: "We do not have enough textbooks for the apprentices to learn their craft. We need professional teachers in the school to teach apprentices their trades."

Mr. Garvin: "How can one instructor teach all crafts? How can we remedy this?"

Mr. Eyre: "We have the same situation. They should learn the fundamentals unique to the company."

Mr. Irvin: "The Department of Labor will send books with breakdowns on related skills."

Mr. Lesniok: "I would like to say that maybe we are over emphasizing the related training. I say that the apprentice will learn his craft mostly by exposure to the craft with a journeyman."

Mr. Usher: "I would say that related instruction is just a supplement to learning a craft. A good source of information for ap-

prentice and journeymen is from the manufacturer of controls and equipment."

Mr. Ward Carlyn, UAW, Akron, Ohio: "We have a problem in keeping the apprentice and journeyman friendly."

Mr. Garvin: "In Toledo we counsel apprentices in how to get along with journeymen, but all programs are not perfect."

Mr. John Hushion, Supervisor, Newark, Owens-Corning Fiberglas: "We have good vocational schools, but we don't have the material we need."

Mr. Usher: "I would suggest that you contact the State Board of Education and ask them to help with the material that you need. I am sure you will get full cooperation from them."

Mr. Charles Taylor, Director, Educational Training, Fisher Body Division, G.M.C., Cleveland, Ohio said, "We have solved the apprentice-Journeyman relationship problem in our plant by making the journeyman feel important. We have every apprentice assigned to a journeyman. This journeyman acts as the sponsor. The journeyman and the apprentice spend 45 minutes a week on company time to discuss any problems the apprentice may have. The journeyman then reports once a month on the progress of his apprentice. The journeymen welcome this and it works. The sponsor program does not eliminate the apprentice from working with all of the other journeymen in his craft. I would be glad to go over our sponsorship program with anyone interested."

Dr. D. H. Price, Department Head, Trade and Industrial Education, University of Cincinnati, Cincinnati, Ohio: "With regard to Instructional material, we do try to keep up with new texts. These are merely aids. For example, we put a text together or hydraulics but many people do not know that these texts exist."

Mr. Hushion: "DuPont spent two million dollars on instructional material for training programs. They have made available instructional material for all crafts. Their programs are quite complete."

Mr. David Knoblauch, 1377 IBEW, Strongsville, Ohio, "I am interested in the relationship and I find that today I have a difficult time keeping up with the changes in equipment. I think we must update the journeyman at the same time we are training an apprentice."

Mr. Taylor: "I think that this is a good point, and we at GMC do this. We send our journeymen out to the manufacturing plants where the equipment is made for instruction. We have found that this is well worth the expense."

Mr. Usher: "This is fine, but the problem is to translate it to the level of the apprentice."

Mr. Thuma: "We at Frigidaire send our people out to manufacturing plants also, but we find that these manufacturers are willing to come into your plants and conduct classes."

Mr. John L. Newton, Spicer Unit, Local 12 UAW, Dana Corporation, Toledo, Ohio: "With a registered program and a joint committee, in-plant problems are kept at a minimum. There are problems in getting some unions in accepting students from other unions for related training."

Mr. Neal: "The journeyman is important in the field of related instruction."

Mr. Eyre: "I think our over-all objective is to upgrade the maintenance crafts. I would like to see material consolidated into one book, so that it would benefit all of industry, in one usable package. I would like to see a questionaire sent out to see what is needed."

Mr. Usher: "Does the State publish a bibliography for crafts?"

Dr. Price: "We do not have anything that up to date."

Mr. Usher: "I would like to go on record for this group and say that we would like for the State to publish a book for crafts."

Mr. Douglas Phillips, Ford Motor Company, Apprentice Supervisor, Cleveland, Ohio, said: "I agree that a survey should be taken."

Mr. Elkins: "There is a definite need for the proper craft title. We now have in the trades people who carry millwright cards who are really machine repairmen. We should look to the Industrial Dictionary, which the U. S. Department of Labor has published with the proper titles for all crafts."

Mr. Thuma: "With uniformity of trade titles, I can see some problems. I think that related training must have flexibility. I would say that what is proper in one area may not be so in another. There are times when there is great jealousy among crafts."

Mr. Frank Pummel, I.U.E., Delco, Springfield, Ohio: "There are definite lines of demarcation in the crafts. I do not agree that flexibility is good when one craft will overlap into the other. I do not believe in grey areas. There are definite jurisdictional lines to follow."

Mr. Phillips: "Should we have flexibility in related training? We should build in more flexibility as the job and area dictate. We should not standardize in one area or throughout the State. It will do the trades damage in forcing standardized training throughout the State."

Mr. Elkins: "I disagree with the way flexibility has been used here. This will leave the door open for misunderstanding in the trades. Job titles and descriptions will, and should, say what the crafts responsibilities are."

Mr. John P. Heinz, Apprentice Coordinator, Ford Motor Company (Foundry & Engine Division), Cleveland, Ohio, said: "We must have 8,000 hours in apprentice training, with at least 576 hours of related training. I can see nothing less than this if it is to be a good program. The man is just beginning his career with this minimum amount of training."

Mr. Garvin: "I think that 8,000 hours in four years is too fast for apprentice training. I would like to see it extended."

Mr. Elkins: "I agree. I feel that there should be an extension of apprentice training time."

Mr. Kacvinsky then thanked the panel and **Mr. Thuma** for the tour of the Frigidaire plant. He also thanked **Mr. Irvin** for contributing to the committee on a statewide level.

Mr. Garvin: Before we adjourn, I would like to commend the entire panel for contributing to the best meeting that I have ever attended."

The meeting was then adjourned.

MACHINE, TOOL & METAL TRADES

Thursday **October 28**

OPENING REMARKS

Gerald D. Biddle, Member, Ohio State Apprenticeship Council, and International Representative, Skilled Trades Department, U.A.W., C.I.O., Toledo, Ohio

CHAIRMAN

John Sieger, Manager of Training, Ford Motor Company, Dearborn, Michigan

TOPICS: APPRENTICESHIP—ON THE JOB TRAINING

1. Work Training Schedules
2. Related Instruction
3. Ohio State Plan

PANEL MEMBERS

Joseph Milgski, Jr., M.E.S.A.—Local #4, Toledo, Ohio

George E. Freiberger, Chairman, Skilled Trades Committee, Local 87, U.R.W., Dayton, Ohio

Frank Gagliardi, Representative Skilled Trades—U.A.W.-C.I.O. Cleveland, Ohio

John Sieger, Mgr. of Training, Ford Motor Company, Dearborn, Michigan

H. E. Meeker, Personnel Mgr., International Harvester Co., Springfield, Ohio

Roy Harp, Training Specialist, Ford Motor Co. (Stamping Plant) Bedford, Ohio

CONSULTANTS

Robert M. Reese, Trade and Industrial Education, Ohio State University, Columbus, Ohio

Oscar R. Poole, Representative, Bureau of Apprenticeship and Training, U. S. Dept. of Labor, Cleveland, Ohio

Hector Dulude, Representative, Bureau of Apprenticeship & Training, U. S. Dept. of Labor, Grand Rapids, Michigan

MACHINE, TOOL & METAL TRADES

(Second Session)

Chairman Sieger opened the second session by explaining that we will develop work training schedules for some of the metal manufacturing trades. The purpose of working out the training schedules for various trades will also be used to determine what related instruction the trade requires.

We recognize that changes have been made in the various trades during the past five years and in most cases the apprenticeship work schedules have not been kept up to date.

At this time **Mr. John Sieger** who is the Manager of Training, Ford Motor Company, Dearborn, Michigan, mentioned some of the common metal manufacturing trades—e.g., Tool Maker, Die Maker, Tool & Die Maker, Die Cast Maker and Tool Room Machinist.

He asked the conferees to suggest what they thought should go into a Work Schedule for Tool & Die Maker covering the 8,000 hour term of apprenticeship.

The following items were suggested: Drill Presses, Milling Machines, Lathes, Bench Work, Boring Mills, Shapers, Grinders, Miscellaneous—such as: Filing Machine, Contour Cutting and Heat Treating.

It was the consensus of the conferees that this listing of machines and operations would cover the work for a Tool & Die Maker. He also explained that there will be differences in the tool and die work in jobbing and corporation shops and in methods used from shop to shop.

Continuing, Mr. Sieger said, "Let us now consider the amount of time for each machine or job within the 8,000 hour term of apprenticeship."

Following is the approximate amount of time for each of the machines or jobs suggested:

	HOURS
ORIENTATION	200
Tool crib, cutting steel, stock and supplies, issuing tools	
DRILL PRESSES—SINGLE—MULTI	640
SHAPERS	560
MILLING MACHINES	1200
LATHES—ENGINE & BENCH	1200
GRINDERS — INTERNAL — EXTERNAL	800
BORING MILL	400
BENCH WORK	2400
MISCELLANEOUS: FILING MACHINE, CONTOUR CUTTING HEAT TREAT	600
	8000

It was also agreed that there would be variations in the above schedule because of the type of work being performed in the different shops. Discussion also followed on whether the operations including set up, etc. should be listed for each machine.

Mr. Sieger then suggested that since the above information has been developed for the work training schedule covering the various machines and operations that we now discuss related instruction for the trade.

He mentioned that we should first consider that the Ohio State Apprenticeship Council requires a minimum of 144 hours per year (total of 576 hours) for the term of apprenticeship.

Dr. Robert M. Reese, Trade and Industrial Education, OSU Columbus, Ohio suggested that we discuss and list the required related instruction subjects for the trade. Those mentioned were:

Print Reading	Tool & Die Design
Trade Math	Job Planning and Layout
Machine Technology	Safety
Communications (Business English)	Metallurgy (Heat Treat)
Measuring Instruments	Handbook Study

It was the consensus of the conferees that related instruction should be well beyond high school level.

It was stated that some of the objection by apprentices to related instruction classes was that "it was the same as they had in high school." It was recommended that all instructors be qualified journeymen from the trade.

It was further stated that the number of hours allocated for each subject should be based on its importance to the trade. This total must not be less than 576 hours during the term of apprenticeship.

The 144 hours each year shall be a guide for the instructor in determining the number of hours per subject.

The conferees agreed that this was well worthwhile and should provide time for all subjects required for the trade.

Chairman Sieger complimented the group for their participation and contribution on this important subject of related instruction for the trade. At this time he turned this session over to Mr. Poole for remarks.

Mr. Oscar R. Poole, Representative, Bureau of Apprenticeship and Training, U. S. Dept. of Labor, Cleveland, Ohio spoke: "Before we close this session, I want to hand out to each of you a copy of the Ohio State Plan as developed and approved by the Ohio State Apprenticeship Council. This implements the Equal Opportunity Standards under Title 29, Code of Federal Regulations, Part 30 covering Nondiscrimination in Apprenticeship. Be sure you read this Plan completely so you will be aware of the regulations concerning the selection of apprentices for your apprenticeship program.

"I want to thank our most capable Chairman, John Sieger, for the excellent job he did in chairing both sessions of this Conference; also each panel member for his presentation of assigned topics and

contribution; and all conferees in both sessions for your active participation which was most helpful and enlightening in developing topics assigned.

"I am sure you learned something during these sessions that will improve the operation of your apprenticeship program.

"Your contributions and participation have made this 15th Ohio Apprenticeship Conference so successful. I hope to see each of you in Toledo next year for the 16th Annual Apprenticeship Conference. Thank you."

GENERAL MEETING

Thursday **October 28**

AFTERNOON SESSION

The closing session of the Fifteenth Annual Ohio Apprenticeship Conference commenced with a luncheon at 12:15 P.M. in the Grand Ballroom of the Sheraton-Dayton Hotel.

Seated at the speakers table were:

John E. Morley, Builders Association of Mahoning Valley; Member, Ohio State Apprenticeship Council, Youngstown, Ohio.

William C. Webb, Regional Director, Bureau of Apprenticeship and Training, U. S. Department of Labor, Cleveland, Ohio.

Richard A. Reef, Assistant Director, Regional VI, Bureau of Apprenticeship and Training, U. S. Department of Labor, Cleveland, Ohio.

William L. Sells, State Supervisor, Bureau of Apprenticeship & Training, U. S. Department of Labor, Columbus, Ohio.

And the following individuals who comprise the OHIO STAFF of the Bureau of Apprenticeship and Training, U. S. Department of Labor:

Kenneth Banks, Cleveland, Ohio.
Irwin G. Feldman, Cincinnati, Ohio.
Clayton G. Gabel, Canton, Ohio.
Merle R. Hemple, Youngstown, Ohio.
Harold James, Cleveland, Ohio.
William J. Kacvinsky, Cleveland, Ohio.
Daniel T. McCarthy, Cleveland, Ohio.
Paul A. Moore, Youngstown, Ohio.
Joseph L. Phillips, Columbus, Ohio.
Oscar R. Poole, Cleveland, Ohio.
E. R. Puterbaugh, Dayton, Ohio.
Harry S. Quine, Akron, Ohio.
Earl A. Shobe, Cincinnati, Ohio.
Thomas A. Wendt, Toledo, Ohio.

Following the luncheon, **Mr. John Morley,** Builders Association of Mahoning Valley; Member, Ohio State Apprenticeship Council, Youngstown, Ohio, opened the meeting by introducing **Mr. William C. Webb,** Director, Region VI, Bureau of Apprenticeship and Training, U. S. Department of Labor, Cleveland, Ohio, who summarized the conference by saying:

"This is the highest quality conference ever held in Ohio and one of the highest in attendance—over 650 present.

"There has been fine attendance in all the sessions and a wonderful participation by many of you who have come many miles to take a part in these discussions and share your wisdom with your

groups. We hope you will take what you have heard back home and put it to work.

"Now I would like to give a breakdown of the attendance in the various craft meetings.

Barbering Trades—23 participated in this session.

Bricklaying and Stonemasons Trades—two sessions — 90 in attendance.

Carpentry and Woodworking Trades—70 attending the two sessions.

Cement Masons and Plasterers—34 in attendance. No one participated from Lathers.

Electrical Trades—Out of the two sessions—84 first—92 in second.

Joint Building and Construction Trades—135 in attendance.

Graphic Arts Industry—47 in attendance at these two meetings.

Industrial Maintenance Trades—82 attended in two meetings.

Ironworking Trades—51 present in two meetings.

Machine, Tool and Metal Trades—93 attending two sessions. 12 new individuals for the first time at our conferences.

Operating Engineer Trades—100 in two meetings.

Painting, Decorating and Paperhanging Trades—65 attending two meetings.

Plumbing and Pipe Fitting Trades—95 both meetings.

Roofing Trades—31 in attendance.

Sheet Metal Trades—69—2 meetings.

Mr. Webb then introduced the men on his staff from Ohio, Michigan, and Kentucky and said: "We try to bring you information from time to time, that you may not agree with, but we will give you this information, and if we can help you—that is what we are here for. We will never tell you what you have to do, but we will always help you do what you want to do. If we can present something that can be helpful in making your program a little better—that is our aim.

"We have a situation here about which I would like to speak for a moment. You may hire an apprentice and have him serve a probationary period, which is the right of any sponsor, but one word of caution. Will you please keep this in mind—**don't let that apprentice go on a job that has Federal or State money in it until that apprentice has been registered with the Ohio State Apprenticeship Council. If you do, the contractor will be penalized because he will have to pay journeyman wages for every hour that the boy was not registered.**

"We will consider a worker for enforcement purposes to be a bona fide apprentice from the date of indenture execution provided the date of approval by the craft's Joint Apprenticeship Committee and the State Council's registration date are within thirty (30) days of the indenture's execution. So, you have a 30 day leeway; however, in the event this is not observed, the State Council's registration date will control.

"It is better to indenture an apprentice right away and then if it does not work out, the agreement can always be canceled. This

can be done without any difficulty, and this works a whole lot better than having a payroll held up because an apprentice was not registered within the 30 day period.

"So, remember, if you use apprentices on Federal or federally assisted construction projects they must be under a bona fide program —in this state registered with the Ohio State Apprenticeship Council.

"Again, I say this is the best conference that has ever been held in Ohio, and it is all because you people are interested and because you have made your contribution.

"By the way, the ladies added a lot to this conference, and we do hope a lot more will come with you next year."

After Mr. Webb's remarks, **Mr. Morley** introduced **Mr. John F. Kostyo,** the Executive Secretary of the Ohio State Apprenticeship Council, and several of the Council members who were present, and then adjourned the afternoon session at 1:15 P.M.

VT 000 983
Young, Orville L.
Tools and Equipment Used to Make Repairs on the Farms in Central Illinois.

Illinois State Univ., Normal. Dept. of Agriculture
MF AVAILABLE IN VT-ERIC SET.
Pub Date - May64 24p.

AGRICULTURAL EDUCATION; *HAND TOOLS; *EQUIPMENT; *FARMERS; *EQUIPMENT UTILIZATION; SURVEYS

A study was conducted to determine the hand tools and power equipment owned and used by central Illinois farmers to make farm repairs. Data were collected by questionnaire from 77 agriculture students at Illinois State University and 173 vocational agriculture students in Central Illinois high schools regarding the tools and equipment used on the home farms of each student. Of the 99 hand tools listed on the questionnaire, 16 were owned by 98 percent of the farmers and 62 were owned by 50 percent of the farmers. The 16 hand tools commonly owned by Central Illinois farmers are the claw hammer, pliers, crosscut handsaw, screwdriver, putty knife, paint brush, adjustable wrench, tin snips, hacksaw, steel square, wrecking bar, ax, cold chisel, jack, pipe wrench, and sledge. Of the 28 pieces of power equipment listed on the questionnaire, the 5 most commonly owned and used are the portable drill, air compressor, tool grinder, portable saw, and paint spray gun. Teams with farms of 480 acres and larger had more power equipment than smaller farms. However, farmers who owned their farms and secured the major portion of their income from livestock had more equipment than any other group. (JM)

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TOOLS AND EQUIPMENT USED TO MAKE REPAIRS ON THE FARMS IN CENTRAL ILLINOIS

by

Orville L. Young

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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DEPARTMENT OF AGRICULTURE

ILLINOIS STATE UNIVERSITY

NORMAL, ILLINOIS

May, 1964

VT000983

PREFACE

This study was inaugurated to secure a list of the hand tools and power equipment which farmers own and use to make repairs on their farms as well as to determine the frequency of ownership of each item. It is hoped that this information will be of value to farmers, students of agriculture, and teachers of agriculture.

The author is especially grateful to the 250 individuals who supplied the data for the study. It was their valuable assistance that made the study a reality.

The cooperation of Dr. Harvey S. Woods, who took the photographs which are used in the publication and gave many helpful suggestions throughout the study, is truly appreciated. The author wishes to acknowledge with gratitude the assistance from Dr. Milford C. Jochums who edited the manuscript. Lastly, the author wishes to thank the teachers of agriculture who cooperated in the study, the farmers who supplied material for photographs, and all other people who helped in any way to make the study possible.

Orville L. Young

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TOOLS AND EQUIPMENT USED TO MAKE REPAIRS ON THE FARMS IN CENTRAL ILLINOIS

Orville L. Young*

Purpose of the Study

The question as to what tools and equipment are needed in a school farm shop often presents a problem. There is general agreement that the teacher of agriculture should give instruction in those things which farmers need and use. If the teacher is to do the job most effectively, he must know the practices farmers are presently following. It has been assumed that a list of the tools and equipment used by farmers should be a helpful guide for the teacher in determining what tools and equipment should be selected for inclusion in his teaching program. This list should also be helpful to the teacher when he is counseling farmers concerning the proper tools to buy. In addition, the list should be useful to the farmer himself when he is deciding what tool to buy next.

It is the purpose of this study to secure a list of the tools and equipment which farmers have and use in making repairs on their farms. In addition, the frequency of ownership will be indicated. These data will be classified according to ownership of land, type of farming, size of farm, and all farms.

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*Dr. Young is Professor of Agriculture at Illinois State University at Normal.

With this information available, the teacher can decide more intelligently what tools and equipment should be in the school farm shop and how much time should be spent on the different areas of the farm shop program.

It is recognized that these data are general in nature and may not necessarily apply *in toto* to any given situation. However, it seems reasonable to believe that conditions are not variable enough to prevent the use of the findings as a reliable guide for the teacher of agriculture.

Scope of the Study

Data for the study were secured from 250 farms which were located mostly in central Illinois. Data were secured from the farms of 77 students who were enrolled in agriculture at Illinois State University. Data were also secured from 173 farms located in central Illinois. All data were secured personally by the writer.

Method of Procedure

An information form was devised which was used in securing data. Students in agricultural education at Illinois State University who lived on farms were then contacted. These students filled in the information forms under the personal supervision of the writer. Seventy-seven completed forms were obtained from this group.

It was assumed that 250 completed forms would give a reliable sample so a sufficient number of teachers of vocational agriculture in central Illinois were contacted to secure the additional 173 forms. The writer spent a day in each school where the students in vocational agriculture who lived on farms filled in the forms under his supervision

as well as that of the teacher of vocational agriculture. If there were brothers in a school, only one of them filled in the form.

It was assumed that this method of sampling would give a true cross-section of farms. All students in the sampled group who lived on farms were included. No special group of farmers were selected. By this procedure, data were secured from all of the people in a group and not just from part of the group as is the case where forms are sent out and only part of the forms are returned. In addition, the writer was present when the student was filling in the form to answer any question that the student might have. Those participating were instructed to include only tools and equipment which were used to make repairs on the farm and to omit any tools which they owned but did not use or which they owned and used only as a hobby rather than for doing farm jobs.

Presentation of Data

The 99 hand tools listed in Table 1 were owned by the farmers in the study to make repairs on their farms. The tools are listed according to frequency of ownership. If frequency of ownership is identical for two or more tools, they are then listed according to the typical number per farm. In case the frequency of ownership and the typical number are both identical, tools are listed alphabetically in Table 1.

TABLE 1

HAND TOOLS OWNED TO MAKE REPAIRS ON FARMS

Name of Tool	Typical number per farm*	Frequency of ownership: Number of farms	Frequency of ownership: Per cent
Claw hammer	4-5	250	100.0
Pliers	4-5	250	100.0
Handsaw (crosscut)	2-3	249	99.6
Screwdriver (standard)	6-10	248	99.2
Putty knife	2-3	248	99.2
Paint brush	6-10	247	98.8
Crescent wrench	4-5	247	98.8
Tin snips	1	247	98.8
Hacksaw	2-3	246	98.4
Steel square	2-3	246	98.4
Wrecking bar	2-3	246	98.4
Ax	2-3	245	98.0
Cold chisel	2-3	245	98.0
Jack	2-3	245	98.0
Pipe wrench	2-3	245	98.0
Sledge	1	245	98.0
Vise grip pliers	2-3	243	97.2
Flat file	2-3	242	96.8
Phillips screwdriver	2-3	242	96.8
Wire brush	2-3	242	96.8
Level	1	242	96.8
Punch	2-3	241	96.4
Fence stretcher	1	241	96.4
Socket wrench (set)	2-3	240	96.0
Rule	2-3	239	95.6
Center punch	2-3	238	95.2
Wood chisel	2-3	238	95.2
Drop cord with light	2-3	234	93.6
Brace and bits	1	233	93.2
Hatchet	1	230	92.0
Open-end wrench (set)	2-3	228	91.2
Allen wrench (set)	1	225	90.0
Machinist's hammer	2-3	223	89.2
Handsaw (rip)	1	218	87.2

TABLE 1 (cont.)

Name of tool	Typical number per farm*	Frequency of ownership: Number of farms	Frequency of ownership: Per cent
Concrete finishing tools	2-3	211	84.4
Round file	1	211	84.4
Box wrench (set)	1	209	83.6
Monkey wrench	1	209	83.6
Wood rasp	2-3	205	82.0
Compass saw	1	198	79.2
Triangular file	2-3	197	78.8
Wood file	2-3	196	78.4
Pinchers	1	192	76.8
Jack plane	1	175	70.0
Machinist's vise	1	174	69.6
Hand drill	1	169	67.6
Electric soldering iron	1	160	64.0
Anvil	1	159	63.6
Glass cutter	1	156	62.4
Try square	1	155	62.0
Bolt taps and dies (set)	1	152	60.8
Coping saw	1	152	60.8
Thickness gauge	1	152	60.8
Block plane	1	147	58.8
Drawknife	1	144	57.6
Chalk line	1	142	56.8
Countersink	1	141	56.4
Speed indicator	1	134	53.6
Nail set	1	129	51.6
Blowtorch	1	128	51.2
Woodworker's vise	1	128	51.2
Expansion bit	1	126	50.4
Chain hoist	1	125	50.0
Guard anvil and repair block	1	124	49.6
Gear and pulley puller	1	122	48.8
Propane torch	1	121	48.4
Blacksmith's hammer	1	116	46.4
Oil stone	1	114	45.6

TABLE 1 (cont.)

Name of tool	Typical number per farm*	Frequency of ownership: Number of farms	Frequency of ownership: Per cent
Bolt cutter	1	107	42.8
Pipe cutter	1	106	42.4
Rope hoist	1	103	41.2
Soldering copper	1	102	40.8
Mallet (wood)	1	101	40.4
Pipe threading tools	1	97	38.8
T bevel	1	93	37.2
Blacksmith's vise	1	89	35.6
Riveting hammer	1	86	34.4
Steel divider	1	85	34.0
Pipe vise	1	84	33.6
Star drill	1	81	32.4
Compression tester	1	79	31.6
Screw extractors (set)	1	79	31.6
Pipe cutter for copper	1	76	30.4
Battery tester	1	74	29.6
Combination wrench (set)	1	73	29.2
Saw set for handsaws	1	69	27.6
Marking gauge	1	67	26.8
Pipe flanger for copper	1	66	26.4
Pipe reamer	1	64	25.6
Auger bit file	1	62	24.8
Grinding wheel dresser	1	60	24.0
Back saw	1	48	19.2
Blacksmith's tongs	1	47	18.8
Saw clamp	1	44	17.6
Timing light	1	36	14.4
Torque wrench	1	35	14.0
Forge	1	28	11.2
Chain link remover	1	19	7.6
Spokeshave	1	13	5.2

*Greatest number of cases

For this study, a typical farmer from the standpoint of the number of any particular tool owned to make repairs on the farm is considered as one who falls within the classification containing the greatest number of cases. This might also be called the modal number.

Each tool was classified according to the number owned per farmer into groups owning one, two to three, four to five, six to ten, and eleven or more tools per farm.

Table 1 shows that 16 of the 99 hand tools are owned by 98 percent or more of the farmers. Furthermore, it will be seen that most of them own two or more of each of these tools. Sixty-two tools listed are owned by more than 50 per cent of the farmers, and about half of them have two or more of each tool. There are only ten tools which are owned by less than 25 per cent of the farmers.

If we assume that the majority is correct, about two thirds of the tools listed in Table 1 should be owned by farmers to make repairs on their farms.

From Table 2, we learn that five different pieces of power equipment are owned by the majority of farmers. Eleven pieces are owned by more than 30 per cent of the farmers. Twelve of the 28 pieces of power equipment are owned by less than ten per cent of the farmers. The typical number is not shown in Table 2 since it would have been one in all cases except the portable drill. Of those farmers who had a portable drill, 48 per cent had only one drill. In 65 per cent of the cases, this was a half-inch capacity drill. Where there were two drills per farm, the common sizes were half-inch and quarter-inch capacity. One might conclude from the table that a majority of farmers have welders. However, it was found

TABLE 2

POWER EQUIPMENT OWNED TO MAKE REPAIRS ON FARMS

Name of equipment	Frequency of ownership	
	Number of farms	Per cent
Portable drill	221	88.4
Air compressor	208	83.2
Tool grinder	189	75.6
Hand saw (portable)	165	66.0
Paint spray gun	132	52.8
Battery charger	117	46.8
Chain saw	107	42.8
Electric welder	96	38.4
Portable grinder	84	33.6
Heavy duty grinder	81	32.4
Drill press	80	32.0
Sander	61	24.4
Table saw	56	22.4
Grindstone	52	20.8
Acetylene welder	43	17.2
Sabre saw	38	15.2
Post hole digger	24	9.6
Compressed air grease gun	18	7.2
Radial arm saw	15	6.0
Hack saw	13	5.2
Band saw	11	4.4
Steam cleaner	9	3.6
Jig saw	6	2.4
Jointer	5	2.0
Impact wrench	2	0.8
Valve grinder	2	0.8
Wood lathe	2	0.8
Metal lathe	0	0.0

that only 43 per cent have welders. Four per cent have gas welders only, and 26 per cent have electric welders only. Thirteen per cent have both.

In Table 3 the farms are grouped into 160-acre blocks. This division very closely approaches the average size of farm in the study which is 313 acres as shown in Table 5. A study of Table 3 shows that except in seven of the 28 cases, the farmers with farms of 480 acres and larger had more power equipment than the farmers with any smaller size of farm. In three of the seven cases, the larger farms had more equipment than the farms of less than 160 acres. Not only did more of the larger farms have power equipment, but in many cases, there were twice as many farmers with a particular piece of equipment. In some cases, the larger farms had three or four times as much power equipment as the smaller farms. Further study of Table 3 shows that in seven cases, the per cent of farmers owning a particular piece of power equipment increases as the size of farm increases.

The data presented in Table 4 show the per cent of farmers owning different power equipment by different classifications. With the exception of the power grindstone, the owners in most cases had more power equipment than the renters. In the few cases where the owners did not have more, they had almost as much as the renters. In several cases, there were twice as many owners as renters with a given piece of power equipment. The crops farmers had more power equipment than the livestock farmers. The crops-owners had more power equipment than the crops-renters and the livestock-owners had more equipment than the livestock-renters.

It might be assumed that owners had more equipment than renters, crops farmers more than livestock farmers, crops-owners more than crops-

TABLE 3

POWER EQUIPMENT OWNED TO MAKE REPAIRS ON FARMS
LISTED ON THE BASIS OF SIZE OF FARM

Name of equipment	Size of farm: acres			
	Under 160	160-319	320-479	480+
	%	%	%	%
Portable drill	75.9	86.1	91.9	97.4
Air compressor	58.6	79.6	90.5	97.4
Tool grinder	75.9	72.2	75.7	84.6
Hand saw (portable)	44.8	66.7	63.5	84.6
Paint spray gun	31.0	50.0	60.8	61.5
Battery charger	58.6	34.3	58.1	51.3
Chain saw	37.9	29.6	51.4	66.7
Electric welder	31.0	25.9	41.9	71.8
Portable grinder	20.7	35.2	27.0	51.3
Heavy duty grinder	20.7	33.3	29.7	43.6
Drill press	13.8	25.0	36.5	56.4
Sander	10.3	19.4	32.4	33.3
Table saw	20.7	16.7	21.6	41.0
Grindstone	20.7	22.2	18.9	20.5
Acetylene welder	20.7	7.4	20.3	35.9
Sabre saw	20.7	15.7	10.8	17.9
Post hole digger	0.0	12.0	10.8	7.7
Comp. air grease gun	3.4	2.8	14.9	7.7
Radial arm saw	10.3	4.6	5.4	7.7
Hack saw	0.0	4.6	6.8	7.7
Band saw	3.4	2.8	4.1	10.3
Steam cleaner	0.0	1.9	2.7	12.8
Jig saw	3.4	0.0	4.1	5.1
Jointer	0.0	1.9	2.7	2.6
Impact wrench	0.0	0.0	0.0	5.1
Valve grinder	0.0	0.9	0.0	2.6
Wood lathe	0.0	0.0	1.4	2.6
Metal lathe	0.0	0.0	0.0	0.0
Average size of farm (acres)	92	220	371	623
Number of farms	29	108	74	39
Per cent in this group	11.6	43.2	29.6	15.6

TABLE 4

POWER EQUIPMENT OWNED TO MAKE REPAIRS ON FARMS
LISTED ON THE BASIS OF VARIOUS CLASSIFICATIONS

Name of equipment	Classification							
	Own livestock*	Own crops#	Rent livestock**	Rent crops##	Own	Rent	Livestock	Crops
	%	%	%	%	%	%	%	%
Portable drill	95.8	91.3	89.3	75.9	93.3	80.2	94.0	85.3
Air compressor	84.7	84.8	67.9	86.2	84.8	80.2	80.0	85.3
Tool grinder	83.3	77.2	67.9	67.2	79.9	67.4	79.0	73.3
Hand saw (portable)	77.8	72.8	64.1	41.4	75.0	48.8	74.0	60.7
Paint spray gun	55.6	55.4	35.7	53.4	55.5	47.7	50.0	54.7
Battery charger	45.8	46.7	46.4	48.3	46.3	47.7	46.0	47.3
Chain saw	52.8	43.5	28.6	36.2	47.6	33.7	46.0	40.7
Electric welder	50.0	44.6	28.6	19.0	47.0	22.1	44.0	34.7
Portable grinder	29.2	37.0	25.0	37.9	33.5	33.7	28.0	37.3
Heavy duty grinder	29.2	35.9	32.1	31.0	32.9	31.4	30.0	34.0
Drill press	34.7	33.7	14.3	34.5	34.1	27.9	29.0	34.0
Sander	19.4	34.8	10.7	20.7	28.0	17.4	17.0	29.3
Table saw	23.6	29.3	17.9	12.1	26.8	14.0	22.0	22.7
Grindstone	19.4	10.9	25.0	36.2	14.6	32.6	21.0	20.7
Acetylene welder	19.4	21.7	7.1	12.1	20.7	10.5	16.0	18.0
Sabre saw	16.7	13.0	10.7	19.0	14.6	16.3	15.0	15.3
Post hole digger	8.3	8.7	10.7	12.1	8.5	11.6	9.0	10.0
Comp air grease gun	8.3	6.5	7.1	6.9	7.3	7.0	8.0	6.7
Radial arm saw	4.2	6.5	10.7	5.2	5.5	7.0	6.0	6.0
Hack saw	5.6	5.4	3.6	5.2	5.5	4.7	5.0	5.3
Band saw	6.9	3.3	3.6	3.4	4.9	3.5	6.0	3.3
Steam cleaner	2.8	4.3	3.6	3.4	3.7	3.5	3.0	4.0
Jig saw	1.4	4.3	0.0	1.7	3.0	1.2	2.0	3.3
Jointer	2.8	3.3	0.0	0.0	3.0	0.0	2.0	2.0
Impact wrench	2.8	0.0	0.0	0.0	1.2	0.0	2.0	0.0
Valve grinder	0.0	2.2	1.1	0.0	1.7	.6	1.2	1.3
Wood lathe	0.0	2.2	0.0	0.0	1.2	0.0	0.0	1.3
Metal lathe	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

* Farmers who own part or all of the land they operate and secure more than half of their farm income from livestock and/or livestock products.

\# Farmers who own part or all of the land they operate and secure more than half of their farm income from crops.

**Farmers who rent all of the land they operate and secure more than half of their farm income from livestock and/or livestock products.

\#\#Farmers who rent all of the land they operate and secure more than half of their farm income from crops.

renters, and livestock-owners more than livestock-renters as shown in Table 4 because they had larger farms as indicated in Table 5, and because there is a definite relationship between the size of farm and the amount of power equipment as indicated in Table 3. However, size of farm is not the only factor of influence since further study of Table 4 shows that livestock owners have more power equipment than any other classification, yet Table 5 shows that four of the classifications have larger farms and one classification is almost equal in size.

TABLE 5

SIZE OF FARMS

Classification	No.	Acres in farm		Tillable acres	
		Average	Range	Average	Range
Own-livestock	72	299	10-880	252	7-875
Own-crops	92	338	10-1000	297	6-980
Rent-livestock	28	243	120-560	219	85-550
Rent-crops	58	323	47-1300	295	24-950
Own	164	321	10-1000	277	6-980
Rent	86	297	47-1300	270	24-950
Livestock	100	284	10-880	243	7-875
Crops	150	332	10-1300	296	6-980
All farms	250	313	10-1300	275	6-980

The average size of farm and the number of farms in each classification are shown in Table 5. It will be noted that the average size of all farms in the study was 313 acres with 275 acres tillable and that the farms ranged in size from 10 acres to 1300 acres. The following facts not indicated in Table 5, may have interest. Of the 164 owners, 65 were full owners with an average size farm of 231 acres and 99 were part owners with an average size farm of 330 acres.

All of the farmers in the study had electricity on their farms.

Forty-nine per cent of the farmers used a part of the garage as a shop. Twenty-one per cent used a part of the machine shed, usually one end, as a place to store tools and make repairs. The others used the barn, basement, utility room, or a separate building for a workshop.

Less than half of the men had any means of heating the shop.

Farmers do not have any typical procedure for storing their tools. Ordinarily, the individual farmer uses two or three methods. The two methods most commonly used by farmers to store their tools are the tool box and hanging the tools on the walls of the shop. Each of these methods is used by about 80 per cent of farmers. Wall cabinets, wall tool boards, and cans are each used by about one third of the farmers. Many have tools lying around loose.

Summary and Conclusions

The study was conducted to determine the hand tools and power equipment which farmers own to make repairs on their farms and to discover the frequency of ownership for each of these items.

The sixteen hand tools usually found in the farm shop are the claw hammer, pliers, crosscut handsaw, screwdriver, putty knife, paint brush,

crescent wrench, tin snips, hacksaw, steel square, wrecking bar, ax, cold chisel, jack, pipe wrench, and sledge. These tools are owned by 98 per cent or more of the farmers.

Sixty-two hand tools are owned by more than half of the farmers. About half of this group of farmers own two or more of each of these tools.

The five pieces of power equipment commonly found in farm shops are the portable drill, air compressor, tool grinder, portable hand saw, and paint spray gun. These five items are owned by the majority of farmers. Eleven pieces of power equipment are owned by more than 30 per cent of the farmers.

There is a definite relationship between the size of farm and the amount of power equipment owned by the farmer to make repairs on his farm.

The group of farmers who own their farms in whole or in part and secure the major portion of their income from livestock have more equipment than any other group.

VT 000 984
Fisher, Harold S.
Meeting Employment Needs; A Research Study to Determine the Vocational and Technical Needs of Youth and Adults and the Feasibility of Establishing an Area Vocational-Technical Program in Muskegon County.

Muskegon Area Intermediate School District, Mich. Office of Vocational Education
Michigan State Dept. of Public Instruction, Lansing. Office of Vocational Education
Muskegon County Community Coll., Mich.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Oct65 111p.

*VOCATIONAL EDUCATION; *AREA VOCATIONAL SCHOOLS; *OCCUPATIONAL SURVEYS; EMPLOYMENT OPPORTUNITIES; SURVEYS; SCHOOL SURVEYS; *EDUCATIONAL NEEDS; TECHNICAL EDUCATION; FEASIBILITY STUDIES; PARENT ATTITUDES; STUDENT ATTITUDES; EMPLOYER ATTITUDES; QUESTIONNAIRES
MUSKEGON COUNTY; MICHIGAN

Information was derived from (1) a survey of business and industry (137 responses from 387 firms contacted), (2) parent opinionnaire (60 percent response from parents of fifth graders), (3) followup survey of high school graduates in 1959, 1961, and 1963 (501 responses from 1,670 contacted), (4) a survey of seniors in twelve schools (96 percent response from 2,134 contacted), and (5) an extensive study of curriculum offerings of secondary schools in the areas of homemaking, business, industrial arts, agriculture, and trade and industrial education. Reports from the community college and special education subcommittee gave current status of their vocational training programs. Recommendations included: (1) An area vocational center for youth in grades 10, 11, and 12, advanced vocational students, and adults should be established in the area, (2) Students attending the center should remain half time with their local districts, (3) In business education, concentration should be on office machines and advanced bookkeeping at the 12th grade level, (4) Homemaking programs in food service, advanced tailoring, nurse-aid orderly, and other health occupations should be offered, (5) Industrial arts should provide basic courses for student enrolling in an industrial-type program, and (6) All secondary cooperative training programs should be conducted and operated from the area vocational center and made available to all youth in the area. Recommendations for the area vocational center curriculum are given. Possible implementation methods are listed. (PS)

VT 000 984

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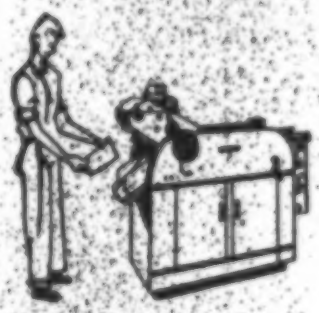
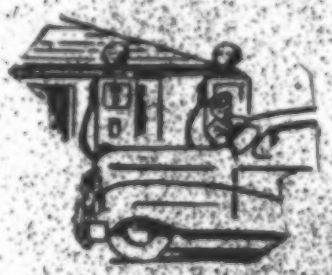


MEETING EMPLOYMENT NEEDS



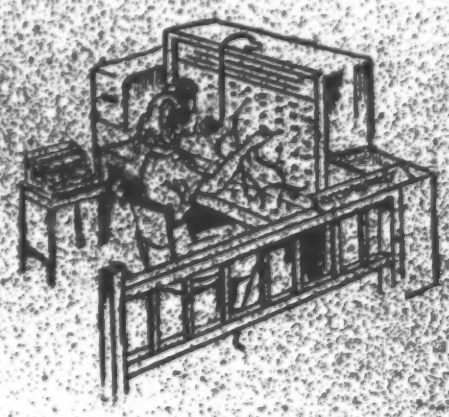
A REPORT

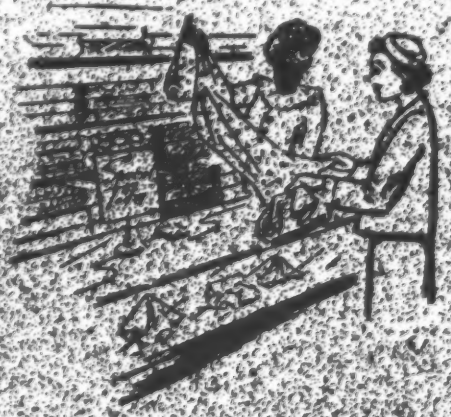
MUSKEGON COUNTY

VOCATIONAL & TECHNICAL

COMMITTEE

OCTOBER, 1965





VT 00984

MUSKEGON AREA
Intermediate School District
COUNTY BUILDING
MUSKEGON, MICHIGAN 49440

MEETING EMPLOYMENT NEEDS

A Study Conducted by the Office of Vocational Education of the Muskegon Area Intermediate School District

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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OCTOBER, 1965

James Ten Brink

Superintendent

MEETING EMPLOYMENT NEEDS

A Research Study to Determine the Vocational and Technical Needs of Youth and Adults and the Feasibility of Establishing an Area Vocational-Technical Program in Muskegon County.

Conducted by the

Office of Vocational Education

Muskegon Area Intermediate School District

In Cooperation with

The Office of Vocational Education

Michigan Department of Education

Muskegon County Community College

12 Secondary School Districts

MUSKEGON, MICHIGAN October, 1965

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PROJECT DIRECTOR

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FOREWORD

In April of 1964, the Muskegon Area Intermediate School District Board of Education appointed a 60-member lay advisory committee to discuss the needs in vocational-technical education in Muskegon County.

This committee, called the Muskegon County Vocational and Technical Committee under the chairmanship of Mr. John Medendorp, a Muskegon industrialist, envisioned a need for a new concept in the education of youth in Muskegon County. Of particular interest to them was the large segment of high school students who do not intend to continue education in a four-year academic college program and also to those who have for one reason or another dropped out of school before graduation.

In November of 1964, the Intermediate Board of Education Established a position of Vocational Consultant and employed the services of Mr. Harold S. Fisher. The proposal for an area study of vocational-technical needs was made and the Intermediate District gained the support of every secondary district in the county as well as the Community College and the two secondary parochial schools in Muskegon.

With their financial support and matching funds from the State Office of Vocational Education, Department of Education, this study was started in February of 1965.

The Muskegon County Vocational & Technical Committee was expanded to include subcommittees on the needs of agriculture and the needs of the work bound girl. The services of a part-time staff of seven area educators to act as coordinators for the various subcommittees was secured. This study is indebted to their respective boards of education for allowing them to participate.

The staff worked with the subcommittees and each part of the study was conducted separately. In June of 1965, the reports of all subcommittees were completed and submitted to the Steering Committee for their consideration of the several recommendations. The Steering Committee presented these findings and recommendations to the committee-of-the-whole in September of 1965.

The reader should realize that these recommendations and the findings which support them are the result of the efforts of many people. The Project Director, the staff and the Board of Education of the Muskegon Area Intermediate School District are deeply indebted to the members of the Vocational and Technical Committee, the Muskegon Area Development Council, Muskegon Manufacturers Association, the Central Labor Council, Muskegon Business College, the Michigan Employment Security Commission of Muskegon and the

hundreds of businessmen, parents, graduates and students who took the time to fill out and return questionnaires. The staff is most grateful for the dedicated assistance of Mrs. Vicki Clark, Secretary for the project. Many thanks are due to Brunswick Corporation and also to Joseph Anthony, Vice-President, for their assistance and guidance in tabulating the results of the Business and Industry Questionnaire and the Parent Opinionnaire.

The readers should recognize that the recommendations are made with the full realization that there are other courses of action that could be taken to provide vocational-technical education. However, those herein are considered to be the recommendations which will best fit the needs of all the youth of Muskegon County and will provide the most economical program and at the same time provide training which will give quality to the type of skills to be trained for.

Finally, the project staff extends best wishes to the people of the Muskegon Area Intermediate School District in the implementation of these goals. Action is needed immediately and it is hoped that this writing will encourage the new vision and leadership needed to provide the kind of education so necessary to provide equal opportunity for all youth.

Mr. Harold S. Fisher, Vocational Consultant
Muskegon Area
Intermediate School District
County Building
Muskegon, Michigan 49440

October, 1965

MUSKEGON COUNTY VOCATIONAL & TECHNICAL COMMITTEE

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THE ROLE OF THE MUSKEGON COUNTY VOCATIONAL & TECHNICAL COMMITTEE IN THE AREA STUDY

Due to the fact that the committee was activated before the Area Study was approved, it was necessary to add to the membership.

The reorganization of the committee took place at a general meeting at Mona Shores High School on January 26, 1965.

At this meeting three new subcommittees were added to the existing committee so that the study would include the areas of agriculture, the work bound girl and a graduate follow-up.

Each subcommittee was assigned a part of the study as follows:

Subcommittee	Function
Community Involvement	Business & Industry Survey Parent Opinionnaire
Survey Secondary	High School Curriculum & Facilities
Survey Graduate	Graduate Follow-up and 12th Grade Survey
Employment Bound Girl	Study the Needs in this Area and Possible Solutions
Vocational Agriculture	Study Needs in Training for Agriculture in County
Survey Community College	Community College Curriculum and Facilities
Special Education	Report on Present Work and Future Needs
Legislation & Finance	Report on enabling legislation & Methods of Financing Solutions

Each subcommittee worked as a unit by itself and the coordinator of each one acted as its executive secretary. The coordinator acted as a liaison with the Project Director and all communications with the committee went through the Director's office.

A meeting of the Steering Committee of the Vocational & Technical Committee was called on March 25 where preliminary reports of all subcommittees were presented. By June 30, all reports were completed and were presented to the Steering Committee for discussion and for recommendations on July 1. Two more meetings of the Steering Committee were held on July 12 and August 13.

Recommendations contained in this report were discussed and passed upon and further recommended to the committee-of-the-whole on September 9, 1965. Therefore, this writing is not only the work of the staff and each subcommittee, but contains the recommendations of several advisory persons from all walks of life in Muskegon County. After careful consideration and timely discussions, the Muskegon County Vocational & Technical Committee presents this document in the hopes that it will contribute to a new concept in the education of all youth, and assist in establishing a unified approach to training all individuals for occupational competency.

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INTRODUCTION

Trends in Vocational Education

In this age of technology, automation, and extreme social change, public education is being faced with the realization that a new concept in education is needed. With the arrival of sputnik and the space age, much was written in magazines, newspapers, etc. which caused educators to place a strong emphasis on academic or a pre-college curriculum. With this movement, many fine improvements were made in the methods and programs in the majority of our secondary schools. With the recession of 1958 came the appointment of the President's Council on Vocational Education. This study committee alerted the people and the legislature to the needs for increased emphasis in education for occupational competency.

As the economy of the country increased in the next few years, it was noted over and again that jobs requiring skills were not being filled while the unemployment rolls grew. The study also stated that the service occupations were growing rapidly and that educational institutions were doing little to change their standard curriculum to meet the changing needs of business and industry.

The demand for technically oriented courses encouraged people from all walks of life to have concern for the kinds of education that were being provided for youth.

With the passage of the Vocational Act of 1963, educators, businessmen and government agencies are now expressing recognition for the tremendous needs that are evident in the 60 to 70 per cent of the youth who do not pursue a four-year education. In the state of Michigan in 1965, 22 separate area vocational studies are being conducted. The Michigan Department of Education, Intermediate School Districts, community colleges, and universities are all cooperating to determine the needs of youth in Michigan.

On the local level the establishment of the Muskegon County Vocational & Technical Committee was a significant step in the right direction and this study is the result of their efforts. This writing will attempt to show the specific needs for training for the youth of tomorrow in Muskegon County.

The Nature of Vocational Education

Vocational education is any form of education which trains or prepares an individual for occupational competency. For this study the definition includes instruction for all occupations which require education and training of less than a college degree level.

Technical education, as we define it for the study, will deal with vocational education and training for those types of employment which are defined as technician occupations. For the purpose of clarifying it in the readers mind, the type of education that we will be discussing in this writing are vocational and technical education. We separate vocational and technical education from the normal programs of a pre-vocational nature which are normally known as industrial arts, manual training, homemaking, etc.

We fully realize the need for pre-vocational education and will attempt to demonstrate how this type of training should be included as a part of the total program for vocational competency and the weakness and strength of the pre-vocational programs in the secondary schools in Muskegon County today.

The difference between vocational education and technical education lies in the amount of knowledge versus the manipulative skill in a given occupation; therefore, it would be necessary for one to determine the occupational requirements of skill and knowledge in an occupation in order to properly define training as either vocational or technical.

Normally, one could say that vocational education should be taught on the high school level and technical education on the community college level. The reader should, however, recognize the fact that many adults are in need of upgrading and training after they leave their formal education; therefore, keeping the necessity of vocational education to be taught on the post-high school level.

Figure 1 shows the paths that a person may take to employment through education. The large segment that could reach employment in skilled and semi skilled occupations through the high school vocational departments or area vocational centers are being deprived of this opportunity because of the lack of facilities as will be shown in this writing.

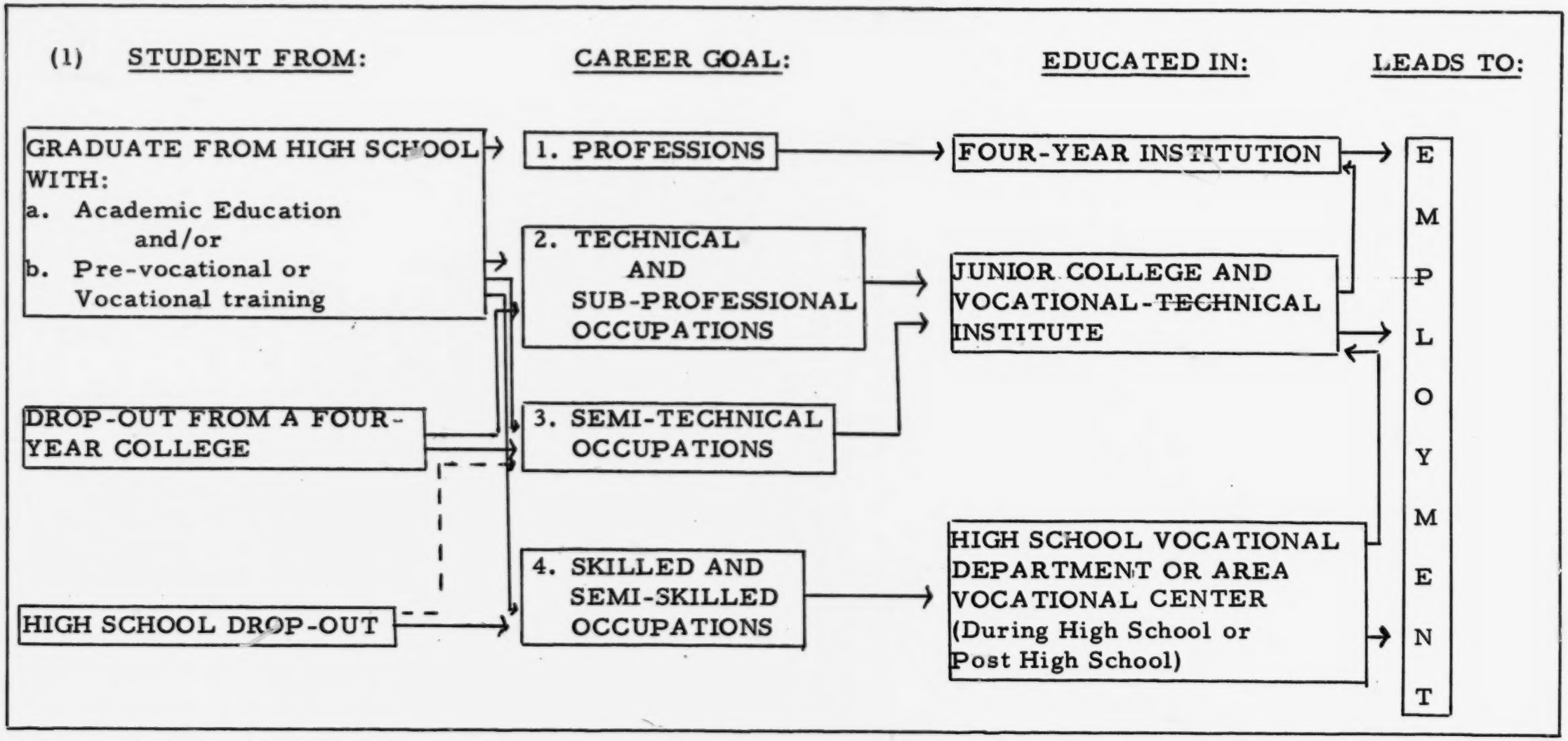


FIGURE 1

PATHWAYS FROM EDUCATION TO EMPLOYMENT VIA

THE POST HIGH

SCHOOL

(1) Education for Economic Opportunity - Educational Service Series, Number 12 - June, 1965 Bureau of Educational Research Services - College of Education - Michigan State University - East Lansing, Michigan

CHAPTER I

FACTS ABOUT THE

MUSKEGON AREA INTERMEDIATE SCHOOL DISTRICT

Geographic Area Served

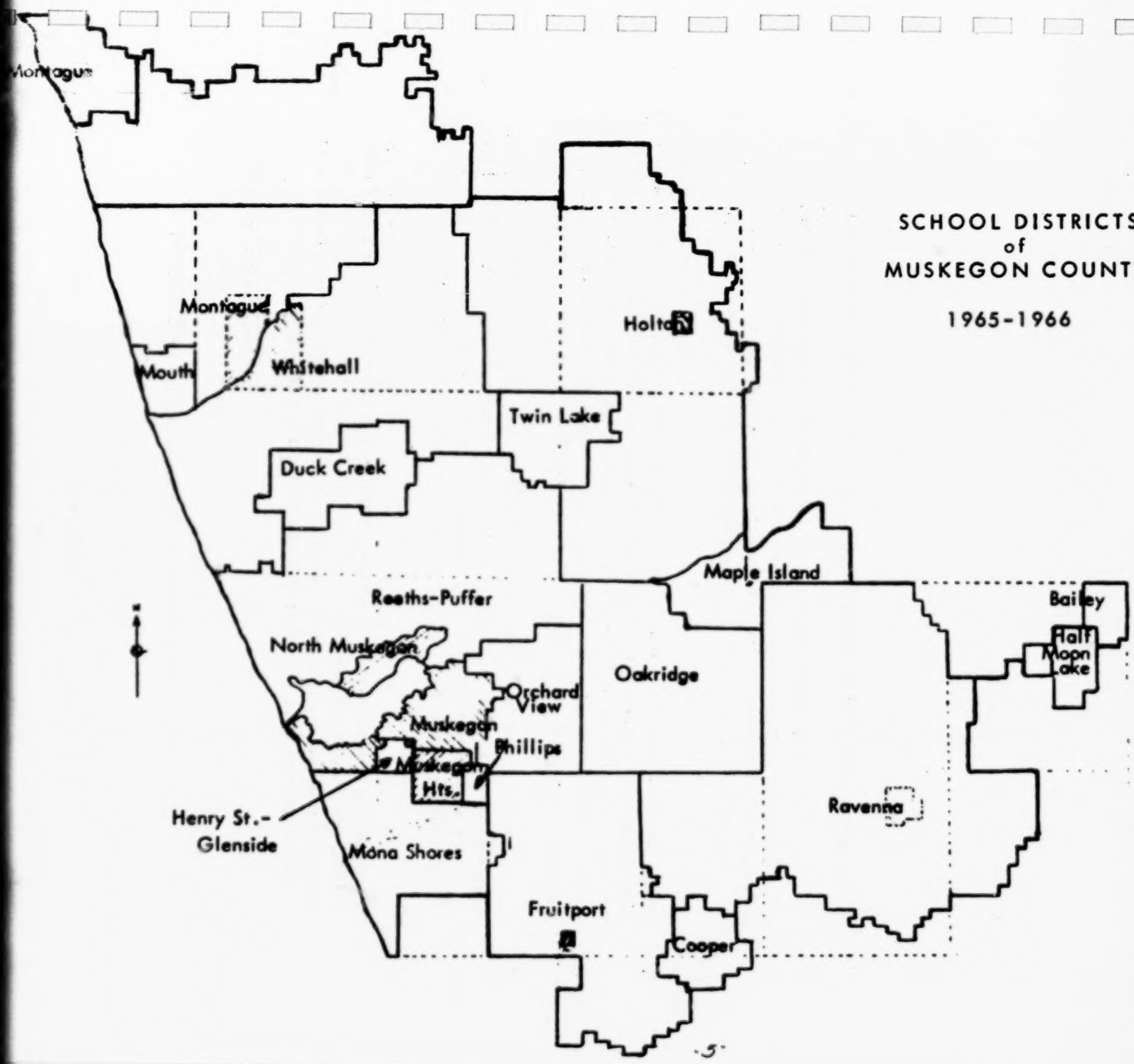
The Muskegon Area Intermediate School District is for the most part located in Muskegon County, although its boundaries do not coincide with those of the county. The district is a separate governmental body operated by the Muskegon Area Intermediate School District Board of Education.

Muskegon County covers an area of 510 square miles including 153,000 persons. The western boundary lies along the shore of Lake Michigan. The metropolitan complex of Muskegon and Muskegon Heights serves as the industrial and business center for the entire district.

The Michigan Employment Security Commission Manpower Report, "A Look at the '60's", shows that Muskegon County is growing at a rate of 5 per cent over the state average. Therefore, an increase in the labor force of 26 per cent is anticipated within this decade. In absolute numbers it is estimated that 14,300 more persons are entering the labor force in this decade.

The county contains several "pockets" of poverty stricken, low income families. Major areas of this nature lie in the cities of Muskegon and Muskegon Heights. Others are scattered in several of the other 10 secondary school districts shown on the map submitted.

The map in Figure 2 shows the boundaries of the district and the county.


SCHOOL DISTRICTS
of
MUSKEGON COUNTY
1965-1966
Montague
Montague
Mouth
Whitehall
Holton
Twin Lake
Duck Creek
Maple Island
Reeths-Puffer
Bailey
North Muskegon
Half Moon Lake
Oakridge
Orchard View
Muskegon
Phillips
Muskegon Hts.
Ravenna
Henry St.-Glenside
Mona Shores
Fruitport
Cooper

MUSKEGON AREA POPULATION

These projections are from the Feasibility Report on Water and Sewerage Facilities for the Greater Muskegon Metropolitan Area by Clark, Dietz, Painter & Associates, Urgana, Illinois. They are based on the analysis of studies by several consultants and upon interviews with governmental officials in each of the units. The projections were made in the latter half of 1962, and are presently being re-evaluated in light of experience since that time and estimates of current population by Clark, Dietz, Painter & Associates for the Muskegon Area Water and Sewer Authority. These were tabulated for us by the Muskegon Area Development Council.

Muskegon County Population Trends
(Standard Metropolitan Statistical Area - SMSA)

While some outlying areas have grown very rapidly between 1950-60, and could continue to do so between 1960-70, most of the population growth in Muskegon County between 1950-60, in absolute numbers, took place in the Greater Muskegon area (nine governmental units). Of the total county population increase of 28,398 between 1950-60, 21,071 or 74.2 per cent took place in the Greater Muskegon area. Between 1960-70, projections show that 78.4 per cent of the growth in population may be in the Greater Muskegon area (See Table 3). As of 1960, 125,990 or 84.0 per cent, of the total county population of 149,943 was in the nine governmental units of the Greater Muskegon area (See Table 1).

TABLE 1

Muskegon County
Population Trends

	1950 Census	1960 Census	1970 Projection
City of Muskegon	48,429	46,485	49,320
City of Muskegon Heights	18,828	19,552	21,200
City of North Muskegon	2,424	3,855	5,240
City of Roosevelt Park	1,254	2,578	3,090
Laketon Township	1,901	4,114	10,376
Muskegon Township	12,757	17,537	21,190
Fruitport Township	4,464	7,949	10,300
Egelston Township	3,941	6,104	8,070
Norton Township	10,921	17,816	24,710

	1950 Census	1960 Census	1970 Projection
	104,919	125,990	153,496
Balance of County	16,626	23,953	
County Total	121,545	149,943	(See Table 6)

TABLE 2
Muskegon County
1970 Population Projections

Michigan State University - Institute for Community Development
March
1962

A - Natural Increase - Migration Method	185,020
B - Ratio Method	190,210
C - Rate of Growth Method	185,030
Consumers Power Company - W. J. Jefferson 11/61	164,540

TABLE 3
Muskegon County
Population Growth

	Greater Muskegon Area (9 Units)	Balance of County	County Total
Number of Persons			
1950-60	21,071	7,327	28,398
1960-70*	27,506	7,571	35,077
Rate of Growth			
1950-60	20.1 %	44.1 %	23.4 %
1960-70*	21.8 %	31.6 %	23.4 %
Breakdown of Growth			
1950-60	74.2 %	25.8 %	100.0 %
1960-70*	78.4 %	21.6 %	100.0 %

*Utilizing CDP & A projections for Greater Muskegon and MSU-Method A projections for Muskegon County.

Greater Muskegon Area Population Trends

While most of the county's actual population growth between 1950-60 and projected growth between 1960-70, in absolute numbers, is taking place in the Greater Muskegon area, this growth is to be found in the suburban fringe rather than the central city core. By 1990, it is estimated that only about 38 per cent of the population of the Greater Muskegon area will reside in the two central cities.

TABLE 4
Greater Muskegon Area Population Trends

	Muskegon and Muskegon Heights	Greater Muskegon Area*	Central Cities as a % of Greater Muskegon	Suburbs as a % of Greater Muskegon Area
1940	63,744	82,241	77.5	22.5
1950	67,257	104,919	64.1	35.9
1960	66,037	125,990	52.4	47.6
1970	70,520	153,496	45.9	54.1
1980	75,010	181,000	41.4	58.6
1990	79,500	208,500	38.1	61.9

* Greater Muskegon Area includes the cities of Muskegon, Muskegon Heights, Roosevelt Park, and North Muskegon and the Townships of Egelston, Fruitport, Laketon, Muskegon, and Norton.

Central City Population Trends

The City of Muskegon in 1960 experienced its first drop in the decenial census since the decline of the lumber industry in the 1890's. (See Table 5). Even more important than total numbers, perhaps, are the resultant changes in the social and economic characteristics of the central city population.

TABLE 5
Central City
Population Since Earliest Census

	City of Muskegon		City of Muskegon Heights		Total Central Cities	
	Population	& Increase	Population	& Increase	Population	& Increase
1870	6,002	...	...	...	...	...
1880	11,262	87.6	...	...	...	...
1890	22,702	101.6	...	...	...	...
1900	20,818	-8.3	1,012	...	21,830	...
1910	24,062	15.6	1,690	67.0	25,752	18.0
1920	36,570	52.0	9,514	463.0	46,084	79.0
1930	41,390	13.2	15,584	63.8	56,974	23.6
1940	47,697	15.2	16,047	3.0	63,744	11.9
1950	48,429	1.5	18,828	17.3	67,257	5.5
1960	46,485	-4.0	19,552	3.8	66,037	-1.8

Greater Muskegon Area Projections

Table 6 presents longer-term population projections for the Greater Muskegon area from the same series as those presented for 1970 in Table 4.

TABLE 6
Greater Muskegon Area
Longer-Term Population Projections

	1960 Census	1970	1980	1990
City of Muskegon	46,485	49,320	52,160	55,000
City of Muskegon Heights	19,552	21,200	22,850	24,500
City of North Muskegon	3,855	5,240	6,620	8,000
City of Roosevelt Park	2,578	3,090	3,590	4,100
Laketon Township	4,114	10,376	16,640	22,900
Muskegon Township	17,537	21,190	24,850	28,500
Fruitport Township	7,949	10,300	12,650	15,000
(Village of Fruitport)	(1,037)	(1,690)	(2,350)	(3,000)
Egelston Township	6,104	8,070	10,035	12,000
Norton Township	17,816	24,710	31,605	38,500
Total	125,990	153,496	181,000	208,500

Current Population Estimates

	City of Muskegon	City of Muskegon Heights	Muskegon County
U. S. Census (4/1/60)	46,485	19,552	149,943
Sales Management (12/31/63)	45,900	19,800	157,400
Editor & Publisher (1/1/65)	47,647	20,041	167,786

April, 1965

TABLE 7 A

VALUATION OF SCHOOL DISTRICTS IN MUSKEGON COUNTY

Name of Schools	Valuation 1964	Per Pupil Valuation
Muskegon	$159,202,355.00	$16,680.00
Muskegon Heights	46,401,728.00	9,673.00
Fruitport	10,285,994.00	4,768.00
Holton	4,043,625.00	4,390.00
Mona Shores	56,860,382.00	10,465.00
Montague	18,264,576.00	14,193.00
North Muskegon	15,670,931.00	12,457.00
Oakridge	7,208,343.00	3,848.00
Orchard View	33,867,469.00	9,679.00
Ravenna	9,535,035.00	6,176.00
Reeths-Puffer	58,806,941.00	16,874.00
Whitehall	17,765,950.00	8,880.00
Others	41,029,541.00	
TOTAL	478,942,870.00	

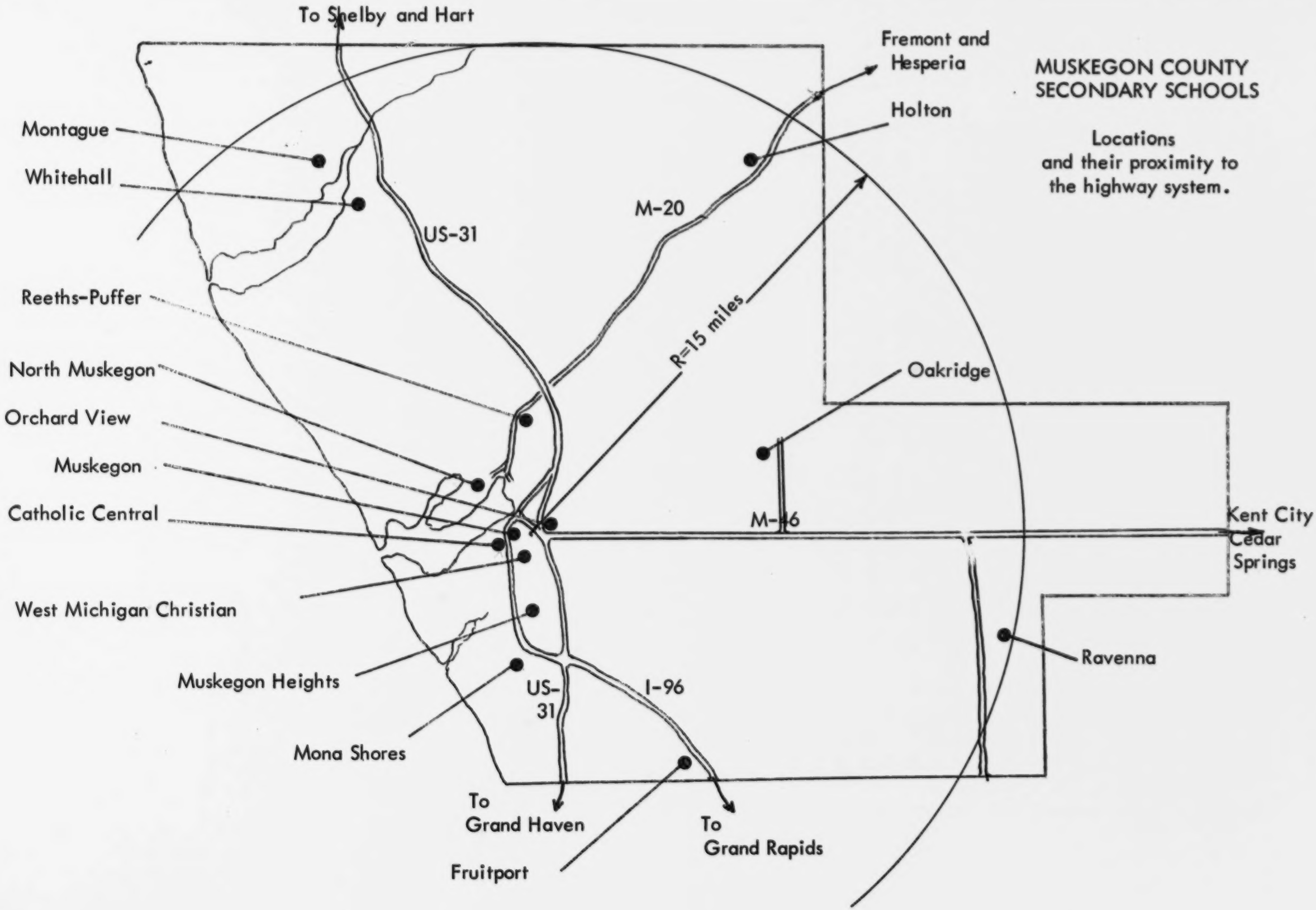

MUSKEGON COUNTY
SECONDARY SCHOOLS
Locations
and their proximity to
the highway system.
To Shelby and Hart
Fremont and
Hesperia
Holton
Montague
Whitehall
M-20
US-31
Reeths-Puffer
R=15 miles
North Muskegon
Oakridge
Orchard View
Muskegon
Catholic Central
M-46
Kent City
Cedar
Springs
West Michigan Christian
Ravenna
Muskegon Heights
US-
31
I-96
Mona Shores
To
Grand Haven
To
Grand Rapids
Fruitport

TABLE 7
Total Enrollments
Muskegon Area Intermediate School District
1964-65

	K - 6	7 - 9	10 - 12	Grand Total
Third Class	7750	3076	2954	14341
Fourth Class	15748	5618	4588	26255
Primary	282	74	-0-	357
Parochial	3036	1301	1183	5520
Other (Special Ed.)				863
Total	26816	10069	8725	46473

TABLE 8
Secondary Enrollment

	Grade 10	Grade 11	Grade 12	Total 10-12
Muskegon City	636	719	591	1946
Muskegon Heights	394	336	278	1008
Fruitport	193	178	139	510
Holton	76	78	55	209
Mona Shores	376	321	338	1035
Montague	122	114	85	321
North Muskegon	78	170	182	430
Oakridge	91			91
Orchard View	227	246	263	736
Ravenna	144	132	115	391
Reeths-Puffer	258	129	109	496
Whitehall	126	127	116	369
Catholic Central	274	313	307	894
West Michigan Christian	85	88	107	280
Total	2050	1896	1816	5762

TABLE 9

General Breakdown of Labor Force for Muskegon Area
(June 1965 - Labor Force Estimates
Michigan Employment Security Commission)

	Current Month	One Month Ago	Two Months Ago	Twelve Months Ago
TOTAL LABOR FORCE	55,100	54,000	53,500	54,400
AGRICULTURAL EMPLOYMENT	800	800	700	900
WORKERS INVOLVED IN LABOR-MANAGEMENT DISPUTES	-	-	-	-
TOTAL NON-FARM EMPLOYMENT	52,400	52,500	50,900	50,500
A. All Other	5,800	5,400	5,400	5,700
B. Wage and Salary Workers	46,600	46,100	45,500	44,800
1. Manufacturing Industries	25,400	25,100	24,900	23,500
a. Durable goods industries	22,000	21,700	21,400	20,000
(1) Furniture & fixtures	1,500	1,500	1,500	1,500
(2) Metal industries	7,900	7,800	7,700	6,800
(a) Primary metal products	7,000	6,900	6,800	6,000
(b) Fabricated metal products	1,000	1,000	1,000	900
(3) Machinery (non-electrical)	6,100	6,000	6,100	5,800
(4) Transportation equipment	4,500	4,500	4,300	3,800
(a) Motor vehicles & equipment	4,400	4,400	4,200	3,800
(b) Other trans., equip.	100	100	100	-
(5) Other durable goods	1,900	1,800	1,800	2,000
b. Non-durable goods industries	3,400	3,400	3,400	3,500
(1) Food & kindred Products	600	600	600	600
(2) Paper & allied products	1,000	1,000	1,000	1,000
(3) Printing, pub. & allied	200	200	200	200
(4) Chemicals, petro, & related	1,200	1,200	1,200	1,200
(5) Other non-durable goods	300	400	400	400
2. Non-Manufacturing Industries	16,800	16,500	16,100	16,700
a. Construction	1,600	1,400	1,200	1,400
b. Trans., commun., & utilities	2,400	2,400	2,300	2,300
c. Wholesale trade	1,400	1,400	1,400	1,300
d. Retail trade	5,700	5,800	5,700	5,800
e. Finance, real estate & insurance	1,200	1,200	1,200	1,200
f. Service & misc. Non-Mfg.	4,500	4,400	4,300	4,600
3. Government	4,500	4,500	4,500	4,600
a. Federal	400	400	400	400
(1) All Other	400	400	400	400
b. State	100	100	100	100
(1) All Other	100	100	100	100
c. Local	4,000	4,000	4,000	4,100
(1) Services	2,100	2,100	2,100	2,100
(a) Medical	100	100	100	100
(b) Educational	2,000	2,000	2,000	2,000
(2) All Other	1,800	1,800	1,900	2,000
UNEMPLOYMENT	1,900	1,700	1,900	3,000
A. Unemployment as % of total labor force	3.4	3.1	3.6	5.5
Note: Totals may not equal sum of components because of rounding.				
NON-FARM LABOR FORCE	54,300	53,200	52,800	53,500

CHAPTER II

WHAT DID BUSINESS & INDUSTRY SAY?

Over 3,000 business listings were obtained through the United Appeal office. Table 10 shows the categories that were used.

Major industry and business, which accounts for 80 per cent of county employment, were covered in a 100 per cent sampling. These are businesses which employ over 100 persons. Other categories were surveyed by random sampling.

Survey instruments were distributed by mail with one follow-up letter and some telephone calls.

Table 10 shows the sampling and per cent of returns. A percentage and a multiplying factor were used to determine total employment in each job listed in the study. The survey instrument which was used is shown in the appendix on pages 58 through 66.

Table 11 shows how the results of the survey were used to determine projected needs of area business and industry.

From these tabulations it was determined what occupational level could be satisfied by increased training at the high school level and what available occupations required training at the community college level. Also considered were data obtained from the Muskegon Area Development Council on population trends, the Muskegon Manufacturers Association, the Muskegon Business College and the Michigan Employment Security Commission.

Data from the Muskegon Area Development Council regarding state and national trends in employments needs and also a study conducted by this organization on the potential of new industry in the area was valuable in determining the needs of indistry and business for trained employees.

Much of this data aided in including the mobility factor of graduates of area high schools.

The listings of training needs shown on page 17 are the result of these findings.

TABLE 10

Vocational Education Department

Muskegon Area Intermediate School District

Business-Industry Survey Tabulations

	Total Firms	Total Employees	Number C Contacted	Per Cent of Total Sampled	Number Returned	Per Cent of Return	Per Cent Rec. of Total	No. of Emp. in Return	Per Cent of Employees	Multiplier for Employment Total
A - Major Industry	29	18,514	29	100	25	86	86	14,461	78	1.2800
B - Major Business	40	4,745	40	100	31	78	78	4,047	85	1.1724
C - General Industry	143	2,509	71	50	26	37	18	694	28	3.6152
D - General Business	1,350	6,672	160	12	27	17	2	271	4	21.8754
E - Construction	196	1,415	20	10	6	30	3	188	13	7.5265
F - Transportation	78	1,098	12	15	3	25	4	146	13	7.5205
G - Professional	332	930	50	15	15	30	5	110	12	8.4545
H - Schools	14	561	3	21	3	100	21	141	25	3.9780
I - Government	10	1,605	2	20	1	50	10	309	19	5.1900

TABLE 11
Examples of Present Employment and Shortages in Certain Occupational Areas

(Taken From Business & Industry Survey of Muskegon County)

Type of Job	Average on Payroll - 1964 (total Muskegon County)	Actual Industries Who Indicated Increase in Next 5 Years	Actual Industries Who Indicated a Scarcity Today
Cabinet Maker	166	2 out of 3	2 out of 3
Carpenters	300	2 out of 12	3 out of 12
Electricians	427	6 out of 17	9 out of 19
Electronics Repairman	257	5 out of 9	3 out of 8
Machine Operators	4235	11 out of 20	7 out of 21
Machinists	1196	10 out of 17	12 out of 17
Millwrights	452	6 out of 19	9 out of 19
Welders	405	8 out of 16	9 out of 16
Salespersons	1942	6 out of 17	6 out of 16
Stenographers	489	7 out of 37	8 out of 29
Drafting & Design Technicians	256	7 out of 21	12 out of 22
Mechanical Technicians	108	3 out of 6	2 out of 5

AREAS OF TRAINING NEEDED AT SENIOR HIGH LEVEL FROM BUSINESS & INDUSTRY SURVEY

INDUSTRIAL

- Appliance Repair
- Automotive Mechanic
- Cabinet Maker (small groups)
- Electronics Repair
- Machine Operators
- General Mechanic
- Truck Driver
- Welder
- Heavy Equipment Operator

SERVICE

- Beautician
- Cooks or Chef
- Waitress Training
- Custodial
- Law Enforcement
- Nurses Aid - Orderly (Health occupations)
- Sales Training (retail general distributive education)
- Seamstress & Tailoring
- Service Station Attendant

BUSINESS - OFFICE

- Bookkeeping (new emphasis)
- Clerk-Typist (continued)
- Stenographer (new emphasis)

AREAS FOR GREATER CONCENTRATION FOR APPRENTICE TRAINING

- Carpentry
- Electrician
- Machinist
- Millwright
- Plumber
- Sheet Metal Worker
- Mason
- Tool & Die

AREAS FOR TRAINING AT COMMUNITY COLLEGE FROM BUSINESS & INDUSTRY SURVEY

INDUSTRIAL

- Automotive Technician
- Chemical Technician
- Drafting & Design Technician
- Electrical and/or Electronics Technician
- Firstline Supervisory (Management)
- Instrumentation Technician (small)
- Mechanical Technician
- Metallurgical Technician
- Quality Control Technician

BUSINESS

- Accountants (heavy)
- Commercial Art (small)
- Data Processing
- Business Management
- Merchandisers
- Outside Sales (heavy)
- Retail Management & Buying
- Sales Management
- Secretarial

HEALTH - MEDICAL

- Medical Lab Technician
- Nurse (Practical)
- Nurse (R.N.)
- Medical office secretary & assistants

POINTS OF INTEREST FROM EMPLOYER STUDY

One third of the employers found graduates of high school reasonably well prepared for entry jobs.

One third felt they needed considerable more training before they performed satisfactorily.

The other one third either found them suited only for unskilled jobs or did not have employment suited for them.

Very few industries and businesses made it a practice to hire dropouts in any jobs other than very unskilled labor. Most employers have found "dropouts" to be unsatisfactory; but those who have provided training for them or obtained them with training, found them satisfactory for some jobs.

High school graduates are accepted in office jobs, sales, apprentice, service, semi-skilled and in unskilled labor categories.

However, the survey shows that in Major Industry, General Industry, Construction, Transportation, and Government, that 9 out of 10 jobs, less than management level, require no more than a high school education. At the same time, industry and business people are saying that the majority of the high school graduates need more training. It would seem evident that they are also stating their feelings that this additional training could and should be done at the high school level.

Highly skilled, technicians and many business office jobs require more than a high school education.

Those industries and businesses who answered the questions on improving vocational training generally felt that there was a need for an area vocational center for secondary training and that the Community College occupational curriculum should be expanded.

Less than one half of the firms had any formal training programs at all. Of those who did, only 14 have apprentice training programs, 16 have job upgrading of some nature and 11 are participating in technical training through the community college; but the greater number of training programs involve supervisory or management level training.

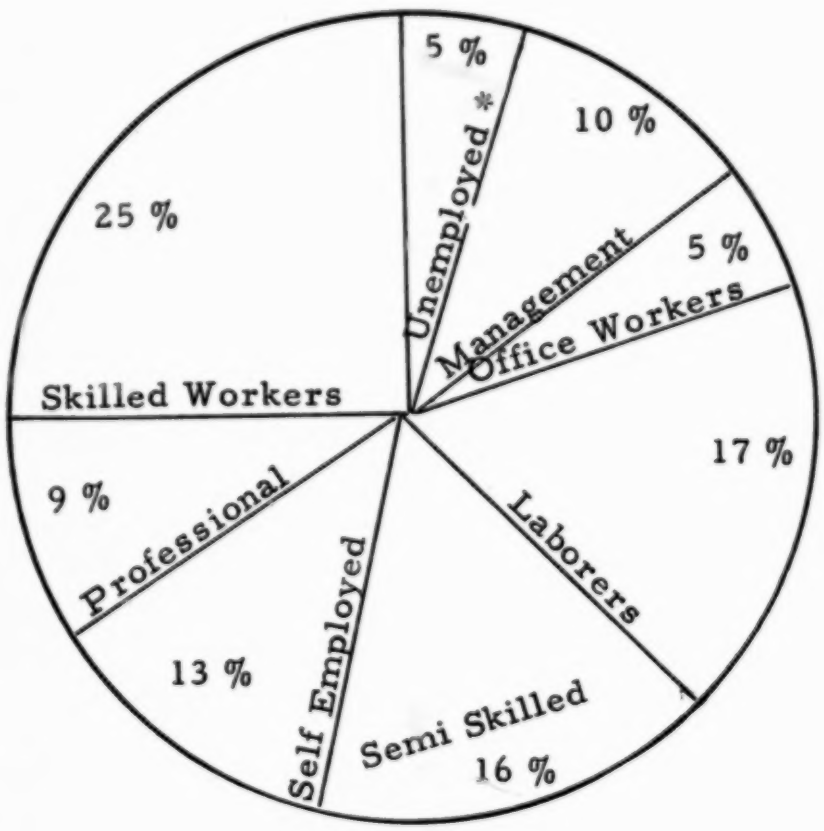
CHAPTER III

WHAT DID THE PARENTS SAY?

Parents of all fifth graders in all public schools in the county were distributed an opinionnaire on vocational education. Sixty per cent of the parents responded. Fifth grade parents were questioned as it was presupposed that this group of students would be the recipients of full benefits of a long range program should we develop a progressive approach of added vocational training.

Table 12 indicates the breakdown of the type of occupations held by the head of the household of those surveyed.

TABLE 12



Nine-four per cent of the heads of household were male and 81 per cent of them worked in the greater Muskegon complex. Nine per cent worked in out-county areas and 10 per cent worked outside of the county.

Nine-four per cent of the heads of household were male and 81 per cent of them worked in the greater Muskegon complex. Nine per cent worked in out-county areas and 10 per cent worked outside of the county.

Only 2 out of 10 parents thought the schools were adequately preparing youth for employment. Half said a fair job was being done.

They did believe that the guidance and counseling was helpful but indicated improvement was needed in vocational guidance.

Six out of 10 said many more vocational programs were needed and 2 out of 19 agreed that we should add a few more to what we are now doing.

When asked what kinds of training we should make available for their sons and daughters, they emphasized the following:

Machine Tool	Business Machines	Building Trades
Welding	Retail & Sales	Appliance Repair
Automotive	Hospital Aids	Electronics
Woodworking	Medical Technology	Data Processing

Parents also felt a need for the development of proper work attitudes.

(It is interesting to note that parents indicated needs in the same general categories that were shown to be demand occupations by local business and industry.)

When we asked parents how we should provide this kind of training and explained that this would require more buildings and expensive equipment, 6 out of 10 responded in favor of an area vocational school centrally located and available to all youth of Muskegon County. In addition, 9 out of 10 were in fabor of financing this on a county-wide millage basis.

Nine out of 10 parents said they would encourage their child to avail themselves of vocational training should that child not be interested in college training. Nine out of 10 were concerned about the "dropout" problem and over half felt that added emphasis in vocational training would help keep students in school longer. Over half of the parents indicated an interest in upgrading and improving themselves through participation in potential evening classes should new area facilities be made available to them.

Overwhelming support seems to be indicated by parents for an area vocational school, financed on a county-wide basis. They felt that this facility should be made available to all youth in every secondary school in Muskegon County.

The results were tabulated to enable us to compare responses from one school district with another. An interesting fact is that parents from the higher income areas said the same thing that all the others did. There was no evidence of any degree to disagreement of what was needed in vocational education between such areas as North Muskegon and Lincoln Park Schools and Muskegon Heights and Ravenna.

The survey opinionnaire used is shown in the appendix of this document on pages 70 through 73.

CHAPTER IV

WHAT DID OUR GRADUATES SAY?

A random sampling of 1/3 of all the graduates from all the senior high schools in the county, including Catholic Central and Western Michigan Christian High School, was conducted in the classes of 1959, 1961, and 1963. There was a total mailing of 1670 with only 83 returns marked "no such address or unable to locate". A total of 501 returns were received which would account for a 30 per cent return.

It was noted in the final tabulations that graduates from Muskegon High School varied to some extent in their answers from those who had attended and graduated from schools other than Muskegon High School. It was determined that this variation was caused by the fact that Muskegon High School has in the past years provided a much broader program in vocational education than any of the other high schools in the Muskegon Area Intermediate School District. Therefore, we separated the tabulations of these two groups.

Furthermore, it was discovered that the opinions of the graduates who were still attending or who graduated from a four-year college differed from those graduates who had completed their formal education with less than four years of college and were now working. Therefore, these were also tabulated under separate groupings.

Where variations occur, we will attempt to point out the difference in the thinking of these graduates.

Of all those graduates who are now working and have had less than four years of college, approximately 45 per cent took a college preparatory course in high school. Approximately 25 per cent took what is termed as a general program, about 22 per cent took a commercial course and only 5 per cent took a vocational course. In Muskegon High School, 6 per cent more of the graduates followed a vocational program but in Muskegon High School there were 7 per cent less in the commercial course. Of the graduates who are in a four-year college program or have completed four years of college, 87 per cent of these took a college preparatory course in high school. 82 per cent of Muskegon graduates felt that they were adequately prepared for college. However, graduates of schools other than Muskegon now attending or who have completed four years of college, only 56 per cent felt they were adequately prepared. Approximately 37 per cent of these graduates who are now working and had less than four years of college felt they were adequately prepared for college.

Of those people that are presently working and had taken some vocational course or courses in high school, approximately half are working in a field which is somewhat related to the vocational subjects they took. When asked

if they felt that their high school had a sufficient number of vocational courses available for the workbound youth, 50 per cent of the Muskegon graduates who are now working said yes. Only 36 per cent of those graduates who are now working and attended schools other than Muskegon High School answered "yes". The graduates who are still in college or have finished a four-year degree indicated more strongly for both Muskegon High and fringe area schools that there was a lack of vocational courses available for workbound youth, particularly the graduates of the non-Muskegon schools. Over half of them indicated a definite "no" in answering this question. Very few of the four-year college graduates indicated they would have taken vocational courses if they would have been offered. However, 34 per cent of the graduates of all the schools in the county indicated they would have taken more vocational courses had they been offered. Of all the graduates who are in or have completed four years of college when asked if they have furthered their education in any way, 100 per cent had taken further training in a college or university. However, 25 per cent had received further training on the job in the place of employment.

Of those graduates who are now working with less than a college degree, 38 per cent have had some college or university training--for the most part Muskegon County Community College. 60 per cent have received training on the job in their place of employment. 12 per cent have gone on to military service schools. 12 per cent have attended a trade or technical school. Another 12 per cent have received some training in business college. 6 per cent have taken some additional education in the adult education courses at high school and 12 per cent have availed themselves of correspondence courses. 2 per cent of the Muskegon High graduates have been accepted into apprenticeship training programs while 7 per cent of those working who have graduated from schools other than Muskegon High have been accepted in apprenticeship programs.

When graduates were asked if they felt that their high school prepared them for employment, answers were given as shown in Table 13.

Muskegon graduates again showed that the vocational education that was offered them did help prepare them more adequately for employment. Non-Muskegon graduates show that there is much to be desired as far as course offerings which will prepare youth for employment.

TABLE 13
Opinions of Graduates
On High School Preparation for Employment

	Poor	Fair	Good	Excellent	Never Worked
Muskegon	10	12	44	9	3
Non-Muskegon	10	26	34	11	6

When graduates were asked the question, "If you were a student just entering high school and if you had a choice, what type of program would you pursue?", approximately 1/3 still indicated they would choose an academic program. The other 2/3 indicated a vocational workbound program or a combination of both. Those who were college graduates or still are in college indicated just the reverse of this trend, 2/3 academic and 1/3 a combination of vocational and academic.

Of those graduates who are now working, less than half indicated that they are in a field of work they wanted to stay in. Approximately the same number of graduates indicated an interest in taking more training of a vocational nature. 15 per cent of the four-year graduates indicated an interest in taking more training of a vocational nature. Over half of all the graduates indicated that if they were (or are) a parent today, they would encourage their children to follow a program for the vocational-bound student, assuming adequate facilities were available and that the child showed an interest and was suited for a vocational oriented program. Over half of those who are presently in school or in training indicated that they did not plan to return to Muskegon to work.

Approximately 30 per cent of the graduates changed their vocational choice between grades 9 and 12. Approximately 15 per cent had no choice during that time.

Results of this study would indicate that Muskegon High School has done a better job in providing vocational programs to meet the needs of the high school graduates. However, the findings still show that a great number of these youth had this opportunity and still followed the old pattern of college preparatory courses whether they needed it or not. The fact that only 32 per cent of the graduates went on to a four-year college program indicated a greater emphasis is needed in counseling the present high school youth to consider participation in vocational oriented programs. The study shows that another 30 per cent took additional training at the Community College level. However, emphasis should be placed in job preparation. A need is shown for more programs that are job oriented on the Community College level as well.

In the schools outside of Muskegon High School the need is much greater for added emphasis in vocational oriented programs. The fact that 87 per cent of the graduates had taken college preparatory courses and only 28 per cent went on to a college program shows that many students need to take a good hard look at their educational programs and evaluate their academic aspirations in light of the opportunities available to them in the skilled and semi-skilled areas of business and industry.

To aid these students in their vocational planning and training, serious thought should be given to provide all of the students of Muskegon County the opportunity to attend a vocational center and follow an appropriate vocational training course of study.

CHAPTER V

VOCATIONAL GOALS OF GRADUATING SENIORS

The seniors of the twelve county high schools were surveyed with an occupational questionnaire. This questionnaire had been used for years by the Muskegon High School and the Community College in their Vocational and Technical Education Programs. It has proved to be a very valuable instrument.

A total of 2,134 seniors answered the questionnaire. This was a 96 per cent return.

The survey showed that 774 students or approximately 39 per cent were already a part of the work force on a part-time basis. The types of jobs where seniors were receiving work experience were in such frequently listed positions as grocery carry out boys, gas station attendants, restaurant help, custodial work, clerical jobs, factory work and the trades. Entry type part-time jobs in business, trade, sales, and service occupations are available even at present to the high school student.

The Muskegon students, percentagewise, were more involved in the work experience area. Their vocational training programs provide more of their students the opportunity to enter into work in business, service, trade and retail programs of the area even while attending school.

Three quarters of the students surveyed planned to continue some type of education beyond high school. This large group of students desired careers in fields that require higher education. We wonder if these are realistic ideas that many young people have about their vocational future and their vocational choice. Seventy-five per cent seems too large a percentage for the "college bound".

TABLE 14
Vocational Choices of Graduating Seniors

Professional (requiring 4 years of college)	40 %
Office Occupations	16.7 %
Business Occupations	8.5 %
Technical (requiring 2 years of college)	7 %
Skilled Tradesmen	7 %
Agriculture	7 %
Public Service	3.5 %
Armed Forces	2.7 %
Skilled Industrial Occupations	1.5 %
Building Trades	1.3 %
Transportation	1.1 %
Others or no choice	3.7 %

The 40 per cent aiming for the professions is extremely high since less than 20 per cent of the labor force are engaged in the professions.

The 16.7 per cent headed for the office occupations was a more realistic figure.

The 8.5 per cent for the business occupations was much lower than it should have been. About 25 per cent of our present work force are actively employed in this area. There is a constant demand for these people.

The 7 per cent for technical, skilled trades and agriculture was also about right.

The percentages for public service, armed forces, skilled industrial occupations, building trades, transportation and others were very close to the percentages of the people already in these jobs.

The Muskegon County Community College has a Vocational and Technical Program where students surveyed are shown in Table 15.

TABLE 15

Vocational Choices of Seniors Surveyed

Two-year Secretarial Curriculum	37
Two-year Clerical Curriculum	24
Two-year Business Curriculum	129
One-year Secretarial Curriculum	24
One-year Clerical Curriculum	23
Retailing & Small Business Management	51
Drafting Technology	62
Industrial Technology	30
Automotive Technology	40
Auto Body & Fender Repair	17
Electronics Technology	39
Lab Technology	54

It appears from the results of this survey that there is the necessity for more realistic vocational guidance and the increasing responsibilities of home and school to make the students more aware of the vocational opportunities available to them at less than the "academic" level. The survey indicated that the graduating seniors of Muskegon High School were involved in more work experience programs. Apparently Muskegon High School with its vocational training courses and cooperative training program is providing more to meet the needs of their students.

In-school students, unless they have been exposed to the world of work through home or school, have an unrealistic concept of opportunities and what it takes to be a success in life.

There is an extreme need for guidance counselors, teachers, and parents to explore the majority of job opportunities and encourage programs, courses and individual counseling with youth to alert them to the world of work.

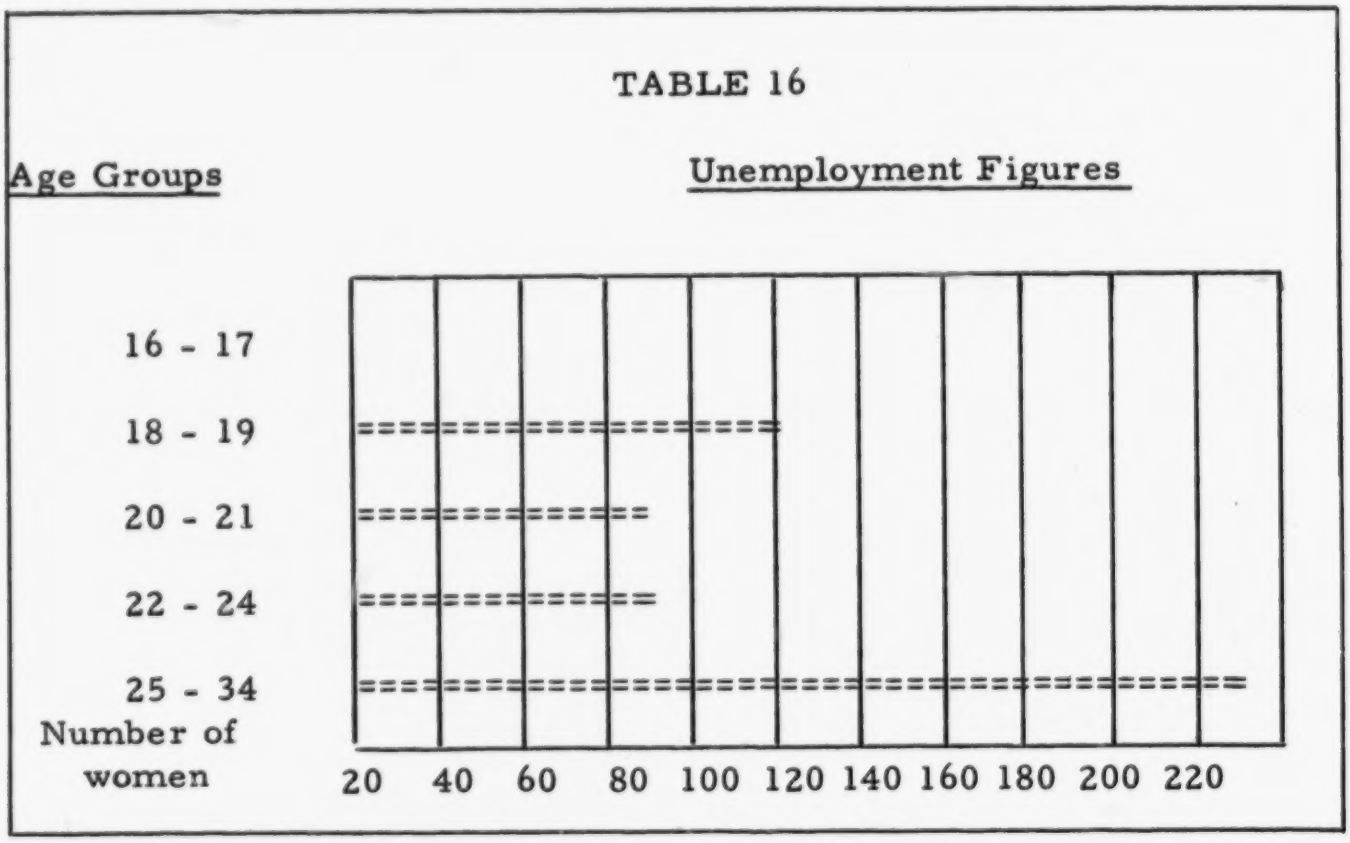
CHAPTER VII

EMPLOYMENT BOUND GIRL - A PROBLEM AREA

Problem of Employment and Preparation for Female Employment

The unemployment rate in the Muskegon area seems high for the female. As of May 17, 1965, these figures were given on number of women seeking employment according to the files of the Muskegon office of the Michigan Employment Security Commission. Under 18 - 16; Ages 16 to 19 - 121; Ages 20 to 21 - 90; Ages 22 to 24 - 93; Ages 25 to 34 - 233.

TABLE 16



Even though many are seeking employment, there are great needs for workers. The knowledge explosion has heightened the responsibilities of the professional workers. These professionals now plan and administer services which are carried out by others. Some of these others are supporting technicians and assistants, and for some, we lack names as yet. Upgrading names of the occupations in some fields has helped alleviate shortages of workers by popularizing the occupation. The needs in numbers of auxiliary personnel brought on by the skyrocketing knowledge explosion also is complicated by the uncertainty of the kinds of service this technician or assistant will be called upon to perform and the educational background they will require. Not many industries perform apprenticeship type programs for these new occupations because of the many positions in that field requiring background knowledge; for example, electronics technicians to service, maintain, and operate the growing list of machines used in medical care, scientific research, and home appliances.

Need of Workers and Where the Supply Will Come From

Our committee listed areas in need of female workers in our communities.

HEALTH OCCUPATIONS
Lab (non-registered) technicians
Aids for elderly care
Hair dressers for elderly
Nurses Aids - Orderly

FOOD INDUSTRIES
Salad Makers
Catering
Baker
Assistant baker
Cooks
Substitute cooks
Specialty restauant operator
Trucking meals

OFFICE
Offset machine operators

MERCHANDISING
Sales in specialized area (fabrics)
Buyers
Window displayers
Storewide advertising
Display assembling
Toy Assembling
Commercial art
Advertisement layout
Personal shoppers for homebound
Part-time florists

MANUFACTURING (Clothing)
Machine operators
Alterations
Tailoring

RECREATION
Organizers of children's activities
Party planning service

RESORTS
Housecleaning
Maids
Babysitting services
Vacation cooks at cottages

MANUFACTURING (Foods)
Food packer
Sorting for preparation
Inspectors

HOMES (Individual)
New mother's helper
Convalescent care
Home aid
Housecleaning
Companion
Temporary cook
Temporary pet care
Gardening

In the 1963 White House Conference on Children and Youth, recognition of the expanding need for professional workers to serve families was shown by the report of the Committee on New and Expanded Services of the President's Commission on the Status of Women. They reported that if mothers were going to simultaneously carry on different kinds of work in the community and home and if we recognized that women had a big stake in keeping the family the core institution of society as it is today, new and expanded community services would be necessary to help them in health, education, safety, recreation, child care, and counseling. Staffing these services would be possible by recruiting and retraining older women to enter the professions and to create subprofessional categories of jobs to free the professionals.

Kind of Training Needed

Emphasis on vocational training for the female should be an acceptance of the changeable occupations fitted for women, the mobility of workers (traveling farther to jobs), and flexible learning situations set up by the cooperation of the employers, technicians or assistants with the experience behind them, and the educators for our constantly shifting work patterns.

Miss Barbara Gaylor, visiting speaker from the State Department of Vocational Education, believes the seven to nine areas of study in the general homemaking classes in high schools are good exploratory background for many occupations. Mrs. Lottie Waterman, from the Trade and Industrial Division of the State Vocational Office, emphasized the need to teach health in high schools to acquaint students with occupations in these areas. She cited Sylvia Porter's column in which 16 of 71 leading jobs that were invariably in need of workers as being health related.

The subcommittee on Employment Bound Girls highly recommended:

In the formation of any facility and/or programs in the area of vocational education, consideration should be given to programs which meet the needs of the employment bound girl. Demand occupations in the health and service areas require trained and qualified women and men.

A strong emphasis must be placed on vocational counseling to inform youth of the many opportunities to be found in employment in the areas discussed in this paper. Every secondary school should provide counselors and the counselors should be informed of these occupational areas.

CHAPTER VII

VOCATIONAL AGRICULTURE SUBCOMMITTEE

The Vocational Agriculture Subcommittee found in its study that several occupational areas still require a substantial knowledge in agriculture related training. The programs at Ravenna, Holton, and Montague have been filling this need to a great extent in past years in the area of farm bound youth. However, because of automation of farm equipment and an increase in occupations which are directly related to sales and service of farm machinery, equipment, and supplies in Muskegon County, the committee recommends that the following more advanced training programs related to vocational agriculture be included within a centralized vocational facility somewhere in Muskegon County. These programs would be desirable for youth and would also aid them in obtaining employment in demand occupations related to agriculture or would aid them in doing a more competent job in managing the farms that still exist in the area.

It is suggested that a course in Farm Management be taught as a three-hour block program approximately one semester in length. Prerequisite for this program would be two or three years of vocational agriculture on the local school level.

Alternating with this program, we suggest a Vocational Agriculture Shop Mechanics program on a three-hour per day, one semester basis. Prerequisite for this program should include the equivalent of one year of bench woods and one year of bench metals.

An additional suggestion includes a program in Conservation and Forestry and also a program teaching Ornamental Horticulture and Floriculture.

Because there are some youth interested in production agriculture who do not attend any of the three schools that offer vocational agriculture, the committee suggests that these students be designated as special cases where the school officials should work out a mutual agreement and allow them to attend the closest of the three schools that would have these courses available. It is estimated that these would be in such small numbers that it would not warrant setting up a new county-wide total vocational agriculture program.

These recommendations would require classroom facilities within the area vocational center suitable for teaching the Farm Management, Horticulture and Floriculture, and Conservation and Forestry. In addition, a suitable farm shop area would have to be included within the complex of the facility and also a suitable area under glass for the teaching of Horticulture and Floriculture. To substantiate the above conclusions, this committee conducted an opinion pole by mail to selected farm operators, farm equipment suppliers, tree growers, and banking and business persons. From the replies received, the committee learned the following:

1. There is still a constant demand for employees in several areas of farm employment.

2. There is a growing demand for youth who have knowledge and training in forestry and conservation.

3. The actual numbers in farm employment has gone down, but the farm economy in the southeast section of the county has shown a constant increase.

4. Employers in the area of equipment, supplies, and machine repair have indicated a growing demand for qualified youth who are schooled in mechanics, who have a farm background, and have a good knowledge of farm economy.

5. In the Parent Opinionnaire, a substantial number of parents in both urban and rural areas indicated a need for training programs in vocational agriculture.

CHAPTER VIII

VOCATIONAL EDUCATION IN TODAY'S SECONDARY CURRICULUM

The Survey-Secondary Subcommittee conducted an extensive study of the curriculum offerings in all of the secondary schools in the county including the two parochial schools. At the same time, a complete inventory of existing shops, classrooms and equipment was taken. This inventory is being kept on file in the office of vocational education in the Intermediate School District and should be valuable information for superintendents and shop teachers to compare the equipment and facilities they have available in their schools with that of other schools in the county.

These studies were conducted in the curriculum areas of homemaking, business, industrial arts, agriculture, and vocational.

In this chapter we shall attempt to show in the following tables the course offerings that were being presented in the school year 1964-65 by each of the 13 secondary schools. The school district of Oak Ridge is not included in the listing as they were not offering classes above the ninth grade level at the time of the study.

It should be noted here that due to the difference in names and titles given to various course offerings and also the practice of some schools to number their courses by semesters (for example, Homemaking I and II in some schools might be first and second semester while in others it would mean ninth and tenth grade level), it was necessary for the committee to do some altering in the numbers of youth who were indicated as participants in these courses. It should be noted further that in the total numbers of youth taking courses in areas such as business education or industrial arts, there would be several duplications. This is true because many youth would be taking more than one course in this subject area in one year. For instance, a girl might be taking Typing II, Shorthand II, Office Machines, and Office Practice all in one year.

Business Education

All secondary schools in Muskegon County are offering a fairly adequate program in teaching two years of typing and shorthand. This is shown clearly in Table 17 shown on the following page.

TABLE 17

	Reeths-Puffer	Ravenna	Muskegon City	Muskegon Heights	North Muskegon	Montague	Fruitport	Mona Shores	Orchard View	Holton	Whitehall	Catholic Central	Western Michigan Christian	TOTAL
Business Management							22	63						85
Business Organization								53						53
Business Principles								65		28				93
Retailing		41	93	34				63	54					285
Salesmanship								49						49
Advertising								49						49
Consumer Economics		36		85				75		51		51	30	328
Business Law		36	60	98				53	47			29		323
Business English					21			50	16	27	41			155
Business Corresp.			10											10
Com. Geog.			46									35	28	109
Business Math				46				32				19		97
Bookkeeping I	14	68	189	145	34	49	55		34	35	45	13	31	712
Record Keeping			116											116
Shorthand I	10	33	67	64	33	21	44	75	31	26	23	51		478
Typing I	120	93	284	179	55	124	135	163	117	93	95	141	84	1683
Personal Typing	32	50	84		40			220	62			30		518
General Business		52							74					126
TOTALS	176	409	949	651	183	194	256	1010	435	260	204	369	173	5269

The table clearly shows that several schools are not offering business programs in depth to the students in their district. Particularly in the area of distributive education. Most schools have centralized their business curriculum in the area of typing and shorthand. In some of the schools, a large amount of time for typing equipment is taken up by the college preparatory students who are either taking personal typing for one semester or are taking the Typing I course for a full year and then dropping the subject.

It was noted in the study course offerings in some of the schools are broadened due to the interest and ability of the teachers that are employed by the district rather than the needs of the youth.

Table 18 indicates these courses in the area of business education which were considered by the survey committee to be vocational in nature as they were more directly related to training for skills that would be required for occupational competency. It is recognized that Typing I and

and Shorthand I are basic skills and are required to obtain employment. However, the courses listed in the table below are considered to be those that might be reimbursed programs under the terms of the Michigan State Plan and Vocational Act of 1963.

TABLE 18

	Reeths-Puffer	Ravenna	Muskegon City	Muskegon Heights	North Muskegon	Montague	Fruitport	Mona Shores	Orchard View	Holton	Whitehall	Catholic Central	Western Michigan Christian	Total
Office Machines	19		96	11	73		32							231
Office Practice		34				17		33	30	12	17	16	24	183
Bookkeeping II			31	45										76
Shorthand II	2	11	52	11	14	6	17	33	9	7		14	21	197
Typing II	25	36	98	78	41	32	60	101	59	32	17	62	24	665
Office Workshop (3 hrs.)			18											18
Coop. Training (Dist.)			370											370
Related Instruction (Dist.)			151						17					168
Related Instruction (Office)			95						7					102
Related Instruction (T & I)			124						7					131
Accounting			20					65						85
TOTLAS	46	81	1055	145	128	55	109	232	129	51	34	92	69	2226

The above table clearly shows that Muskegon City is offering courses to those in their district on a much larger scale than all other schools in the district. There is an outstanding need shown for expanding vocational offerings so that they are available to all youth in all districts in the county. The study committee found that even though such courses as office machines and office practice were being offered in every district, the availability of equipment left much to be desired in a number of the schools. Some of the smaller schools were seen to be lacking in space and money for proper office equipment.

Homemaking

Table 19 clearly indicates that most schools are conducting a very full three-year to four-year program in homemaking with Muskegon Heights concentrating theirs into a two-year program in foods and sewing while Catholic Central evidently has only offered courses in sewing. The majority of these programs have been reimbursable programs under the State Department of Education, and have been complying with the standards that have been set forth under the original Smith Hughes Act. Muskegon City in the past few years have extended their homemaking offerings into programs which are more vocational in nature as can be shown on Table 23,

there is a large potential of additional course offerings in the homemaking area which could be more meaningful and more suitable to the needs of the employment bound girl and boy. It would seem too that the number of hours that these facilities are being used in several of the schools that additional programs designed for occupational competency could be taught in some of these facilities.

TABLE 19

	Reeths-Puffer	Ravenna	Muskegon City	Muskegon Heights	North Muskegon	Montague	Fruitport	Mona Shores	Orchard View	Holton	Whitehall	Catholic Central	West Mich. Christian	TOTAL
Homemaking I	40	43	150		11	30	45	56	116	14	46		21	572
Homemaking II	53	22	150		10	35	47	20	60	18	22		51	488
Homemaking III	29	10	31		14	20	20	16	52	16	15			223
Homemaking IV	12	17	15		7			10	11	14	9			95
Foods I				63										63
Foods II				54										54
Sewing I				57								83		140
Sewing II				64								26		90
Family Relations I			153											153
Home & Family Living				24			30							54
Interior Decorating			32											32
Social Living													50	50
TOTALS	134	92	531	262	42	85	142	102	239	62	92	109	122	2014

Table 20 shows that there is much to be desired in the pre vocational offerings of shop classes in the majority of the secondary schools in Muskegon County. Limited facilities and limited equipment are evidently the main reasons for the small numbers of youth participating in industrial arts programs. In comparing the numbers of youth in each school with the facilities and equipment available, it was found that in most cases all of the facilities were being taxed to capacity. It should be noted that in several of the schools, nothing more than a basic general shop offering is afforded the youth within these districts.

TABLE 20

	Reeths-Puffer	Ravenna	Muskegon City	Muskegon Heights	North Muskegon	Montague	Fruitport	Mona Shores	Orchard View	Holton	Whitehall	Catholic Central	Western Mich. Christian	TOTAL
Arts & Crafts			103	90	17			122						332
Auto Mechanics	16	21		50			35			28				150
Blueprint Reading		30	68					14						112
Farm Mechanics		26												26
General Drafting	75	15	91	45	21	30	75	97	72	21	80	65	38	725
General Shop					9	95			128	78	68			378
Machine Drawing	18		28		13			16	31	5				111
Machine Shop	54	16	41	84					27	16				238
Metal Working	63	45		71	18		70	113	46	17	54			497
Power Mechanics		20	130		17				49					216
Printing			26	53	45									124
Woodworking I	55			75			55	85	71			32	44	417
Woodworking II	30			30										60
Specialized Ind. Arts					5									
Cabinet Making					5				27					32
Bldg. Construction Tech.								29						29
TOTALS	311	173	487	498	150	125	235	476	451	165	202	97	82	3452

Table 21 indicates that the selected courses which are being offered, mostly in Muskegon City, which are considered to be more specifically vocational in nature, but are still within the one hour per day length training time. The table indicates that there is a very small offering and a very small number of youth who are being afforded the opportunity to participate in programs of this nature.

TABLE 21

	Reeths-Puffer	Ravenna	Muskegon City	Muskegon Heights	North Muskegon	Montague	Fruitport	Mona Shores	Orchard View	Holton	Whitehall	Catholic Central	Western Michigan Christian	TOTAL
Appliance Repair			12											12
Architect Drawing	16		24	17			75	39		6		15		222
Electricity-Electronics		19	47				14							80
Foundry			15											15
Mech. Drawing III									7					7
TOTALS	16	19	98	17			89	39	7	6		45		336

Table 22 shows the numbers of youth who are participating in the three vocational agriculture programs being offered by Ravenna, Montague and Holton High Schools. These three programs have been found to be very broad in their coverage in the subjects involving vocational agriculture and all three instructors are keenly interested in seeing the scope of these programs broadened by joint programs or area-wide vocational agriculture programs.

TABLE 22

	Reeths-Puffer	Ravenna	Muskegon City	Muskegon Heights	North Muskegon	Montague	Fruitport	Mona Shores	Orchard View	Holton	Whitehall	Catholic Central	Western Michigan Christian	TOTAL
Vocational Agriculture I		22				28				18				68
Vocational Agriculture II		25								19				44
Vocational Agriculture III		15				18				18				51
Vocational Agriculture IV		16								15				31
Agricultural Mechanics														
TOTALS		78				46				70				194

Table 23 illustrates the numbers of youth and programs offered in Muskegon City and Muskegon Heights which are state approved and state reimbursed vocational courses. Muskegon City has for the past few years opened its doors on a tuition basis to youth from other schools and a limited number of boys are participating in the day trade programs from such schools as Orchard View, Catholic Central, Mona Shores and Reeths-Puffer.

TABLE 23

		Reeths-Puffer	Ravenna	Muskegon City	Muskegon Heights	North Muskegon	Montague	Fruitport	Mona Shores	Orchard View	Holton	Whitehall	Catholic Central	Western Michigan Christian	TOTAL
Tailoring	1 hour day			15											15
Food Service	1 hour day			18											18
Day Trade Cabinet Making	3 hrs. day			27											27
Day Trade Electricity	3 hrs. day			15											15
Day Trade Auto Shop	3 hrs. day			35	16										51
Day Trade Machine Shop	3 hrs. day			23											23
Day Trade Printing	3 hrs. day			12	14										26
Woodworking	1 hr. day			58											58
TOTALS				203	30										233

Cooperative office training programs are being conducted in the Muskegon area by the Muskegon Public Schools. During the past few years some of the fringe area schools surrounding Muskegon have been participating in the cooperative training program on a tuition basis. There has been a problem in that the outlying schools still cannot participate in this program due to either transportation difficulties or lack of numbers to conduct suitable related instruction classes. Also, some schools are reluctant to pay the tuition fees which are being charged by the Muskegon City Schools. Table 18 shows the numbers of youth participating in the cooperative training programs.

Another problem which has been evident is the number of enrollees in cooperative training programs who have been assigned to one coordinator. Work training programs tend to lose quality in training when the number of enrollees rises to the point where the coordinator is prevented in making frequent checks or visits to the employment training stations. It would appear evident that equal opportunities for vocational offerings is not afforded all youth in Muskegon County. Yet the fact that the majority of the numbers available to employment bound youth in Muskegon County lies within the Muskegon, Muskegon Heights complex and all youth from the county must compete for these jobs. The specific recommendations for a solution to these various problems will be shown in a later chapter.

CHAPTER IX

THE CURRENT ROLE OF THE COMMUNITY COLLEGE IN VOCATIONAL-TECHNICAL EDUCATION

Much effort went into the study of the Community College Curriculum in formulating plans for the new building complex now under construction. Additions to the Vocational-technical curriculum of the Community College have been made periodically during the past ten years. The great majority of programs suggested as need areas in the Business & Industry Survey are now being offered as a permanent part of the curriculum of the Muskegon County Community College.

Muskegon County Community College has been operating as a county-wide, tax supported institution for the past two years. The original Community College was established as a part of the Muskegon Public Schools and operated under the jurisdiction of the Muskegon Board of Education until April 1, 1963. The past two years have seen the program of the Community College expand in its growth. Its enrollment for the 1964-65 school year was approximately 1,600. Present facilities are limited and students at the present time are traveling into several locations within the city of Muskegon to participate in technical programs being offered.

At the time of this writing, there are indications that Oceana County might join into the Muskegon County Community College district. Enrollment figures show that youth attending the Community College come in large numbers from surrounding areas outside of Muskegon County.

The technical programs that are presently being offered are a result of need studies that were conducted by the Office of the Dean of Vocational Education and as a out-growth of courses that were being offered as a part of the vocational and adult education program of the Muskegon City Schools. As increased industrial technology placed demands for more advanced knowledge and skills in political employees, the Community College took on a greater role in providing programs to satisfy these needs.

For the most part, the programs which have been offered at the Community College level have been on the technical level and have been well integrated into the total program and intent of the Community College structure.

Much effort went into the study of the community College Curriculum in formulating plans for the new building complex now under construction. Additions to the vocational-technical curriculum of the Community College have been made periodically during the past ten years. The great majority of programs suggested as need areas in the Business & Industry Survey are now being offered as a permanent part of the curriculum of the Muskegon County Community College.

The following list shows the programs recommended in the Business and Industry Survey and their status as of June 1965.

SUGGESTED PROGRAMS	STATUS
INDUSTRIAL	
Automotive Technician	Presently being offered
Chemical Technician	Offered on cooperative training basis--two-year curriculum being offered
Drafting & Design Technician	Now being offered
Electrical and/or Electronics Technician	Presently being offered
Firstline Supervisory (Management level only)	Being offered in adult education
Instrumentation Technician	New Program at present
Mechanical Technician	Presently being offered
Metallurgical Technician	Adult lecture course at present. New lab being provided in new building construction.
Quality Control Technician	Plans for two-year program being developed
BUSINESS	
Accounting	Presently being offered
Commercial Art	Limited art program now being offered
Data Processing	In early planning stages
Business Management	Periodically offered in cooperation with small business administration on adult level

Merchandisers, Outside Sales, Retail Management & Buying and Sales Management	Presently are being offered in the business administration or distributive education program.
Secretarial	Both one- and two-year programs offered
HEALTH-MEDICAL	
Medical Lab Technician	No offerings at present
Nurse (Practical)	Presently being offered
Nurse (R.N.)	In talking stages of being part of the Community College curriculum
Medical Office Secretary and Assistants	Offered on individualized basis

As new demands are placed on the vocational-technical levels, the Community College has always been willing to develop a new curriculum to meet the needs of business and industry in the Muskegon area.

In addition, the Department of Vocational Education of the Community College has been operating vocational training programs for the unemployed and under employed under the provisions of the Manpower Development and Training Act. These are being offered in cooperation with the Michigan Employment Security Commission and the State Department of Education, Division of Vocational Education.

Muskegon's programs have been noted on several occasions as one of the state's finest and the percentage of those who have found employment through this training has constantly been high.

Table 24 shows the course offerings at Community College during the 1964-65 school year.

March 25, 1965

MUSKEGON COUNTY COMMUNITY COLLEGE
SEMI-PROFESSIONAL PROGRAMS
BUSINESS, TECHNICAL, VOCATIONAL

	Present Facility	Future Facility
I. BUSINESS		
A. Two-year program Retailing & Small Business Management	Hackley Building	2 rooms in new college
B. Two-year Secretarial One-year Secretarial	1-Typing room 1-Shorthand room	Larger and more appropriate rooms in new college
Two-year Clerical One-year Clerical	1-Office Machines room all in Hackley Bldg.	"
C. Two-year Accounting	1-Accounting room-Hackley	"
D. Cooperative Training 2nd year-1/2 day work experience	1-Office in the Hackley Bldg.	Repeated in new college
II. HEALTH SERVICES		
A. Practical Nursing (Licensed)	1-Classroom 1-Office 1-Lab All in Vanderlaan Building	Will be enlarged in the new college. May include R.N. program in future
III. VOCATIONAL-TECHNICAL		
A. Major Areas		
1. Drafting Technology	1-room at Wilson Branch	3-rooms in new college
2. Automotive Technology	Senecal Garage-Western Avenue	New shop in new college
3. Electronic Technology	1-Classroom & Lab at Acme Engineering Bldg. -Apple Ave	Enlarged and appropriate rooms in new college

	Present Facility	Future Facility
4. Industrial Technology Mechanical-Production	1-Machine Shop with small classroom at Wilson Branch	Enlarged Lab & lecture room in new college
Additional courses for the above areas		
1. Foundry	Hackley Manual	New college
2. Welding	Hackley Manual	New college
3. Sheetmetal	None at present	New college
4. Metallurgy	None at present	Lab in new college
5. Hydraulics	1-Classroom in Wilson Branch (Evening)	Lab in new college

CHAPTER X

VOCATIONAL NEEDS IN SPECIAL EDUCATION

The Special Education Subcommittee was more active in the earlier stages of the formation of the Muskegon County Vocational and Technical Committee through the personnel of the special education staff of the Muskegon Area Intermediate School District. Much progress was made during the past year. The Muskegon Area Intermediate School District has received approval for a special grant in the amount of $40,897 for the purpose of conducting a demonstration project in vocational education for the high school age mentally handicapped youth in Muskegon County. The year 1966 will see the beginning of construction of a facility for high school youth in need of special education and vocational training. The Muskegon Area Intermediate School District has entered into a contract with the Orchard View School District to construct the facility to be used for this program.

Muskegon County can be extremely proud of the progress made in the past five to six years in the area of special education. The extensive program for the great number of these youth who need special attention and training is recognized as one of the better programs in the state of Michigan. The cooperative efforts of all school districts and numerous agencies interested in special education for mentally and physically handicapped present an example of what can be accomplished in the field of vocational education.

The fact that the personnel who are active in the field of special education have seen the need for vocational training for these youth with special needs amplifies the need for all youth to have the opportunity for education for occupational competency.

CHAPTER XI

SUMMARY & RECOMMENDATIONS

This chapter presents the general summary and recommendations of the findings in all of the surveys as well as the several discussions held in committee meetings.

1. The needs of youth in Muskegon County are no different than those from any other part of our nation. With the changes in the technical and social environment and the rapidly changing needs of business and industry, it is extremely evident that a new concept in education for employability is urgent.

2. Seventy per cent of those youth who are graduating from our secondary schools are in need of training programs on either the secondary or 13th and 14th grade levels to provide them with salable skills.

3. Another 28 per cent of youth who enter the 9th grade but never complete school are in need of the opportunity to be trained in a salable skill and be encouraged, through greater opportunity, to stay in school.

4. Our youth in high school have a great need for increased vocational guidance. There appears to be a false impression among students as to the needs of the labor market. Social, family and school pressures tend to create the idea that only a college education will bring success in life.

5. Emphasis should be focused on the needs of the employment bound girl. Our greatest unemployment rate is centered in the 18 to 21 year old female.

6. New concepts in the area of vocational agriculture should center on farm machinery maintenance and repair, horticulture, conservation and forestry.

7. Expanded programs and opportunities for training should be afforded our youth to adequately prepare them and equip them with skills needed in machine trade occupations, building trades, electronics, food service, and many other expanding occupational areas.

8. Present programs in our secondary schools do not provide these opportunities to all youth in the county. The present day curriculum in industrial arts, business, homemaking and agriculture does not adequately provide the skills now required by local business and industry or the labor market areas that our youth migrate to.

9. Present facilities in the county are entirely inadequate to present the desired programs in the vocational-technical areas of education.

10. The County Community College is now expanding and putting increased emphasis on technical training to provide additional programs in several areas; however, the needs of youth in grades 10, 11, and 12 will not be provided through this expansion. Vocational education on the secondary level is wholly inadequate.

11. An area vocational center, for youth in grades 10, 11, and 12, as well as adults and advanced vocational students, is recommended to be established in the Muskegon Area.

This facility should be centrally located and available, and tuition free to all youth, both public and parochial, who reside within the Muskegon Area Intermediate School District.

12. Students attending this facility should remain half time with their local district. Scheduling should become flexible enough for all youth. This flexibility should allow a student to be placed by guidance counselors into programs of various skill levels which would be designed to fit the needs, and abilities of the individual.

In the following pages, we will attempt to briefly recommend to the several constituent districts of the Muskegon Area Intermediate School District how each area of business, industrial arts, and homemaking might be patterned to feed students into the offerings at the proposed area vocational center.

In concluding this chapter, we attempt to show the recommended organization of an area vocational facility. This is shown in Figure 4.

The listings following the organizational chart show recommended curriculum for the area center. It should be noted that for each area of vocational education, advisory committees will be the key group to aid in recommending curriculum and course content; therefore, we submit these listings only as a suggested guide.

Final recommendations as presented to the Board of Education of the Muskegon Area Intermediate School District by the Muskegon County Vocational & Technical Committee are shown on pages 55 and 56.

Business Education Recommendations

All secondary schools within the area are doing a fairly adequate job of teaching two years of typing and shorthand. The committee recommends

that the area vocational facility concentrate its effort on office machines in the nature of a three-hour block time office workshop program which would serve as an advanced program for clerk-typists and stenographers. This course could also serve as the feeder program for coordinated work experience programs or cooperative training. Also in the office training area, it is suggested that the area vocational school concern itself with advanced bookkeeping. This would mean that the local school districts would still be totally responsible for the 9th, 10th, and 11th grade programs in office occupations. Local districts in curriculum planning should look into the possibility of increasing course offerings in such areas as business law, business English, business math and improved general business programs on the business level. In the area of distributive occupations, it is recommended that the area vocational facility concentrate heavily in the advanced courses such as merchandising, display, etc. The local schools should be encouraged to offer at least one prerequisite distributive education course such as retailing or salesmanship. This would mean that schools such as Reeths-Puffer, North Muskegon, Montague and Fruitport should seriously consider adding retailing to their curriculum.

Homemaking Recommendations

All constituent schools would appear to be offering a full program in homemaking and most schools, other than Muskegon High, seem to be offering the same standard program. Muskegon High School's program has been extended to provide programs which train for specific occupational skills related to the homemaking departments in the several constituent schools consider changes in their program so that more homemaking is offered in the 7th and 8th grade level and that the basic homemaking course be offered in the 9th and 10th grade levels. This would allow the student to progress into specific vocational programs in food service, tailoring and health occupations. It is further suggested that increased emphasis and study be placed on courses in health occupations at the lower grade levels.

The area vocational center should offer programs in food service, advanced tailoring, nurse aid-orderly and other health occupation programs. These would supplement or add to the homemaking programs on the local level.

Industrial Arts Recommendations

The curriculum suggested for the area vocational facility is an industrial-type program designed for training in occupational competency in the many skill areas. This would still require students who enroll in these programs to have basic knowledges acquired in industrial arts courses which should be taught at the local school level. For instance, a person

enrolling in the machine shop day trade program in an area vocational school should have at least one year of metal working and machine shop in an industrial arts program. Also, a student enrolled in day trade auto mechanics would have to have taken at least one year of auto mechanics or power mechanics on the local level. This points to this committee's recommendation that each of the local constituent school districts study carefully their present curriculum to see where they might be dificient in providing all of the industrial arts programs which will ultimately be required of young people to adequately prepare them for the more advanced vocational courses.

Recommendations for Cooperative Training

At present the only cooperative training program being conducted in the Muskegon area is being operated by the Muskegon Public Schools. During the past few years, the fringe area schools surrounding Muskegon have been participating in Muskegon's program on a tuition basis.

There has been a noted problem in that the outlying schools still cannot participate in this program due to either transportation difficulties or lack of numbers to conduct suitable related instruction classes. Also, some schools are reluctant to pay tuition fees charged by the Muskegon Schools.

Another problem is the number of enrollees in cooperative occupations per coordinator. Programs tend to lose quality in training when the number of enrollees get to the size which prevents coordinators from making frequent checks on employment training stations.

This committee recommends that secondary cooperative training programs be conducted and operated from a central location (area vocational center) and be made available, tuition free, to all youth in the area. Coordinators should be given office space and counseling areas in this facility.

These coordinators would be the only liaison for secondary schools who contact business and industry in the area. The coordinator's role should also be directly connected with placement and follow-up of all vocational programs on the secondary level.

Related instruction classes should be conducted under the authority of the area vocational school.

The role of the area cooperative training office and placement office is a key function in the success of a quality vocational school. The personnel in this office are to handle the main line of communication between business and industry and the school.

Recommended Organizational Chart
for

MUSKEGON AREA VOCATIONAL CENTER

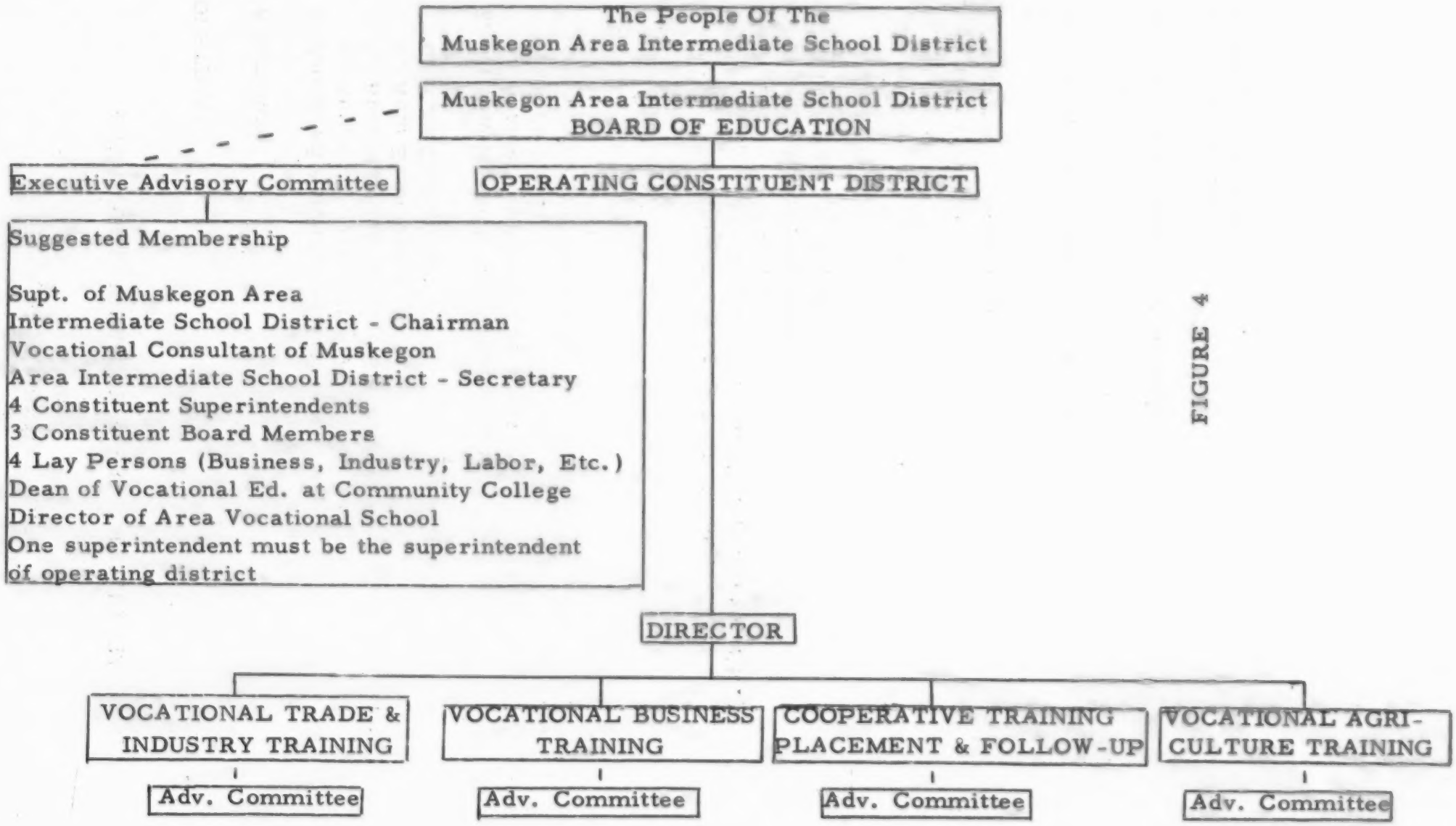


FIGURE 4

RECOMMENDATIONS
for

AREA VOCATIONAL CENTER CURRICULUM

I. INDUSTRIAL

A. Automotive

1. Advanced Automotive Mechanics
   a. Automotive Lab (Engine Technology)
   b. Auto Machine (Engine Rebuilding)
   c. Auto Electronics
   d. Auto Carburetion

2. Automotive Body Maintenance Repair
   a. Frame and Wheel Alignment
   b. Body Repair
   c. Painting and Finishing

B. Appliance Repair

1. Small Home Appliances (Toasters, Mixers, Etc.)
2. Heavy Appliance Repair (Stoves, Refrigerators, Etc.)
3. Television and Radio Repair
4. Heating and Refrigeration
5. Office Machine Repair

C. Electronics

1. Basic Electronics
2. Electronic Technology

D. Mill Work and Construction Crafts

1. Carpentry
2. Electrical (Home & Industrial)
3. Plumbing
4. Brick Laying
5. Painting and Decorating

E. Woodworking

1. Cabinet Making
2. Mill Work

F. Machine Shop

1. Day Trade Machine Shop
2. Precision Measuring
3. Metallurgy

G. Welding

H. Power Mechanics

I. Truck Driving and Heavy Equipment Operation

J. Technical Drafting

1. Tool Design
2. Architectural
3. Engineering Graphic Reproduction

K. Hydraulics and Pneumatics

L. Graphic Arts

1. Day Trade Printing
2. Small Office Offset Operation

II. SERVICE OCCUPATIONS

A. Distributive Education

1. Business Management
2. Merchandising and Buying
3. Display
4. Advertising

B. Office Occupations

1. Office Machines
2. Advanced Bookkeeping
3. Accounting
4. Office Workshop
5. Data Processing

C. Health Occupations

1. Nurses Aid and Orderly
2. Lab Technicians
3. Child Care

D. Food Service

1. Chefs
2. Bakers
3. Short Order Cooks
4. Salad Makers
5. Waitress Training

E. Hotel-Motel-Home Service Aids

1. Housekeeping
2. Convalescent Care
3. Home Cook and Maid Service
4. Landscaping Specialists
5. Maintenance Specialists

F. Cosmetology

G. Clothing Maintenance Specialists

H. Commercial Art

III. VOCATIONAL AGRICULTURE

A. Farm Management

B. Farm Shop Mechanics

C. Ornamental Horticulture

D. Conservation and Forestry

IV. COOPERATIVE OCCUPATIONAL TRAINING

A. Cooperative Distributive Education

1. Work Experience
2. Related Instruction

B. Cooperative Office Occupations

1. Work Experience
2. Related Instruction

C. Cooperative Trade and Industrial Occupations

1. Work Experience
2. Related Instruction

MUSKEGON COUNTY VOCATIONAL AND TECHNICAL COMMITTEE

Muskegon, Michigan

TO: Board of Education
Muskegon Area Intermediate School District

FROM: John Medendorp, Chairman
William Hanichen, Secretary
Steering Committee - Vocational
and Technical Committee

SUBJECT: Resolutions and Recommendations

DATE: September 10, 1965

WHEREAS the Muskegon County Vocational and Technical Committee has met in general session on September 9, 1965, with 46 members present and

WHEREAS subcommittee reports were submitted to the committee at this meeting--these reports containing summaries of all the pertinent data and findings from the several surveys and studies that were conducted in the Area Vocational Study for Muskegon County and

WHEREAS the above reports were followed by questions and discussion on the findings and recommendations of the Steering Committee of the Muskegon County Vocational and Technical Committee, therefore be it

Resolved, that the Muskegon County Vocational and Technical Committee submit the following recommendations to the Muskegon Area Intermediate School District Board of Education for their consideration.

RECOMMENDED:

1. That a unified program of vocational-technical education be established and be made available to all secondary students, public and non-public, attending school and residing within the Muskegon Area Intermediate School District.

2. That this unified program be established and operated within a centrally located facility.

3. That the Board of Education take necessary steps to call for a special election requesting the people of the Muskegon Area Intermediate School District to approve a millage levy of a sufficient amount to allow the construction, equipping, maintenance and operation of said facility and programs.

4. That the Muskegon Area Intermediate School District Board of Education enter into a contractual agreement with a constituent school district to operate said facilities.

5. That the Steering Committee go on record advising the Intermediate Board of Education that they appoint an advisory committee of approximately 12 persons to work with the Office of Vocational Education in the Intermediate School District in the formulation of more specific plans for the design and construction of the proposed area vocational center. This committee should be composed of persons knowledgeable of school construction, vocational facility design, and vocational needs and should be charged with the responsibility of making more specific recommendations as to the size, equipment, location, and construction of such a vocational center.

And be it further

Resolved, that the Muskegon County Vocational and Technical Committee offer its continued services to assist in the task of publicizing the needs of vocational and technical education in Muskegon County to the people of the Muskegon Area Intermediate School District, in order to obtain a positive reaction to this much needed and worth-while program.

On behalf of the Vocational and Technical Committee, we express our sincere wishes to the Muskegon Area Intermediate School District Board of Education and to the people of the Muskegon Area Intermediate School District in the accomplishment of the goals set forth in these recommendations.

vc

CHAPTER XII

IMPLEMENTATION

When the several surveys and questionnaires were tabulated and findings appeared to indicate the need for an area concept in vocational education, the committee on Legislation and Finance studied methods that might be used to implement these recommendations.

The following summary of their findings is presented.

1. The Intermediate School District cannot legally operate a program of this type; however, it can designate a constituent district or districts to construct, maintain, and operate such a program.

Section 2, Act 35, P.A. 1951, as interpreted by the Attorney General, enables municipal corporations to combine, through contract or otherwise as may be permitted by law, to own and operate any property, facility or service which each would have the power to do separately. Under Section 2 of the Act, these municipal corporations have the right to contract with another municipal corporation to furnish the property lying beyond the corporate limits and for an adequate consideration any lawful municipal service to property within its limits.

2. Federal funds for a project of this type are available up to fifty per cent of the cost under the Vocational Training Act of 1963 with the community providing a matching fifty per cent of the cost.

3. The matching funds could best be obtained from a county-wide millage vote. These funds could be used for construction, operation, maintenance, purchase of equipment, transportation, and/or other expenses involved in operating a vocational training program. One mill would raise approximately $500,000 and two mills would raise approximately $1,000,000.

4. It is also possible that additional funds may be obtained from: (a) M.D.T.A.; (b) Economic Opportunity Act (Poverty Act); (c) Elementary and Secondary Education Act of 1965. (These would only be available for special programs which qualify under each specific act.)

5. Any such facility such as an area vocational center may be operated by a school district outside of its own boundaries.

6. State aid for half time students would be retained by the sending district. (Opinion of the State Department of Education, Mr. Harold Brown and Mr. Leon Alger) (Pending changes in state aid formula.)

7. Additional legislation may be required to enable the establishment of area vocational centers.

APPENDIX A

CONFIDENTIAL CONFIDENTIAL

MUSKEGON COUNTY VOCATIONAL STUDY
Business and Industry Survey

Introduction: The purpose of this questionnaire is to gather information and opinions from business and industrial employers to use in improving educational programs for employment-bound youth in the Muskegon County area. You can help by completing the questionnaire as completely as possible. The results will be used for statistical analysis and your firm will not be identified in any published reports.

Special Note: Except for large firms, the completion of the questionnaire will require only a few minutes. Study the heading of each section. If it is applicable to your firm, please check or fill in the information; if not, proceed to the next section.

PART I -- General Information

1. Firm Name _____

2. Mailing address _____

3. Name of person reporting _____

4. Your job title _____

5. Telephone number _____

6. Please check the space opposite the description which best identifies the activities of your firm. Check more than one if needed.

_____ 1. Agricultural services
_____ 2. Advertising
_____ 3. Banking and finance
_____ 4. Communications
_____ 5. Construction
_____ 6. Education
_____ 7. Entertainment and recreation
_____ 8. Food, dairy and drink
_____ 9. Government-Federal, State, Local
_____ 10. Health, Hospital, Medical, Dental
_____ 11. Hotel and motel
_____ 12. Industrial or manufacturing
_____ 13. Insurance
_____ 14. Marine services
_____ 15. Printing and publishing
_____ 16. Professional - other than medical and dental
_____ 17. Real Estate
_____ 18. Retailing - other than food, dairy & drink
_____ 19. Service establishment
_____ 20. Transportation
_____ 21. Utilities
_____ 22. Wholesaling

Other: Write in below

_____ 23. _____
_____ 24. _____
_____ 25. _____

PART II - Jobs That Do Not Require Formal, In-School Education Beyond High School

Please supply the information requested, relative to your establishment, for the skilled, semi-skilled, and unskilled jobs listed below, for which high school level education and training (plus work experience) are considered sufficient and desirable. If formal education and training beyond high school is essential or desired, do not make entries here, but see Part III, following. Be sure to consider all the sections - A, B, C, D, E.

Type of Job (1)	Average no. on payroll 1964 (2)	Expected annual rate of employment 1966-70 (Check One)			Local supply of Qualified employees (Check One)		
		Increase (3)	Same (4)	Decrease (5)	Scarce (6)	Adequate (7)	Surplus (8)
A. Industrial jobs							
1. Air cond., refrig., and/or heating mechanic							
2. Appliance repairman							
3. Auto mechanic							
4. Assembly line worker							
5. Aviation mechanic							
6. Boat builder							
7. Cabinet maker							
8. Carpenter							
9. Chemical worker							
10. Electrician (wireman)							
11. Electrician (lineman)							
12. Electronics repairman							
13. Explosives worker							
14. Foundry worker							
15. Machine operator							
16. Machinist							
17. Mechanic--general							
18. Meat cutter							
19. Millwright							
20. Miner							
21. Painter							
22. Plasterer							
23. Plastics worker							
24. Plumber							
25. Printer							
26. Railway worker							
27. Roofer							
28. Sheet metal worker							
29. Stationary operator							
30. Steel worker							
31. Truck driver							
32. Welder & flame cutter							
33. Heavy equip. operator							

Type of job (1)	Average no. on payroll this year (2)	Expected annual rate of employment 1966-70 (Check One)			Local supply of qualified employees (Check One)		
		In-crease (3)	Same (4)	De-crease (5)	Scarce (6)	Ade-quate (7)	Sur-plus (8)
A. Industrial jobs (con't.)							
34. Unskilled laborer							
Other (write in below)							
35.							
36.							
B. Sales and service jobs							
1. Bartender							
2. Barber							
3. Beautician							
4. Bus Boy							
5. Bus driver							
6. Cashier (retail store)							
7. Cook or chef							
8. Fireman							
9. Florist							
10. Gardener - yard care							
11. Hospital attendant							
12. Janitor							
13. Laborer							
14. Laundry & dry cleaning worker							
15. Law enforcement officer							
16. Marine service worker							
17. Meter reader							
18. Nurse's aid							
19. Plant security guard							
20. Postal worker							
21. Route salesman							
22. Salesperson (retail)							
23. Seamstress							
24. Service station attendant							
25. Shoe repairman							
26. Stock boy							
27. Tailor							
28. Waiter or Waitress							
29. Water treatment or sanitation worker							
Other (write in below)							
30.							
31.							

Type of job (1)	Average no. on payroll this year (2)	Expected annual rate of employment 1966-70 (Check One)			Local supply of qualified employees (Check One)		
		In-crease (3)	Same (4)	De-crease (5)	Scarce (6)	Ade-quate (7)	Sur-plus (8)
C. Business office jobs							
1. Bank clerk or teller							
2. Bookkeeper							
3. Clerk-typist							
4. Dispatcher							
5. General office worker							
6. Office machine operator							
7. Stenographer							
Other (Write in below)							
8.							
9.							
D. Agricultural jobs							
1. Farm worker							
2. Nursery worker							
3. Packer or shipper							
Other (Write in below)							
4.							
5.							
E. Miscellaneous jobs							
Not requiring post-high school education (Write in below)							
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

PART III - Jobs For People With Formal Education Beyond High School, But Less Than 4-Year College Degree

Please supply the information requested from your establishment or firm for the kinds of semi-professional and technical jobs listed below for which one or two years of post-high school education are ordinarily considered desirable or essential. Be sure to consider all the sections - A, B, C, D, E.

Type of job (1)	Average no. on payroll this year (2)	Expected annual rate of employment 1966-70 (Check One)			Local supply of qualified employees (Check One)		
		In-crease (3)	Same (4)	De-crease (5)	Scarce (6)	Ade-quate (7)	Sur-plus (8)
A. Industrial jobs							
1. Air Cond., refrig. and/ or heating technician							
2. Architectural draftsman							
3. Automotive technician							
4. Chemical technician							
5. Civil and highway tech-nician--surveyor							
6. Drafting and design technician							
7. Electrical technician							
8. Electronic technician							
9. Foreman--first-line supervisor							
10. Industrial technician							
11. Instrumentation tech-nician							
12. Mechanical technician							
13. Metallurgical tech-nician							
14. Quality control tech-nician							
Other (Write in below)							
15.							
16.							
B. Business jobs							
1. Accountant							
2. Advertising and/or commercial art							
3. Business data processing							
4. Business machine operator							
5. Business management							
6. Merchandising							
7. Outside salesman							

Type of Job (1)	Average no. on payroll this year (2)	Expected annual rate of employment 1966-70 (Check One)			Local supply of qualified employees (Check One)		
		In-crease (3)	Same (4)	De-crease (5)	Scarce (6)	Ade-quate (7)	Sur-plus (8)
B. Business Jobs (Con't)							
8. Real estate, insurance &/or finance							
9. Retail management and buying							
10. Sales manager							
11. Secretary							
Other (Write in below)							
12.							
13.							
C. Health, Hospital and Medical Jobs							
1. Dental Office ass't.							
2. Dental hygienist							
3. Medical office ass't.							
4. Medical lab technician							
5. Nurse (Practical)							
6. Nurse (Registered)							
7. Psychiatric technician							
8. X-ray technician							
Other (Write in below)							
9.							
D. Agriculture Jobs (Write in Below)							
1.							
2.							
3.							
4.							
E. Public Service Jobs (Write in Below)							
1.							
2.							
3.							
4.							

PART IV - Employer Opinion and Practice

A. With respect to the requirements of your firm for entry employment, in what job categories do you employ young persons who have "dropped out" without finishing high school? Please put check marks under the headings which best describe your firm's operating policies.

Entry job category	Frequency of employment		
	Common Practice (1)	Infrequently (2)	Almost Never (3)
1. Highly-skilled jobs			
2. Business office jobs			
3. Sales jobs			
4. Apprenticeship for the highly-skilled trades and crafts			
5. Semi-skilled jobs (assembly line and production workers, machine operators)			
6. Service jobs			
7. Unskilled labor			

B. With respect to the requirements of your firm for entry employment, in what job categories do you employ young persons who have just graduated from high school? Please put check marks under the headings which best describe your firm's operating policy.

Entry job category	Frequency of employment		
	Common Practice (1)	Infrequently (2)	Almost Never (3)
1. Technician jobs			
2. Highly-skilled jobs			
3. Business office jobs			
4. Sales jobs			
5. Apprenticeship for the highly-skilled trades and crafts			
6. Semi-skilled jobs (assembly line and production workers, machine operators)			
7. Service jobs			
8. Unskilled labor			

C. Recalling the employing practices of your firm for the past five-year period, which one of the following statements best describes your evaluation of young persons who have applied for entry jobs with your organization? Please check one.

_____ (1) We have employed a number of young non-high school graduates, and we have found they can perform satisfactorily in the following jobs: (Specify)

_____

_____

_____ (2) We have employed a number of young non-high school graduates, but find they need a considerable amount of additional education and/or training before they can perform satisfactorily.

_____ (3) We have found young non-high school graduates unsatisfactory for the following reasons: _____

_____

_____

_____ (4) Most young high school graduates who apply seem reasonably well prepared for entry employment, and we have employed them as openings have occurred.

_____ (5) We have employed a number of young high school graduates, but find they need a considerable amount of additional education and/or training before they can perform satisfactorily.

_____ (6) We have found it inadvisable to employ young high school graduates, except for unskilled jobs.

_____ (7) The nature of most of the entry jobs in our firm is such that young high school graduates are vitually unemployable because of a lack of occupational education and training.

D. To what extent do existing educational facilities in the Muskegon County area meet the occupational and training needs of your company or firm?

_____ (1) Very well _____ (2) Fairly well _____ (3) Poorly

E. If you think occupational education and training in the area need improvement, which of the following developments would you support? (Please check, more than one if you like)

_____ (1) Substantial expansion of vocational education programs in the existing high schools.

_____ (2) Creation of an area vocational center for secondary (high school) occupational training.

_____ (3) Expansion of the 2-year community college with a strong program of occupational education.

F. Would you and your firm be interested in participating in discussions or further study of plans for improving occupational education and training at high school and post-high school levels in Muskegon County area?

_____ (1) Yes _____ (2) No _____ (3) Undecided

G. Is there a formally organized training program in your company or firm?

_____ (1) Yes _____ (2) No

H. If "yes", please check each type of program you now operate on a formal basis.

_____ (1) Apprenticeship
_____ (2) Supervisory training
_____ (3) Technician training
_____ (4) Plant management
_____ (5) Job upgrading
_____ (6) Executive development

Other (Write in below)

_____ (7) _____
_____ (8) _____
_____ (9) _____

I. General comments: (Add any comments which you, or other officials of your firm, may wish to make about the improvement of education and training opportunities in the Muskegon County area. Include in your suggestions the kind and level of educational programs which should be provided.

Please return this questionnaire at once.

Thank you for your interest and cooperation.

Muskegon Area
INTERMEDIATE SCHOOL DISTRICT
February 19, 1965

Please return by Friday, February 26, 1965

Dear Sir:

We are working on improvement of vocational-technical training for the youth of Muskegon County which will affect your employees in the near future. Before we can solve this problem, we need some information from you.

The enclosed questionnaire is a "trial run" survey.

The members of the Muskegon County Vocational and Technical Committee are requesting that your firm take the time to fill out the form and check only those areas that pertain to your business. We would also ask that you, or your personnel department, give a quick reaction to this questionnaire on the last page.

Unless the format of this survey changes drastically, we will not solicit your firm again when the "trial run" is over and we undertake the complete study.

This information is important for the training of your future employees and very necessary in planning for adequate vocational and technical training for all youth of Muskegon County. Your cooperation will be appreciated.

Sincerely,

Subcommittee on
COMMUNITY INVOLVEMENT
Muskegon County Vocational
and Technical Committee

vc

Item A - 3 Cover Letter for General Mailing of Business and Industry Survey

Muskegon Area
INTERMEDIATE SCHOOL DISTRICT
March 12, 1965

PLEASE RETURN BY FRIDAY, MARCH 19, 1965

Dear Sir:

We are working on improvement of vocational-technical training for the youth of Muskegon County which will affect your employees in the near future. Before we can attempt to solve this problem, we need some information from you.

The members of the Muskegon County Vocational and Technical Committee, many of them businessmen like yourself, are requesting that you or your personnel director take the time to fill out this form and check only those areas that pertain to your business. For the majority of businesses, this should only take a few minutes.

This information is important for the training of your future employees and very necessary in planning for adequate vocational and technical training for all youth of Muskegon County. Your cooperation will be appreciated.

Sincerely,

Subcommittee on
COMMUNITY INVOLVEMENT
Muskegon County Vocational
and Technical Committee

vc

A week ago we sent you a copy of the Muskegon Area Vocational Study under a cover letter from Mr. Joe Anthony, Vice-President of Brunswick Corporation. We realize that you are very busy or perhaps there was an oversight; but to date, we have not received your reply.

You might be interested to know that in the sampling that we have conducted to date, we have received almost 65 per cent of the returns from major industry and business. This fine cooperation verifies our feelings that this is important to the over-all economy, as well as the future of the education of our area youth.

We hope that you still have your copy of the questionnaire or maybe you have already sent it in. If you have mislaid it and would like an additional copy, please call us at PA 6-4711, Extension 250, and we would be most happy to supply you with a new form.

For the Muskegon County Vocational
and Technical Committee,

Harold S. Fisher, Vocational Consultant
Muskegon Area
INTERMEDIATE SCHOOL DISTRICT

vc

APPENDIX B

Muskegon Area
INTERMEDIATE SCHOOL DISTRICT

Area Vocational Study
Parent Survey

Please Check One Answer Only

1. In your opinion, are high school students adequately prepared by the schools to select a vocation?
Yes (1) _____ Fair (2) _____ No (3) _____ No Idea (4) _____

2. In your opinion, is the guidance and counseling program helpful to students who are in high school?
Yes (1) _____ Fair (2) _____ No (3) _____ No Idea (4) _____

3. In your opinion, are schools providing opportunities for high school students to learn a vocation?
Yes (1) _____ Fair (2) _____ No (3) _____ No Idea (4) _____

4. In your opinion, is there a need for additional vocational programs on the 11th and 12th grade levels?
Yes, many (1) _____ A Few (2) _____ None (3) _____ Don't Know (4) _____

5. If we were to expand the types of vocational training that will be available to your child, what kinds of courses would you like to see taught? (Check any number)

Group I
_____ (1) Machine Tool
_____ (2) Welding
_____ (3) Foundry
_____ (4) Automotive
_____ (5) Woodworking

Group II
_____ (1) Building Trades
_____ (2) Appliance Repair
_____ (3) Graphic Arts (Printing)
_____ (4) Electronics
_____ (5) Data Processing

Group III
_____ (1) Business Machines
_____ (2) Retail & Sales
_____ (3) Food Service
_____ (4) Hospital Aids
_____ (5) Medical Technology

Group IV
_____ (1) Agriculture
_____ (2) Work Attitudes
_____ (3) _____
_____ (4) _____ (Others)
_____ (5) _____

6. In order to provide adequate training in the above vocational courses, additional buildings and equipment will be needed.

In your opinion (check one):

_____ (A) Should existing vocational classrooms and shops be expanded in order to accommodate students from all school districts, or

_____ (B) Should we build a new vocational school centrally located and available to all students in the Muskegon County area?

7. The type of instruction, equipment, and buildings needed for vocational-technical training is costly. In your opinion would this be more easily accomplished by:

_____ (A) County-wide millage for financing
_____ (B) Local school millage for financing

8. Providing that your children are not interested in college and if a quality vocational program were made available to them, would you encourage them to avail themselves of this kind of training?
Yes (1) _____ No (2) _____ Possibly (3) _____

9. Are you concerned about the student dropout problem?

Yes (1) _____ No (2) _____ Don't Know (3) _____

10. Would broadening the vocational opportunities in high school keep students in school longer?
Yes (1) _____ No (2) _____ No Effect (3) _____ Don't Know (4) _____

11. If we have vocational programs as discussed above, would you be interested in attending evening school to improve your own abilities?
Yes (1) _____ No (2) _____ Don't Know (3) _____

12. This questionnaire was filled out by: Mother (1) _____
Father (2) _____ Both (3) _____ Guardian (4) _____

13. The head of our household works in the greater Muskegon area (1) _____
Elsewhere in Muskegon County (2) _____ Other (3) _____

14. The head of our household is: (Check one)

_____ (1) Self employed
_____ (2) Professional
_____ (3) Management
_____ (4) Office Worker
_____ (5) Skilled Worker
_____ (6) Semi-Skilled Worker
_____ (7) Laborer
_____ (8) Unemployed

15. The head of our household is:

Male (1) _____ Female (2) _____

Muskegon Area

INTERMEDIATE SCHOOL DISTRICT

Area Vocational Study

OPINIONNAIRE

Dear Parent:

The Muskegon Area Intermediate School District is conducting a county-wide school study of vocational and technical training. This study is designed to find ways of providing the best educational program to suit the needs of all youth on a county-wide basis.

We would like you to help us by answering the attached questionnaire.

Please imagine that your fifth grade child may be one of the 6 out of 10 students who will not enter college--or may even drop out of school before completion. Give us your opinion, even though you may not have had first-hand experience with vocational training.

We appreciate your cooperation. Please have your child return this to his teacher by Friday.

Muskegon County
Vocational & Technical Committee

READ THIS BEFORE ANSWERING THE ATTACHED OPINIONNAIRE

Facts on Employment and Training

I. Out of every 10 students entering high school,

3 will not graduate
3 will go to work after graduation
4 will continue their education beyond graduation,
Only 2 will complete 4 years of college

II. One out of every 5 boys, ages 16 to 19, who looks for work fails to find it, yet jobs requiring skills are unfilled.

III. Vocational courses are those which train young people and adults to provide them with a salable skill, so they can get a job.

IV. Statistics show that the unemployment rate is 3 times higher in young people who have not had vocational training than in those who have.

V. Neighboring school districts in the nation are cooperating to provide "area" vocational schools and programs to solve the problems.

VI. All the high schools in your county and the Muskegon County Community College are participating in this study to see how we might attack the problem here.

APPENDIX C

74 Item C - 1 Cover Letter for Curriculum & Facilities Survey

MUSKEGON COUNTY
VOCATIONAL AND TECHNICAL COMMITTEE
Subcommittee on Secondary School Facilities
April 1, 1965

You are no doubt aware of the current study being made by the schools and lay people of the Muskegon area concerning the needs of vocational and technical education.

As the coordinator for the committee studying the secondary school facilities, we would like for you, through your principals, to enlist the aid of members of the various departments concerned such as industrial arts, vocational, home economics, business education, etc., in completing the enclosed questionnaire.

Enclosed please find a self-addressed envelope for your convenience in returning these forms. If these could be completed and returned within the next two weeks, it would be greatly appreciated.

If there are any questions, please feel free to contact us at PE 6-3411, Extension 33.

Sincerely,

Gerrit Wiegerink, Chairman Herman Stephens, Coordinator

vc

Enclosures

CURRICULUM

Please place an "X" under the appropriate grade level or levels if your school offers these subjects listed at the left of the page and if this is a full year course.

At the right, check either pre-vocational or vocational classes as the case may be. Generally speaking, we will class pre-vocational classes as those one hour in length; vocational classes would be those classes two hours or more in length.

Also, please give the total number of students enrolled in each subject. Check only those subjects offered one semester or more. If classes are not listed, write them in. If your classes are only one semester classes, then indicate which semester it is offered. If it is a one semester course, but is offered both semesters, please indicate with a "1" in each semester.

	7		8		9		10		11		12		Pre.		Total
	1	2	1	2	1	2	1	2	1	2	1	2	Voc.	Voc.	Enrolled
Voc. Agriculture I															
Voc. Agriculture II															
Voc. Agriculture III															
Voc. Agriculture IV															
Agr. Mechanics															

	7		8		9		10		11		12		Pre.		Total
	1	2	1	2	1	2	1	2	1	2	1	2	Voc.	Voc.	Enrolled
Day Trade Cabinet Making															
Day Trade Electricity															
Day Trade Auto Shop															
Day Trade Machine Shop															
Day Trade Printing															
Woodworking															

Please place an "x" under the appropriate grade level or levels if your school offers these subjects listed at the left of the page and if this is a full year course.

At the right, check either pre-vocational or vocational classes as the case may be. Generally speaking, we will class pre-vocational classes as those one hour in length; vocational classes would be those classes two hours or more in length.

Also, please give the total number of students enrolled in each subject. Check only those subjects offered one semester or more. If classes are not listed, write them in. If your classes are only one semester classes, then indicate which semester it is offered. If it is a one semester course, but is offered both semesters, please indicate with a "1" in each semester.

	7		8		9		10		11		12		Pre		Total
Class	1	2	1	2	1	2	1	2	1	2	1	2	Voc.	Voc.	Enrolled
Bus. Management															
Bus. Organization															
Bus. Principles															
Retailing															
Salesmanship															
Merchandising															
Display															
Buying															
Advertising															
Cashiering															
Consumer Economics															
Office Machines															
Office Practice															
Business Law															
Business English															
Business Corresp.															

Class	7		8		9		10		11		12		Pre. Voc.	Voc.	Total Enrolled
	1	2	1	2	1	2	1	2	1	2	1	2			
Com. Geog.															
Business Math															
Bookkeeping I															
Bookkeeping II															
Bookkeeping III															
Bookkeeping IV															
Accounting															
Record Keeping															
Shorthand I															
Shorthand II															
Typing I															
Typing II															
Typing III															
Personal Typing															
Office Workshop (3 hrs.)															
Coop. Training (Dist.)															
Related Instruction (District)															
Related Instruction (Office)															
Related Instruction (T & I)															

CURRICULUM

Please place an "x" under the appropriate grade level or levels if your school offers these subjects listed at the left of the page and if this is a full year course.

At the right, check either pre-vocational or vocational classes as the case may be. Generally speaking, we will class pre-vocational classes as those one hour in length; vocational classes would be those classes two hours or more in length.

Also, please give the total number of students enrolled in each subject. Check only those subjects offered one semester or more. If classes are not listed, write them in. If your classes are only one semester classes, then indicate which semester it is offered. If it is a one semester course, but is offered both semesters, please indicate with a "1" in each semester.

Class	7		8		9		10		11		12		Pre. Voc.	Voc.	Total Enrolled
	1	2	1	2	1	2	1	2	1	2	1	2			
Family Relations I															
Family Relations II															
Personal Family Living															
Social Living															
Child Care															
Home and Family Living															
Home Management															
Interior Decorating															
Foods I															
Foods II															
Foods III															
Foods IV															
Food Service															

Class	7		8		9		10		11		12		Pre. Voc.	Voc.	Total Enrolled
	1	2	1	2	1	2	1	2	1	2	1	2			
Sewing I															
Sewing II															
Sewing III															
Sewing IV															
Tailoring															

CURRICULUM

Please place an "x" under the appropriate grade level or levels if your school offers these subjects listed at the left of the page and if this is a full year course.

At the right, check either pre-vocational or vocational classes as the case may be. Generally speaking, we will class pre-vocational classes as those one hour in length; vocational classes would be those classes two hours or more in length.

Also, please give the total number of students enrolled in each subject. Check only those subjects offered one semester or more. If classes are not listed, write them in. If your classes are only 1 semester classes, then indicate which semester it is offered. If it is a one semester course, but is offered both semesters, please indicate with a "1" in each semester.

	7		8		9		10		11		12		Pre.		Total
Class	1	2	1	2	1	2	1	2	1	2	1	2	Voc.	Voc.	Enrolled
Appliance Repair															
Architectural Drawing															
Art Metal															
Arts & Crafts															
Auto Mechanics															
Blueprint Reading															
Body & Fender Repair															
Ceramics															
Electricity															
Electronics															
Farm Mechanics															
Foundry															
General Drafting															
General Shop															
Graphic Shop Arts															
Machine Drawing															

Class	-7		8		9		10		11		12		Pre. Voc.	Voc.	Total Enrolled
	1	2	1	2	1	2	1	2	1	2	1	2			
Machine Shop															
Metal Working															
Pattern Making															
Power Mechanics															
Printing															

Rooms

Please list all rooms used for vocational or pre-vocational classes. This would include vocational shops, industrial arts shops, business, home ec. rooms or any rooms which may be serving a dual purpose.

If you are not sure, please list the room and make a note as to its use.

Below is a sample.

Room Name: Wood Shop

Size (Estimated): -- 30 x 30

Age, Condustion: Built 1940 Remodeled 1960

Use: 7, 8, and 9th grades, industrial arts 1 class arts & crafts

Number	Description	Year	Cost	Estimated Value
2	Logan 8" Shapers 1/2 H.P. 3 Phase Motor Model E88T - 1/2	1963	$937.00	$800.00
1	Hunter 6 x 12 Surface grinder complete with 3/4 H.P. Motor No. LP 152	1960	$985.00	$700.00
1	Hunter 5 x 10" permanent magnet for above No. LP 152	1960	$180.00	$150.00

APPENDIX D

MUSKEGON COUNTY VOCATIONAL & TECHNICAL COMMITTEE
AREA VOCATIONAL STUDY
Graduate Follow-up Questionnaire

Mark your answers to the following questions on the enclosed answer card.
Drop the card in the mail at your earliest convenience.

Answer only if question applies to you.

1. Check program of study followed in high school.

   1a. General 1b. Vocational 1c. Commercial 1d. College Prep

2. If in college or have completed your education, do you feel you were prepared for college as a result of your high school experience?
   2a. Yes 2b. No 2c. No Opinion

3. If you had made a vocational choice on graduation from high school, are you now engaged in this type of work at present?
   3a. Yes 3b. No 3c. No choice at that time

4. Is your present work related to any vocational-type courses you took in high school?
   4a. Yes 4b. No 4c. Didn't take any vocational courses

5. Do you feel that your high school had a sufficient number of vocational courses available for the work-bound student?
   5a. Yes 5b. No 5c. Don't know

6. Would you have taken more of these vocational type courses had they been offered?
   6a. Yes 6b. No 6c. Don't know

7. What type of further education or training have you received since graduating from high school? Check all that apply.
   7a. On the job training at place of employment
   7b. Business College
   7c. Trade or technical schools
   7d. Adult education course at high school
   7e. College or University
   7f. Correspondence Course
   7g. Military Service School
   7h. Apprenticeship

8. If you entered employment (full time or part time) after high school graduation, in your opinion, to what extent did your high school prepare you for employment?
   8a. Poor 8b. Fair 8c. Good 8d. Excellent 8e. Have never held a job

(Please complete this questionnaire on the reverse side)

9. If you were a student just entering high school and if you had a choice, what type of program would you pursue?
   9a. Academic-college bound program of study
   9b. Vocational-work bound program of study
   9c. Combination of both

10. If you are now working, is this the field of work you want to stay in?

    10a. Yes 10b. No 10c. Undecided

11. Are you interested in taking more training of a vocational nature?

    11a. Yes 11b. No 11c. If yes, what area?

12. If you were (or are) a parent today, would (will) you encourage your children to follow a program of study for the vocational-bound student. (Assuming adequate facilities were available and if your child shows an interest in and seems suited for this particular kind of program?)
    12a. Yes 12b. No 12c. Undecided

13. If you are presently in school or in training, do you plan to return and work in Muskegon County?
    13a. Yes 13b. No 13c. Undecided (If yes, what kind of work?_____)

14. Did you change your vocational choice between grades 9 and 12?

    14a. Yes 14b. No 14c. Had no choice

School Graduated From _____ Year _____

Present Job Title _____

Answers to questionnaire. Mark proper numbers with an "X"

1. a.__ b.__ c.__ d.__
2. a.__ b.__ c.__
3. a.__ b.__ c.__
4. a.__ b.__ c.__
5. a.__ b.__ c.__
6. a.__ b.__ c.__
7. a.__ b.__ c.__ d.__ e.__ f.__ g.__ h.__
8. a.__ b.__ c.__ d.__ e.__
9. a.__ b.__ c.__
10. a.__ b.__ c.__
11. a.__ b.__ c.__ _____
12. a.__ b.__ c.__
13. a.__ b.__ c.__ _____
14. a.__ b.__ c.__

Signature (Not required) _____

Muskegon Area
Intermediate School District

Muskegon, Michigan

D - 2

MUSKEGON AREA

INTERMEDIATE SCHOOL DISTRICT

Dear High School Graduate:

The Muskegon County Intermediate School District is presently involved in an Area Study of past and present vocational and technical training at the high school level. The results of this study could determine the future course of vocational and technical education for the entire Muskegon area. The project is a cooperative effort including business, industry, and education with several committees studying various phases of the problem.

Our committee has been given the job of surveying present high school Seniors and also the task of conducting a "follow-up" study of all the graduates of Muskegon County high schools for the 1959, 1961, and 1963 school years. The present Seniors will be surveyed soon. The Graduate Follow-up Survey is where you become part of the picture. We need your whole-hearted cooperation.

You, individually, can make a very important contribution. Your participation is needed. The information you furnish is a valuable part of the study. We would appreciate your taking a few minutes to answer the questions on the attached questionnaire.

Please answer on the enclosed self-addressed, stamped post card and mail it at your earliest convenience. Your signature is not needed, although you may sign it if you so desire. The identification information requested is needed for our tabulation and evaluation.

Thank you for your time and effort.

Sincerely yours,

Muskegon Vocational & Technical Committee
Survey-Graduate Follow-up Subcommittee

John Jozsa, Coordinator Jerry Sielski, Chairman

vc

APPENDIX E

Item E - Senior Student Questionnaire
87

OCCUPATIONAL QUESTIONNAIRE

_____, 19___

Name _____ Address _____ Home Room No. _____
(Print last name first)

Grade _____ Birth Date _____ Height_____ Weight_____ Phone _____
(Include year)

In what field of training are you specializing in high school? _____

Parent or Guardian _____ Occupation _____ Place of Employment _____

Are you employed at present? _____ If so, where? _____

How did you obtain this job? _____

If employed, what type of work do you do? _____ Have you a work permit? _____

How long have you worked on this job? _____ Hours per week? _____

Are you interested in part-time work next school year? _____ If so, in what field would you like to work? _____ Office, _____ Retail, _____ Trade & Industrial, _____ Other (explain)_____

_____

Do you plan to continue school after graduation ?_____ If you do, what school do you plan to attend?_____ In what field do you plan to take your training? _____

* * * * * * *

Of the occupations listed below, which <u>single</u> field of work do you plan to follow for your lifetime work after graduation? Place an "X" in the space at the left of the group of your first choice and underscore or write in the <u>specific</u> job you like best in the group.

_____ Business occupations - saleswork, retail selling, wholesale selling, insurance, display, advertising, store management, real estate, self-owned business, (other) _____

_____ Office occupations - general office, stenographer, key-punch operator, secretary, bookkeeper, office manager, (other) _____

_____ Professional (requiring at least 4 years of college) engineering, nursing, medicine, accountant, lawyer, journalist, architect, dentist, teacher, minister, scientist, (other) _____

_____ Technical (requiring 2 years of college) tool designing, drafting, electronics, automotive, (other) _____

_____ Building trades - plumber, electrician, painter, carpenter, bricklayer, sheet metal worker, (other) _____

_____ Skilled tradesman - tool and die maker, jeweler, baker, barber, beauty operator, machinist, dry cleaner, draftsman, printer, moulder, coremaker, pattern maker, electrician, (other) _____

_____ Skilled industrial occupation - machine operator, inspector, foreman, set-up man, maintenance worker, (other) _____

_____ Mechanical repair - auto mechanic, refrigeration repair, radio and television repair, electronics, (other) _____, auto body repair, tire repair, electric motor repair, office equipment repair

_____ Public Service - social worker, Y.M.C.A., Boy or Girl Scout advisor, law enforcement, public office, personnel work, (other) _____

_____ Transportation - pilot, stewardess, bus driver, truck driver, cab driver, railroad engineer, (other) _____

_____ Agriculture - farmer, horticulturist, (other) _____
_____ Armed Forces (as a career) - Army, Navy, Marines, Air Corps (other) _____
_____ Other occupation (Explain) _____

NOTE: If you are a senior and are planning to attend Muskegon Community College next fall, check the following questions.

MUSKEGON COMMUNITY COLLEGE
TWO-YEAR COURSES

Please check the area in which you would like additional information.

☐ 1. Two-Year Secretarial Curriculum (Shorthand)
(Work experience optional)

☐ 2. Two-Year Clerical Curriculum (No Shorthand)

☐ 3. Two-Year Business Curriculum (Accounting)
(Work Experience Optional)

☐ 4. One-Year Secretarial Curriculum (For students with high school Shorthand)
(Work Experience Optional)

☐ 5. One-Year Clerical Curriculum (For students with high school Typing)

☐ 6. Retailing & Small Business Management
(Work Experience Optional)

☐ 7. Drafting Technology (Drafting major)

☐ 8. Industrial Technology (Machine Processes major)

☐ 9. Automotive Technology (Automotive Repair major)

☐ 10. Auto Body & Fender Repair

☐ 11. Electronics Technology (Electronic Controls major)

☐ 12. Lab Technology
(Prepares for work in industrial labs)

Note: Under certain conditions cooperative work experience credit may be allowed in any of the courses listed.

APPENDIX F

REPORT ON VISITATION TO DETROIT AREA VOCATIONAL SCHOOLS

Ed Bujak, Plant Engineer
Brunswick Corporation - Muskegon

Howard Bredin, Business Instructor
Reeths-Puffer High School - Muskegon

Harold S. Fisher, Vocational Consultant
Muskegon Area Intermediate School District

On April 28 and 29, 1965, the above persons conducted an extensive visitation to three vocational institutions operated by the Detroit Public Schools; namely, the Skills Center, Wilbur Wright Cooperative High School and Cass Technical High School. In the following writing we will attempt to give a summary of the visitation.

During the visitation to each of these schools, we had the opportunity to ask questions and discuss the facilities of each of the schools with administrators, instructors, and students.

It was the opinion of each of us who attended that this trip was extremely worth-while. We found a very fine parallel in the programs in the Detroit schools to those that we can envision being conducted in the Muskegon area.

SKILLS CENTER

The Skills Center is a relatively new institution, opened in August of 1964 and housed in a building complex which was given to the Detroit Public Schools by the General Services Administration after the building was vacated by the U. S. Army Ordinance Depot. The main facility is a four-story industrial type structure. It is well lighted, well maintained, has adequate outlets for 110 and 220 electrical service, has sufficient restroom facilities, and is very suitable for the type of training which has been undertaken by this institution. It houses the special skill training program which will be conducted under Federal funds granted to the schools through the Manpower Development and Training Act in cooperation with the Michigan Employment Security Commission.

These programs are for both youth and adults who are not in school, unemployed, and in need of upgrading and retraining to make them employable. The main objective of this institution is to train each individual with a salable skill and to prepare them as rapidly as possible for employment. The training programs provide skills for those of higher intelligence and ability in automotive mechanics, machine tool, cooks and bakers, etc. They also provide basic skill training for persons that are less fortunate--illiterate, (sixth grade reading level and below). These programs involve training for maintenance

work, landscaping work, waitress work, etc. There are many other skills being taught in this institution such as automotive, body and fender repair, upholstery, clothing repair and several of the office skills.

The most interesting phase of this instruction is the emphasis placed on basic education where they are working with illiterate adults. These people are taught to read at the same time they are being trained in basic skills. This is done by teaching future janitors how to read the labels on the cans of floor wax and how to read such words as door, floor, mop, broom, pail, etc. Mr. Fisher was fortunate to have visited the Skills Center two months ago and a definite note was made in the progress of the students and their attitude was definitely improved since the first visit.

Funds from new legislation under the Economic Opportunity Act will also be funneled into this project and their goal is to train up to 2,000 youth and adults in this facility at a time. They presently are training 1,700 on two shifts.

Instructors were recruited from all walks of life. Very few of these instructors are certified degree people. Much of the reading and skill training materials has been developed at the facilities as they are needed. Even new teaching machines have been designed and made there.

This facility gave us a very good picture of the type of training that is needed for a large group of economically distressed persons, as well as for those who have been less fortunate in obtaining a sound educational background. It might be noted here that in February of 1965, there were 960 persons reported within the last 30 days at the Muskegon Michigan Employment Security Commission office who were unemployed and had an eighth grade education or less. Some of the instruction and training that will be conducted at the NuWay Building under the Manpower Development and Training Act funds (school Dropout Project) will be similar to the type of training being conducted in the Detroit Skills Center.

WILBUR WRIGHT COOPERATIVE HIGH SCHOOL

Wilbur Wright Cooperative High School is more than a school--it's an idea--and it's a growing idea. The school was named for Wilbur Wright, co-inventor of the airplane, and was authorized by the Board of Education on May 27, 1928. Instruction began in the Dickinson School with machine shop classes at Cass and Wayne University and automotive classes in the Motor Transport Building. After the Dickinson fire in November, 1928, classes were held in the Charles George School until the new Wilbur Wright, a two-story building extending from Calumet to Canfield on Twelfth Street, was completed in January, 1930.

To satisfy the demand for this type of training, construction of the third floor began in the fall of 1941 and was completed in time for use during the following semester. In the fall of 1953, construction of the wing on Calumet was completed on another three-story addition to the west end of the building.

In September, 1957, Superintendent Samuel Brownell changed the school from an all boys school to a co-educational senior high school. The new policy was in line with the national trend to accelerate and extend cooperative opportunities to girls.

The original purpose was "to share training responsibilities with our industries--hence, the name "cooperative high school". It is one of the pioneers in cooperative training for high school pupils. The program at Wilbur Wright provides an opportunity to gain the technical knowledge and skills related to a given occupation or trade directly from business and industry.

Getting a high school education on the co-op plan is under the supervision of school coordinators who check the scholastic work in school and make regular inspection visits to business and industry where the pupils are employed. It is a truly cooperative educational program because both employers and the school assume responsibility for the pupil's success or failure. Graduation depends on satisfactory achievement in school and on the job.

In order that the cooperative training program will function properly and produce the desired results, the students' programs are organized on the alternating plan; that is, the students spend half their time in their chosen shop classes and the other half in academic classes.

This procedure is accomplished by having the student body divided into two groups, identified as the A group and the B group. While members of the A group are in their shop classes, the B group are in their related or academic courses. At the end of each two-week period the two groups exchange places.

When a pupil becomes employed as a co-op student, the job takes the place of the school shop class. Usually two pupils are assigned to work on a given job. In this way a position is filled full time; and at the same time, the pupil fulfills the high school requirements for graduation. Pupils may become eligible for co-op jobs during the eleventh and twelfth grades. These work assignments are possible provided the student passed all his courses, his attendance is acceptable, and he is approved by his teachers and counselors.

We spent a full afternoon touring the facilities at Wilbur Wright and enjoyed the hospitality of several of the instructors in the school. We found these instructors to be dedicated vocational educators who were very much concerned with the needs of youth for training in specific skills. They were very alert to the needs of industry and were very much in tune with the type of training

that industry felt acceptable in preparing youth for employment. Skill training during the three-year programs is being conducted in Food Services, Drafting and Mechanical Design, Electrical-Electronics, Hospital Services, Tool and Die and Automotive Maintenance which is strictly of a trade nature and has a bearing on automotive service work. It prepares the student for employment in such jobs as automotive electrical specialist, automotive carburetion specialist, wheel alignment specialist, transmission, specialist, etc.

The Business Curriculum prepares boys and girls for competency in most initial business jobs and cooperative employment while in school, and for satisfying employment or possibly higher education upon graduation. After the 10th grade, students are requested to choose one of the three curriculums--Bookkeeping-Clerical, Retailing or Stenographic.

The Food Service Curriculum covers such areas as basic food preparation, quantity cooking and baking, nutrition, cafeteria service, and waitress services.

The Drafting and Mechanical Design Curriculum requires the 10th grade drafting students to become familiar with major shop tools. These students spend half of their time in the Machine Shop and the other half in the Trade Drafting Shop. It is possible for the eleventh and twelfth grade students in this curriculum to be employed in area industries. We were very impressed with the quality of the work done by students in this program.

The Electrical-Electronic Curriculum is designed to provide pupils with one year of basic fundamental training in each of the two fields and an opportunity for advanced experiences in the shops and on the job.

The Hospital Service Curriculum deals mainly with the girls. Shop work here includes Nursing Arts, Theory and Practice; Food Preparation and Service; Nutrition; and Child Care. Cooperative placement is available in several of the area hospitals. The instruction is under the direction of a registered nurse and a home economist.

The Tool and Die Preparatory Curriculum provides training for a foundation in skills which lead to apprenticeship in the following.

1. Machinist
2. Toolmaker
3. Die Maker
4. Gage Maker
5. Metal Pattern Maker
6. Machine Repair
7. School Teacher (Trade & Tech.)
8. Industrial Technician
9. Electrical Technician
10. Engineering Technician
11. Science Technician
12. Tool Design

In checking with the Assistant Principal, it was found that approximately 16 per cent of the graduates of Wilbur Wright go on to more formal education on the college level. It should be noted that the instructors have felt the pressure of the academic "push" and are having trouble finding students qualified to fill the qualifications necessary at Wilbur Wright. Local industry places a constant demand for competent students to fill employment needs in the Detroit area. The school placement officials have not been able to meet this demand throughout the years.

It is interesting to note that next year the concept at Wilbur Wright Trade School will be changed and it will become a part of the new high school which is being built a few blocks away. The two-week cooperative plan will be dropped and students will be attending Wilbur Wright only three hours per day on the "block time" or day trade basis.

CASS TECHNICAL HIGH SCHOOL

The Cass Technical High School is a public high school which prepares youth for employment on the technical level, or for ready admission to further education and training at the college or university level. It offers a solid curriculum of math and laboratory science as a background for a career. It is a vocational school because the specialty courses develop skills needed in that career. The original intention, as we observed, was to prepare youth for technical employment upon graduation. However, it should be noted that because this institution was able to be highly selective in allowing students to attend this school, 75 to 80 per cent of their students now go on to further education in universities or colleges. It would seem that these students are "the cream of the crop" from all of the Detroit Public Schools. This eight story brick school building in downtown Detroit is very impressive. It was built in 1917 and it still is very usable today. Laboratories and shops have been kept up to date. However, the science laboratories seem to have had the greatest amount of attention in updating throughout the past few years because of the availability of Federal funds under the National Defense Education Act. Specific vocational offerings are as follows:

Air Conditioning and Refrigeration. No students to speak of at the high school level in this course. This work seems to be a little below the dignity of the students attending the institution.

Graduates of the Astronautics Curriculum are preparing to enter engineering colleges or take employment as aeronautical technicians. The majority of the present students are instructed in the science of "space flight".

Automotive Technology is a study of principles of electricity, thermodynamics, machanics and hydraulics. The shop area has become an engineering testing lab. The instructor here was very proud of the fact that some of his students had gone on to become doctors and lawyers.

Arts Curriculum - Courses are taught in Commercial Art, Arts & Crafts, and Costume Design.

Drafting-Building-Science-Engineering Technology. Highly specialized technical courses teaching mostly pre-engineering design. Again as in most of the courses, industry was showing a heavy request for students to be employed upon graduation but the instructors were proud to announce they had no graduates as most students were going on to college.

Electrical Electronics. Although this course is geared for the college preparatory student, the instructor seemed to have a great deal of realization of the needs of industry in the appliance service and repair field.

Graphic-Arts Curriculum. This program is being updated and tends to be more vocational in nature. It is rapidly converting over to a offset shop.

Home Economics. This program does not look too much different from the home economics program found in most comprehensive high schools. Perhaps a little more emphasis is placed on the clothing-textile design area.

An area undergoing change is the Business Education Currciulum. A new expressway has caused the demolotion of the old School of Commerce which was across the street. The administrators of the Business Education Department have expanded the curriculum offerings in distributive education programs and are now experimenting in the field of electronic data processing and business administration programs at the high school level. The large area devoted to business education is extremely well equipped and the data processing area includes everything necessary to teach data processing and programming technology, including a 1620 IBM computer. The computer is being used almost 100 per cent for instruction. However, they have been doing some of the scheduling of students programs and student accounting for the Cass administration only. The instructors question very strongly the use of a computer for instruction and administrative work combined.

SUMMARIZATION

It is most interesting to note the 75 per cent college entrance group at Cass, 15 per cent average at Wilbur Wright and compare this with a 30 per cent average of graduates in Muskegon County. Comparing the institution we visited with the needs of Muskegon County, we can envision all these types of programs being offered in Muskegon County on a smaller scale in the near future.

An area vocational school could handle programs similar to those conducted at the Skills Center and Wilbur Wright, while the types of programs being offered at Cass should be offered at the Community College.

It would seem that Muskegon County schools have enough students and local industry has ample needs to warrant our presenting a broad program such as this in vocational training.

VT 000 986

Feringa, Harold

Kent County Vocational-Technical Education Survey; A Study Conducted by the Boards of Education of the Nineteen High School Districts, Grand Rapids Junior College and the Kent Intermediate School District.

Michigan State Dept. of Education, Lansing. Office of Vocational Education

MF AVAILABLE IN VT-ERIC SET.

Pub Date - Apr66 122p.

AREA VOCATIONAL SCHOOLS, SURVEYS, *EDUCATIONAL NEEDS, *VOCATIONAL EDUCATION, OCCUPATIONAL SURVEYS, EDUCATIONAL PLANNING, QUESTIONNAIRES, TECHNICAL EDUCATION, SCHOOL SURVEYS, EMPLOYMENT OPPORTUNITIES, EMPLOYER ATTITUDES, STUDENT ATTITUDES, PARENT ATTITUDES

KENT COUNTY, MICHIGAN

An area study was made to determine whether vocational education was needed in Kent County, at what level in education it was needed, and how it should be financed. The Kent County population in 1960 was 363,187, and the 1970 projected population is 439,950. The total public and non-public school population in 1965 was 112,371. Surveys by questionnaires included: (1) agriculture (68 farms and 60 agricultural businesses), (2) business and industry (1,500 sent and 424 returned), (3) parents of seventh graders (8,482 sent and 5,547 returned), (4) vocational education staffs and facilities (31 public and parochial high schools serving 27,247 students), (5) 1961 high school graduates (2,371 sent and 1,067 returned), and (6) 1965 high school seniors (6,088 sent and 3,973 returned). Recommendations were: (1) Training opportunities in vocational education should definitely be increased in the Kent County area, (2) Area vocational-technical centers should be constructed in Kent County to provide curriculum for 11th, 12th, 13th, and 14th grade levels, (3) Committees from business, industry, labor, etc., should be established to serve as advisory committees to determine the curriculum content for the area centers, and (4) An area tax millage should be submitted to the electorate of the school district for financing construction, equipment, and operational costs for the area vocational centers. The appendix includes sample survey questionnaires. (PS)

VT 000 986

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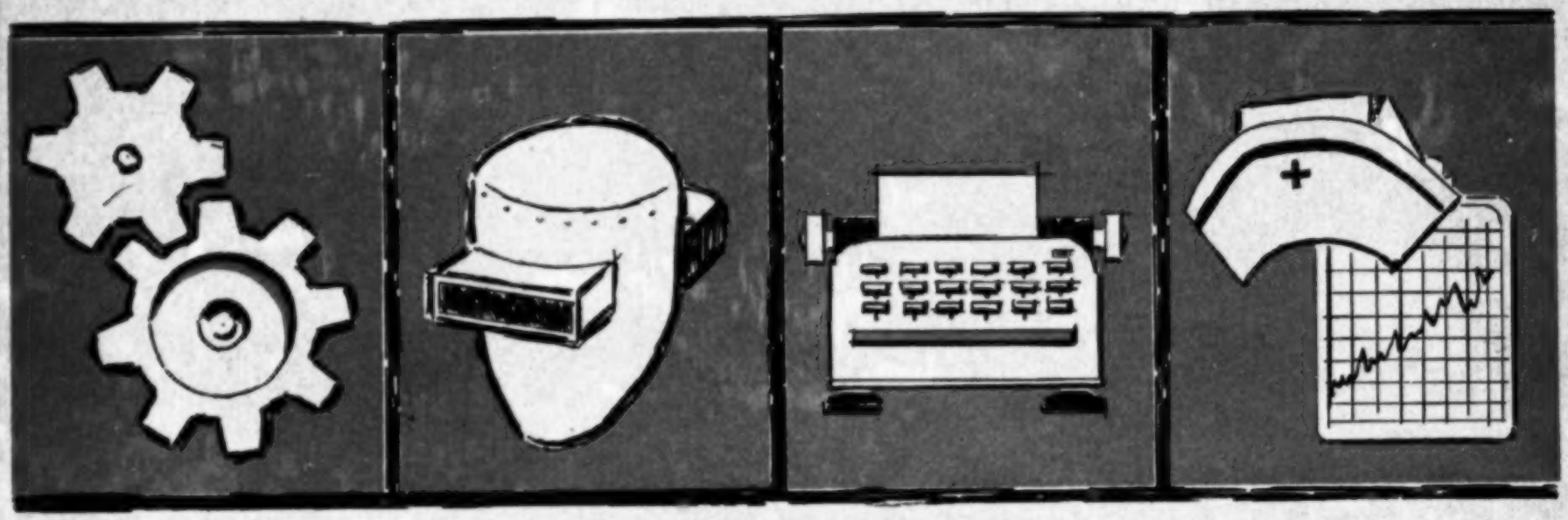
Report

Kent County

Vocational-Technical Education Survey

Kent County, Michigan



April 1966

VT000986

KENT COUNTY VOCATIONAL-TECHNICAL EDUCATION SURVEY

A study conducted by the boards of education of the nineteen high school districts, Grand Rapids Junior College and the Kent Intermediate School District.

Cooperative agencies in the study

The Office of Vocational Education, Michigan Department Of Education - Lansing, Michigan
Parochial and Private Schools in Kent County

April, 1966

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Survey Director, Harold Feringa, *Grand Rapids Junior College*

Area Vocational - Technical Study Committee

Garrell Adler, Chairman;	*Vocational Consultant, Kent Intermediate School District*
Maurice Cochrane,	*Superintendent, Kent City Public Schools*
Cornelius Bruggink,	*Superintendent, Godwin Heights Public Schools*
Bernard Kennedy,	*Director Vocational Education, Grand Rapids Public Schools*
Wendell Schroll,	*Assistant Dean, Grand Rapids Junior College*

INTRODUCTION

In a broad sense, all education contributes to vocational competency, but vocational education refers to that part of a student's instruction intended specifically to fit the student for work. Although it is clear that the physician, the architect, and the lawyer, for example, receive occupational preparation in their respective specialized curriculums, the term "vocational education" does not usually refer to instruction leading directly to a baccalaureate or professional degree.

This report uses the term "vocational education" to refer to all formal instruction for both youth and adults, at the high school and post-high school levels, which prepares individuals for initial entrance into and/or advancement within an occupation or group of related occupations. From time to time reference will be made in the report to "technical education," which is considered to be a part of the natural continuence of vocational education. References to technical education are used to focus attention upon a phase of vocational education having certain inique characteristics, usually requiring more rigorous science and mathematics background and more exacting skills.

Liberal education and vocational education are both essential aspects to prepare the individual for living and for earning a living; they cannot be thought of as hostile or mutually exclusive enterprises. An educational program which recognizes value in both liberal education and vocational education is most desirable for the attainment of future individual and societal goals.

Nationally, an average of 55,000 young people are entering the labor market each week. This figure will continue to grow, as will the number that appears on the labor market as a result of of automation, or job retraining and up-grading. Business and industry are demanding more skilled and semi-skilled workers and education must modify curriculums to meet these needs.

The Vocational Education Act of 1963 was passed after legislators became convinced education needs to do more to supply students that possess proper skills to maintain our economy in a changing society. The purpose of this act is to assist schools in providing buildings, equipment and instructors to train and prepare students for the world of work, and to retrain and upgrade present workers.

In November of 1964 the Kent County Superintendents Association appointed a five member area vocational technical education study committee. The purpose of this committee was to study the needs for vocational education in the county and make recommendations according to these needs, to the County Superintendents' Association.

The committee proposed that an area study be made that would answer three questions.

1. Is vocational education needed in Kent County?
2. At what level in education is it needed?
3. How should it be financed?

Two thousand dollars were contributed by the secondary schools of Grand Rapids, Grand Rapids Junior College and the Kent Intermediate School District. This six thousand dollars was matched by funds from the State Office of Vocational Education, Department of Education.

The study was started in January of 1965.

Survey instruments were sent to business and industry to determine their needs and to learn how our schools could assist in supplying those needs. Seniors of 1965 and graduates of 1961 were surveyed. Parents of seventh graders were surveyed to learn what they expected of schools for their youngsters who would soon be in high school. School staffs and facilities were surveyed to see what vocational programs were now being offered.

A survey conducted by the office of the County Extension Director attempting to determine the needs for workers with agricultural skills was analyzed, and a small survey of Kent County farmers was conducted.

With this information and the help and assistance of many, conclusions have been reached and recommendations made that will indicate the direction our schools should take in vocational education.

OBJECTIVES OF THE VOCATIONAL–TECHNICAL SURVEY

The administrators of the schools of Kent County fully realize the importance of vocational education in the curriculums of the school systems they represent. Realization was also present as to the tremendous costs involved in establishing adequate vocational programs.

The Vocational Education Act of 1963 promised aid to schools in vocational programming.

Many questions were prevalent in the minds of the county's educators.

1. What are the schools doing now in vocational education - (both secondary and post secondary)?
2. What is needed in our schools' curriculums to better serve business and industry and the students?
3. How can the schools cooperate in providing needed costly vocational education programs?
4. How can the high schools and post-high school programs correlate to provide a full complete vocational program?
5. How can funds from the Federal Vocational Act of 1963 be used most wisely?

This area vocational-technical education survey was established to provide the data upon which answers to the above questions could be based.

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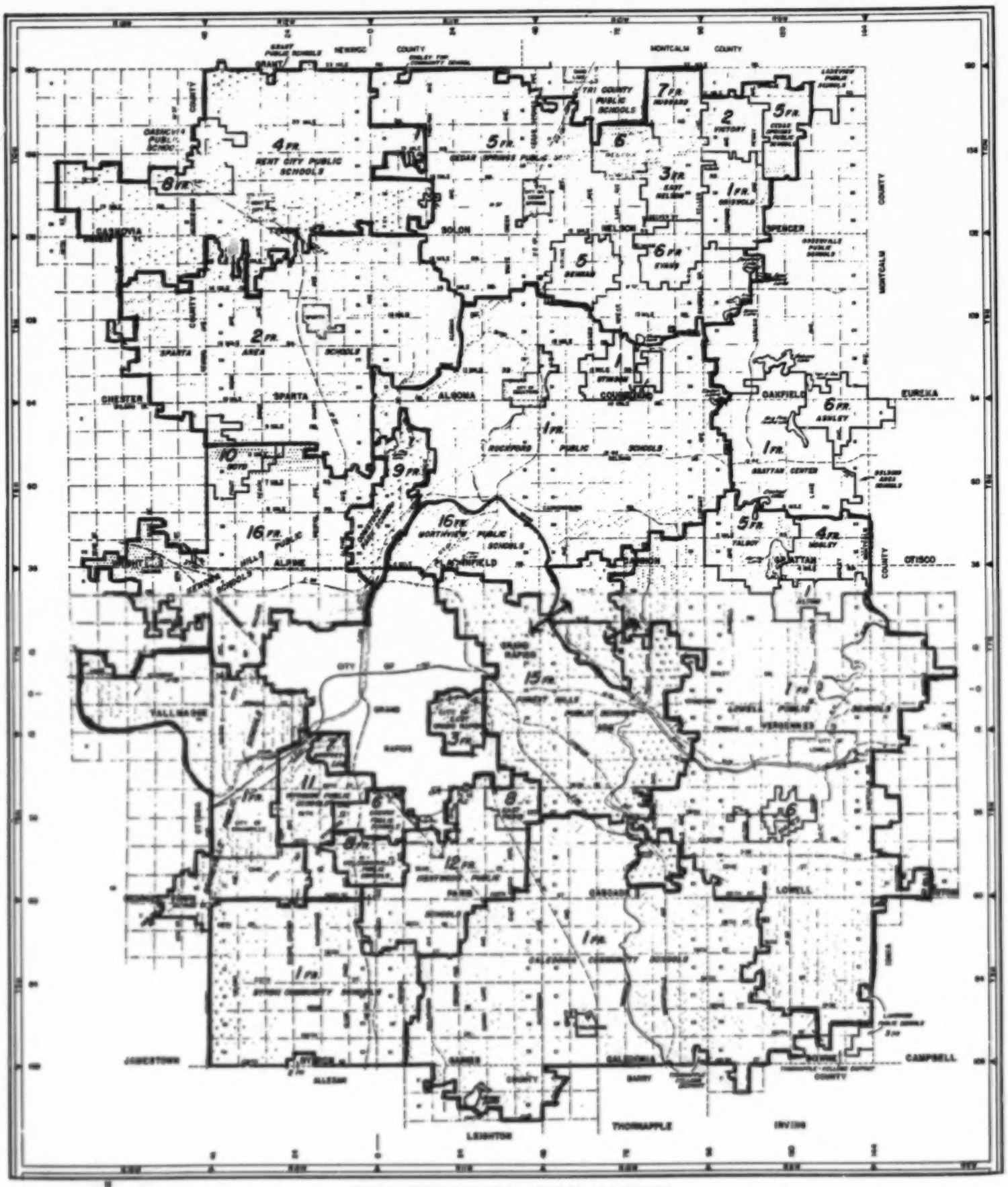
KENT INTERMEDIATE SCHOOL DISTRICT
BOARD OF EDUCATION
MONTCALM COUNTY
OTSEGO COUNTY
CAMPBELL
SPARTA
ALPINE
GRAND RAPIDS
CAMPBELL
LEIGHTON
THORNAPPLE
IRVING
JAMESTOWN
ALLEGAN
CALEDONIA
DANBY
LOWELL
VERGENNES
CASCADE
PLAINFIELD
NORTHVIEW PUBLIC SCHOOLS
ROCKFORD PUBLIC SCHOOLS
CEDAR SPRINGS PUBLIC SCHOOLS
TRI COUNTY PUBLIC SCHOOLS
SOLON
NELSON
SPENCER
OAKFIELD
EUREKA
ALGOMA
COURTLAND
SPARTA AREA SCHOOLS
CHESTER
GARDNER
NEWAYGO COUNTY
JULY 1, 1960

CHAPTER I

PRELIMINARY DATA

Population Trends In Kent County. The distribution of population in Kent County has undergone and is undergoing important changes. At the turn of the century, the population of the city of Grand Rapids was more than twice that of the rest of Kent County. The 1960 census showed Grand Rapids as having just over fifty-five percent of the population of the entire County; it is expected that by 1970 the non-Grand Rapids population of the county will exceed the population of the core city. See Table 1.1.

TABLE 1.1

POPULATION IN KENT COUNTY

Year	City of Grand Rapids	County not including Grand Rapids	Total
1900	87,565	42,149	129,714
1910	112,571	46,574	159,145
1920	137,634	45,407	183,041
1930	168,592	71,919	240,511
1940	164,292	82,046	246,338
1950	176,515	111,777	288,292
1960	201,487	161,700	363,187
1970 Projected	213,650	226,300	439,950

U.S. census figures show Kent County experienced a net increase in migration during the decade 1950-1960 of youth of high school and post-high school ages. The group who were five to nine years old in 1950 and fifteen to nineteen years old in 1960 had increased by 10.7 percent; that group who were ten to fourteen in 1950 and were twenty to twenty-four in 1960 had increased by 15.9 percent; the group from fifteen to nineteen in 1950 had enlarged 11.8 percent by 1960. Kent County's total population grew by nearly 75,000 in the decade of the 1950's; net migration accounted for about 14,000 of the 75,000.

TABLE 1.2

COMPONENTS OF POPULATION CHANGE IN KENT COUNTY
1950 – 1960 [1]

County	Population	Natural Increase	Net Migration
Kent	74,895	61,040	13,855

1. See Footnote on Page 2

TABLE 1.3

Changes in the Population Composition of Youth Who Were of High School Age During 1950–1960, and Net Migration Change for the Total Population 1950–1960, Kent County [1].

Change in Number of Youths Who Were 5-9 in 1950 and 15-19 in 1960			Change in Number of Youths Who Were 10-14 in 1950 and 20-24 in 1960			Change in Number of Youths Who Were 15-19 in 1950 and 25-29 in 1960			Change Through Migration 1950-1960
Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
+4.7	-1.1	+10.7	+3.3	-9.1	+15.9	+11.7	+11.6	+11.8	+4.2

Membership And Valuation Of Kent County School Districts. Of particular interest when consideration is being given to the establishment of new and/or improved educational facilities in an area are the membership and valuation figures. Following are the membership and valuation statistics for the school districts of Kent County. Membership reports are given for 1964 and 1965; valuation figures are for 1965. Total Kent County membership in 1965 is 112,371; for grades nine through twelve the Total membership for 1965 is 28,135. State equalized valuation in Kent County, 1965-1966 is $1,213,743,716.

1.

J.F. Thaden, Population of Michigan Counties, Projections to 1970, Technical Bulletin B-24, Continuing Education Service, Michigan State University, March 1962.

U.S. Census of Population: 1960, Final Report, PC (1) - 24-B, General Population Characteristics Michigan, Table 27; U.S. Census of Population: 1950, Population Census Report P-B22, General Characteristics Michigan, Table 49.

J.A. Beegle and J.F. Thaden, Population Changes in Michigan, 1950-60, (East Lansing: Agricultural Experiment Station, 1960), Table A, pp. 23-25.

TABLE 1.4

MEMBERSHIP OCTOBER 2, 1964
KENT COUNTY

	K	1	2	3	4	5	6	7	8	9	10	11	12	Sp. Ed.	Others
County	4,594	4,688	4,145	4,023	3,924	3,809	3,646	3,733	3,533	3,519	3,321	3,321	2,886	361	23.5
City	3,807	3,149	2,605	2,509	2,453	2,372	2,260	2,333	2,188	2,071	2,172	2,772	1,667	978	270
Total	8,401	7,837	6,750	6,532	6,377	6,181	5,906	6,066	5,721	5,590	5,493	4,716	4,553	1339	293
County Non Public	391	642	841	881	866	805	728	676	616	236	271	195	153	247	
Grand Rapids Non Public	696	1,568	1,826	1,779	1,760	1,834	1,719	1,740	1,691	1,655	1,547	1,455	1,382		1
Total	9,488	10,047	9,417	9,192	9,003	8,820	8,353	8,482	8,028	7,481	7,311	6,366	6,088	1586	294

Total for all grades:

County	49,150
City	32,606
Total	81,756
County Non Public	7,748
Grand Rapids Non Public	20,653
Total	109,957

TABLE 1.5

MEMBERSHIP BY GRADES
OCTOBER 1, 1965

	Kgn	1	2	3	4	5	6	7	8	9	10	11	12	Sp. Ed.	Others	Total
Grand Rapids City	3,738	3,189	2,703	2,521	2,471	2,365	2,360	2,323	2,250	2,286	2,117	1,795	1,614	966	312.6	33,010.
Kent County	4,843	4,650	4,482	4,154	4,129	4,034	3,886	3,842	3,824	3,730	3,542	3,202	2,816	366	1,825	51,518.
Total City & County Public	8,581	7,839	7,185	6,675	6,600	6,399	6,246	6,165	6,074	6,016	5,659	4,997	4,430	1332	330.85	84,528.
Grand Rapids Non-Public	693	1,483	1,786	1,776	1,757	1,685	1,833	1,672	1,682	1,706	1,518	1,438	1,387		10	20,426
Kent County Non-Public	441	634	712	833	785	796	712	626	629	232	276	268	188	245		7,417
Total City & County Non-Public	1,134	2,137	2,498	2,609	2,542	2,481	2,545	2,298	2,311	1,958	1,794	1,706	1,575	245	10	27,843
Combined Totals	9,715	9,976	9,683	9,284	9,142	8,880	8,791	8,463	8,385	7,974	7,453	6,703	6,005	1,577	340.85	112,371

TABLE 1.6

Secondary School District	State Equalized Valuation	Membership	Valuation per Pupil
Byron Center	$ 12,132,021	1363	$ 8900
Cedar Springs	10,896,605	1832	5947
Comstock Park	11,507,788	1807	6368
Caledonia	18,940,236	1877	10090
East Grand Rapids	52,914,238	3505	15096
Forest Hills	35,818,078	3231	11085
Grand Rapids	621,405,090	33010	18824
Grandville	43,130,711	4044	10665
Godwin	75,990,095	3289	23104
Godfrey Lee	26,136,462	1398	18695
Kent City	7,206,381	1121	6428
Kenowa Hills	41,788,596	2913	14345
Kelloggsville	29,245,532	2395	12210
Kentwood	44,698,395	4028	11096
Lowell	19,706,111	2187	9010
Northview	22,808,209	2794	8163
Rockford	28,589,153	3046	9385
Sparta	21,659,338	2686	8063
Wyoming	89,170,677	7328	12168
Totals	$1,213,743,716	83,854	

TABLE 1.7

Primary Districts	State Equalized Valuation	Membership
Boyd	$ 850,408	26
Stinson	1,214,393	53
Benham	530,206	27
Evans	287,608	20
Grattan Center	2,317,562	150
Talbot	1,742,473	19
Ashley	795,055	15
Mapes	185,712	28
East Nelson	749,190	33
Nelson Center	179,537	- - to Cedar Springs
Huggard	202,298	20
East Paris	3,851,763	to Kentwood
Griswold	438,925	42
Victory	198,502	17
Casnovia	1,374,181	142
Alton	260,213	22
Moseley	626,564	32
Totals	$15,804,590	646

TABLE 1.8

1965 District Census (5 – 7 years)

NAME OF CONSTITUENT DISTRICT	
Casnovia 8fr	145
Algoma 1fr - Rockford	3318
Alpine 10 - Boyd	60
Byron 1fr - Byron Center	2016
Caledonia 1fr - Caledonia	1982
Courtland 1 - Stinson	104
Courtland 5 - Benham	67
Courtland 6fr - Evans	35
Grand Rapids 1 - Grand Rapids	50362
Grand Rapids 3fr - East Grand Rapids	4054
Grand Rapids 15fr - Forest Hills	3537
Grattan 1fr - Grattan Center	265
Grattan 5fr - Talbot	140
Grattan 6fr - Ashley	50
Lowell 1fr - Lowell	2220
Lowell 6 - Mapes	32
Nelson 3fr - East Nelson	74
Nelson 5fr - Cedar Springs	1574
Nelson 6 - Nelson Center	39
Nelson 7fr - Huggard	27
Paris 6fr - Godwin Heights	3800
Paris 12fr - Kentwood	5296
Plainfield 9fr - Comstock Park	1873
Plainfield 16fr - Northview	3057
Sparta 2fr - Sparta	2590
Spencer 1fr - Griswold	65
Spencer 2 - Victory	19
Tyrone 4fr - Kent City	1093
Vergennes 1 - Alton	19
Vergennes 4 - Moseley	68
Walker 16fr - Kenowa Hills	3322
Wyoming 1fr - Grandville	4728
Wyoming 7 - Godfrey Lee	2018
Wyoming 8fr - Kelloggsville	2965
Wyoming 11 - Wyoming Public Schools	8731
	109890

Drop-Out Survey. In Kent County, during the 1964-65 school year a total of 27,246 pupils were enrolled in grades nine through twelve.

A survey of all the secondary schools was made to determine how many drop-outs there were in the 1964 school year, and to determine the reasons for dropping out.

The national average indicates that approximately one-third of those in grade school will drop out before high school graduation.

During the one year, 1964-65, the drop-out rate in Kent County secondary schools was 4.7 percent. Of all the pupils enrolled in grades nine through twelve in the school year 1965, 1,243 dropped out. If this drop-out rate is constant through four years of high school, the total drop-out rate for one class for the four years would be approximately eighteen percent. That is, since there are 28,135 pupils in high school now in grades nine through twelve, and since we anticipate that approximately 1240 will drop out each year for four years, total drop-outs for four years will be nearly 5000, which total approximates eighteen percent of one complete high school age group. It is expected that in May and June of 1966 about 6000 pupils will graduate from high school in Kent County. Thus, in four years time we tend to lose from our potential high school graduates a number about eighty percent as large as a given year's graduating class. If curriculums could be established which would encourage such a large group of drop-outs to remain in school until high school graduation, surely both society and the individuals so encouraged would benefit.

Statistics gleaned from the drop-out survey can be found in Table 1.9.

TABLE 1.9

DROP OUT SURVEY

9th Grade		10th Grade		11th Grade		12th Grade	
Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
177	120	215	161	175	176	119	100
Total							
297		376		351		219	
3.9%		5.1%		5.5%		3.6%	

Total - Boys 686
Total - Girls 557
Total - 1243 or 4.7%

Reasons

72% – Lack of interest (inability to adapt to academic program, poor attendance)
15% – Marriage
5% – Trouble at home
3% – Expelled
5% – Miscellaneous

CHAPTER II
AGRICULTURAL SURVEYS

Agricultural Occupations Survey

Introduction. During July, August and September, 1964, under the direction of Mr. Richard W. Reath, County Extension Director, and with the cooperation of area agriculture teachers, a survey was conducted in an attempt, prinarily, to learn the needs of employers in Kent County for young people with agricultural training and/or experience. A copy of the survey questionnaire used can be found in the appendix. Some of the questionnaires were mailed to prospective respondents, but most were completed when agricultural teachers called personally on the employers queried. An employer was contacted only if those conducting the survey thought agricultural training and/or experience might be desired for his employees.

Number Of Employers Participating. Questionnaires were completed by sixty (60) establishments, representing twenty-seven (27) different types of establishments. Table 2.1 presents the types of establishments responding to the survey and the number of each type responding.

TABLE 2.1

Types and Numbers of Businesses Responding to Agricultural Occupations Survey

Types of Businesses	Number
Animal Breeders	1
Automobile Sales, Service	1
Banking	1
Chemical Sales	1
Dairy	3
Farm Equipment, Implement Sales, Service	4
Fertilizer Sales	1
Florist	1
Food Growing and Processing	4
Fruits, Vegetables; Wholesale	1
Golf Course	1
Grain Elevator	3
Greenhouse	1
Grocery (and produce, meats)	5
Hardware	1
Hotel	1
Insurance	1
Lumber Sales	1
Meat (processing; wholesale, retail)	7
Michigan, State of, Dept. of Agriculture	1
Newspaper Publishing	1
Nursery	7
Oil Sales (home delivery)	1
Service Station (gas, oil, etc.)	1
Schools (secondary)	1
U.S. Post Office	1
Veterinarian	3

Numbers Employed By Respondents. The employers responding to the Agricultural Occupations Survey employed a total of 2292 employees. However, three employers accounted for seventy-four (74) percent of the total with 2000, 200 and 100 employees respectively. A majority (34) of the respondents employed fewer than ten employees.

Desirability Of Agricultural Skills And Knowledge. Twelve (12) employers answered that agricultural skills were required of their employees. These twelve employers employed a total of forty-five (45) employees of whom agricultural skills were required. Nine (9) employers required their employees to possess agricultural knowledge. Thirty-six (36) employees of these nine employers were expected to be so equipped. Fifteen (15) employers answered that if employees possessed agricultural knowledge, such was helpful, but not required. These fifteen employers hired 128 employees whose possession of agricultural knowledge was helpful, but not required. One employer in the wholesale produce business accounted for ninety (90) of these 128 employees. Thus, 209, or less than ten (10) percent of the employees whose employers were surveyed held jobs the performance of which was dependent upon the possession of agricultural skills and/or knowledge.

Although the questions regarding the number of employees needing agricultural skills and/or knowledge, or for whom such knowledge would be helpful, was worded in such a way as to clicit a numerical response, some employers evidently misunderstood. In addition to the thirty-six (36) employers mentioned above who wanted employees to possess such skills or knowledge, another eleven (11) indicated by checks (✓) or "yes" that they too, desired employees to be so equipped. Therefore, a total of forty-seven (47) or seventy-eight (78) percent of the employers surveyed answered that agricultural skills and/or knowledge were either required or some of their employees or were helpful to their employees.

Education Required Of Employees. Only forty-six (46) of the employers questioned responded to the question asking what education was required of their employees, of these forty-six, the majority (25) answered that a high school education was a requirement for employment; eight (8) responded that a "Short Course" in agriculture beyond high school was necessary or helpful; six (6) said technical training was required; and seven (7) said a degree was mandatory Presumably, for at least some of the jobs for which these employers need employees, education through high school is not required.

Employee Age Requirement. As one would expect, the median minimum age required for employment was eighteen (18). Minimum ages required for employment ranged from twelve (12) to twenty-five (25). Twenty-six (26) employers, however, answered that eighteen was the minimum age required of the employees. The next largest number of employers (8) responded that twenty-one (21) was the minimum age required of employees.

Employer Opinion Of The Number Of Available Employees. Most (27) of the employers who responded to the question asking for their opinion of the number of available employees indicated that the supply is adequate. Sixteen (16) said the supply is inadequate, and a few (4) answered that there is a surplus of available employees. Those employers in whose opinion an inadequate labor supply exists operate the types of businessess listed in Table 2.2. Of those employers who responded that an inadequate labor supply exists, only seven (7) themselves need additional employees; nine (9) of the employers who believe an inadequate labor supply is available in their respective types of business need no additional employees themselves. Furthermore, those employers who think an inadequate labor supply exists, and who themselves need additional employees required, at the time of the survey, only eleven (11) employees to fill the available positions. See Table 2.2.

TABLE 2.2
Types of Businesses in Which an Inadequate Labor Supply Is Thought to Exist Salary Range, and Numbers of Employees Needed

Type of Business	Salary Range Yearly Figures Unless Otherwise Indicated	Number of Employees Needed
Banking	$3,000 up	1
Dairy (retail)	----	-----
Grain Elevator & Farm Supply	$4,200 - 5,500	1
Farm and Auto Service	----	-----
Florist (retail)	$2,500 up	1
Grocery	$1.27 - 2.23 hr.	-----
Hardware	$1.00 hr. up	1
Hotel	$1.25 - 2.50 hr.	1
Insurance	$5,000 - 7,500	-----
Meat Processing	$2.00 - 3.00 hr. $5,000 - 14,000	2
Newspaper	$25 weekly, up	-----
Nursery	$1.25 - 2.00 hr.	2
Veterinarian	$7,500 up	1
Wholesale Meat, Slaughterhouse	$2.00 - 3.00 hr.	-----

Number Of Agricultural Jobs Available. Relatively few jobs for which agricultural skills and/or knowledge are required or helpful were available at the time the survey was conducted. Employers answered that a total of ninety-four (94) jobs were available. However, one employer, the vegetable grower and packager who hires employees as young as twelve (12), accounted for seventy (70) of the ninety-four (94), and he also replied that the labor supply was adequate. Only twenty-four (24) jobs with other responding employers were available.

Wages Paid. Wages and salaries paid by responding employers ranged from a low of twenty-five ($.25) cents per hour for farm laborers to $25,000 per year for a licensed veterinarian.

Employer Interest In Co-Op Program. Forty-eight (48) employers responded to the question asking about their interest in a program in which a high school senior would be employed by them, receiving on-the-job training. Forty (40) of those responding indicated interest in such a program; eight (8) were not interested. The largest employer (1400 employees) was not interested. The second largest employer (200 employees) responded, "We are interested, but because of labor contracts this would almost be impossible." The third largest employer (100 employees) indicated interest, but may have misunderstood the question. He answered, "Summer type work has some possibilities -- however, college applicants usually sufficient."

Survey of Farm Labor Needs

Introduction. Late in the second semester of the 1964-65 school year it was decided that an attempt should be made to survey farm labor needs in Kent County and, simultaneously, to ask of families living on farms certain questions the answers to which could be of value to the completion of the study herein being reported. Consequently, a questionnaire having been prepared, copies of it were taken to teachers of agriculture in the high schools of Kent County having agricultural courses. These teachers, it was presumed, knew the area in which they taught so well that they could direct students of theirs to deliver copies of the questionnaire to most of the significant farms in their respective areas. Completed questionnaires were returned to the office of the Director. At the outset, the reader must be cautioned that no attempt was made either to sample farms in a statistically random fashion or in a statistically stratified fashion. Furthermore, relatively few questionnaires were completed and returned. If one is to attempt to interpret the data here presented, then, he must do so with caution.

A copy of the questionnaire used can be found in the appendix.

Number and Size Of Farms Represented In The Survey. Our survey tends to over-represent the large farms and under-represent the small farms. Table 2.3 presents data on farm size.

TABLE 2.3
Farms by Size
Respondents and All Kent County

	Number		Percent	
Size of Farm	Respondents	All of Kent	Respondents	All of Kent
Under 100 acres	10	1714	15	55
100-259 acres	43	993	63	34
260 or more	15	186	22	6

Ages of Farm Operators. Table 2.4 shows the number of farm operators by ages.

TABLE 2.4
Number of Farm Operators By Age

Ages	Number
Under 25	9
26-35	4
36-45	17
46-55	22
56-65	9
Over 65	1

Formal Agricultural Education Of Farm Operators. Thirty-four (34), or exactly one-half, of the respondents operating farms have had high school courses in agriculture. Thirteen (13)of these have taken four (4) years of high school agriculture; eight (8) have fewer than four (4) years of high school agriculture courses; the other (13) responded without explaining the exact number of years of agriculture courses they had taken.

Only eight (8) of the respondents have taken college courses in agriculture. Four (4) of these took one year each of college agriculture; three (3) were enrolled in college agriculture courses for two (2) years each; one (1) spent three (3) years in college agricultural classes.

Sixteen (16) respondents (approximately 24 percent) have taken adult education classes in agriculture.

Adult Education Desired By Farm Operators. Twelve (12) of the respondents (nearly 18 percent) answered that adult education courses in equipment maintenance, operation and repair would be of benefit to them. Eleven (11) of those responding (about 17 percent) asked for adult courses in farm management and/or record-keeping. Nine (9), or approximately thirteen (13) percent requested adult courses in animal husbandry, including livestock selection and management, breeding, and disease recognition and control. A few respondents requested adult courses in use of fertilizers, chemicals and pesticides; in soil analysis and in orcharding.

Kinds Of Farming And Typical Farm Size. Farms were classified, for the purposes of this survey, both by the kinds of crops grown and by the types of livestock raised. No attempt was made to classify the farms into just one classification; rather, a farm might be classified under one, two, or more headings depending on the crops grown and the livestock raised.

Table 2.6 presents the size of each farm by kinds of farming done by acreage and/or head. Table 2.5 shows the number of farms by kind.

TABLE 2.5
Numbers of Farms by Kinds of Farming

Kinds of Farming	Number of Farms
Beef Cattle	19
Bees	1
Dairy	43
Fowl	4
Fruit	15
General	8
Grain	59
Swine	13

TABLE 2.6
Kinds of Farming, By Acreage and/or Head

Beef Cattle (head)	Bees (hives)	Dairy (head)	Fowl (birds)	Fruit (acres)	General (acres)	Grain (including alfalfa, hay, pasture)	Swine (head)
139	700	142	60,000	160	150	1,000	600
60		140	350	130	150	698	600
48		134	335	100	65	380	70
40		130	250	75	40	320	50
30		130		66	30	315	26
25		122		60	25	215	20
20		90		60	12	210	16
20		80		60	2	203	10
20		80		55		197	10
17		75		40		195	8
16		65		35		170	5
14		65		32		150	3
12		65		15		145	3
6		64		12		143	
3		50		40		140	
3		48				137	
2		45				135	
2		45				133	
2		45				130	
		40				120	
		40				115	
		40				115	
		38				115	
		37				110	
		35				110	
		35				110	
		34				109	
		33				100	
		33				99	
		33				95	
		30				94	
		26				89	
		24				87	
		24				76	
		22				74	
		20				70	
		18				70	
		17				70	
		15				62	
		12				57	
		10				54	
						54	
						53	
						51	
						47	
						45	
						45	
						43	
						40	
						35	
						30	
						30	
						25	
						20	
						20	
						15	
						8	
						6	
Total: 479	700	2,379	60,939	940	474	7,745	1,421

Number Of Workers Employed And Needed. The farms surveyed employ, including owners, 210 full-time workers. In addition, then, to the owner-operators, 142 full-time workers find employment on these farms. Of these, sixty-eight (68) were family members. Nearly sixty-five (65) percent of the full-time workers on these farms are family members, therefore. Seventy-four (74), or about thirty-five (35) percent are non-family members. Only nine (9) of the farms surveyed employ more than five (5) full-time workers. Eighty-five (85) percent of the farms surveyed employ five or fewer full-time workers; almost fifty-nine (59) percent (40 farms) employ two or fewer full-time employees.

Thirty-one, or approximately half, of the responses indicated a need for additional seasonal help. It was difficult to estimate the number of seasonal employees needed by the respondents, however, because the question, in retrospect, was not worded in such a way as clearly to call for a numerical response. Our best estimate is that approximately 100 seasonal employees would be needed.

Well over half (39) of the farms surveyed need no additional employees, even if dependable employees were available. Almost thirty-seven percent (25 farms) would hire additional available, dependable employees. Nine (9) respondents would hire these additional employees full-time; sixteen (16) would hire additional part-time dependable workers. Most of these possible additional employees would be assigned general farming tasks, rather than any specific, specialized duties.

Fifty (50) of the returned questionnaires contained a response to question 5: "If present help left, would you fill the vacancy?" Of those responding to the question, nearly one-third (32 percent) answered, "No." Sixty-eight (68) percent responded, "Yes."

Education Additional Help Should Have. Four (4) of the respondents expected that additional employees they might hire have taken college courses in agriculture, but nearly all (21) who indicated a need for additional dependable employees thought these employees ought to have had high school courses in agriculture. It is somewhat difficult, however, to estimate the number of years of high school agricultural education these respondents would expect of their additional employees. One (1) respondent thought one year of agricultural education would be sufficient; ten (10) answered that four years would be expected. Nine (9) respondents simply checked (√) high school without writing the number of years expected.

Estimated Five-Year Annual Need For Employees. Thirty-four (34) respondents estimated their five-year annual need for part-time employees. The number of part-time employees needed per farm ranged from one (1) to thirty (30). The total annual need for part-time employees was 149. Most employers (23) would expect these employees to do general farming work; five (5) would require employees for orcharding; four (4) respondents anticipate a need for part-time employees to harvest grain crops; two (2) employers estimate they will require dairy workers.

Twelve respondents estimated their five-year annual needs for full-time employees. The one 1200 acre farm estimated it will need twenty (20) employees annually; no other respondent will need more than two (2) full-time employees annually the next five years. The total, annual, estimated number of employees needed was thirty-six (36). Five (5) employers answered that these full-time employees would be engaged in general farm work; four (4) needed these employees for work on dairies; two (2) need employees for orcharding; and one (1) employer expressed the need for an employee who would work with fowl.

Table 2.7 presents the expressed need of the respondents for employees over the next five years.

TABLE 2.7

Estimated Five-Year Annual Need For Employees

Part-Time		Full-Time	
No. of Farms	Employees per farm	No. of Farms	Employees per farm
1	39	1	20
1	25	5	2
1	12	6	1
2	10		
3	8		
1	6		
7	2		
18	1		

Knowledge And Skills Of Benefit To Employees. Forty-one (41) of the respondents answered the question, "What subject knowledge or skills would be of benefit to your employees?" Of these, nineteen (19) mentioned equipment operation and/or maintenance. Eight (8) employers think knowledge of livestock care and breeding would be of benefit to their employees; seven (7) ask that employees have general farm experience; three (3) responded that knowledge of orcharding would be beneficial, and another three (3) thought a knowledge of record-keeping and farm management would be helpful. One (1) employer thought his employees would be benefited if they had some knowledge of soil analysis.

Opinion As To Content Of High School Agricultural Curriculum. Farm operators were asked what they thought should be taught in high school agricultural courses. Thirty-nine (39) respondents (approximately 57 percent) replied to this question. Of the respondents most (19, or nearly 28 percent) mentioned record-keeping and farm management as being desirable for inclusion in the agricultural curriculum. The next largest group of respondents (17) mentioned farm equipment operation and maintenance. Eleven respondents wanted high school agriculture students to study care of livestock and eight (8) farm operators thought soil analysis should be included in the high school agricultural curriculum. Other suggestions included orcharding, pest control, use of fertilizers and chemicals, general farm experience, harvesting, and building and fence maintenance, but none of these latter suggestions was mentioned more than six (6) times.

Suggested Training For Future Farm Jobs. Approximately one-half (36) of the respondents replied to the question asking their opinion of the training young men should have for future farm jobs. Of these, nearly fifty (50) percent (16) mentioned general farm experience. Eleven mentioned farm equipment maintenance and operation. Eight (8) wanted young men to have record-keeping and farm management training, and seven (7) wanted future farm workers to have had training in working with livestock.

Farm Operators' Occupational Aspirations For Their Sons. Forty-one (41) of the respondents (60 percent) replied to the question asking if they encouraged their son(s) to make farming their vocation. Of those responding to the question, fifty-eight (58) percent (24 respondents) replied "yes". The others (17 respondents or approximately 42 percent) do not encourage their sons to make farming their vocation.

Thirty-three (33) respondents replied to the query asking if they encouraged their son(s) to choose some vocation other than farming. Almost sixty-four (64) percent (21 respondents) replied, "Yes". Twelve (12) respondents (approximately 36 percent) replied, "No".

CONCLUSIONS OF THE AGRICULTURAL OCCUPATIONS & FARM LABOR SURVEY

Both the Agriculture Occupations Survey and Farm Labor Needs Survey were inconclusive in their results. The survey of farm labor needs was received from only 68 farmers. The 1960 census indicates we had 2,893 farms in Kent County. The Agricultural Occupations Survey was used by the County Extension Program for the use of school counsellors in Kent County -- only 60 participated in the survey.

The committee is aware of the need for trained people in both the agricultural production field and the fields relating directly with agriculture.

The present six high schools offering vocational agriculture should continue with their present programs which are mainly geared for the training of agriculturalists in the production field.

The Area Center would specialize in offerings based in part on the survey and in part with the advice of agricultural advisory groups.

A - Landscaping
1. Nursery
2. Greenhouse
3. Parks and cemetery and golf course
4. Horticultural practices

B - Farm machinery repair, maintenance, and operation

C - Record keeping and farm management

CHAPTER III
A STUDY OF HIGH SCHOOL SENIORS

Introduction. During the early months of 1965 the Executive Committee of the Kent County Vocational-Technical Education Survey examined a survey instrument (High School Information Sheet) for use with high school seniors which had been originally developed by Dr. Raymond Young of the University of Michigan's Center for the Study of Higher Education and which had been used, modified slightly, by the Institutional Evaluation Coordinating Committee of Grand Rapids Junior College in a survey conducted in 1964. Having made further slight modifications in the instrument, the Executive Committee instructed the director of this study to attempt to secure the cooperation of all secondary schools in Kent County to administer the Information Sheet to their respective senior classes.

Two high schools (Grand Rapids Catholic Central and Grand Rapids West Catholic) were unable to participate in this survey because their respective closing dates for senior pupils considerably preceeded the closing dates of the public high schools. The survey director, inappropriately assuming more uniform closing date, failed to contact these two parochial high schools early enough to ensure their participation. Furthermore, for a reason completely unknown to the director, data was either not received or not processed from Creston High School, one of the Grand Rapids City high schools.

The above difficulties conceded, and with the aid of Mr. G. Adler, returns were received from almost all Kent County public, private, and parochial secondary schools. At the time the questionnaires were distributed, it is estimated there were 6088 ("Fourth Friday" enrollment) students in the senior classes in Kent County high schools. Returns were received from 3973 seniors; thus, the returned, usable, processed returns represent approximately 65.24 percent of the total 1965 Kent County senior class. A copy of the questionnaire may be found in the appendix.

Sex and Geographic Distribution of Seniors. Please examine Table 3.1. Notice that 678 of the male respondents were from the City of Grand Rapids and that 828 of the female respondents were from Grand Rapids. Of the non-Grand Rapids residents, 1264 were males and 1202 were females. (Remember that these figures present a distorted picture because three large city schools are not included. Actually, the number of Grand Rapids City and non-city senior pupils was almost exactly equal.

TABLE 3.1

Sex and Geographic Distribution of Seniors

Location of High School	Male	Female	Total
Grand Rapids Public	504	531	1035
Non-public	174	297	471
Total	678	828	1506
Non-Grand Rapids	1264	1202	2466
Grand Total	1942	2030	3972

Enrollment by High School Curriculum. The curriculum in which a high school student is enrolled is usually taken by educators to be indicative of the student's educational, and, often, occupational aspirations. An examination of the curriculums in which the respondents are enrolled reveals that just over 50 percent are enrolled in the college preparatory curriculum. Nearly 50 percent, then, are enrolled in non-college preparatory curriculums. The two non-college preparatory curriculums in which these seniors are enrolled are the commercial curriculum and the general curriculum. Table 3.2 presents this data.

TABLE 3.2

Senior Enrollment By Curriculums

Sex	No Response	Comm.	College Prep.	Ind. Arts	Agri.	Gen'l	Home Econ.	Other
Male	11	167	1063	176	30	478	1	16
Female	4	706	966	4	0	316	17	18
Total	15	873	2029	180	30	794	18	34
Percent	.38	21.97	51.07	4.53	.76	19.98	.45	.86

Seniors' Perceptions of Their Rank in Their Classes. Almost one-third of the seniors responding to our survey think they rank in the top one-third of their respective classes, but fifty-five (55) percent think they rank in the middle third of their respective classes. Only 12 percent suppose they are in the lower third of their classes. Table 3.3 shows how these students ranked themselves.

TABLE 3.3

Perceived Rank in Class of Seniors

Sex	No Response	Top Third	Middle Third	Lower Third
Male	14	528	1070	328
Female	21	721	1118	170
Total	35	1249	2188	498
Percent	.88	31.46	55.11	12.54

Community Stability. The seniors who responded to our survey tend to come from homes which have not been "broken" by death, separation, or divorce. Eighty-four (84) percent of the respondents were living with both parents at the time of the survey. Furthermore, nearly 76 percent of these seniors had lived in Kent County over 10 years and another 10 percent had lived in Kent County from 6 to 10 years. These data tend to show that there is a high degree of community stability in Kent County. Future educational plans do not have to contend with high rates of in-mobility or out-mobility. Tables 3.4 and 3.5 present these data in greater detail.

TABLE 3.4

With Whom 1965 Seniors Are Living

Sex	No Response	Both Parents	Only Mother	Only Father	Other
Male	3	1640	192	37	69
Female	1	1703	183	39	105
Total	4	3343	375	76	174
Percent	.10	84.16	9.44	1.91	4.38

TABLE 3.5

Years Seniors' Homes Have Been in Kent County

Sex	No Response	Less than 1 year	1-2 years	3-5 years	6-10 years	over 10 years	Not in K.C.
Male	3	28	55	102	167	1496	90
Female	2	43	55	100	237	1517	77
Total	5	71	110	202	404	3013	167
Percent	.13	1.79	2.77	5.09	10.17	75.86	4.20

Anticipated College Attendance. Over 52 percent of the seniors in the 1965 class definitely expect to attend college, and another nearly 14 percent probably will attend. Eighteen (18) percent do not plan to attend college, and the plans of another 5 percent probably do not include college attendance; 10 percent don't know if they will attend or not. These percentages should be compared with the high school curriculums in which these seniors say they are currently enrolled (see above, p 18). Whereas about 50 percent of seniors say they are enrolled in the college preparatory curriculum, 64 percent see themselves as probably attending college. The data summarized in this paragraph are shown in Table 3.6.

TABLE 3.6

Seniors' Plans to Attend College

Sex	No Response	No	Probably Not	Probably So	Yes	Don't Know
Male	5	239	104	2777	1092	224
Female	10	488	106	264	983	180
Total	15	727	210	541	2075	404
Percent	.38	18.30	5.29	13.62	52.24	10.17

Seniors' College of Preference. Only those seniors who had answered that they definitely or probably would attend college were asked to respond to the question asking them to name the college of their choice. Thus, 1303 seniors did not respond to this item. Of those who did respond, nearly 40 percent said they expected to attend Grand Rapids Junior College. No other individual college was selected as the choice of as many as 8 percent of the respondents. Table 3.7 shows the colleges these seniors (who probably or definitely will attend college) hope to attend.

TABLE 3.7

Colleges Seniors Expect To Attend

College	Sex		Total	Percent
	Male	Female		
Aquinas	9	26	35	
Calvin	93	88	181	6.78
C.M.U.	35	47	82	3.07
Davenport	55	132	187	7.01
Ferris	120	46	166	6.22
G.R.J.C.	596	457	1053	39.48
G.V.S.C.	92	82	174	6.52
Hope	14	13	27	
M.S.U.	97	91	188	7.04
Muskegon C.C.	2	4	6	
U.M.	48	34	82	3.07
W.M.U.	56	70	126	4.72
Other Mich.	80	115	195	7.31

First-Year Post-High School Plans. The largest group said they would attend college, and another nearly nine percent will enroll in some post-high school educational institution with a special vocational purpose. Thirty-three percent expect to enter full-time employment. Table 3.8 presents these data more fully.

TABLE 3.8

Seniors' Plans for First Year After Graduation

Plan	Sex		Total	Percent
	Male	Female		
No Response	65	48	113	3.34
Work	615	514	1129	33.36
Housewife		29	29	.86
Military Service	118	13	131	3.87
Work at home for parents	14	12	26	.77
College	948	643	1591	47.02
Business College	35	57	92	2.72
Trade or Tech. school	79	31	110	3.25
Nursing School		99	99	2.93
Don't know	39	25	64	1.89

Perceived Adequacy of High School Preparation As It Relates to Post-High School Plans. Twenty-seven (27) percent of the respondents think their respective high schools are doing an inadequate job of preparing them for what they hope to do after graduation. Another 47 percent insist that although their high schools are doing well in some ways, preparation is not adequate in other ways. Thus, nearly 75 percent of the respondents think their high schools somewhat or seriously deficient in terms of the post-high school plans of their pupils. These data are presented in Table 3.9.

TABLE 3.9

Perception of Adequacy of High School Preparation

Adequacy	Sex		Total	Percent
	Male	Female		
No Response	33	27	60	1.51
Just what's needed	382	553	935	23.56
Well, but somewhat inadequate	895	988	1883	47.45
Fair, all need improvement	454	359	813	20.49
Poor	175	102	277	6.98

Seniors' Reccomendations To Improve High Schools. Only 2169 seniors wrote in reccomendations for the improvement of their high schools; 1800 did not respond to this item. The recommendation most often suggested, however, was for the addition of technical-vocational curriculums or courses. Of the respondents, 693 or 31 percent recommended added occupationally-related high school offerings. The next largest group, 495 or nearly 23 percent out of the respondents suggested more liberal arts subjects be added to the schedule. Table 3.10 presents these data more fully.

TABLE 3.10

Seniors' Suggestions Re: High School Improvements

Suggestion	Sex		Total Respondents	Percent of total Seniors	Percent of Respondents
	Male	Female			
Better teaching	177	197	374	9.42	12.63
Better Counselling	88	155	243	6.12	11.20
More Liberal Arts	245	250	495	12.47	22.82
More Tech-Voc.	318	375	693	17.46	31.48
Extra Curricular	4	4	8	.20	
Up-to-date Methods	17	5	22	.55	
Other	181	153	334	8.42	14.39

Adequacy of High School Help to Seniors Planning Occupations or Future Education. Only 18 percent of the respondents believe that their respective high schools are adequately helping them to make their plans for future education and or occupations. Another 24 percent are of the opinion they have received considerable help, but suggest nevertheless, that more help could be used. Well over half (56 percent) of the respondents insist they are receiving little or no help or not very much help from their high schools in planning for their future. It should be noted that these data tend to substantiate the data noted above, p. 22,Table 3.10. There wa found that nearly 75 percent of the seniors think their high schools should help them more with their post-high school plans. Here we find that just over 80 percent want additional assistance planning their occupational and educational futures. These data are given in Table 3.11.

TABLE 3.11

Seniors' Perceptions of Adequacy of Help Received from High School Re: Occupational Goals and Future Educational Plans

Adequacy	Male	Female	Total	Percent
No Response	21	20	41	1.03
All Help Needed	301	423	724	18.25
Considerable, but could use more	442	520	962	24.24
Not Much	653	653	1306	32.91
Little or None	521	414	935	25.56

Perceived Attitudes of Parents Toward Seniors' College Attendance. Certainly the attitudes toward his possible college attendance which a high school senior believes his parents hold play an important part in his own plans for future, formal education. Over-whelmingly, seniors understand their parents to be sympathetic to plans for college attendance, or insistent upon attendance. Those seniors who did not respond to the question about such parental attitudes, plus those who (1) perceive their parents as not caring if they attend college or not, (2) say their parents don't want them to attend, and (3) respond that their parents won't permit them to attend college constitute just 16.21 percent of the total respondents. Over 82.5 percent of the seniors responding to the survey believe their parents insist upon their children attending college, or want their children to attend if the child himself wants to do so. Such strong parental attitudes will undoubtedly lend support to those 64 percent of the seniors (see Table 3.6, above, p.20)who anticipate attending college. Table 3.12 presents these data in greater detail.

TABLE 3.12

Parental Attitudes Toward Seniors' College Attendance

Attitude	Male Senior		Female Senior		Total	Percent
	Mother's Attitude	Father's Attitude	Mother's Attitude	Father's Attitude		
No Response	42	125	41	104	312	3.93
Insists or Expects Attendance	629	641	406	417	2093	26.36
Wants Attendance if Child Does	1116	981	1288	1177	4562	56.21
Doesn't Care	139	175	244	288	846	10.65
Doesn't Want Attendance	13	16	49	42	120	1.51
Won't Permit Attendance	0	1	2	2	5	.12

Parents' Formal Schooling. These parents who, if their children have assessed their attitudes correctly, so strongly approve of college for their children -- what formal education have these parents themselves had? Both mothers and fathers of the large majority of the respondents have not gone beyond high school; 73 percent of these seniors said their mothers have had no formal schooling beyond high school, whereas 65 percent of these pupils said their fathers had not gone byond high school. Fathers of these seniors are said to have achieved post-high school education in greater proportions (nearly 30 percent) than their mothers (about 24 percent). As has been made clear in so many studies, in this study too we find parents, generally, anticipating higher educational achievements on the part of their children than the parents themselves attained. These data are to be found presented in Table 3.13.

TABLE 3.13

Parents' Formal Educational Attainments

Attainment	Mother		Father	
	Number	Percent	Number	Percent
No Response	32	.81	74	1.86
Eighth Grade or Less	450	11.34	735	18.52
Some High School	840	21.16	784	19.75
High School Graduate	1627	40.99	1070	26.96
Business College, Trade School	260	6.55	248	6.25
Some College	311	7.84	415	10.46
College Graduate	370	9.32	517	13.03
Don't Know	79	1.99	126	3.17

Highest Grades Attained by Seniors' Siblings. The eldest sisters of the respondents have attained high school education or less in greater proportions than the eldest brothers of the respondents. Nearly 18 percent of the oldest brothers of the respondents have a high school education or less; over 19 percent of the oldest sisters of the respondents have a high school education or less. Nearly 18 percent of the oldest sisters of the respondents have had post-high school education; more than twenty-one percent of the oldest brothers of the respondents have had post-high school education. These data are presented in greater detail in Table 3.14.

TABLE 3.14

Grade Level Attainments of Seniors' Oldest Siblings

Attainment	Brother		Sister	
	Number	Percent	Number	Percent
No Response	1235	31.12	1272	32.06
Eighth Grade or Less	55	1.39	30	.76
Some High School	190	4.79	164	4.13
High School Graduate	449	11.32	576	14.52
Some College	417	10.51	293	7.38
Business or Trade School	89	2.24	97	2.44
College Graduate	347	8.74	312	7.86
Don't Know	8	.20	12	.30
No Older Sibling	1178	29.69	1212	30.54

College Attendance of Seniors' Other Relatives. More than 50 percent (51.37 percent) of the respondents answered that other relatives have completed college. Fifty-three of these seniors have grandparents who have completed college; 1837 have aunts, uncles, and/or cousins who have completed college.

Vocational Goals of High School Seniors. Nearly 25 percent of the senior males and nearly 24 percent of the female seniors aspire to professional occupations. The occupational goals of many more seniors, if realized, would require post-high school formal education of less than four years (minimum) duration. For example, 116 respondents aspire to positions as laboratory technicians; 136 girls want to become practical nurses; 121 seniors look forward to jobs in the building industry; 163 aspire to positions at the management or executive level; and 80 girls want to become beauticians. For each of these jobs mentioned, and for others listed by these seniors additional education beyond high school is necessary. Approximately 48 percent of the respondents either did not respond or said they wanted jobs which, in the opinion of the author, might require no additional education beyond high school. This figure includes such listings as military, housewife, sales, agriculture, etc. On the other hand, some of those jobs included in this 48 percent might well require additional education, or additional education might be valuable in these jobs, such as clerical work, sales, electrical (or electronics), etc. Table 3.15 presents these data in greater detail.

TABLE 3.15

Job Preferences of Respondents

Occupational Preference	Male		Female		Total	Percent of Total
	Number	Percent	Number	Percent		
No Response	233	12.06	133	6.56	366	9.24
Don't Know	123	6.37	52	2.56	175	4.42
Professional (inc. R.N.)	475	24.59	477	23.51	952	24.03
Practical Nursing	1	.05	136	6.70	137	3.46
Lab Technician	44	2.28	72	3.55	116	2.93
Military	37	1.92	3	.15	40	1.01
Civil Government	42	2.17	43	2.12	84	2.15
Clerical	36	1.86	414	20.40	450	11.36
Home Economics	1	.05	4	.20	5	.13
Housewife			395	19.47	395	10.00
Electrical	56	2.90	0		55	1.41
Selling, Waitress	54	2.80	21	1.03	75	1.89
Drafting, Construction	116	6.00	5	.25	121	3.05
Mechanics, Tool & Die	176	9.11	0		176	4.44
Agriculture	71	3.67	4	.20	75	1.89
Airlines	11	.57	24	1.18	35	.88
Art	27	1.40	61	3.01	88	2.22
Management, Executive	238	12.32	25	1.24	263	6.64
Barber, Beautician	2	.10	80	3.94	82	2.07
Church Related	43	2.23	13	.64	56	1.41
Entertainer, Announcer	19	.98	20	.99	39	.98
Communications	5	.26	19	.94	24	.61
Miscellaneous	121	6.26	28	1.38	149	3.77

Student Employment. Only about 36 percent of the seniors queried did not at the time of the survey have part-time jobs. Less than one percent did not respond to the question. Over 63 percent of the respondents, or 2507 individuals (boys: 1434; girls: 1073) were employed part-time. The percentage of employed males (73.96) exceeded the percentage of employed females (52.86) by more than 21 percent. These data may be found in Table 3.16.

TABLE 3.16

Seniors' Employment

Employed	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
No Response	26	1.34	10	.49	36	.91
Yes	1434	73.96	1073	52.86	2507	63.16
No	479	24.70	947	46.65	1426	35.93

Occupational Aspirations. Seniors were asked, in Question 22 of the Survey instrument, to name the profession or job for which they would most like to prepare if they intended to take advanced technical, business, or trade training or attend college. The responses, both numerically and by percentages, to this question so closely parallel those cited above, page 25. that we think it is unnecessary to repeat them here. Surely, however, if interest is a comparison of the percentages of those who responded that they sought clerical positions and those who wrote they wanted to be salesmen. Four hundred fifty respondents answered to Question 15 that they wanted clerical positions; these respondents constituted 11.8 percent of the total. Three hundred fifty-seven respondents, 9.01 percent of the total, answered Question 22, similarly. If these 357 students understood Question 22 correctly, we may assume that a large proportion of the seniors who look forward to clerical positions expect to take advanced training prior to seeking a job. Likewise, 75 respondents said in answer to Question 15 that they wanted sales positions; 50 responding seniors said, in answer to Question 22, that they expected to take advanced training prior to entering sales work.

Evaluation of High Schools. Seniors were asked to rate their respective high schools on several items by the use of a tripartite scale. On many of the items the ratings tended to follow a pattern, which, if they were plotted on a graph, would follow rather closely the familiar bell-shaped curve. That is, the most usual rating on each item was the middle rating "good", while the "excellent" and "poor" ratings often were of strikingly similar proportions. Those responsible for the supervision of high school programs might want to take special note of the fact that, in the opinion of the responding seniors, their schools fail most often in helping them with their personal problems. The high schools evidently succeed most often in helping their pupils to plan to attend college. Approximately 25 percent of the respondents are dissatisfied with the help they receive as they attempt to choose a vocation. Vocational counseling received more "poor" ratings from both boys and girls than any other item rated except counseling on personal problems. These data are presented in greater detail in Table 3.17

TABLE 3.17

Ratings of High School Services, Facilities, Experiences

Item	Male Excellent	Male Good	Male Poor	Female Excellent	Female Good	Female Poor
	Percent			Percent		
Counselling on School Problems	20.47	56.78	20.68	19.32	59.39	19.91
Counselling on Personal Problems	13.05	46.98	35.59	14.44	48.35	33.27
Counselling on Vocational Choice	20.53	50.39	26.35	20.95	53.23	23.61
Counselling on College	30.38	51.16	15.47	29.28	53.38	14.69
Information on Vocations	24.39	51.73	20.78	25.78	54.90	17.55
Courses Offered	19.44	62.97	15.06	17.40	69.10	12.27
Social Activities	19.13	55.96	22.28	19.17	60.52	18.97

Perceived Help By Student Rank. Those seniors who think of themselves as being in the middle or lower thirds of their respective classes are most dissatisfied with the help they receive from their high schools relative to their post-high school educational and occupational plans. Nearly 67 percent of the males in the lower third of their classes and 55 percent of the females think they get little or only some help. Sixty-one percent of the males and 52 percent of the females in the middle third of their classes think the help they receive is inadequate. But a rather surprising 56 percent of the males and 52 percent of the females in the top third of their classes also think only some or little help is provided them with their post-high school occupational or educational plans. (Question 12.) Table 3.18 presents these data in greater detail. (The reader is cautioned to add the percentages in this table in vertical colums if he attempts to get near-100 percent figures. The data are not constructed so as to be able to be added horizontally.)

TABLE 3.18

Perceived Help With Post-High School Occupation and Educational Plans By Sex and High School Rank

Help Received	Male Top Third	Male Middle Third	Male Lower Third	Female Top Third	Female Middle Third	Female Lower Third
		Percent			Percent	
All Needed	20.83	13.94	12.84	24.86	19.14	15.29
Considerable, but could use more	21.97	23.95	19.27	22.64	27.10	27.65
Some, not much	31.44	34.52	34.56	32.78	31.93	30.59
Little or None	24.43	26.57	32.42	19.17	20.66	24.71

Plans For Work and Further Education. Most seniors are quite realistic as they contemplate the conditions under which they most are likely to continue their education. Twenty-six (26) percent of the girls and 19 percent of the boys would attend school full-time without working after graduation from high school. (These percentages are based on the total number of respondents. If we considered only those actually contemplating further education, the percentages would be higher.) Another 53.76 percent would attend full-time and work part-time, work full-time, and attend school part-time, or both work and attend school part-time. Rather unrealistically, 129 respondents, or 3.25 percent would both attend school and work full-time.

Training Desired by Non-College-Bound Seniors. Of those seniors who do not expect to go to college, 456 would be most interested in on-the-job training programs if they were to get further education. Another 212 would like to become apprentices; 179 are evidently impressed with the opportunities for training in military service schools, and 85 might enroll in a community college on a part-time basis. Table 3.19 presents these data.

TABLE 3.19

Interest In further Education By Non-College-Bound Seniors

Training	Male	Female	Total
Apprentice	168	44	212
Military Service School	139	40	179
On-the-job Training	174	282	456
Community College, part-time	25	60	85

CONCLUSIONS ON THE STUDY OF HIGH SCHOOL SENIORS

6,088 questionnaires were sent out with a return of 3,973 or 65.24% of the 1965 Kent County senior class.

49.9% were enrolled in non-college preparatory curriculums, mainly commercial and general.

84.0% were living at home with both parents.

76.0% had lived in Kent County 10 years or more indicating a high degree of stability.

52.0% of the seniors expect to go on to college.

30.94% of the seniors will be looking for a paying job after graduation.

31.4% of the seniors suggested more vocational education as the way their school could improve.

18.0% of the seniors believe that their high schools are adequately helping them to make plans for future education and/or occupations.

80.0% want additional assistance planning their occupational and educational futures.

25.9% of the parents insist or expect attendance in college after graduation.

56.0% would like to see their son or daughter attend college if they so wish.

40.8% of the fathers and 35.4% of the mothers did not complete high school.

13.5% of the fathers and 9.5% of the mothers are college graduates.

Nine hundred thirty-two (932) seniors indicated an interest in further education but not at a college level.

CHAPTER IV

A STUDY OF HIGH SCHOOL GRADUATES

Introduction. Members of the Executive Committee of the Kent County Vocational-Technical Education Survey thought it would be well to query the graduates of the high schools of the county. It was decided to send questionnaires to the graduates of the class of 1961, because by the Spring of 1965 many of these might well have found rather permanent employment for themselves or could have been well on the way to a baccalaureate degree. A fifty percent random sample of all of the graduates of 1961 was decided upon. However, by the time the survey was completed, a questionnaire had been sent to virtually every graduate because when a questionnaire was returned as undeliverable, the next person on the list was sent a questionnaire to replace the one returned by the Post Office as undeliverable. Post Office regulations require forwarding of first class mail for two years only. Proper addresses could not be located for many of the young men and women from whom we anticipated replies.

Number of Respondents. Approximately 2371 questionnaires were sent to high school graduates of 1961. Replies were received from 1067, or from approximately forty-five percent of the possible respondents. Usable replies were received from 533 men and from 531 women.

Place of Residence of Respondents. Over forty-one percent of the respondents now live in the city of Grand Rapids; nearly thirty-one percent of the respondents at the time of the survey lived in Kent County areas other than Grand Rapids, and just over twenty-seven percent were living outside Kent County. These data are presented in Table 4.1.

TABLE 4.1

Place of Residence of Respondents

	No Response	G. Rapids	E.G.R.	Walker	Wyoming	Others Kent Co.	Other	Total
Male	1	217	14	11	52	81	157	533
Female	2	228	14	13	58	82	134	531
Total	3	445	28	24	110	163	291	1064
Percentage	.28%	41.82%	2.63%	2.26%	10.34%	15.32%	27.35%	

Relative Permanency of County Residence. The large majority of graduates of Kent County high schools tend to remain as residents of Kent County, if we may judge by the responses of these respondents. Nearly sixty percent are still residents of Kent County, and another nearly nine percent lived in Kent County more than three years after graduating from high school. (It is possible, of course, that some respondents who are continuing to live in Kent County may have checked the response "over three years".) See Table 4.2 for complete details.

TABLE 4.2

Years Graduates Remained Residents Of Kent County After High School Graduation

	No Response	Less than 1 yr.	1-3 years	Over 3	Still here	Total
Male	11	98.0	76	43	304	532
Female	4	54.0	90	50	330	528
Total	15	152.0	166	93	634	1060
Percentage	1.42%	14.34%	15.66%	8.77%	59.81%	

Marital Status of Respondents. Nearly sixty percent of the graduates of the 1961 class remained single in the spring of 1965 when the survey was conducted. The female graduates tended to be married in greater proportions (about 48 percent) than the male graduates, only about thirty percent of whom were married at the time of the survey. Further details are provided in Table 4.3.

TABLE 4.3

Marital Status

	No Response	Married	Separated	Divorced	Spouse Died	Single	Total
Male	1	157	2	4	0	369	533
Female	0	253	3	4	2	268	530
	1	410	5	8	2	637	1063
Percentage	.09%	38.57%	.47%	.75%	.19%	57.92%	

Education After High School. Even if one excludes in his computations the advanced education and training which some of these graduates got while on-the-job, in the military services, and in apprenticeship, an amazing sixty-eight percent took additional formal education in business college, trade or vocational schools, colleges, adult education classes, or through correspondence. Well over half of these graduates entered regular colleges; significant numbers took other post-secondary training. See Table 4.4.

TABLE 4.4

Post-Secondary Education and Training

Training	Sex			
	Male	Female	Total	Percent
No Response	2	4	6	.56
None	26	69	95	8.94
On-the-Job	34	85	119	11.19
Business College	12	34	46	4.33
Trade or Vocational School	17	39	56	5.27
College	304	280	584	54.94
Adult Education	2	7	9	.85
Correspondence	24	6	30	2.82
Military	90	6	96	9.03
Apprentice	22	0	22	2.07

College Attendance. Over forty percent of the respondents were attending college at the time of the survey. Presumably, many of these would have entered college shortly after finishing high school and would be about ready to receive their baccalaureate degrees. Fifty-eight percent of the respondents were not in college at the time of the survey. Table 4.5 presents these data.

TABLE 4.5

Present College Attendance Of Respondents

	No Response	Full time	Part time	No	Total
Male	6	236	44	247	533
Female	6	123	26	375	530
Total	12	359	70	622	1063
Percentage	1.13%	33.77%	6.59%	58.51%	

Colleges Presently Attended. Of those respondents who are presently attending a college or have been granted a college certificate or degree the largest proportion (seventeen percent) have attended or are attending Grand Rapids Junior College. The next largest proportion (sixteen percent) have attended or are attending Michigan State University. Nearly ninety percent of the Kent County high school graduates attend college within the state of Michigan. These data are given in greater detail in Table 4.6.

TABLE 4.6

College Presently Attended Or Granting Degree

College	Sex			
	Male	Female	Total	Percent
Aquinas	14	15	25	4
Calvin	37	25	62	11
Grand Rapids Junior College	50	45	95	17
Grand Valley State College	3	0	3	
Hope	4	4	8	1
Michigan State University	48	45	93	16
University of Michigan	23	15	38	6
Western Michigan University	44	29	73	13
Davenport Institute	9	10	19	3
Ferris State College	22	3	25	4
Central Michigan University	4	8	12	2
Other Michigan	20	19	39	7
Out State	29	32	61	11

Adequacy of High School Preparation for College. Just over eighteen percent of those who went to college thought their respective high schools did a completely adequate job of preparing them for their post-secondary education. Nearly eighty-two percent, then, thought their high school preparation could have been more adequate. Details are presented in Table 4.7.

TABLE 4.7

Perceived Adequacy Of High School Preparation For College

Adequacy	Sex Male	Female	Total	Percent
Inadequate	35	18	53	7
Fair	113	63	176	24
Very good in ways, could have been better	178	180	358	44
Excellent	50	81	131	18

Perceived Adequacy of Preparation for Employment. Nearly fifty-five percent of the respondents thought their high school preparation for employment adequate, whereas slightly over nine percent thought their preparation inadequate. Three hundred eighty one (381) or nearly thirty six percent of those returning questionnaires did not respond to this item. Table 4.8 presents this data.

TABLE 4.8

Adequacy Of Preparation For Employment

	No Response	Adequate	Inadequate	Total
Male	195	282	56	533
Female	186	302	42	530
Total	381	584	98	1063
Percentage	35.84%	54.94%	9.22%	

Parents' Attitudes Toward College Attendance. Eighty-five percent of the respondents thought their parents either expected them to attend college or wanted them to attend if the respondent himself wanted to go. Only one percent thought attendance would displease their parents. Additional data are presented in Table 4.9.

TABLE 4.9

Perceived Parental Attitudes Toward College Attendance

Attitude	Male Graduate		Female Graduate			
	Mother's Attitude	Father's Attitude	Mother's Attitude	Father's Attitude	Total	Percent
No Response	12	23	15	47	67	3.1
Insisted or Expected	145	143	99	95	482	22.6
Wanted if child wanted	342	316	361	308	1327	62.3
Didn't Care	33	49	44	71	197	9.2
Didn't Want	1	2	10	9	22	1.0
Wouldn't Allow	0	0	1	0	1	.0

Effect Of Financial Assistance On College Attendance. One hundred seventy-five respondents answered they would have attended college if financial assistance had been available. Thus, an additional sixteen percent of those answering the questionnaire may well have liked to attend college, and might well have attended except for the expense of attendance. See Table 4.10.

TABLE 4.10

Likely Additional College Attendance If Financial Aid Available

	No Response	Yes	No	Doesn't Apply	Total
Male	190	96	49	198	533
Female	200	79	89	162	530
Total	390	175	138	360	1064
Percentage	36.69%	16.46%	12.98%	33.87%	

Present Interest In Further Study. More than sixty-eight percent of the respondents are interested in further study. Less than one-quarter are completely satisfied with their present educational achievements. These data can be found in Table 4.11.

TABLE 4.11

Interest In Further Study

	No Response	Yes	No	Total
Male	45	430	58	533
Female	32	296	202	530
Total	77	726	260	1063
Percentage	7.24%	68.30%	24.46%	

Specific Additional Training Or Education Desired. Nearly fourteen percent of the respondents would like an opportunity to engage in on-the-job training with a company or industrial firm. Another nearly thirteen percent would like to attend a community college on a part-time basis. Still another eight percent would like adult education classes. Clearly the training and education aspirations of these respondents have not been completely satisfied as yet. See Table 4.12.

TABLE 4.12

Added Training Or Education Desired

	No Response	Work as apprentice	H.S. Post-grad	Military	On the job	Correspondence	Adult Ed.	Com. Coll. Part-time	None	Other	Total
Male	80	45	0	8	95	14	23	63	42	163	533
Female	101	2	4	1	51	4	67	72	88	140	530
Total	181	47	4	9	146	18	90	135	130	303	1064
Percentage	17.03	4.42	.38	.85	13.73	1.69	8.47	12.70	12.23	28.50	

Conditions Of Further Training Or Education. Most respondents who would expect to take further training or education would do so on a part-time basis, but nearly one-quarter would devote full time to their further education. Table 4.13 presents this data in greater detail.

TABLE 4.13

Likely Circumstances Of Further Training Or Education

	No Response	Full time	Part time	Combination of full & part time	Other	Total
Male	84	185	184	67	13	533
Female	117	64	286	35	28	530
Total	201	249	470	102	41	1064
Percentage	18.91%	23.42%	44.21%	9.61%	3.86%	

Reasons For Non-School Attendance Now. Most respondents cite family responsibilities as the principal reason why they are not now continuing with their education or training. The next largest group find finances to be the inhibiting factor. (Suggestion: compare this group with those who said they would attend if more money had been available.) Table 4.14 presents these data.

TABLE 4.14

Reasons For Present Non-School Attendance

Reason	Sex			
	Male	Female	Total	Percent
No Response	285	166	451	42.43
No time	21	41	62	5.83
No opportunity	3	5	8	.75
Financial	58	58	116	10.91
Family responsibilities	47	128	175	16.46
Not interested	14	35	49	4.61
Completed education	19	80	99	9.31
Too difficult	11	5	16	1.51
Didn't take College Prep.	8	11	19	1.79
In military	67	1	68	6.40

Rank In Graduating Class. Comparatively few of these respondents think they were in the lower third of their high school graduating class. Almost equal numbers think they were in the top third and middle third of their classes. Because we received responses from just forty-five percent of those questioned, it would be difficult to say with certainty that these perceptions as to high school rank are inaccurate, but the probability that these respondents are over-estimating their rank is a strong one. See Table 4.15.

TABLE 4.15

High School Graduating Class Rank

	No Response	Top 1/3	Middle 1/3	Lower 1/3
Male	5	209	246	73
Female	7	249	241	33
Total	12	458	487	106
Percentages	1.13%	43.09%	45.81%	9.97%

Curriculum In High School. Well over half of the respondents had been enrolled in a college preparatory high school curriculum. Another twenty-three percent had been enrolled in a general curriculum. Nearly fifteen percent had taken a business curriculum. Only forty-three of the respondents had been enrolled in agriculture, fine arts, industrial arts, or home economics curriculums. These data are given in Table 4.16.

TABLE 4.16

High School Curriculum

	No Response	College Prep.	Gen'l	Bus. Ed.	Agri-cul.	Fine Arts	Tech. Shop	Home Ec.	Others	Total
Male	2	304	159	25	7	2	29	0	5	533
Female	2	298	89	134	0	1	1	3	2	530
Total	4	602	248	159	7	3	30	3	7	1063
Percentage	.38%	56.63%	23.33%	14.96%	.66%	.28%	2.82%	.28%	.66%	

Effect On Plans If Community College Or Technical Training Available. Nearly eighteen percent of the respondents wrote they would definitely have taken advantage of technical or semi-professional vocational training had curriculums been available in post secondary institutions at the time of their high school graduation. Another nearly twenty-two percent might have taken advantage of such opportunities. Additional data are to be found in Table 4.17.

TABLE 4.17

Affect On Post-High School Plans Of Availability Of College Technical Or Semi-Professional Curriculums

Sex	No Response	No Interest	Might Have Taken Advantage Of It	Definitely Would Have Taken Advantage Of It	Did Attend	Total
Male	108	178	134	106	7	533
Female	101	241	95	83	10	530
Total	209	419	229	189	17	1063
Percentage	19.66%	39.43%	21.54%	17.78%	1.6%	

Opinion Of Availability Of Local Post-High School Training and Educational Opportunities. More than fifty-four percent of the respondents think local opportunities for post-high school training and education are only fair or poor. Approximately forty-four percent think such opportunities adequate. See Table 4.18 for these complete data.

TABLE 4.18

Perceived Availability Of Post-High School Training And Educational Opportunities.

	No Response	Adequate	Fair	Poor	Total
Male	15	223	233	62	533
Female	7	241	244	38	530
Total	22	464	477	100	1064
Percentage	2.07%	43.65%	44.87%	9.41%	

Occupational Status. About thirty percent of the respondents are unemployed. Approximately twenty percent are employed part time, and just over fifty percent are employed full time. See Table 4.19.

TABLE 4.19

Employment Status

	No Response	Full time	Part time	No	Total
Male	9	295	124	105	533
Female	3	239	77	211	530
Total	12	534	201	316	1063
Percentage	1.13%	50.24%	18.91%	29.73%	

Titles of Positions Held. The diversity of employment opportunities in the Kent County area is somewhat evidenced by an examination of the job titles of the positions held by the respondents. Only clerical jobs attracted more than ten percent of those answering our survey. Over six percent were in the military services at the time of the survey, and over five percent were in sales positions. No other job category attracted as many as four percent of the respondents. Table 4.20 presents these data in greater detail.

TABLE 4.20

Job Classification

Title	Sex Male	Female	Total	Percent
No Response	24	21	45	4.24
None	87	195	282	26.55
Teacher	4	31	35	3.30
Nurse	0	32	32	3.01
Lab. Technician	14	20	34	3.20
Military	70	1	71	6.60
Civil Govt.	8	2	10	.94
Clerical	11	142	153	14.41
Cook	5	2	7	.66
Electrical	4	0	4	.38
Sales	42	16	58	5.46
Bldg. Construction	22	0	22	2.07
Mechanic	25	1	26	2.45
Agriculture	10	1	11	1.04
Art	1	5	6	.56
Owner-Mgr.	16	3	19	1.79
Executive	23	1	24	2.26
Barber, beautician	1	10	11	1.04
Church	1	0	1	.09
Transportation	2	1	3	.28
Entertainer	2	3	5	.47
Photography	2	2	4	.38
Communication	4	7	11	1.04
Orderly	3	0	3	.28
Domestic	0	1	1	.09
Nurse Aid	1	8	9	.85
Stock room	17	2	19	1.79
Blueprint	1	0	1	.09
Foreman	2	1	3	.28
Maintenance	3	0	3	.28
Furniture	2	0	2	.19
Engineering	3	0	3	.28
Scientist	1	0	1	.09
Misc.	121	22	143	13.47

Other Full Time Employment. Six hundred twenty-three of the respondents have held some full time job since graduation from high school other than their present full time occupation. Nearly fifty-nine percent of the respondents, then, have changed full time jobs at least once in the four years since they have graduated from high school. See Table 4.21 for more complete data.

TABLE 4.21

Other Full Time Jobs Held

Title	Sex Male	Female	Total	Percent
No Response	42	29	71	6.69
None	186	179	365	34.37
Nurse	0	8	8	.75
Lab. Technician	3	8	11	1.04
Military	29	3	32	3.01
Civil Gov't	3	0	3	.28
Clerical	8	157	165	15.54
Cook	4	1	5	.47
Electrical	5	0	5	.47
Sales	27	51	78	7.34
Construction	12	0	12	1.13
Agriculture	8	0	8	.75
Art	1	1	2	.19
Owner-Mgr.	10	0	10	.94
Executive	3	2	5	.47
Beautician	0	5	5	.47
Transportation	2	0	2	.19
Entertainment	1	1	2	.19
Photography	1	0	1	.09
Communication	2	8	10	.94
Orderly	2	0	2	.19
Domestic	0	1	1	.09
Nurse Aid	0	14	14	1.32
Stock room	12	1	13	1.22
Maintenance	1	0	1	.09
Furniture	3	0	3	.28
Misc.	155	60	215	20.24

Future Employment Goals. Nearly seventy-five percent of the respondents have decided what positions they would like to hold in the future, but more than twenty-two percent are undecided about their future occupations. Data are presented in Table 4.22.

TABLE 4.22

Prospective Employment Decisions

	No Response	Decided	Undecided	Total
Male	8	397	127	532
Female	20	398	112	530
Total	28	795	239	1062
Percentage	2.64%	74.86%	22.50%	

Specific Job Aspirations. Most of those who have decided their occupational goals have chosen jobs for which additional training or education is needed. An A.B. degree, or post-graduate education would be necessary or desirable for many of the occupations listed, but specific vocational or technical training would be necessary for these aspirants to qualify for others of the jobs sought. Data are presented in Table 4.23.

TABLE 4.23

Future Occupational Goals

Title	Sex Male	Female	Total	Percent
No Response	137	128	265	24.96
Don't Know	3	1	4	.38
Teacher	77	138	215	20.24
Nurse	0	50	50	4.71
Lab Technician	14	19	33	3.11
Military	0	3	3	.28
Civil Govt.	14	12	26	2.45
Clerical	2	69	71	6.69
Cook	2	1	3	.28
Housewife	0	64	64	6.03
Electrical	20	1	21	1.98
Sales	19	1	20	1.88
Construction	15	0	15	1.41
Mechanic	27	0	27	2.54
Auto design	5	0	5	.47
Agriculture	13	1	14	1.32
Airlines	1	0	1	.09
Art	1	8	9	.85
Owner-Mgr.	21	1	22	2.07
Executive	74	7	81	7.63
Barber, Beautician	1	16	17	1.60
Church	7	1	8	.75
Transportation	1	0	1	.09
Entertainment	2	1	3	.28
Photography	2	0	2	.19
Communications	4	3	7	.66
Nurse Aid	0	2	2	.19
Foreman	2	0	2	.19
Maintenance	1	0	1	.09
M.D.	17	3	20	1.88
Engineer	26	0	26	2.45
Scientist	1	0	1	.09
Lawyer	12	0	12	1.13
Misc.	8	3	11	1.04

Perceived Role Of Grand Rapids Junior College. These Kent County high school graduates in startling proportions misconceive the role of the only publicly supported institution of higher education in Kent County. Only twenty-two percent realize that G.R.J.C. is an institution with a unique task. All others see it as fulfilling a different role. Data are given in Table 4.24.

TABLE 4.24

Opinion Of Grand Rapids Junior College

	No Response	Extension of High Schl.	Extension of another College	Separate Institution	Part of 4 yr. College	Other	Total
Male	22	159	71	129	123	27	531
Female	28	140	54	106	163	39	530
Total	50	299	125	235	286	66	1061
Percentage	4.71%	28.18%	11.78%	22.15%	26.96%	6.22%	

Interest In Post-High School Education Were Opportunity Available. Many of those who thought they had no opportunity to attend a post-secondary educational institution would have been interested had an opportunity to attend presented itself. Twenty-seven percent would have liked to attend a four-year college; nearly thirteen percent would have preferred to attend a community college, and more than thirteen percent would have been interested in attending a trade or vocational school. Additional data are found in Table 4.25.

TABLE 4.25

Interest In Post-High Education

	No Response	Community College	4 yr. College	Trade or Voca. Schl.	None	Attended College Of my Choice	Total
Male	61	70	150	85	11	152	529
Female	53	65	136	57	37	181	529
Total	114	135	286	142	48	333	1058
Percentage	10.78%	12.76%	27.03%	13.42%	4.54%	31.47%	

CONCLUSION OF THE 1961 GRADUATE SURVEY

2,371 questionnaires sent out – 1,067 returned for 45%; 50% girls; 50% boys

59.8% still lived in Kent County

59.9% were still single: 69% of the boys – 31% of the girls

54.0% had some type of college after graduation

5.0% went to trade or vocational school after graduation

13.4% indicated they would have attended a trade or vocational school after graduation had it been available

54.9% stated that high school adequately prepared them for employment

45.0% did not respond to the question or stated that high school was inadequate in their preparation for employment.

After being out of school four (4) years, 68% are still interested in further study.

56.0% stated that they followed a college preparatory course in high school

23.0% stated that they followed a general course in high school

39.0% stated that if two years of college work or some type of technical or semi-professional vocational training had been available at graduation time, it could have changed their plans

54.0% stated that the opportunities youth have in receiving training or education beyond high school in the area is less than adequate.

After being out of school 4+ years, 22.5% are still undecided what type of work they want to do.

The Survey indicated that many students went from job to job and are still looking for that job skill they need for employment. Had there been an adequate vocational offering for these students back in 1959–1960–1961, many would now be skilled technicians in their chosen field.

CHAPTER V

PARENT QUESTIONNAIRE

Introduction. This survey instrument was designed for parents of seventh graders. The purpose was to gather information from the parents as to what they wanted in future education for their children. Seventh graders were chosen because parents with children of this age are beginning to consider what their future schooling should be. Another reason was that if we found the needs of a group at this school year level then we would still have time to do something for them in high school and post-secondary programs.

The questionnaire was taken to all public and parochial schools having seventh graders. They were delivered to the seventh grade teachers with the approval of the school's administration. The instrument was taken home by the student, filled out and returned to the teacher.

Most schools cooperated in this program. It is estimated that approximately 7,000 questionnaires were taken home out of 8,482 possible seventh graders. A total of 5,547 were returned, or approximately seventy-nine percent. A copy of the questionnaire may be found in the appendix.

Father's Occupation; How Long Family Has Resided in Kent County. An attempt was made in this question to determine how mobile a society we have in Kent County as represented by the parents of the pupils of one grade. Almost fifty percent reported that they had lived in Kent County ten years or more. Data are found in Table 5.1

TABLE 5.1

Father's Occupation And How Long The Family Has Lived In Kent County

	Less than 1 Yr.	1-5 Yrs.	5-10 Yrs.	10+Yrs.	Total
No response	32	73	70	124	299
Teacher	11	61	81	108	261
Lab Technician	2	15	16	31	64
Military	2	2	1	1	6
Civil Govt.	5	30	40	101	176
Clerical	0	8	14	23	45
Cooks	4	12	9	3	28
Electrical	11	23	39	78	151
Retail (selling)	33	148	153	243	577
Building Construction	24	57	85	154	320
Tech. Mechanic (Include Tool & Die)	23	105	108	259	495
Automotive	2	8	2	8	20
Agriculture	7	14	12	92	125
Art	1	4	13	8	26
Manager-Supervisor	37	147	163	311	658
Executive	24	71	87	166	348
Mortician				2	2
Barber-Beautician	0	3	3	3	9
Religion	7	20	14	3	44
Transportation	4	26	12	27	69
Entertainer	3	1	1	1	6
Communication	3	12	12	39	66
Photography	1	0	3	3	7
Stockroom	2	11	25	34	72
Lab Assistant	0	0	0	1	1
Foreman	8	38	39	84	169
Millwright	7	18	35	62	122
Furniture	5	12	18	27	62
Doctor-Dentist	0	3	10	14	27
Engineer	0	0	2	2	4
Scientist	1	0	0	2	3
Lawyer	0	3	2	6	11
Misc.	77	287	285	625	1274
Total	336	1212	1354	2645	5547
Percentage	5.60%	20.77%	23.98%	49.65%	100%

Highest Grade Completed By Parents. Thirty-seven percent of the fathers did not complete high school, and thirty percent of the mothers did not complete high school. Only fourteen percent of the fathers and seven percent of the mothers were college graduates. See Tables 5.2 and 5.3.

TABLE 5.2

Highest Grade Completed by Father.

	No Response	8th grade or less	Some H.S.	H.S. Grad.	Some College	College Grad.
Total	111	773	1308	1601	970	784
Percentage	2%	13.94	23.58	28.86	17.49	14.13

TABLE 5.3

Highest Grade of Mother

Total	58	437	1237	2475	919	421
Percentage	1.05	7.88	22.3	44.62	16.57	7.59

How Many Children Did Each Family Have? The greatest percentage of parents had three children. See Table 5.4.

TABLE 5.4

Number of Children Per Family

No Response	9
One child	555 Families
Two	1417 Families
Three	1579 Families
Four	1110 Families
Five	522 Families
Six	220 Families
Seven	88 Families
Eight	31 Families
Nine	17 Families

Employed Mothers. Twenty-four percent of the mothers of the seventh graders are employed. Table 5.5 presents this data.

TABLE 5.5

Occupation of Mothers

4194 – Housewife
1349 – Working

Location of Father's Employment. Grand Rapids was the center of employment. Sixty-two percent of the fathers worked in the core city. See Table 5.6.

TABLE 5.6

Location of Father's Employment.

No Response	Grand Rapids	East Grand Rapids	Walker City	Wyoming City	Other
319	3459	42	120	794	814
5.75%	62.35%	.76%	2.16%	14.31%	14.67%

Further Education Planned for Seventh Grade Pupils. Most parents of seventh grade pupils wanted their children to go to college. Parents wanted forty-six percent of the boys to attend college and wanted thirty-six percent of the girls to attend college. One-fourth of the parents were undecided; fifteen percent wanted vocational training for their sons and seventeen percent wanted vocational training for their daughters. See Table 5.7.

TABLE 5.7

How much more education do you plan for your son or daughter?

	No Response	Undecided	High School Voc. Training	High School College Prep.	2 yr. Jr. College	4 yr. College
For the Boys						
	38	670	412	179	156	1260
	1.40%	24.68%	15.17%	6.59%	5.75%	46.41%
For the Girls						
	33	735	498	226	297	1042
	1.17%	25.96%	17.59%	7.98%	10.49%	36.81%
TOTALS						
	71	1405	910	405	453	2303
	1.28%	25.33%	16.41%	7.30%	8.17%	41.52%

Encouragement Of Children To Consider Skilled Trades As An Occupation. Fifty percent of the parents stated they would encourage their sons and daughters to enter a skilled trade. Data can be found in Table 5.8.

TABLE 5.8

Do you encourage your seventh grade child to consider preparing (education and training) to enter a skilled trade?

Boys		Girls		Total	
Yes	1365	Yes	1429	Yes	2794
No	1152	No	1209	No	2362
No Response	198	No Response	193	No Response	391

Percentage	
Yes	50.37%
No	42.58%
No Response	7.05%

Specific Skilled Occupations Parents Encourage Children To Consider. Parents of seventh grade children encourage their children to enter a large number of skilled occupations. Those occupations most frequently mentioned were: practical nursing, electrician, auto mechanic, barber and/or beautician, nurse's aid, machinist, and carpenter. Additional data may be found in Table 5.9.

TABLE 5.9

What skills would you encourage your child to enter?

Air Conditioning & Refrigeration	89
Auto Body & Fender Repair	64
Auto Mechanic	208
Cabinet Maker	33
Carpenter	114
Commercial Cook	34
Cosmetology	211
Custodian	10
Dressmaker % Tailor	66
Electrician	237
Machinist	154
Nurses Aid	160
Plumbing	56
Practical Nurse	377
Printing	46
Radio & TV Repair	98
Welder	40
Waiter or Waitress	13
Other	603
Total	2613
Undecided	1123

Encouragement Of Children To Enter Professions. Over forty-seven percent of the responding parents encourage their seventh grade children to consider entering the professions. Over half of the parents, however, either do not encourage their seventh grade children to consider entering the professions, or did not respond to the question. Table 5.10 presents this data.

Of those parents who encourage children to enter the professions, the greatest number by far encourage their children to prepare for teaching. Large numbers also encourage their children to prepare for the nursing profession, or to become medical doctors or dentists. See Table 5.11

Many parents (nearly 200) listed occupations (about fifteen) which are not considered professions, but for which post-secondary vocational-technical education would be a requirement.

TABLE 5.10

Parents' Encouragement of Seventh Grade Children To Enter A Profession

	Number	Percent
No Response	725	13.1
Yes	2660	47.9
No	2164	39.0

TABLE 5.11

Professions Parents Encourage Seventh Grade Children To Enter

Profession	Number
Teaching	873
Nursing	217
Medical Doctor; Dentist	150
Ministry, etc.	65
Engineering	60
Scientific	48
Law	41
Business; executive	38
Art	21
Agriculture	9
Civil Government	7
Home Economist	4

Parents' Opinions Regarding College Attendance. Nearly fifty-six percent of the parents responding to the survey think all those who can profit from post-secondary academic and/or occupational education should have the opportunity to avail themselves of such educational opportunities regardless of the student's own financial means. Another thirty-seven percent think all who wish to try to achieve in such post-secondary educational curriculums should have the opportunity to do so. These and further data can be found in Table 5.12.

TABLE 5.12

Who do you think should go to college?

Superior academic ability only	56	1.01%
Those with ability & financial means	177	3.19%
Those that can profit from either academic or occupational education regardless of financial means	3099	55.91%
All who wish to try	2060	37.16%
Others	54	.97%
No Response	97	1.75%

Semi-professional, Technical, And Business Occupations Parents Encourage Children To Consider. Nearly sixty percent of the parents responding to the survey answered that they do encourage their children to consider preparing to enter a semi-professional, technical, or business occupation. Data may be found in Table 5.13.

TABLE 5.13

Do you encourage your seventh grade child to consider preparing to enter a semi-professional, technical or business occupation?

Yes	3319	59.89%
No	1704	30.75%
No Response	519	9.36%

Table 5.14 lists those occupations parents say they encourage their children to consider. Nursing is again mentioned most often; stenography is mentioned many times; other semi-professional occupations are mentioned so often as to warrent serious attention being given to an analysis of curriculums presently available to determine if there is an opportunity available to young people in Kent County to prepare for such occupations.

TABLE 5.14

Semi-Professional Occupations Parents Encourage Children to Consider Entering.

Accounting	266
Agriculture	61
Drafting (architectural)	201
Banking	114
Chemical technology	109
Civil technology	26
Dental Assistant	240
Drafting	150
Data Processing	164
Electronics Technology	226
Homemaking	298
Laboratory Technology	180
Medical Technology	251
Mechanical Technology	189
Music	251
Nursing	750
Radio-Television Technology	94
Refrigeration & Air Condition Technology	57
Retail Selling	71
Salesmanship	135
Secretary or Stenographer	590
Surveying	39
X-ray Technician	98
Others	326
Undecided	890

Parents' Plans To Finance The Post-High School Education Of Their Children. Most parents expect to help their children work their way through their post-secondary training. Many, however, presently have no plans regarding this matter. These data may be found in Table 5.15.

TABLE 5.15

If you plan post-secondary education for your child how do you propose financing this education?

No plan	1658
Leave it to the child	308
Savings program	819
Child work his way through	2526
Win a scholarship	507
Armed Services schools	62
Public supported part-high program	71
Others	112

Additional Education Desired By The Parents Themselves. Nineteen percent of the fathers and eleven percent of the mothers would like additional education for job improvement and nine percent of the fathers and fifteen percent of the mothers would like additional education for self improvement. Six percent of the fathers and seven percent of the mothers would like to work toward a college degree. There are, then, 3788 parents of seventh graders in Kent County who would like additional education themselves. See Tables 5.16 and 5.17.

TABLE 5.16

What additional education would the father like?

No response	1511	27.27%
None	1933	34.89%
Work or college degree	339	6.12%
Courses for job improvement	1077	19.44%
Courses for self improvement	513	9.26%
Other	168	3.03%

TABLE 5.17

What additional education would the mother like?

No response	1290	23.28%
None	2130	39.44%
Work or college degree	405	7.31%
Courses for Job improvement	607	10.95%
Courses for self improvement	847	15.29%
Other	262	4.73%

Occupation Of Head Of The Household. The heads of the households of the respondents to this survey represent a wide variety of occupational classifications. Twenty-two percent are skilled workers, seventeen percent are self employed, and fifteen percent are employed in management positions. Data are to be found in Table 5.18.

TABLE 5.18

The occupation of the head of the household would be considered as follows.

No response	238	4.29%
Self employed	948	17.11%
Professional	516	9.31%
Management	881	15.90%
Office Worker	303	5.47%
Skilled worker	1247	22.50%
Semi skilled worker	568	10.25%
Laborer	708	12.78%
Unemployed	133	2.40%

Respondent Completing Questionnaire. Mothers completed over half of the questionnaires returned. A gratifying thirty percent of the returned questionnaires were completed by both parents. See Table 5.19.

TABLE 5.19

Who completed the questionnaire?

No response	74	1.34%
Father	866	15.63%
Mother	2894	52.25%
Both	1667	30.10%
Guardian	38	69%

PARENT QUESTIONNAIRE CONCLUSIONS

8,482 seventh graders 5,547 questionnaires returned for 65%

With 49.65% of the parents having lived in the county 10 years or more, it could be said that we have a stable labor force in Kent County.

37.5% of the seventh graders' fathers and 30.1% of the mothers did not finish high school.

More mothers (44%) graduated from high school than did fathers (28%). More fathers (14%) were college graduates than mothers (7%).

One out of every five mothers of seventh graders is working at a job other than housewife.

62% of the fathers are employed in the City of Grand Rapids.

Parents indicated that 910 sons and daughters would be looking to the high school for vocational training.

50% of the parents indicated they would encourage their child to prepare for and enter a skilled trade, these skilled areas being welding, air conditioning and refrigeration, auto body repair, radio and TV repair, auto mechanic, carpenter, cosmetology, dressmaking and tailoring, electrician, machinist, nurses aid, plumbing, practical nurse, and printing.

50% of the parents would like their child to consider preparing for a semi-professional, technical or business occupation. (Many of these should be considered as part high school programs.)

The occupation of the head of the household:

Management	15.90%
Professional	9.31%
Self-employed	17.11%
Office worker	5.47%
No response	4.29%
Skilled worker	22.05%
Semi-skilled	10.25%
Laborer	12.75%
Unemployed	2.40%

One-third of the questionnaires were completed by both mother and father.
There was a definite indication of desire for parents of seventh graders to have vocational offerings that would prepare their sons and daughters with job entry skills, to be offered in our schools.

One out every five fathers would like course work to improve their jobs.
3050 fathers and mothers indicated an interest for more course work for their improvement.

CHAPTER VI

A STUDY OF THE NEEDS OF BUSINESS AND INDUSTRY FOR TRAINED PERSONNEL

Introduction. The Executive Committee of the Kent County Vocational-Technical Education Survey examined several instruments which had been used in previous studies to determine the needs for trained personnel in business and industry. At the direction of the Committee, the director and the committee chairman met with several leaders of business and industry to solicit their help in selecting an appropriate instrument for use in Kent County. These business and industry leaders were convinced the sample instruments which they were shown were too complicated, and they advised that a much simpler questionnaire be adopted.

Much of the credit for the format of the Employment Survey which was finally approved goes to Mr. Philip de Journo of Wurzburg's and his staff. A copy of the questionnaire used can be found in the appendix.

The Grand Rapids Junior Chamber of Commerce volunteered the services of some of its members in distributing the questionnaire to those employers in Kent County who employ more than 100 employees. Mr. Miles Parks, a member of the Junior Chamber of Commerce organized this part of the effort. Those employers of more than 100 employees not contacted personally by a member of the J.C.C. were contacted by a member of the Grand Rapids Junior College faculty, either the director of the survey or Mr. Robert Duffy. Questionnaires were sent by mail to all employers of more than ten full-time employees but less than 100 employees. In addition, all doctors, dentists, and lawyers were sent questionnaires. Doctors and dentists were sent questionnaires because it was anticipated that national legislation might well substantially increase the need for personnel with professional and/or semi-professional medical training (subsequent events have substantiated this judgment), lawyers were sent questionnaires because we felt they might have a significant need for stenographers. A follow-up letter was sent to each employer who did not respond to our initial request.

One hundred-fifty (150) establishments employing over 100 employees were contacted; returns were received from 91 of these. In addition, approximately 1350 other employers were mailed questionnaires; returns were received from 333 of these. Four hundred twenty-four (424) returns were received in total.

Businesses Responding. Table 6.1 presents the types of businesses from which returns were received and the number of returns received from each type of business.

TABLE 6.1

Types and Number of Employers Responding
to
Employment Survey

Type of Business Responding	Number Responding
Agricultural Services	1
Advertising	2
Banking and Finance	8
Communications	2
Construction	29
Education	3
Entertainment and Recreation	7
Food, Dairy, Drink	24
Government	7
Health, Hospital, Medical, Dental	121
Industrial Manufacturing	66
Insurance	15
Printing and Publishing	13
Professional other than Medical & Dental	24
Real Estate	3
Retailing - other than Food, Drink, Dairy	26
Service Establishments	32
Transportation	17
Utilities	2
Wholesaling	13
Other	3

Training Recommended for Present Employees. Employers were asked, in one part of the Employment Survey, to suggest programs or courses which would be of value to their present employees, courses or programs which would "help adults upgrade job competencies". Employers suggested thirty different courses or programs which they thought ought to be offered. Table 6.2 lists the programs and courses employers recommended for adults and the number of times such recommendations were made.

TABLE 6.2

Courses and Programs Recommended for Adult Employees

Recommended Courses, Programs	Times Recommended
Math, Accounting	60
English	32
Economics, Law	14
Psychology	11
Speech	8
Writing, Spelling, Reading	16
Laboratory: Medical, Dental	31
Laboratory: Photo, Paint, Metal	4
Mechanical Skills	22
Machine Shop, Welding, Tool & Die	43
Electricity, Refrigeration	12
Blueprint, Drafting	24
Printing, Art	8
Upholstry, Woodworking	9
Masonry, Carpentry	7
Cooking, Chef	6
Office Etiquette, Courtesy	24
Filing, Typing, Shorthand	58
Leadership Training, Business Administration, Management	27
Salesmanship	23
Retail Merchandising	7
Business Machines	12
Real Estate, Underwriting, Insurance Adjuster	3
"Davis Tech" type	1
Nurse Aid, Orderly	2
LPN	2
Building Maintenance, Housekeeper	10
"Dale Carnegie"	5
Horticulture	2

Training Recommended for Propsective Employees. Employers were also asked what "new or expanded vocational-technical curriculums or courses. . . would be of value to (their) prospective employees" if such "curriculums or courses were to be offered in high schools of Junior College". Again, employers responded with a variety of suggestions. As one might well expect, employers often suggested that prospective employees receive training in the same skills recommended for their present employees. Table 6.3 presents those courses or curriculums recommended by employers for prospective employees and the number of times each recommendation was made.

TABLE 6.3

Courses and Curriculums Recommended for Prospective Employees

Courses Recommended	Times Recommended
Math, Accounting	52
English	35
Economics, Law	11
Psychology	8
Speech	6
Writing, Spelling, Reading	17
Laboratory: Medical, Dental	38
Laboratory: Photo, Paint, Metal	4
Mechanical Skills	18
Machine Shop, Welding, Tool & Die	33
Electricity, Refrigeration	11
Blueprint, Drafting	25
Printing, Art	9
Upholstry, Woodworking	8
Masonry, Carpentry	6
Cooking, Chef	6
Office Etiquette, Courtesy	21
Filing, Typing, Shorthand	58
Leadership Training, Business Administration, Management	24
Salesmanship	19
Retail Merchandising	8
Business Machines	15
Data Processing	1
Real Estate, Underwriting, Insurance Adjustor	2
"Davis Tech" type	3
Nurse Aid, Orderly	2
LPN	3
Building Maintenance, Housekeeper	5
"Dale Carnegie"	2
Horticulture	3

Other Recommended Programs. Employers recommended 39 different programs be established to improve "education and training opportunities in the Kent County Area". Thirteen of these were recommended for establishment at the high school level; eleven of these were suggested for establishment at the junior college level; for 18 of these suggestions no educational level was recommended. Table 6.4 presents these data in greater detail.

TABLE 6.4

Programs Recommended for Establishment By Employers, Number of Times Recommended, and Recommended Educational Level for Establishment

No. times mentioned	Course	Educational Level
1	Upholstry	Extension course, evenings
1	Business administration	HS or JC
1	Office management	
2	Retail selling	
1	Typewriter mechanic	
1	Theory of Free enterprise	
2	Refrigeration	JC
1	Woodworking	
1	Beautician	
5	Mechanics	HS 2 times
4	Printing	HS 2 times
1	Offset Plate making	
2	Machinery maintenance	
3	Machinist	HS 1 time
2	Dental technician	JC 1 time
1	Barber	
1	Electronic technician	
3	Tool and die	
2	Blueprint reading	HS
1	Horticulture, landscaping	HS
1	Penmanship	HS
2	Speech	
1	General shop	
3	Spelling	HS 1 time
1	Construction Trade apprentice	
1	Drafting	HS
2	Restaurant cooking	1 HS, 1 JC
1	Welder	HS
4	TV, Radio repair, Household appliance repair	HS
1	Medical Secretary	JC/
2	Dental Hygienist	1 JC, 1 univ.
1	Medical Technology	JC
1	Practical psychology	
4	Dental assistant	1 JC
6	Auto repair and body work	1 JC
1	Carpentry	
3	Office skills	1 Even. class, 2 HS
2	Class in self-motivation	

Jobs For Which Employers Find Locally Available Laborers in Short Supply. One of the most meaningful parts of this Employment Survey is the listing by employers of those positions which they presently find difficult or impossible to fill because qualified applicants are not available locally.

TABLE 6.5

Titles of Jobs for Which Applicants Are in Short Supply
Number of Times Job Titles Were Mentioned
Number of Employees Needed Yearly 1965-1970 to Fill Such Jobs, and
Preferred Educational Attainment of Such Employees

Job Title	Number of Times Mentioned	Number Needed Yearly	Preferred H.S.	Education Com. Col.
Nurse	11	64	1	8
Lab Technician	35	46	6	22
Social Workers, Civil Govt.	34	20		
Clerical	68	338	38	25
Cooking, Home Econ.	14	82	11	1
Electrical	8	20	5	2
Sales, Waitress	32	175	11	5
Masonry, Building	17	192	9	7
Mechanical:	63		37	10
Tool & Die		124		
Auto		23		
Machinist		143		
Welding		100		
Servicing Mechanical Equip.		36		
Auto Body Work	4	12		
Landscaping, Agric. Mort.	3	5		
Art	2	14		
Manager	11	60		
Business Executive	17	31		8
Cosmetology, Barber	2	11		
Transportation	1	1		
Photography	2	1		
Communications	2	65		
Orderly	2	34		
Domestic	1	14		
Nurse's Aid	3	20		
Stockroom	6	29		
Blueprint	3	4		
Lab. Assistant	2	2		
Foreman	15	35		
Millwright, Maintenance	3	8		
Furniture	11	44		
Pharmacist	1	1		
Engineer	5	4		
Miscellaneous	21	238		

Employment of High School "Drop-Outs". Nearly fifty-nine (59) percent of the employers did not respond to the question about the employment of high school "Drop-outs". Presumably these employers do not hire non-graduates. One hundred eighty-three (183) employers (about 41 percent) do hire "drop-outs". Table 6.6 presents those job titles for which drop-outs are hired and the number of respondents who wrote that they hire drop-outs in these job catagories.

TABLE 6.6

Titles of Jobs for Which "Drop-Outs" Are Hired and Number of Respondents Hiring "Drop-Outs" for These Jobs

Job Titles	Number of Respondents
Building Trades	6
Clerical	14
Domestics	8
Furniture Industry	4
Maintenance	9
Metal Industry and Mechanical	18
Sales, Waitresses	12
Stockroom Clerk	21
Miscellaneous	131

Frequency of Employment of "Drop-Outs". Even employers who do hire "drop-outs", however, tend to do so only seldom. A majority of the responding employers wrote that they employed "drop-outs" infrequently or almost never. Less than half of the respondents hire "drop-outs" as a common practice. Table 6.7 presents the frequency of employment of "drop-outs".

TABLE 6.7

Frequency of Employment of "Drop-Outs"

Frequency	Number
Common Practice	102
Infrequently	81
Almost Never	45

Employment of High School Graduates Without Work Experience. The job titles of those jobs for which employers regularly hire high school graduates without work experience are listed in Table 6.8. Included in this table are the employer responses as to the frequency of their employment of high school graduates. High school graduates are, evidently, hired most frequently for clerical jobs.

TABLE 6.8

Titles of Jobs for Which High School Graduates Are Hired
and
Frequency of Employment

Job Title	Frequency of Employment			
	no comment	common	infrequently	almost never
LPN			1	
Lab technician		20	4	
Civil govt.		1		
Clerical	1	77	22	7
Home econ.				
Cook, chef	1	3	1	
Elec., Tv, refrig.		1	1	
Selling, waitress	1	13	2	
Bldg. trades, const., drafting		6	1	
Mechanic, tool, die	2	23	3	
Automotive body		1		
Agric., Hort.			1	
Transportation		1		
Communications		1	1	
Misc.	2	47	14	3
Nurse Aid		1		
Messenger, Stockroom		13	2	
Foreman		1		
Furniture			1	

Adequacy of High School Preparation. Of the 328 employers who responded to the question asking if the high schools had adequately prepared their graduates for employment, 229 employers wrote that the high school graduates were only partially or inadequately trained. One hundred nineteen employers of the 328 respondents to this question thought high school graduates adequately trained for employment. These data are presented in greater detail in Table 6.9.

TABLE 6.9

Adequacy of Preparation for Employment of High School Graduates

Adequacy	Number of Respondents
No Response	76
Adequate	119
Partially	158
No	71

Rather surprisingly, those positions for which employers most often hire high school graduates are the very ones for which employers think the graduates are ill-prepared. Eighty-two employers wrote that clerical workers are only partially or inadequately prepared, 19 responded that laboratory technicians are ill-prepared, all 15 who hire high school graduates in sales positions thought their preparation less than completely adequate; 10 employers in the building trades thought employees inadequately prepared, and 14 employers in the metals industries responded that high school graduates were not completely trained. Rather obviously if employers are to be satisfied with the preparation of their prospective employees, high schools will have to do a better job of training their graduates for employment, or high school graduates will need post-secondary training to meet employer expectations.

Employment of Junior College Graduates. The titles of those jobs for which employers hire junior college graduates without work experience are to be found in Table 6.10. Here, too, are to be found the data regarding the frequency of employment of junior college graduates. Those positions for which Grand Rapids Junior College has curriculums specifically designed to prepare graduates are those which employers list most frequently.

TABLE 6.10

Job Titles and Frequency of Employment of Junior College Graduates

Frequency	Nurse	Lab Tech.	Clerical	Sales	Bldg.	Mech.	Misc.
Common	85	17	78	22	9	12	10
Infrequently	2	9	22	5	3	6	4
Never	1	3		3	2	2	1

Adequacy of Junior College Preparation. A large majority of employers think junior college graduates adequately prepared for employment. Respondents 312 times checked that junior college graduates are partially or inadequately prepared; 180 employers think junior college graduates partially or inadequately prepared. These data are presented in Table 6.11.

TABLE 6.11

Adequacy of Preparation by Junior College

Adequacy	Number of Respondents
Adequate	312
Partially	120
No	60

Thirty-seven employers think clerical junior college graduates employed in clerical positions only partially or inadequately trained; eleven employers think graduates employed in sales lack complete preparation, and 10 and 8 employers think graduates serving in the metal industries and as laboratory technicians, respectively, lack thorough preparation.

Perceived Adequacy of Vocational-Technical Education Facilities and Support For Additional Facilities. Only 44 respondents think existing educational facilities adequately meet the needs of their establishments for trained employees. One hundred fifty-two think the present facilities are meeting needs fairly well, and 94 respond that the needs of their firms are being met only poorly by present facilities. Most of the respondents would support the establishment of area vocational school(s) for high school occupational training (a total of 165 respondents) or expanded technical-vocational offerings in the community college (a total of 139 respondents.) These data can be found in greater detail in Table 6.12.

TABLE 6.12

Adequacy of Vocational Educational Facilities
and
Support for Improvement

	Support For:						
Adequacy	1. H.S.	2. Voc. Sch.	3. Com. Col.	1&2	2&3	1&3	All
Very Well	2	14	15	1	7	2	3
Fairly Well	6	52	40	10	14	10	20
Poorly	34	20	12	12	7	4	5
Totals	42	86	67	23	28	16	28

Employers' Training Programs and Junior College Supplementation or Replacement of Them. One hundred eight of the employers responding to the survey wrote that they do have their own training programs for their employees. Twenty-four respondents checked they had no training program for their employees. Of those who do have training programs 25 thought Grand Rapids Junior College could supplement or replace their programs; another 31 of these wrote that Junior College might replace or supplement their programs. Seventeen firms who do not now have their won training programs responded that Junior College could establish training of value to their employees. These data can be found in Table 6.13.

TABLE 6.13

Training Programs and Junior College
Supplement or Replacement of Them

	J.C. Replacement?		
Training Program	Yes	No	Maybe
Yes	25	52	31
No	10	7	7

Employers' Payment of Tuition and Conditions. Thirty-eight employers pay in full the tuition of employees who seek to upgrade their job skills. Another 53 pay in part the tuition of their employees. These data are found in Table 6.14.

TABLE 6.14

Employers' Payment of Tuition and Conditions of Payment

Pay Tuition	Conditions of Payment: Stay in Employment	Complete Course	Show Ability	Miscelleanous
Yes, in full	17	16	1	4
Yes, in part	21	13	4	15
No	19	2		7

Information Offered Employees by Employers Regarding Educational Opportunities. Two hundred thirty-seven of the responding employers do inform their employees of opportunities available to the employees by which they might improve their job skills, but 108 employers do not attempt to inform their employees of these opportunities. Most of the employers (165) who do bring to the attention of their employees educational opportunities available to them do so through personal interviews; 23 employers use a house organ for this purpose; and 40 employers use bulletin boards to accomplish the same goal. Seventy-eight (over 18 percent) of the employers returning questionnaires did not answer regarding their practice in this matter. It may well be that these 78 employers who did not respond to this item should be classed with the 108 who make no attempt to inform their employees of opportunities to upgrade their skills. If so, approximately 43 percent of the employers do not so inform their employees.

Employers' Recommendations to Employees of Training and Institutions Offering Training. Employers who responded affirmatively when asked if they told their employees about opportunities available to them for improving their job skills were further asked to list the specific training recommended and the educational institutions suggested to their employees where such training is available. Employers recommended a wide variety of courses to their employees, principally at local educational institutions. Grand Rapids Junior College was listed as being recommended most often by employers; Davenport Institute ranked second. Grand Rapids Junior College was recommended for a wider variety of offerings than any other institution. Table 6.15 presents in detail those institutions recommended by employers and the training recommended.

TABLE 6.15

Training and Institutions Recommended by Employers to Employees

Institution Recommended and Times Mentioned

Training Recommended	Aquinas	Clavin	G.R.J.C.	U. Detroit	W.M.U.	U. of M.	Davenport	Ferris	Amer. Inst. of Banking	Wayne St.	Nursing	Dent. Lab.	Bd. of Ed.	Correspondence	Industry Sponsored	Out state
Math, Accounting	1		10			1	8		3							
English			2			1	1									
Basic Engineering			1		2		2							1		
Economics			2			1								1		
Psychology			5													
Speech							1									
Writing, Spelling, Reading					1											
Laboratory, Medical, Dental			9		1	4					1	16			2	
Laboratory, Chemical, Photo			1													
Mechanical Skills								4						1	3	
Machine Shop			8										4		3	
Electricity, Refrig.			4			1								1	3	
Blueprint, Drafting			6												2	
Printing						1										
Upholstry, Woodworking						1							1		4	
Masonry, Carpentry			1										1			
Cooking			2											1		
Office Etiquette														1		
Typing, Filing			3				13									
Leadership Training, Management			3		5	1	3		1				1	3	1	
Sales							2							1		
Retail Merchandising			1			1	1									
Data Processing			2												1	
Real Estate, Insurance	2	2			3									2		
Nurse Aid, ORT, LPN			2									2		2		
Maintenance, Housekeeping														2		
Dale Carnegie							19									
Cosmetics														2		

CONCLUSIONS OF THE STUDY OF BUSINESS AND INDUSTRY

Of the 228 firms answering the question of "drop-outs" –

102 or 44% stated that hiring drop-outs was a common practice
81 or 36% stated that hiring drop-outs was done infrequently
45 or 20% stated that hiring drop-outs was almost never done

28% of those that hire recent high school graduates stated that the high schools were adequately preparing their graduates for entry into employment.

63% of those that hire community college graduates stated that the junior college adequately prepared their graduates for entry into employment.

15% of those returning the questionnaires thought that the existing educational facilities in Kent County were meeting the occupational and training needs of their company or firm.

85% thought the educational programs were not meeting their company's needs.

50% of those that said a need for better trained help was indicated, thought it should be done in an area high school vocational program. The other fifty percent (50%) were divided between 19% who wanted it done in expansion of present existing high school programs, and 31% who said they would support expansion of of junior college offerings in vocational education.

The survey indicated a need for trained persons in all fields of vocational education:

Agriculture
Home economics
Trade and industry
Business training
Distributive education
Cooperative training (on the job)

The survey also indicates that an area vocational center or school would be supported to do much of the training for these needed occupations.

Support was very evident that post high school training was needed in the Technical vocational occupations.

CHAPTER VII

SURVEY OF VOCATIONAL EDUCATIONAL STAFFS AND FACILITIES IN THE HIGH SCHOOLS OF KENT COUNTY AND GRAND RAPIDS JUNIOR COLLEGE

Item I Who is responsible for Vocational Education in the high schools?

Principle (17 high schools)
Superintendent (5 high schools)
Vocational Director (7 high schools)
None (2 high schools)

Item II How many students in the county?

9–12 grade (1964–65 school year) 27,246 students
9–12 grade (1965–66 school year) 29,106 students
31 high schools in the survey reported
12,674 students in out-county high schools
5,611 students in Grand Rapids High Schools
5,446 students in private or parochial high schools
10 high schools reported having only (10–12) grades
21 high schools reported having (9–12) grades

Item III How many vocational teachers are assigned to the senior high vocational program?

116 1/7 teachers

How many vocational teachers are certified for teaching vocational classes and reimbursement from state and federal vocational funds?

39 1/6 teachers
(6 agriculture)
(10 home economics)
(11 cooperative training coordinators)
(12 1/6 others)

Item IV How long are the class periods in high school?

55 minutes (Range - 42-70)

How many times per week do vocational classes meet?

5 times per week

Item V How many vocational education advisory committees are there in the county?

Grand Rapids (Public)		Out-County (Public)	
Machine Shop	(1)	Business	(2)
Electricity	(1)	Agriculture	(2)
Printing	(1)	General	(3)
Furniture Tech.	(1)	Home Ec.	(1)
		Auto Mech.	(1)

Parochial or Private Schools

None

Item VI How many high schools have a cooperative occupational training program?

14 high schools in 9 school districts
(5) Grand Rapids (Public)
(9) Out-county (Public)
(0) Parochial or private schools

Eleven (11) coordinators supervise and are certified by the State Department of Education.

There are 589 students in this program.

Item VII How many students are enrolled in vocational programs (excluding cooperative training programs)?

464	Agriculture
4,366	Business
235	Distributive education
1,830	Homemaking
1,934	Trade and industry

In the fields of business education and trade and industry there were schools that interpreted industrial arts programs and isolated business courses such as typing and bookkeeping as vocational courses.

Item VIII Number of students in the 1964 graduating class:

5,136

Item IX Number of the 1964 graduating class that enrolled in a 2 or 4 year college:

2,645 or 51% of the graduates

Item X Number of the 1964 graduating class that went on to a business, trade, technical or other vocational school:

243 or 4.7% of the graduates

Item XI Number of students in the 1962 graduating class:

3,141

Item XII Number of students of the 1962 graduating class that are still enrolled in a college program:

325 students

(Note: Only 10 schools had follow up records on college students to give the figure of 325. This represents 20% of the graduates from the 10 schools reporting.)

Item XIII How many districts participate in any Federal or State vocational programs?

Area Redevelopment Act	0
Manpower Development Training Act	1
National Defense Education Act	13
Vocational Education Act 1965	10

Item XIV Does your school have a job placement service?

Yes 13 No 18

Item XV Does your job placement office conduct an annual survey of local occupational opportunities?

Yes 6 No 7

Item XVI Has your school made a recent follow-up study of your graduates as requested by the Michigan Association of School and Colleges?

Yes 14 No 17

Item XVII How many schools offer no vocational classes other than business classes?

10 high schools

Item XVIII Data from schools by vocational occupational area

Occupational Area	Total Number of Students Enrolled	Number of Teachers	Number of first year courses	Number of Advanced courses
Agriculture	464	6	6	14
Business Education	7499	99.1	157	81
Distributive Education	405	9 1/6	20	7
Homemaking Education	2574	35 ½	51	52
Industrial Education	4217	63	82	91
Technical Education	459	6	12	9
Service Occupations	6	1	1	
Others				

Item XIX VOCATIONAL COURSES BEING OFFERED IN KENT COUNTY HIGH SCHOOLS

COURSES	1 Number of rooms in local district at secondary level.	2 Number of first year courses offered	3 Number of advanced courses offered	4 Number of teachers assigned to classes	5 Total number of students in classes	6 Average number of hours per day room is in use	7 New vocational facilities definitely scheduled for 1966–67 school year	8 New vocational facilities definitely scheduled for 1965–66 school year	9 Average number of hours per evening room is in use
Accounting	6	6	4	9	395	4			
Advertising	1	1	0	1	24	2			
Agriculture	6	6	14	6	464	6			1
Appliance Reapirman									
Auto Mechanic	2	2	1	2	37	1		1	
Auto Body Repair									
Business English	10	6	0	7	180	4	1		
Business Machines	13	11	4	14	445	2.6			3
Business Math	23	26	2	24	1438	3.4			3
Bookkeeping	30	36	12	31	1756	3.9			
Clothing	30	34	20	28	1836	4.5			

COURSES	1 Number of rooms in local district at secondary level	2 Number of first year courses offered	3 Number of advanced courses offered	4 Number of teachers assigned to classes	5 Total number of students in classes	6 Average number of hours per day room is in use	7 New vocational facilities definitely scheduled for 1965–66 school year	8 New vocational facilities definitely scheduled for 1966–67 school year	9 Average number of hours per evening room is in use
Dictation-Shorthand	33	40	22	35	1113	3.1			5
Data Processing									
Dental Assistant									
Drafting	23	37	39	27	1884	3.6			3
Electricity-Electronics	3.5	4	2	4	138	1.6		1	
Foods	28	34	24	27	1431	4.3			
General Shop	18.2	44	48	20	1231	3.5	1		
Graphic Arts	8	13	12	7	493	2.5			
Home Mgt.	5¾	4	11	7	270	2.7			
Hospital Aide									
Landscaping									
Machine Shop	11	15	13	11	647	4.8	1		
Marketing									
Metal Shop	7	9	6	9	281	3	1		
Nurse's Aide									
Office Practice	19½	31	3	21	755	2.0	1		
Power Mechanics	1	1	1	1	20	1	1		
Practical Nurse									
Retailing	11	17	3	11	343	3.5			
Typing	32	78	42	61	4563	5.4			
Welding	1	1	0	1	20	1	1		
Wood	13.2	17	15	14	740	5			
Other (specify)									
Business Law	3	3	0	2	66	3			

SURVEY OF VOCATIONAL EDUCATION STAFFS, COURSE OFFERINGS AND FACILITIES IN GRAND RAPIDS JUNIOR COLLEGE

Item I Who is responsible for the direction of the vocational education program?
The departmental heads and college dean.

Item II What grades are offered at the college?
Grades 13-14 or the first two years of college.

Item III How long are the class periods?
53 minutes in length.
How many times per week do vocational classes meet?
3 to 4 times per week - business education
3 times per week - distributive education
3 times per week - home economics
4 times per week - trade and industry

Item IV How many advisory committees are there at Grand Rapids Junior College?

Drafting 1	Practical nursing 1	Secretarial 1
Mechanics 1	Dental asst. 1	
Electronics1	Data Processing 1	

Item V How many coordinators are assigned to the college vocational program?
Two coordinators.
How many teachers are certified for salary reimbursement from the state?
Fourteen teachers
How many teachers are assigned to the vocational program?
Thirty teachers

Item VI How many students are enrolled in the vocational program ?

Business education	- 400	Trade & industry	- 150
Distributive	- 80	Practical nursing & dental asst.	- 134
Homemaking	- 40		

How many students are enrolled in the cooperative training program?

Business education	- 14	Homemaking	- 4
Distributive education	- 28	Practical nursing & dental asst.	- 62

Item VII How many students were in the 1964 graduating class? 347 students
How many students were in the 1962 graduating class? 307 students

Item VIII In what federal and state programs does Junior College participate?
Area Redevelopment
Manpower Development Training Act
National Defense Act
Vocational Act of 1963

Item IX Vocational-Technical Occupational Areas Of Training Available At Grand Rapids Junior College

OCCUPATIONAL AREA	Area does not apply	Total number of students enrolled	Number of teachers	Number of full-time (30 teaching hours per week) teacher equivalents. Give fraction if necessary.	Number of first year courses	Number of advanced courses
Agriculture						
Business Education		400	15	12	17	18
Distributive Education		80	3	2	5	2
Homemaking Education		70	2	2	12	2
Technical Education		111	7	7	11	10
Service Occupations						
Practical Nursing		125	6	5 1/3	9	0
Dental Assistant		9	1	1	3	0

Item X VOCATIONAL–TECHNICAL COURSES BEING OFFERED AT GRAND RAPIDS JUNIOR COLLEGE

COURSES	1 Number of rooms in college	2 Number of first year courses offered	3 Number of advanced courses offered	4 Number of teachers assigned to classes	5 Total number of students in classes	6 Average number of hours per day each room is in use	7 New vocational facilities definitely scheduled for 1965–66 school year	8 New vocational facilities definitely scheduled for 1966–67 school year	9 Average number of hours per evening each room is in use
Accounting	4	2	5	8	593	6			3
Advertising	1	2	0	2	34	1			1
Agriculture									
Appliance Repairman									
Auto Mechanic									
Auto Body Repair									
Business English	1½	2	1	2	195	3			1
Business Machines									
Business Math	1	1	0	3	93	1			½
Bookkeeping									
Clothing	1	2	0	1	50	1			0

COURSES	1 Number of rooms in college	2 Number of first year courses offered	3 Number of advanced courses offered	4 Number of teachers assigned to classes	5 Total number of students in classes	6 Average number of hours per day room is in use	7 New vocational facilities definitely scheduled for 1965–66 school year	8 New vocational facilities definitely scheduled for 1966–67 school year	9 Average number of hours per evening room is in use
Dictation-Shorthand	2	2	2	4	193	4	x		1
Data Processing	3	2	3	5	268	5	x		3
Dental Assistant	1	3	0	1	9	3			0
Drafting	3	2	5	4	93	3			1
Electricity-Electronics	2	3	4	2	190	4			2
Foods	3	4	2	3	137	3	x		1
General Shop									
Graphic Arts									
Home Mgt.	1	1	0	1	24	½			
Hospital Aide									
Landscaping									
Machine Shop	1	1	1	2	68	5			0
Marketing	1	0	1	1	24	1	x		1
Metal Shop									
Nurses Aide									
Office Practice	1	1	0	1	70	3	x		1
Power Mechanics									
Practical Nurse	2	9	0	6	125	6			0
Retailing	1	5	1	1	55	2	x		0
Typing	2	2	2	2	231	4	x		1½
Welding	1	1	0	2	36	1	x		0
Wood									
Cooperative Office	1	2	1	1	28	¼	x		0
Child Development	1	1	0	2	42	1			
Industrial Science & Measuring & Gaging	1	1	1	3	27	1			0

CONCLUSIONS OF THE SURVEY OF VOCATIONAL EDUCATION STAFFS & FACILITIES IN KENT COUNTY HIGH SCHOOLS AND GRAND RAPIDS JUNIOR COLLEGE

A total of 27,246 students were enrolled in the 9th through 12th grades during the 1964–1965 school year.

Thirty-one high schools participated in the survey.

Thirty-nine teachers in the county are certified vocational teachers by the state standards. Not counting vocational agriculture (6) and vocational home education (10) and the coordinators of cooperative training, we have only twelve (12) vocational teachers teaching vocational courses that measure up to the state vocational standards.

The great majority of the vocational classes only meet five times per week for one hour at each session.

It is reported that 8,829 students are enrolled in vocational courses. The great majority of this number are in industrial arts classes and classes that are preparatory to vocational courses.

51% of the 1964 graduates enrolled in a 2 or 4 year college program.
28% of the graduates from the class of 1962 are still in college.
32% of the high schools are participating in the Vocational Education Act of 1963 and
42% are participating in the National Defense Education Act
19% of the schools conduct annual surveys of local occupational opportunities
42% of the schools have an organized job placement service
32% of the schools offer no vocational classes except business training

There are 335 vocational classrooms being used -- a total of 15 hours per evening in the county.

The average number of hours per day vocational classrooms is used in 3.2 hours.

This survey indicates a very definite shortage of vocational offerings in the curriculum of the county's high schools. It also indicates a very small number of offerings for adults.

There is a definite need for preparatory classes in vocational education in the parochial schools.

This program should be aimed at the 75% of the students who need a saleable skill as non-college graduates.

We are training a very few graduates for entry type skills in the world of work.

Grand Rapids Junior College presently enrolls more than 900 students in post-secondary vocational curriculums.

Post-secondary curriculums are offered by Grand Rapids Junior College in the following vocational programs:

Business education
Distributive education
Homemaking
Trade and industry
Practical Nursing
Dental Assisting
Cooperative training

January 31, 1966

To – Superintendents of Kent County
Subject – Area Vocational Technical Survey

On January 8, 1965 Kent County Superintendents' Association nominated a committee that would study vocational education in Kent County and make recommendations as to how vocational education could be improved. The following committee was appointed:

Maurice Cochrane, Supt. Kent City Community Schools
Cornelius C. Bruggink, Supt. Godwin Hts. Public Schools
Bernard Kennedy, Director of Vocational Education,
Grand Rapids Public Schools
Wendell A. Shroll, Asst. Dean, Grand Rapids Junior College
Garrell A. Adler, Chairman, Vocational Consultant,
Kent Intermediate School District

The committee proposed that an area vocational survey be made in Kent County. Financing of the project was provided with Grand Rapids Secondary Schools, Grand Rapids Junior College and the Kent Intermediate School District each contributing $2,000.00, which was matched with $6,000.00 from Federal and State funds. Harold Feringa of Grand Rapids Junior College was appointed Director of the survey. The Kent County Vocational-Technical education survey has been completed, and the complete final report is in the process of being written.

This is a preliminary report with recommendations by the committee. It is hoped that the Superintendents' Association will study these recommendations and initiate an action program.

The following areas were surveyed:

Agriculture - Production Field - 68 farms
Agriculture occupations - 60 agricultural businesses
Business & Industry - 1500 questionnaires sent - 424 returned - 28%.
Parents of 7th graders - 8482 questionnaires sent - 5547 returned - 65%
Vocational Education staffs & facilities - 31 public & parochial high schools
serving 27,247 students
1961 graduates - 2371 sent - 1067 returned - 45% 50% boys
50% girls
1965 high school seniors - 6088 sent - 3973 returned - 65%

The committee will attempt to answer three questions in this report.

1. Is more vocational education needed in our county?
2. If the above answer is yes, where is it needed? (grade level)
3. How should the program be financed?

Conclusions:

I Training opportunities in vocational education should definitely be increased in the Kent County area.

II The committee proposes the following program to increase vocational education offerings and provide an equal curriculum in vocational education for all students, public and parochial.

a. Familiarization and exploratory program in courses related to vocational education for students in grades 7 to 10.

b. Area vocational-technical centers should be constructed, equipped and staffed in Kent County to provide curriculums suitable for the areas. Facilities should be designed primarily for 11th and 12th grade students but flexible enough to accommodate students below that level.

c. Increased and expanded offerings in vocational-technical programs at the 13–14 grade or junior college level. Many of the course offerings would be a continuing program of the area vocational center.

d. Additional programs for upgrading and retraining adults at both the secondary area center and the junior college.

e. Cooperative training program would continue as it is at the present time.

III There are two types of school organizational patterns which the committee would like the Superintendents to study.

a. Half day at the center and half day at the local school. Here the student would attend his home school for one-half the day taking his required academic subjects, and for one-half the day he would attend the vocational center. He would graduate from his home school and receive a certificate from the vocational center.

b. All day in the vocational center. Here he would be a full time member of the vocational school, take all of his subjects here and graduate from this school.

IV The committee recommends that a review be made of the possibility of including the following areas in a vocational curriculum:

a. Agriculture
b. Home economics
c. Trade and industry
d. Business education

e. Distributive education
f. Cooperative training
g. Others

The committee also recommends that committees from business-industry-labor, etc. be established to serve as advisory committees to determine the curriculum content for the area centers.

V Finance

a. The committee recommends area tax millage be submitted to the electorate of the Kent Intermediate School District exclusive of the Grand Rapids School District, or including the Grand Rapids School District with the approval of the Grand Rapids Board of Education, for construction, equipment, and operational costs for area vocational centers.

b. Funds may be available under the Vocational Education Act of 1963 at the rate of 50% for construction, 50% for equipment and 25% for instruction.

It is possible that additional funds may be obtained from the Elementary and Secondary Education Act of 1965, Manpower Development and Training Act, Economic Opportunity Act and the National Defense Education Act.

VI Committees

a. We recommend the Kent County Superintendent's Association appoint a general committee to act on the above recommendations.

b. It is suggested that sub-committees be appointed to study the following areas:

Finance
Curriculum
Facilities

c. The members of this committee have indicated a willingness to serve in an advisory capacity whenever needed.

Garrell A. Adler, Chairman
Maurice Cochran
Cornelius C. Bruggink
Bernard Kennedy
Wendell Shroll

APPENDIX

Note: Some of these survey instruments have been reduced in size for convenience in printing this report.

AGRICULTURAL OCCUPATIONS SURVEY

Kind of Business
Name of Business Date
Business Address
Total Number of People Employed
Number of Jobs: (1) Agricultural skills required
(Ex. Judging Livestock, Operation of Machinery, Soil Test, Etc.)
(2) Agricultural knowledge required
(Ex. Farm Mgt. Principles, Understanding Feed Requirements.)
(3) Agricultural knowledge helpful; not required
Requirements to Obtain Employment:
(1) Education (Circle one) High School, Short Course, Degree, Technical Training
(2) Age
(3) Investment (other than education)
(4) Experience (years)
(5) Other
Kind of Work (explain):

Opinion of the Number of Available Employees: (Circle)
(1) Adequate, (2) Inadequate, (3) Surplus
Number of Agricultural Jobs Presently Available
Income: Range to
Are you interested in cooperating with a local school to provide on-the-job-training or an apprentice-type program for a qualified high school senior interested in your kind of work. Yes
No
Comment

Would you be interested in having a group of high school students visit your business to obtain information on careers? Yes No
Comment

Further Comments

KENT COUNTY VOCATIONAL–TECHNICAL EDUCATION SURVEY
SURVEY OF FARM LABOR NEEDS

Introduction:

The Boards of Education and the administrators of the nineteen high school districts in Kent County and Grand Rapids Junior College are cooperating to gather information and opinions from farmers, business and industry, and parents in Kent County that will be used to improve vocational-technical education programs for employment-bound youth.

You can help us by completing this questionnaire as completely as possible. The results of of this survey will have an important effect upon vocational-technical education in this area for perhaps the next two decades.

The data gathered will be used for statistical analysis only; your farm will NOT be identified in the published reports.

1. Size of farm _____ (acres).
2. Kind of farming done:
   Crops: _____ (acres) _____ Livestock _____ (head)
3. How many full-time man equivalents work on your farm?:
   a. Self _____ (1.0 if full-time) _____ c. Hired _____ (express as 0.0)
   b. Family _____ (express as 0.0) _____ d. Total _____ (express as 0.0)
   Additional seasonal _____ What months? _____
4. Would you hire additional help if available and dependable? Yes____ No____ If yes:
   a. Full time? Yes____ No____
   b. Fraction of year? Yes____ No____ If yes, what months?
   c. Kind of work _____
   d. Years of agricultural education this help should have in
      (1) high school _____ (2) college
5. If present help left, would you fill the vacancy? Yes____ No____
6. Farm operator by age:
   a. Under 25 _____ c. 36-45 _____ e. 56-64
   b. 26-35 _____ d. 46-55 _____ f. 65 or over
7. How many years of agricultural education has farm operator had in
   a. High school _____ c. Adult education classes
   b. College _____
8. What types of adult agricultural education could a school offer that could be of benefit to you, the farm operator? (write in)
9. What is your estimated annual need for employees during the next five years?
   a. Part-time _____ Type of work _____
   b. Full-time _____ Type of work _____
10. What subject knowledge or skills would be of benefit to your employees? (write in)
11. What do you think should be taught in high school agriculture? (write in)
12. What training should boys have for future jobs on the farm? (write in)
13. If you have a son, when you discuss his occupational goals with him do you.
   a. Encourage him to make farming his vocation? Yes____ No____
   b. Encourage him to choose some vocation other than farming? Yes____ No____
   c. Other (write in) _____

HIGH SCHOOL INFORMATION SHEET

Directions: An attempt is being made to get information that might result in improving educational opportunities in this area. Your help is needed. Will you please help by answering each question appearing below: Be careful to answer each question as accurately and completely as possible. This is not a test, and the answers you give will not affect your grades. Neither your teachers nor other students will see your answers. DO NOT sign your name. Be sure to answer all questions according to directions. Thank you.

1. Sex (check one)

_____1. Male
_____2. Female

2. Which high school course, program, or curriculum best describes the one in which you are enrolled? (check one)

_____1. Commercial or Business Education
_____2. College or University Preparatory
_____3. Shop or Industrial Arts
_____4. Agriculture
_____5. General
_____6. Homemaking
_____7. Other (write in)

3. To the best of your knowledge, what is your academic rank in your high school graduating class? (check one)

_____1. Top third
_____2. Middle third
_____3. Lower third

4. With whom do you live while attending school? (check one) If adopted, answer for foster parents.

_____1. Mother and father
_____2. Only mother (with or without stepfather)
_____3. Only father (with or without stepmother)
_____4. Neither father nor mother
_____5. Other (write in)

5. How long has your home been in Kent County? (check one)

_____1. Less than a year
_____2. 1-2 years
_____3. 3-5 years
_____4. 6-10 years
_____5. Over 10 years
_____6. Do not live in Kent County

6. Do you plan to go to college? (check one)

_____1. No
_____2. Probably not
_____3. Probably so
_____4. Yes, definitely
_____5. Don't know

Directions: Answer questions 7 and 8 ONLY if your answer to question 6 above was response 3 or 4. (You probably or definitely plan to attend college.) If you don't plan to attend college, go on to question 9.

7. Which college do you hope to attend? (check one)

_____1. Aquinas College
_____2. Calvin College
_____3. Central Michigan University
_____4. Davenport Institute
_____5. Ferris State College
_____6. Grand Rapids Junior College
_____7. Grand Valley State College
_____8. Hope College
_____9. Michigan State University
_____10. Muskegon Community College
_____11. University of Michigan
_____12. Western Michigan University
_____13. Other college in Michigan (write in the name)
_____14. Other college outside Michigan (write in the name)

8. If you plan to attend college, but not Grand Rapids Junior College, which of the following statements best explains your reason? (check one)

_____1. Grand Rapids Junior College has no program in which I am interested.
_____2. Grand Rapids Junior College is too expensive.
_____3. I want to attend college away from home.
_____4. The courses and curriculums in Grand Rapids Junior College are not as good as those in other colleges.
_____5. Other (write in)

_____

9. What do you plan to do on a full-time basis during the first year after high school graduation? (Boys check only one; girls may check either one or two choices.)

_____1. Work on a job
_____2. Become a housewife
_____3. Enter military service
_____4. Work at home for parents
_____5. Attend college or university
_____6. Attend business college
_____7. Attend trade or technical school
_____8. Attend nursing school
_____9. Don't know
_____10. Other (write in)

10. How well do you think your high school is preparing you for what you plan to do after graduation? (check one)

_____1. Providing just what is needed.
_____2. Very well in some ways but in other ways preparation is not adequate.
_____3. Fairly well but all the training could be improved.
_____4. Poorly.

11. If you checked items 1, 2, or 3 in question 10 above, how do you think your high school could prepare you better? (write in) (If necessary, use the other side of this sheet to complete your answer.)

12. How much help have you received in high school to help you decide what occupation you want to enter, or in making your educational plans for after high school? (check one)

_____1. A lot of help; all I need
_____2. Considerable help, but I could have used more
_____3. Some help, but not very much
_____4. Little or no help

13.–14. How do you think your parents feel about whether you attend college after high school graduation? Check the one item in each column which you think best describes each parent's attitude.

MOTHER	FATHER
_____1. Insists or expects me to go	_____1. Insists or expects me to go
_____2. Wants me to go if I want to	_____2. Wants me to go if I want to
_____3. Doesn't care one way or the other	_____3. Doesn't care one way or the other
_____4. Doesn't want me to go	_____4. Doesn't want me to go
_____5. Won't allow me to go	_____5. Won't allow me to go

15. What kind of job do you look forward to having ten years from now? (Name the one job which would be your first preference.)

16.–17. What is the highest level of school attained by your father and mother? (check one for each parent)

MOTHER	FATHER
_____1. Eighth grade graduation or less	_____1. Eighth grade graduation or less
_____2. Some high school	_____2. Some high school
_____3. Graduated from high school	_____3. Graduated from high school
_____4. Business or trade school	_____4. Business or trade school
_____5. Some college	_____5. Some college
_____6. Graduated from college	_____6. Graduated from college
_____7. Don't know	_____7. Don't know

18.–19. Consider your older brothers and sisters. Check below the highest grade completed by each older brother and by each older sister.

BROTHER	SISTER
_____1. Eighth grade graduation or less	_____1. Eighth grade graduation or less
_____2. Some high school	_____2. Some high school
_____3. Graduated from high school	_____3. Graduated from high school
_____4. Some college	_____4. Some college
_____5. Business or trade school	_____5. Business or trade school
_____6. Graduated from college	_____6. Graduated from college
_____7. Don't know	_____7. Don't know
_____8. I have no older brother	_____8. I have no older sister

20. Which of your relatives have completed college? (check all that apply other than those mentioned above)

_____1. Grandparents (one or more) _____3. None

_____2. Aunt, Uncle, or cousins _____4. Don't know

21. Do you earn money while attending high school by working on a part-time job during the school year? (check one)

_____1. Yes _____2. No.

22. If you plan to take advanced technical, business, or trade training or to attend a college, what is the one profession or job of greatest interest for which you would like to prepare? (write in)

23. How would you rate the following high school services, experiences, or facilities? (Opposite each item check either "excellent", "good", or "poor".)

	Excellent	Good	Poor
_____1. Counseling or guidance on school problems.	1._____	2._____	3._____
_____2. Counseling or guidance on personal problems.	1._____	2._____	3._____
_____3. Counseling or guidance on vocational choice.	1._____	2._____	3._____
_____4. Counseling or guidance on college education.	1._____	2._____	3._____
_____5. Library materials and information on vocations.	1._____	2._____	3._____
_____6. Courses offered.	1._____	2._____	3._____
_____7. Social activities.	1._____	2._____	3._____

24. Under what conditions would you be most likely to get any further education after high school graduation? (check one)

_____1. Attend school full-time and not work.
_____2. Attend school full-time and work full-time.
_____3. Attend school full-time and work part-time.
_____4. Work full-time and attend school part-time.
_____5. Work part-time; attend school part-time.
_____6. I do not plan to attend school any more after high school graduation.
_____7. Attend school part-time and not work.
_____8. Other (write in)

ANSWER THE FOLLOWING QUESTIONS ONLY IF YOUR FUTURE PLANS DO NOT OR PROBABLY DO NOT INCLUDE GOING TO COLLEGE. (If you do plan to go to college, skip this entire section and check back over your answers.)

25. In which of the following types of training or education would you have the greatest interest? (check one)

_____1. Work for several years as a paid apprentice (helper) to learn a trade.
_____2. Take post-graduate high school work in the high school at night.
_____3. Enter military service for training.
_____4. On-the-job training with a company or industrial firm.
_____5. Correspondence study.
_____6. Attend adult education classes.
_____7. Enrollment in a community college on a part-time basis.
_____8. None of the above.

26. What is the one reason of most importance why your future plans do not include going to college? (check one)

_____1. Tired of school; had enough education.
_____2. Want to work and make money.
_____3. Too expensive; can't afford it.
_____4. Want to get married.
_____5. Parents don't want me to go.
_____6. People who don't go to college get ahead just the same.
_____7. Waste of time.
_____8. Can't make good enough grades.
_____9. Other (write in)

27. Would your plans not to attend college change if you had more money?

_____1. Yes
_____2. No
_____3. Maybe

19

CONFIDENTIAL **CONFIDENTIAL**

KENT COUNTY VOCATIONAL-TECHNICAL EDUCATION SURVEY

EMPLOYMENT SURVEY

Introduction

The Boards of Education and the administrators of the nineteen high school districts in Kent County and Grand Rapids Junior College are cooperating to gather information and opinions from employers in Kent County that will be used to improve vocational-technical education programs for employment-bound youth.

You can help us by completing this questionnaire as completely as possible. The results of this survey will have an important effect upon vocational-technical education in this area for perhaps the next two decades.

The data gathered will be used for statistical analysis only; your firm will NOT be identified in the published reports.

Please return this questionnaire completed at once. Our report must be prepared this month.

Please use additional paper if the spaces provided for write-in answers are inadequate.

PART I

General Information

1. Firm name _____
2. Mailing address _____
3. Name of person reporting _____
4. Your job title _____
5. Your telephone number _____ Extension _____
6. Please check the space opposite the description which best identifies the activities of your firm. Check more than one if needed.

_____ 1. Agricultural Services
_____ 2. Advertising
_____ 3. Banking and Finance
_____ 4. Communications
_____ 5. Construction
_____ 6. Education
_____ 7. Entertainment and Recreation
_____ 8. Food, Dairy, Drink
_____ 9. Government
_____ 10. Health, Hosp., Medical, Dental
_____ 11. Hotel and Motel
_____ 12. Industrial Manufacturing
_____ 13. Insurance
_____ 14. Marine Service
_____ 15. Printing and Publishing
_____ 16. Professional — other than Medical and Dental
_____ 17. Real Estate
_____ 18. Retailing — other than Food, Drink, Dairy
_____ 19. Service Establishment
_____ 20. Transportation
_____ 21. Utilities
_____ 22. Wholesaling
_____ 23. Other (write in below)

_____
_____
_____

PART II

1. If vocational-technical programs were offered (perhaps evenings) to help adults upgrade job competencies, what courses would you recommend to be established which would be of value to your present employees? Please be specific.

2. If new or expanded vocational-technical curriculums or courses were to be offered in high schools or Junior College, which curriculums or courses would you recommend which would be of value to prospective employees of your firm? (Write in)

3. Please add any comments which you, or other officials of your firm may wish to make about the improvement of education and training opportunities in the Kent County Area. Include your suggestions as to the **kind** and **level** (examples: shoe repair, high school; electronics technology, Junior College) of educational programs which you think should be provided. Your comments will be of great help to the Study Committee.

Please list below the titles of those jobs your firm presently finds difficult (or impossible) to fill because qualified applicants are not available **locally** and a brief job description of each. Check in the appropriate box opposite the title and description the preferred educational level for employment entry, preferred sex of entering employee, and the average number of these jobs you estimate will be required each year 1965 through 1970.

JOB TITLE	JOB DESCRIPTION	ENTRY EMPLOYMENT PREFERRED EDUCATION LEVEL CHECK ✓				PREFERRED SEX OF EMPLOYEE CHECK ✓ IF EITHER SEX ACCEPTABLE LEAVE BLANK.		AVERAGE NUMBER NEEDED EACH YEAR 1965-1970
		Less Than H. S.	High School Grad.	Community College or Tech. Inst.	College 4 Years	M	F	

PART III

Employer Opinion and Practice

A. With respect to the requirements of your firm for **entry employment**, in what jobs do you employ young persons who have "dropped out" without finishing high school? Please put check marks under the headings which best describe your firm's operating policies.

Entry Job Title	Frequency of Employment		
	Common Practice	Infrequently	Almost Never

B. With respect to the requirements of your firm for **entry employment**, in what jobs do you employ young persons who are recent high school graduates without work experience? Please put check marks under the headings which best describe your firm's operating policy.

Entry Job Title	Frequency of Employment		
	Common Practice	Infrequently	Almost Never

1. Have the high schools adequately prepared their graduates for entry employment with your firm? (Check one)
   _____1. Yes, adequately
   _____2. Yes, but only partially
   _____3. No
2. If your answer was "only partially" or "No," in your opinion what must be done to remedy the deficiencies? (Write in)

C. With respect to the reauirements of your firm for **entry employment**, in what jobs do you employ young persons who are rece junior (community) college graduates without work experience? Please put check marks under the headings which best describe your firm's operating policy.

Entry Job Title	Frequency of Employment		
	Common Practice	Infrequently	Almost Never

1. Have the junior (community) colleges adequately prepared their graduates for entry employment with your firm? (Check one)
   _____1. Yes, adequately
   _____2. Yes, but only partially
   _____3. No
2. If your answer was "only partially" or "No," in your opinion what must be done to remedy the deficiencies? (Write in)

PART IV

1. To what extent, in your opinion, do existing educational facilities in the Kent County Area meet the occupational and training needs of your company or firm? (Check one)

   _____1. Very well _____2. Fairly well _____3. Poorly

2. If you think occupational education and training in the area need improvement, which of the following would you support? (Check all that apply)

   _____1. Substantial expansion of vocational education programs in the existing high schools.

   _____2. Creation of an area vocational school for secondary (high school) occupational training.

   _____3. Expansion of community college offerings in occupational education.

3. Is there a formally organized training program in your company or firm?

   _____1. Yes _____2. No

4. If "yes," please describe briefly each program.

   _____

   _____

   _____

5. If your answer to No. 3 above was "yes," would you expect that additional technical programs in Grand Rapids Junior College could replace or supplement your program?

   _____1. Yes _____2. No _____3. Maybe

6. Do you (the employer) now pay the tuition of employees who take training to upgrade their job skills? (Check one)

   _____1. Yes, in full

   _____2. Yes, in part

   _____3. No

7. If you pay (or would be willing to pay) the tuition of employees who take training to upgrade their job skills, under what condition do you pay or would you be willing to pay?_____

   _____

8. Do you inform your employees of educational opportunities they might take to improve their job skills?

   _____1. Yes

   _____2. No

9. If your answer to No. 8 above is "yes," how do you inform them? (Examples: Personal interview, house organ). (Write in)_____

   _____

10. If your answer to No. 8 above is "yes," please list the specific training you have recommended to employees in the past year and the institution offering such training. (Write in)

Course or Training Recommended	Institution Offering the Training

.....Graduation Class-Year Code Number

Responses are confidential and will be used for statistical purposes only.

INFORMATION SCHEDULE FOR HIGH SCHOOL GRADUATES

1. Where are you living at the present time? (Check one)

   .....1. Grand Rapids.
   .....2. East Grand Rapids.
   .....3. Walker City.
   .....4. Wyoming City.
   .....5. Outside one of the above areas, but within Kent County. Please write in the name of the school district. .....
   .....6. Other (write in). .....

2. How many years after high school graduation did you live in Kent County? (Check one)

   .....1. Less than a year.
   .....2. Over 1 year and less than 3 years.
   .....3. Over 3 years.
   .....4. I haven't left; I have continued to live in Kent County.

3. Marital Status? (Check one)

   .....1. I am married and living with my husband or wife.
   .....2. I am married but I am separated from my husband or wife.
   .....3. I was married but I am divorced.
   .....4. I was married but my husband or wife died.
   .....5. I am single, and I have never been married.

4. What type of further training or education have you received since graduating from high school? (Check all that apply)

   .....1. No additional training or schooling.
   .....2. On-the-job training at a place where I was employed.
   .....3. Business college.
   .....4. Trade or technical school.
   .....5. College or university.
   .....6. Adult education course at a local high school.
   .....7. Took correspondence course.
   .....8. Military service school.
   .....9. Apprenticeship.

5. Are you going to college at the present time? (Check one)

   .....1. Yes, full-time.
   .....2. Yes, part-time.
   .....3. No.

6. If you are going to college at the present time, or have been granted a college certificate or degree, please check which college you are attending or the college which granted the certificate or degree. (Check one)

   .....1. Aquinas College.
   .....2. Calvin College.
   .....3. Grand Rapids Junior College.
   .....4. Grand Valley State College.
   .....5. Hope College.
   .....6. Michigan State University.
   .....7. Muskegon Community College.
   .....8. University of Michigan.
   .....9. Western Michigan University
   .....10. Other college. (Write in name and location).....

7. If you went to college after high school graduation, in your opinion how well did high school prepare you for college work? (Check one)

.....1. My preparation was inadequate.
.....2. Fair, but all of it could have been better.
.....3. Very good in some ways, but could have been better in other ways.
.....4. My preparation was excellent.
.....5. Did not attend college.

8. If you entered employment (full-time or part-time) after high school graduation, in your opinion how well did high school prepare you for employment? (Check one)

.....1. My preparation was adequate.
.....2. My preparation was inadequate. (Explain, write in) .....

.....

.....

9-10. How do you think your parents felt about whether you attended college after high school graduation? Check the one item in each column which you think best describes each parent's attitude.

MOTHER	FATHER
.....1. Insisted or expected me to go.	.....1. Insisted or expected me to go.
.....2. Wanted me to go if I wanted to.	.....2. Wanted me to go if I wanted to.
.....3. Didn't care one way or the other.	.....3. Didn't care one way or the other.
.....4. Didn't want me to go.	.....4. Didn't want me to go.
.....5. Wouldn't allow me to go.	.....5. Wouldn't allow me to go.

11. If you DID NOT attend school after high school graduation or ARE NOT presently attending, would you have done so if more financial assistance had been available? (Check one)

.....1. Yes.
.....2. No.
.....3. Does not apply.

12. Are you presently interested in opportunity for further training or education? (Check one)

.....1. Yes.
.....2. No.

13. In which of the following types of training or education would you be most interested? (Check one)

.....1. Work for several years as a paid apprentice (helper) to learn a trade.
.....2. Take post-graduate high school work in the high school at night.
.....3. Enter military service for training.
.....4. On-the-job training with a company or industrial firm.
.....5. Correspondence study.
.....6. Attend adult education classes.
.....7. Enrollment in a community college on a part-time basis.
.....8. None of the above.
.....9. Other. (Write in).....

14. If you would be interested in further training or education, under which of the following conditions would you be most likely to get it? (Check one)

.....1. Full-time.
.....2. Part-time.
.....3. Combination of full and part time.
.....4. Other (Write in).....

15. If you are not going to school at the present time, which one of the following is the reason of most importance? (Check one)

.....1. Do not have time.
.....2. Opportunity not available within the community.
.....3. Financial reasons.
.....4. Family responsibilities.
.....5. Not interested.
.....6. Already have completed the school I attended after high school.
.....7. Too difficult to make grades.
.....8. Didn't take college preparatory subjects.
.....9. Now in military service.

16. To the best of your knowledge, what was your academic rank in your high school graduating class? (Check one)

.....1. Top third.
.....2. Middle third.
.....3. Lower third.

17. Which high school course or curriculum best describes the one which you took in high school? (Check one)

.....1. College and University preparatory.
.....2. General.
.....3. Business Education (Commercial).
.....4. Agriculture.
.....5. Fine Arts.
.....6. Technical or Shop. (Ind. Arts.)
.....7. Homemaking or Home Economics.
.....8. Other. Name it.....

18. If two years of college work or some type of technical or semi-professional vocational training had been available in the region when you graduated, how might this have affected your plans? (Check one)

.....1. Would not have been interested.
.....2. I might have planned to stay at home and take advantage of it.
.....3. Would definitely have taken advantage of the opportunity.

19. Tell what you think about the availibility of opportunities which youth have in the high school district in which you graduated in receiving training or education beyond high school. (Check one)

.....1. Adequate for all who desire more school.
.....2. Fair amount of opportunity but not all youth who desire more training find what they want available.
.....3. Poor opportunities, local youth should have more available opportunities.

20. Are you employed in some paying job at the present time? (Check one)

.....1. Yes, I am employed full-time in a paying job.
.....2. Yes, I am employed part-time in a paying job.
.....3. No, I am not employed in a paying job.

21. If you are employed in a paying job, tell what your job is called. If in military service, give branch and rating. (Be specific.) If not employed, write the word "none" in the space.
.....

22. List all other full-time jobs you have held since you graduated from high school. (Write in) .....
.....

23. Have you decided what type of work you want to be doing in the future? (Check one)

.....1. Yes.
.....2. No.

24. If your answer to 23 is yes, name the type of work you would like to be doing in the future. (Be specific) .....

25. In your opinion, which statement best describes Grand Rapids Junior College or any junior or community college? (Check one)

.....1. Upward extension of high school or grades 13 and 14.
.....2. Branch or extension of another college or university.
.....3. Separate institution with special task of its own.
.....4. Part of a four-year college.
.....5. Other. (Write in).....

26. In your opinion, what statement best describes most of the students who attend Grand Rapids Junior College, or any junior or community college? (Check one)

.....1. Those who are not able to make good enough grades in other colleges.
.....2. Those who do not have enough money to attend a college away from home.
.....3. Those who failed in other colleges.
.....4. Those who desire programs offered only at Grand Rapids Junior College.
.....5. Those who could succeed at any college.
.....6. Other. (Write in).....

27. If you had had an opportunity to attend a school following high school graduation, which one of the following would you have been interested in attending? (Check one)

.....1. A community college located in the area where you lived. (2-yr. college)
.....2. A four-year college or university.
.....3. A trade or vocational school.
.....4. None.
.....5. Attended college of my choice.

KENT COUNTY VOCATIONAL–TECHNICAL EDUCATION SURVEY

143 Bostwick, N. E.
Grand Rapids, Michigan 49502

SURVEY OF VOCATIONAL EDUCATIONAL STAFFS AND FACILITIES IN THE HIGH SCHOOLS OF KENT COUNTY

As you know, we are engaged in a study of vocational-technical needs in Kent County. The primary purpose of this study is to provide information upon which a comprehensive and coordinated plan can be developed for vocational-technical education in the Kent County schools and the development and implementation of that plan.

The purpose of this questionnaire is to gather information concerning existing vocational education programs, staffs, and facilities in Kent County. The results will be used for statistical analysis in reports to be published in conjunction with the Kent County Vocational-Technical Education Survey. When this study is completed, a copy will be sent to you.

For purposes of this study, consider vocational education as any of the courses in the areas of agriculture, business, home economics, industrial arts, and vocational education, or any activity or program that is designed to prepare high school students, grades 9-12, for employment and/or provide them with job entry skills.

Instructions

1. For most questions, no writing is needed; just check the answer that fits each item best.
2. Answer these questions on the basis of your 1964–1965 school year.
3. Write in any comments or explanations that you feel are necessary.
4. Return this questionnaire in the stamped addressed envelope by September 7, 1965.

Yours truly,

Harold Feringa, Director

Name of School district
Person completing questionnaire
Position of person completing questionnaire

Organization and Administration

1. How many high schools are in your school district? (write in)
   Senior High School(s)
2. Who is responsible for the direction of the vocational education program? (check one)
   Superintendent
   Asst. Superintendent
   Principal
   Asst. Principal
   Voc. Ed. Director
   Dept. Head
   Other (specify)
3. What grades are included in your high school buildings? (check all that apply)
   7-12
   9-12
   10-12
   Other (specify)
4. How long are your class periods in high school? (write in)
   Minutes
5. (a) How many vocational advisory committees are in your district? (write in)

   (b) In what areas? (specify)
6. Does your school have a cooperative occupational training program? (check)
   Yes
   No
7. How many coordinators are assigned to the senior high vocational program? (write in)

8. How many of these coordinators are certified for salary reimbursement from the State? (write in)

9. How many teachers are assigned to the senior high vocational program? (write in)

10. How many of these teachers are certified for salary reimbursement from the State? (write in)

11. What area(s) does your vocational (exclude co-op) program cover? (check all that apply)
    Agriculture
    Business Education
    Distributive Education
    Homemaking
    Trade and Industry
    Other (specify)
12. How many students are enrolled in these vocational (exclude co-op) programs? (write in numbers).
    Agriculture
    Business Education
    Distributive Education
    Homemaking
    Trade and Industry
    Other (specify)

13. What area(s) does your co-op program cover? (check all that apply)

Agriculture	Trade and Industry
Business Education	Other (specify)
Distributive Education	
Homemaking	

14. How many students are enrolled in these co-op programs? (write in numbers)

Agriculture	Trade and Industry
Business Education	Other (specify)
Distributive Education	
Homemaking	

15. What is the average number of hours per week that your co-op students work on-the-job? (check one)

15-20	20-25
Other (specify)	

16. What is the average number of classes each coordinator meets each week? (write in)

17. What is the average number of periods per week that your vocational students, in the following areas, are in vocational classes in school? (write in)

Agriculture	Trade and Industry
Business Education	Other (specify)
Distributive Education	
Home Economics	

Programs

18. Does your district participate in any federal or state vocational programs? (check appropriate answer)

	Yes	No
Area Redevelopment Act		
Manpower Development Training Act		
National Defense Education Act		
Other (specify)		

19. How many teachers are assigned to these programs? (write in)
20. Has your district ever participated in any of these programs in the past? (check)

	Yes	No
Area Redevelopment Act		
Manpower Development Training Act		
National Defense Education Act		
Other (specify)		

Guidance and Placement

21. Does your school have a job placement service? (check)
    Yes No
22. If yes, what position does the Director hold? (check one)
    Teacher
    Counselor
    Vocational Education Director
    Does not apply
    Asst. Principal
    Coordinator
    Other (specify)
23. Does your job placement office conduct an annual survey of local occupational opportunities? (check)
    Yes No Does not apply
24. Does your school maintain a file of occupational information briefs and pamphlets? (check)
    Yes No Does not apply
25. Has your school made a recent follow-up study of your graduates as requested by the Michigan Association of Schools & Colleges? (check)
    Yes No
26. What graduation class was this study done on? (write in)
27. How many years after graduation was this study done? (write in)
28. Under whose direction was this follow-up made? (check one)
    Superintendent
    Asst. Superintendent
    Principal
    Asst. Principal
    Guidance Director
    Counselor
    Vocational Education Director
    Coordinator
    Other (specify)
29. How many students were in your 1964 graduating class? (write in)
30, How many of the 1964 graduating class enrolled in a 2-year or 4-year college? (write in)
31. How many of your 1964 graduating class went on to a business, trade, technical or other vocational school? (write in)
32. How many students were in your 1962 graduation class? (write in)
33. How many of your 1962 graduating class are still enrolled in a college degree program? (write in)
34. If you have done a follow-up study, do you know what percent of the vocational students are working in occupations for which they were trained? (write in)
35. Please fill in the information requested below.
    Do not count any student or teacher more than once.

OCCUPATIONAL AREA	Agriculture	Business Education	Distribution Education	Homemaking Education	Industrial Education	Technical Education	Service Occupations	Other (specify)
Area does not apply								
Total number of students enrolled								
Number of teachers								
Number of full-time (30 teaching hours per week) teacher equivalents. Give fraction if necessary.								
Number of first year courses								
Number of advanced courses								

36. Please supply the information requested below. Count each room occupied a full school day once. (This may give you a fractional room.)

Reminder,

1. All of the information we seek is as of the 1964–1965 school year.
2. Only those classes, rooms, courses, and programs for high school students in grades 9-12 are to be counted.
3. In columns III and IV, please figure all courses on a year basis.

COURSES	I Does not apply	II Number of rooms in local district at secondary level	III Number of first year courses offered	IV Number of advanced courses offered	V Number of teachers assigned to classes	VI Number of full-time (30 teaching hours per week) teacher equivalents. Give fraction if necessary.	VII Total number of students in classes	VIII Average number of hours per day room is in use	IX New vocational facilities definitely scheduled for 1965–1966 school year	X New vocational facilities definitely scheduled for 1966–1967 school year	XI Average number of hours per evening room is in use
Accounting											
Advertising											
Agriculture											
Appliance Repairman											
Auto Mechanic											
Auto Body Repair											
Business English											
Business Machines											
Business Math											
Bookkeeping											
Clothing											

COURSES																		
	Dictation-Shorthand	Data Processing	Dental Assistant	Drafting	Electricity-Electronics	Foods	General Shop	Graphic Arts	Home Management	Hospital Aide	Landscaping	Machine Shop	Marketing	Metal Shop	Nurses Aide	Office Practice	Power Mechanics	Practical Nurse
I Does not apply																		
II Number of rooms in local district at secondary level																		
III Number of first year courses offered																		
IV Number of advanced courses offered																		
V Number of teachers assigned to classes																		
VI Number of full-time (30 teaching hours per week) teacher equivalents. Give fraction if necessary.																		
VII Total number of students in classes																		
VIII Average number of hours per day room is in use																		
IX New vocational facilities definitely scheduled for 1965–1966 school year																		
X New vocational facilities definitely scheduled for 1966–1967 school year																		
XI Average number of hours per evening room is in use																		

COURSES	I Does not apply	II Number of rooms in local district at secondary level	III Number of first year courses offered	IV Number of advanced courses offered	V Number of teachers assigned to classes	VI Number of full-time (30 teaching hours per week) teacher equivalents. Give fraction if necessary	VII Total number of students in classes	VIII Average number of hours per day room is in use	IX New vocational facilities definitely scheduled for 1965–1966 school year	X New vocational facilities definitely scheduled for 1966–1967 school year	XI Average number of hours per evening room is in use
Retailing											
Typing											
Welding											
Wood											
Other (specify)											

37. What, if any, programs are definitely scheduled to be added in the 1965–1966 school year?

    For the 1966–1967 school year?

38. Are there any special vocational education programs provided in your district that have not previously been reported on this form? (specify and describe)

VT 000 987
Dannenberg, Raymond A.
Berrien County Vocational-Technical Education Research Study. Final Report.

Berrien County Intermediate School District, St. Joseph, Mich.
Western Michigan Univ., Kalamazoo. Div. of Field Services
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jun66 106p.

PROGRAM EVALUATION; *VOCATIONAL EDUCATION; TECHNICAL EDUCATION; QUESTIONNAIRES; SURVEYS; *EDUCATIONAL NEEDS; EDUCATIONAL FINANCE; SCHOOL SURVEYS; HIGH SCHOOL GRADUATES; EDUCATIONAL LEGISLATION; COMMUNITY COLLEGES; HIGH SCHOOLS; GUIDANCE PROGRAMS; STUDENT ATTITUDES; EMPLOYER ATTITUDES; PARENT ATTITUDES
BERRIEN COUNTY; MICHIGAN

Objectives of this county-wide study were to determine (1) the present and future vocational-tedchnical education needs of Berrien County, (2) where programs should be located, and (3) how they would be financed. Questionnaires were returned from (1) 3,211 parents of public school children, (2) 400 parents of children in private and parochial schools, (3) 2,112 public high school seniors, (4) 151 parochial school seniors, (5) 345 business firms, (6) 136 selected county school personnel, and (7) 1,250 public and parochial high school graduates in 1960 and 1964. Research and advisory committees were established for (1) business, industry, and agriculture, (2) public elementary and secondary schools, (3) community colleges, (4) private and parochial schools, (5) graduate surveys, and (6) legislation and finance. Recommendations included: (1) All vocational service areas should be up-dated and expanded and occupational preparation should be emphasized, (2) Use of the cooperative work-study method should be encouraged, (3) The schools' guidance program should be more concerned with occupational counseling, (4) Advisory committees should be used for re-evaluating programs, and (5) The adult program should be expanded. (SL)

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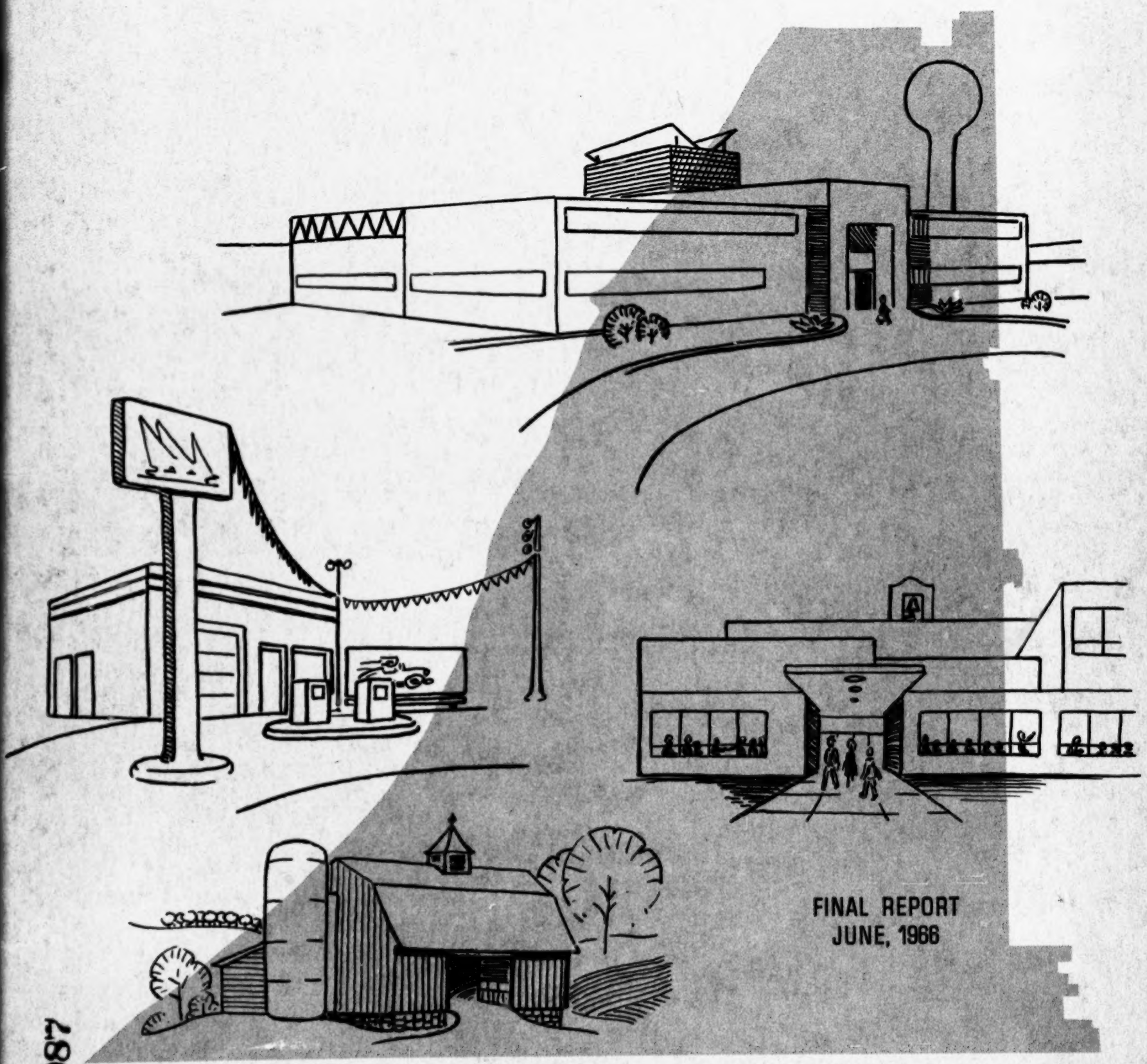
BERRIEN COUNTY VOCATIONAL-TECHNICAL EDUCATION RESEARCH STUDY



FINAL REPORT
JUNE, 1966

00987

SPONSORED BY

BERRIEN COUNTY INTERMEDIATE SCHOOL DISTRICT

DOYLE BARKMEIER, SUPERINTENDENT

BERRIEN COUNTY VOCATIONAL-TECHNICAL EDUCATION RESEARCH STUDY

Sponsored by

Berrien County Intermediate School District
Doyle Barkmeier, Superintendent
St. Joseph, Michigan

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Final Report
June, 1966

Study Directed by
Dr. Raymond A. Dannenberg
Professor of Distributive Education
Western Michigan University
Kalamazoo, Michigan

on special assignment for

Division of Field Services
Western Michigan University
Kalamazoo, Michigan

INTRODUCTION AND ACKNOWLEDGEMENTS

There is no doubt that the general American public is greatly concerned about vocational-technical education in the United States. Recent and current federal and state legislation concerning all aspects of vocational-technical education is evidence of this conclusion. A review of the numerous articles about occupational preparation in daily newspapers and periodicals further substantiates this conclusion.

More than thirty comprehensive studies on a county-wide basis have been completed or are being conducted in Michigan. This report, concerned with studying vocational-technical education in Berrien County, is one such investigation.

Many citizens of Berrien County gave willingly of their time and effort to make this completed report a reality. Among those who should receive special recognition are: (1) the Intermediate School District Board of Education; (2) the business, industrial, and agricultural firms in the county; (3) the executive committee and six research and advisory committees who carried out the study; (4) the Berrien County School Administrators' Organization; (5) the Lake Michigan College Administration; (6) a committee of Niles-Buchanan

industrialists; (7) the Twin Cities Industrial Management Training Committee; and (8) the Study Committee for the Benton Harbor Area on Reorganization.

This study, then, represents the thinking and effort of many leaders in the county. It is the hope of all concerned that the conclusions and recommendations of this report will be implemented as rapidly as possible.

Doyle Barkmeier
Superintendent
Berrien County Intermediate
School District

Raymond A. Dannenberg
Project Director
Berrien County Vocational-
Technical Study

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BERRIEN COUNTY VOCATIONAL-TECHNICAL STUDY
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Mr. Donald McAlvey, Benton Harbor Public Schools
Mr. Stewart Olmstead, Lakeshore Public Schools
Mr. Edward J. Ossmann, Brandywine Public Schools
Dr. Clarence Schauer, Lake Michigan College
Mr. Richard Warren, Niles Public Schools

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Mr. Lee Auble, Berrien Springs Public Schools - Coordinator
Mr. Gordon Cook, Lake Michigan College
Mr. Floyd Mattheeussen, State Representative
Mr. Lowell McMillen, Niles High School
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Mr. Charles Field, National Standard Company
Mr. George Gowens, Whirlpool Corporation
Mr. James Jessup, Clark Equipment Company
Mr. Anthony Korican, Agricultural & Home Extension Service
Mr. Ewald Lahti, Michigan Employment Security Commission
Mr. Anson Lovellette, Bendix Corporation
Mr. Alf Oines, Michiana Chemical Company
Mr. Larry Reed, Twin Cities Chamber of Commerce

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Mr. Earl Place, St. Joseph Public Schools
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Mr. Jerry Solloway, Lake Michigan College
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Mr. Donald Lee, Andrews University
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Committee VI - Graduate Survey
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Mr. Ed Stark, New Troy High School
Mr. William Willarize, Galien High School
Mr. Walter Wilson, Benton Harbor Public Schools

Project Director
Dr. Raymond A. Dannenberg, Western Michigan University

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CHAPTER I

Summary, Conclusions, and Recommendations

Summary and Conclusions

This study, concerned with determining the need for an expanded vocational-technical program on an area basis in Berrien County, was sponsored by the Intermediate School District Board of Education. Under the direction of an Executive Committee, a project director was employed on a half-time basis and six research and advisory committees were appointed.

The six research and advisory committees came to the conclusion, after nine months of study, that vocational-technical education should be expanded in Berrien County at both the high school and post-high school levels. The following brief summary is evidence supporting this conclusion.

After carefully reviewing the results of the questionnaires returned by 3211 public school parents, the Public Elementary and Secondary Schools Committee concluded that: "...overwhelming support seems to be indicated for the expansion of vocational-technical education that is to be financed on a county-wide millage." Based upon 400 ques-

tionnaires returned by the parents of private and religious school children, the Private and Religious Schools Committee arrived at a similar conclusion.

Of the 2112 public high school seniors completing questionnaires, over 50 percent plan to go on to some kind of further education on a full-time basis during the first year after graduation. Of the 1429 who stated their future plans included college, over 38 percent indicated they planned to attend Lake Michigan College. It is also interesting to note that of the 1980 students who answered the question, over 38 percent indicated an interest in advanced technical, business, or trade training providing opportunities were available in Berrien County. A tabulation of the 151 questionnaires filled out by the religious school seniors indicated similar results.

The Business, Industry, Agricultural Committee, after discussing the results obtained from a ten-page questionnaire returned by 345 businesses, concluded "the business, industrial, and agricultural firms in Berrien County have given a very positive expression of need for an expanded vocational-technical education program at the high school and post-high school levels." The above conclusion was reached after reviewing: (1) expected rate of employment; (2) supply of qualified employees; (3) employment practices concerning drop-outs, high school graduates, and those with post-high school education; and (4) opinions concerning the adequacy of existing educational facilities for vocational-technical

education in Berrien County.

A review of the data concerning curriculum, physical facilities and equipment further supports the contention that vocational-technical education in Berrien County should be expanded and is not currently available on an equal basis for all youth in the county. For example, one high school in Berrien County has $1,991 worth of equipment for teaching trade and industrial classes while another has equipment with an estimated value of $273,100. Many schools are not currently offering a broad sequence of courses in trade and industrial education; office and distributive education; agricultural education; and home economics education. Only five of the 14 high schools have an organized cooperative occupational education program. One other school has indicated that a cooperative program will be in operation next year. Many of the schools are not receiving maximum vocational reimbursement under the Smith-Hughes Act, George-Barden Act, and Vocational Education Act of 1963 due to such reasons as inability to employ a vocationally certified teacher and not being able to meet minimum curriculum and equipment standards.

A questionnaire was sent to the 1960 and 1964 public and parochial high school graduates. Of the respondents, about 33 percent of the public school graduates and 76 percent of the parochial school graduates indicated that there

were not a sufficient number of vocational courses offered in their local school districts. Fifty-nine percent of the 1964 class and 62 percent of the 1960 class indicated an interest in upgrading themselves, indicating a need for additional post-high school vocational-technical education within the immediate area.

The results on the questionnaire completed by the 413 Lake Michigan College students enrolled in occupational programs also has implications for an expanded vocational-technical program at the post-high school level. The conclusion of the Community College Committee was: "A more comprehensive program for the future will have to include industrial and service management training, automotive technologies, and other areas appropriate to the specific individual needs of the county."

When all available information had been tabulated, reviewed, and discussed, two meetings were held of the members of the Executive Committee and the chairmen and coordinators of each of the six research and advisory committees. At the second meeting held on April 21, 1966, the following resolutions and recommendations--directed to the Intermediate School District Board of Education--were made:

WHEREAS, the executive committee and chairmen and coordinators of each of the six research subcommittees concerned with the Berrien County Vocational-Technical Study have met in two general sessions on April 7, 1966, and April 21, 1966, and

WHEREAS, the need for an expanded vocational-technical education program at the high school and post-high school levels on an area basis was presented--based upon the reports and recommendations of the several subcommittees--and

WHEREAS, each of the members of the executive committee and chairmen and coordinators of the subcommittees were given an opportunity to write letters expressing opinions and concerns regarding a three-center proposal presented in writing prior to the April 7, 1966, meeting, therefore be it

Resolved, that the Executive Committee and chairmen and coordinators of each of the six research subcommittees concerned with the Berrien County Vocational-Technical Study submit the following recommendations to the Berrien County Intermediate School District Board of Education for their consideration.

RECOMMENDED:

1. That the vocational-technical education needs of Berrien County youth and adults be served by area vocational-technical centers as follows:

   a. That Lake Michigan College continue as a designated area vocational-technical education center for the purpose of serving post-high school age youth and adults.

   b. That two vocational-technical centers be designated for the purpose of serving as area centers for high school age youth and adults--one in the northern portion of the county and one in the southern portion.

2. That care and consideration be given to implementing the above recommendation so that: (a) all youth and adults in the Intermediate School District area are given equal vocational-technical educational opportunity and (b) maximum use is made of existing facilities and equipment.

3. That the area vocational-technical centers be supported by a voted Intermediate School District millage.

4. That the Intermediate School District Board of Education may enter into contractual agreements with school districts to build and/or operate facilities, with the Intermediate School District Board of Education serving in an advisory, coordinating and implementation capacity.

5. That an advisory committee be appointed by the Intermediate School District Board of Education to work with them in the formulation of more complete and specific plans concerning utilization of existing facilities, planning and constructing area centers and the general administrative organization and operation.

And be it further

Resolved, that a continuing public relations program be conducted to obtain a positive reaction to this much needed and worth-while program.

On behalf of the Executive Committee and the members of the six research subcommittees, we express our sincere wishes to the Berrien County Intermediate School District Board of Education and to the people of the Berrien County Intermediate School District in the accomplishment of the goals set forth in these recommendations.

As outlined in the resolutions and recommendations, the area center approach to an expanded vocational-technical program in Berrien County permits the offering of a wide range of courses, thereby providing students with many different curricula. Such programs can provide for the occupational training needs of both in-school and out-of-school youth and adults. The area vocational-technical center approach offers the following advantages:[1]

1. It provides for a broad tax base on an Intermediate School District basis.

2. It offers training opportunities to a greater number of persons than is possible in smaller schools serving individual communities.

3. It makes possible a broader administrative base and more comprehensive auxiliary services.

---

[1]State Board of Education, Establishing and Operating Area Vocational-Technical Education Programs in Michigan, Lansing: Division of Vocational Education, 1966. Pp. 1-2.

4. It makes available a greater range of curriculum offerings and, therefore, a greater range of occupational training choices.

5. It avoids duplication of equipment services and costs such as might prevail if a number of neighboring communities chose to offer similar training programs.

6. It provides for a degree of flexibility in operation that makes it possible to achieve rapid program adjustments and to meet emergency training needs quickly.

Specific Recommendations

Based upon the research and discussion included in this investigation, the following specific recommendations are made:

1. The Intermediate School District Board of Education should employ a full-time vocational-technical consultant to implement the recommendations of this study. Such a person should be knowledgeable in all areas of vocational-technical education including: (1) trade and industrial; (2) office; (3) distributive; (4) home economics; (5) agriculture; and (6) other related areas such as the health occupations, the apprenticeship program, and the cooperative work-study method.

2. The high school trade and industrial programs need to be re-evaluated as to their purpose. Many of the present programs do not lead to occupational competency; but are rather exploratory and preparatory in nature. The area centers, as recommended in this report, should be concerned

with providing salable skills in the trade and industrial occupations so as to assure all interested youth in Berrien County an equal educational opportunity. Among the curriculum areas which need to be expanded are: (1) electricity and electronics; (2) metals and plastics; (3) printing; (4) automobile and power mechanics; (5) drafting; and (6) many other related fields.

3. The high school business education programs, primarily concerned with preparing students for the office occupations, need to be re-evaluated in terms of the current and future impact of electronic data processing. Most of the existing programs are concerned with teaching the traditional shorthand, typing, and bookkeeping; with some emphasis upon a rudimentary knowledge of office machines. An expanded office occupations program in the area vocational-technical centers should include more emphasis upon data processing, office machines and office administration and management. While the present office occupations program has been providing a salable skill for many students, a more advanced and more specialized program is also needed.

4. Opportunities for students to enroll in a distributive education program for the purpose of preparing for the retailing, distribution and service occupations need to be expanded greatly in Berrien County. Such an expanded program in the area centers should include a minimum of at

least two one-year courses devoted to studying the American free enterprise system as well as such areas as retailing, advertising, salesmanship, display, and control. Currently, almost no high schools in the county are offering a two-year sequence of courses devoted entirely to the distribution of goods and services.

5. The home economics program in the area vocational-technical centers should be occupation oriented. The primary purpose of such a program would be to prepare youth for employment in such areas as: (1) hotels; (2) restaurants; (3) hospitals; and (4) other related fields.

6. The agricultural program in the vocational-technical centers should be concerned with preparing youth for the non-farm occupations which are related to the agricultural services. This would suggest a close working relationship with other vocational education areas such as: (1) business and distributive education; and (2) trade and industrial education.

7. Use of the cooperative work-study method should be expanded greatly in the area vocational-technical centers. The trend towards the use of specialized teacher-coordinators for each of the office, distributive, trade and industrial, and health occupations cooperative programs should be encouraged.

8. The secondary schools guidance program needs to be more concerned with occupational counseling. The area vocational-technical centers will be dependent upon an occupationally oriented counseling system.

9. Extensive use of advisory committees should be made for re-evaluating current curricula and planning future programs for the vocational-technical centers.

10. A greatly expanded vocational-technical program should be offered adults in Berrien County. The need for occupational training in specific areas should be determined with aid and counsel of the Michigan Employment Security Commission and a representative group of business, industrial, and agricultural leaders. The Intermediate School District vocational-technical consultant should serve to coordinate such an adult program to avoid duplication between the two high school vocational-technical centers and Lake Michigan College.

11. In order for Lake Michigan College to continue serving as a vocational-technical center for post-high school youth and adults, the following steps should be taken:

a. Library facilities should be expanded and improved.

b. Currently offered programs and curricula should be re-evaluated and improved with the aid of advisory committees. Offering courses in the southern portion of the county should be given serious consideration. The above suggestions make expanded physical facilities imperative.

c. The counseling services should be expanded to provide more occupational and vocationally oriented counseling.

CHAPTER II

Introduction to the Study

This investigation, sponsored by the Berrien County Intermediate School District, was an in-depth study of the vocational-technical needs of the Berrien County area and the means for meeting these needs. Chapter II gives some background information concerning: (1) Berrien County, (2) sponsor and support, (3) objectives, and (4) the organizational pattern for the study.

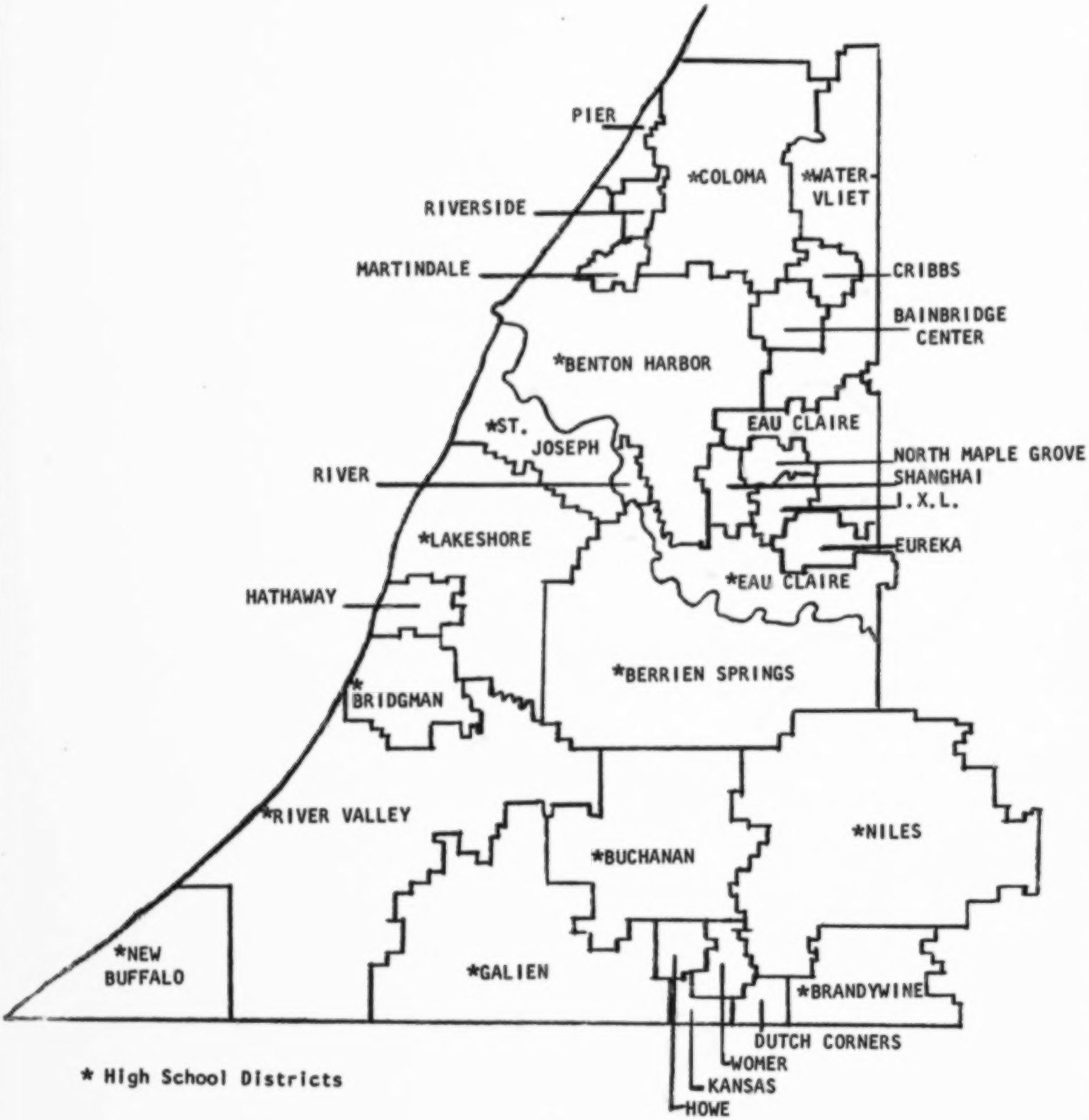
Background Information Concerning Berrien County

Berrien County is located in the southwest corner of Michigan and has an area of approximately 612 square miles. It has a wide diversity of occupations ranging through the fields of agriculture, marketing, distribution, and manufacturing.

The Intermediate School District contains 14 public K-12 school districts, and 15 public elementary school districts (Table I). Lake Michigan College--a county community college--is located in Benton Harbor. Andrews University and Andrews Academy are located in Berrien Springs. There are, also, two parochial high schools and sixteen parochial elementary schools in the county.

TABLE I

BERRIEN COUNTY INTERMEDIATE SCHOOL DISTRICTS



* High School Districts

The Berrien County Intermediate School District has a total enrollment of nearly 42,000 students and a state equalized valuation of approximately 533 million dollars. Table II (page 14) shows a detailed breakdown by school district of the state equalized valuation and enrollment for the county. The enrollment in grades 9 to 12 in the public and parochial high schools participating in the study are shown in Table III on page 15. It will be noted that over 12,000 students are enrolled in grades 9 to 12.

The total labor force in the county, as of January 1966, was 59,600 (Table IV). This figure does not include the

TABLE IV

Berrien County Labor Force
(January, 1966)

Area	Number Employed
1. Wage and Salary Workers	
a. Manufacturing Industries --Durable Goods	21,300
b. Manufacturing Industries --Non-durable Goods	5,600
c. Non-Manufacturing Industries	17,700
d. Government	5,000
2. Agricultural Employment	2,600
3. Self-Employment (including domestic)	7,400
TOTAL	59,600

TABLE II

Berrien County Intermediate School District
Membership and State Equalized Valuation

Name	Enrollment October 1965	State Equalized Valuation 5/20/66
High School Districts		
Benton Harbor	11,732	141,877,614
Coloma	2,160	22,370,965
Lakeshore	2,521	35,307,941
Niles	6,495	75,252,688
St. Joseph	4,000	79,662,817
Berrien Springs	1,667	22,145,586
Brandywine	2,699	18,070,282
Bridgman	646	9,676,988
Buchanan	2,299	28,880,177
Eau Claire	966	8,274,262
Galien	873	6,858,508
New Buffalo	1,304	21,524,870
River Valley	2,112	31,275,461
Watervliet	1,360	16,596,403
Non-High School Districts	1,121	15,977,461
TOTAL	41,955	533,752,023

TABLE III

High School Enrollment in Berrien County

School District	Number Enrolled				
	9th	10th	11th	12th	Total
Benton Harbor	873	757	710	607	2947
Niles	499	476	464	372	1811
St. Joseph	328	305	285	314	1232
Berrien Springs	105	124	119	109	457
Brandywine	212	190	150	148	700
Bridgman	78	79	58	65	280
Buchanan	173	147	166	150	636
Coloma	194	162	130	114	600
Eau Claire	103	68	78	93	342
Galien	93	59	56	51	259
Lakeshore	196	178	165	144	683
New Buffalo	110	93	83	79	365
River Valley					
Three Oaks	111	85	78	75	349
New Troy	85	61	47	52	245
Watervliet	116	109	91	90	406
St. Johns Catholic	69	76	66	51	262
St. Joseph Catholic	72	59	58	51	240
Andrews Academy	72	60	65	61	258
TOTAL	3489	3088	2869	2626	12072

4.3 percent (2700) who were unemployed as of this date.

Table V displays the population for Berrien County. It will be noted that there were over 149,000 residents in Berrien County in 1960 with nearly 191,000 expected by 1970.

TABLE V

Berrien County Population*

Year	Number of People
1970 (predicted)	190,850
1960	149,865
1950	115,702
1940	89,117
1930	81,066
1920	62,653
1910	53,622
1900	49,165

* Michigan Manual (1965-1966) pp. 400-401

Sponsor and Support

The Board of Education of the Berrien County Intermediate School District sponsored this study and gave approval to employ a project director on a half-time basis to give direction to the study.

The need for this investigation was recognized by the Berrien County School Administrators' Organization. This group passed a motion indicating financial support on a

per capita basis and requested that the study be supported by the Intermediate School District. Approval for the investigation was also received from: (1) the Lake Michigan College administration; (2) a committee of Niles-Buchanan industrialists; and (3) the Twin Cities Industrial Management Training Committee. This latter group contributed $1,500.00 to cover some of the costs of the study. In addition, the Study Committee for the Benton Harbor Area on Reorganization went on record as supporting the investigation of the vocational needs in Berrien County so that improved programs to meet the needs on a cooperative basis could be provided. In addition, this investigation has been supported on a 50 percent matching basis by funds supplied by the Michigan Department of Education's Division of Vocational Education.

Objectives of the Study

The major objectives of the study were as follows:

1. To determine the present and future vocational-technical education needs of Berrien County.
2. To determine the levels at which programs should be offered to meet these needs.
3. To determine where these programs should be located; to determine whether they should supplement or supplant presently existing programs.
4. To determine how these programs will be financed.

Organizational Pattern For the Study

The Executive Committee consisting of 8 members was appointed by the Intermediate School District Board of

Education. The Executive Committee, then, approved the appointment of the project director.

The project director immediately gave attention to: (1) general organizational structure of the study; (2) major duties of the six research and advisory committees; and (3) preparing questionnaires and other data gathering instruments. The selection of the research and advisory committee members was made by the executive committee and approval given to the plans outlined by the project director.

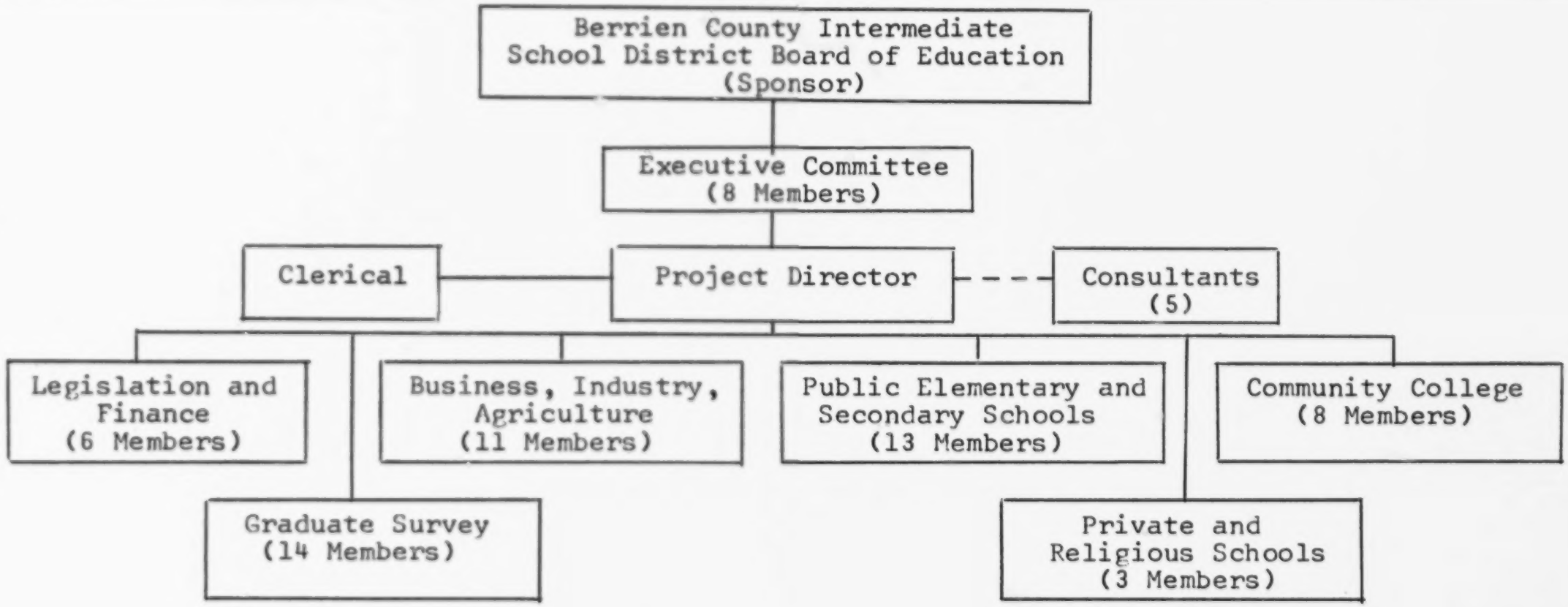
A review of Table VI will show the organizational pattern used to conduct the study with the following research and advisory committees consisting of 55 members:

1. Legislation and Finance
2. Business, Industry, Agriculture
3. Public Elementary and Secondary Schools
4. Community College
5. Private and Religious Schools
6. Graduate Survey

Chapters II, III, IV, V, and VI will give the reader a detailed description of the findings and conclusions of each of the above committees.

TABLE VI

Organization Chart



CHAPTER III

Report of Business, Industry, Agricultural Committee

Introduction

A ten-page questionnaire was sent to 1,193 business, industrial, and agricultural firms in the Berrien County Area. Of this number, 345 or approximately 29 percent returned the questionnaire (Table VII). These 345 businesses employ about 17,018 workers which represents 32 percent of the wage and salaried workers in Berrien County.

TABLE VII
Business, Industry, Agriculture
Questionnaire Returns

Kind of Business	Number Sent	Number Returned	Percent Returned
Agriculture	72	31	43.55
Manufacturing - Durable Goods	160	60	37.50
Manufacturing - Non-Durable Goods	67	18	26.85
Non-Manufacturing	894	236	26.39
TOTAL	1,193	345	28.99

It is apparent that these business, industrial, and agricultural firms represent a wide variation of services and activities. In rank order, the services and activities of these 345 firms are as follows:

1. Industrial or manufacturing
2. Retailing
3. Food, dairy, and drink
4. Service establishments
5. Wholesaling
6. Agricultural services
7. Construction
8. Transportation
9. Professional
10. Health, hospital, medical, dental
11. Banking and Finance
12. Entertainment and recreation
13. Insurance
14. Advertising
15. Utilities
16. Printing and Publishing
17. Hotel and Motel
18. Real estate
19. Education
20. Marine Services
21. Communications
22. Government - Federal, State and Local

Expected Rate of Employment

Employers were asked to predict their expected annual rate of employment during the 1966-1972 period. For persons with a high school diploma, the expected rate of employment for industrial jobs, sales and service jobs, business office jobs, as well as agricultural jobs is definitely expected to increase (Table VIII). It is also apparent that employers are anticipating an increased demand for persons with education beyond high school, but less than four years of college. This is especially true for industrial and technical positions.

TABLE VIII
Expected Annual Rate of Employment
1966-1972

	Increase		Same		Decrease	
	N	%	N	%	N	%
High School Graduate:						
Industrial Jobs	300	53.09	260	46.02	5	.89
Sales and Service Jobs	75	47.16	58	36.48	26	16.36
Business Office Jobs	219	61.52	94	26.40	43	12.08
Agricultural Jobs	15	50.00	8	26.66	7	23.34
Beyond High School - Less Than 4 Years College:						
Industrial and Technical Jobs	114	58.16	82	41.84	0	0.00
Business and Office Jobs	96	36.36	165	62.50	3	1.14
Health, Hospital and Medical Jobs	6	30.00	13	65.00	1	5.00
Agricultural Jobs	0	0.00	8	100%	0	0.00

Supply of Qualified Employees

Many employers indicated a definite scarcity of qualified candidates for currently existing positions. This scarcity is expected to become more acute.

For those positions demanding high school graduation, nearly 65 percent of those employers who gave an expression concerning current supply of candidates for industrial jobs indicated the supply was scarce (Table IX). For the sales and service jobs and office positions, 38 percent of those employers who expressed a feeling indicated a scarcity.

For those positions demanding education beyond high school, the supply of qualified candidates is even more critical. For example, about 86 percent of those employers

who answered the supply question indicated a scarce supply for industrial and technical jobs, and 61 percent for business and office jobs.

The above conclusions are further substantiated by the shortage of qualified applicants in the two Berrien County Michigan Employment Security Offices.

TABLE IX
Supply of Qualified Employees

	Scarce		Adequate		Surplus	
	N	%	N	%	N	%
High School Graduates:						
Industrial Jobs	346	64.68	180	33.64	9	1.68
Sales and Service Jobs	76	37.63	125	61.88	1	.49
Business Office Jobs	146	37.63	235	60.56	7	1.81
Agricultural Jobs	13	33.33	26	66.67	0	0.00
Beyond High School - Less Than 4 Years College:						
Industrial and Technical Jobs	158	85.86	26	14.14	0	0.00
Business and Office Jobs	138	61.06	86	38.05	2	.88
Health, Hospital and Medical Jobs	14	73.68	5	26.32	0	0.00
Agricultural Jobs	4	66.66	2	33.34	0	0.00

Employment of High School Dropouts

Generally, employers indicated they almost never employ a high school dropout (Table X). This is especially true for (1) highly skilled jobs; (2) business office jobs; (3) sales jobs; (4) apprenticeship for highly-skilled trades and crafts; (5) semi-skilled jobs; and (6) service jobs. The majority of the employers indicated a high school dropout was acceptable only as an unskilled laborer.

TABLE X
Employment Operating Practices
for High School Dropouts

Entry Job Category		Frequency of Employment					
		Common Practice		Infrequently		Almost Never	
		N	%	N	%	N	%
1. Highly-skilled jobs	N=80	2		7		71	
2. Business office jobs	N=97	3		10		84	
3. Sales jobs	N=93	6		13		74	
4. Apprenticeship for the highly-skilled trades and crafts	N=81	7		21		53	
5. Semi-skilled jobs (assembly line and production workers; machine operators)	N=79	29		28		22	
6. Service jobs	N=106	29		37		40	
7. Unskilled labor	N=175	116		39		20	
8. TOTAL	N=711	192	27.00	155	21.81	364	51.19

In contrast, a new high school graduate is acceptable and employed as a common practice by employers for: (1) business office jobs; (2) sales jobs; (3) apprenticeship for highly skilled jobs; and (5) service jobs (Table XI). For technician positions and other highly skilled jobs, employers prefer candidates with education beyond high school.

Adequacy of Existing Educational Programs

The 345 reporting employers were very critical of the extent to which existing educational facilities and programs were meeting the occupational and training needs of Berrien County. A tally of the employers expressing opinions concerning the adequacy of (1) trade and industrial; (2) office; (3) agricultural; and (4) retailing, distribution and service educational programs and facilities shows that 66 percent expressed the feeling that the task was being done poorly (Table XII).

The above conclusion was further demonstrated by the general comments expressed at the end of the questionnaire. The following is but an example:

> "We have people inquiring for work quite frequently. Most of them have had no training of any kind. The thing we need is a place where a young man can learn a trade and then be able to go out and apply himself. This person should actually do the work to gain experience and eventually be placed in some form of supervision. Too much emphasis has been placed on higher education and overlooking the fact that it takes more Indians than Chiefs to support an organization."

TABLE XI
Employment Operating Practices
for New High School Graduates

Entry Job Category		Frequency of Employment					
		Common Practice		Infrequently		Almost Never	
		N	%	N	%	N	%
1. Technician jobs	N=59	7		24		28	
2. Highly-skilled jobs	N=60	5		18		37	
3. Business office jobs	N=116	68		31		17	
4. Sales jobs	N=90	31		24		36	
5. Apprenticeship for the highly-skilled trades and crafts	N=88	47		23		18	
6. Semi-skilled jobs (assembly line and production workers; machine operators)	N=79	51		18		10	
7. Service jobs	N=89	44		32		13	
8. Unskilled labor	N=122	87		26		9	
9. TOTAL	N=704	340	48.29	196	27.85	168	23.86

TABLE XII

Extent to Which Existing Facilities in Berrien County Meet Occupational and Training Needs

Occupational Areas		Very Well		Fairly Well		Poorly	
		N	%	N	%	N	%
1. Trade and Industrial	N=158	35		39		85	
2. Office	N=155	49		12		94	
3. Agricultural	N=91	8		6		77	
4. Retailing, Distribution and Service	N=153	31		18		104	
5. Others	N=101	5		21		75	
6. TOTAL	N=658	128	19.46	96	14.58	434	65.96

General Conclusions

The business, industrial, and agricultural firms in Berrien County have given a very positive expression of need for an expanded vocational-technical education program at the high school and post-high school levels. Based upon the current shortage of qualified applicants and upon the increase in demand expected between now and 1972, the need for expansion appears even more urgent. Inherent in the cry for such an expansion is a re-evaluation of the currently existing program for vocational-technical education and its facilities so that the expanded program will be organized on a sound and practical basis.

CHAPTER IV

Report of Public and Religious Schools Committees

Introduction

Two committees--one concerned with the public and elementary school program and the other concerned with the private and religious schools program--were formed at the beginning of the study. At the time of formation of these committees, it was believed that sharp differences of opinion concerning procedure, types of questions to be asked, and conclusions and recommendations would result. However, these differences were not forthcoming and thus this chapter represents the combined conclusions of the two committees.

Basically the committees were concerned with the following:

1. Sending a questionnaire to the parents of 4th, 7th, and 10th grade students in Berrien County.
2. Having the currently enrolled senior class complete a questionnaire.
3. Determining vocational curricular offerings and numbers of students enrolled.
4. Determining existing physical facilities for vocational curricular offerings.

Parent Survey Results

Parent survey forms were distributed to the parents of

boys and girls in the fourth, seventh, and tenth grades attending Berrien County public schools and to those parents whose children attend St. Johns Catholic, St. Joseph Catholic and Andrews Academy. Of the 3,611 questionnaires returned, 3,211 were returned by public school parents and 400 by parochial school parents. The above age groups were chosen in order that the data could be used in short-range as well as long-range curriculum study and revision.

A tabulation of the results on the questionnaire indicate that the parents believe the high schools are doing a fair to a poor job of preparing students to select a vocation (Tables XIII and XIV). They also express the belief that the guidance and counseling program is helpful to students who are in high school. However, the parents surveyed believed that the opportunities for high school students to learn a vocation need to be improved.

It appears that the "sputnik inspired education" is no longer in vogue and that education for vocations has generated a great deal of interest--over seventy percent of the public and parochial school parents responded that additional vocational programs were needed on the 11th and 12th grade levels (Table XV). If quality vocational education programs were made available, about 65 percent of the parents would encourage their children to take advantage of such courses and over 41 percent of the parents would be interested in

TABLE XIII

Public School Parent Evaluation
N=3211

Question	Response									
	Yes		Fair		No		No Idea		Did Not Answer	
	N	%	N	%	N	%	N	%	N	%
1. Are high school students adequately prepared by the schools to select a vocation?	721	22.46	1250	38.92	770	23.98	380	11.83	90	2.81
2. Is the guidance and counseling program helpful to students who are in high school?	1808	56.31	706	21.98	202	6.29	425	13.23	70	2.19
3. Are schools providing opportunities for high school students to learn a vocation?	978	30.47	1207	37.58	556	17.31	378	11.77	92	2.87

TABLE XIV

Private and Religious School Parent Evaluation
N=400

Question	Response									
	Yes		Fair		No		No Idea		Did Not Answer	
	N	%	N	%	N	%	N	%	N	%
1. Are high school students adequately prepared by the schools to select a vocation?	64	16.00	150	37.50	121	30.25	37	9.25	28	7.00
2. Is the guidance and counseling program helpful to students who are in high school?	197	49.25	94	23.50	23	5.75	59	14.75	27	6.75
3. Are schools providing opportunities for high school students to learn a vocation?	89	22.25	156	39.00	86	21.50	43	10.75	26	6.50

TABLE XV

Need for Vocational-Technical Education

Question and Response	Public School Parents		Private and Religious School Parents	
	N	%	N	%
1. Is there a need for additional vocational programs on the 11th & 12th grade levels?				
a. Yes, many	1583	49.30	218	54.00
b. Yes, a few	690	21.49	80	20.00
c. None	91	2.83	5	1.25
d. Don't know	728	22.67	70	17.50
e. Did not answer	119	3.71	27	7.25
2. If a quality vocational program were made available to your children, would you encourage them to avail themselves of this kind of education?				
a. Yes	2110	65.72	262	65.00
b. No	119	3.70	22	5.50
c. Don't know	830	25.84	108	27.00
d. Did not answer	152	4.74	8	2.50
3. Would you be interested in attending evening school to improve your own abilities?				
a. Yes	1443	44.95	165	41.25
b. No	672	20.92	86	21.50
c. Don't know	895	27.87	114	28.50
d. Did not answer	201	6.26	35	8.75
4. What level of vocational preparation do you feel a high school should provide?				
a. Enough to secure a beginning job	1985	61.82	256	64.00
b. Enough to progress on job without further education	858	26.72	88	22.00
c. Other	182	5.66	31	7.50
d. Did not answer	186	5.80	25	6.50

attending evening school to upgrade their own skills and improve their own education.

A further study of Table XV reveals that sixty-two percent of the public school parents surveyed--64 percent of the private and religious school parents--believe that high school vocational education should be such that all high school graduates would be able to secure a beginning job and 27 percent--22 percent for private and religious school--of the parents believe that the high school should provide enough training to allow the graduate to progress on the job without further education.

In the questionnaire, the parents were given an opportunity to give an expression as to the kind of courses they would like to have taught. The following break-down indicates the parents' preferences in rank order for the entire county as well as for geographical areas:

Rank of Course Preference for County		Benton Harbor St. Joe & Lakeshore	Niles Buchanan & Brandywine	Other schools in county
1	Electronics	1	1	1
2	Business Machines	2	2	2
3	Machine Tool	6	5	3
4	Automotive	5	6	4
5	Building Trade	4	7	5
6	Medical Technology	3	4	6
7	Data Processing	9	3	7

8	Appliance Repair	8	8	9
9	Retail and Sales	7	11	10
10	Hospital Aids	10	9	11
11	Welding	12	10	8
12	Home Economics	11	12	12
13	Woodworking	13	13	13
14	Work Attitudes	14	17	14
15	Graphic Arts	15	15	16
16	Food Services	16	16	17
17	Agriculture	17	20	15
18	Health Occupations	18	14	18
19	Cosmetology	19	18	19
20	Tailoring	20	19	20
21	Foundry	21	21	21
22	Other	22	22	22

It will be noted that electronics and business machines were ranked first and second for all geographical areas including the county as a whole. The ten courses or areas for which the parents indicate the greatest need are electronics, business machines, machine tool, automotive, building trades, medical technology, data processing, appliance repair, retail and sales, and classes for hospital aids.

The parents were, also, given an opportunity to give an expression concerning administrative arrangement for vocational-technical education as well as preferences for financing an expanded vocational-technical program on an area

basis. A study of Table XVI reveals that no significant preferences were indicated--nearly as many families would prefer that Lake Michigan College serve as a vocational-technical center for all students as favored expanding existing high school programs or building new vocational-technical centers. However, it should be stressed that the concept involved in building new vocational-technical centers is one with which parents are generally unfamiliar--yet a sizeable percentage of the families favored this idea.

A further breakdown by geographical area concerning this question shows the following data for public school parents:

Question Number	St. Joseph, Benton Harbor, Lakeshore	Niles, Buchanan, Brandywine	Other schools in county
1a	33.00%	38.94%	42.46%
1b	23.33	22.82	20.86
1c	35.52	28.54	25.23
No Response	8.15	9.70	11.45

Regardless of the type and location of the facilities and equipment needed, about 7 out of 10 parents indicated that such should be paid for by means of a county-wide millage (Table XVI - question 2).

About half of the families surveyed had two wage earners. Eighty-five percent of the main wage earners were males. The occupational breakdown for the main wage earner

TABLE XVI

Administrative Arrangement and Financing Preferences

Question and Response	Public School Parents		Private and Religious School Parents	
	N	%	N	%
1. If it is determined that an expanded vocational education program is needed, additional buildings and equipment will probably be needed. In your opinion:				
a. Should existing vocational classrooms and shops in the high schools be expanded?	1207	37.58	123	30.75
b. Should we build new vocational technical centers in Berrien County?	719	22.40	111	27.75
c. Should Lake Michigan College serve as a vocational-technical center for all students?	981	30.55	124	31.00
d. No Response	304	9.47	42	10.50
2. The type of instruction, equipment and buildings needed for vocational-technical training will undoubtedly require additional financing. In your opinion, would this be more easily accomplished by:				
a. County-wide millage	2199	68.49	289	72.25
b. Local school millage	603	18.77	48	12.00
c. No Response	409	12.74	63	15.75

in the public school families is as follows (Table XVII):

Skilled worker	19.12%	Professional	7.75 %
Laborer	15.41	Other	6.22
Self employed	12.76	Office worker	2.89
Semi-skilled worker	11.49	Sales worker	2.89
Management	11.46	Unemployed	1.52

The occupations of wage earners both male and female in the family other than the main wage earner are as follows:

Laborer	10.02%	Self employed	4.58 %
Office worker	8.25	Professional	4.45
Semi-skilled worker	6.44	Sales worker	3.92
Other	5.04	Management	1.96
Skilled worker	4.70	Unemployed	1.43

In summary, overwhelming support seems to be indicated for the expansion of vocational education that is to be financed by a county-wide basis. However, no conclusion can be drawn on the type or location of such facilities and equipment from the parent survey.

Senior Class Survey Results

A total of 2,112 senior students from the 14 public high schools and 151 seniors from the 3 parochial schools responded to the senior class survey (Table XVIII). About 73 percent of the public high school seniors and 64 percent of the parochial school seniors have lived in Berrien County for over ten years.

The seniors were asked to indicate which curriculum best described the one in which they were enrolled. Of

TABLE XVII

Main Wage Earner in Family

Response	Public School Parents		Private & Religious School Parents	
	N	%	N	%
1. Sex of Main Wage Earner				
a. Male	2731	85.05	342	85.50
b. Female	213	6.63	23	5.75
c. No Response	267	8.32	35	8.75
2. Position of Main Wage Earner				
a. Self-employed	410	12.76	58	14.50
b. Professional	249	7.75	71	17.75
c. Management	368	11.46	72	18.00
d. Office Worker	93	2.89	27	6.75
e. Sales Worker	93	2.89	21	5.25
f. Skilled Worker	614	19.12	61	15.25
g. Semi-skilled Worker	369	11.49	26	6.50
h. Laborer	495	15.41	29	7.25
i. Unemployed	49	1.52	2	.50
j. Other	200	6.22	17	4.25
k. No Response	271	8.44	16	4.00
3. Location of Employment				
a. Niles-Buchanan Area	647	20.14	26	6.50
b. St. Joseph-Benton Harbor Area	1487	46.30	259	64.75
c. Elsewhere in Berrien County	378	11.77	54	13.50
d. Outside of Berrien County	404	12.58	37	9.25
e. No Response	295	9.19	24	6.00

TABLE XVIII

Senior Class Survey Distribution

School	N	%
Benton Harbor	502	22.18
St. Joseph	286	12.63
Niles	327	14.44
Berrien Springs	94	4.16
Bridgman	51	2.26
Brandywine	123	5.43
Buchanan	133	5.88
Coloma	101	4.46
Eau Claire	83	3.66
Galien	47	2.08
Lakeshore	129	5.71
New Buffalo	77	3.41
River Valley	126	5.57
Watervliet	33	1.46
Andrews Academy	53	2.35
St. Johns Catholic	49	2.16
St. Joseph Catholic	49	2.16
TOTAL	2263	100.00

those responding, about 47 percent of the public school seniors and 63 percent of the private and religious school seniors indicated being enrolled in the college preparatory program (Table XIX). Over 35 percent of the public high school seniors are currently enrolled in one of the vocational curricula.

Nationwide, only two out of every ten students enrolled in elementary school will complete a four-year college education. In view of this, it is interesting to note the high percentage of the seniors currently taking a college preparatory program. Sixty-seven percent (89 percent for parochial schools) responding to another question indicated that their future plans "definitely" or "probably" included attending college (Table XX).

The seniors were asked a question concerning their advanced education interests provided opportunities were available in Berrien County. Of those responding to the question (Table XXI), over 38 percent of the public school seniors and 26 percent of the parochial school seniors indicated an interest in advanced technical business, or trade training. An additional 34 percent of the public and 37 percent of the parochial high school seniors, expressed a desire to attend a community college where the work taken could be transferred to a four year college or university.

TABLE XIX

Major Program of High School Seniors

Type of Program	Public School Seniors		Private & Religious School Seniors	
	N=2087	%	N=151	%
1. College Preparatory	988	47.28	96	63.81
2. Vocational:				
a. Business Education	487	23.28	23	15.13
b. Shop or Industrial Arts	185	8.81	1	0.65
c. Agriculture	32	1.53	0	0.00
d. Homemaking	43	2.06	0	0.00
3. General	314	14.99	27	17.76
4. Other	38	1.77	4	2.65

TABLE XX

Future Plans of Seniors Concerning College

Response	Public School Seniors		Private & Religious School Seniors	
	N=2090	%	N=151	%
1. Yes, definitely	982	46.98	107	71.52
2. Probably so	438	20.95	25	16.55
3. Probably not	143	6.84	7	4.63
4. No	276	13.20	7	4.63
5. Don't know	251	12.00	5	2.67

TABLE XXI

Advanced Education Interests

Question & Response	Public School Seniors		Private & Religious School Seniors	
	N=1980	%	N=151	%
In what types of advanced education would you be interested provided opportunity were available in Berrien County? (Check one)				
1. Advanced technical, business, or trade training	755	38.18	40	26.49
2. First two years of college work which could be transferred to a four year college or University	689	34.76	56	37.08
3. None of the above	373	18.83	34	22.51
4. Other	163	8.23	21	13.92

Furthermore, of the 1,429 public high school seniors indicating their future plans "definitely" or "probably" included attending college, over 38 percent indicated the intention of attending Lake Michigan College. A similar percentage of the private and religious school seniors plan to attend Lake Michigan College. Of the above public school seniors, 9.16 percent expect to attend Michigan State University, 7.48 percent Western Michigan University, 7.13 percent Ferris State College, 23.93 percent expect to

attend other Michigan colleges, while 13.78 percent expect to attend colleges outside of Michigan. Significant percentages of the parochial school seniors are as follows: (1) 7.31 percent plan to attend Michigan State University; (2) 7.92 percent Western Michigan University; (3) 32.92 percent other colleges in Michigan; and (4) 15.30 percent plan to attend other colleges outside of Michigan. About 88 percent of the students responding stated that their parents "wanted", "insisted" and/or "expected" them to attend college after high school graduation.

Based upon the above summarization, it is interesting to note the educational level of the parents of these seniors (Table XXII). It will be noted, for example, that over 40 percent of the public school fathers of seniors have not completed high school.

TABLE XXII

Educational Level of Seniors' Parents

Educational Level	Mother		Father	
	Public School	Private and Religious School	Public School	Private & Religious School
1. Eighth grade or less	15.99	5.22	21.82	7.23
2. Some high school	19.89	12.41	18.42	8.55
3. Graduated from high school	39.40	37.90	28.73	29.60
4. Business or trade school	5.58	5.22	5.54	5.92
5. Some college	7.41	10.45	8.55	16.44
6. Graduated from college	7.51	25.49	10.69	30.92
7. Don't know	4.19	3.31	6.22	1.34

Another statistic would indicate that approximately 80 percent of the public and parochial high school seniors earned a part of their spending money, while attending high school, by working on part-time jobs during the regular school year or during the summer.

The public high school students indicated that in terms of post-graduation plans that their respective high school training was "good" to "fair" and that there was room for improvement (68.04 percent). Twenth-four percent said that their high school preparation was just what they needed.

In response to a question asking the students to indicate the way various school services or facilities had helped them, 63.37 percent stated that the high school had done a "good" job in disseminating information about college--31.19 percent said "fair" and 5.43 percent said "poor". On the other hand, 48.94 percent of the students responding said that the schools did not have someone that the students could confide in about personal problems--17.11 percent said "good" and 33.93 percent said "fair".

Of the students not planning to further their education after high school graduation, 21.84 percent wanted to work and make money, 21.84 percent said that they could not make good enough grades to go on for further education, 17.42 percent believed that further education was too expensive and that they could not afford it, and 15.99 percent wanted

to get married. About 34 percent of the students not planning on post-secondary education said that they would change their plans if they had more money.

Similar--not significantly different--percentages to the above were tabulated from the private and religious school senior questionnaires.

Curriculum and Facilities Survey

An extensive study of the vocational curricular offerings in grades 7 to 12 was made as well as investigating the physical facilities and equipment used for vocational-technical education in Berrien County in the 14 public secondary school districts and in the three parochial secondary schools. The occupational areas included in this study were: (1) agriculture; (2) business and distributive; (3) home economics; (4) trade and industrial; and (5) cooperative occupational education.

The enrollments in the various vocational areas are shown in Table XXIII for the fall semester of the 1965-66 school year. For example, it will be noted that there were 2022 male enrollments in business education classes and there were 4313 female enrollments. It should be noted in the total numbers of students taking courses in such areas as business education or trade and industry that there may be several duplications. This is possible as many students were taking more than one course in a subject area during

TABLE XXIII

Total Enrollment In Vocational Education Areas
Fall 1965

Area	Grades 7-9				Grades 10-12				Total			
	Male		Female		Male		Female		Male		Female	
	N	%	N	%	N	%	N	%	N	%	N	%
Agriculture	94		2		444		3		538	7.28	5	.09
Business Education	151		331		1871		3982		2022	27.37	4313	60.15
Home Economics	28		1307		102		1318		130	1.76	2625	36.61
Trade and Industrial	1846		4		2702		41		4548	61.55	45	.64
Cooperative Occupational Education	---		---		151		185		151	2.04	185	2.51
TOTAL	2119	56.33	1643	43.67	5270	48.85	5529	51.15	7389	100.00	7173	100.00

Adult Education	Male	Female
Agriculture	22	0
Business Education	21	126
Home Economics	0	1286
Trade & Industrial	77	30
TOTAL	120	1442

the semester. For instance, a girl may have been taking Typing I, Bookkeeping, and Office Machines all in one semester. A further breakdown for grades 10 to 12, by school district, is shown in Table XXIV.

A study of Table XXV, showing the estimated dollar value of the physical equipment and facilities in the various high schools in Berrien County, reveals that certain high schools are much better equipped than others. For example, Galien has approximately $1,991 worth of equipment for teaching trade and industrial classes while Brandywine has over $273,000 worth of equipment for this purpose.

In summary, it may be concluded that the course offerings and facilities in the public secondary schools in Berrien County are not identical in all schools. It is admitted that vocational curricula and student aspirations may vary from one school to another according to employment opportunities in that area. However, there are inequities in the educational opportunities when comparing one school district with another.

TABLE XXIV

Enrollment in Vocational Education Courses by School
(Grades 10-12)

					Business Education						Cooperative Occupational Education					
	Agriculture		Home Economics		Office		Distributive Education		Basic Business		Office		D.E.		T & I	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Benton Harbor	*155	1		205	259	745	45	40	97	180	1	15	45	40	38	53**
Niles	* 37		*	160	141	279	78	77	106	72	10	7	4	17	17	5**
St. Joseph			58	229	141	291	24	38	49	58	1	7			1	2**
Berrien Springs			*	52	68	190				3						
Brandywine			*	111	57	173	26	35	14	17	11	4	1	16	6	2**
Bridgman			*	29	54	115										
Buchanan	* 34		*	33	39	182			40	55	10	1	2	2	5	14**
Coloma	50		10	115	82	270			39	51						
Eau Claire	36			49	84	130			25	37						
Galien	* 27			23	25	94										
Lakeshore	* 79	2		81	99	219				10						
New Buffalo			* 1	53	48	113										
River Valley	* 26		* 4	110												
New Troy					104	84										
Three Oaks					71	98			15	10						
Watervliet			13	31	57	156			4	6						
St. Johns				21	10	68										
St. Joseph					23	61										
Andrews				6	18	25										
TOTAL	444	3	86	1308	1380	3293	173	190	389	499	33	34	52	75	67	76

* Reimbursed Program
** Reimbursed Co-op Programs

TABLE XXIV (cont.)

Enrollment in Vocational Education Courses by School
(Grades 10-12)

	Trade and Industrial Education											
	Electronics		Printing		Woodshop & Others		Metal Shop		Drafting		Auto & Power Mechanics	
	M	F	M	F	M	F	M	F	M	F	M	F
Benton Harbor					86		192		219	6	134	
Niles	44		36				159		94	4	71	
St. Joseph	44				75		96		124			
Berrien Springs					3		77		48	1		
Brandywine					70		35		72	1		
Bridgman									34		17	
Buchanan					17		18		40		60	
Coloma					31		19		35		38	
Eau Claire					56		20		10	9		
Galien					23		13		14	1	14	
Lakeshore					29		54		99	4	105	
New Buffalo					47				55	3		
River Valley					37				15	1		
New Troy						11						
Three Oaks												
Watervliet					19	11	14		42			
St. Johns									26			
St. Joseph									22			
Andrews												
TOTAL	88		36		493	22	697		949	30	430	

TABLE XXV

Estimated Value of High School Physical Equipment

School	Agriculture		Business		Home Economics		Trade and Industrial	
	No. of Rooms	Est. Value	No. of Rooms	Est. Value	No. of Rooms	Est. Value	No. of Rooms	Est. Value
Benton Harbor	1	500	8	14,993	2	5,503	5	74,952
Niles	1 & Greenhouse	Not Est.	3	21,420	2	5,711	8	112,392
Bridgman	---	---	1	6,700	1	Not Est.	1	10,000
Eau Claire	1	1,400	2	5,850	1	1,570	1	5,500
River Valley								
New Troy	1	Not Est.	1	3,295	1	2,020	1	2,190
Three Oaks	2	830	1	3,880	1	2,340	2	1,850
Watervliet	---	---	2	8,498	1	4,633	1	8,000
Lakeshore	1	1,450	3	15,990	1	7,460	3	54,992
Brandywine	---	---	2	19,000	2	6,500	3	273,100
New Buffalo	---	---	2	11,225	1	3,450	2	9,665
Berrien Springs	---	---	3	9,575	2	1,631	3	4,775
Galien	2	1,870	1	5,525	1	2,300	1	1,991
Coloma	1	1,500	2	21,242	2	7,900	3* 2	20,000 85,300
Buchanan	2	4,370	2	11,000	3	7,850	5	228,297
St. Joseph	---	---	2	6,940	2	2,910	4	157,105
Andrews Academy	---	---	1	3,505	1	11,127	--	**
St. Joseph Catholic	---	---	1	5,010	--	---	1	352
St. Johns Catholic	---	---	1	6,000	1	2,200	1	75

* Not fully equipped as planned
** Andrews University facilities are used for trade and industrial

Chapter V

Report of Graduate Survey Committee

A separate research committee consisting of the guidance personnel from each of the 14 public high schools made a follow-up study of the 1960 and 1964 graduating classes. The private and religious school committee made a similar study using the identical questionnaire. This was an attempt to determine the vocational needs of the county as seen by the high school graduates.

This chapter, therefore, is a discussion of the results and conclusions gained as a result of sending a three-fold post card questionnaire to 3,788 graduates of the 1960 and 1964 classes of the 14 public and 3 parochial high schools in Berrien County. About 1,250 questionnaires were returned or approximately 33 percent. Therefore, the conclusions and recommendations are based upon those returned. (See Table XXVI for a detailed breakdown of percentage of returns by schools)

Two of the questions were concerned with: (1) the major program followed while in school; and (2) the relationship of this major program to the present occupation of the graduate. A study of Table XXVII reveals that 766 of

TABLE XXVI

High School Graduate Survey Returns

School District	Number Sent				Number Returned				Per Cent Returned			
	1960 Class		1964 Class		1960 Class		1964 Class		1960 Class		1964 Class	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Benton Harbor	210	225	227	232	37	41	60	45	17.61	18.22	26.43	19.39
Niles	157	184	169	188	34	39	49	68	21.65	21.19	28.99	36.17
St. Joseph	88	105	124	123	40	56	68	78	45.45	53.33	54.83	63.41
Berrien Springs	31	40	47	45	16	20	14	11	51.61	50.00	29.78	24.44
Brandywine	---	---	34	36	--	--	21	14	---	---	61.76	38.88
Bridgman	17	20	25	24	7	3	12	12	41.17	15.00	48.00	50.00
Buchanan	54	65	60	59	11	6	12	16	20.37	9.23	20.00	27.11
Coloma	40	44	33	44	11	12	10	14	27.50	27.27	30.30	31.81
Eau Claire	27	21	25	28	3	3	5	9	11.11	14.28	20.00	32.14
Galien	16	22	13	23	7	8	3	7	43.75	36.36	23.07	30.43
Lakeshore	34	42	56	62	12	20	29	40	35.29	47.61	51.78	64.51
New Buffalo	23	27	37	32	7	9	14	13	30.43	33.33	37.83	40.62
River Valley												
-Three Oaks	32	27	26	25	18	6	15	6	56.25	22.22	57.69	24.00
-New Troy	25	20	22	30	8	4	10	16	32.00	20.00	45.45	53.33
Watervliet	25	22	28	38	5	8	5	15	20.00	36.36	17.85	39.47
Andrews Academy	7	14	13	23	4	7	10	14	57.14	50.00	76.92	60.86
St. Johns Catholic	13	31	24	27	4	9	15	12	30.76	29.03	62.50	44.44
St. Joseph Catholic	17	18	13	30	3	7	13	10	17.64	38.88	100%	33.33
TOTAL	816	927	976	1069	227	258	365	400	27.81	27.83	37.39	37.41

the 1,250 graduates returning the questionnaire followed a college preparatory program, while 325 followed a vocational curriculum. The graduates were asked to give an opinion concerning the relationship of their present occupation as compared with the major program followed while in high school. A summary of this evaluation is contained in Table XXVIII. It will be noted that 343 of the 1,250 who returned the questionnaire indicated that there was no relationship between the high school program followed and current employment. The majority, however, indicated it served as a general background.

TABLE XXVII

Major Program Followed While in High School

Program	Private & Religious Graduates		Public School Graduates	
	Male	Female	Male	Female
	N	N	N	N
College Preparatory	35	40	343	348
Vocational				
a. Business Education	2	10	27	184
b. Shop or Industrial Arts	4	0	55	0
c. Agriculture	0	0	20	0
d. Homemaking	0	0	1	22
General	12	12	106	91
Other	0	0	1	4

TABLE XXVIII

Relationship of Major Program to Present Job

Response	Private & Religious Graduates		Public School Graduates	
	Male	Female	Male	Female
	N	N	N	N
No Relationship	18	13	158	154
Gave General Background	16	27	230	279
Gave Specific Background	4	7	45	75

Questions concerning present employment and future aspirations in regard to employment are summarized in Tables XXIX and XXX. It may be noted that the future aspirations of the graduates cover a wide range of vocational and technical occupations; however, as usual in a study of this nature, the professional occupations are mentioned most often.

The graduates were also asked to evaluate how much their high school prepared them to: (1) choose a vocation; (2) get a full-time job; (3) prepare for further education; (4) understand their abilities and interests; and (5) know about jobs. Table XXXI shows the data for the public school graduates while Table XXXII displays the identical information for the private and religious schools.

TABLE XXIX

Current Employment and Future Aspirations
(Public School Graduates)

Occupation	Current Occupation				Aspirations (5 years from now)			
	1960 Class		1964 Class		1960 Class		1964 Class	
	Male	Female	Male	Female	Male	Female	Male	Female
	N	N	N	N	N	N	N	N
1. Business occupations	14	8	14	15	31	11	37	12
2. Office occupations	4	51	9	97	5	37	13	59
3. Professional	42	63	12	17	49	57	100	130
4. Technical	4	0	4	0	11	0	16	1
5. Building trades	3	0	5	0	1	0	2	0
6. Skilled tradesman	19	10	15	13	11	8	10	11
7. Skilled industrial occupation	18	3	18	6	6	2	12	3
8. Mechanical repair	9	2	8	0	2	0	9	0
9. Public Service	12	0	4	4	10	5	10	17
10. Transportation	3	0	1	0	4	0	4	1
11. Agriculture	5	1	0	1	6	0	5	1
12. Armed Forces	9	0	17	0	7	0	3	0
13. Student	19	4	69	58	3	0	14	3
14. Housewife	0	31	0	12	0	77	0	81
15. Other occupation	8	11	5	5	6	8	9	11

TABLE XXX

Current Employment and Future Aspirations
(Private and Religious School Graduates)

Occupation	Current Occupation				Aspirations (5 years from now)			
	1960 Class		1964 Class		1960 Class		1964 Class	
	Male	Female	Male	Female	Male	Female	Male	Female
	N	N	N	N	N	N	N	N
1. Business occupations	1	0	3	1	1	0	10	0
2. Office occupations	0	8	0	7	3	4	0	6
3. Professional	2	7	2	1	4	8	10	18
4. Technical	1	0	0	0	0	0	1	0
5. Building trades	0	0	0	0	0	0	1	0
6. Skilled tradesman	0	0	1	1	0	0	2	1
7. Skilled industrial occupation	1	1	0	1	0	1	1	0
8. Mechanical repair	0	1	0	0	0	0	0	0
9. Public Service	0	0	3	1	0	0	1	2
10. Transportation	0	0	0	0	0	0	1	0
11. Agriculture	1	0	2	0	2	0	3	0
12. Armed Forces	2	0	1	0	0	0	0	0
13. Student	0	0	9	5	0	0	1	0
14. Housewife	0	3	0	2	0	5	0	5
15. Other occupation	0	0	1	1	1	2	2	2

TABLE XXXI

Value of High School Preparation
(Public School Graduates)

Question	Great Deal		Some		None		Does Not Apply	
	Male	Female	Male	Female	Male	Female	Male	Female
	N	N	N	N	N	N	N	N
How much did your high school prepare you to:								
a. Choose a vocation	48	139	237	250	134	114	44	36
b. Get a full-time job	54	138	152	151	115	129	162	131
c. Prepare for further education	234	242	213	227	29	45	8	33
d. Understand your abilities and interests	126	167	284	281	57	61	8	8
e. Know about jobs	46	93	242	269	143	121	26	40

TABLE XXXII

Value of High School Preparation
(Private and Religious School Graduates)

Question	Great Deal		Some		None		Does Not Apply	
	Male	Female	Male	Female	Male	Female	Male	Female
	N	N	N	N	N	N	N	N
How much did your high school prepare you to:								
a. Choose a vocation	7	15	24	32	11	8	7	2
b. Get a full-time job	5	15	8	21	16	8	20	13
c. Prepare for further education	24	35	24	18	0	5	0	1
d. Understand your abilities and interests	15	23	30	25	3	10	0	0
e. Know about jobs	1	12	29	29	11	12	8	4

Opinions concerning the vocational courses offered while the graduates were enrolled in school were also revealed. The three basic questions asked were: (1) Do you feel that your high school had a sufficient number of vocational courses?; (2) Would you have taken more vocational-type courses had they been offered?; and (3) If you were a student just entering high school, what type of program would you follow? The response on these three questions is displayed in Table XXXIII. Information gleaned from a study of Table XXXIII reveals: (1) for the non-college bound students--about 40 percent of the 1960 and 1964 classes--there were not a sufficient number of vocational courses offered in their local school districts; (2) about 28 percent and 42 percent of the public and parochial school graduates respectively who returned the survey indicated they would have taken more vocational courses had they been offered; and (3) about 42 percent and 34 percent respectively of the public and parochial school graduates would follow a combination (college bound and work bound) curriculum if just entering high school.

Conclusions

The graduate survey committee concluded there is a need for post-high school vocational-technical education programs within the immediate area. This type of vocational-technical educational program should be in addition to the expansion of the high school level program. The graduate

survey committee went on record as supporting the need for more vocational-technical education facilities in Berrien County.

TABLE XXXIII

Opinions Concerning Vocational Courses Offered

Question	Private & Religious Graduates		Public School Graduates	
	N	%	N	%
1. Do you feel that your high school had a sufficient number of vocational courses?				
a. Yes	13	12.50	470	41.78
b. No	79	75.96	370	32.89
c. Don't know	12	11.54	285	25.33
2. Would you have taken more vocational-type courses had they been offered?				
a. Yes	44	41.51	309	28.25
b. No	39	36.79	478	43.69
c. Don't know	23	21.70	307	28.06
3. If you were a student just entering high school, what type of program would you follow:				
a. Academic -college bound	56	52.83	591	52.86
b. Vocational -work bound	6	5.66	111	9.93
c. Combination of both	44	41.51	378	33.81
d. General	0	0.00	38	3.40

CHAPTER VI

Report of Community College Committee

The Community College Committee of the Berrien County Vocational-Technical Education research study decided to accept four major areas of responsibility as follows: (1) to investigate existing programs of educational preparation for the world of work currently being offered at Lake Michigan College; (2) to determine existing facilities for these programs; (3) to investigate the qualifications of current Lake Michigan College faculty members; and (4) to conduct both a student and a graduate survey.

Existing Occupational Programs at Lake Michigan College

Lake Michigan College offers the majority of pre-professional programs in which the students transfer to varied four-year colleges and universities for the completion of their work. These are of two-year duration and of comparable quality and caliber to the colleges and universities to which the students transfer. The varied two-year certificates and/or degree programs which are designated primarily for training the student to enter the world of work include:

1. 1 and 2 year secretarial programs
2. 1 and 2 year general clerical
3. legal secretary

4. medical and dental secretarial
5. electronic data processing
6. drafting and design technology
7. electricity and electronic technology
8. mechanical technology
9. metallurgical technology
10. practical nursing
11. certified medical office assistant
12. apprenticeship training programs

tool maker	machine repairman
die maker	millwright
die sinker	industrial electrician
die repairman	carpenter
pattern maker	plumber
machinist	steamfitter

13. 12 to 15 varied courses under the Industrial Management Training Program

In addition to the above mentioned specific programs, instruction is given in courses which relate to one of these programs and/or other related fields of skills and academia. The enrollment in vocational-technical programs at Lake Michigan College for the fall term 1964 was 846 plus an approximate 300 others that were taking individual courses that could be related to one or other of the above programs.

Existing Facilities at Lake Michigan College

At the present time (1965-66), the facilities utilized by Lake Michigan College include:

Area for instructional purposes	70,500 sq. ft.
Library facilities	3,000 sq. ft.
Administrative Area	2,900 sq. ft.
Student Services	3,800 sq. ft.
Custodial and Maintenance	5,000 sq. ft.
TOTAL	85,200 sq. ft.

The 70,500 square feet area designated for instructional purposes includes classrooms, seminar and lecture rooms, laboratories and technical shops, service rooms and faculty offices. Of the above mentioned facilities, the utilization of space by vocational-technical programs is as follows:

Engineering Technologies: Drafting and Design Electricity and Electronics Mechanical and Metallurgical	24,000 sq. ft.
Practical Nursing	2,304 sq. ft.
Business, secretarial, clerical etc.	2,444 sq. ft.
TOTAL	28,748 sq. ft.

In addition to this space, these programs also use other rooms, laboratories, library, and student services, which would approximate 15,000 sq. ft. All of the above mentioned facilities are leased by Lake Michigan College.

Qualifications of Faculty Members

There are a total of 55 full-time administrators and instructors at Lake Michigan College. There are 52 part-time instructors who teach primarily in the evening programs. This summary is concerned, however, only with the full-time administration and faculty and is shown below.

Position	Bachelors	Masters	Doctorate
Administration	1 B.A., B.M. 1 B.S.	7 M.A. 1 M.Ed. 1 M.S.N. 1 M.S.W.	1 Ed.D. 1 Ph.D.

Instructional Staff	2 B.S.N.	34 M.A. 4 M.S. 1 M.B.A.

Of the above varied degree classifications, each is appropriate to the individual's area of instruction. The bachelor degrees listed are in fields of vocational or technical-vocational education in which the advanced degree is not mandatory. Of the instructional staff, there are 13 that are directly employed in the vocational-technical subject areas.

Hobby interests of the above mentioned staff, for which proficiency is indicated and instruction is possible in areas other than degree classifications, would include:

Music
Golf
Baking
Woodworking
Cooking
Home Decorating
Gardening
Social Work
Arts & Crafts
Swimming
Knitting
Camping
Sewing
Coin Collection
Weaving
Photography
Target Shooting & Ammunition Reloading
Writing
Rock-hound
Dancing
Bridge
Amateur Radio
Ornithology
Metal Working

With the above qualifications of the instructional staff at Lake Michigan College and the expressed interest and proficiency in varied hobbies and outside interests, it seems evident that quality instruction in various skill and hobby courses is a distinct possibility.

Survey of Students Currently Enrolled in Occupational Programs

In this survey, students presently enrolled in occupational programs at Lake Michigan College include 413. This represents an approximate 99 percent return. Of this number, there were 333 male and 80 female students. Of these, the age distribution is: (1) 17-18 years, 101; (2) 19-21 years, 211; (3) 22-25 years, 63; and (4) over 25 years, 32. Of the respondees, 104 are married and 305 are single and two are divorced. The residencies of the students involved in the survey are: (1) Berrien County, 149; (2) Van Buren County, 34; (3) Cass County, 18; (4) St. Joseph County, 5; (5) Allegan County, 4; and (6) 1 each in Kalamazoo County, Valparaiso, Indiana, Elkhart, Indiana, and Peoria, Illinois.

Approximately 306 students indicated that they are presently employed in addition to attending Lake Michigan College. Of these, 140 are in full-time employment and 183 are in a position which is related to their program in which they are enrolled. The programs in which the students are enrolled include:

Business	147	Mechanical Technology	21
Secretarial Science -Two year	23	Electronic Technology	34
Secretarial Science -One year	3	Drafting and Design Technology	33
Medical Secretary	3	Metallurgical Technology	6
Legal Secretary	4	Apprenticeship Training Programs	117

Distributive Education	19	Electronic Data Processing	4
General Clerical -Two year	6	Other (including engineering related, science, education, etc.)	75
Practical Nursing	14		

Ninety students indicated that they had been enrolled in a previous program before entry into their present choice. Of these, 14 programs at Lake Michigan College were indicated, 4 at Ferris Institute, 3 at Michigan State University. Of the students responding, 267 felt that the program in which they are now enrolled was providing an adequate background for their choice of occupation while 135 felt that the program was providing some background. Three indicated that the program was providing no background for their choice of occupation. One hundred seventy-four felt that the program is providing adequate practical and/or manipulative skills while 106 indicate some provision for these skills and 25 felt that no provision is being made for these skills.

To the question, "Is the program in which you are enrolled providing the opportunity for your personal development or progress?", approximately 231 students indicated that it was providing a great deal of opportunity while 158 felt it was providing some and 9 indicated none. Two hundred thirty-two students felt that their present program was providing a great deal of challenge to them and holding

their continued interest while 153 indicated some challenge and 12 indicated none.

Some of the suggestions for improvement of the various programs include categories such as: (1) slight revision of present curriculum, and therefore eliminating unnecessary courses including more pertinent coursework; (2) more individual attention; (3) more qualified instructors that are up-to-date in their field of teaching; (4) more field trips; (5) possible on-the-job training and usage of outside experts in a respective area; (6) instructors being required to have industrial experience; (7) improving the library facilities and reference materials in all programs; (8) provide adequate study areas; (9) acquisition and installation of more equipment relative to instruction; (10) better counselling services; (11) cooperative work-study plan; and (12) more audio-visual materials.

Some of the strengths of the programs now being offered at Lake Michigan College included: (1) a feeling of generally well-qualified instructors; (2) an adequate background for the vocations being pursued; (3) the generally broad range of courses offered; (4) a general personal interest in the student by some instructors; (5) generally good shop-laboratory facilities; (6) opportunity to develop skills; and (7) opportunity for individual attention and study.

The students enrolled in the occupational curricula at Lake Michigan College were asked what influenced them most to enter a particular program of studies. Mentioned most frequently were: (1) personal interest and (2) a business or industrial person. In rank order, other influences were: (1) parents; (2) high school counselors and instructors; (3) a friend in the program; (4) a Lake Michigan College counselor; and (5) educational opportunity near home.

The major curricula or course of studies followed by the Lake Michigan College students completing the questionnaire is displayed in Table XXXIV. Of the courses taken

TABLE XXXIV

Major Curriculum Pursued While in High School

Curriculum	N	%
College Preparatory	194	45.43
Vocational		
Business Education	44	10.31
Shop or Industrial Arts	60	14.05
Agriculture	9	2.11
Homemaking	1	.23
General	119	27.87

in high school, those considered most helpful were: (1) mathematics; (2) English; (3) industrial arts; (4) office education; (5) physics; (6) chemistry; (7) biology; and (8) homemaking. Students also listed the following courses as being least helpful: (1) biology; (2) chemistry; (3) office education; (4) industrial arts; (5) accounting; (6) physics; (7) English; and (8) mathematics. While the majority of the students indicated that the library resource materials at Lake Michigan College were adequate, a significant number (143) indicated they are below standard.

The Lake Michigan College students gave an estimate of the value of the guidance programs in high school and at Lake Michigan College. The evaluation is displayed in Tables XXXV and XXXVI.

TABLE XXXV

Estimate of Value of High School Guidance Program

Area	Great Deal		Some		None	
	N	%	N	%	N	%
1. Helpful in selecting an occupational program	29	7.69	154	40.85	194	51.46
2. Preparing for a full-time job	25	6.66	139	37.07	211	56.27
3. Preparing for future education and/or training	109	28.99	182	48.40	85	22.61
4. Understanding abilities and interests	70	18.62	192	51.06	114	30.32
5. Providing useful information of varied occupations	76	27.94	69	25.37	127	46.69

TABLE XXXVI

Estimate of Value of Lake Michigan College Guidance Program

Area	Great Deal		Some		None	
	N	%	N	%	N	%
1. Helpful in selecting an occupational program	43	12.80	150	44.64	143	42.56
2. Preparing for a full-time job	75	21.87	139	40.52	129	37.61
3. Preparing for future education &/or training	115	34.33	145	43.28	75	22.39
4. Understanding abilities and interests	89	26.26	155	45.72	95	28.02
5. Providing useful information on varied occupations	70	20.83	162	48.22	104	30.95

Over 330 students indicated that their primary choice of occupational program is now being offered at Lake Michigan College. Other programs indicated as a primary choice included:

Industrial Supervision Technology	9
Apparel Trades	7
Restaurant Management	4
Automotive Technology	3
Automotive Body and Fender	2
Building Trades	2
Cosmetology	2
Radio and Television	6
Automotive Repair	5
Photography	5
Agriculture	1
Aircraft Technology	1
Commercial Art	1
Culinary Arts	1
Diesel Engine Technology	1

Electrical Trades	2	Metal trades	1
Medical Technology	2	Associate Degree in Nursing	1
X-ray Technology	2	Printing	1

Other programs not listed in the questionnaire for which there appeared to be interest included supermarket management, computer science, welding, real estate, insurance, sales, conservation, and production management. Approximately 209 students indicated that they are planning to continue their program at a four-year college or university. These colleges and universities were nation-wide with no definite pattern in terms of any one institution.

There were 79 students who indicated that they wished to enter employment after the completion of their present program. Job choices included various trades, maintenance, sales work, receptionist work, bookkeeping, retailing, electronics, industrial management, entrepreneurship, real estate, hotel-restaurant management, fashion buying, and data processing. Future occupational goals were indicated as laboratory technician, retail store operators, real estate, florists, certified public accountants, resort lodge manager, sales, industrial engineering, law, data processing, trades, supervision, marketing, court reporter, airline stewardess, marriage, secretary, actress, and teacher.

Graduate Follow-up

A survey was made of 32 students graduated from Lake Michigan College in 1965 in vocational-technical programs. There were 15 respondees of which 13 were male and 2 female. There are 11 in the 19-21 year age bracket, 3 in the 22-25, and 1 in the over 25 year bracket. Of these, three are married and 12 are single.

Of the respondents, 9 are presently employed and 6 are unemployed. Seven of these are employed in an activity which is related to the instruction received in a specific program at Lake Michigan College. Some of the job titles are field service, engineer, draftsman, service representative, design, banking, electronic laboratory technician, and assistant traffic manager. Of these, 8 are full-time employment and 1 is part-time. Also, 10 of the respondents indicate that they had been employed while attending Lake Michigan College. The programs in which the graduates were enrolled while attending Lake Michigan College were:

Business	7
Mechanical Technology	3
Electronic Technology	2
Drafting and Design Technology	3

Nine respondents felt that the program in which they were enrolled provided a great deal of background for their choice of occupation while 6 indicated some background. Twelve felt that the program provided a great deal of practical and/or manipulative skills while 2 indicated some and

one none. Twelve indicated that the program provided a great deal of opportunity for their personal development while 3 indicated only some. It was felt by 11 persons that the program provided sufficient challenge to them while 4 indicated only some challenge. Generally, the suggestions for improvements of the programs at Lake Michigan College were an evaluation of each program, discontinuance of some minor courses, enlargement of other areas, and more electives. An indication of some of the strengths of the programs at Lake Michigan College included report writing, personal instruction, enthusiasm, and comprehensive course involvement.

Personal interest appeared to be the most important influence in the selection of a program for 13 students. Parents, counselors in high school, counselors at Lake Michigan College, and business or industrial persons were each indicated once.

College preparatory was the major course in high school for 13 of the graduates prior to entering Lake Michigan College. Mathematics was indicated to be the most important high school course which prepared the students for the program pursued at Lake Michigan College. There are 11 indications of this importance while physics, chemistry, and English (4) were indicated as the second most important subject in high school. Office education and industrial

arts courses each were checked 3 times. The high school course which was considered to be of least importance to progress in respective programs at Lake Michigan College was Biology (6), industrial arts was the next course to be considered of least importance while accounting, chemistry, physics, and mathematics all received a vote of 1.

The following programs were considered to be important and should be offered at Lake Michigan College:

Dental Assistant Technology	6
Industrial Supervision Technology	6
X-ray Technology	6
Aircraft Technology	5
Automotive Technology	5
Commercial Art	5
Electrical Trades	5
Hotel and Motel Management	5
Nursing Program, Associate Degree	5
Refrigeration & Air Conditioning Technology	5
Building Trades	4
Diesel Engine Technology	4
Medical Technology	4
Radio & Television	3
Agricultural -Horticultural Technology	2
Apparel Trades	2
Automotive Repair	2
Cosmetology	2
Library Assistant Program	2
Printing & Lithography	2
Radio & Television Repair	2
Restaurant Management	2
Appliance Service Technology	1
Automotive Body and Fender	1
Metal Trades	1
Photography	1

Ten respondents indicated that they are now continuing

or planning to continue their education at a four-year college or university.

The future occupational goals of the respondents include: (1) Certified Public Accountant; (2) Welder; (3) Design Draftsman; (4) Professional Engineer; (5) Accountant; (6) Nursing; (7) Teacher; (8) Traffic Manager; and (9) Sales work.

The graduate follow-up also was concerned with an evaluation of the high school and community college guidance services. A tabulation of these results is shown in Tables XXXVII and XXXVIII.

TABLE XXXVII

Estimate of Value of High School Guidance Program by Graduates

Area	Great Deal	Some	None
	N	N	N
Selecting an occupational program	1	8	7
Preparing for a full-time job	2	8	6
Preparing for future education and/or training	4	11	1
Understanding abilities and interests	4	9	3
Occupational information	5	7	4

TABLE XXXVIII

Estimate of Value of Lake Michigan College Guidance Program by Graduates

Area	Great Deal	Some	None
	N	N	N
Selecting an occupational program	4	10	3
Preparing for a full-time job	6	7	3
Preparing for future education and/or training	7	7	2
Understanding abilities and interests	8	7	3
Occupational information	3	7	5

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The occupational programs presently being offered at Lake Michigan College are providing an adequate background of training for those students enrolled in them. There is a need to emphasize the manipulative skills and to improve the practical and applied aspects included in these programs.

The faculty at Lake Michigan College is generally well-qualified. There is generally a broad range of courses offered in these programs and the shop-laboratory facilities are adequate. The student-faculty relationship is good and there is opportunity for individual attention and assistance.

Since three-fourths of the sample were included in the 17 to 21 year age bracket, it can be concluded that the emphasis on occupational training is focused on the three to four year period shortly after graduation from high school.

Apparently, the usual factors (i.e. parents, high school, friends, etc.) were not indicated as the prime influence on the choice of the occupational course made by the participants. Since mathematics, English, and industrial courses were ranked highest over all high school courses taken and of most value in the college program, it could be concluded that the social studies and humanities courses and other college preparatory courses on the high school level, are of less significance to the success of students enrolled in occupational courses. However, almost half of the sample indicated that they had pursued a college preparatory program while in high school. Since half of the students indicated the intention of completing a four-year college program, it may be assumed that success in the occupational programs raises the aspiration level of the students.

Generally, the counseling services offered in the high school and the college were rated poorly. However, it appears that the testing program offered in the high school and at Lake Michigan College did assist students in developing a more realistic understanding of their abilities and interests. The survey also indicated that there was a need

for improving the resource materials available in the Lake Michigan College Library.

Of the students included in the sample, over half were enrolled in a business program. Three-fourths were employed in a part-time or full-time position relating to their program. Most of the students indicated that they were experiencing a challenge and maintaining an interest in their choice of programs. Most of them felt that there was adequate opportunity for personal development.

It can be concluded from the survey that more adequate study areas and additional equipment will be needed to provide a well balanced program. Academic and personal counseling services need to be up-graded and expanded, and a cooperative work-study program is needed. More audio-visual materials and library reference materials are also needed. A more comprehensive program for the future will have to include industrial and service management training, automotive technologies, and other areas appropriate to the specific individual needs of the county.

Specific Recommendations

On the basis of this summary, it is the opinion of the Community College Committee that the following recommendations be given serious consideration in terms of the long range planning of vocational-technical education at the post-high school level:

1. Library facilities be expanded and improved.

2. Specific programs and curricula be re-evaluated and improved.

3. The counseling services be better co-ordinated between the high schools and the college to provide improved articulation and continuity between the two levels of vocational education.

4. Lake Michigan College enlarge the counseling staff and provide more occupational and vocationally oriented counseling services including testing.

5. Expansion of existing occupational programs to include:
   a. paramedical
   b. automotive technology
   c. industrial and service management
   d. apparel trades
   e. communications

6. That Lake Michigan College greatly enlarge its facilities for the occupational programs.

7. Enlarge curricula to include more "leisure time" type courses, with increased use of the present personnel combined with others available in the area.

8. An advisory committee be established to:
   a. conduct a feasibility study of new vocational-technical programs,
   b. evaluate the established curriculum and programs in terms of present and future needs and requirements, and,
   c. make recommendations and improvements in the occupational programs offered at Lake Michigan College for post-high school students.

CHAPTER VII

Report of Legislation and Finance Committee

The Legislation and Finance Committee concerned itself primarily with investigating the state and federal legislation pertaining to vocational education including the means for financing vocational education. In addition, the Legislation and Finance Committee prepared a questionnaire which was sent to all of the superintendents, principals, and teachers of vocational subjects in Berrien County. The report of the Legislation and Finance Committee then, as discussed in this chapter, has two parts: (1) results on the questionnaire sent to the superintendents, principals, and vocational teachers; and (2) an implementation report.

Superintendents, Principals, and Vocational Teachers Questionnaire Results

The questionnaire was sent to 202 superintendents, principals, and vocational teachers in Berrien County. Of those sent out, 136 or 67 percent were returned. The returns by groups were as follows: (1) superintendents, 78 percent; (2) principals, 90 percent; and (3) vocational teachers, 60 percent.

Six basic questions were asked in the questionnaire. They were concerned with: (1) administrative arrangements for an expanded vocational-technical program; (2) distance to transport students; (3) types of students that should be enrolled in an area vocational-technical program; (4) relationship which high school students should have with area vocational-technical centers; (5) legislative provisions which the respondents felt should be considered; and (6) where each of the broad occupational areas should be offered.

Tables XXXIX to XLIV show a detailed breakdown for each of the above questions. It will be noted that the responses have been tabulated for the total number of respondents as well as for each of the three groups.

Generally, the following conclusions can be made:

1. The respondents would favor two or more local school districts cooperatively operating area vocational-technical programs; the intermediate school district operating such programs; and/or the community college assuming this function for post-high school youth and adults (Table XXXIX).

2. The majority of the superintendents would be willing to have students transported 11 to 20 miles to participate in a vocational-technical program (Table XL).

TABLE XXXIX
Administrative Arrangements

Question 1: If it is determined that area vocational education programs should be operated, please indicate which of the following administrative arrangements you would favor:

Administrative Arrangements	Would Favor								Would Not Favor								No Opinion							
	Supt N=21		Prin N=28		Voc Teach N=87		Total N=136		Supt N=21		Prin N=28		Voc Teach N=87		Total N=136		Supt N=21		Prin N=28		Voc Teach N=87		Total N=136	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
a. Two or more local school districts cooperatively operating such programs.	15	71.42	17	60.71	55	63.21	87	63.97	3	14.28	7	25.00	13	14.94	23	16.91	0	0.00	3	10.71	9	10.34	12	8.82
b. The intermediate school district providing such programs for its constituent districts.	17	80.95	17	60.71	47	54.02	81	59.56	4	19.04	8	28.57	14	16.09	26	19.11	0	0.00	1	3.57	6	6.89	7	5.14
c. The provision of such programs by community colleges for high school youth.	8	38.09	8	28.57	27	31.03	43	31.61	9	42.85	13	46.42	32	36.78	54	39.70	0	0.00	1	3.57	6	6.89	7	5.14
d. The provision of such programs by community colleges for post-high school students and adults.	17	80.95	21	75.00	63	72.41	101	74.26	2	9.52	3	10.71	8	9.19	13	9.55	0	0.00	0	0.00	2	2.29	2	1.47
e. State Operated and administered schools or centers for such programs.	1	4.76	7	25.00	22	25.28	30	22.05	19	90.47	15	53.57	38	43.67	72	52.94	0	0.00	3	10.71	8	9.19	11	8.08
f. Industry and/or trade union sponsored.	6	28.57	6	21.42	32	36.78	44	32.35	13	61.90	12	42.85	23	26.43	48	35.29	1	4.76	6	21.42	12	13.79	19	13.97
g. Other arrangements.	0	0.00	1	3.57	4	4.59	5	3.67	2	9.52	2	7.14	0	0.00	4	2.94	1	4.76	2	7.14	11	12.64	14	10.29

TABLE XL

Transportation

Question 2: Assuming your school district would be reimbursed for transportation, how far would you be willing to transport students to an area vocational education program or center? (Check below the greatest distance which would be practical):

Distance	Superintendents N=21		Principals N=28		Vocational Teachers N=87		Total N=136	
	N	%	N	%	N	%	N	%
a. less than 10 miles	2	9.52	9	32.14	22	25.28	33	24.26
b. 11 to 20 miles	15	71.42	15	53.57	47	54.02	77	56.61
c. 21 to 30 miles	2	9.52	3	10.71	12	13.79	17	12.50
d. 31 to 40 miles	0	0.00	1	3.57	0	0.00	1	.73
e. over 41 miles	1	4.76	0	0.00	1	1.14	2	1.47

TABLE XLI
Groups to be Enrolled

Question 3: What type of students do you feel should be enrolled in area vocational education programs? (Check below all groups you feel should be enrolled):

Groups to Enroll	Should be Enrolled								Should Not Be Enrolled								No Opinion							
	Supt N=21		Prin N=28		Voc Teach N=87		Total N=136		Supt N=21		Prin N=28		Voc Teach N=87		Total N=136		Supt N=21		Prin N=28		Voc Teach N=87		Total N=136	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
a. Youth who have dropped out of school.	20	95.23	22	78.57	64	73.56	106	77.94	0	0.00	4	14.28	7	8.04	11	8.08	1	4.76	0	0.00	3	3.44	4	2.94
b. High school youth who plan to seek employment immediately after graduation from high school.	20	95.23	27	96.42	74	85.05	121	88.97	0	0.00	0	0.00	2	2.29	2	1.47	0	0.00	1	3.57	3	3.44	4	2.94
c. High school youth who plan to secure additional occupational training after graduation from high school.	18	85.71	24	85.71	69	79.31	111	81.61	1	5.76	2	7.14	8	9.19	11	8.08	1	4.76	0	0.00	6	6.89	7	5.14
d. High school youth who plan to secure a four-year college degree.	9	42.85	4	14.28	15	17.24	28	20.58	9	42.85	20	71.42	43	49.42	72	52.94	1	4.76	2	7.14	11	12.64	14	10.29
e. Post-high school youth and adults who are preparing to enter the labor market and are full-time students.	18	85.71	20	71.42	58	66.66	96	70.58	2	9.52	6	21.42	6	6.89	14	10.29	0	0.00	1	3.57	9	10.34	10	7.35
f. Youth and adults unemployed or working who need training or retraining to achieve employment stability.	20	95.23	24	85.71	70	80.45	114	83.82	1	4.76	2	7.14	3	3.44	6	4.41	0	0.00	2	7.14	4	4.59	6	4.41

TABLE XLII

Relationship to Area Center

Question 4: Check below (check only one) the relationship you feel would be most desirable for the high school student to have with an area vocational education program:

Relationship of High School Student to Area Vocational Program	Superintendents N=21		Principals N=28		Vocational Teachers N=87		Total N=136	
	N	%	N	%	N	%	N	%
a. Should retain his identity with his home high school for attendance purposes, graduate from his home high school, secure his general education from his home high school and go to the area center or program only for his specialized vocational preparation.	18	85.71	21	75.00	62	71.26	101	74.26
b. Should receive all of his education from and be identified with the area center or program.	3	14.29	7	25.00	18	20.68	28	18.38

TABLE XLIII

Legislative Provisions Desired

Question 5: Check below the provision which you feel should be included in legislation if area vocational education programs are developed in Michigan

Legislative Provision	Superintendents N=21		Principals N=28		Vocational Teachers N=87		Total N=136	
	N	%	N	%	N	%	N	%
a. Appropriation of state funds for buildings, equipment, and operation.	10	47.61	13	46.42	50	57.47	73	53.67
b. Provision for two or more districts to cooperatively bond for capital outlay.	4	19.04	10	35.71	14	16.09	28	20.58
c. Provision for two or more districts to cooperatively levy millage for operational expenses.	5	23.80	10	35.71	18	20.68	33	24.26
d. Provision for intermediate school districts to provide area vocational education programs for their constituent school districts.	14	66.66	11	39.28	31	35.63	56	41.17

TABLE XLIV
Occupational Areas to be Served

Question 6: In terms of broad occupational categories, check below, in the proper column, where you think these programs should be offered. (You may check more than one column for each item.)

Vocational Areas	In Existing High Schools								In Area Programs								In Community Colleges							
	Supt N=21		Prin N=28		Voc Teach N=87		Total N=136		Supt N=21		Prin N=28		Voc Teach N=87		Total N=136		Supt N=21		Prin N=28		Voc Teach N=87		Total N=136	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
a. agricultural education	14	66.66	19	67.85	54	62.06	87	63.97	16	76.19	19	67.85	37	42.52	72	52.94	7	5.14	9	32.14	25	28.73	41	30.14
b. distributive education	13	61.90	16	57.14	40	45.97	69	50.73	14	66.66	17	60.71	43	49.42	74	54.41	13	61.90	13	46.42	35	40.22	61	44.85
c. office education	19	90.47	25	89.28	62	71.26	106	77.94	14	66.66	15	58.57	36	41.37	65	47.79	12	8.82	14	50.00	45	51.72	71	52.20
d. home economics education	20	95.23	26	92.85	67	77.01	113	83.08	9	42.85	8	28.57	34	39.08	51	37.50	6	28.57	8	28.57	27	31.03	41	30.14
e. practical nurse education and other health occupations	2	9.52	7	25.00	9	10.34	18	13.23	18	85.71	20	71.42	60	68.96	98	72.05	16	76.19	15	53.57	53	60.91	84	61.76
f. trade education	8	38.09	12	42.85	30	34.48	50	36.76	17	80.95	24	85.71	68	78.16	109	80.14	11	52.38	12	42.85	36	41.37	59	43.38

TABLE XLIV (cont.)
Occupational Areas to be Served

Vocational Areas	In Existing High Schools								In Area Programs								In Community Colleges							
	Supt N=21		Prin N=28		Voc Teach N=87		Total N=136		Supt N=21		Prin N=28		Voc Teach N=87		Total N=136		Supt N=21		Prin N=28		Voc Teach N=87		Total N=136	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
g. technician education	3	14.28	5	17.85	10	11.49	18	13.23	16	76.19	19	67.85	48	55.17	83	61.02	14	66.66	17	60.71	62	71.26	93	68.38
h. others	2	9.52	2	7.14	1	1.14	5	3.67	2	9.52	3	10.71	6	6.89	11	8.08	0	0.00	0	0.00	1	1.14	1	.73

3. The following groups should be enrolled in area vocational-technical programs: (1) youth who have dropped out of school; (2) high school youth who plan to seek employment immediately after graduation from high school; (3) high school youth who plan to secure additional occupational training after graduation from high school; (4) post-high school youth and adults who are preparing to enter the labor market and are full-time students; and (5) youth and adults unemployed or working who need training or retraining to achieve employment stability (Table XLI).

4. Generally, the respondents supported the idea that a student enrolled in a vocational-technical program on an area basis should retain his identity with his home high school (Table XLII).

Implementation Report

After reviewing the data compiled by the various research subcommittees and upon considering the Resolutions and Recommendations passed on April 21, 1966, made by the executive committee, and the chairmen and coordinators of each of the six research subcommittees, the Legislation and Finance Committee studied implementation procedures that might be used to carry out these resolutions and recommendations. The following is a summary of the findings of this committee:

1. The Vocational Education Act of 1963 (P.L. 88-210) attacks basic problems affecting Vocational Education. The

Act is comprehensive in scope and includes all persons and all occupations except those generally considered professional or as requiring a Baccalaureate or higher degree. It is concerned with occupational preparation for workers of all ages and at all levels for all fields. It makes provision for meeting the needs of persons in sparsely settled as well as urban areas. Among its provisions, the 1963 Act provides funds for the construction of area schools.

Funds can be used to construct new buildings; to expand, remodel or alter old buildings; to grade and improve sites; and to pay architect's fees. Initial equipment is considered part of construction costs.

The Act provides that at least 33-1/3 percent of the funds appropriated must be spent for vocational education at the post-high school level or for construction of area schools up through fiscal 1968 and at least 25 percent of such funds thereafter.

However, the above provisions should be considered permissive in nature. Due to the fact that sufficient funds are never available to carry out all provisions of the Vocational Education Act of 1963, the Michigan Department of Education must distribute the funds on a priority basis--which may or may not include construction of area vocational-technical centers.

Therefore, for all practical purposes, funds for construction of area vocational-technical centers should be provided through local sources or through special provisions of: (1) the Manpower Development Training Act; (2) Economic Opportunity Act; and (3) Elementary and Secondary Education Act of 1965. (These funds would only be available for special programs which qualify under each act.) Funds may also be available from local, state, and federal philanthropic foundations.

2. Lake Michigan College is already a designated area vocational-technical education center as are all community colleges in Michigan. Several programs of a vocational-technical nature are currently being conducted. As noted in the Community College Committee report, a review and expansion is being recommended.

Such an expansion could be financed in several ways as follows: (1) current revenue sources of the Community College; (2) the Vocational Education Act of 1963 and other federal acts; (3) an increased intermediate school district millage; (4) other pending federal and state legislation to provide funds for community colleges.

3. The two high school vocational-technical centers as recommended in this report--one in the southern portion of the county and one in the northern portion--should also be supported by a voted intermediate school district millage.

Additional funds for operation and equipment--including teachers' salaries--can be obtained from the: (1) Vocational Education Act of 1963; (2) Manpower Development Training Act; and (3) Economic Opportunity Act of 1965. One mill would produce approximately $530,000 per year while two mills would render about $1,060,000 per year.

A new piece of legislation (H 3432) passed by the Michigan House of Representatives and now in the Senate would permit bonding for construction of area vocational-technical centers.

4. The Michigan Department of Education recommends that an area vocational-technical center should offer a minimum of 15 to 20 different occupational preparation programs. It also suggests that a typical center would cost $1,000,000 to $2,000,000 to build. The above recommendations should be considered as guidelines for the advisory committee which will be responsible for implementing the recommendations contained in this study.

5. Provision has already been made for the Intermediate School District to employ a vocational-technical consultant. This should be done as soon as possible. The immediate primary function of the vocational-technical consultant should be to implement the recommendations of this report with the aid and guidance of a representative advisory committee appointed by the Intermediate School District Board of Education.

VT 001 020
Recent Developments in Technical Education; Report, Summer Institute, Instrumentation, 1966.

Rutgers, The State Univ., New Brunswick, N.J. Vocational-Technical Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 66 20p.

*PROGRAM DESCRIPTIONS; BIBLIOGRAPHIES; *INSTRUMENTATION; INSERVICE TEACHER EDUCATION; *SUMMER INSTITUTES; *TRADE AND INDUSTRIAL TEACHERS

The institute-type seminar on industrial instrumentation practice and theory was designed for teachers at the high school and post-high school levels. The purpose of the institute was to provide current information and applications of industrial instrumentation. Basic instrumentation principles were interwoven with recent developments and new innovations through the presentations of 11 guest instructors from industry. These presentations were correlated with laboratory demonstrations and experiments. The participants included 16 teachers of instrumentation, electronics, and related subjects. The institute course outline, evaluation opinionnaires, and an instrumentation bibliography of 30 items dating from 1944 to 1965 are given. (HC)

VT 001 020

EDO 30001

AUG 23 1968

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18p*

REPORT

SUMMER INSTITUTE --

INSTRUMENTATION

1966

RECENT DEVELOPMENTS

IN

TECHNICAL EDUCATION

RUTGERS - THE STATE UNIVERSITY
GRADUATE SCHOOL OF EDUCATION
VOCATIONAL-TECHNICAL EDUCATION
NEW BRUNSWICK, NEW JERSEY

Supported by The Division of
Vocational Education of the
Department of Education
State of New Jersey

VT 01020

17 2 66

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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REPORT

SUMMER INSTITUTE --

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Department of Education
State of New Jersey

17 66

ACKNOWLEDGMENTS

Grateful appreciation is expressed to all who assisted in making the Institute in instrumentation a success.

A special "thank you" is expressed to:

Dr. John J. O'Neill, Dean of the Graduate School of Education, for his interest.

Dr. Robert Worthington, Assistant Commissioner of Education, State of New Jersey for his interest and financial support.

Mr. Nicholas F. Frigiola, Director, Technical Education, State of New Jersey for his assistance in planning and cooperation in implementing the program.

Dr. C. Thomas Olivo, New York State Department of Education, for his assistance in promoting inter-state participation.

Dr. Gordon G. McMahon, Director, Division of Vocational-Technical Education, State University College, Oswego, New York, for his assistance in planning and developing the structure of this institute.

Mr. Donald B. Barbieri, Director of Vocational Education, Valhalla, New York for his aid in curriculum development during the Institute.

Dr. Elmer C. Easton, Dean of the College of Engineering, for making available the facilities of the College of Engineering for the Institute.

Professors A. J. Del Mastro and Richard H. Schwartz for cooperation in making available the hydraulics laboratory.

Dr. Richard Plano, Professor of Physics, and Mr. Donald King of the Information Processing Center for helpful demonstrations and explanations of the computer.

The manufacturing firms that provided displays, and the representatives who serviced them:

The Foxboro Company
Mr. W. H. Furry

Honeywell, Incorporated
Mr. Gorlyn H. Bronstad

Moore Products Company
Mr. Henry R. Koenig

Leeds and Northrup Company
Mr. R. R. Hartman

The industrial firms that made possible the field study visitations:

United States Steel Co.
Fairless Hills Plant
Mr. William K. Peck

Leeds and Northrup Co.
Mr. G. Lupton Broomell and
Mr. Joseph E. Casey

Sun Oil Company
Marcus Hook Plant
Mr. Eric Weiss and
Mr. Peter Jordan

The guest instructors who gave much time and effort to the program:

Emil J. Minnar	Robert Mayer	J. W. Murdock	M. D. Weiss
G. M. Crabtree	S. D. Prensky	Frank M. Ryan	H. N. Helms
Emitt H. Sommer	E. A. Weiss	Joseph E. Casey	

Dr. Carl J. Schaefer, Chairman of the Vocational-Technical Education Department, for constant interest and assistance in this endeavor.

Dr. Larson and the participants listening to Mr. D. S. Luppold, Leeds and Northrup Co., explaining their industrial instrumentation program. Reading from left to right, front row, are: Allan Borghard, Myron Read, and Edward J. Egle, Jr. Second row: Richard M. Kay, Emory P. Berman, George J. Jarrow, Anthony Dienno, and Edward L. Drovon. Third row: Dr. Milton E. Larson, Edmund F. Trifari, Herbert Mau, John E. Green, and William Jiskra, Jr. Fourth row: Hubert Braun, Otto C. Holzer, Fred Brechlin, and Murray Berkovits.

EDUCATIONAL PROGRAM

The educational program consisted of four specific approaches to strengthening the participating teachers in the field of instrumentation. Specifically, the purpose of the Institute was to provide current information, coupled with applications of industrial instrumentation.

Basic principals were interwoven with recent developments and new innovations through the presentations of several guest instructors from industry reflecting specialized phases of industrial instrumentation (See Faculty and Support Personnel).

The presentations of guest instructors were correlated with laboratory demonstrations and experiments. During the afternoon laboratory activities, each participant had opportunities to "try out" for himself modern instrumentation test equipment, and other pneumatic, hydraulic, and electronic instrumentation equipment.

A part of the Institute was devoted to preparation of instructional materials significant to the participant. Each worked in a selected area of interest, seeking the assistance of an available specialist in curriculum construction when needed. In several cases curriculum materials were developed specifically for use during the regular teaching activities of the participant. Curricula for instrumentation, course outlines, information sheets, and laboratory-experiment sheets were developed. The copy prepared by each individual was duplicated and

compiled into a volume of resource materials which was distributed to each of the participants.

The field study visitations were planned to enhance the presentations of the guest instructors and enlarge upon the laboratory experiences. Presentations prior to and question-and-answer sessions following the guided field studies made these effective educational activities. The coordinated and planned efforts of the following industrial firms made these activities meaningful educational experiences:

United States Steel Company -- Fairless Hills Plant

Leeds and Northrup Company -- Industrial School and North Wales Plant

Sun Oil Company -- Marcus Hook Plant.

COURSE OUTLINE

288:463 RECENT DEVELOPMENTS IN TECHNICAL EDUCATION -- INSTRUMENTATION (Cr. 3) (G3)

SUMMER INSTITUTE

CATALOG DESCRIPTION: An institute-type seminar designed for teachers of technical courses at the post high school and high school level. Emphasis is placed on industrial instrumentation practice and theory involving such topics as temperature, flow, pressure, level, liquid analysis, gas analysis, electronics measuring instruments, automatic control systems, and the computer. Subject matter concepts and technical skill will be developed through presentations, discussions, laboratory experiences, field study and curriculum development experiences.

OBJECTIVE OF COURSE: To provide current information coupled with applications, to upgrade in-service teachers in the concepts of industrial instrumentation.

COURSE OUTLINE:

I. Introduction to Instrumentation

II. Temperature instrumentation
   A. Thermocouples
   B. Filled thermal systems
   C. Resistance types
   D. Readout devices

III. Flow instrumentation types
   A. Orifice -- venturi-pitot nozzle type
   B. Readout devices

IV. Liquid analysis type instrumentation
   A. Ph devices
   B. Electrolytic conductivity measurements
   C. Oxidation/reduction fundamentals
   D. Titrations
   E. Readout devices

V. Gas analysis applications
   A. Differential thermal types
   B. Magnetic applications
   C. Chromotography
   D. Density
   E. Readout devices

VI. Pressure devices
- A. Manometers
- B. Deadweight testers
- C. Diaphragm, bellows, bourdon type
- D. Readout devices

VII. Level as employed in Instrumentation
- A. Float
- B. Pressure
- C. Bubble
- D. Diaphragm
- E. Differential pressure
- F. Readout devices

VIII. Industrial electronics as applied to Measuring Instruments

IX. Automatic Controls

X. Introduction to Computers

XI. Summary and Evaluation

TEXTBOOK: None

REFERENCES: Selected readings and mimeograph materials provided.

SELECTED BIBLIOGRAPHY

An Analysis of Industrial Instrumentation Trade. Ottawa (Canada): Queen's Printer, 1965.

Considine, Douglas M. Process Instruments and Controls. New York: McGraw-Hill Book Co., 1957.

Course in Instrument Maintenance. Washington: U. S. Office of Education, 1963.

Delahooke, B. Chester. Industrial Control Instruments. Rochester: Delmar Publishers, Inc., 1956.

Eckman, Donald P. Industrial Instrumentation. New York: John Wiley & Sons, Inc., 1950.

Electrical Technology. A Suggested Two-Year Post High School Curriculum. Washington: U. S. Office of Education, 1960.

Electronic Technology. A Suggested Two-Year Post High School Curriculum. Washington: U. S. Office of Education, 1960.

Electronics Technology. A Suggested Two-Year Post High School Curriculum. Washington: U. S. Office of Education, 1965.

Flow Measurement. New York: The American Society of Mechanical Engineers, 1959.

Flowmeter Computation Handbook. New York: The American Society of Mechanical Engineers, 1961.

Fluid Meters - Their Theory and Application. New York: The American Society of Mechanical Engineers, 1959.

Fribance, Austin E. Industrial Instrumentation Fundamentals. New York: McGraw-Hill Book Co., 1962.

Fundamentals of Pressure and Temperature Instruments. Albany: The University of the State of New York, 1944.

Instruments and Process Control. Albany: Delmar Publishers, Inc., 1945.

Instruments and Process Control. Albany: Delmar Publishers, Inc., 1947.

Instrumentation Technology. A Suggested Two-Year Post High School Curriculum. Washington: U. S. Office of Education, 1964.

LaJoy, Millard. Industrial Automatic Controls. Englewood Cliffs: Prentice-Hall, Inc., 1963.

Leeds, Herbert D. and Weinberg, Gerald M. Computer Programming Fundamentals. New York: McGraw-Hill Book Co., 1966.

Library of Industrial Training. Wilmington: E. I. DuPont de Nemours and Co., 1963.

Masterton, Robert N. Study Guide for Instrumentation. Chicago: American Technical Society, 1962.

McCarthy, J. A. Quality Control. Des Plaines: DoAll Co., 1945.

Meites, Louis and Thomas, Henry C. Advanced Analytical Chemistry. New York: McGraw-Hill Book Co., 1958.

Phillips, J. P. Automatic Titrators. New York: Academic Press, 1959.

Prensky, S. D. Electronic Instrumentation. Englewood Cliffs: Prentice-Hall, Inc., 1963.

Ruiter, Jacob H. and Murphy, R. Gordon. Basic Industrial Electronic Controls. New York: Holt, Rinehart and Winston, Inc., 1962.

Smith, Ed Sinclair. Automatic Control Engineering. New York: McGraw-Hill Book Co., 1944.

The Instrumentation Technician. Hollywood: Grantham School of Electronics, 1961.

Turner, Rufus P. Basic Electronic Test Instruments. New York: Holt, Rinehart and Winston, 1953.

Weiss, Eric. Programming The IBM 1620. New York: McGraw-Hill Book Co., 1965.

Zbar, Paul B. Electronic Instruments and Measurements. New York: McGraw-Hill Book Co., 1965.

FACULTY AND SUPPORT PERSONNEL

The Institute was a function of the Department of Vocational-Technical Education, Rutgers - The State University under the immediate direction of Dr. Milton E. Larson, Adviser in Technical Education.

Financial support for the Institute was provided by Rutgers - The State University and the Division of Vocational Education, State Department of Education of New Jersey.

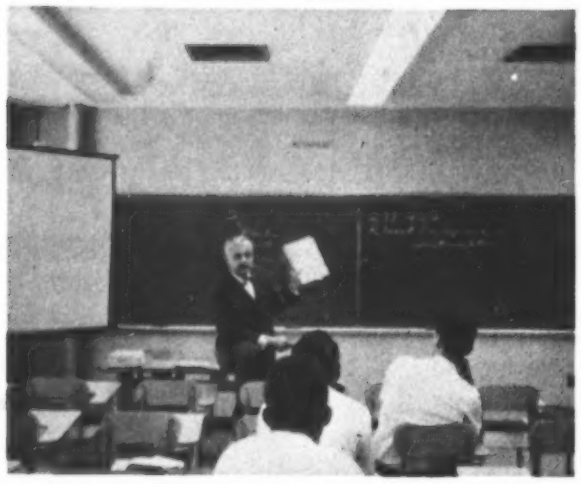
The program was cooperatively planned by a committee consisting of: Mr. Nicholas F. Frigiola, Director, Technical Education, State of New Jersey; Dr. Gordon G. McMahon, Director, Division of Vocational-Technical Education, State University College, Oswego, New York; Mr. Donald B. Barbieri, Director of Vocational Education, Valhalla, New York; Mr. Joseph E. Casey, Director of Educational Programs, Leeds and Northrup Company, Philadelphia, Pennsylvania; and Dr. Milton E. Larson, Adviser, Technical Education, Rutgers - The State University.

The following individuals participated as guest instructors:

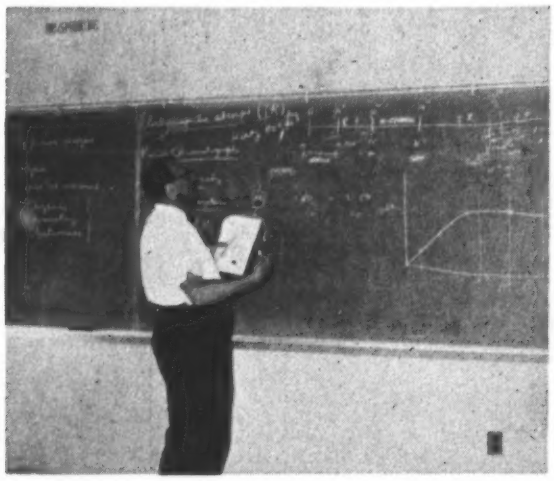
NAME	POSITION	ADDRESS
Emil J. Minnar	ISA Journal	622 Kelso Road, Philadelphia, Pa.
Robert Mayer	Chief of Operations, Physics Section Research Center	Sun Oil Company Newton Square, Pa.
J. W. Murdock	Head, Applied Physics Division	Naval Boiler & Turbine Laboratory Philadelphia, Pa.
M. D. Weiss	Manager, Analysis Instrumentation Group	U. S. Rubber Co. Naugatuck, Conn.
G. M. Crabtree	Development Engineer	American Meter Co. 13500 Philmont Ave. Philadelphia, Pa.

NAME	POSITION	ADDRESS
S. D. Prensky	Assistant Professor Electrical Eng. Dept.	Fairleigh Dickinson University, Teaneck
H. N. Helms	Instructor Instrumentation	Dobbins Technical High School Philadelphia, Pa.
E. A. Weiss	Corporate Planning Dept.	Sun Oil Company Philadelphia, Pa.
Frank M. Ryan	Associate Editor	Control Engineering 466 Lexington Ave. New York, N. Y.
Joseph E. Casey	Director Educational Programs	Leeds and Northrup Co. Philadelphia, Pa.
Emitt H. Sommer	Consultant - Instrumentation	Doylestown, Pa.

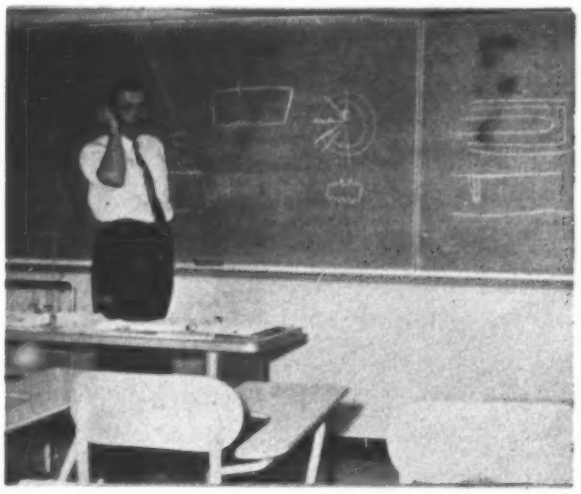
PHOTOGRAPHS OF SOME OF THE INSTRUCTORS IN ACTION



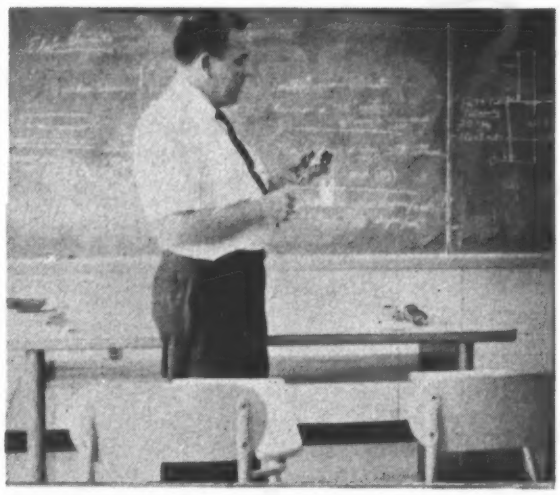
J. E. Casey, Director Educational Programs, Leeds and Northrup Co.



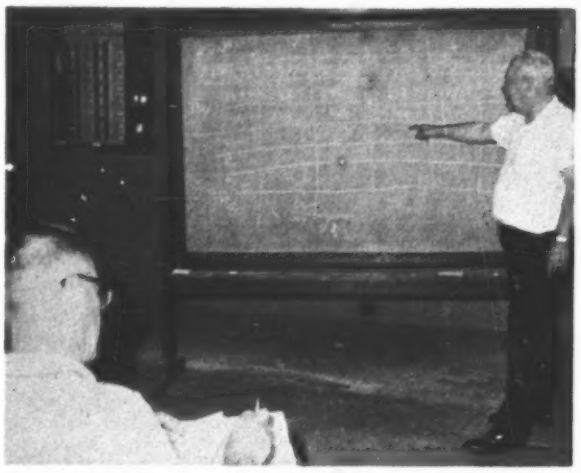
M. D. Weiss, Manager, Analysis Instrumentation, U.S. Rubber Co.



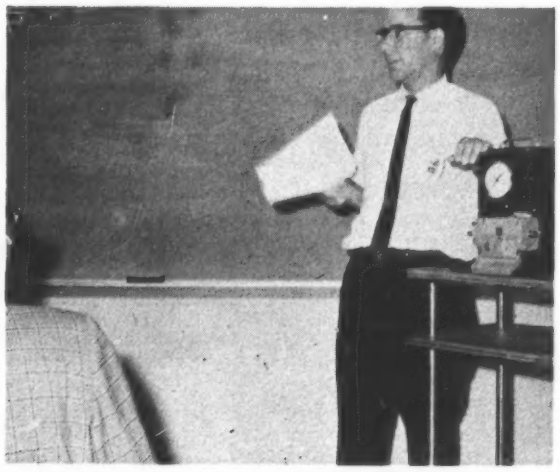
Robert Mayer, Chief of Operations Physics Section, Sun Oil Co.



G. M. Crabtree, Technical Institute Div., Temple Univ.



J. W. Murdock, Head, Applied Physics Div., Naval Boiler & Turbine Laboratory



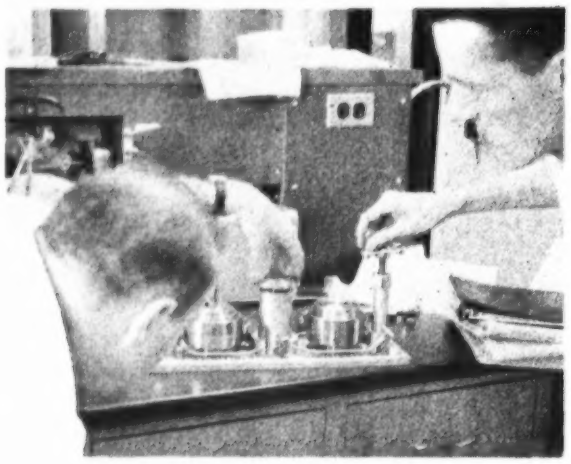
H. N. Helms, Instructor, Dobbins Technical High School

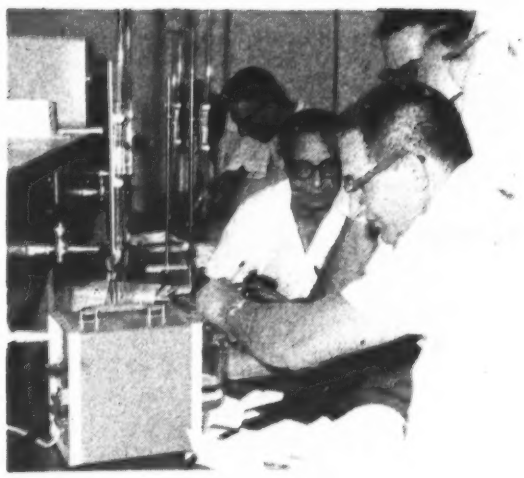
STUDENT PARTICIPANTS

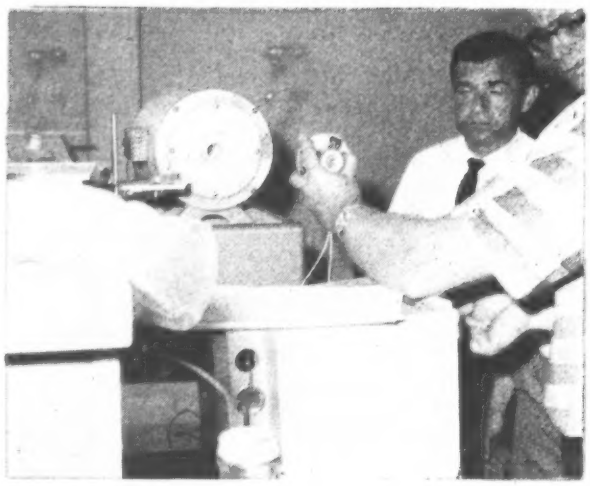
NAME	HOME ADDRESS	INSTRUCTIONAL FIELD	EMPLOYER
Hubert H. Braun	4912-90th Street Racine, Wisconsin	Mech. Technology	Racine Tech. Institute
Murray Berkovits	830 Bay, 8th Street West Islip, New York	Electronics-Physics	East New York Voc. H. S.
Fred F. Brechlin	511 Second Avenue Eau Claire, Wisconsin	Electronics Instructor	Eau Claire Tech. Inst.
Emory Berman	1977 Jackson Avenue Elmont, New York	Physics & Mech. Drawing	Sewanhaka High School Floral Park, L. I.,N. Y.
Allan A. Borghard	14 Windham Drive Huntington Station, New York	Instrumentation	MacArthur High School, Levittown
Anthony Dienno	102 Oakmont Road Moorestown, New Jersey	Automotive	Mastbaum Tech. H. S. Philadelphia, Pa.
Edward L. Drovon	11 Chestnut Drive Hazlet, New Jersey	Automotive	Essex County Vocational
Edward J. Egle Jr.	108 Eddy Drive Huntington Station Long Island, New York	Instrumentation Electrical theory and Math.	Sewanhaka High School Floral Park, L. I., N. Y.

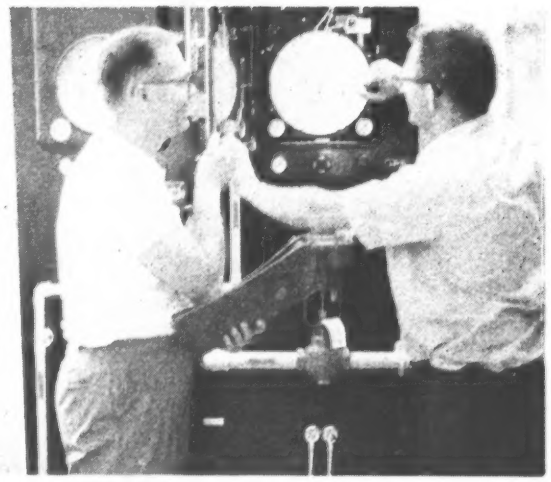
NAME	HOME ADDRESS	INSTRUCTIONAL FIELD	EMPLOYER
John E. Green	Cross Plains, Indiana	Electronics Instructor	Southeastern Indiana Area Voc. School
Otto C. Holzer	44 Addison Avenue Eggertsville, New York, 14226	Electronics Wiring	Buffalo Board of Ed.
George J. Jarrow	23 Laurel Road New City, Rockland Co., New York, 11553	Instrumentation	Rockland Center of Technology
William Jiskra	671 Nassau Road Uniondale, New York 11553	Plumbing	Queens Voc. H. S.
Richard M. Kay	Apt. #46, Cypress Gardens, North Plainfield, New Jersey	Instrumentation & Related	Union County Tech. Institute
Herbert Mau	80-23 Margaret Place Glendale, New York	Instrumentation, Rel. Math. & Drawing	Calhoun High School Merrick, New York
Myron Read	10 Ventura Road Rochester, New York	Instrumentation	Edison Tech. H. S.
Edmund F. Trifari	41 Plymouth Road Paterson, New Jersey	Radio, TV, Electronics, Science	Chelsea Voc. H. S. New York City

SOME OF THE STUDENT LABORATORY ACTIVITIES









EVALUATION

Summary of Student Opinionnaire

A brief questionnaire was given to the students on July 22, 1966. The questions with the tabulated responses follow:

	YES	NO	UNCERTAIN
1. Would you be interested in attending another summer institute next year?	13	1	2
2. Do you favor laboratory sessions?	16	0	0
3. Do you favor Field Study visitations?	16	0	0
4. Do you believe guest instructors from industry are helpful in such an institute?	16	0	0
5. Will you be teaching a course in instrumentation next year?	6	3	7
6. Will you be using instrumentation information in your work next year in some capacity?	16	0	0
7. Do you think this Institute was a success?	16	0	0

*8. If you were to attend another institute would you favor a 1, 2, 3, 4, 5, or 6 week institute?

NUMBER OF WEEKS FAVORED					
1	2	3	4	5	6
0	0	8	4	1	6

*9. What month of the year is most desirable for summer institutes?

MONTH FAVORED		
June	July	August
2	16	2

10. Do you favor a full-day or a half-day institute?

LENGTH OF SESSION FAVORED	
Full-day	Half-day
15	1

*Some students checked more than one response for items 8 and 9.

VT 001 079
Mallory, Alva
A Survey of Vocational, Technical, and Adult Education Needs in Monroe County.

Monroe County Intermediate School District, Mich.
Michigan State Dept. of Public Instruction, Lansing. Div. of Vocational Education
Monroe County Community Coll., Mich.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jul66 121p.

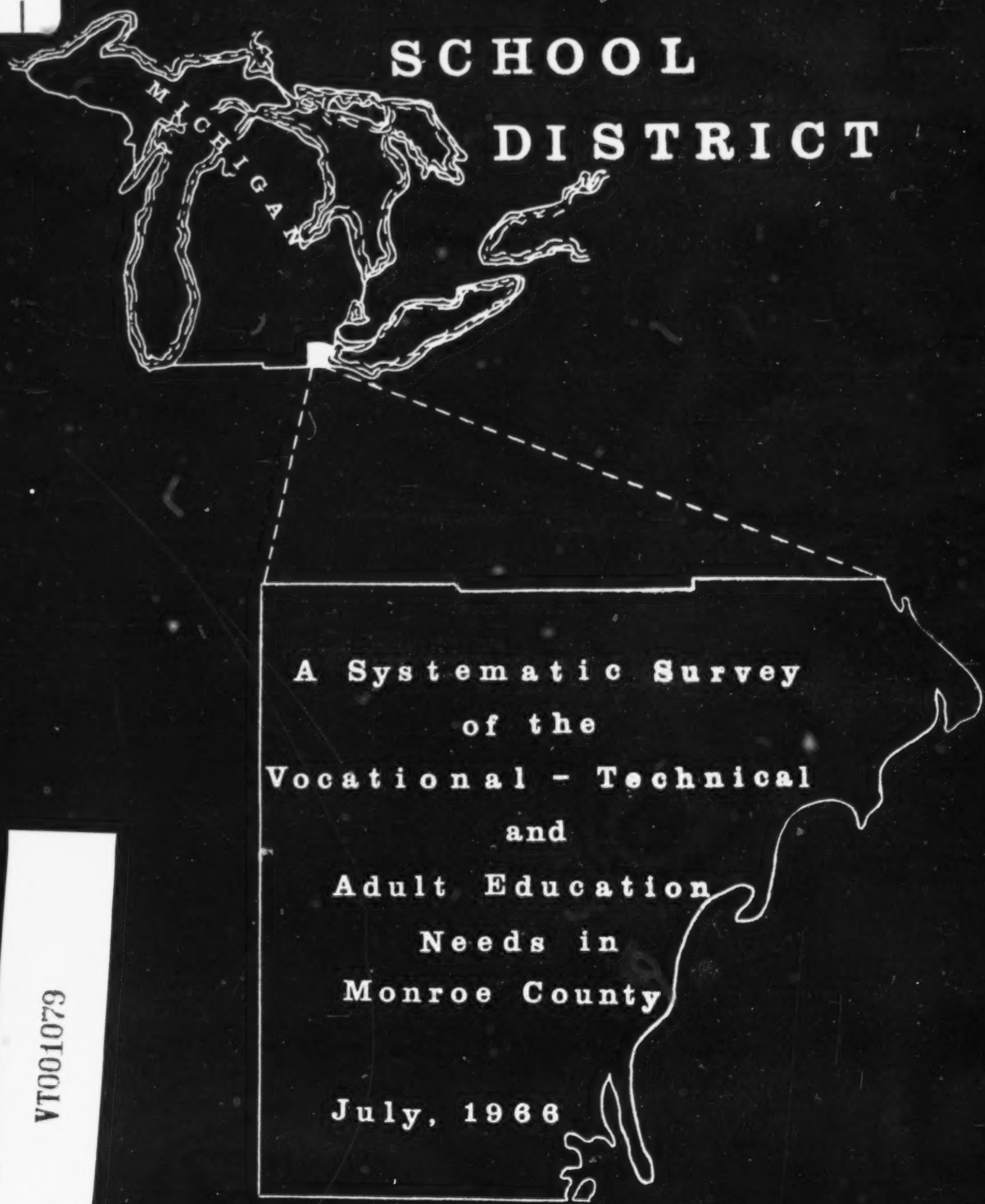
*VOCATIONAL EDUCATION; SCHOOL SURVEYS; GRADUATE SURVEYS; OCCUPATIONAL SURVEYS; *SURVEYS; QUESTIONNAIRES; *EDUCATIONAL NEEDS; EMPLOYER ATTITUDES; STUDENT ATTITUDES; PARENT ATTITUDES; HIGH SCHOOL STUDENTS; HIGH SCHOOL GRADUATES; PROGRAM ATTITUDES
MONROE COUNTY; MICHIGAN

The area surveyed was served by 13 independent school districts and contained 45 elementary schools, seven junior high schools, and nine high schools. Total parochial and public school enrollment for 1965 was 32,153. Total county population was 110,000. Responses to surveys by questionnaires and personal interviews came from 1,489 businesses and industries, 79 of the largest commercial farms, 1,507 high school seniors, 76 percent of 2,324 parents of eighth graders and 829 of the 1965 high school graduates. Educational offerings in industrial arts, business education, home economics, agriculture, and trade and industrial education in the area were surveyed. Conclusions were: (1) Of all jobs less than top management positions, 86.6 percent require no more than a high school education for entry employment, (2) 75 percent of the high school seniors are not being prepared adequately for what they plan to do after graduation, (3) In addition to the 85 vocational class periods now offered, 214 more are needed to meet the needs of high school youth. It was recommended that an area vocational education center or centers be constructed, equipped, and staffed in Monroe County. (PS)

VT 001 079

EDO 30001

MONROE COUNTY INTERMEDIATE SCHOOL DISTRICT



A Systematic Survey of the Vocational - Technical and Adult Education Needs in Monroe County

July, 1966

VT001079

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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1079

A SURVEY OF VOCATIONAL TECHNICAL AND ADULT EDUCATION NEEDS IN MONROE COUNTY

sponsored by

Monroe County Intermediate School District, Monroe
Isaac Grove, Superintendent

and in cooperation with the

Office of Vocational Education
Michigan Department of Education

the

Monroe County Community College, Mich.

and

Ten Secondary School Districts

Alva Mallory, Director

July, 1966

Monroe County Intermediate Board of Education, Monroe

Norman Capaul, President
C.E. Marshall, Vice President
Carl Smith, Treasurer
Loyal Boulton, Trustee
Lewis Zorn, Trustee

PREFACE

To help prepare employment-bound youth for the technological change of tomorrow is one of the challenges faced by our local schools. To help meet this challenge the Monroe County Intermediate School District Board of Education and the constituent school districts have taken a step toward insuring a labor market of well-prepared, highly skilled workers by authorizing a comprehensive study of vocational technical and adult education needs for Monroe County. This survey is a study of the vocational-technical and adult education needs of Monroe County. Data has been received from agriculture, business, industry, students, parents, graduates, and school officials.

The Monroe County Intermediate School District wishes to thank all the business and industries, school organizations, students, parents, graduates, and farm operators who provided us with the necessary information to make this study a success. We wish to thank all the various research departments that have provided us with a number of source materials for review. It would be impractical to list every study and survey from which ideas have been used. We hope that similarities will be considered as further validation of the basic research involved.

Those who should be recognized for valuable assistance are each member of the Policy Committee, Advisory Committee, and the industry, firm or agency that they represent. We wish to express our appreciation to the administrators, teachers, and directors of vocational education in Monroe County, and private schools in Monroe who have provided us with information and have been most cooperative in all phases of the study. Special appreciation should be extended to the agricultural teachers, business and industrial teachers, and counselors who worked as personal interviewers in contacting the farms, business, and industry. Special appreciation is also extended to Harry Firestone, Robert Kollin, Harry Nelson, Charles Scheltema, Harold Sodt, Zane Stein, and Joseph Sterling, members of the Executive Committee, and to the members of the Advisory Committee for the time, energy, and wisdom which they have so unselfishly given in the preparation of this study.

EXECUTIVE COMMITTEE

CHARLES A. SCHELTEMA

JOSEPH C. STERLING

HARRY FIRESTONE

HAROLD F. SODT

HARRY NELSON

ROBERT KOLLIN

ZANE STEIN

MEMBERS OF THE POLICY COMMITTEE

JOSEPH C. STERLING: Superintendent
Airport Community Schools

LOUIS SMITH: Member, Airport
Board of Education

CHARLES SCHELTEMA: Superintendent
Bedford Public Schools

MELVIN G. WALTZ: Superintendent
Custer Schools

HARRY NELSON: Superintendent
Dundee Community Schools

DUANE WETHERN: Member, Dundee
Board of Education

HARRY FIRESTONE: Superintendent
Ida Public Schools

ELVIN DRODT: Member, Ida
Board of Education

HAROLD F. SODT: Superintendent
Jefferson Schools

LOUIS GEIERMANN: Member, Jefferson
Board of Education

LEON L. BODELL: Superintendent
Mason Consolidated Schools

MARVIN A. SMITH: Member, Mason
Board of Education

HAROLD RAPSON: Superintendent
Monroe Public Schools

HAROLD McCONNELL: Member, Monroe
Board of Education

ROSS M. COX: Superintendent
Summerfield Schools

JOHN GORR: Member, Summerfield
Board of Education

OWEN V. McNULTY: Superintendent
Whiteford Schools

ISAAC E. GROVE: Superintendent
Monroe County Intermediate
School District

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MEMBERS OF THE ADVISORY COMMITTEE

GLEN AUSTIN: Superintendent
Dundee Water Department

HOWARD BLANCHETT: Agent, State
Farm Insurance Agency

BERNARD COUSINO: Mason
Consolidated School District

MRS. CHARLES DELAND: Ida
Public School District

WALLACE GARVIN: Board of Education
Mason School District

BUD GAUSS: Manager
Anderson Fertilizer Company

RAYMOND KEHRES: State Representative, Michigan House of Representatives

LAWRENCE LARK, D.D.S.: Ida
Michigan

GEORGE LOUCKS: Maintenance
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First National Credit Bureau

LEWIS McCLURE: Distributor
Sinclair Refining Company

HAROLD McCONNELL: Board of
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CHARLES McINTYRE, III: Executive
Vice-President and Treasurer
Monroe Auto Equipment Company

MRS. R. W. MENZEL: Summerfield
School District

FRANCIS MITCHELL: Branch Manager
Michigan Employment Security
Commission

F. PAUL NEVEL: Agricultural Agent
Monroe County

JOHN KNOX: Executive Director
Monroe County Regional Planning
Commission

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Ford Motor Company

CHARLES RICHEY: Airport
Community School District

GEORGE RITTER: President
Ritter Pottery

JAMES RUTTAN: President
Eddy's Gas & Oil Company

ZANE STEIN: Vocational Education
Director, Monroe Public Schools

RUSS TANSEL: Tansel Ford
Dundee, Michigan

DON THOMPSON: Real Estate

CHARLES W. VAUGHN: Bedford
Public School District

NORRIS G. WILTSE, JR.: General
Service Manager, Kaiser
"Jeep" Corporation

FRANK WISNEWSKI: Manufacturing
Test Engineer, Ford Motor Company

FOREWORD

It is apparent that a meaningful program of vocational education geared to the needs of the students in employing businesses and industries must be provided if our presence is to be made known in the community. This program must give the students a depth of knowledge and skills beyond that which is offered today. These skills and knowledge are unobtainable in many cases for the working man and students at a level above high school because of economic reasons and mental ability. It is the high schools' responsibility to provide this opportunity. Our employing businesses and industries are in need of people who can do and think.

Our businesses and industries are desperately in need of trained workers. Yet, our youth are being subjected to an increased amount of regimentation of curriculum, social status, and professional image that is, for the most part, incompatible with the needs and desires of the students.

"Our students are expected to take a watered-down version of the college preparatory curriculum sometimes called general education which in no way prepares the students for available jobs."[1]

"Educational programs cannot remain static, they must be flexible, and they must be constantly reviewed. In this sense the curriculum is experimental and should always be so."[2]

Because of the American philosophy, that all have a right to equal education and training according to individual needs and limitations, we must be ever alert to requirements and electives that are available in our school. If all students are to be well-served, the curriculum must be both flexible and diversified.

The problem facing the American public high schools today is how to provide the high level education needed to train their students and youth for employment.

The President's panel of consultants reported that "vocational education must be made available to all people who have the need, the desire, and the ability to benefit from such instruction."[3] To achieve this objective, Monroe County Intermediate School District Board of Education established the Office of Vocational Consultant on July 15, 1965, upon the request of the local school districts to provide consultant services in the areas of business, distributive, home economics, industrial arts, trade and industry, health, agriculture, and vocational guidance. The board employed the services of Mr. Alva Mallory, and on July 15, the proposal for an area study of vocational-technical needs was made and the Intermediate District gained the support of all secondary districts in the county as well as the community college and the two secondary parochial schools in Monroe. The State Office of Vocational Education, Department of Education gave their financial support of matching funds for this study on August 16, 1965. At this time the Policy Committee was activated and the Executive and Advisory Committees were appointed. It was also decided at this meeting that the efforts of this study be confined to the Monroe County Intermediate School District. However, data would be used from state and national sources in formulating final recommendations.

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[1]Wenrich, Ralph C., The Neglected Youth in Our High Schools, The University of Michigan School of Education Bulletin, XXXV (February, 1964), pages 65 - 70.

[2]Michigan, The Department of Public Instruction, A Statement of Basic Philosophy Regarding Public Education in Michigan, Bulletin #364, 1960, page 6.

[3]U.S. Department of Health, Education & Welfare, Education for a Changing World of Work: Report of the Panel of Consultants on Vocational Education, OE-80021, 1963, page 222.

OBJECTIVES OF THE STUDY

1. To identify and evaluate programs now offered in vocational education in the county.

2. To identify what needs to be done in vocational education.

3. To evaluate pertinent data and make recommendations to help the local boards of education formulate plans for better vocational-technical and adult programs in our schools and community.

4. The ultimate objective of this study is to promote the establishment of vocational-technical programs at the high school level that can be justified on the basis of need, cost and student interest.

SURVEY TECHNIQUES USED

No single survey technique appears to be best for determining the vocational-technical and adult education needs of a community. Certain practices and methods of conducting a survey of this nature have been tried and found to be successful. The following methods were used in this study:

1. A study by questionnaire of industrial firms and businesses engaged in all types of operations in this community.

2. Personal interviews with farm operators, industrial, business, and labor representatives.

3. A study by questionnaire of students to determine needs and desires for vocational and/or technical programs.

4. A study by questionnaire of parents to validate the survey of students.

5. A study by questionnaire of high school graduates to gather information and opinions about long-range plans for vocational education and training.

6. Personal interviews with school administrators, guidance personnel, and teachers at various levels of education.

7. A review of school, industrial, and U.S. government publications, brochures, and catalogs which pertained to the education of vocational and technical workers.

8. A survey of vocational and technical education courses offered in the Monroe County area including all secondary schools and the community college.

9. A survey of industrial training programs conducted by the industries surveyed.

10. Techniques of state and community groups, associations, and agencies which have worked on similar or related studies were coordinated and reviewed.

11. Visitations to cities with nationally recognized successful vocational education programs currently in operation.

12. Attendance at state-wide meetings and university conferences which discussed the organization, administration, and finance of vocational-technical and adult education programs.

13. A review of studies and reports by the United States Department of Labor and by the Michigan Employment Security Commission concerning present and projected manpower needs and availabilities.

DEFINITIONS

In order that we might establish a common base of understanding for Monroe County educators, businessmen, industrialists, and labor leaders, the following definitions have been adopted for interpretation of results of the survey study:

VOCATIONAL EDUCATION - the specialized phase of the educational program which prepares individuals with occupational competencies and skills for the world of work. Through vocational education, individuals have the opportunity to develop skills, abilities, understandings, attitudes, work habits, and appreciations, including knowledges and information needed by workers to enter and make progress and employment on a useful and productive basis.

TECHNICAL EDUCATION - preparation for employment in an occupation which requires mastery of a large amount of technical information including the sciences, technology, mathematics and drafting as applied to modern design, production, and service. Normally, one could say that vocational education should be taught on the high school level and technical education on the community college level. However, we should recognize the fact that many adults are in need of upgrading and training after they leave their normal education, therefore, keeping the necessity of vocational education to be taught on the post-high school level.

POLICY COMMITTEE - The Policy Committee is composed of the superintendents of all superintendent school districts and the Monroe County Intermediate Superintendent. Major responsibilities of the committee included:

1. To approve the design of the study.

2. To establish policy when needed.

3. To implement the recommendations of this study.

ADVISORY COMMITTEE - the Advisory Committee was composed of representatives from management, labor, agriculture, business, Chamber of Commerce, parents, related governmental agencies, and minority groups were appointed by the superintendents of schools of Monroe County. Major purposes of the committee included:

1. To help identify some areas of emphasis which should be considered in the framework of this study.

2. To help evaluate what is currently being done in Monroe County.

3. To act as a "sounding board" for conclusions and recommendations of this study.

SUBCOMMITTEES

Members of the Advisory Committee were assigned to five subcommittees which included:

Committee No. 1

Manpower Needs

PURPOSE: To survey all businesses, industries, service, and agriculture

occupations. To find existing and projected employment needs and attitudes concerning present and proposed vocational-technical education programs.

Committee No. 2

Existing and Proposed Programs

PURPOSE: To survey all existing programs and facilities for vocational-technical education for high school and post high school. To recommend and report on means of upgrading, expanding, coordinating, and providing guidance and placement services for these in any new programs.

Committee No. 3

The Student, Parent, and Graduate

PURPOSE: To survey and report on opinions and attitudes of parents whose children are now in school about long-range plans for education and training. To report on feelings, attitudes and opinions of high school graduates and high school seniors as to their needs for vocational-technical training and adequacy of present programs.

Committee No. 4

Financing and Administration of Programs

PURPOSE: To report on methods of financing, organizing, and administering programs in vocational-technical education.

Committee No. 5

Population-Publicizing

PURPOSE: Prepare projected school enrollments, report on population trends and characteristics significant to employment opportunities. Publicize the survey activities and publication of all final survey reports.

This report will provide the foundation for the other survey reports and a large measure of the justification for the total survey recommendations.

EXECUTIVE COMMITTEE

The chief responsibilities of the Executive Committee included:

1. To review the plan of organization for the conduct of the study.

2. To guide the general direction of the study.

3. To assess progress of the study toward the achievement of designated purposes.

4. To review the conclusions and recommendations of the study.

5. To act as a "sounding board" for the Study Director.

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CHAPTER 1

NATIONAL PROJECTIONS FOR MANPOWER NEEDS OF THE FUTURE

Congress has made abundantly clear, through the passage of the Vocational Act of 1963, that it considers the development of the nation's manpower resources to be a major tool in combating unemployment and poverty and maintaining continued economic growth in America. Further evidence of national concern with manpower development has been reflected in Congressional support for massive programs of Federal assistance to public schools and higher education. You may be interested to know that a recent inventory revealed that there are in existence thirty-four Federally assisted manpower development programs, exclusive of general aid to education and in-service training. There are many excellent studies which have projected manpower needs for the next decade and beyond. Their conclusions are based upon past statistics and the seasoned judgments of experts concerning future trends. The studies agree on the following trends:

1. The total labor force is expected to rise about 1 1/2 million a year and the proportion of the population in the labor force will increase.

2. There will be a continuing crisis of large scale entry of youth into the job market.

3. Women will make up a greater proportion of the labor force than they have in the past.

4. The level of educational attainment will be a critical factor in matching workers and jobs of the future. The proportion of laborers will be smaller with the need for more skilled workers showing a sharp increase.

5. The fastest growing occupations during the next decade will continue to be the professional and technical, service and clerical occupations.

6. A rapid growth of jobs is expected in the health occupations, which will be supported and accelerated as a medicare program takes effect.

7. There will be an increasing demand upon the worker for better education. Even high school graduates will find it difficult to get jobs without extra training and vocational or technical preparation.

Tables 1 and 2, and Charts 1, 2, 3, and 4 lend support to the trends stated.

TABLE 1

AVERAGE ANNUAL CHANGE IN THE LABOR FORCE, 1960-80

Sex and Age	Actual Change, 1960-64	Projected Change		
		1964-70	1970-75	1975-80
14 Years and Over				
Both sexes: Number (thousands) --------	973	1,505	1,529	1,552
Percent --------	1.3	1.8	1.7	1.6
14 to 24 Years				
Both Sexes: Number (thousands) --------	567	723	444	299
Percent	3.8	4.0	2.1	1.3
25 Years and Over				
Men: Number (thousands)-----	69	351	629	762
Percent ---------	.2	.8	1.4	1.6
Women: Number (thousands)---	337	430	456	491
Percent ---------	1.8	2.0	1.9	1.9

NOTE: These projections assume the highest levels of employment consistent with recent peacetime experience and may be slightly conservative in relation to rates of labor force participation which might be generated by a prolonged period of full employment.

Details may not add to totals due to rounding.

Source: U.S. Department of Labor, Manpower Needs of the Future.

TABLE 2

EDUCATIONAL ATTAINMENT OF THE CIVILIAN LABOR FORCE,
25 YEARS OLD AND OVER,
MARCH 1964 AND PROJECTED, 1975

[Percent distribution]

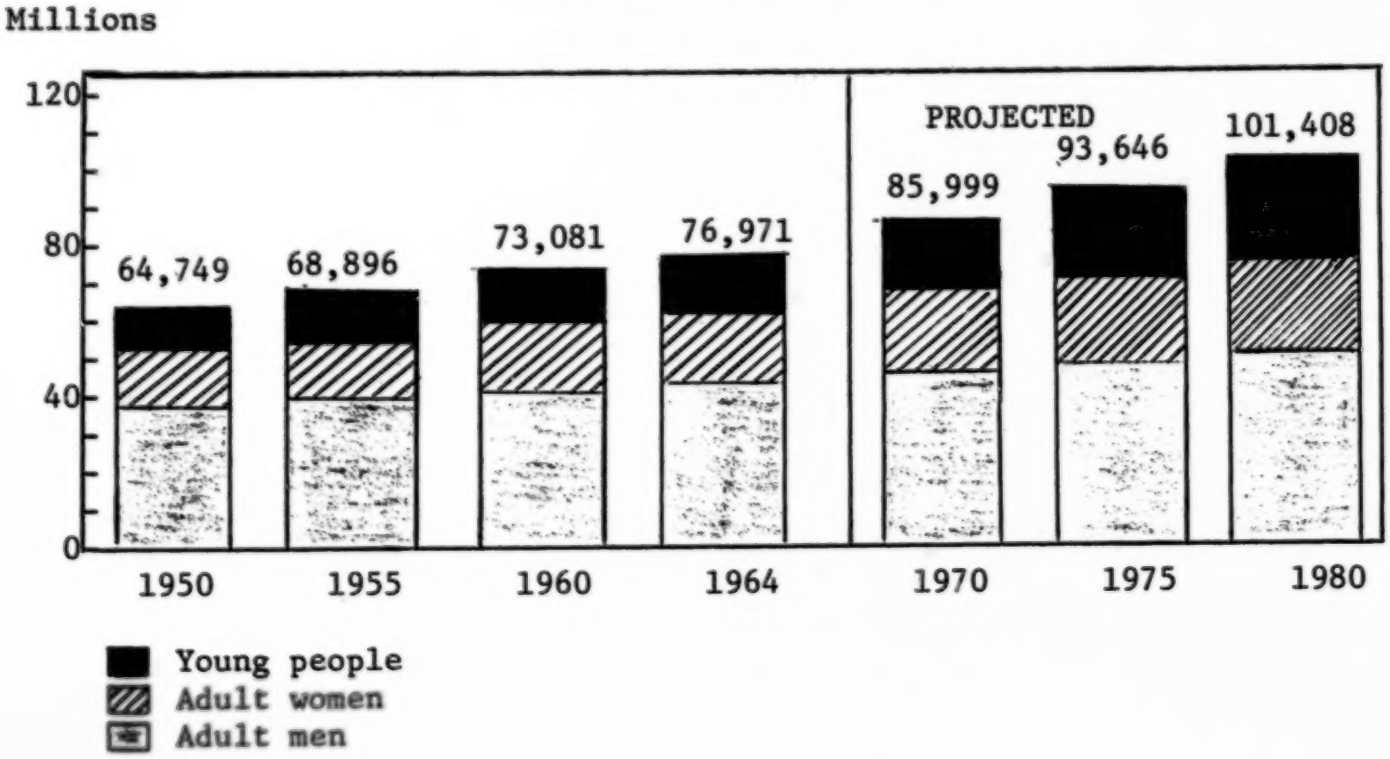
Years of school completed	March 1964	1975
Total: Number (thousands)	59,638	69,857
Percent distribution	100.0	100.0
Less than 4 years high school	46.2	38.5
4 years high school or more	53.8	61.5
Elementary: Less than 5 years	4.2	2.6
5 to 7 years	9.1	6.6
8 years	14.0	8.8
High school: 1 to 3 years	18.9	20.5
4 years	32.0	35.8
College: 1 to 3 years	9.7	11.4
4 years or more	12.1	14.3

Source: Projections for 1975 by the U. S. Department of Labor based on data from the U. S. Department of Commerce.

Manpower Needs of the Future

CHART 1

LABOR FORCE GROWTH WILL BE MUCH SHARPER OVER THE NEXT 16 YEARS THAN IN THE PRECEDING PERIOD, WITH MOST OF THE INCREASE AMONG WOMEN AND YOUNG PEOPLE.



SOURCE: U. S. Department of Labor, Manpower Needs of the Future.

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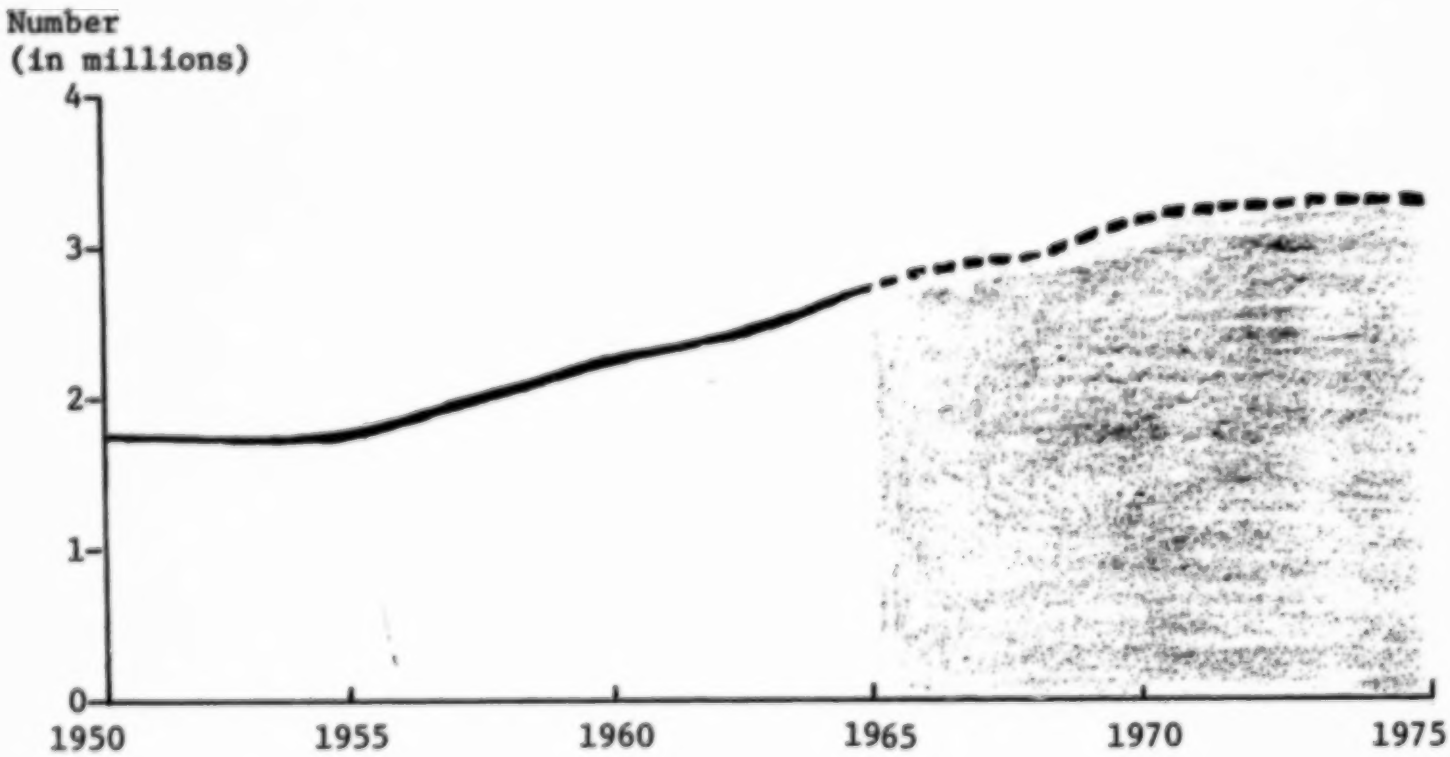
CHART 2

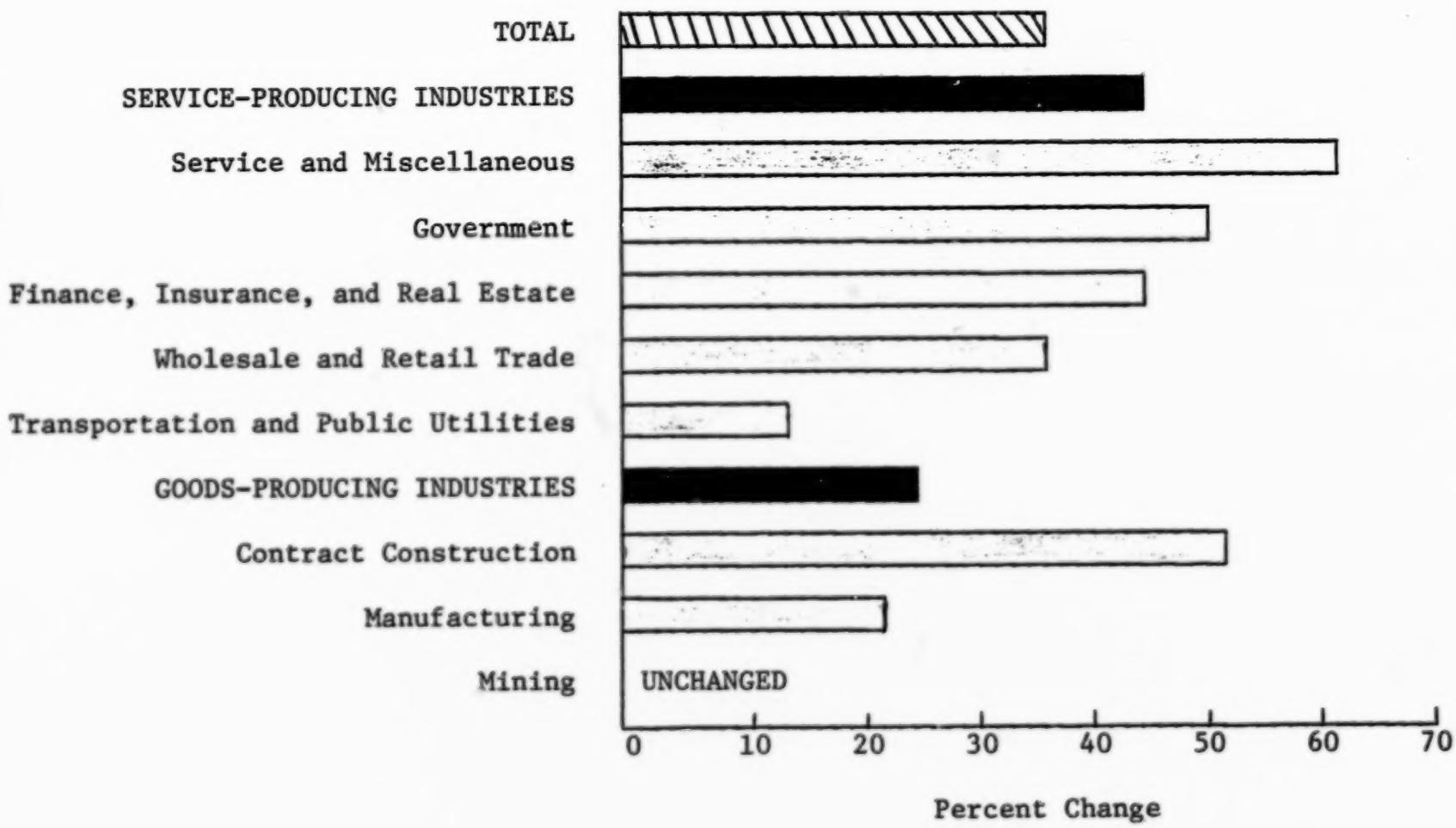
NEW YOUNG WORKERS ENTERING LABOR FORCE ANNUALLY, 1950-75



SOURCE: U. S. Department of Labor, Manpower Needs of the Future.

CHART 3

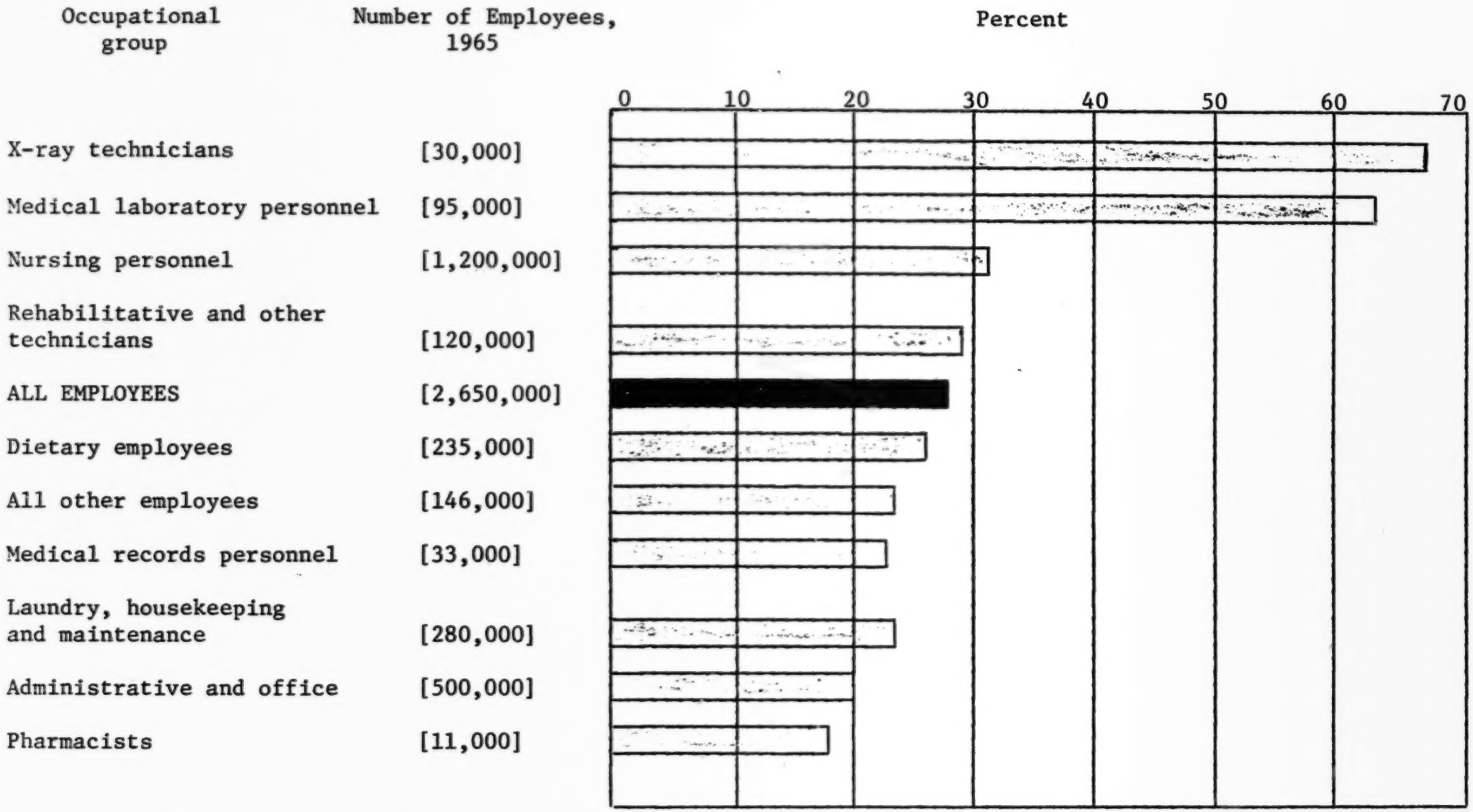
LARGEST EMPLOYMENT INCREASES BY 1975
WILL BE IN SERVICE-PRODUCING INDUSTRIES



SOURCE: U. S. Department of Labor, Manpower Needs of the Future.

CHART 4

EXPECTED PERCENTAGE GROWTH OF EMPLOYMENT IN THE HEALTH SERVICE INDUSTRY, BY OCCUPATIONAL GROUP, 1965 to 1975



Source: U.S. Department of Labor, Manpower Needs of the Future.

WHAT ABOUT TOMORROW

All of you who are involved in this great effort to prepare our young people for gainful employment can take some pride in the impressive vote of confidence you have received from the nation, through Congress and the passage of a series of laws that will help meet the manpower needs of the future.

As incomes rise and the population spends more and more on all kinds of services, the service industries are expected to grow faster than any of the other groups, probably increasing their employment by 61% in 1975. Construction activity is also expected to grow very rapidly as a rising population and new families demand more homes and apartments and as government funds are used to spur construction of schools, hospitals, and roads. If goals for economic growth and overall employment are reached, construction employment will increase 52% by 1975.

By 1975, employment of professional and technical workers may increase by well over two-fifths. The growth in scientific and technical employment, which has been a feature of post-war occupational trends, will continue to be rapid. The Bureau of Labor Statistics estimated in a report issued last year that the demand for technicians will grow at the same rate as the rapidly increasing demand for scientists and engineers. Further, the report estimated that the supply of technicians will continue to fall short of the numbers required.

Probably the most significant overall change in the nation's occupational structure has been the shift toward the white-collar jobs. The largest group of the white-collar workers (clerical and salesworkers) is also expected to have a rate of employment increase close to or greater than that projected for the work force generally. The number of clerical workers needed should grow about one-third by 1975. The overall growth for the skilled workers as a result of growing needs for mechanics and repairmen, building trades craftsmen, and foremen is projected at one-fourth, roughly the same rate as that projected for employment generally.

In view of the continued declines in agricultural employment shown by the employment projections for major industries, decreasing requirements for farmers and farm workers are of course indicated. By 1975, employment in this broad occupational group may be nearly one-fourth below the 1964 employment figure.

NEED TO RAISE OUR LEVELS OF GENERAL EDUCATION

A labor department study has indicated that today the average twenty-year-old man in the work force could be expected to change jobs about six or seven times during his remaining working life. We, therefore, have to train young people not only for specific jobs but must provide them with a sound general education which will equip them for job changes. As President Johnson said in his 1965 Manpower Report to Congress, "Many manpower difficulties can be traced to education deficiencies. Today's and tomorrow's world of work puts a premium on capacity for skill development and for re-development to meet increasingly frequent changes throughout life. Education is the prime developer of such capacity."

EDUCATIONAL ATTAINMENT

It should be noted that in "Table 2" educational attainment of the national labor force, twenty-five years old and over in 1964, 78.2% had achieved no more than a high school education, and the projection for 1975 is that 74.3% of our total labor force will have received no more than a high school education.

QUESTION FOR THE EDUCATOR

A primary question for the educator is, "Are we preparing our youth for local, state, regional, or national labor markets?" If youths remain in the local community, preparation depends upon local conditions. If young people seek employment elsewhere preparation is for a broader labor market than the local one. Will the needs of the local labor market be a sufficient guideline for the education of youth? It should be recognized that local labor markets reflect the changes and the broader economy which affect the local labor market employment patterns.

CHAPTER 2

MICHIGAN'S MANPOWER PROJECTIONS

Michigan's manpower projections are very similar to those on the national level. In Michigan, we are going to have a tremendous growth in population during the next ten years. It requires no exceptional talent to foresee that the next decade will be full of challenges that will test to the utmost the abilities and the capacities of labor, business, management, educational institutions, research groups, and governmental agencies. In addition the kinds of jobs industry will need manpower for are changing. The biggest increases in manpower will occur in the professional, technical, clerical, sales, and service jobs. Youth and those workers displaced because of job obsolescence must be trained for these new jobs. Those people who have failed to finish high school will be severly handicapped in obtaining employment in many of the newly created opportunities. The following are a few of the highlights as projected by the Michigan Employment Security Commission:

By 1970 Michigan's population will reach 9.2 million which will represent an 18% increase over the 1960 population. It is significant to note that the gross number of young workers entering the labor force is twice as great as the net increase in the entire labor force. This is due to the withdrawals from the labor force because of death, retirement, marriage, etc.

Spectacular employment growth will occur in the service, trade and the construction industries over the next few years. Service industries at the present time are growing much faster than the production industries. This spectacular growth that is taking place in the service industry can be explained mainly by high levels of personal income, greater leisure time, by rising volume of business activity, longer life expectancy, rapidly growing population, and by changing patterns of living. Service industries are growing 20% faster than production industries. In the service industries, services as shown in Chart 5, will grow by 37.3%, trade will grow by 31.5%, construction will grow 30.7%, government will grow by 18.7%, finance, insurance, and real estate will grow 18.4%, transportation and public utilities industries will grow by 10.4%. In the production industries the only major growth will take place in the construction industry which will grow by 30.7%. Important to note is that agriculture will decline by 18.9%.

Along with the expansion of our labor force, major changes will take place in the age composition. This is primarily due to the great number of children born in the years following World War II, who are now entering the labor force. In 1965, 159,000 reached the age of eighteen in Michigan, an increase of 50% since 1960. By 1970, there will be 165,000 youngsters reaching eighteen that year.

It is important to note (Chart 6) that the projections indicate that 603,000 youths will be in high school in 1970 and 250,000 will be in college. This would leave 452,000 youths that the high schools must prepare for employment.

CHART 5

ANTICIPATED PERCENTAGE CHANGE IN EMPLOYMENT BY INDUSTRY

MICHIGAN: 1960 - 1970

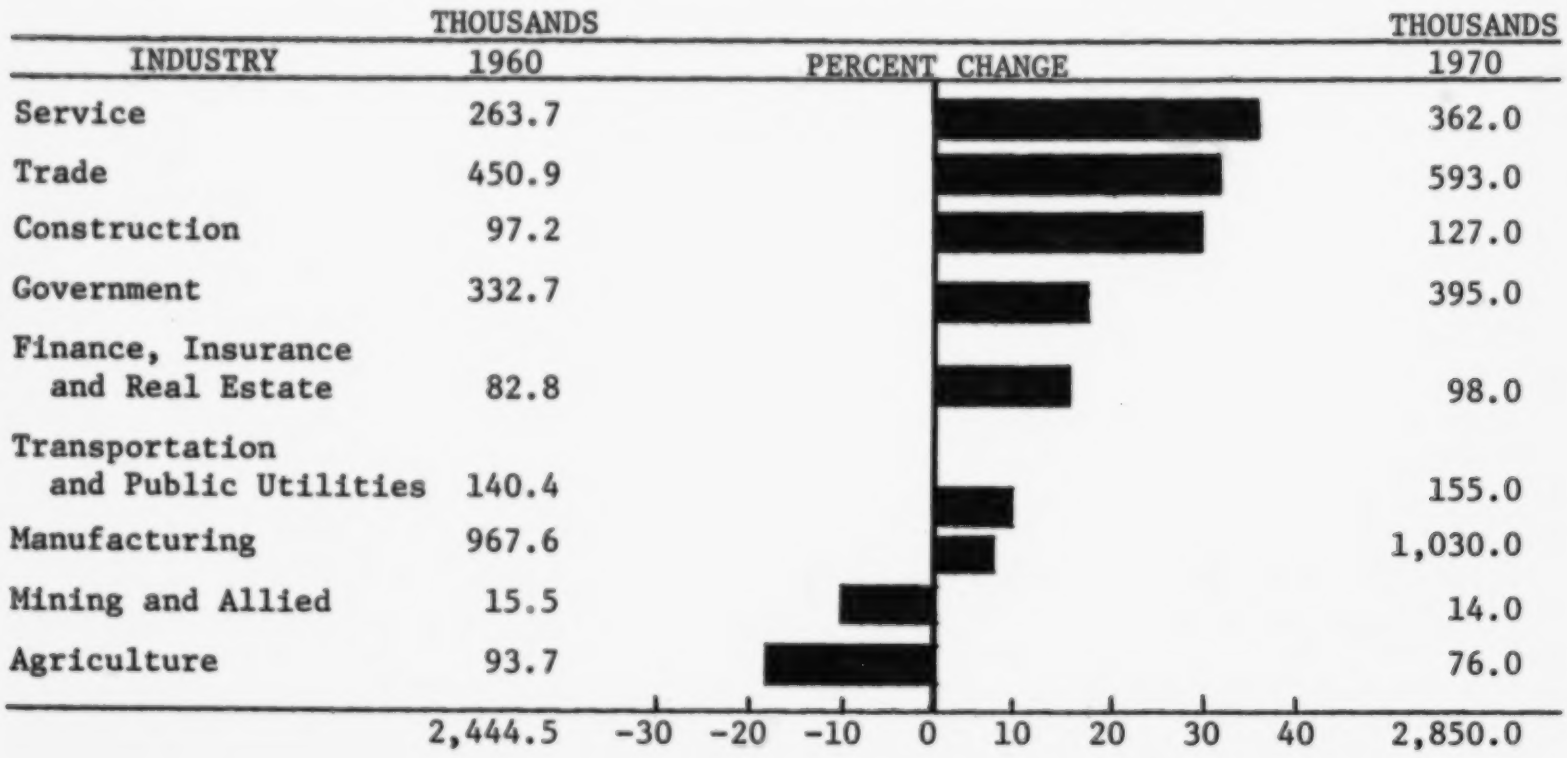


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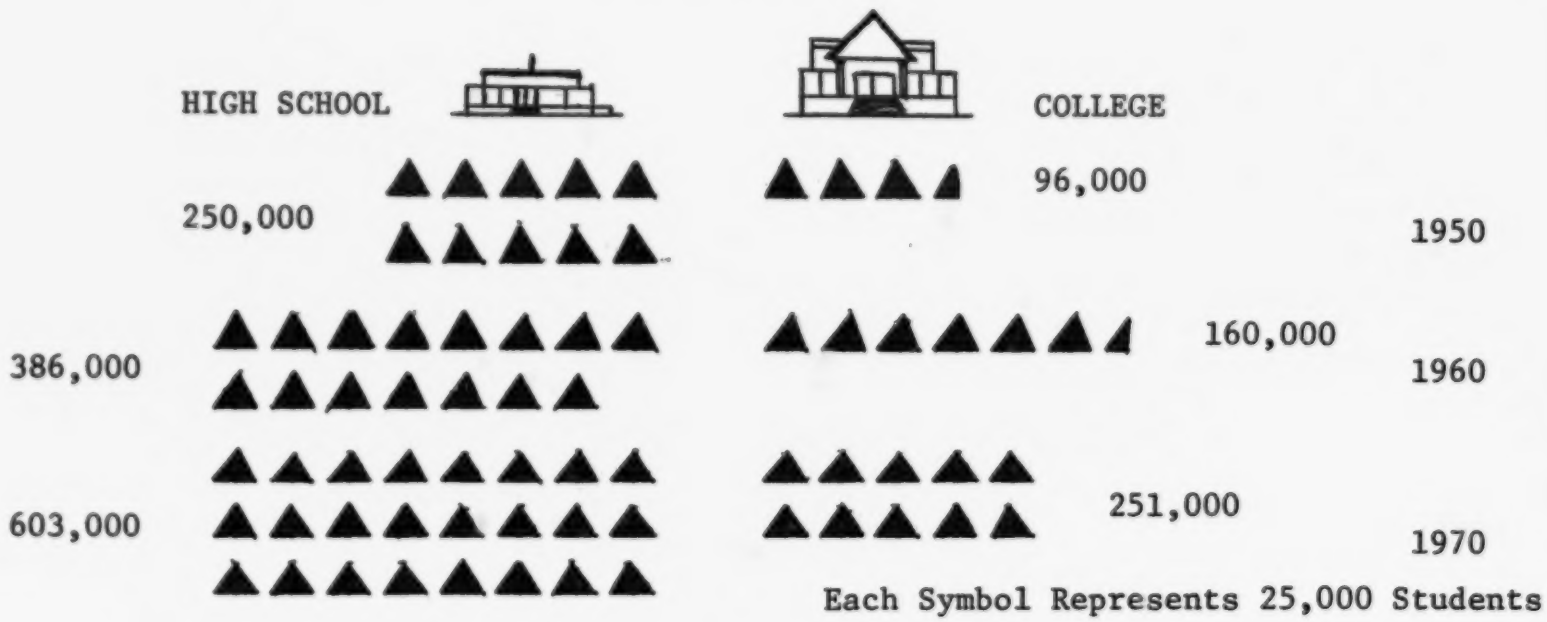
CHART 6

HIGH SCHOOL AND COLLEGE ENROLLMENTS

MICHIGAN: 1950 - 1970



SOURCE: MICHIGAN EMPLOYMENT SECURITY COMMISSION, Manpower in Michigan

CHAPTER 3

FACTS ABOUT THE MONROE COUNTY INTERMEDIATE SCHOOL DISTRICT

GEOGRAPHIC AREA SERVED

The Monroe County Intermediate School District is for the most part located in Monroe County, although its boundaries do not coincide with those of the county. The district is a separate governmental body operated by the Monroe County Intermediate Board of Education. Monroe County, which is situated twenty-one miles south of Detroit and five miles north of Toledo, Ohio, covers an area of 562 square miles which includes a population of more than 110,000.

The area is served by thirteen independent school districts. These districts contain a total of forty-five elementary schools, seven junior high schools, and nine high schools. In addition, there are fourteen parochial elementary schools and two parochial high schools. Total school enrollment for 1965 was 32,153.

The map in Figure 1 shows the location of the high schools and the boundaries of the Intermediate School District and Monroe County.

POPULATION PROJECTIONS FOR MONROE COUNTY

These projections are from the Comprehensive Development Plans for Monroe County region prepared for the Monroe County Regional Planning Commission by Parkins, Rogers, and Associates, Incorporated. Three projection methods were used to compute population estimates A, B, C, as presented in the tables. Each of these estimates is based upon a series of assumptions. The main assumption of Estimate A is that limited utility construction will take place within the area in the next few decades and population growth will continue at its present rate.

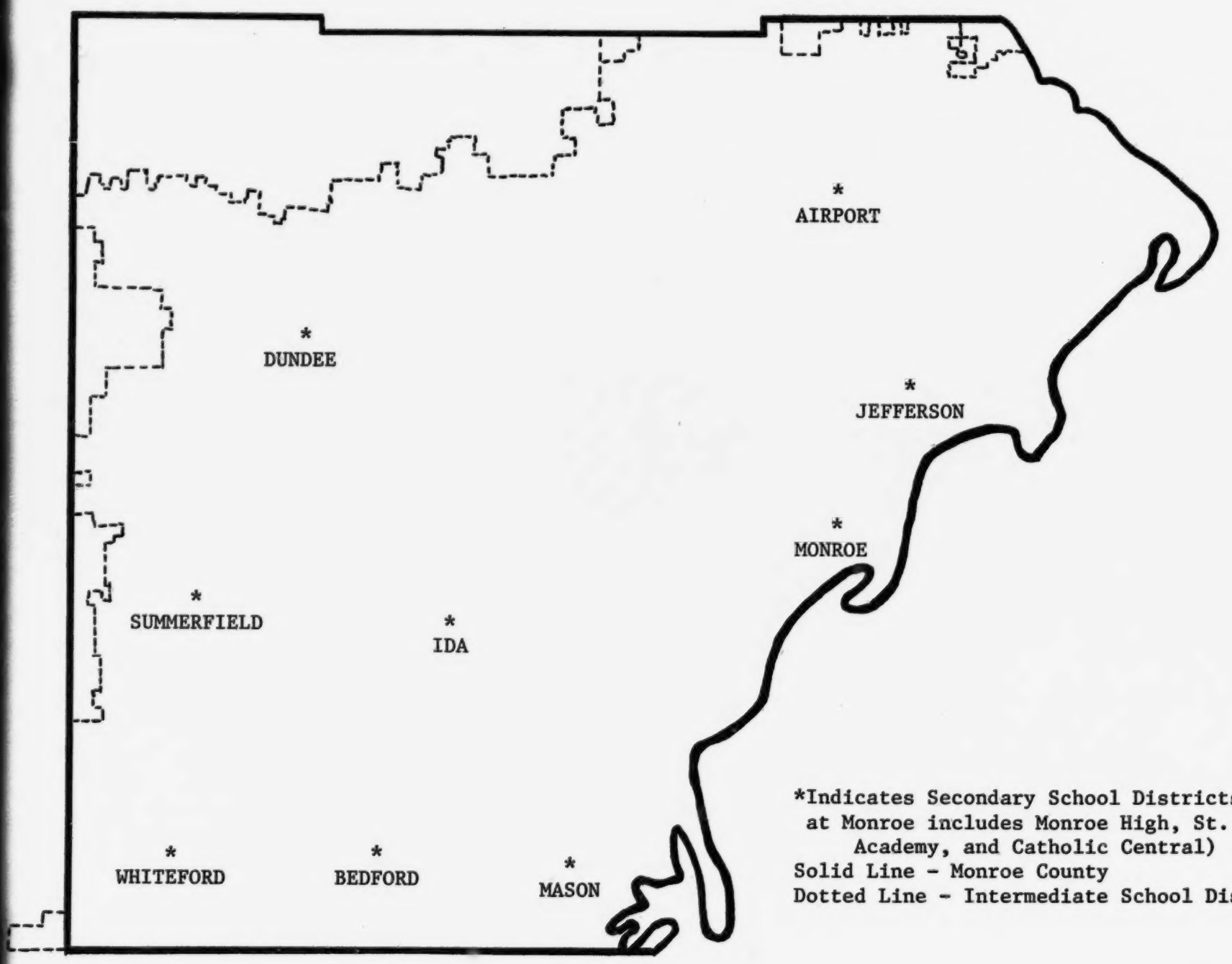
Estimate B, the medium projection, assumes that State Act 342, which allows townships and municipalities without bonding powers to indirectly use the bonding powers of the county, will be extensively used in the future. The bonding technique greatly increases the probability of population expansion in the area.

Estimate C has been developed as a maximum probable projection of the Monroe County Regional Planning Area's population growth if a high rate of utility construction is witnessed. The area's strategic location between Detroit and Toledo makes this maximum development estimate possible.

FINAL PROJECTIONS

In the final analysis it should be noted (Chart 7 and Table 3) that the regional planning area may follow the population trends indicated by Estimate A until, for example, 1980 when a dramatic influx of residents may create greater populations coinciding with Estimate C's rate of increase. The area may also follow the population trends noted in Estimate C for a decade only to slow in the following decade and become aligned with Estimate B's growth rate. Therefore, periodical re-alignment of the estimates illustrated in Chart 7 should be instituted so that the Monroe County Comprehensive Development Plan will have the most accurate population estimates available.

MONROE COUNTY INTERMEDIATE SCHOOL DISTRICT
Figure #1



*Indicates Secondary School Districts (The * at Monroe includes Monroe High, St. Mary Academy, and Catholic Central)
Solid Line - Monroe County
Dotted Line - Intermediate School District

CHART 7
MONROE COUNTY POPULATION PROJECTIONS 1960-2000
Monroe County Regional Planning Area

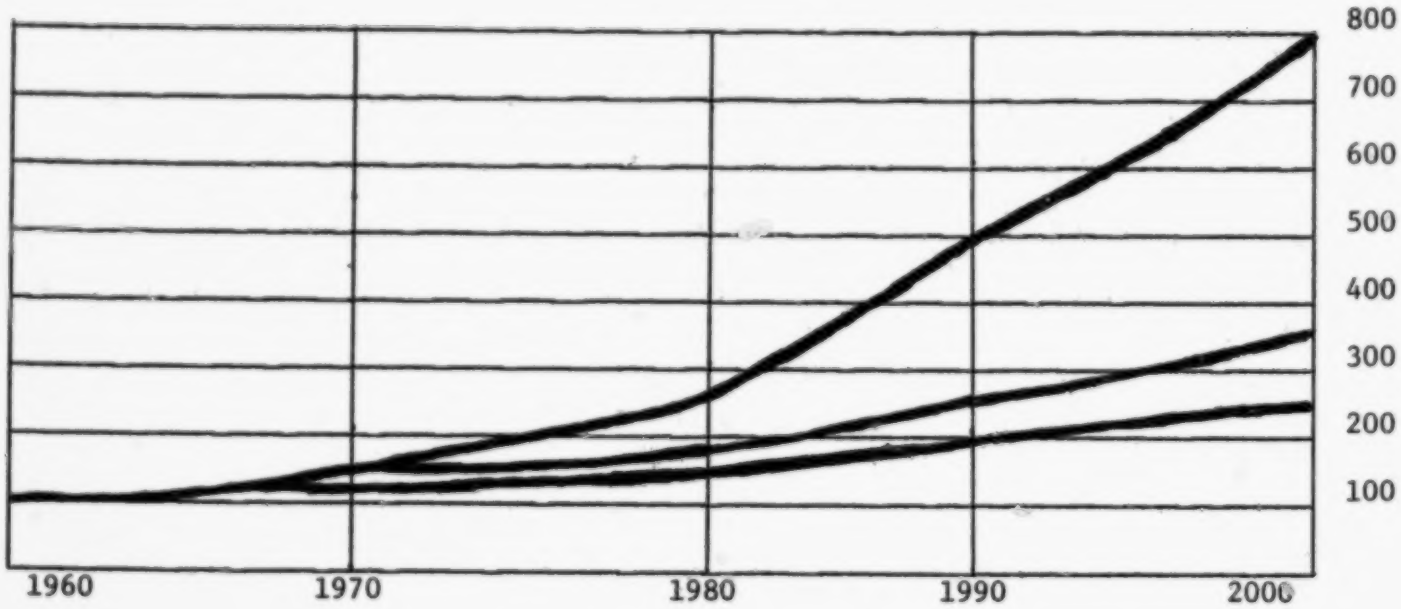


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TABLE 3
FINAL PROJECTIONS: 1960-2000
Monroe County Regional Planning Area*

Year	Estimate A	Estimate B	Estimate C
1960	101,120	101,120	101,120
1965	114,869	119,321	121,091
1970	128,619	137,523	141,062
1975	144,954	162,277	191,703
1980	161,290	187,031	242,344
1985	180,165	220,696	387,023
1990	199,040	254,362	531,702
1995	219,712	300,147	668,049
2000	240,384	345,932	804,996

*U.S. Bureau of the Census, Decennial Censuses of Population, Number of Inhabitants, 1960. Data compilation, analysis and projection by Parkins, Rogers & Associates, Inc., October, 1965.

SOURCE: Monroe County Regional Planning Commission by Parkins, Rogers & Associates

FUTURE TRENDS IN URBANIZATION

Monroe County will experience three centers of urbanization in the near future. The area adjacent to Lake Erie between Detroit and Cleveland is anticipated to be one of the largest urban concentrations in the nation by the year 2000. As a result of the regional urbanizing trends, much of the area's population gain will occur at its northern and southern extremes, adjacent to the two counties containing large urban population, Wayne (Detroit), and Lucas (Toledo), illustrated in Figure 2. The third center of urbanization in the area surrounds the City of Monroe.

SUMMARY

The area's population will rise to a most probable estimate of 137,523 residents by 1970, and 345,932 inhabitants by 2000. The townships of Bedford, Frenchtown, and Monroe will continue to absorb a greater proportion of the area's increasing population.

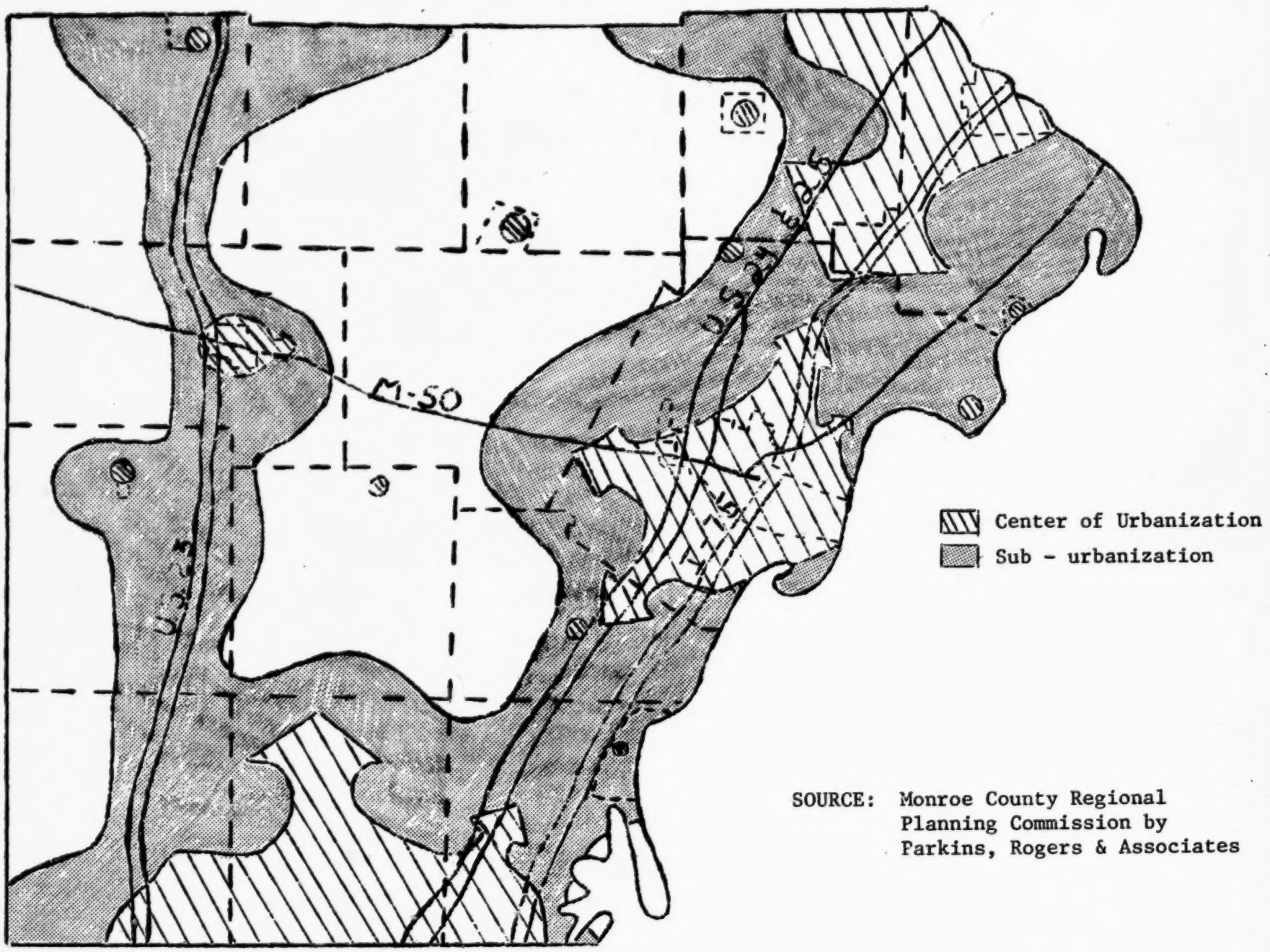
SCHOOL ENROLLMENT AND PROJECTIONS

Table 4 indicates school enrollment for the period from 1960 to 1966. A total school enrollment in 1965 was 32,153. This total includes public and parochial students. It is important to note in Table 4 that the high school population (10-12) for 1965-66 was 5,879.

Table 5 shows the estimated population and the school enrollment projections for 1964 through 1975. It should be noted here that the high school enrollment (10-12) for 1974-75 is 6,573.

Table 6 shows a total labor force and employment projections for Monroe County through 1980.

MONROE COUNTY URBANIZATION PATTERNS BY THE YEAR 2000
Figure #2



SOURCE: Monroe County Regional Planning Commission by Parkins, Rogers & Associates

TABLE 4

SCHOOL ENROLLMENT - 1960-1966

	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966
School Enrollment						
K	2,463	2,664	2,674	2,691	2,665	2,676
1	2,656	2,631	2,740	2,784	2,853	2,779
2	2,394	2,502	2,523	2,627	2,694	2,772
3	2,434	2,328	2,493	2,437	2,621	2,674
4	2,323	2,430	2,302	2,461	2,477	2,667
5	2,196	2,330	2,438	2,281	2,422	2,484
6	2,208	2,182	2,284	2,443	2,322	2,454
7	2,194	2,191	2,233	2,292	2,430	2,356
8	2,185	2,155	2,190	2,193	2,265	2,392
9	1,787	2,187	2,096	2,168	2,164	2,315
10	1,456	1,711	2,101	2,043	2,103	2,080
11	1,367	1,335	1,616	1,972	1,958	1,996
12	1,288	1,222	1,240	1,468	1,860	1,803
Other						605
Total K-6	16,674	17,067	17,454	17,724	18,054	18,506
Total 7-9	6,166	6,533	6,519	6,653	6,859	7,063
Total 10-12	4,111	4,268	4,957	5,483	5,921	5,879
GRAND TOTAL	26,951	27,868	28,930	29,860	30,834	32,053

Monroe County Public School Statistics, 1960-1966.

Monroe County Intermediate School District.

TABLE 5

SCHOOL ENROLLMENT PROJECTIONS - 1964-1975
MONROE COUNTY REGIONAL PLANNING AREA*

	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Estimated Population	116,000	119,300	122,940	126,580	130,220	133,860	137,500	142,375	147,250	152,125	157,000
1 Year Population Growth (%)	103.6	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0
K	2,665	2,860	2,945	3,035	3,120	3,210	3,295	3,380	3,470	3,555	3,645
1	2,853	2,780	2,984	3,072	3,166	3,255	3,348	3,437	3,526	3,620	3,709
2	2,694	2,712	2,642	2,836	2,920	3,009	3,094	3,182	3,267	3,352	3,441
3	2,621	2,633	2,650	2,582	2,772	2,854	2,941	3,024	3,110	3,193	3,276
4	2,477	2,599	2,611	2,628	2,561	2,749	2,830	2,917	2,999	3,084	3,167
5	2,422	2,451	2,572	2,584	2,601	2,534	2,721	2,801	2,887	2,968	3,052
6	2,322	2,404	2,433	2,553	2,565	2,582	2,516	2,701	2,781	2,866	2,946
7	2,430	2,317	2,399	2,428	2,548	2,560	2,577	2,511	2,695	2,775	2,860
8	2,265	2,387	2,276	2,357	2,385	2,503	2,515	2,532	2,467	2,648	2,726
9	2,164	2,223	2,343	2,234	2,313	2,341	2,456	2,468	2,485	2,421	2,599
10	2,103	2,077	2,133	2,249	2,144	2,220	2,247	2,357	2,369	2,385	2,324
11	1,958	1,964	1,940	1,992	2,101	2,002	2,073	2,099	2,201	2,213	2,228
12	1,860	1,788	1,794	1,772	1,819	1,919	1,829	1,893	1,917	2,010	2,021
Total K-6	18,054	18,439	18,837	19,290	19,705	20,193	20,745	21,442	22,040	22,638	23,236
Total 7-9	6,859	6,927	7,018	7,019	7,246	7,404	7,548	7,511	7,647	7,844	8,185
Total 10-12	5,921	5,829	5,867	6,013	6,064	6,141	6,149	6,349	6,487	6,608	6,573
GRAND TOTAL	30,834	31,195	31,722	32,322	33,015	33,738	34,442	35,302	36,174	37,090	37,994

*Data compilation and projection by the Monroe County Regional Planning Commission and Parkins, Rogers, & Associates, Incorporated, April, 1966.

TABLE 6

EMPLOYMENT PROJECTIONS - 1950-1980
MONROE COUNTY REGIONAL PLANNING AREA*

	1950		1960		1970		1980	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Agriculture and Related	3,280	11.9	2,755	7.8	1,600	3.3	1,300	2.0
Manufacturing	10,900	39.5	13,889	39.3	19,200	40.0	24,400	37.5
Wholesale and Retail Trade	3,880	14.1	4,823	13.7	8,900	18.5	13,000	20.0
Services	3,250	11.8	4,818	13.6	8,000	16.7	11,700	18.0
Transportation, Communication and Public Utilities	1,930	7.0	2,153	6.1	2,800	5.8	3,600	5.5
Construction	1,460	5.3	1,860	5.3	2,800	5.8	4,200	6.5
Finance, Insurance and Real Estate	380	1.4	695	2.0	1,200	2.5	1,900	2.9
Public Administration	520	1.9	695	2.0	1,400	2.9	2,300	3.5
Miscellaneous			804	2.3	1,000	2.1	2,600	4.0
Unemployed	2,000	7.2	2,807	8.0	1,900	4.0	2,600	4.0
TOTAL LABOR FORCE	27,600	100.1	35,299	100.1	48,000	101.6	65,000	103.9

*Projections developed by the Monroe County Regional Planning Commission and Parkins, Rogers, & Associates, Incorporated. March, 1966.

CHAPTER 4

SURVEY OF BUSINESS AND INDUSTRY

One of the major objectives of this study was to determine the current and projected personal needs of business and industry. A sampling technique was used to survey 500 business and industries in Monroe County. The firms selected for participation in the study were surveyed by questionnaire (copy in the appendix). Before the first mailing of the questionnaire, the Monroe Evening News provided an advance article explaining the purpose of the area survey. Later the Monroe Evening News printed a follow-up article before the second mailing of the questionnaire. A third mailing was sent with a cover letter (copy in the appendix) encouraging 100% participation by employers. A total of 61.6% responded to the questionnaire.

For the purpose of a more detailed evaluation on the basis of the sampling technique used, all business and industry was divided into four categories:

(1) 100% of all firms employing 50 or more employees were surveyed by personal interviewers;

(2) 100% of all firms employing 25 to 49 employees were surveyed by mailing the questionnaire;

(3) 50% of those firms employing 6 to 24 employees were surveyed by mail questionnaire;

(4) 25% of those firms employing 1 to 5 employees were surveyed by mail questionnaire.

Categorized in this way there was an 88.7% return in the 50 and over group, 90.3% return in the 25 to 49 group, 79.1% return in the 6 to 24 group, and 47.2% return in the 1 to 5 group. The total of 61.6% of the firms that responded to the questionnaire represents about 35% of the total labor force of Monroe County.

SUMMARY OF EMPLOYER STUDY

Table 7 has identified the scope of the business and industry survey and estimated the total labor force for Monroe County Intermediate School District. Statistical information to help group business and industry by number of employees was supplied by the Monroe Chamber of Commerce and the United Fund of Monroe County. The number of employees in the returns does not necessarily coincide with the group size because of growth that has taken place since the information was obtained.

Table 8 identifies the activities of the firms that responded to the questionnaire. Please note that the total percentage will not equal 100% because many firms are engaged in more than one activity; (example, retailing firm may have a service department). It should also be pointed out that the majority of the 24.7% of responses for other activities belong under service establishments.

The major points of interest in Table 8 indicate that over 50% of the workers in Monroe County area are employed with industrial or manufacturing firms and approximately 2 out of every 10 firms are engaged in retailing activity as their major activity. Table 9 identifies the type of job our labor

force is employed in and the minimum educational level required for entry employment in that occupation.

Totals under minimum education for entry employment will not equal total employees in return of the questionnaire because of 2% no response.

Major points of interest in Table 9: A total of 345 general occupations were identified in the survey. This total included write-ins. However, it does not include top management positions. A total of 10,790 employees were identified under the 345 general occupations, and of this total 86.6% of all employees required no more than a high school education for entry employment in that occupation.

Table 10 identifies the expected annual rate of employment 1965 through 1970 by number of firms responding in each occupation. There was a total of 1489 responses in all occupations and of this total 32% indicated an increase, 54% indicated the annual rate would remain the same, less than 1/2% indicated a decrease, and 14% did not respond.

Table 11 identifies the local supply of qualified employees by number of firms responding. There was a total of 1489 responses of which 43% indicated a scarcity of employees, 42% adequate supply, less than 1 1/2% indicated surplus, and 13% no response.

TABLE 7

TABULATIONS FOR BUSINESS AND INDUSTRY SURVEY

	Total Firms	Per Cent Samples	Per Cent Returned	No. of Emp. in Return	Total Employees	Formula for Emp. Total
Bus. & Ind. with 50 or more employment	53	100	88.7	4481	5052	÷ by .887
Bus. & Ind. with 25-49 Employees	31	100	90.3	1833	2030	÷ by .903
6-24 Employees	230	50	79.1	2543	6430	÷ by .791 x 2
1-5 Employees	1124	25	47.2	2166	18356	÷ by .472 x 4
Totals	1518		61.6	11023	31868	

* * * * * * * * * * * * *

TABLE 8

DESCRIPTION OF FIRMS RESPONDING

Activity	% of Total Resp.	% of Total Emp.	Activity	% of Total Resp.	% of Total Emp.
Agricultural Services	4.5%	2.8%	Insurance	3.9%	.4%
Advertising	.6%	.1%	Marine Services	.3%	.01%
Banking and Finance	3.9%	2.0%	Printing	1.0%	1.3%
Communications	1.0%	1.2%	Professional	6.8%	2.8%
Construction	6.2%	2.2%	Real Estate	3.2%	1.9%
Education	3.9%	14.7%	Retailing	19.8%	8.6%
Entertainment	3.2%	.8%	Service Establishment	5.5%	2.4%
Food, Dairy and Drink	11.4%	8.7%	Transportation	4.2%	2.6%
Government	1.3%	5.1%	Utilities	1.6%	1.1%
Health	8.8%	7.6%	Wholesaling	4.5%	.21%
Hotel and Motel	1.6%	.1%	Other	24.7%	5.8%
Industrial	11.7%	51.9%			

TABLE 9

AREA EMPLOYMENT AND MINIMUM EDUCATION FOR ENTRY EMPLOYMENT

Occupations	Emp. in return	Est. Employ-ment	Number of Employees Minimum Education for Entry Employment: Less than H.S.	High Sch. Grad.	Tech. or Bus. School	Appren-tice	Col. 4 yrs.
INDUSTRIAL							
01. Air cond., refrig., and/or heating mech.	34	134		25	1	8	
02. Appliance repairman	20	130		17	3		
03. Arch. draftsman	4	32		1	3		
04. Assembly line worker	1314	1589	1045	269			
05. Auto mechanic	111	626	13	60	12	22	
06. Automotive tech.	21	176		14	2		
07. Aviation mechanic							
08. Boat builder	1	8		1			
09. Bricklayer	13	64		11		2	
10. Cabinet maker	3	24		2	1		
11. Carpenter	45	258	7	31	3	6	
12. Chemical technician	16	52			2		14
13. Chemical worker							
14. Civil & highway technician - surveyor	1	8		1			
15. Drafting & design tech.	77	269		39	36	2	
16. Electrical technician	7	60			1	1	5
17. Electrician	79	323	8	28	7	37	
18. Electronics repairman	10	84		4	4	2	
19. Electronics technician	29	84			28		1
20. Explosives worker	5	44	1	4			
21. Foreman-first-line supervisor	342	798	10	192	131	9	
22. Foundry worker	283	376	263	20			
23. Heavy equipment operator	61	212	20	40			
24. Industrial technician	19	64	16	3			
25. Instrumentation tech.	1	8	1				
26. Machine operator	508	820	261	245	2		
27. Machinist-general	95	368	3	42	18	32	
28. Meat cutter	48	200	7	36		4	1
29. Mechanic-general	83	381	56	22	3	2	
30. Mechanical technician	37	57		7			30
31. Metallurgical tech.	20	62		2			18
32. Millwright	116	311	27	32		57	

Occupations	Emp. in return	Est. Employment	Minimum Education for Entry Employment: Less than H.S.	High Sch. Grad.	Tech. or Bus. School	Apprentice	Col. 4 yrs.
33. Miner							
34. Painter	40	166	24	7	2	7	
35. Plasterer	4	32	1	3			
36. Plastics worker	75	85	75				
37. Plumber	69	254		44		25	
38. Printer	410	528		25		385	
39. Quality control tech.	17	76		13	1	1	
40. Railway worker	2	16	2				
41. Roofer	3	24		4			
42. Sheet metal worker	21	86		12		9	
43. Stationary operator	22	65	3			19	
44. Steam fitter	17	86		17		1	
45. Steel worker	2	16		2			
46. Truck driver	266	1055	69	192	4		
47. Unskilled laborer	755	1200	550	195			
48. Welder & flame cutter	73	424	6	44	6	17	
49. Other	844	2222	5	11		1	
SALES AND SERVICE							
01. Barber	6	48		1			
02. Bartender	21	176	12	9	9		
03. Beautician	19	102	3	4			
04. Bus boy				1	12		
05. Bus driver	189	410	117	68			
06. Cashier (retail store)	124	516	35	89			
07. Cook or chef	115	578	72	31		7	
08. Fireman	60	122		64			
09. Florist	5	44		5			
10. Gardener-yard care	3	24	2	1			
11. Hospital attendant	1	8	1				
12. Janitor	257	995	251	49			
13. Laborer	71	163	53	17			
14. Laundry & dry cleaning worker	57	183	50	7			
15. Law enforcement officer	72	80		72			
16. Marine service worker							
17. Meter reader	5	44		5			
18. Plant security guard	25	148	9	17			
19. Postal worker							
20. Route salesman	72	236	6	57	1	8	
21. Salesman, brokerage	1	8		1			
22. Salesman, insurance	15	128		7	4		

Occupations	Emp. in return	Est. Employment	Minimum Education for Entry Employment: Less than H.S.	High Sch. Grad.	Tech. or Bus. School	Apprentice	Col. 4 yrs.
23. Salesman, real estate	10	84		8			
24. Salesperson (retail)	345	930	78	271	8	2	
25. Seamstress	13	112	10	3			
26. Service station attendant	41	300	12	25	1	4	
27. Shoe repairman							
28. Stock boy	119	447	76	82			
29. Tailor	2	16	2				
30. Waiter or waitress	104	550	54	49			
31. Water treatment or sanitation worker	36	78	1	31			4
32. Other	390	1398	6	18		4	
BUSINESS AND OFFICE							
01. Accountant	98	447		10	20		63
02. Advertising and/or commercial art	11	44		9		1	1
03. Bank clerk or teller	91			98			
04. Bookkeeper	128	972	2	94	30		3
05. Business data processing	18	152		4	8		3
06. Business management	81	432		18	9		47
07. Cashier, retail	49	193		49			
08. Checkers	12	100	3	7	2		
09. Clerk, file	23	142		23			
10. Clerk-typist	158	674	5	145	6		
11. Dispatcher	9	76		6	3		
12. General office worker	154	803	1	134	13	1	
13. Merchandising	9	34		7	1	1	
14. Office machine operator	40	292		40			
15. Paymaster	4	32		3	1		
16. Retail management & buying	38	234	1	28	5	2	2
17. Sales manager	35	260		9	7	1	12
18. Secretary	156	814		125	33		
19. Stenographer	33	206		27	7		
20. Other	663	1544		19	1		
HEALTH, HOSPITAL & MEDICAL							
01. Dental office asst.	11	92		11			
02. Dental hygienist	6	52		5	1		1
03. Medical office asst.	10	84		9	1		
04. Medical lab technician	8	68		4			4
05. Nurse's Aide	192	246	150	42			
06. Nurse (practical)	49	110		2	22	26	

Occupations	Emp. in return	Est. Employment	Number of Employees — Minimum Education for Entry Employment: Less than H.S.	High Sch. Grad.	Tech. or Bus. School	Apprentice	Col. 4 yrs.
07. Nurse (registered)	93	238			20		65
08. Psychiatric technician							
09. X-ray technician	9	76			15	4	
10. Other	52	284	5	4			3
AGRICULTURAL							
01. Farm worker	36	47	36				
02. Nursery worker	88	197	74	14			
03. Packer or shipper	10	26	10				
04. Other	448	778	17	10	5		356
OTHER (All occupations)			305	831	41	203	265
TOTALS	11,023	31,861	3,932	4,496	556	913	893

TABLE 10

EXPECTED ANNUAL RATE OF EMPLOYMENT 1965-70
BY NUMBER OF FIRMS RESPONDING

Occupations	Increase	Same	Decrease	No Response
INDUSTRIAL				
01. Air cond., refrig., and/or heating mech.	5	6		
02. Appliance repairman	4	2		3
03. Arch. draftsman	2	2		
04. Assembly line worker	7	2		
05. Auto mechanic	16	12		4
06. Automotive tech.	5	4		
07. Aviation mechanic				
08. Boat builder		1		
09. Bricklayer	2	1		1
10. Cabinet maker	2			
11. Carpenter	10	6		3
12. Chemical technician	1	1		
13. Chemical worker				
14. Civil & highway technician - surveyor		1		
15. Drafting & design technician	8	5		
16. Electrical technician	2			1
17. Electrician	7	10		1
18. Electronics repairman	4			
19. Electronics technician	2	1		1
20. Explosives worker		4		
21. Foreman-first-line supervisor	9	21		1
22. Foundry worker	1	3		
23. Heavy equipment operator	1	8	1	
24. Industrial technician		2		
25. Instrumentation tech.		1		
26. Machine operator	9	9	1	1
27. Machinist-general	6	6		3
28. Meat cutter	4	3		2
29. Mechanic-general	9	7		
30. Mechanical technician	2	1		

Occupations	Increase	Same	Decrease	No Response
31. Metallurgical tech.	1	2		
32. Millwright	3	5		1
33. Miner				
34. Painter	5	3		2
35. Plasterer	1			2
36. Plastics worker	1			
37. Plumber	7	1		1
38. Printer	2	4		
39. Quality control tech.	1	3		
40. Railway worker		1		
41. Roofer	2			1
42. Sheet metal worker	4			2
43. Stationary operator		3		
44. Steam fitter	4	1		
45. Steel worker	1			
46. Truck driver	8	32	3	10
47. Unskilled laborer	10	20		3
48. Welder & flame cutter	12	8		1
49. Other	39	42		12
SALES AND SERVICE				
01. Barber		2		2
02. Bartender	1	6		3
03. Beautician		4		2
04. Bus boy				
05. Bus driver	5	4	1	
06. Cashier (retail store)	5	14		2
07. Cook or chef	6	12		5
08. Fireman	1	2		1
09. Florist		2		
10. Gardener-yard care		3		
11. Hospital attendant	1			
12. Janitor	10	36	1	3
13. Laborer	5	3		2
14. Laundry & dry cleaning worker		6		2
15. Law enforcement officer	1	1		
16. Marine service worker				
17. Meter reader	1	1		
18. Plant security guard	1	5		
19. Postal worker				
20. Route salesman	5	6		

Occupations	Increase	Same	Decrease	No Response
21. Salesman, brokerage	1			
22. Salesman, insurance	2	5		2
23. Salesman, real estate	3	1		3
24. Salesperson (retail)	15	17		7
25. Seamstress	2	5		
26. Service station attendant	7	6		1
27. Shoe repairman				
28. Stock boy	7	19		4
29. Tailor		1		
30. Waiter or waitress	4	11		8
31. Water treatment or sanitation worker	1	2		
32. Other	28	31		12
BUSINESS AND OFFICE				
01. Accountant	7	24		2
02. Advertising and/or commercial art	1	3		
03. Bank clerk or teller	6	2		
04. Bookkeeper	13	65		12
05. Business data processing	3	5		1
06. Business management	7	21		3
07. Cashier, retail	3	6		2
08. Checkers	1	4		
09. Clerk, file	5	4		1
10. Clerk-typist	14	22		5
11. Dispatcher	1	5		1
12. General office worker	11	28		5
13. Merchandising	2	1		
14. Office machine operator	2	13		2
15. Paymaster		4		
16. Retail management & buying	3	14		3
17. Sales manager	8	14		2
18. Secretary	14	36		5
19. Stenographer	4	9		1
20. Other	13	43		8
HEALTH, HOSPITAL & MEDICAL				
01. Dental office asst.		7		1
02. Dental hygienist		5		

Occupations	Increase	Same	Decrease	No Response
03. Medical office asst.	1	5		1
04. Medical lab technician	2			1
05. Nurse's Aide	1	3		1
06. Nurse (practical)	3	2		1
07. Nurse (registered)	4	6		1
08. Psychiatric technician				
09. X-ray technician	1	2		
10. Other	7	7		3
AGRICULTURAL				
01. Farm worker		1		1
02. Nursery worker	3	1		
03. Packer or shipper				
04. Other	10	6		3
TOTALS	481	817	7	181

TABLE 11

LOCAL SUPPLY OF EMPLOYEES
BY NUMBER OF FIRMS RESPONDING

Occupations	Scarce	Adequate	Surplus	No Response
INDUSTRIAL				
01. Air cond., refrig., and/or heating mech.	9	2		
02. Appliance repairman	4	2		3
03. Arch. draftsman	1	2		1
04. Assembly line worker	3	5		1
05. Auto mechanic	22	6		4
06. Automotive tech.	7	2		
07. Aviation mechanic				
08. Boat builder	1			
09. Bricklayer	2	1		1
10. Cabinet maker	2			
11. Carpenter	10	6	1	2
12. Chemical technician	2			
13. Chemical worker				
14. Civil & highway technician - surveyor		1		
15. Drafting & design technician	11	1		1
16. Electrical technician	2			1
17. Electrician	13	3		2
18. Electronics repairman	3			1
19. Electronics technician	2	1		1
20. Explosives worker	4			
21. Foreman-first-line supervisor	19	9		3
22. Foundry worker	3	1		
23. Heavy equipment operator	6	4		
24. Industrial technician	1	1		
25. Instrumentation tech.		1		
26. Machine operator	9	8		3
27. Machinist-general	11	3		1
28. Meat cutter	5	3		1
29. Mechanic-general	11	4		1
30. Mechanical technician	2	1		

Occupations	Scarce	Adequate	Surplus	No Response
31. Metallurgical tech.	2	1		
32. Millwright	5	3		1
33. Miner				
34. Painter	5	3		2
35. Plasterer	1			2
36. Plastics worker		1		
37. Plumber	8			1
38. Printer	3	3		
39. Quality control tech.	4			
40. Railway worker	1			
41. Roofer	2			1
42. Sheet metal worker	6			
43. Stationary operator	2	1		
44. Steam fitter	4	1		
45. Steel worker	1			
46. Truck driver	11	28	1	13
47. Unskilled laborer	12	15	2	4
48. Welder & flame cutter	15	5		1
49. Other	46	32		15

SALES AND SERVICE

01. Barber	2	2		
02. Bartender	5	2		3
03. Beautician	2	3	1	
04. Bus boy				
05. Bus driver	3	7		
06. Cashier (retail store)	7	12		2
07. Cook or chef	7	10	2	4
08. Fireman	2	2		
09. Florist	1	1		
10. Gardener-yard care	1	2		
11. Hospital attendant				1
12. Janitor	7	36	1	6
13. Laborer	3	3	1	3
14. Laundry & dry cleaning worker		5		3
15. Law enforcement officer	1	1		
16. Marine service worker				
17. Meter reader	1	1		
18. Plant security guard		5		1
19. Postal worker				
20. Route salesman	7	3		1

Occupations	Scarce	Adequate	Surplus	No Response
21. Salesman, brokerage				1
22. Salesman, insurance	7	2		
23. Salesman, real estate	3	3	1	
24. Salesperson (retail)	12	18		9
25. Seamstress	5	2		
26. Service station attendant	12	1		1
27. Shoe repairman				
28. Stock boy	7	14	2	7
29. Tailor	1			
30. Waiter or waitress	10	7		6
31. Water treatment or sanitation worker	2	1		
32. Other	34	28		9
BUSINESS AND OFFICE				
01. Accountant	10	18		5
02. Advertising and/or commercial art	1	3		
03. Bank clerk or teller	5	3		
04. Bookkeeper	27	52		11
05. Business data processing	5	3		1
06. Business management	16	11		4
07. Cashier, retail	3	7		1
08. Checkers	1	3	1	
09. Clerk, file		8	1	1
10. Clerk-typist	10	27	1	3
11. Dispatcher	4	2		1
12. General office worker	8	32	1	6
13. Merchandising	2	1		
14. Office machine operator	6	9	1	1
15. Paymaster	1	3		
16. Retail management & buying	6	12		2
17. Sales manager	12	8		4
18. Secretary	18	29	2	4
19. Stenographer	4	9		1
20. Other	18	34	1	11
HEALTH, HOSPITAL & MEDICAL				
01. Dental office asst.	1	7		
02. Dental hygienist	5			

Occupations	Scarce	Adequate	Surplus	No Response
03. Medical office asst.	3	4		
04. Medical lab technician	2	1		
05. Nurse's Aide		3		2
06. Nurse (practical)	2	1		3
07. Nurse (registered)	7	3		
08. Psychiatric technician				
09. X-ray technician	1	2		
10. Other	11	4		2
AGRICULTURAL				
01. Farm worker	1			1
02. Nursery worker	4			
03. Packer or shipper				
04. Other	11	1	2	5
TOTALS	640	631	22	193

TABLE 12

ATTITUDE OF LOCAL EMPLOYERS TOWARD EMPLOYING NON-HIGH SCHOOL GRADUATES

	No. of Responses	% of Responses
Perform satisfactorily in some jobs	73	23.7%
Need additional education or training	36	11.7%
Unsatisfactory	29	9.4%

EMPLOYER OPINION AND PRACTICE

Employers were asked to recall the employing practices of their firm over the past five years and check the statements that best describe their evaluation of young persons who have applied for entry employment with their firm.

In Table 12 a total of 44.8% of the firms were identifed as having experience in employing non-high school graduates, and of the 138 total responses, nearly half of the employers indicated: 1) non-high school graduates needed a considerable amount of additional education and/or training before they can perform satisfactorily, 2) were completely unsatisfactory because of a lack of interest and knowledge, 3) could not follow instructions, 4) not dependable, 5) no sense of responsibility, 6) need too much supervision and numerous other reasons.

It is important to note that nearly 56% of the employers did not respond to the questions about non-high school graduates. Presumably, these employers do not hire non-graduates and many of the employers that did respond indicated that they only employ non-graduates who are still in school on a part-time basis. It was emphasized by many non-graduate employers that they shied away from employing "dropouts" if at all possible, and in necessity only hired them for common labor and routine jobs.

TABLE 13

ATTITUDE OF LOCAL EMPLOYERS TOWARD EMPLOYING HIGH SCHOOL GRADUATES

	No. of Responses	% of Responses
Reasonably well prepared for entry employment	88	28.6%
Need additional education or training	45	14.6%
Inadvisable to employ except for unskilled jobs	21	6.8%
Unemployable because of a lack of occupational training	55	17.9%

In Table 13, 68% of the employers evaluated high school graduates who have applied for entry employment with their firm. Of the 209 employers who responded to this part of the question, 58% indicated: 1) high school graduates need a considerable amount of additional education and training before they can perform satisfactorily, 2) it is inadvisable to employ high school graduates except for unskilled jobs, 3) they are virtually unemployable because of a lack of occupational training.

TABLE 14

EXTENT THAT EXISTING EDUCATIONAL FACILITIES MEET OCCUPATIONAL NEEDS OF THE FIRM

	No. of Responses	% of Responses
Very well	46	14.9%
Fairly well	135	43.8%
Poorly	63	25.5%
No response	64	20.8%

The answer is NO for the majority. Of the 224 firms that responded, more than 81% indicated that existing educational facilities in Monroe County are not adequately preparing our employment-bound youth for entry employment in the labor market.

TABLE 15

ATTITUDE OF LOCAL EMPLOYERS TOWARD FINANCING VOCATIONAL EDUCATIONAL FACILITIES

	No. of Responses	% of Responses
County-wide financing	137	44.5%
Local school district financing	17	5.5%
Multiple school district financing	36	11.7%
No response	118	38.3%

The answer is COUNTY-WIDE FINANCING. Of the 190 that responded to the question, 72% favored county-wide financing. It is important to note that it was determined in a sample follow-up that about one-half of the no responses did not understand what vocational education is, and the other half did not favor any additional tax.

TABLE 16

ORGANIZED TRAINING PROGRAMS IN FIRMS

	No. of Responses	% of Responses
Yes	88	28.6%
No	183	59.4%
No response	37	12.0%

The answer is NO for the majority. Of those responding, 68% of the firms said that they did not have any formally organized training program in the company or firm. This would indicate that the majority of employers rely on public education to prepare their employees for entry employment.

TABLE 17

TYPE OF TRAINING PROGRAMS IN OPERATION BY FIRM

	No. of Responses	% of Responses
Apprenticeship	51	38.6%
Supervision	25	18.9%
Technician	15	11.4%
Plant Management	3	2.2%
Executive development	14	10.6%
Other*	24	18.2%

*Other training programs primarily include on-the-job training.

BUSINESS AND INDUSTRY HAS IDENTIFIED THE
FOLLOWING AREAS OF TRAINING NEEDED AT
THE SENIOR HIGH SCHOOL LEVEL

Trade and Industrial

- Structural steel drafting
- Industrial mathematics
- Automotive mechanics
- Masonry
- Automotive repair
- Carpentry
- Industrial electrical
- Electrical
- Heating - Air conditioning
- Office - machine repair
- Welding
- Machinist
- Millwright
- Automotive electrical
- Blueprint reading
- Basic metallurgy
- Building maintenance and grounds keeper
- Drafting and design
- Small engine repair
- Sheet metal
- Heavy equipment operator
- Landscaping and architectural
- Fabric construction and color design
- TV repair
- Horticulture
- Power mechanic
- Cabinet making
- Appliance repair

Service

- Institutional housekeeping
- Cooks or Chef
- Waitress training

Business - Office

- IBM Keypunch
- Secretarial
- Bookkeeping (case type)
- Stenographer
- Office machines
- Computer machine training
- Accounting

Health

- Dental assistant
- Nurse's Aide

Distributive Education

- Retail merchandising
- Salesmanship
- Agricultural marketing

Areas of Training at Community College

- Supervisory - management
- Dental technician
- Dental hygienist
- Sales management
- Metallurgical technician
- Automotive technician
- Business management
- Instrumentation technician
- Medical secretary

CHAPTER 5

FARM MANAGEMENT EXPRESS THEIR NEEDS

Through the cooperation of Paul Nevel, County Agricultural Extension Agent, and the agriculture teachers, 85 of the largest commercial farms in Monroe County were selected to participate in the survey. These farms represented a cross-section of all kinds of farming. The questionnaire was delivered to the farms selected by the agriculture teachers and the director of the survey. (A copy of the questionnaire can be found in the appendix.) Of the 85 farms selected, 79 questionnaires, or a total of 93%, were returned to the director's office.

TABLE 18

SIZE OF FARMS

Acres	No. of Responses	% of Responses
0-150	12	15.0%
150-250	18	23.0%
250-400	24	30.0%
Over 400	24	30.0%
No response	1	2.0%

Due to the sampling technique used, the majority of the farms were in the 250 acre and over groups.

TABLE 19

KIND OF FARMING DONE

	No. of Responses	% of Responses
Crops	74	93.7%
Livestock	40	50.6%
Both	36	45.5%

Table 19 indicates that the major kind of farming done in Monroe County is cash crops. About one-half of the farms surveyed were involved in some kind of livestock operation; however, most of them were also doing cash-crop farming.

TABLE 20

FULL-TIME MAN EQUIVALENTS PER FARM

	Average
Self	.99
Family	.8
Hired	.15
Total	1.95

Including the family and hired personnel there is an average of two full-time man equivalents now working on each commercial farm. However, 49.3% of the farm operators said they would employ additional full-time help if it was available, dependable, and at a reasonable

wage, 40.5% said they would not hire any additional help, and 10.1% did not respond.

ESTIMATED ANNUAL NEED FOR EMPLOYEES DURING THE NEXT FIVE YEARS

Of the farm operators that responded to employing additional help, there was an estimated average annual need of 5.8 part-time employees per farm and an average of .76 full-time man equivalents per farm.

TABLE 21

FARM OPERATORS BY AGE

	No. of Responses	% of Responses
Under 25	6	8.0%
26-35	12	15.0%
36-45	24	30.0%
46-55	25	32.0%
56-64	2	3.0%
65 or over	9	11.0%
No response	1	1.0%

It is important to note that 62% of the farm operators were in the 36 to 55 age group.

AGRICULTURAL EDUCATION OF FARM OPERATORS

It was difficult to determine from the responses the number of years of agricultural education the farm operator had received at various levels of education. However, 60.8% of the farm operators indicated that they had received one or more years of high school agricultural education, 40.5% said they had taken one or more classes of adult education, which was related to agriculture, and 13.9% had some college courses or extension classes from college. A total of 25.3% of the farm operators did not respond to the question.

OPINIONS OF FARM OPERATORS TOWARD EDUCATION

To determine the farm operators interest and views about existing agricultural education programs and facilities, the following series of questions were asked:

1. Do the existing educational programs in the Monroe County area meet the agricultural training needs for your farm?

The answer is YES for the majority that responded, while 42% said NO, and 10% did not respond or did not know.

2. Are existing facilities adequate for agricultural education?

The majority said YES, while 38% said NO and 14% did not respond or did not know.

3. Would you be interested in participating in a study of plans for improving agricultural education and training at the high school and post-high school levels?

The answer is YES for the majority, 20.3% said NO, 26.5% were undecided, 5.1% did not respond.

TABLE 22

ATTITUDE OF FARM OPERATORS
TOWARD THE FINANCE OF
VOCATIONAL EDUCATION FACILITIES

	No. of Responses	% of Responses
County-wide financing	48	61.0%
Local school district financing	4	5.0%
Multiple school district financing	16	20.0%
No response	11	14.0%

The majority of NO responses were farm operators who would not support any additional school tax for any purpose.

FARM OPERATORS HAVE IDENTIFIED
THE FOLLOWING SKILLS NEEDED
AT THE HIGH SCHOOL LEVEL

Farm machinery operation
Farm machinery repair
Chemical soil testing
Horticulture
Insecticides and their application
Dairy equipment operation
Livestock feeding
Soil management and fertilizers
Welding

SUMMARY OF COMMENTS BY FARM OPERATORS

1. Agricultural education has not kept pace with the changing needs of the farmer.

2. Vocational education in general is not adequate to meet the students needs.

3. You cannot expect to develop farm mechanics with a straight academic program.

A SURVEY OF NON-FARM
AGRICULTURAL OCCUPATIONS
IN MONROE COUNTY

Summary and conclusions of a report on the first phase of a comprehensive study of agricultural occupations by F. Paul Nevel and John L. Malcommson, February, 1965:

SUMMARY AND CONCLUSIONS

1. A large number of individual businesses in Monroe County are oriented toward the supply of goods and services for agriculture. While over one hundred such individual businesses were identified, this does not mean that all such businesses in the county were surveyed, since some were undoubtedly overlooked.

2. From the job titles and job descriptions, it appears many of the workers employed in the businesses surveyed may be dependent upon knowledge, understanding, and/or skill in the areas of plant science, animal science, soil science, agricultural economics and/or agricultural mechanization.

3. There were a sufficient number of businesses reporting service, retailing, wholesaling, purchasing, processing, and warehousing, as major business functions, to suggest that some training programs in these areas may be needed.

4. There is sufficient evidence from the data obtained through this survey to suggest that much importance should be placed upon further study of occupations to determine such things as:

a. Annual entry opportunities in these occupations
b. Competencies needed for entry and satisfactory performance
c. Continuing education needs

5. Based only on the evidence furnished by this first phase of the comprehensive study which was outlined in the original proposal, it would appear that increased attention should be given to the following:

a. Enrolling students in courses of vocational agriculture who are interested in the businesses which are oriented toward providing goods and services for agriculture.
b. Developing cooperative work training programs with agri-business industries for students of vocational agriculture.
c. Developing programs of continuing education for persons employed in the agri-business industries.

6. The personal contacts with agri-business revealed that these businesses are experiencing difficulty in obtaining and retaining qualified workers. If this situation is to be corrected, more information concerning job opportunities in the agri-business occupations must be provided to students, parents, counselors, youth leaders and others, who work with rural youth. There are also strong implications for the development of educational programs, both on the high school and post high school level. It is very evident that these industries cannot afford to pay wages, for untrained persons, which are competitive with other types of industry in the area.

CHAPTER 6

HIGH SCHOOL SENIORS EXPRESS THEIR VIEWS

In previous chapters, national, state, and local economy, population trends, labor trends, employment needs and opinions of farm management, and business and industry were reviewed. The needs of business and industry and the offerings of the school should be coordinated. The school programs also need to be geared to: 1) student availability through their needs and desires, 2) parent interest, 3) general community interest and 4) community standards. The next three chapters will entail a review of findings obtained from high school seniors, parents and graduates.

THE SURVEY OF STUDENTS

Questionnaires regarding curriculum choice, amount of further education desired, attitude toward specialized training and career choices were completed by 95% of all the twelfth grade students in the Monroe County Intermediate School District, including the parochial school students. In all, 1507 students were included in the survey of which 51% were boys and 49% were girls. (A copy of the survey instrument is reproduced in the Appendix.)

TABLE 23

YEARS LIVED IN SCHOOL DISTRICT

	% of Responses
Less than 1 year	2.0%
1-2 years	4.0%
3-5 years	12.0%
6-10 years	15.0%
Over 10 years	64.0%
No Response	2.0%

It is apparent from Table 23 that one-third of the high school seniors received their education from two or more school districts.

TABLE 24

CURRICULUM BEING FOLLOWED

	No. of Responses	% of Responses
Business Education	380	25.0%
College Preparatory	594	39.0%
Shop or Industrial Arts	134	9.0%
Agriculture	34	2.0%
Homemaking or Home Economics	19	1.0%
General	305	20.0%
Other	29	2.0%
No Response	12	1.0%

It is observed in Table 24 that over 60% of the high school seniors are not in a college preparatory curriculum and, therefore, should probably be enrolled in an employment preparation program.

A comparison study by rank in class was made to determine which group of students was being served the best by the high school's program of studies. To facilitate this comparison, the students were asked to rank themselves in their graduating class. It is interesting to observe that exactly one-third or 33% of the high school seniors ranked themselves in the top third of their class. However, 52% ranked themselves in the middle third and only 14% placed them-

selves in the lower third of their class. One percent of the students did not respond to the question. This study indicates that below average students do not tend to consider themselves below average.

TABLE 25

PROGRAM OF STUDIES FOLLOWED BY SENIORS ACCORDING TO THEIR RANK IN CLASS

Program of Studies	Top Third	Middle Third	Lower Third
Clerical or Business	17.9%	31.5%	17.1%
College Preparatory	70.6%	28.4%	7.2%
Shop or Industrial Arts	2.2%	10.1%	18.9%
Agriculture	.6%	2.2%	6.3%
Homemaking or Home Economics	0%	1.7%	2.7%
General	5.6%	23.7%	38.3%
Other	2.0%	2.0%	1.4%

The comparison study in Table 25 revealed that the majority of the employment-bound students are identified in the middle and lower thirds of their graduating class. However, it should also be noted that nearly 30% of the students who ranked themselves in the upper third of their graduating class are not identified in a college preparatory program of studies.

TABLE 26

HOW WELL THE HIGH SCHOOL IS PREPARING YOU FOR WHAT YOU PLAN TO DO AFTER GRADUATION

	Total		Percentages by Sex	
High School Preparation	No. of Responses	% of Responses	Boys	Girls
Just what is needed	372	25.0%	20.2%	29.3%
Very well in some ways, other ways not adequate	702	47.0%	43.4%	49.9%
Fairly well, but not the kind of training I would like	335	22.0%	27.2%	17.1%
Poorly	88	6.0%	8.5%	3.1%

TABLE 27

COMPARISON OF PROGRAM OF STUDIES WITH HIGH SCHOOL PREPARATION

Program of Studies	Just what is needed	Very well in some ways, other ways not adequate	Fairly well, but not the kind of training I would like	Poorly
Clerical or Business	26.1%	28.8%	20.6%	11.4%
College Preparatory	50.0%	42.7%	23.6%	27.3%
Shop or Industrial Arts	5.6%	8.6%	11.6%	15.9%
Agriculture	3.0%	1.4%	2.4%	5.7%
Homemaking or Home Economics	.8%	1.3%	2.1%	0%
General	11.3%	15.1%	37.3%	35.2%
Other	2.4%	1.7%	1.5%	3.4%

TABLE 28

COMPARISON OF HIGH SCHOOL PREPARATION WITH RANK IN CLASS

	Rank in Class		
High School Preparation	Top Third	Middle Third	Lower Third
Just what is needed	30.6%	22.3%	19.9%
Very well in some ways, other ways not adequate	51.7%	47.3%	31.6%
Fairly well, but not the kind of training I would like	12.9%	24.6%	35.9%
Poorly	4.4%	5.2%	12.1%

The survey revealed in Table 26 that 75% of the high school seniors were not being prepared adequately for what they plan to do after graduation. In comparing boys with girls (Table 27) it is found that the school's program of studies are meeting the needs of the girls more favorably than they are meeting the needs of the boys. Perhaps this is due to the business education curriculum that is offered at all of the local high schools. However, note in Table 28 that the clerical and business education students are quite undecided about how well their high school is meeting their needs. No doubt some schools are doing a better job than others. It is very evident in Table 28 that the schools are not offering the kind of training the students in a general education curriculum would like or need. Of those students who said the high school is providing "just what is needed", 50% are identified in the college preparatory curriculum. It is important to note in Table 29 that the high schools are meeting the needs of the above average students better than they are meeting the needs of the average and below average students. It should also be pointed out that only about 30% of the students in the top third of their graduating class were of the opinion that the school was providing just what is needed.

OPINION OF STUDENTS CONCERNING HOW THE HIGH SCHOOL COULD PREPARE THEM BETTER

To determine the student's interest in vocational education, the following question was asked: "How do you think the high school could prepare you better?" The answer was through VOCATIONAL EDUCATION. Fifty-four percent said provide more courses in vocational education. Twelve percent said a host of other reasons, most of which were specific vocational education courses, and 12% did not respond.

Students were asked to identify their first job preference they would like to be doing ten years from now. The following table reveals the results in 14 occupational groups.

TABLE 29

CAREER PREFERENCE OF HIGH SCHOOL SENIORS

Occupations	No. of Responses	% of Responses	Occupations	No. of Responses	% of Responses
Unskilled	0	0%	Professional (4 or more years of college)	406	27.0%
Semi-skilled	113	8.0%	Agricultural	24	2.0%
Skilled tradesmen	230	15.0%	Military (as a career)	14	1.0%
Technical (requiring 2 years of college)	152	10.0%	Transportation	6	0%
Sales	20	1.0%	Housewife	75	5.0%
Business	69	5.0%	Others or no choice	178	12.0%
Clerical	274	18.0%			
Service	90	6.0%			

TABLE 30-A

HELP RECEIVED FROM HIGH SCHOOL ON CAREER PLANS

	All Seniors		Percentages by Sex	
	No. of Responses	% of Responses	Boys	Girls
A lot of help	249	17.0%	13.2%	20.1%
Considerable help, could have used more	416	28.0%	24.0%	31.2%
Some help but not very much	512	34.0%	37.6%	30.3%
Little or no help	314	21.0%	24.0%	17.6%
No response	16	1.0%	1.2%	.8%

TABLE 30-B

HELP RECEIVED FROM HIGH SCHOOL ON CAREER PLANS

	Top Third	Middle Third	Lower Third
A lot of help	20.3%	16.1%	10.2%
Considerable help, could have used more	30.0%	27.8%	19.9%
Some help but not very much	30.2%	37.4%	33.0%
Little or no help	19.1%	17.7%	36.9%

TABLE 31

COMPARISON OF PROGRAM OF STUDIES FOLLOWED AND HELP RECEIVED FROM HIGH SCHOOL ON CAREER PLANS

	Help Received from High School			
Program of Studies	A lot of help	Considerable help, could have used more	Some help, but not very much	Little or no help
Clerical or Business	27.3%	29.6%	23.6%	20.7%
College Preparatory	48.2%	43.9%	59.8%	33.1%
Shop or Industrial Arts	4.8%	5.3%	12.3%	10.5%
Agriculture	1.6%	2.4%	2.7%	1.9%
Homemaking or Home Economics	1.2%	1.2%	.8%	1.9%
General	13.3%	14.5%	23.2%	28.0%
Other	3.2%	1.9%	.8%	2.9%

In Tables 31-A and B, it is observed that 83% of the high school seniors have not received sufficient help in formulating career plans, and over 55% indicated that they had not received very much, little, or no help. In the boys and girls comparison, it is quite evident that the girls have received more help than the boys in their career planning. The survey also revealed that students in the top third of their graduating class are receiving considerably more help in making career plans than the students in the lower two thirds of their class. Perhaps this would indicate that girls who rank high in their graduating class appear to have received the most help from the high school in deciding what they plan to do after graduation. However, it is also important to note that of those students who ranked themselves in the top third of their graduating class, 44% were boys and 56% were girls.

TABLE 32-A

HOW STUDENTS THINK THEIR PARENTS FEEL ABOUT WHAT THEY DO AFTER GRADUATION

	No. of Responses	% of Responses	Percent Boys	Percent Girls
Work or learn a trade	484	32.0%	28.9%	35.3%
2 year technical program	222	15.0%	15.8%	13.7%
4 year college program	592	39.0%	45.8%	32.6%
Undecided	174	12.0%	7.7%	15.7%
No Response	35	2.0%	1.7%	2.7%

TABLE 32-B

COMPARISON BY RANK IN CLASS

	Top Third	Middle Third	Lower Third
Work or learn a trade	12.7%	38.6%	53.4%
2 year technical program	9.5%	18.6%	13.1%
4 year college program	66.8%	29.1%	12.6%
Undecided	9.5%	11.5%	17.5%

The responses in Table 32-A and B seem quite realistic to parents' aspirations for their children. Fifteen percent more boys than girls thought their parents would like them to take some kind of a college program. In comparing the top third of the class with the lower third it is found that the ratio is three to one favoring some kind of a college program, and approximately two to one in comparing the middle third with the lower third. Another observation that can be made is 15% more students think their parents would like for them to attend college than are definitely making plans to attend.

TABLE 33

PART-TIME JOB DURING SCHOOL

	% of Responses	Boys	Girls	Top Third	Middle Third	Lower Third
Yes	41	53.8%	28.0%	38.8%	42.2%	43.7%
No	46	34.6%	57.4%	50.7%	45.2%	35.9%
No Response	13					

Table 33 reveals the majority of the students that are working part-time while still in school are boys and most of the part-time workers are identified in the lower two-thirds of their graduating class.

TABLE 34

ASPIRATIONS OF HIGH SCHOOL SENIORS
TOWARD EXPANDED TYPES OF VOCATIONAL TRAINING

Programs	No. of Responses	Programs	No. of Responses
Air conditioning and refrigeration	93	Machine trades	338
Appliance repair	123	Foundry	70
Auto body and fender	278	Landscape	198
Auto mechanic	400	Nursery	133
Business machines	435	Nurses Aide	328
Cosmotology	345	Plumbing and pipe fitting	172
Data processing	469	Practical nursing	328
Electrician	340	Printing	153
Cabinet making	97	Retail sales	274
Carpentry	171	Welding	277
Cook, commercial	166	Waiter or waitress	112
Electronics	417	Work attitudes	257
		Other	214

It is evident from the response in Table 34 that the interest is very high towards all types of vocational training courses. In addition to the courses listed, law enforcement, drafting and design, dental technology, forestry and conservation, languages, advertising and display, fashion design, fluid power and hydrolics, were identified as high interest programs.

TABLE 35

SENIORS PLANNING TO ATTEND COLLEGE

	No. of Responses	% of Responses	Top Third	Middle Third	Lower Third
No	325	22%	7.8%	23.1%	48.1%
Probably not	151	10%	6.6%	11.0%	14.6%
Probably so	182	12%	8.0%	16.6%	4.9%
Yes	562	37%	67.6%	27.2%	5.3%
Don't know	264	18%	9.5%	20.7%	23.3%
No response	23	1%			

The percentages in Table 35 can be compared quite favorably with the high school curriculums in which the seniors say they are currently enrolled. Whereas, 39% of the seniors say they are enrolled in a college preparatory curriculum, 37% see themselves as definitely attending college and 12% say they will probably attend. In comparing these percentages with rank in class it is found that about 70% of the seniors in the top third of their class are enrolled in a college preparatory curriculum; whereas, about 67% in the top third are definitely planning to attend college, and 8% see themselves as probably attending.

Only those students who answered "NO", "PROBABLY NOT" or "DON'T KNOW" as indicated in Table 35 were eligible to respond in Tables 36 and 37. In Table 36 it is observed that on the job training and apprenticeship training to learn a trade are the types of training that interest seniors the most after graduation. Table 37 suggests that low grades, want to work and make money, and can't afford to go to college are the most important reasons why seniors do not plan to attend college.

TABLE 36

TYPES OF TRAINING THAT INTEREST NON-COLLEGE-BOUND SENIORS

	No. of Responses	% of Responses
Apprenticeship training to learn a trade	183	24.7%
On-the-job training	290	39.2%
Correspondence study	18	2.4%
Post graduate in high school at night	27	3.6%
Adult education	26	3.5%
Military service training	77	10.4%
Other	83	11.2%
No response		5.0%

****

TABLE 37

REASONS WHY HIGH SCHOOL SENIORS DO NOT PLAN TO ATTEND COLLEGE

	No. of Responses	% of Responses
Want to work and make money	127	17.2%
Can't afford it	109	14.7%
Parents don't want me to	2	.3%
Can be just as successful without going to college	39	5.3%
Waste of time	11	1.5%
Low grades	187	25.3%
Want to get married	74	10.0%
Tired of school	39	5.3%
Other		7.0%
No response		20.0%

CHAPTER 7

SURVEY OF PARENTS

Parents of all eighth graders in all public schools and parochial schools were surveyed by questionnaire. The purpose was to gather information and opinions from parents of students who are about to enter high school as to their aspirations towards future education for their children and their attitude towards vocational education.

Of the 2,324 parents that were surveyed, 76% of the questionnaires were completed and returned to the director's office. The questionnaire was filled out by 41% mothers only, 22% fathers only, 35% by both mother and father, 1% by legal guardian and 1% did not respond to the question. It was also determined that 93% of the heads of household were male and 7% were female. (A copy of the questionnaire can be found in the Appendix.)

The following charts reveal that nearly 1/2 of the heads of household and parents of eighth grade children in Monroe County work outside of Monroe County. 41% indicated they have lived in their present school district less than 10 years. Perhaps this would indicate that Monroe County's population is mobile, therefore, our high schools should be meeting employment needs beyond the county lines as well as local employment needs. More evidence of this mobility will be found in Chapter 8.

WHERE HEAD OF THE HOUSEHOLD WORKS AND YEARS LIVED IN PRESENT SCHOOL DISTRICT AS A FAMILY

CHART 9

WHERE EMPLOYED

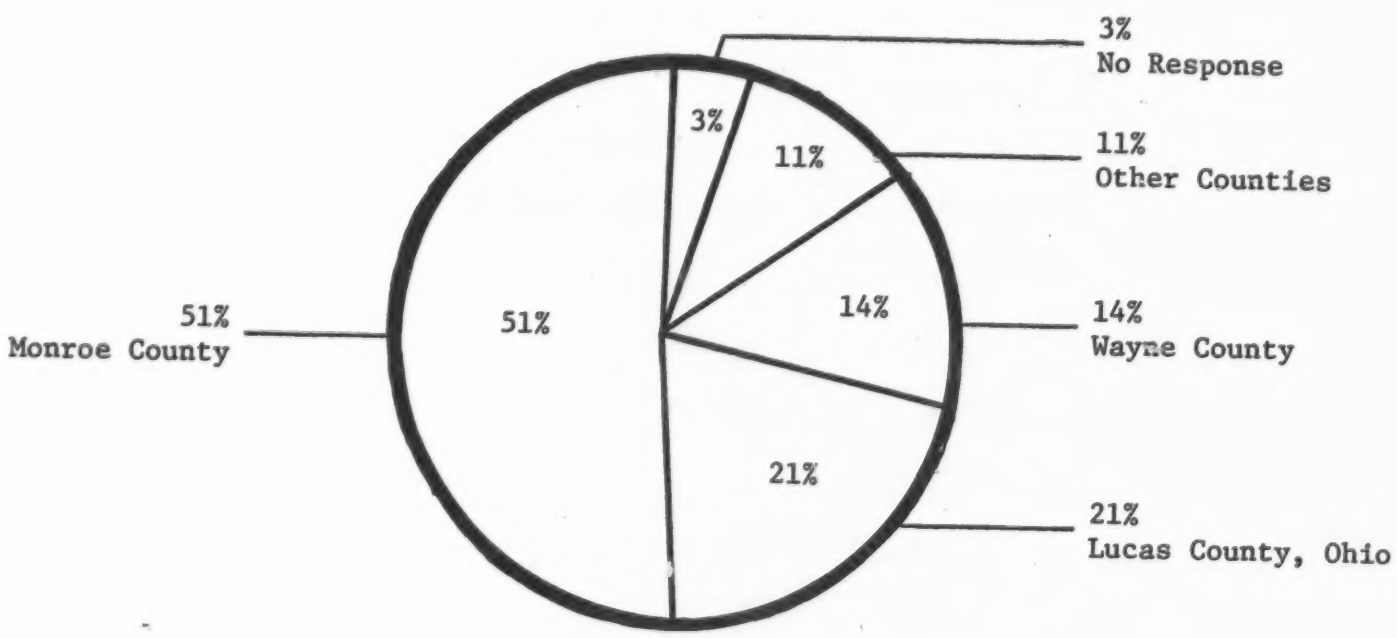


CHART 10

YEARS LIVED IN PRESENT SCHOOL DISTRICT

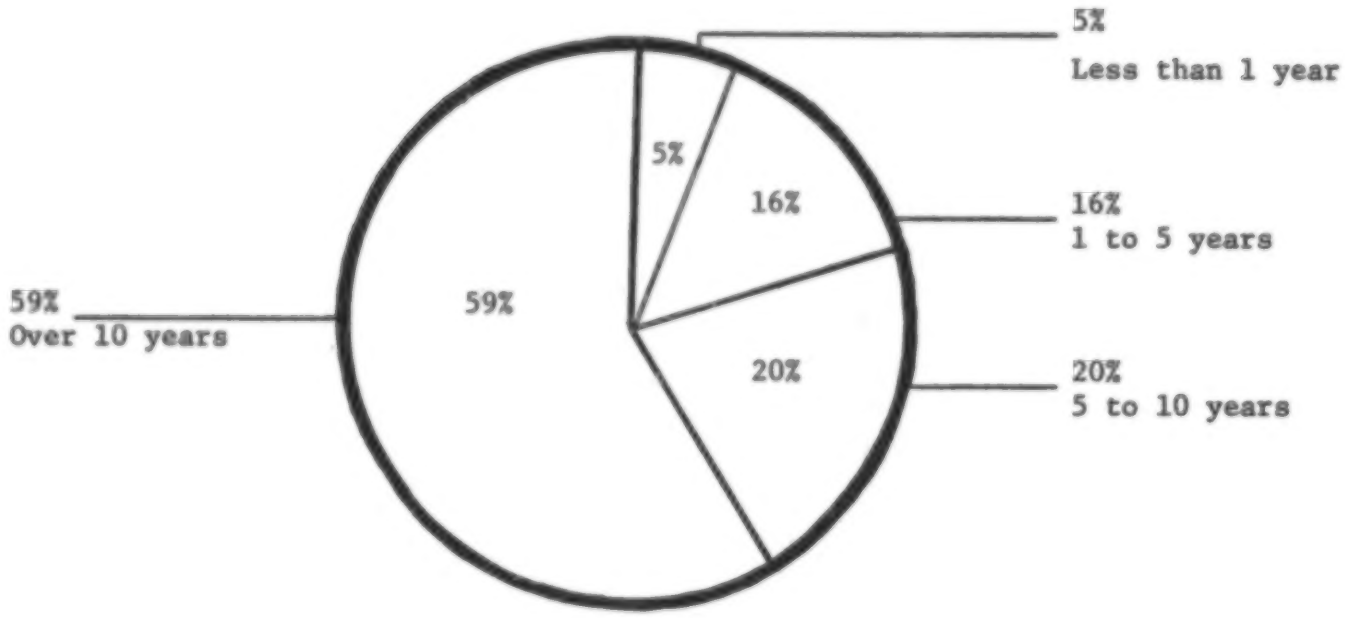


CHART 11

TYPE OF OCCUPATION HELD BY HEAD OF HOUSEHOLD

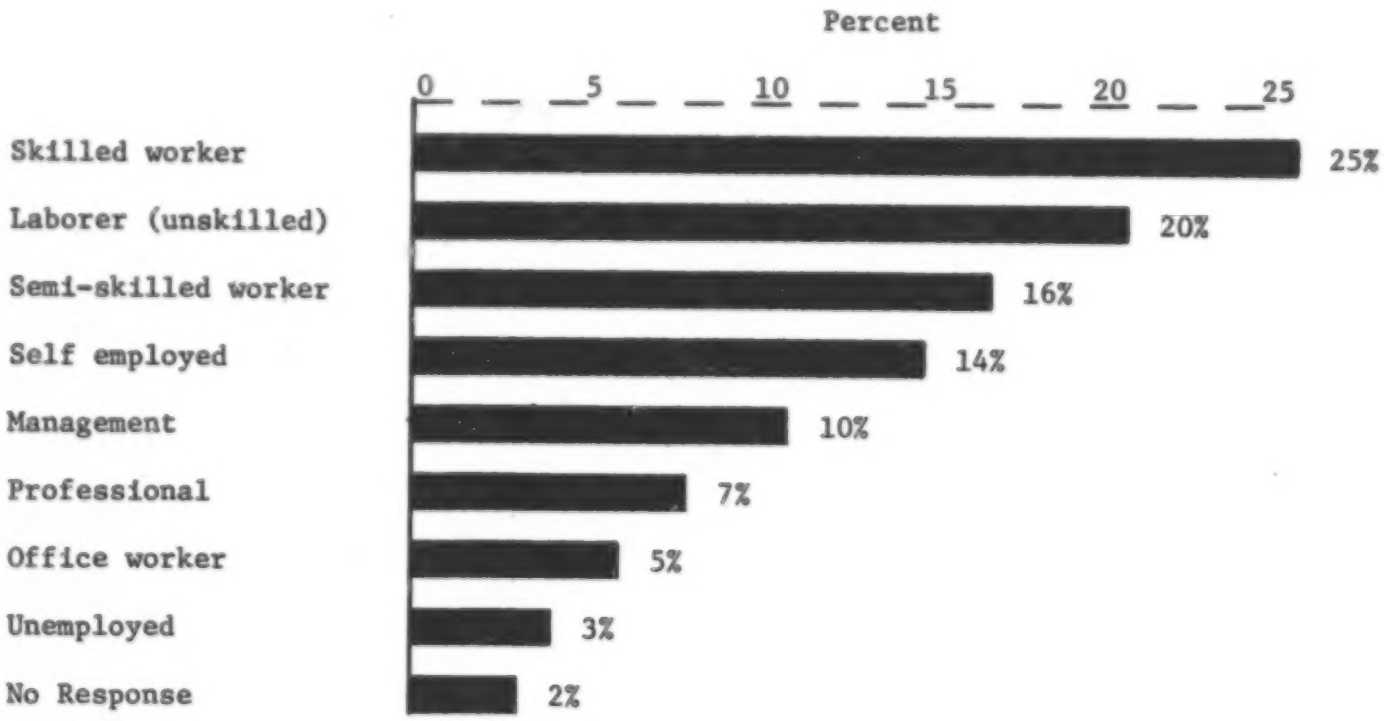


TABLE 38

PARENTS EXPECTATIONS OF THEIR EIGHTH GRADE CHILD ATTENDING COLLEGE

	No. of Responses	% of Responses
Definitely will expect to attend	455	26.0%
Probably attend	431	24.0%
Uncertain	628	36.0%
Probably not attend	175	10.0%
Definitely do not expect to attend	71	4.0%

Approximately 50% of the parents have some expectation that their child will enter college. It was also observed that about 8% more fathers than mothers expect their child to enter college.

ATTITUDE OF PARENTS TOWARDS VOCATIONAL EDUCATION

To determine the parents' views about the value of Vocational Education, the following series of questions were asked:

1. In your opinion are high school students adequately prepared by the schools to select a vocation?

	No. of Responses	% of Responses
Yes	405	23.0%
Fair	742	42.0%
No	405	23.0%
No idea	203	12.0%

Only 23.0% of the parents thought that the high school was doing an adequate job of preparing the students to select a vocation while 77% said preparation was not adequate or did not know if the students were adequately prepared. When comparing the responses of fathers and mothers, 6% more fathers said No, preparation is not adequate.

2. In your opinion is the high school in your school district providing sufficient opportunities for students to learn a vocation?

	No. of Responses	% of Responses
Yes	504	29.0%
Fair	615	35.0%
No	371	21.0%
No idea	260	15.0%

A total of 56% said that to some degree the high school is not providing sufficient opportunity for students to learn a vocation and an additional 15% did not know. In comparing mothers' and fathers' responses, 2% more mothers said Yes than fathers.

3. In your opinion is there a need for additional vocational programs on the 11th and 12th grade levels?

	No. of Responses	% of Responses
Yes, many	645	37.0%
A few	599	34.0%
None	42	2.0%
Don't know	447	25.0%

Seventy-one percent of the parents indicated that additional vocational education programs are needed while only 2% said no additional programs are needed. It was also revealed that 10% more fathers than mothers said yes, many additional vocational programs are needed.

TABLE 39

EXPANDED TYPES OF VOCATIONAL EDUCATION COURSES PARENTS WOULD LIKE TO SEE TAUGHT

Vocational Courses	No. of Responses
Air conditioning & refrigeration	424
Appliance repair	396
Auto body and fender	272
Auto mechanic	603
Business machines	923
Cosmotology	397
Data processing	504
Electrician	785
Cabinet making	307
Carpentry	450
Cook, commercial	215
Electronics	947
Machine trades	661
Foundry	71
Landscape	200
Nursery	161
Nurse's Aide	632
Plumbing & pipe fitting	413
Practical Nurse	797
Printing	243
Retail sales	480
Welding	439
Waiter & waitress	125
Work attitudes	364
Other occupations	286

Other specific vocational programs as well as technical programs (requiring two years of college) that were identified by the parents were too numerous to include in this report.

To determine how additional vocational education programs should be financed, the following question was asked:

4. The type of instruction, equipment and buildings needed for vocational-technical training is costly. In your opinion, would this be more easily accomplished by:

	No. of Responses	% of Responses
County-wide financing	970	55.0%
Local school district financing	175	10.0%
Multiple school district financing	382	22.0%
No response	239	14.0%

5. Providing that your children do not expect to attend college and a quality vocational program were made available to them, would you encourage them to avail themselves of this kind of training?

The answer is Yes for the majority. Seventy-nine percent said Yes, while 14% said possibly and only 2% said No. Five percent did not respond to the question.

6. Are you concerned about high school students dropping out of school?

	No. of Responses	% of Responses
Yes	1609	91.0%
No	87	5.0%
Don't Know	49	3.0%

7. Do you think broadening the vocational opportunities in high school will keep students in school longer?

	No. of Responses	% of Responses
Yes	1282	73.0%
No	122	7.0%
No effect	63	4.0%
Don't know	271	15.0%

The survey verifies that parents are concerned about high school "drop outs", and overwhelmingly agree that expansion of the vocational education curriculum would motivate students to stay in school longer.

8. If we have vocational programs as discussed above, would you be interested in attending evening school to improve your own occupational competencies?

	No. of Responses	% of Responses
Yes	870	49.0%
No	358	20.0%
Don't know	500	28.0%

It is important to note that the 870 parents who definitely indicated they would be interested in attending evening school, if the facilities were available, are from one age group of students.

TABLE 40

IN YOUR OPINION, IS THE HIGH SCHOOL IN YOUR DISTRICT PROVIDING SUFFICIENT OPPORTUNITIES FOR STUDENTS TO LEARN A VOCATION? (by the parent who filled out the questionnaire)

	Mother	Father	Both	Guardian
Yes	30.7%	27.5%	26.7%	27.8%
Fair	33.7%	36.9%	35.2%	38.9%
No	19.3%	21.7%	22.6%	27.8%
No idea	15.1%	13.6%	15.1%	5.6%

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TABLE 41

IN YOUR OPINION, IS THERE A NEED FOR ADDITIONAL VOCATIONAL PROGRAMS ON THE 11th AND 12th GRADE LEVELS?
(by the parent who filled out the questionnaire)

	Mother	Father	Both	Guardian
Yes, many	30.8%	40.7%	40.5%	38.9%
A few	36.3%	31.3%	33.3%	33.3%
None	2.1%	3.5%	2.0%	0.0%
Don't know	28.3%	23.2%	23.3%	22.2%

CHAPTER 8

SURVEY OF HIGH SCHOOL GRADUATES

This study includes all of the 1965 graduates from 11 senior high schools including the two parochial high schools in Monroe County Intermediate School District. A total of 829 completed questionnaires were received, which represents a 68% return. (A copy of the questionnaire can be found in the Appendix.)

WHERE RESPONDENTS ARE LIVING

Seventy-two percent of the respondents are presently living in Monroe County, 4% in Lucas County, Ohio, 3% in Wayne County and 20% in other areas, which includes college students living away from home and graduates now in the military service.

DISTRIBUTION OF RESPONDENTS BY
CURRICULUM FOLLOWED IN HIGH SCHOOL

Curriculum	No. of Responses	% of Responses
General	207	25.0%
Vocational	57	7.0%
Business Education	158	19.0%
College Preparatory	378	46.0%
No Response	29	3.0%

DISTRIBUTION OF RESPONDENTS BY
RANK IN CLASS

Rank in Class	No. of Responses	% of Responses
Top Third	373	45.0%
Middle Third	362	44.0%
Lower Third	76	9.0%
No Response	18	2.0%

COMPARISON OF CURRICULUM FOLLOWED IN HIGH SCHOOL
WITH RANK IN CLASS

	Top Third	Middle Third	Lower Third
General	13.3%	63.3%	21.9%
Vocational	17.2%	67.2%	13.8%
Business Education	38.5%	51.6%	7.5%
College Preparatory	70.9%	26.5%	1.6%

It is observed in the preceding data that the majority of the respondents were either in the upper portion of their graduating class or reluctant to identify themselves in the lower third of their graduating class.

TABLE 42

EDUCATION RECEIVED SINCE GRADUATION

			Rank in Class		
	No. of Responses	% of Responses	Top Third	Middle Third	Lower Third
No additional training or schooling	141	17%	6.2%	16.6%	36.6%
On-the-job training	262	31%	21.7%	30.5%	22.0%
Business college	69	8%	5.6%	8.3%	6.1%
Trade or technical school	63	7%	3.6%	8.7%	7.3%
College or university	308	37%	50.2%	14.2%	8.5%
Adult education	31	4%	1.1%	4.6%	4.9%
Military Service	39	5%	2.4%	4.6%	7.3%
Apprenticeship	31	4%	1.3%	5.0%	2.4%
Other or No Response	78	9%	7.9%	7.6%	4.9%

Of all the graduates who have received further training or education since graduation, approximately 68% have received this training or education either in college or on the job at the place where they are employed. It is also observed that students in the top third of their class are most likely to receive additional education or training in college, while the greater percent of students who rank in the middle third will receive additional training by their employer on the job, and chances are that students who rank in the lower third are not likely to receive any additional formal training or education.

RESPONDENTS WHO ARE PRESENTLY IN COLLEGE

	No. of Responses	% of Responses
Yes, full-time	273	33.0%
Yes, part-time	28	3.0%
No	516	62.0%
No Response	12	2.0%

In addition to the data listed above, over 60% of the students identified in the top third of their class and 36% in a college preparatory program definitely said they were not going to college at the present time.

The following five questions should be interpreted with caution because of the limited number of possible answers and the high percentage of no responses.

1. If you had made a vocational choice on graduation from high school, are you now engaged in this type of work at present? Twenty-four percent said Yes, 31% said No and 31% did not have a choice at the time of graduation. Fourteen percent did not respond to the question.

2. Is your present work related to any vocational-type courses you took in high school? Of those who responded, 25% said Yes, 36% said No, 26% said they didn't take any vocational courses, and 13% did not respond to the question. However, it is important to note that when comparing these two questions with program of studies followed in high school, the 24% and 25% Yes Responses to questions 1 and 2 respectively represents the majority of those students who were identified in a commercial or business education program of studies, or a vocational program of studies. This is also true in the following question.

3. If you are now working, is this the field of work you want to stay in?

	No. of Responses	% of Responses
Yes	227	27.0%
No	220	26.0%
Undecided	127	15.0%
No Response	269	32.0%

4. In what county are you working?

	No. of Responses	% of Responses
Monroe County	225	27.0%
Wayne County	75	9.0%
Lucas County, Ohio	115	14.0%
Other (Counties)	151	18.0%
No Response	277	33.0%

It is important to note here that the 33% of No Responses to the question represents the 33% that are in a full-time college program. More important, however, is the fact that 41% of the respondents have indicated that they are presently working outside of Monroe County and in Question 5 it is also observed that 23% of the students who are in school or in training do not plan to return and work in Monroe County. This evidence certainly supports the fact that Monroe County's population and labor force is mobile and, therefore, it is important that vocational programs be developed that will meet employment needs on a regional basis.

5. If you are presently in school or in training do you plan to return and work in Monroe County?

	No. of Responses	% of Responses
Yes	97	12.0%
No	196	23.0%
Undecided	221	26.0%
No Response	329	39.0%

ATTITUDE OF STUDENTS TOWARDS VOCATIONAL EDUCATION

To determine high school graduates aspirations and attitude toward Vocational Education, the following series of questions were asked:

1. Do you feel that your high school has sufficient number of vocational courses available for the employment-bound student?

	No. of Responses	% of Responses
Yes	232	28.0%
No	453	55.0%
Don't know	116	14.0%
No Response	28	3.0%

The answer is NO for the majority. In comparing this question with rank in class, it is discovered that the percentages are almost identical for the top third and middle third, however, the NO answer for the lower third was about 10% higher than either of the upper thirds. No significant difference was observed in comparing the various programs of studies followed.

2. Would you have taken more of these vocational-type courses had they been offered?

	No. of Responses	% of Responses
Yes	347	42.0%
No	217	26.0%
Don't know	204	24.0%
No Response	61	7.0%

The majority of the Yes responses were found in the lower two thirds of the class. However, about one third of the students who ranked in the top third of their class also indicated that they would have taken more vocational-type courses had they been offered.

3. Are you presently interested in taking more training of a vocational nature?

	No. of Responses	% of Responses
Yes	355	42.0%
No	425	50.0%
No Response	63	7.0%

The following table describes the kind of vocational courses high school graduates would like to see taught providing they answered YES to the preceding questions.

TABLE 43

Vocational Courses	No. of Responses
Air conditioning and refrigeration	37
Appliance repair	53
Auto Body and Fender	54
Auto mechanic	153
Business machines	161
Cosmotology	94
Data processing	186
Electrician	123
Cabinet making	27
Carpentry	49
Cook, commercial	40
Electronics	145
Machine Trades	119
Foundry	17
Landscape	55
Nursery	39
Nurse's Aide	102
Plumbing & Pipe Fitting	75
Practical Nursing	121
Printing	54
Retail Sales	126
Welding	93
Waiter & waitress	23
Work attitudes	78

4. In which of the following types of training or education would you be most interested?

	No. of Responses	% of Responses
Paid apprentice to learn a trade	130	15.0%
Post graduate work in high school	66	8.0%
Military Service	45	5.0%
On-the-job training in industry	275	33.0%
Correspondence study	39	5.0%
Adult Education	112	13.0%
Community College, part-time	276	33.0%

The reader can observe from the preceding data that on-the-job training with a company or industrial firm and enrolling in a community college on a part-time basis were the types of training or education that interested high school graduates the most, although 21% were interested in adult education or post graduate training in the high school at night and 15% were also interested in a paid apprenticeship program to learn a trade.

5. If you were a student just entering high school and if you had a choice, what type of program would you pursue?

	No. of Responses	% of Responses
Academic-college-bound program	289	35%
Vocational-employment-bound program	158	19%
Combination of both	358	44%
No Response	24	3%

A total of 63% of the respondents indicated that if they had a choice they would either take a vocational employment-bound program of study or a combination of academic and vocational courses. In comparing by rank in class, the top third favored the academic program, the middle third favored a combination of both with less than 10% in this group favoring a straight academic program and the lower third favored the vocational-employment-bound program of study.

6. If you were (or are) a parent today, would (will) you encourage your children to follow a program of study for the employment-bound student (assuming adequate facilities were available and if your child shows an interest in and seems suited for this particular kind of program.)

	No. of Responses	% of Responses
Yes	513	62%
No	99	12%
Undecided	133	16%
No Response	84	11%

Evidence from the preceding data indicated that future parents of Monroe County will support a vocational education program.

CHAPTER 9

SURVEY OF EDUCATIONAL OFFERINGS IN INDUSTRIAL ARTS, BUSINESS EDUCATION, HOME ECONOMICS AND AGRICULTURE IN THE COMMUNITY

It was recommended by the Policy Committee that an examination of the educational offerings in industrial arts, business education, home economics and agriculture in the community might provide some insight into the degree of incentive or opportunities present in the secondary schools of Monroe County towards skilled occupational training, and might also help assess the kind of job that has been done in meeting the educational needs of our youth.

Table 44 identifies what the secondary schools in Monroe County are offering in exploratory programs and skilled occupational training. The survey included all the junior and senior public high schools; 100% of all the questionnaires were returned to the Director's office. (A copy of the questionnaire can be found in the Appendix.)

TABLE 44

COURSE OFFERINGS, FACILITIES, ENROLLMENTS AND TIME ALLOTTED FOR PRACTICAL ARTS USE AND VOCATIONAL USE

Courses offered in Trade & Industry and Industrial Arts	No. of Rooms Sec. Level	Time Per Day Room in use	Time Per Day Voc. use	Total Enrollment Grades 7, 8, 9	Total Enrollment Grades 10, 11, 12
Art Metal		2			37
Arts & Crafts	6	28		788	394
Auto Mechanics	3	15	6		203
Dental Assistant		1	1		14
Drawing & Planning (beginning drafting)	8	21		167	391
Electricity	3	8	4		172
Electronics	1	4			79
General Agriculture	7	16	15	133	180
General Drafting	3	9	6	15	71

Courses offered in Trade & Industry and Industrial Arts	No. of Rooms Sec. Level	Time Per Day Room in use	Time Per Day Voc. use	Total Enrollment Grades 7, 8, 9	Total Enrollment Grades 10, 11, 12
General Metals	4	15		294	230
General Shop	12	44		1100	112
Machine Drawing	1	9			178
Machine Shop	2	12	10		96
Power Mechanics	1	3			69
Printing	1	6			75
Welding		3			60
Woodworking	5	23		331	329
Co-op T & I	1	3	3		59
Architectural Drawing		1			29
Courses offered in Business Education					
Business English	2	3			85
Business Law		2 1/2	1		60
Business Machines	7	8 1/2	5		170
Business Management	1	1	1		24
Business Math	4	9			237
Business Principles	1	1			20
Bookkeeping	8	19	6		468
General Business	5	18 1/2		852	66
Office Practice	3	9 1/2	4		124
Personal Typing	7	21		521	452

Courses offered in Business Education	No. of Rooms Sec. Level	Time Per Day Room in use	Time Per Day Voc. use	Total Enrollment Grades 7, 8, 9	Total Enrollment Grades 10, 11, 12
Retailing	1	2			49
Shorthand	4	24	4		321
Typing	10	29	10	27	742
Co-op (office)	1	3	3		60
Co-op (distributive)	1	3	3		75
Salesmanship		1			53
Record Keeping		1			53
Courses offered in Home Economics					
Foods	2	8		156	76
Home Economics	11	50	3	1168	409
Home and Family Living	2	10			207
Interior Decorating		1			41
Sewing	1	4			84
Totals	129	452	85		

In addition to examining the kind of job that the secondary schools have been doing, Table 44 has also helped assess what needs to be done to meet the Vocational Education needs of youth in the community. The following points of interest will be reviewed before making this assessment:

1. Table 26 revealed that 75% of the high school seniors were not prepared adequately for what they plan to do after graduation.

2. Table 24 revealed that 61% of the high school seniors are not in a college preparatory curriculum.

3. Public Schools' enrollment by grade lists 1535 12th graders and 1730 11th graders in the Monroe County Intermediate School District.

4. Table 44 reveals that the total time per day for vocational use of all facilities is 85 hours or 85 class periods. This includes trade and industrial classes that must be 2 to 3 periods in length.

ASSESSMENT OF NEED

Number of students in 12th grade	1535
Number of students in 11th grade	1730
TOTAL	3265
Percent of students not in a college preparatory program	x.61
Minimum number of students that need an employment preparation program	=1991.65
Class hours per student	x 3
Total class hours per student	5974.95
Students per class	÷ 20
Vocational class periods needed	=299
Vocational class periods offered now	-85
Additional class periods needed	214
Class periods per program (or facility)	÷ 6
Additional programs of studies and facilities that are needed NOW	36

Explanation

The assessment of needed facilities should not be interpreted as an accurate indication of the number of programs of studies needed because of several variables:

1. The total number of 11th and 12th grade students was based on 1965-66 enrollment figures. This enrollment figure would change each year.

2. Sixty-one percent of the students that were not identified in a college preparatory program was based on 1966 high school seniors response. This percentage would change with each senior class.

3. The number of students per vocational class was an assumption, however, it is important to note that it was observed in the study that the average number of students per vocational class is approximately 16 students depending on the interpretation of class periods and time per day room in use. It was assumed in the study that a class period was 45 to 70 minutes in length.

CHAPTER 10

SUMMARY AND CONCLUSIONS

NATIONAL, STATE AND LOCAL MANPOWER NEEDS INDICATE:

*The national labor force is expected to rise about 1 1/2 million a year with a continuing crisis of large scale entry of youth into the job market.

*Projected national, state and local employment figures for the next five years indicate a great need for skilled workers in all trades. Clerical, sales, service producing industries and health occupations will also be in much more demand.

*Todays' and tomorrows' world of work will increasingly be placing a premium on specific skill development and on the capacity for re-development to meet frequent skill changes throughout life.

SURVEY OF BUSINESS AND INDUSTRY INDICATES:

*The survey of business and industry revealed that 86.6% of all jobs less than top management positions require no more than a high school education for entry employment in that occupation. However, employers are also saying that high school graduates need a considerable amount of additional education and skill training before they can perform satisfactorily. This would indicate that additional education and skill training should be provided at the high school level.

*The majority of business and industrial firms in Monroe County do not have formally organized training programs and there is little indication that individual firms have plans to initiate their own programs. Therefore, increased coordination and communication among the schools, businesses and industries is needed.

*Business and industrial firms agree that existing educational facilities in Monroe County are not adequately preparing our employment-bound youth for entry employment in the labor market.

FARM MANAGEMENT INDICATES:

*The farm survey revealed that new concepts in agricultural education should be developed to meet the needs of the agricultural industry. High skilled programs in farm machinery operation, maintenance and repair, horticulture and farm management including insecticides and soil management should be developed.

SURVEY OF HIGH SCHOOL SENIORS, PARENTS AND GRADUATES INDICATES:

*Seventy-five percent of the high school seniors are not being prepared adequately for what they plan to do after graduation. These same seniors agree that adequate preparation can only be accomplished through an increased vocational or occupational guidance program and by providing more courses in vocational education.

*It was concluded in the study that senior girls who rank in the top third of the graduating class are most likely to receive the kind of education they would like and the most help in planning what they would like to do after graduation from high school than any other group of students.

*Parents of eighth grade students and high school graduates were in agreement with high school seniors that the high schools are not adequately preparing high school youth to select a vocation and that additional courses in vocational education should be provided.

*On the basis of past history, at least 25% of the youth who enter the first grade in Monroe County will never complete high school and parents overwhelmingly agree that expansion of the vocational education curriculum would motivate students to stay in school.

*Parents and graduates have indicated a desire to attend evening classes if they were available to improve their own occupational competencies.

*The survey verified that approximately one half of the parents of 8th grade students who are heads of household work outside of Monroe County and that over one half of the high school graduates are either working outside of Monroe County or those who are presently in school do not plan to return to work in Monroe County. Therefore, it is concluded that vocational programs should be developed that will meet employment needs on a broad regional basis.

ASSESSMENT OF VOCATIONAL EDUCATION NEEDS INDICATES:

*It was verified that the public schools are offering 85 class periods of employment preparation classes and that the need is for 299 class periods; therefore, an additional 214 vocational class periods or 36 programs of studies are needed to meet the needs of high school youth. It is also important to note that this total does not include the vocational education needs of the parochial school students.

THE GENERAL ECONOMY INDICATES:

*The general economy and business climate of Monroe County appear to be in favorable position for supporting a strengthened and expanded vocational education program. Businesses and industries, farm managers and parents indicated they would support this program through county-wide financing.

CHAPTER 11

RECOMMENDATIONS AND PROPOSED PROGRAM

The Executive and Advisory Committees recommend for the immediate consideration of the Monroe County Intermediate School District Board of Education:

1. A general endorsement of the findings of the study.

2. Approval of the recommendations of the study.

3. Appointment of the Executive Advisory Board called for in the proposed program.

4. Implement the recommendations as soon as possible.

RECOMMENDATIONS FOR ACTION

1. That an area vocational education center or centers be constructed, equipped and staffed in Monroe County Intermediate School District to provide a comprehensive educational program to prepare youth and adults for entry employment in Agriculture, Business, Retailing, Home Economics (wage-earning occupations), Industrial and Personal Service occupations.

These facilities should be designed for the 11th and 12th grade student and adults who need skill training or retraining. The facilities should also be made available to all public and parochial secondary students residing within the Monroe County Intermediate School District.

2. That a sufficient millage levy to allow for maintenance and operation, and approval to borrow money and issue bonds for the construction and equipment of said facility and programs be submitted to the electorate of Monroe County Intermediate School District.

PROPOSED PROGRAM

The following proposal was unanimously recommended by the school superintendents of Monroe County Intermediate School District to be presented to the electorate no later than June of 1967:

A County-Wide Plan
For Vocational Education

Description

All constituent districts in the Intermediate School District of Monroe County enter into a long-term contract to provide vocational education for all students. The location and number of area vocational centers is to be determined by an Executive Advisory Board. Students would attend half day at the vocational center and half day at the home school. At the home school the student would take his general education and extra curricular activities and then take his skill classes at the vocational center. Students would graduate from the home school and receive a certificate from the vocational center.

Outstanding Features of Area Vocational Center

1. Students should receive excellent skill training.

2. Because of a broader tax base we would equalize vocational education opportunities throughout the county.

3. There would be enough students to offer a wide range of programs.

4. Students would retain their identity, receive their academic subjects

and enter into extra-curricular activities with the home school.

5. Local districts would continue to receive state aid based on student membership.

6. Students would have excellent facilities and equipment to work with.

7. We could employ instructors who are vocationally certified and specialist in their teaching area.

8. Students would most likely have a keener interest in vocational education.

9. Vocational centers would be located at population centers regardless of school district boundaries and therefore could more adequately meet community needs.

10. Parochial students could be served on a shared-time basis.

11. Vocational education could be offered to all students with various levels of abilities.

12. Students would be encouraged to continue at the Community College technical program.

13. Programs would be offered to update and retrain adults.

14. Programs would be offered to serve the employment needs of youth who have dropped out of school.

15. Short-term special federally supported programs could be operated within the facility.

16. A thorough testing and counseling would be provided for all students from vocationally-qualified instructors.

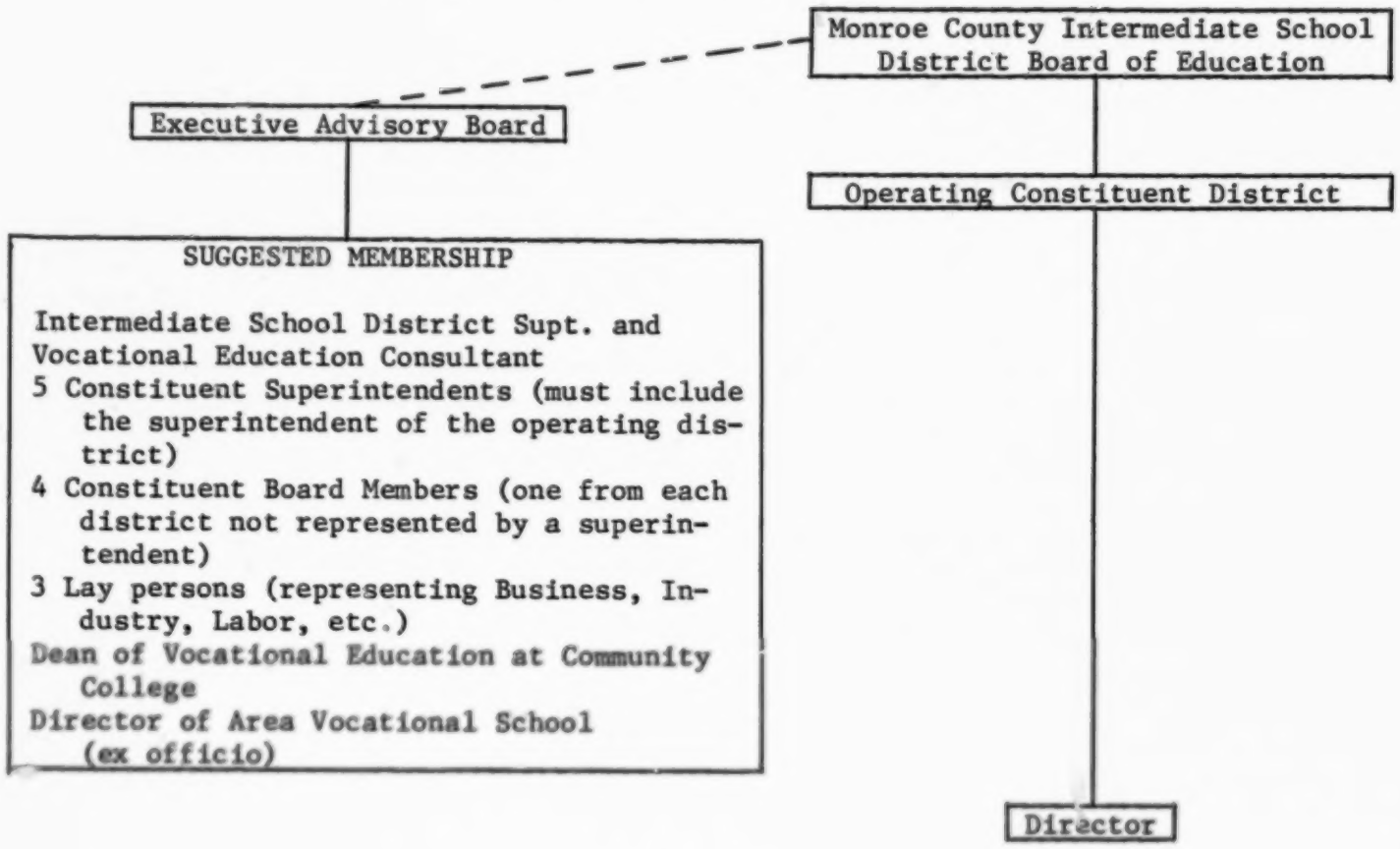
17. A project of this nature would be eligible for federal and state monies for construction, equipment and instruction.

Organization for Administration

The Monroe County Intermediate School District Board of Education will enter into a contractual agreement with a constituent school district to operate the vocational facilities. Provisions will be made in the contractual agreement that policy shall be recommended to the contracting district by an Executive Advisory Board composed of school administrators, members of boards of education, and representatives of business, industry and labor, representing all participating K-12 school districts. This Advisory Board shall be appointed by the Board of Education of the Intermediate School District.

CHART 12

RECOMMENDED ORGANIZATION FOR AREA VOCATIONAL CENTER



Legislation and Finance

The following legislation was recently passed in Michigan to facilitate the development of area vocational centers:

Public Act 114 (H.B. 3432) permits an intermediate school district in the State of Michigan to refer the question of the adoption of Sections 307A to 324A of the School Code of 1955 to the school electors of an intermediate school district which are designed to encourage the establishment and contracting for the operation of an area Vocational-technical education program. This act also permits an intermediate school district to borrow money and issue bonds for area vocational-technical facilities if approved by a majority vote of the registered school tax electors at the annual or special election. The intermediate district may not issue bonds for an amount greater than 1.5 percent of a total assessed valuation of a district. A bonded indebtedness shall not exceed a period of 30 years.

After the approval by a majority vote of the registered school tax electors and designation by the office of Vocational Education, Michigan Department of Education, as an area center, the project would be eligible for funds under the Vocational Education Act of 1963 at the rate of 50% for construction, 50% for equipment and 25% for instruction. It is possible that additional funds may be obtained from the Elementary and Secondary Education Act of 1965, Manpower Development and Training Act, Economic Opportunity Act and National Defense Education Act for special phases of the project qualifying under these acts.

GENERAL RECOMMENDATIONS

1. The area cooperative occupational education program that was established in the spring of 1966 be continued and administered through the area vocational education center.

2. Exploratory program and courses related to vocational education should be provided by the local high school for students in grades 7 through 10.

3. Vocational guidance should receive increased attention and start on the junior high school level.

4. Each student should be encouraged to utilize his interests and abilities through educational opportunities to his maximum potential. Students at the high school level should be given more help and an opportunity to select a curriculum, either academic, vocational or a combination, to prepare them for the changing world of work. Perhaps a more realistic curriculum should be a balance of academic and vocational so that the need of each student, society and industry would be served better.

5. Programs of instruction in special education should be developed at the vocational center which would accommodate the educational underachievers and educable socially-competent youth. The program of instruction would be developed at the skill level of the learner, recognizing the learner's limitations. In many instances, the students enrolled in this program have not found school work a meaningful experience, thus a major objective of this program might be to ignite the"spark of learning" through vocational-personal counseling and vocational exploration.

SPECIAL ACKNOWLEDGMENTS

Ralph C. Wenrich
Professor
Vocational Education and Practical Arts
The University of Michigan

Dr. William Ramsey
Superintendent
Penta County Area Vocational School

Mrs. Bonnie Reaume
Secretary to the Director
and the clerical staff

APPENDIX

APPENDIX A

Monroe County Intermediate
School District
110 East First Street
Monroe, Michigan

January 4, 1966

Monroe County Business and Industries
Monroe County, Michigan

Gentlemen:

I am sure you will agree that it is in the best interest of the Monroe business community to have a labor market of well-prepared, highly-skilled workers. The Monroe County Intermediate School Board and the constituent school districts have taken a step toward insuring such a market. The board has authorized a comprehensive study of vocational, technical and adult education for Monroe County. The survey is similar to 34 others being conducted in the State of Michigan. This study is important to you and to us. It will help you, by enabling us to do a better job serving your firm and other business in the city, by providing us with information about the future needs for trained personnel in the Monroe County Area.

The primary objectives of the study are:

1. To identify and evaluate what is now being done
2. To identify what needs to be done
3. To evaluate pertinent data gathered from business and industry
4. To make recommendations to help the local boards of education formulate plans for better technical, vocational and adult programs in our schools and community.

Your organization has been selected as one of those to participate in the survey. We need your help in supplying the information called for in the survey forms for business and industry.

The forms are enclosed. We are requesting that you complete the survey forms in detail and return them in the enclosed envelope. The care and thoroughness with which this form is completed will be a vital factor in the successful completion of a comprehensive survey; as a sampling technique is used, it is imperative almost 100% cooperation is received in order to obtain significant results. All information will be treated with confidence and no firm will be referred to by name. We will appreciate very much your cooperation in this important project.

Very truly yours,

Al Mallory, Vocational Consultant
Monroe County Intermediate School District

Confidential

Confidential
Form A

Monroe County Intermediate School District
110 East First Street
Monroe, Michigan
Vocational-Technical Education Survey

Business and Industry Survey

Introduction: The Boards of Education, the administrators of the local school districts in Monroe County and the Community College are cooperating to gather information and opinions from employers in Monroe County that will be used to improve vocational-technical education programs for employment-bound youth.

You can help us by completing this questionnaire as completely as possible. This information is vitally important for the training of your future employees.

The data gathered will be used for statistical analysis only; your firm will not be identified in the published reports. Please return this questionnaire completed at once in the enclosed stamped, self-addressed envelope.

Your cooperation in this study is appreciated.

PART I General Information

1. Firm Name _____

2. _____Total number of people employed by firm.

3. Please check the space opposite the description which best identifies the activities of your firm. Check more than one if necessary.

____ 01. Agricultural Services
____ 02. Advertising
____ 03. Banking and Finance
____ 04. Communications
____ 05. Construction
____ 06. Education
____ 07. Entertainment and Recreation
____ 08. Food, Dairy and Drink
____ 09. Government, Federal, State & Local
____ 10. Health, Hospital, Medical, Dental
____ 11. Hotel and Motel
____ 12. Industrial or Manufacturing
____ 13. Insurance
____ 14. Marine Services
____ 15. Printing and Publishing
____ 16. Professional - other than Medical and Dental
____ 17. Real Estate
____ 18. Retailing - other than Food, Dairy and Drink
____ 19. Serviced Establishment
____ 20. Transportation
____ 21. Utilities
____ 22. Wholesaling
____ 23. Other - write in below
_____
____ 24. _____
____ 25. _____

PART II

Please supply the information requested relative to your establishment for the skilled, semi-skilled and unskilled jobs listed below. Study the headings of each section. If it is applicable to your firm please check or fill in the information; if not, proceed to the next section.

Type of job	Average no. on payroll this year for each job	Minimum Educational Level Required for Entry Employment					Expected Annual Rate of Employment 1965-70 (check one)			Local Supply of Qualified Employees (check one)		
		Less than H. S.	High School Grad.	Tech. or Bus. School	Apprentice	College 4 yrs.	Increase	Same	Decrease	Scarce	Adequate	Surplus
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
A. INDUSTRIAL JOBS												
01. Air cond., refrig., and/or heating mechanic												
02. Appliance repairman												
03. Architectural draftsman												
04. Assembly line worker												
05. Auto mechanic												
06. Automotive technician												
07. Aviation mechanic												
08. Boat builder												
09. Bricklayer												
10. Cabinet maker												
11. Carpenter												
12. Chemical technician												
13. Chemical worker												
14. Civil & highway technician-surveyor												
15. Drafting & design technician												
16. Electrical technician												
17. Electrician												
18. Electronics repairman												

Type of job (1)	Average no. on payroll this year for each job (2)	Minimum Educational Level Required for Entry Employment					Expected Annual Rate of Employment 1965-70 (check one)			Local Supply of Qualified Employees (check one)		
		Less than H. S. (3)	High School Grad. (4)	Tech. or Bus. School (5)	Apprentice (6)	College 4 yrs. (7)	Increase (8)	Same (9)	Decrease (10)	Scarce (11)	Adequate (12)	Surplus (13)
INDUSTRIAL JOBS (cont.)												
19. Electronics technician												
20. Explosives worker												
21. Foreman-first-line supervisor												
22. Foundry worker												
23. Heavy equipment operator												
24. Industrial technician												
25. Instrumentation technician												
26. Machine Operator												
27. Machinist-general												
28. Meat cutter												
29. Mechanic-general												
30. Mechanical technician												
31. Metallurgical technician												
32. Millwright												
33. Miner												
34. Painter												
35. Plasterer												
36. Plastics worker												
37. Plumber												
38. Printer												
39. Quality control technician												
40. Railway worker												
41. Roofer												
42. Sheet metal worker												
43. Stationary operator												
44. Steam fitter												

Type of job (1)	Average no. on payroll this year for each job (2)	Minimum Educational Level Required for Entry Employment					Expected Annual Rate of Employment 1965-70 (check one)			Local Supply of Qualified Employees (check one)		
		Less than H. S. (3)	High School Grad. (4)	Tech. or Bus. School (5)	Apprentice (6)	College 4 yrs. (7)	Increase (8)	Same (9)	Decrease (10)	Scarce (11)	Adequate (12)	Surplus (13)
INDUSTRIAL JOBS (cont.)												
45. Steel worker												
46. Truck driver												
47. Unskilled laborer												
48. Welder & flame cutter												
Other (write in below) 49.												
50.												
51.												
52.												
53.												
B. SALES AND SERVICE JOBS												
01. Barber												
02. Bartender												
03. Beautician												
04. Bus boy												
05. Bus driver												
06. Cashier (retail store)												
07. Cook or chef												
08. Fireman												
09. Florist												
10. Gardener-yard care												
11. Hospital attendant												
12. Janitor												
13. Laborer												
14. Laundry & dry cleaning worker												
15. Law enforcement officer												

Type of job (1)	Average no. on payroll this year for each job (2)	Minimum Educational Level Required for Entry Employment					Expected Annual Rate of Employment 1965-70 (check one)			Local Supply of Qualified Employees (check one)		
		Less than H. S. (3)	High School Grad. (4)	Tech. or Bus. School (5)	Apprentice (6)	College 4 yrs. (7)	In-crease (8)	Same (9)	De-crease (10)	Scarce (11)	Ade-quate (12)	Sur-plus (13)
SALES AND SERVICE JOBS (cont.)												
16. Marine service worker												
17. Meter reader												
18. Plant security guard												
19. Postal worker												
20. Route salesman												
21. Salesman, brokerage												
22. Salesman, insurance												
23. Salesman, real estate												
24. Salesperson (retail)												
25. Seamstress												
26. Service station attendant												
27. Shoe repairman												
28. Stock boy												
29. Tailor												
30. Waiter or waitress												
31. Water treatment or sanitation worker												
Other (write in below) 32.												
33.												
34.												
35.												
36.												

Type of job (1)	Average no. on payroll this year for each job (2)	Minimum Educational Level Required for Entry Employment					Expected Annual Rate of Employment 1965-70 (check one)			Local Supply of Qualified Employees (check one)		
		Less Than H. S. (3)	High School Grad. (4)	Tech. or Bus. School (5)	Apprentice (6)	College 4 yrs. (7)	Increase (8)	Same (9)	Decrease (10)	Scarce (11)	Adequate (12)	Surplus (13)
C. BUSINESS AND OFFICE JOBS												
01. Accountant												
02. Advertising and/or commercial art												
03. Bank clerk or teller												
04. Bookkeeper												
05. Business data processing												
06. Business management												
07. Cashier, retail												
08. Checkers												
09. Clerk, file												
10. Clerk-typist												
11. Dispatcher												
12. General office worker												
13. Merchandising												
14. Office machine operator												
15. Paymaster												
16. Retail management & buying												
17. Sales manager												
18. Secretary												
19. Stenographer												
Other (write in below)												
20.												
21.												
22.												
23.												
24.												

Type of job (1)	Average no. on payroll this year for each job (2)	Minimum Educational Level Required for Entry Employment					Expected Annual Rate of Employment 1965-70 (check one)			Local Supply of Qualified Employees (check one)		
		Less than H. S. (3)	High School Grad. (4)	Tech. or Bus. School (5)	Apprentice (6)	College 4 yrs. (7)	In-crease (8)	Same (9)	De-crease (10)	Scarce (11)	Ade-quate (12)	Sur-plus (13)
D. HEALTH, HOSPITAL & MEDICAL JOBS												
01. Dental office asst.												
02. Dental hygienist												
03. Medical office asst.												
04. Medical lab technician												
05. Nurse's Aide												
06. Nurse (practical)												
07. Nurse (registered)												
08. Psychiatric technician												
09. X-ray technician												
Other (write in below) 10.												
11.												
12.												
13.												
14.												
E. AGRICULTURAL JOBS												
01. Farm worker												
02. Nursery worker												
03. Packer or shipper												
Other (write in below) 04.												
05.												
06.												
07.												
08.												

PART III--Employer Opinion and Practice

1. Recalling the employing practices of your firm for the past five-year period, which one of the following statements best describes your evaluation of young persons who have applied for entry jobs with your organization?

____(1) We have employed a number of young non-high-school graduates, and we have found they can perform satisfactorily in the following jobs: (specify)

_____

_____

____(2) We have employed a number of young non-high-school graduates, but find they need a considerable amount of additional education and/or training before they can perform satisfactorily.

____(3) We have found young non-high-school graduates unsatisfactory for the following reasons:_____

_____

_____

____(4) Most young high-school graduates who apply seem reasonably well prepared for entry employment, and we have employed them as openings have occurred.

____(5) We have employed a number of young high-school graduates but find they need a considerable amount of additional education and training before they can perform satisfactorily.

____(6) We have found it inadvisable to employ young high-school graduates, except for unskilled jobs.

____(7) The nature of most of the entry jobs in our firm is such that young high-school graduates are virtually unemployable, because of a lack of occupational training.

2. To what extent do existing educational facilities in the Monroe Area meet the occupational and training needs of your company or firm?

____(1) Very well ____(2) Fairly well ____(3) Poorly

3. The type of instruction, equipment and buildings needed for vocational-technical training is costly. In your opinion would this be more easily accomplished by: (check one)

____(1) County-wide financing
____(2) Local school district financing
____(3) Multiple school district financing

4. Would you and your firm be interested in participating in discussions or further study of plans for improving occupational education and training at high school and post-high school levels in the Monroe Area?

____(1) Yes ____(2) No

5. Is there a formally organized training program in your company or firm?

____(1) Yes ____(2) No

6. If "yes", check each type of program you now operate on a formal basis:

____(1) Apprenticeship
____(2) Supervision
____(3) Technician
____(4) Plant management
____(5) Executive development
____ Other (write in below)
____(6) _____
____(7) _____

7. If new or expanded vocational-technical curriculums or courses were to be offered in high schools, which curriculums or courses would you recommend which would be of value to prospective employees of your firm?

_____

_____

_____

_____

8. Please add any comments which you, or other officials of your firm may wish to make about the improvement of education and training opportunities in the Monroe Area. Include your suggestions as to the kind and level of educational programs which should be provided. (Example: automotive mechanics, H.S.; automotive technician, Community College)

_____

_____

_____

_____

Thank you for your interest and cooperation.

Monroe Vocational Education
Advisory Committee

Confidential

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Form B

Monroe County Intermediate School District
110 East First Street
Monroe, Michigan
Vocational-Technical Education Survey

Survey of Farm Labor Needs

Introduction: The Boards of Education, the administrators of the local school districts in Monroe County and the Community College are cooperating to gather information and opinions from employers in Monroe County that will be used to improve vocational-technical education programs for employment-bound youth.

You can help us by completing this questionnaire as completely as possible. This information is vitally important for the training of your future employees.

The data gathered will be used for statistical analysis only; your farm will not be identified in the published reports. Please return this questionnaire completed at once in the enclosed stamped, self-addressed envelope.

Your cooperation in this study is appreciated.

---

1. Please check the space that best identifies the size of your farm (acres).

   1. _____(0 - 150)
   2. _____(150 - 250)
   3. _____(250 - 400)
   4. _____(over 400)

2. Kind of farming done:

Crops	(Acres)	Livestock	(Head)

3. How many full-time man equivalents work on your farm? (express in tenths - example; 1.0 for yourself if full time, 0.5 for family member if 1/2 time, etc.)

   1. Self _____
   2. Family _____
   3. Hired _____
   4. Total _____

4. Would you hire additional help if available and dependable and at a reasonable wage? Yes ____ No ____ If "yes":

Kind of Work	Number of Workers Needed	Full Time or Part Time	Kind of Skill Needed

5. If present help left, would you fill the vacancy? Yes ____ No ____

6. Farm operator by age:

1. Under 25 ____	3. 36 - 45 ____	5. 56 - 64 _____
2. 26 - 35 ____	4. 46 - 55 ____	6. 65 or over ____

7. How many years of agricultural education has the farm operator had in

   1. High school _____
   2. Adult education classes _____
   3. College _____

8. Do the existing educational programs in the Monroe County Area meet the agricultural training needs for your farm?

   _____1. Yes _____2. No

9. Are existing facilities adequate: _____1. Yes _____2. No

10. The type of instruction, equipment and buildings needed for vocational-technical training is costly. In your opinion would this be more easily accomplished by: (check one)

    _____1. County-wide financing
    _____2. Local school district financing
    _____3. Multiple school district financing

11. Would you be interested in participating in discussions or further study of plans for improving agricultural education and training at high school and post-high school levels in the Monroe Area?

    _____1. Yes _____2. No _____3. Undecided

    If yes, would you please give your name_____

12. What is your estimated annual need for employees during the next five years?

    1. Part-time_____ Type of Work _____
    _____
    _____

    2. Full-time_____ Type of Work _____
    _____
    _____

13. General comments: (Add any comments which you may wish to make about the improvement of agricultural education that could be of benefit to either yourself or your employees. Include your suggestions as to the subject knowledge or skills and level of education programs.)

_____

_____

_____

_____

Confidential

Confidential
Form C

_____School District Code Number

Monroe County Intermediate School District
Vocational-Technical Education Survey

Information Sheet for High School Seniors

READ THIS BEFORE YOU BEGIN:

A study is underway aimed at improving vocational education opportunities in this area. You can help, too, by answering each of the questions which follow.

This is not a test. The answers you give will not affect your grades. Neither your teachers nor your classmates will see your answers. DO NOT SIGN YOUR NAME.

For the most part you simply check the questions that apply to you. Please answer all questions as completely as possible.

---

1. Sex (check one)
   _____1. Boy _____2. Girl

2. Which of the following best describes your high school program of study? (check one)
   _____1. Commercial or business education
   _____2. College or university preparatory
   _____3. Shop or industrial arts
   _____4. Agriculture
   _____5. Homemaking or home economics
   _____6. General
   _____7. Other (write in)_____

3. To the best of your knowledge, where do you rank in your graduating class? (check one)
   _____1. Top third _____2. Middle third _____3. Lower third

4. How long have you lived in this school district? (check one)
   _____1. Less than a year _____3. 3 to 5 years _____5. Over 10 years
   _____2. 1 to 2 years _____4. 6 to 10 years

5. How well do you think your high school is preparing you for what you plan to do after graduation? (check one)
   _____1. Providing just what is needed.
   _____2. Very well in some ways but in other ways preparation is not adequate.
   _____3. Fairly well but not offering the kind of training I would like.
   _____4. Poorly

6. How do you think the high school could prepare you better? (check all that apply)
   _____1. Provide more vocational or occupational guidance.
   _____2. Provide more courses in vocational education.
   _____3. Other (write in)_____
   _____

7. List one job which would be your first preference to be doing ten years from now. (write in)

_____

8. How much help have you received in high school in deciding what you plan to do after graduation? (check one)
   _____1. A lot of help, all you need.
   _____2. Considerable help but you could have used more.
   _____3. Some help but not very much.
   _____4. Little or no help.

9. How do you think your parents feel about what you do after you graduate from high school? (check one)
   _____1. Want me to work and learn a trade.
   _____2. Want me to take a two-year technical program. (Community College level)
   _____3. Would like me to take a 4-year college program.
   _____4. They don't care or are undecided.

10. Do you have a part-time job during school? (check one) ____ Yes ____ No

11. If we were to expand the types of vocational training that will be available to high school students, what kinds of courses would you like to see taught? (check as many as you like)

____1. Air conditioning & refrigeration	____14. Foundry
____2. Appliance repair	____15. Landscape
____3. Auto body and fender	____16. Nursery
____4. Auto mechanic	____17. Nurse's aide
____5. Business machines	____18. Plumbing & pipe fitting
____6. Cosmetology	____19. Practical nurse
____7. Data processing	____20. Printing
____8. Electrician	____21. Retail & Sales
____9. Cabinet maker	____22. Welding
____10. Carpenter	____23. Waiter & waitress
____11. Cook, commercial	____24. Work attitudes
____12. Electronics	____25. Other (write in) _____
____13. Machine trades	____26. _____

12. Do you plan to attend college or a university? (check one)
   ____1. No ____3. Probably so ____5. Don't know
   ____2. Probably not ____4. Yes

NOTE: Answer the following question <u>ONLY</u> if your future plans include "<u>NO</u>", "<u>PROBABLY NOT</u>" or "<u>DON'T KNOW</u>" as indicated in Question 12. (If you answered, "Yes", or "Probably so", to Question 12, skip this entire section and do not answer.)

13. Which of the following types of training or education interest you most? (check one)
   _____1. Paid apprenticeship as a helper to learn a trade.
   _____2. On-the-job training with a company or industrial firm.
   _____3. Correspondence study.
   _____4. Post-graduate high school work in high school at night.
   _____5. Adult education classes.
   _____6. Military service or training.
   _____7. Other (write in) _____

14. What is the most important reason why you do not plan to go to college? (check one)

_____1. Want to work and make money.
_____2. Can't afford it.
_____3. Parents don't want me to.
_____4. Can be just as successful without going to college.
_____5. Waste of time.
_____6. Couldn't make good enough grades.
_____7. Want to get married.
_____8. Tired of school.
_____9. Other (write in)_____

Do Not Sign Your Name

Please return questionnaire to your teacher.

Thank you for your cooperation.

Monroe County Citizens' Committee

Confidential

Confidential
Form D

_____ School district code number

Monroe County Intermediate School District
Vocational-Technical Education Survey

Parent Questionnaire

Introduction: The purpose of this questionnaire is to gather information and opinions from parents of children now in the eighth grade about long-range plans for education and training. The information and opinions obtained will become a part of an area study now being conducted.

You can aid in this study by completing this brief questionnaire for the committee. Answering these questions will only take a few minutes of your time; so please answer them now. Please have your child return the completed questionnaire to school tomorrow. The results will be used for statistical purposes only, so please do not sign your name.

---

1. The head of our household is: (check one)

   _____1. Male _____2. Female

2. The head of our household works in: (check one)

   _____1. Monroe County _____3. Lucas County
   _____2. Wayne County _____4. Other (write in) _____

3. The head of our household is: (check one)

   _____1. Self Employed _____5. Skilled Worker
   _____2. Professional _____6. Semi-Skilled Worker
   _____3. Management _____7. Laborer
   _____4. Office Worker _____8. Unemployed

4. How long have you lived in your present school district as a family? (check one)

   _____1. Less than one year _____3. 5 to 10 years
   _____2. 1 to 5 years _____4. Over 10 years

5. How certain are you that your eighth grade child will attend college? (check one)

   _____1. Definitely will expect to attend _____4. Probably not attend
   _____2. Probably attend _____5. Definitely do not expect to attend
   _____3. Uncertain

6. In your opinion, are high school students adequately prepared by the schools to select a vocation? (check one)

   _____1. Yes _____3. No
   _____2. Fair _____4. No idea

7. In your opinion, is the high school in your district providing sufficient opportunities for students to learn a vocation? (check one)

   _____1. Yes _____3. No
   _____2. Fair _____4. No idea

8. In your opinion, is there a need for additional vocational programs on the 11th and 12th grade levels? (check one)

_____1. Yes, many
_____2. A few
_____3. None
_____4. Don't know

9. If we were to expand the types of vocational training that will be available to your child, what kinds of courses would you like to see taught? (check as many as you like)

____1. Air conditioning & refrigeration
____2. Appliance repair
____3. Auto body and fender
____4. Auto mechanic
____5. Business machines
____6. Cosmetology
____7. Data processing
____8. Electrician
____9. Cabinet maker
____10. Carpenter
____11. Cook, commercial
____12. Electronics
____13. Machine trades
____14. Foundry
____15. Landscape
____16. Nursery
____17. Nurse's Aide
____18. Plumbing & pipe fitting
____19. Practical nurse
____20. Printing
____21. Retail & sales
____22. Welding
____23. Waiter & waitress
____24. Work attitudes
____25. Other (write in)_____
____26. _____
____27. _____
____28. _____

10. The type of instruction, equipment and buildings needed for vocational-technical training is costly. In your opinion would this be more easily accomplished by: (check one)

_____1. County-wide financing
_____2. Local school district financing
_____3. Multiple school district financing

11. Providing that your children do not expect to attend college and if a quality vocational program were made available to them, would you encourage them to avail themselves of this kind of training? (check one)

_____1. Yes _____2. Possibly _____3. No

12. Are you concerned about high school students dropping out of school? (check one)

_____1. Yes _____2. No _____3. Don't know

13. Do you think broadening the vocational opportunities in high school would keep students in school longer? (check one)

_____1. Yes _____2. No _____3. No effect _____4. Don't know

14. If we have vocational programs as discussed above, would you be interested in attending evening school to improve your own abilities? (check one)

_____1. Yes _____2. No _____3. Don't know

15. This questionnaire was filled out by:

_____1. Mother _____2. Father _____3. Both _____4. Guardian

Confidential

Confidential
Form E

_____Graduation Code Number

Monroe County Intermediate School District
110 East First Street
Monroe, Michigan
Vocational-Technical Education Survey

Graduate Follow-up Questionnaire

Introduction: The purpose of this questionnaire is to gather information and opinions from high school graduates about long-range plans for education and training. The information and opinions obtained will become a part of an area study now being conducted.

You can aid in this study by completing this brief questionnaire for the committee. Answering these questions will only take a few minutes of your time: do it NOW, please. Your story is important. So won't you please fill out the information schedule and mail it promptly. The return envelope is already addressed and stamped for your convenience. Responses are confidential and will be used for statistical purposes only.

Answer only if question applies to you.

1. Where are you living at the present time? (check one)
   _____1. In Monroe County
   _____2. In Wayne County
   _____3. In Lucas County, Ohio
   _____4. Other (write in)_____

2. Check program of study followed in high school. (check one)
   _____1. General
   _____2. Vocational
   _____3. Commercial
   _____4. College Prep

3. To the best of your knowledge, what was your academic rank in your high school graduating class? (check one)
   _____1. Top Third _____2. Middle Third _____3. Lower Third

4. What type of further training or education have you received since graduating from high school? (check all that apply)
   _____1. No additional training or schooling
   _____2. On-the-job training at a place where I was employed
   _____3. Business college
   _____4. Trade or technical school
   _____5. College or university
   _____6. Adult education course at a local high school
   _____7. Military service school
   _____8. Apprenticeship
   _____9. Other (write in)_____

5. Are you going to college at the present time? (check one)
   _____1. Yes, full-time _____2. Yes, part-time _____3. No

6. If you had made a vocational choice on graduation from high school, are you now engaged in this type of work at present? (check one)
   _____1. Yes _____2. No _____3. No choice at that time

7. Is your present work related to any vocational-type courses you took in high school?
   _____1. Yes _____2. No _____3. Didn't take any vocational courses

8. Do you feel that your high school had a sufficient number of vocational courses available for the employment-bound student?

_____1. Yes _____2. No _____3. Don't know

9. Would you have taken more of these vocational type courses had they been offered?

_____1. Yes _____2. No _____3. Don't know

10. Are you presently interested in taking more training of a vocational nature? (check one)

_____1. Yes _____2. No

11. If yes, and if we were to expand the types of vocational training that will be available, what kinds of courses would you like to see taught? (check as many as you like)

____1. Air conditioning & refrigeration
____2. Appliance repair
____3. Auto body and fender
____4. Auto mechanic
____5. Business machines
____6. Cosmetology
____7. Data processing
____8. Electrician
____9. Cabinet maker
____10. Carpenter
____11. Cook, commercial
____12. Electronics
____13. Machine trades
____14. Foundry
____15. Landscape
____16. Nursery
____17. Nurse's aide
____18. Plumbing & pipe fitting
____19. Practical nurse
____20. Printing
____21. Retail & sales
____22. Welding
____23. Waiter & waitress
____24. Work attitudes
____25. Other (write in)_____
____26. _____

12. In which of the following types of training or education would you be most interested? (check all that apply)

____1. Work for several years as a paid apprentice (helper) to learn a trade.
____2. Take post-graduate high school work in the high school at night.
____3. Enter military service for training.
____4. On-the-job training with a company or industrial firm.
____5. Correspondence study.
____6. Attend adult education classes.
____7. Enrollment in a community college on a part-time basis.
____8. None of the above.
____9. Other (write in)_____

13. If you were a student just entering high school and if you had a choice, what type of program would you pursue?

____1. Academic-college bound program of study
____2. Vocational-employment bound program of study
____3. Combination of both

14. If you are now working, is this the field of work you want to stay in?

_____1. Yes _____2. No _____3. Undecided

If yes, what kind of work?_____

15. In what county are you working?

_____1. In Monroe County
_____2. In Wayne County
_____3. In Lucas County, Ohio
_____4. Other (write in)_____

16. If you were (or are) a parent today, would (will) you encourage your children to follow a program of study for the employment-bound student? (assuming adequate facilities were available and if your child shows an interest in and seems suited for this particular kind of program)

_____1. Yes _____2. No _____3. Undecided

17. If you are presently in school or in training, do you plan to return and work in Monroe County?

_____1. Yes _____2. No _____3. Undecided

If yes, what kind of work?_____

MONROE COUNTY INTERMEDIATE SCHOOL DISTRICT
110 East First Street
Monroe, Michigan

Vocational-Technical Education Survey

School Facilities

Introduction: Monroe County Intermediate School District is engaged in a study of vocational-technical needs in Monroe County. The primary purpose of this study is to provide information upon which a comprehensive and coordinated plan can be developed for vocational-technical education and implementation of that plan.

The purpose of this questionnaire is to gather information concerning vocational education programs and facilities in Monroe County. The results will be used for statistical analysis in reports to be published in conjunction with the Systematic Study of Vocational-Technical Education Needs.

School District _____ Building _____

Person Completing Survey Form _____

Position _____

Guidance and Placement

1. Does your school have a job placement service?

   _____Yes _____No

2. If yes, what position does the Director hold?

   _____ Teacher
   _____ Counselor
   _____ Coordinator
   _____ Vocational Education Director
   _____ Asst. Principal
   _____ Other (specify) _____

INSTRUCTIONS:

PLEASE SUPPLY THE INFORMATION REQUESTED BELOW.
COUNT EACH CLASS ONCE

Item:

I. Indicate the number of rooms in local district at the secondary level (this may give you a fractional room).

II. Time per day room is in use -- include evening school (clock hours).

III. New facilities definitely scheduled for 1966-67 school year.

IV & V. Indicate total number of students in class on a year basis (use an * if only offered for one semester).

VI. Please indicate by a check either Practical Arts or a vocational class, as the case may be. In Trade and Industrial the class must be two or more hours in length to be classified vocational.

VII. Please specify the total hours per day that the classroom is in use for vocational purposes only.

Courses in Trade & Ind. and Ind. Arts	I	II	III	IV				V				VI		VII
	No. of Rooms Sec. Level	Time Per Day Room in Use	New Facilities for 1966-67	7	8	9	Total	10	11	12	Total	Prac. Arts	Voc.	Time Per Day Voc. Use
Appliance Repair														
Art Metal														
Arts & Crafts														
Auto Mechanics														
Blueprint Reading														
Ceramics														
Dental Assistant														
Drawing & Planning (beginning drafting)														
Electricity														
Electronics														
Foundry														

Courses in Trade & Ind. and Ind. Arts	I	II	III	IV				V				VI		VII
	No. of Rooms Sec. Level	Time Per Day Room in Use	New Facilities for 1966-67	7	8	9	Total	10	11	12	Total	Prac. Arts	Voc.	Time Per Day Voc. Use
General Agriculture														
General Drafting														
General Metals														
General Shop														
Graphic Arts														
Machine Drawing														
Machine Shop														
Power Mechanics														
Printing														
Welding														
Woodworking														
Co-op T & I														
Other (specific)														
Courses in Bus. Education														
Accounting														
Advertising														
Business English														
Business Law														

Courses in Business Education	I	II	III	IV				V				VI		VII
	No. of Rooms Sec. Level	Time Per Day Room in Use	New Facilities for 1966-67	7	8	9	Total	10	11	12	Total	Prac. Arts	Voc.	Time Per Day Voc. Use
Business Machines														
Business Management														
Business Math														
Business Organization														
Business Principles														
Bookkeeping														
General Business														
Merchandising														
Office Practice														
Personal Typing														
Retailing														
Shorthand														
Typing														
Office Workshop (2 or 3 hours)														
Co-op (office)														
Co-op (distributive)														
Other (specify)														

Courses in Home Economics and Health	I	II	III	IV				V				VI		VII
	No. of Rooms Sec. Level	Time Per Day Room in Use	New Facilities for 1966-67	7	8	9	Total	10	11	12	Total	Prac. Arts	Voc.	Time Per Day Voc. Use
Child Care														
Family Relations														
Foods														
Home Economics														
Home and Family Living														
Home Management														
Interior Decorating														
Nurse Aide														
Sewing														
Tailoring														
Co-op (health occupations)														
Other (specify)														

APPENDIX B

VOCATIONAL SURVEY

Committee #1
Manpower Needs

Suggested Working Outline

Purpose:

To survey all business, industry, service, and agriculture occupations to find existing and projected employment needs and their attitudes concerning present and proposed vocational-technical education programs.

Procedure:

The basic tool of the committee will be a questionnaire. This instrument should identify:

a. Employers by principle product or service and by number of persons employed.

b. The employer's present and anticipated employment by occupational classification.

c. Availability and future outlook of entry jobs for school drop-outs, high school graduates, and for persons possessing one or more years of technical training past high school.

d. Present training programs conducted by the employer.

e. Employer interest and the practicality of using the schools for employee re-training needs.

The survey should also determine opinions relative to:

a. The adequacy of occupational preparation of persons seeking entry employment today.

b. The anticipated need for specific occupational skills.

c. The relative value of various school programs and subjects as preparation for employment.

d. The desirability of an area vocational-technical school as contrasted with strengthened programs within the comprehensive high school.

Nature of the Report:

The committee should prepare its report with the assistance of the survey director and such other help as it deems necessary. All sources of data, projections, charts, and graphs should be carefully noted. The reports will be duplicated and distributed to the Policy Committee of the Monroe County Intermediate School District Area Survey for review. After approval by the

Citizens' Advisory Committee, the report will be published as a part of the complete Vocational-Technical Occupation Survey. This complete report will be given to the Superintendents in the county for implementation.

VOCATIONAL SURVEY

Committee #2
Existing & Proposed Programs

Suggested Working Outline

Purpose:

To survey all existing programs and facilities for vocational-technical education for high school and post high school. To recommend and report on means of upgrading, expanding, coordinating and providing guidance and placement services for these and any new programs.

Committee Procedure:

The committee's work to be divided into two phases to conduct a school program survey and to make specific program recommendations.

Survey - The basic tool of the committee will be a questionnaire used to identify the following:

a. All on-going vocational-technical programs in the area and adult education programs.

b. The capacity and utilization of facilities.

c. The kind, amount, and condition of equipment.

d. Teacher preparation, certification, and availability.

e. The use of guidance, job placement, and follow-up techniques.

Program Recommendations - Thought should be given to individual, multi-district, and county programs and facilities to include high school students and advanced programs of one, two, or three years beyond the high school diploma. Direction for determining new programs in vocational-technical education needs will come from the following:

a. Survey results of Manpower Needs, Committee #1.

b. Survey results of Student, Parent and Graduate Opinions, Committee #3.

c. Survey results of Population Trends, Committee #5.

d. The study of available national, state, and regional labor trends and needs for job skills.

e. The study of vocational-technical education programs and practices developed elsewhere.

f. It is suggested that the committee prepare a complete program of courses which should provide adequate training for entry into an occupation or cluster of occupations available to high school graduates and post high school training.

Nature of the Report:

The committee shall prepare its report and recommendations with the assistance of the survey director and such other help as necessary. All sources of data, projections, charts, and graphs should be carefully noted. The reports will be duplicated and distributed to the Policy Committee of the Monroe County Intermediate School District Area Survey for review. After approval by the Citizen's Advisory Committee the report will be published as a part of the complete vocational-technical survey. This complete report will be given to the Superintendents in the county for implementation.

VOCATIONAL SURVEY

Committee #3
Student, Parent and Graduate

Suggested Working Outline

Purpose:

To survey and report on opinions and attitudes of parents of children now in school about long range plans for education and training. To report on feelings, attitudes, and opinions of high school graduates and high school seniors as to their needs for vocational-technical training and adequacy of present programs.

Procedure:

The basic tool of the committee will be several questionnaires which should identify:

a. Parents opinions and feelings of 8th grade students, future training necessary for their children, adequacy of present school programs, types of vocational-technical training needed, best way to finance programs, student travel to area programs.

b. Senior high school student present programs, future plans, attitudes towards vocational-technical programs, adequacy of school offerings, counseling and guidance, facilities, and other school services.

c. High school graduates of one, two or three years, high school program followed, adequacy of school offerings, counseling, facilities, other school services, present occupation or training, type of training would have taken if it was available in high school.

Nature of the Report:

The committee shall prepare its report and recommendations with the assistance of the survey director and such other help as necessary. All sources of data, projections, charts, and graphs should be carefully noted. The reports will be duplicated and distributed to the Policy Committee of the Monroe County Intermediate

School District Area Survey for review. After approval by the Citizen's Advisory Committee the report will be published as a part of the complete vocational-technical survey. This complete report will be given to the Superintendents in the county for implementation.

VOCATIONAL SURVEY

Committee #4
Financing and Administration of Programs

Suggested Working Outline

Purpose:

To report on methods of financing, organizing, and administering programs in vocational-technical education.

Procedure:

The committee should study and recommend solutions to the following specific problems:

a. A statement of philosophy of vocational-technical education suitable to the needs of the citizens of this area.

b. Method or methods of financing specific programs recommended by Committee #2 including facilities and equipment.

c. Development and placement of new and additional facilities.

d. New organizational patterns and possibilities suitable to the needs of this area, studying the limitations of existing school districts and state school codes.

e. Administering all programs of vocational-technical education on a county or multi-district basis.

Information for study may be gathered from other working committees, Department of Education, other state and area programs, Monroe County Regional Planning Commission, and other sources as necessary.

Nature of the Report:

The committee shall prepare its report and recommendations with the assistance of the survey director and such other help as necessary. All sources of data, projections, charts, and graphs should be carefully noted. The reports will be duplicated and distributed to the Policy Committee of the Monroe County Intermediate School District Area Survey for review. After approval by the Citizen's Advisory Committee the report will be published as a part of the complete vocational-technical survey. This complete report will be given to the Superintendents of the county for implementation.

VOCATIONAL SURVEY

Committee #5
Population - Publicizing

Suggested Working Outline

Purpose:

Prepare projected school enrollments report on population trends and characteristics significant to employment opportunities. Publicize the survey activities and publication of all final survey reports. This report will provide the foundation for the other survey reports and a large measure of the justification for the total survey recommendations.

Committee Procedure:

a. Prepare questionnaire requesting projected school enrollment information.

b. Prepare population forecasts for all county areas, using maps, charts, and graphs where necessary.

c. Publicize continuing activities of all citizens committee's work.

d. Write and make arrangements for final publication of all survey reports and recommendations.

Sources available:

Monroe County Regional Planning Commission
Intermediate School District of Monroe County
K thru 12 school districts
Michigan Employment Security Commission
City and Township Planning Boards
Detroit Edison Company
Consumers Power Company
Michigan Bell Telephone Company
General Telephone Company
Michigama Telephone Company
Greater Monroe Chamber of Commerce

The committee should examine all population studies and projections which it can obtain, extract significant data, and compile it into a comprehensive report. This report should indicate the lowest and highest projections and the committee's own projections with justification for these.

Nature of the Report:

The committee shall prepare its report and recommendations with the assistance of the survey director and such other help as necessary. All sources of data, projections, charts, and graphs should be carefully noted. The reports will be duplicated and distributed to the Policy Committee of the Monroe County Intermediate School District Area Survey for review. After approval by the Citizen's Advisory Committee the report will be published as a part of the complete vocational-technical survey. This complete report will be given to the Superintendents in the county for implementation.

BIBLIOGRAPHY

1. Wenrich, Ralph C., The Neglected Youth in Our High Schools, The University of Michigan School of Education Bulletin, XXXV (February, 1964), pages 65 - 70.

2. Michigan, The Department of Public Instruction, A Statement of Basic Philosophy Regarding Public Education in Michigan, Bulletin #364, 1960, page 6.

3. U. S. Department of Health, Education & Welfare, Education for a Changing World of Work: Report of the Panel of Consultants on Vocational Education, OE-80021, 1963, page 222.

4. Michigan Employment Security Commission, Manpower in Michigan: A Reappraisal of the 1960's.

5. U. S. Department of Labor, Manpower Needs of the Future, Manpower Administration, Washington, D. C.

6. Monroe County Regional Planning Commission, Comprehensive Development Plan for the Monroe County Region, Parkins, Rogers & Associates, Inc.

7. Nevel, F. Paul and Malcommson, John L., A Survey of Non-Farm Agricultural Occupations in Monroe County, Michigan, February, 1965.

8. Monroe County Intermediate School District, Monroe County Public School Statistics, 1960 - 1966.

VT 001 082
Manpower Resources of Burnett County, Wisconsin.

Wisconsin State Employment Service, Superior
Wisconsin Univ., Madison. Agricultural Extension Service
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 65 77p.

*OCCUPATIONAL SURVEYS; *LABOR FORCE; INDIVIDUAL CHARACTERISTICS; *JOB APPLICANTS; POPULATION TRENDS; EMPLOYMENT TRENDS; *LOW INCOME COUNTIES; RURAL AREAS; *EMPLOYMENT SERVICES
BURNETT COUNTY; WISCONSIN

Temporary employment office services were made available to a remote, rural low-income area to provide employment counseling and placement assistance, to determine manpower and economic resources, and to assist in planning a program of economic development. Data from U.S. Census tables and Unemployment Compensation tables, 1940 to 1960, indicate: (1) a population decline of 19 percent, (2) a labor force decline of 24 percent, (3) an agricultural employment decline of 30 percent, (4) an out-migration of over 50 percent of youth 15 to 25, (5) a median educational attainment of 8.8 grades, (6) an unemployment rate that exceeds 6 percent throughout the year and 9 percent in the winter, and (7) little industrial growth in the last three years. Information from 600 Employment Service applicants indicates: (1) 60 percent were high school graduates or above, (2) 67 percent were between 14 and 44 years of age, (3) 67 percent were unemployed, (4) 87 percent earned less than $3,000 during the last year, (5) 24 percent would commute 30 miles daily, and 79 percent 20 miles daily for work, and (6) the lower the skill level the more willing the applicant was to commute or move. Employers expected an increased employment need of only 70 percent by 1969. Lack of qualified skilled persons was the basic problem of employers in hiring new employees. Recommendations include: (1) More local development groups should be organized, (2) Promotion of the recreation and tourist industry should be accelerated, and (3) The county in conjunction with nearby counties, should promote establishment of vocational training facilities. Statistical data on all applicants are given in the appendix. (EM)

VT 001 082

EDO 30001

C1
75p*

MANPOWER RESOURCES

OF

BURNETT COUNTY

VT001082

MANPOWER RESOURCES OF BURNETT COUNTY
WISCONSIN
1965

Presented by:
WISCONSIN STATE EMPLOYMENT SERVICE
1616 Tower Avenue
Superior, Wisconsin
J. P. Budzynski, Manager

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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REPORT OF
SMALLER COMMUNITY PROGRAM
of the
Wisconsin State Employment Service
A Division of the Industrial Commission

In Cooperation With
RURAL AREA DEVELOPMENT PROGRAM
of the
Agricultural Extension Service
College of Agriculture, University of Wisconsin

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FOREWORD

OBJECTIVES:

The study of the manpower resources of Burnett County was undertaken and accomplished under the Department of Labor's program of expanded services to smaller communities. The operation of this program in Wisconsin is designed to extend temporary employment office services to remote, rural low-income areas which are not contiguous to a major labor market area and are not now receiving the full-measure of easily accessible service from a permanent local employment service office. The objective of this temporary, but full-time service, is to promote both the economic welfare of the area and the vocational goals of individual residents. This is facilitated in cooperation with the Department of Agriculture's program of Rural Areas Development. The immediate objectives are:

1. To provide employment counseling and placement assistance to individuals for jobs within or outside the area being served.

2. To determine the current and potential manpower resources.

3. To assist local planning groups in evaluating the over-all economic resources of the area in relation to the manpower resources.

4. To encourage and assist those groups in planning a program of economic development.

SERVICES:

To achieve these objectives, the Wisconsin State Employment Service established a "Smaller Community Temporary Office" at Webster, Wisconsin. The mobile crew, a staff of experienced employment service counselors, was assigned five basic tasks:

1. To provide the full range of employment service facilities and service to residents and employers of the county.

2. To register and interview all applicants interested in employment and to assist them in locating suitable jobs.

3. To test and counsel all interested applicants in evaluating their occupational potential for specific fields of work.

4. To survey the employers of the county to determine both current and anticipated employment requirements of existing business and industry.

5. To cooperate with various federal, state, and local agencies and quasi-public organizations in the development of plans designed to improve and stabilize the economic welfare of the county and its residents.

REASONS FOR SELECTION:

Early in 1964 a decision was made to conduct the manpower survey in a five county area in northwestern Wisconsin over a period of the next two years. It was felt that an area approach would facilitate advance preparation and follow up. The Burnett County Agricultural Committee and the County Agricultural Agent requested the survey for the early fall and winter so as to insure the registration of more seasonal workers. Burnett County was selected for participation in the Smaller Community Program in view of this request and its declining population, labor force and farm employment as well as its status as a rural non-industrial county with a low median family income.

BACKGROUND:

This study represents a part of the total continuing effort by WSES personnel to widen their scope of service and assist the county in its total resource development effort. Employment service personnel are anxious to know of any value this contribution may make in the total resource effort. Employers and businessmen contemplating expansions or new plant locations are urged to critically evaluate this study as to its value to them in terms of manpower resources, and to communicate their comments to the Wisconsin State Employment Service.

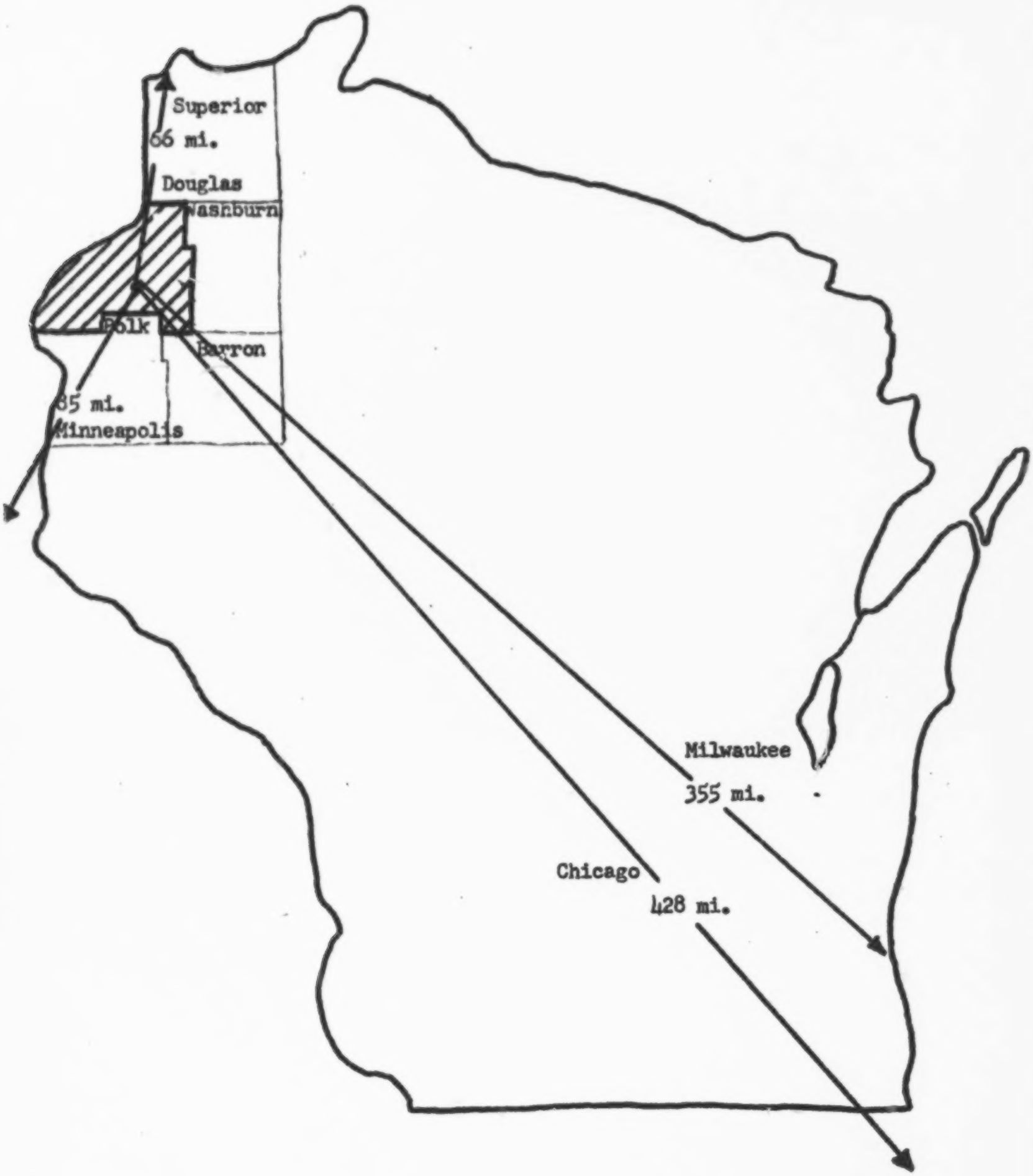
This material should also be of interest to other groups sincerely interested in the welfare and future of Burnett County, since much of the detail here actually reflects upon the adequacy of services of local institutions in terms of the needs, desires and ambitions of the people. Groups and agencies who are unselfishly concerned with employment opportunity, vocational training, education, taxes, and welfare should find some items of use and interest in this publication.

ACKNOWEDGEMENTS:

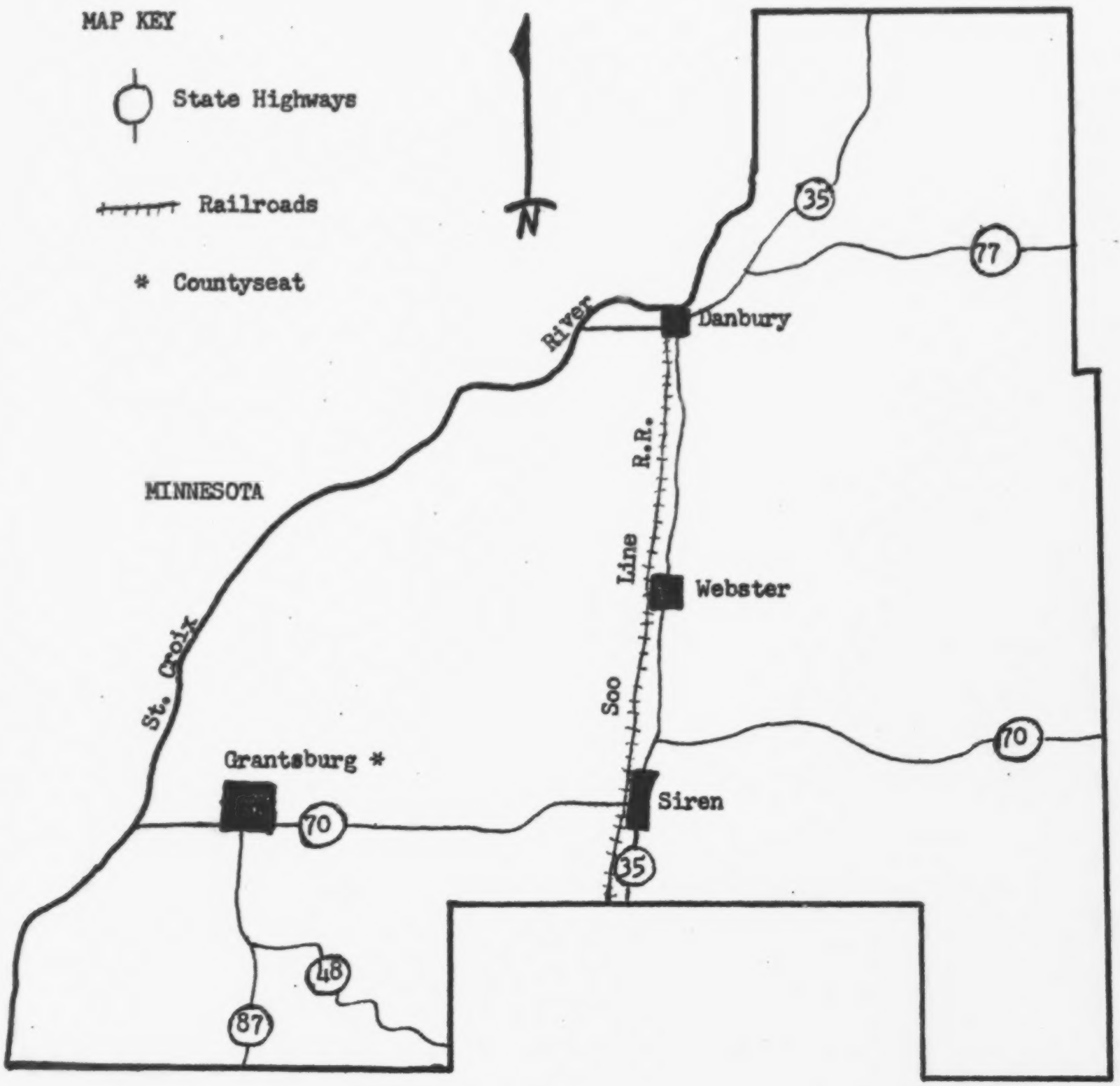
We wish to thank the local employers for their assistance in providing certain data for this study. We thank the service groups and individuals who assisted in organizing and promoting the program and we thank the individual participants for their active participation and interest. Most important, we earnestly hope that the services rendered to individual applicants proves to be of value to them in their search for economic security.

III

LOCATION OF BURNETT COUNTY RELATIVE TO POPULATION AND TRADE CENTERS



MAJOR TRANSPORTATION ROUTES IN BURNETT COUNTY



SUGGESTIONS

It is very important that Burnett County maintain and strengthen the Technical Action Panel (TAP) organization to promote economic growth by encouraging growth of commercial enterprises, better farming and marketing procedures, more training and retraining facilities, improvement of community services and facilities, development of natural resources and utilization of Federal and State programs which benefit the county.

Some industrial development has occured in Burnett County as a result of local development groups who have encouraged it by making sites and funds available to assist industry to locate in the area and to expand. More such groups should be organized and their efforts coordinated because industrial growth in any section of the county benefits the entire county. There is an ample supply of labor both male and female, especially female, and future industrial development should try to utilize these women.

The large amount of forest land in the county should continue to be developed for marketing of forest products and for recreational use. A general up-grading of jobs connected with forest products harvest would encourage more persons to seek this kind of work and provide a better family living standard for those who would seek these jobs.

The county has done a fair job in the promotion of the recreation and tourist industry and must continue to do even more. Development of recreation areas on both private and county owned lands must be accelerated to accommodate the rapidly increasing number of outdoor minded tourists. More promotion of the excellent hunting and fishing is also necessary to the economy of the area. However, while the tourist and recreation industry adds many millions of dollars each year to the economy of the county it will provide, for the most part, seasonal employment of a comparatively low pay and skill level. These types of jobs are necessary to aid the low income farm families and to provide supplemental income for many others but do not attract the youth seeking permanent, lifetime work or the more skilled workers that now commute outside the area for work.

The county must try to obtain industrial development that will at least maintain present wage rates if not increase them or face a continued loss of the youth and skilled workers. They also must encourage industry that will employ many women at year round jobs and reasonable wages.

The county should promote the establishment of vocational training facilities in conjunction with nearby counties to train persons for existing jobs and for future industrial needs.

PART I

HISTORICAL DATA

PART I consists of sets of tables, charts and graphs which are designed to illustrate the trend of the population and labor force, age and educational levels, wage rates and unemployment rates. This material has been compiled from U.S. census tables, Unemployment Compensation Division Tables and various other sources. This section provides historical background material necessary to understand the manpower needs of the county.

Highlights of Part I

The Burnett County population has declined 19% from 1940 to 1960.

The county labor force has declined 24% from 1940 to 1960.

Both the male population and labor force participation have declined steadily since 1940.

Agricultural employment declined 30% from 1940 to 1960 while wholesale and retail trade and manufacturing have increased.

The county labor force is made up of a higher percentage of persons 14-17, 45-64 and over 65 than the state average and a resulting lower percentage in the 18-44 or prime productive years.

Over one-half of all the youth born, raised and educated in the county out-migrate between the ages 15 and 25 and thus never become tax supporting citizens of the county.

Burnett County ranks third highest in median age (35.9) and has 16% of its population over 65. With the 30% under 15 this makes 46% that is non-supporting or potentially non-supporting.

The educational level of attainment in Burnett County, of persons over 25 is low with only 30% having a high school education or higher. The median level of attainment is 8.8 years compared to 10.4 for the state.

The total employed labor force has declined by 15% from 1950 to 1960. Farm laborers declined 64% while operatives and private household. workers have increased to help take up the slack.

The unemployment rate has been above 6% for the past several years and even exceeds 9% during the winter months.

Unemployment Compensation (U.C.) covered employment has remained stable for the past three years which indicates little industrial growth.

Wages in Unemployment Compensation covered industry $37 a week lower than the state average and nearly $30 weekly lower than for Douglas County. This provides increased incentive for out-migration of the labor force.

Population Trend

The population trend in Burnett County has followed the same downward trend that is characteristic of most rural Wisconsin counties. The decline in agricultural employment and the lack of increased industrial or other employment has resulted in the necessity for many of the new entrants into the labor force each year having to leave the area to find employment. Many of the more mature workers and heads of families have also found it necessary to leave the area either because of the loss of a farm job or because of pressure of the increased cost of living. The decline in population from 1940 to 1960 amounts to 19% and has continued since 1960 at an estimated rate of 2% per year. Male population has declined from 54.4% of the total in 1940 to 49.4% in 1963. The fact that most men are responsible for family support undoubtedly caused this greater decline among males.

Graph A

Trend of Population and Labor Force
1940-1950-1960 Census

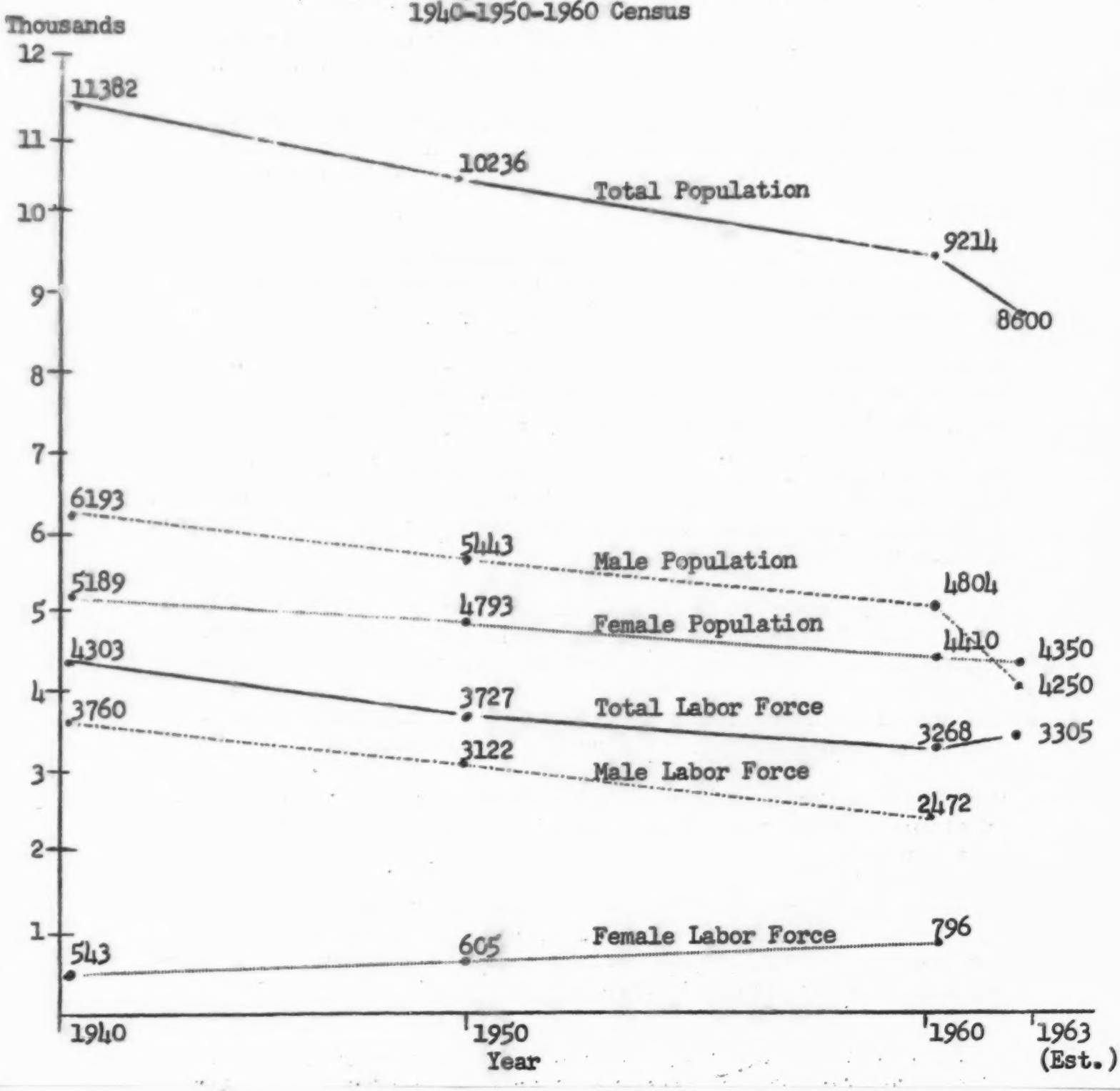


Table 1

Population by Age & Sex 1960, 1950, 1940 Census

Total Population

AGE GROUP	1960		1950		1940	
	Number	% of Total	Number	% of Total	Number	% of Total
Under 5 Yr's	851	9.2	1104	10.8	985	8.7
5-9	900	9.8	1005	9.8	1022	8.9
10-14	973	10.6	906	8.8	1125	9.9
15-19	718	7.8	703	6.9	1167	10.3
20-24	340	3.7	491	4.8	889	7.8
25-44	1826	19.8	2462	24.0	2778	24.4
45-54	1044	11.3	1244	12.2	1382	12.1
55 +	2562	27.8	2321	22.7	2034	17.9
Total	9214	100.0	10236	100.0	11382	100.0

Male

AGE GROUP	1960		1950		1940	
	Number	% of Total	Number	% of Total	Number	% of Total
Under 5 Yr's	445	4.8	567	5.5	521	4.6
5-9	470	5.1	520	5.1	511	4.5
10-14	521	5.7	486	4.7	590	5.2
15-19	386	4.2	376	3.7	631	5.5
20-24	166	1.8	253	2.5	499	4.4
25-44	895	9.7	1229	12.0	1496	13.1
45-54	509	5.5	661	6.5	772	6.8
55 +	1412	15.3	1351	13.2	1173	10.3
Total	4804	52.1	5443	53.2	6193	54.4

Female

AGE GROUP	1960		1950		1940	
	Number	% of Total	Number	% of Total	Number	% of Total
Under 5 Yr's	406	4.4	537	5.3	464	4.1
5-9	430	4.7	485	4.7	511	4.5
10-14	452	4.9	420	4.1	535	4.7
15-19	332	3.6	327	3.2	536	4.7
20-24	174	1.9	238	2.3	390	3.4
25-44	931	10.1	1233	12.0	1282	11.3
45-54	535	5.8	583	5.7	610	5.3
55 +	1150	12.5	970	9.5	861	7.6
Total	4410	47.9	4793	46.8	5189	45.6

Labor Force Trend

The total civilian labor force of Burnett County has declined about 24% from 1940 to 1960 and about 1% from 1960 to 1964. While non-agricultural employment has increased by 4.5% between 1960 and 1964, and has helped stabilize the labor force, the agricultural employment continues to drop. Female participation in the labor force has increased steadily from 13% in 1940 to 24% in 1960 and this has helped somewhat to offset the decline of men in the labor force.

Table 2

Labor Force by Sex and Industry Group 1940-1950-1960 Census

Industry Group	1960		1950		1940	
	Total	Female	Total	Female	Total	Female
Employed Total	2988	729	3539	585	3443	448
Manufacturing	514	61	257	16	228	3
Agr.-Forest-Fish	964	41	1836	128	2143	100
Construction	177	9	178	2	80	0
Utilities-Transportation	170	25	131	22	94	10
Wholesale & Retail Trade	422	164	439	156	284	59
Finance-Ins.-Real Estate	47	31	29	11	21	8
Service	393	220	361	107	447	229
Government	259	161	201	113	70	19
Other	42	17	107	30	46	20

Table 3

Labor Force Trends In Burnett County
1960-1963-1964

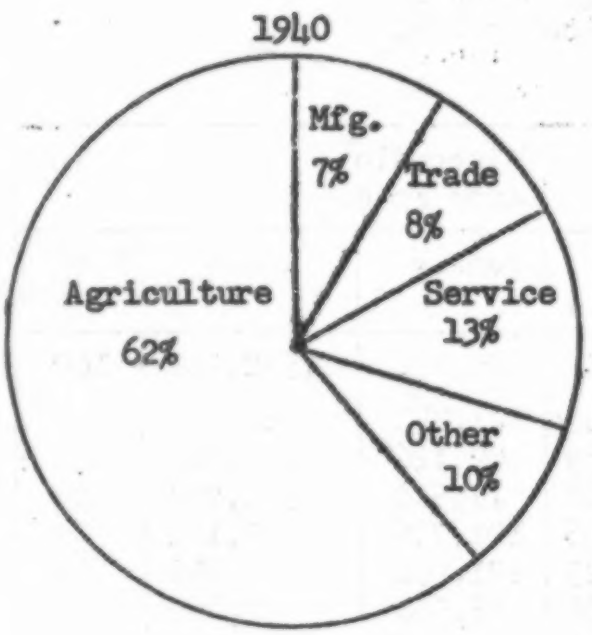
Item	1960	1963	% Change 1960-1963	1964	% change 1960-1964
Civilian Labor Force	3268	3305	1.1	3232	-1.1
Employed - Total	2988	3078	3.0	3034	1.5
Nonagricultural	2040	2126	5.7	2131	4.5
Agricultural	948	952	.4	903	-4.8
Unemployed	280	227	-18.9	198	-29.3

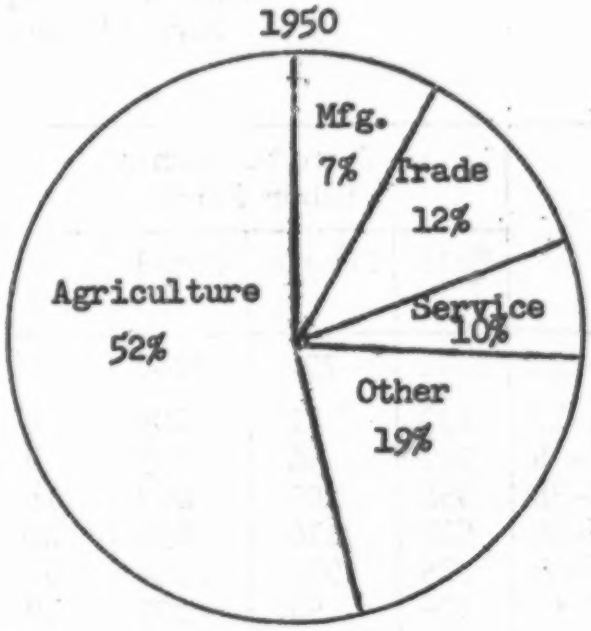
Industrial Make-up of the Labor Force

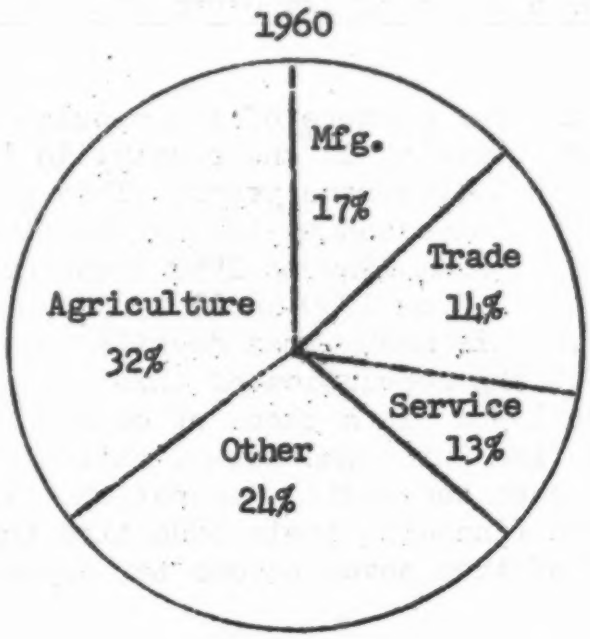
As was pointed out previously agricultural employment has declined steadily since 1940 when it accounted for 62% of the labor force. In 1960 it was reduced to 32% and by 1964 to 29% of the labor force. Fortunately manufacturing employment has increased from 7% in 1940 to 17% in 1960 and wholesale and retail trade from 8% to 14% in this same period.

Chart B

Industrial Make-up of the Labor Force







Age & Sex Make-up of the Labor Force

The civilian labor force of Burnett County is composed of a larger percentage of persons over 65 than average. This age group makes up 12% of the labor force whereas in the state as a whole only 5% is over 65. The county has a slightly higher percentage of the labor force under 17 and also between 45 and 64. However the 18-24 age group and the 25-34 age group shows considerably less participation than for the state. This means that the cream of the youth are out-migrating by the time they reach the normal working age of 18 and are lost to the county until the later years of their life.

Table 4

Labor Force by Sex and Age Group for
Burnett County and Wisconsin 1960

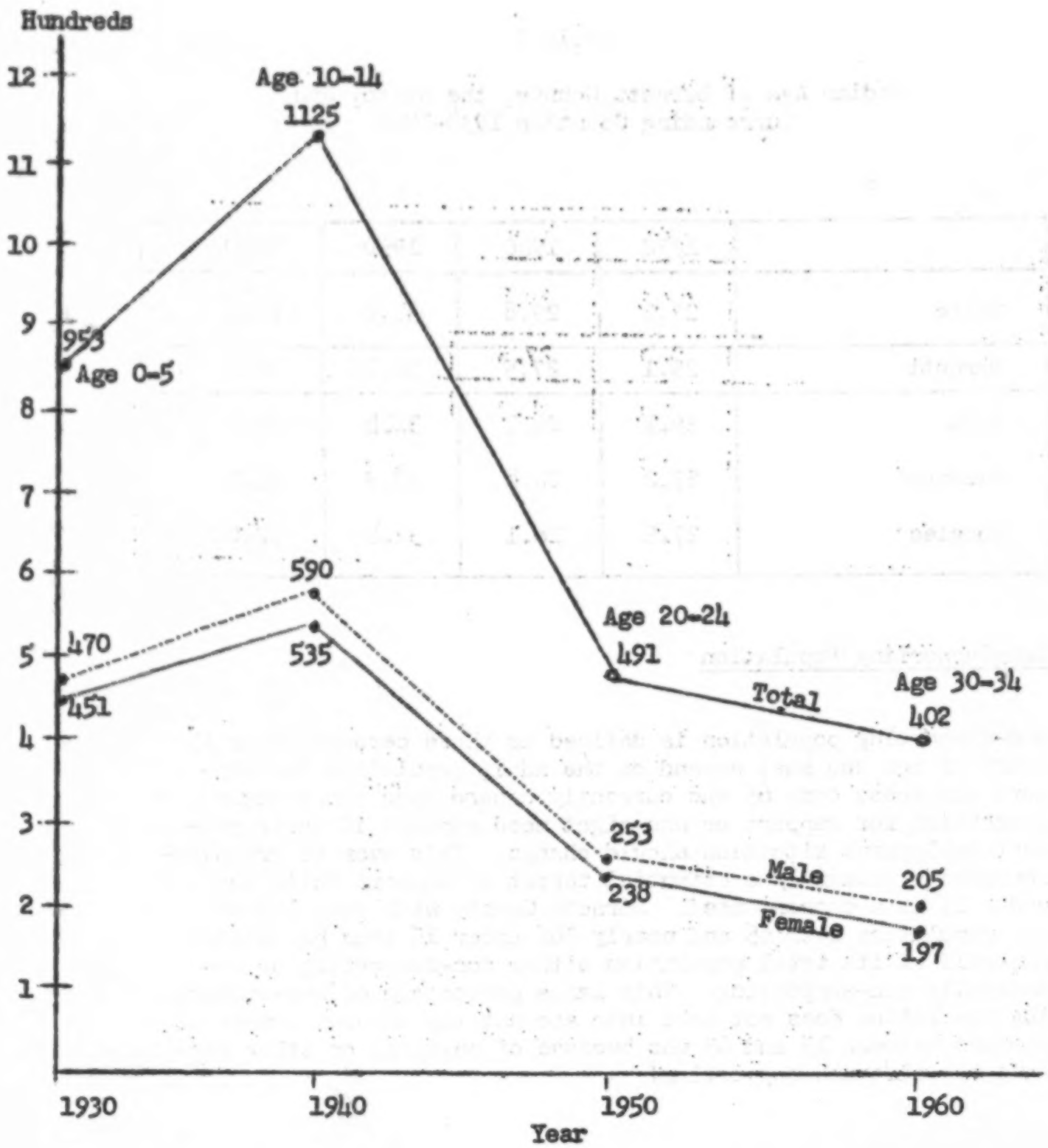
Age	Burnett County Labor Force				Wisconsin Labor Force			
	Male	Female	Total	% of Total	Male	Female	Total	% of Total
Total	2472	796	3268	100	1,056,747	476,214	1,532,961	100
14-17	133	72	205	6	427,785	21,243	64,028	4
18-24	217	56	273	8	124,489	82,126	206,615	14
25-34	354	109	463	14	227,468	77,510	304,978	20
35-44	518	116	634	20	235,446	101,735	337,181	22
45-64	925	389	1314	40	371,323	171,032	542,355	35
65 +	325	54	397	12	55,236	22,568	77,804	5

Population Trend of a Selected Age Group 1930 to 1960

In order to get a clearer picture of the population trend the age group 0-5 years old, residing in the county, in 1930 was traced through the 1940-1950-1960 census years. This group which was 0-5 years old in 1930 increased by 18% by the time they were 10-15 years old in 1940. From 1940 to 1950 they decreased by 56% and decreased again 18% from 1950 until 1960 when they were then 30-34 years of age. This means that despite an influx of persons from 1930 until 1940 the population of this group has declined by over one-half since 1930. In a check of census figures on persons born since 1930 we find this same out-migration exists and in fact is increasing with each succeeding generation. Thus after supporting these people and financing their education through taxes we find over one-half of them never become tax payers in Burnett County.

Graph B

Loss of Population by Sex of a Selected Age Group
From 1930 to 1960



Median Age of Burnett County Population

Burnett County has the highest median age in the four county area and over six years higher than the state average. Only two counties in the state, Marquette and Vilas, have a higher median age. In 1930 Burnett County ranked one of the lowest in the state but the out-migration of the many young adults has pushed the median age up at an ever increasing rate.

Table 5

Median Age of Burnett County, the State, and Surrounding Counties 1930-1960

	1930	1940	1950	1960
State	27.3	29.8	31.0	29.4
Burnett	25.1	27.5	32.4	35.9
Polk	29.1	24.7	31.4	32.9
Washburn	27.2	24.8	30.9	34.2
Douglas	27.5	26.1	32.4	32.0

Non-Supporting Population

Non-supporting population is defined as those persons under 15 years of age who must depend on the adult population for support and those over 65 who currently depend upon the younger generation for support or who might need support if their present employment situation should change. This over 65 group re-represents primarily a potential threat of support while the under 15 is a current need. Burnett County with over 16% of its population over 65 and nearly 30% under 15 thus has almost one-half of its total population either non-supporting or potentially non-supporting. This large percentage of non-supporting population does not take into account the unknown number of persons between 15 and 65 who because of physical or other reasons are also non-supporting.

Table 6

Non-Supporting Population Ages 0-15 and 65 +

	1940	1950	1960
Wisconsin Population	3,137,587	3,434,575	3,951,777
0-15 Years	782,232	926,573	1,269,103
Over 65	242,182	309,917	402,736
Percent of Total	32.7	36.6	42.7
Burnett County Population	11,382	10,236	9,214
0-15 Years	3,132	3,015	2,724
Over 65	989	1,138	1,484
Percent of Total	36.2	40.6	45.7

Educational Level of Attainment

The educational level of attainment for Burnett County is lower than for any of the surrounding counties and the state average. The male level runs considerably lower than the female level and is also the lowest in this area of the state. Only 30% of the persons over 25 years of age have graduated from high school and over 21% have not graduated from 8th grade. This indicates that education beyond the elementary grades has not been encouraged to any extent in the past. In 1960 the census showed nearly 100% attending school through high school but very few going on to college or junior college. This means that training or jobs must be provided for most of the high school graduates each year.

Table 7

Educational Level of Attainment of Persons Over 25 Years

Area	Educational Attainment							
	Less than 7 Grade	7th Grade	8th Grade Graduate	Some H. S.	H. S. Grad.	Some College	College Grad.	Median Level
State	249,871	137,005	542,597	342,260	570,291	188,303	145,043	10.4
Burnett	821	363	1,887	714	1,070	414	165	8.8
Polk	1,692	866	4,322	1,760	3,245	1,284	607	8.9
Washburn	630	407	1,915	874	1,409	426	321	9.1
Douglas	2,612	1,297	5,784	5,409	6,926	2,152	1,352	10.5

Employment by Occupational Group

The total employed labor force has declined over 15% from 1950 to 1960 and has continued to decline at about the same rate since 1960. Farm occupations have declined the greatest amount which reflects the decline in agriculture as a major industry. General laboring occupations have also declined as have managerial occupations. There has been a considerable increase in operatives, clerical and private household workers as well as professional and technical workers. Many of these jobs reflect a growing resort industry and an increased number of summer homes resulting in the need for more professional services as well as private home service workers. Some industrial growth accounts for the increase in operatives and craftsmen.

Table 8

Employment by Occupational Group 1950-1960 Census

Item	1960		1950	% change 1950-1960
	Total	Female		
Employed-Total	2,988	729	3,539	-15.6
Prof. & Technical Workers	251	127	176	42.6
Farmers & Farm Mgr's	748	25	1,321	-43.4
Managers, Office; Exc Farm	296	66	312	- 5.1
Clerical & Kindred Workers	187	138	121	54.5
Sales Workers	130	62	129	0.8
Craftsman, Foreman & Kindred	305	10	258	18.2
Operatives	399	42	224	78.1
Private Household Workers	73	73	37	97.3
ServiceWorkersExc.Household	200	148	184	8.7
Farm Laborers&Farm Foremen	179	16	493	-63.7
Laborers Exc. Farm	175	5	201	-12.9
Occupations Not Reported	45	17	83	-45.8

U. C. Covered Employment by Industry

Unemployment Compensation covered employment has doubled since 1950, however most of this occurred between 1955 and 1960 when a change in the Wisconsin U. C. Laws increased coverage. Since 1960 the increase has been only slight. Manufacturing increased by about 27% while service industries declined by 40% and contract construction dropped to only one person. This stability of U. C. covered employment indicates that there has been very little increase in employment by industries or businesses employing over four persons.

Table 9

U. C. Covered Employment by Industry

Industry Group	1950	1955	1960	1961	1962	1963
Total all Groups	322	321	612	590	615	651
Manufacturing	49	92	330	302	368	418
Agriculture & Forestry	5	0	0	0	0	0
Mining	0	0	0	0	0	0
Contract Construction	20	4	8	7	8	1
Utilities & Transportation	68	62	77	67	70	61
Wholesale & Retail Trade	135	102	102	103	103	105
Finance-Ins.-Real Estate	17	18	23	28	24	25
Services	28	43	72	83	43	41
Government			Not Reported			

Average Weekly U. C. Covered Wage

Weekly wage rates of persons employed in U. C. covered industry in Burnett County are consistently higher than the surrounding non-metropolitan counties. Only Douglas County with the metropolitan area of Superior ranks higher in this area of the state. However Burnett County wages are still over $37 a week lower than the state average and $30 a week lower than Douglas County. This discrepancy is another factor in the out-migration of the Burnett County labor force.

Table 10

Average Weekly Wages Covered by U.C. in Burnett and Surrounding Counties

Area	1959	1960	1961	1962	1963
State	110.72	109.90	114.48	118.26	121.59
Burnett	77.31	94.33	79.80	82.21	84.16
Polk	66.12	66.48	64.00	67.86	74.70
Washburn	59.86	59.34	52.66	56.74	62.42
Barron	76.19	72.76	76.62	77.32	78.32
Douglas	119.10	107.16	113.15	114.15	114.96

Unemployment Rate

The annual rate of unemployment in Burnett County has exceeded both the state and national rates for a number of years. Several years the rate for Burnett County has been nearly double that of the state. Even when unemployment is at its seasonal low during the summer when tourism, food processing and construction are at their peak, it still far exceeds the state year round average. The graph on the next page illustrates how unemployment reached a peak of over 9% in January and February of 1964 and a low point of about 5% in August and September of 1963. This high rate of unemployment is one of the primary reasons for out-migration of the labor force.

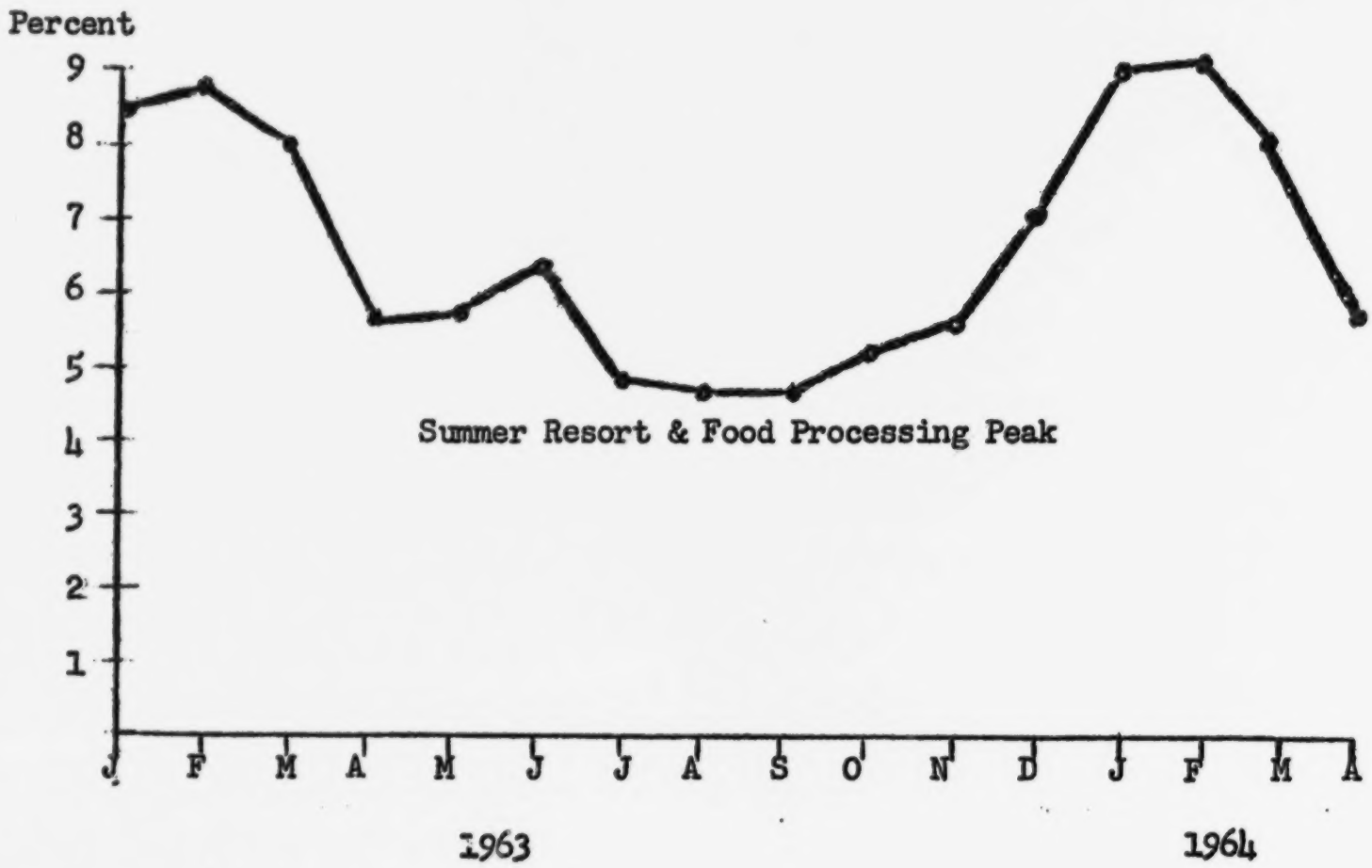
Table 11

Annual Rates of Unemployment

Year	Burnett	Wisconsin	U. S.
1963	6.4	4.0	5.7
1962	6.4	4.1	5.6
1961	7.2	5.2	6.7
1960	7.0	4.1	5.6
1959	7.5	3.4	5.5
1958	8.9	5.4	6.8

Graph C

Unemployment Rates from January 1963
to April 1964



PART II

APPLICANT SURVEY

Part II consists of Tables, Charts, and Graphs illustrating the information obtained from the applicants who registered with the Mobile Survey Team, separated into four categories according to the type of information received, as follows:

Section A Characteristics of applicants
Section B Availability of applicants
Section C Mobility of applicants
Section D Job Potential of applicants

The Smaller Community Mobile Team of the Wisconsin State Employment Service started operations in Burnett County on August 25, 1964. The Team composed of a manager and four interviewer - counselors and a clerk maintained an office in the County Office Building at Webster with intinerant offices open for one week in each village or community center in the county. They operated continually from August 25, until October 8, registering all applicants and administering the General Aptitude Test Battery and counseling persons without prior work or recent work history to determine their potential. During October and November the team returned to Polk County to register and test the high school seniors. On December 10, the team returned to Burnett County and operated the office as well as registering and testing the high school seniors until operations were closed on January 22, 1965. A total of 156 high school seniors and 444 other persons registered with the team during its stay in Burnett County.

Highlights of the Applicant Survey

A total of 600 applicants or 19% of the estimated 1964 work registered during the survey.

Fifty-nine percent of the applicants were male.

One hundred fifty-six or 26% of the applicants were high school seniors who graduated in June 1964.

Over 67% of the applicants were between 14 and 44 and only 1.5% were over 65.

Sixty-seven percent of the applicants were unemployed or students with 41% being unemployed.

Eighty-seven percent of the applicants earned less than $3,000 the past year and 50% worked less than 18 weeks.

Fifty percent of the applicants did not have sufficient work experience to be classified as other than entry workers.

Nearly fifty-six percent of the applicants were married.

The educational level of attainment of the applicants was good with 60% being high school graduates or above.

Fifty-nine percent of the applicants wanted either any or full time work.

Only 26 persons would accept year round farm work and only 7 would take seasonal farm work away from the local area.

Forty-three percent of the applicants would move out of the area permanently for work and 46.7% would commute by the week or month.

Twenty-four percent would commute over 30 miles daily for work and 79% would commute up to 20 miles.

Married persons are the most willing to commute longer distances and less willing to move than all other persons.

The 14-19 age group shows the most willingness to move while the 20-44 age group shows a willingness to commute farthest for work.

The lower the skill level the more willing the applicants were to move and to commute longer distances for work.

279 applicants were administered the General Aptitude Test Battery (GATB) and their scores are related to specific jobs in Table 27.

Section A Characteristics of Applicants

Total Applicants by Sex and Age Group

A total of 600 applicants registered with the team during the survey or about 19% of the total estimated work force for 1964. Fifty-nine percent of the applicants were Male and over 67% were between 14 and 44. 156 or 26% were high school seniors. Table No. 17 at the end of this section gives a complete break out of all the characteristics of the high school seniors which are included in all the other tables. Special note should be taken of the high percentage, 37%, of applicants between 20 and 44 years of age. This is an indication of the desire for work among the people in the prime employment age group. This age group represents the highest potential for training and job change adjustment excluding the young recent high school graduates with little or no work experience or family responsibilities.

Table 12

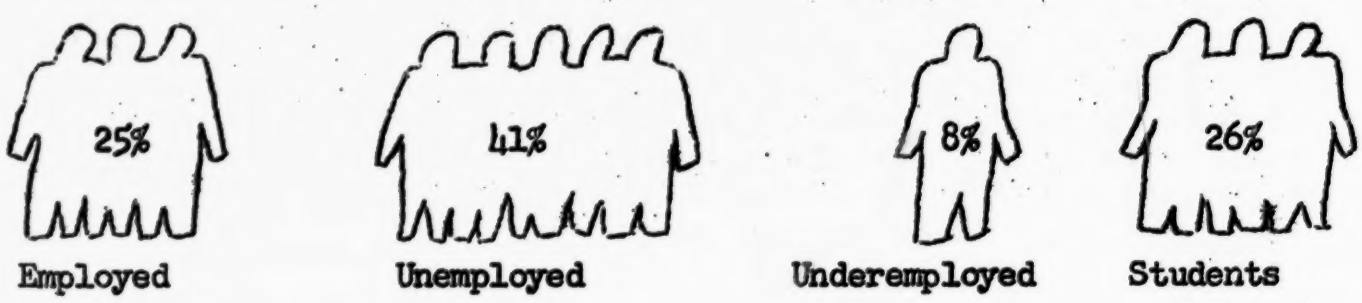
Total Applicants by Sex and Age Group

Age Group	Number			Per Cent		
	Total	Male	Female	Total	Male	Female
Total	600	353	247	100.0	59.0	41.0
14-19	183	107	76	30.5	17.8	12.7
20-44	222	127	95	37.0	21.0	16.0
45-54	114	63	51	19.0	10.5	8.5
55-64	72	50	22	12.0	8.3	3.7
65 +	9	6	3	1.5	1.0	.5

Employment Status of Applicants

The chart below depicts the percentage of applicants that were employed, unemployed, underemployed, and students. (cont.)

Chart C



When estimating the available work force based on current employment status we find that 75% or 449 persons were unemployed, students, or working at less than full-time or skill level. This compares to about 250 reported as unemployed and available by the Department of Labor. This means that the unemployment rate instead of being about 9% of the work force is actually nearly 14%.

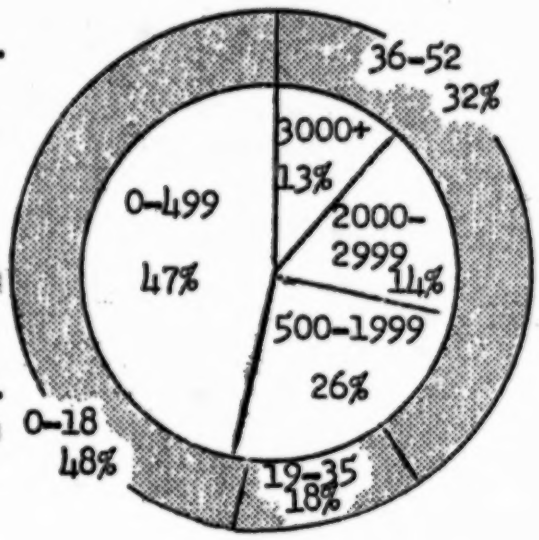
Table 13

Employment Status of Applicants

Age Group	Employment Status				
	Employed	Unemployed	Underemployed		High School Seniors
			Skill	Hours	
Total	151	246	15	32	156
Male	110	128	12	16	87
14-19	88	17	2	0	87
20-44	58	58	6	5	0
45-54	25	28	3	7	0
55-64	25	20	1	4	0
65 +	0	6	0	0	0
Female	41	118	3	16	69
14-19	69	7	0	0	69
20-44	26	57	2	10	0
45-54	12	33	1	5	0
55-64	2	19	0	1	0
65 +	1	2	0	0	0

Income Earned and Weeks Worked the Past Year

Chart D



The number of weeks worked and the income earned in the past year gives some indications concerning the availability of the applicants. A check of Table 14 shows that nearly 50% or 267 applicants worked less than 18 weeks the past year and 47% earned less than $499. It should also be noted that 87% or 524 applicants earned less than $3,000. The 192 employed between 36 and 52 weeks the past year compares very closely with the 198 who were underemployed or employed at the time of the survey. This would probably indicate that the 151 currently fully employed also are employed nearly full-time leaving the other 449 available for full-time employment in the event of industrial expansion.

Table 14

Income Earned and Weeks Worked Past Year

			Income Earned						
Weeks Worked	Total	Per cent	0 499	500 999	1000 1999	2000 2999	3000 4999	5000 5999	6000 +
None	114	19.0	113	0	0	1	0	0	0
1-18	185	30.8	154	22	7	2	0	0	0
19-35	109	18.2	14	21	38	24	10	1	1
36-52	192	32.0	3	18	53	54	44	15	5
Total	600	100.0	284	61	98	81	54	16	6
Per Cent	100.0	XXXXX	47.3	10.2	16.3	13.5	9.0	2.7	1.0

Industrial Experience by Industry and Occupation

The chart below indicates that a large number of the applicants have had some industrial experience while the chart on the next page shows that much of this experience is so limited that nearly one-half the applicants could not be assigned full occupational codes. Almost one-half the applicants have worked to some extent either in manufacturing, agriculture or construction. Since most of the high school seniors are classified as entry workers and also have no applicable industrial experience this means that nearly all of the adult applicants have some experience. The large number of young untrained workers plus the many mature workers with only limited experience provides the area with a good source of manpower for future industrial growth.

Chart E

Industrial Experience by Industry

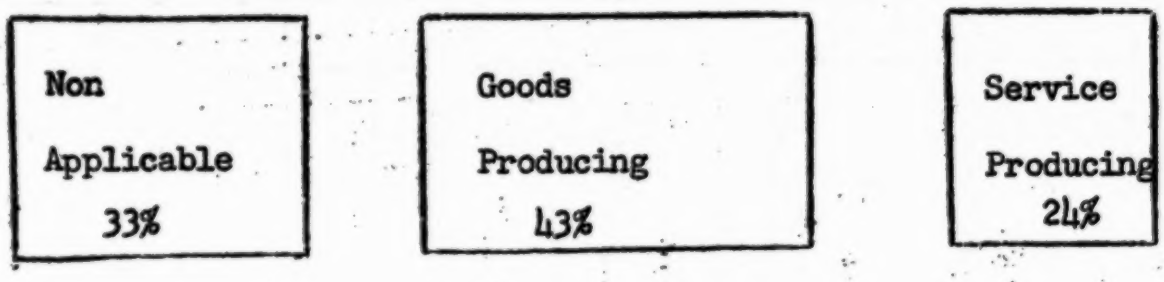
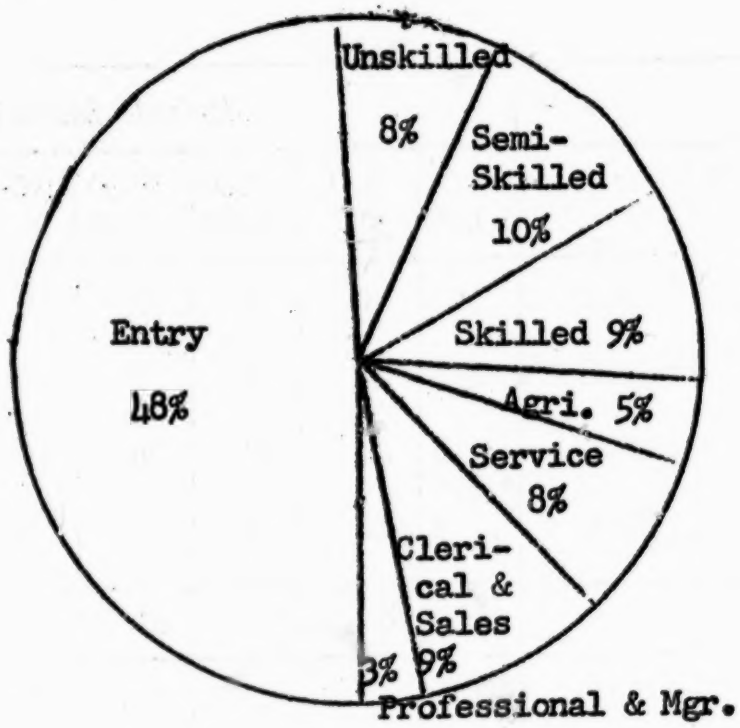


Chart F

Industrial Experience by Occupational Group



Marital Status

The marital status of the applicants to a certain degree determines the need for either job development in the local area or a move out of the area. Table 15 below shows that 180 men between 14 and 65 are married. This means that they are heads of households and must support a family, so need full time work and adequate pay. In addition there were 157 single males between 14 and 65 who will need to find adequate work before they can support a family. There were also 75 young girls under 20, most of whom will need to be self supporting. Added to all the above groups for a grand total of 433 are 21 widows, widowers and divorcees. This means that almost three-fourths of the applicants need good jobs or they must leave the area.

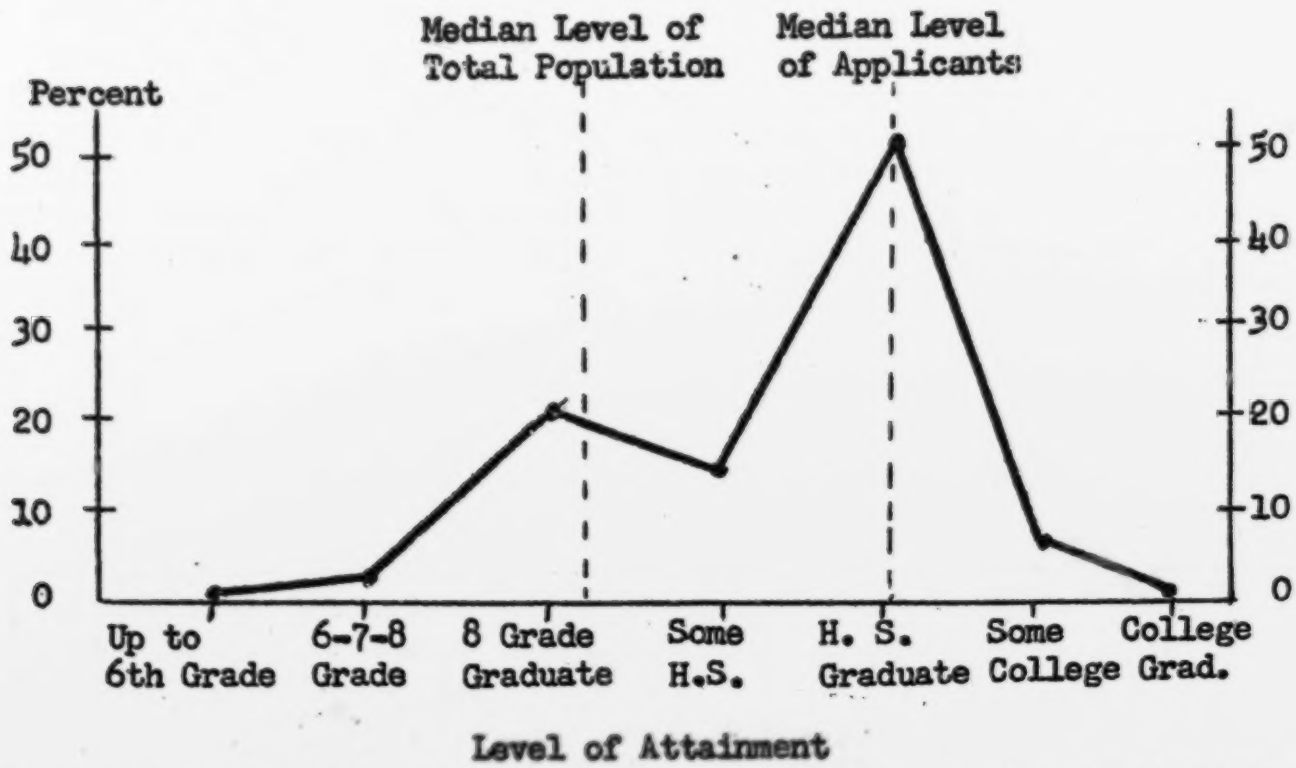
Table 15

Marital Status of Applicants

Age Group	Marital Status					
	Married		Single		Other	
	Male	Female	Male	Female	Male	Female
Total	185	150	158	86	10	11
14-19	2	1	105	75	0	0
20-44	86	80	37	10	4	5
45-54	53	49	8	1	2	1
55-64	39	20	7	0	4	2
65+	5	0	1	0	0	3

Educational Level of Attainment

Graph D



The educational level of attainment of the applicants was considerably above the median level for the total population of Burnett County. The graph above shows the percentage of applicants that reached various levels of educational attainment. It should be noted that almost 60% of the applicants were high school graduates or higher while only 26% of the total applicants were high school seniors tallied as graduates. This means that one-third of the applicants not in school had graduated from high school. Table 16 below indicates that most of the persons with a low educational level have service occupations or do not have any particular occupation and are classified as entry workers. Many of these entry workers could be trained as semiskilled or skilled workers in the event an industry should locate in the area.

Table 16

Educational Attainment Level by Occupational Group

Occupational Group	Total	Educational Attainment						
		Under 6 Grade	6-7-8 Grade	8th Grad.	Some H.S.	H.S. Grad.	Some College	College Graduate
Prof. & Mgr.	17			3	1	3	5	5
Cleri. & Sales	55			1	8	39	7	
Service	50	2	2	20	10	12	4	
Agri. & Forest.	28		2	9	3	13	1	
Skilled	56	1	2	26	12	12	3	
Semiskilled	61	1	1	22	12	22	2	1
Unskilled	45		4	16	7	13	5	
Entry	288	1	5	35	39	196	10	2
Total	600	5	16	132	92	310	37	8

High School Seniors

Table 17 below depicts the characteristics of the 156 high school seniors included in the previous tables. Of particular significance are the weeks worked, income earned and industrial experience portions of the table since all the seniors were between 14 and 19 years of age, single and tallied as high school graduates. To determine the adult portion of any previous table one has only to deduct the number of students in the particular category in the table below from the totals in the desired table.

Table 17

Characteristics of High School Seniors

Sex	Age	Weeks Worked Past Year					Income Past Yr.			Industrial Experience				Marital Status	Ed. Att.
	14-19	0-9	10-19	20-29	30-39	40-52	0-499	500-999	1000-1999	None	Agri.	Service	Trade	Single	H.S. Grad
Total	156	68	58	16	8	6	134	19	3	140	9	5	2	156	156
Male	87	26	43	8	5	5	71	3	3	75	9	2	1	87	87
Female	69	42	15	8	3	1	63	6	0	65	0	3	1	69	69

Section B Availability of Applicants

Availability for Work

The number of applicants that will accept any work or full-time work is a good measure of the available work force. The available later usually represents persons available after school graduation and housewives who can work as soon as their young children reach school age. This group is usually available if an industry locates in an area and they can secure reasonable paying jobs. In Burnett County 356 applicants or 59% would be available for full-time work if any industry were to need them. An additional 104 persons would be available later, many of them probably are ready now. Since the survey was conducted during the resort off-season some of the 90 persons available for seasonal work probably work in summer resorts or in tourist affiliated industry during the summer so do not want other work. Only 30 applicants said they would not be available while 151 were fully employed which is an indication of the number of persons employed out of the county who want work locally as well as farmers who want full-time work off the farm. The large number of men available for any or full-time work points out the great need for industrial growth. The 156 high school seniors are included in the availability tables and in a separate availability table on page 27.

Chart G

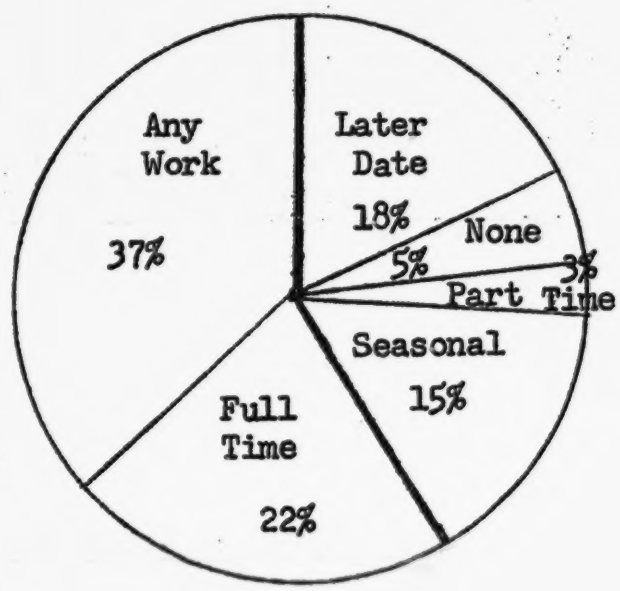


Table 18

Availability	Total	Male	Female
Full time	133	87	46
Any	223	130	93
Later Date	104	57	47
Part Time	20	4	16
Seasonal	90	56	34
None	30	19	11

Seasonal Availability

In the previous section it was noted that ninety persons wanted seasonal work. The table on the next page shows seasonal availability of the entire 600 applicants while the graph indicates the season of work preferred by those persons who specified wanting seasonal work only. Most of these persons prefer seasonal summer work probably in tourist affiliated businesses. Those preferring winter jobs usually are construction people who's normal full-time job does not continue during the winter months. It is unusual to find more men looking for summer work than women particularily in this resort country, however, a check with table 24 shows that most of the seasonal workers are among the high school seniors and probably represent many young persons planning on further schooling to begin in the fall after a summer of employment.

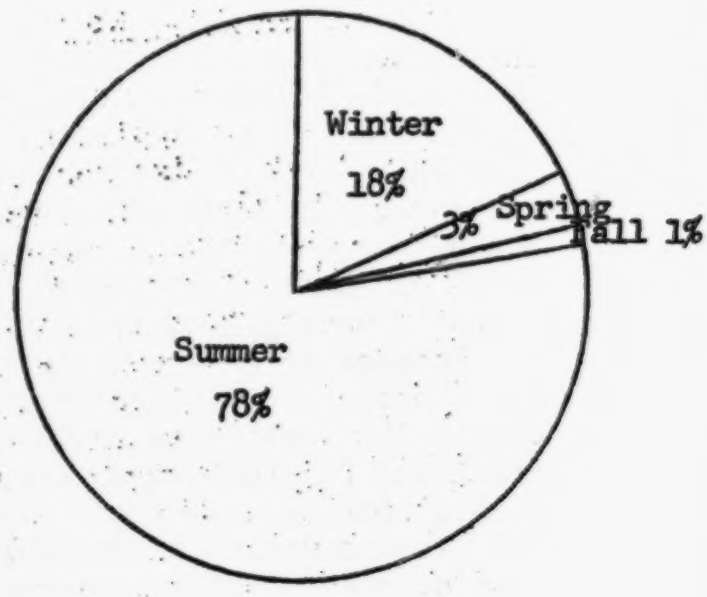
Table 19

Seasonal Availability

Seasonal Availability	Total	Male	Female
None	30	19	11
Winter	16	16	0
Spring	3	1	2
Summer	70	38	32
Fall	1	1	0
Any	480	278	202

Chart H

Season Available



Availability by Weeks Worked Past Year

Table 20 below indicates availability for work by sex and by weeks worked the past year. It should be noted that of the 30 applicants not available 21 had worked from 36 to 52 weeks while another six had not worked the past year. These six applicants were high school seniors who were planning to go into the military service or had jobs set for them after graduation. Most of those available later had less than 18 weeks of work and these again represented the high school seniors who would be available after June 1965. By comparing table 24 (High School Seniors) with the table below it is apparent that most of the adult applicants want any work or full-time work so would provide an adequate source of manpower for industrial growth.

Table 20

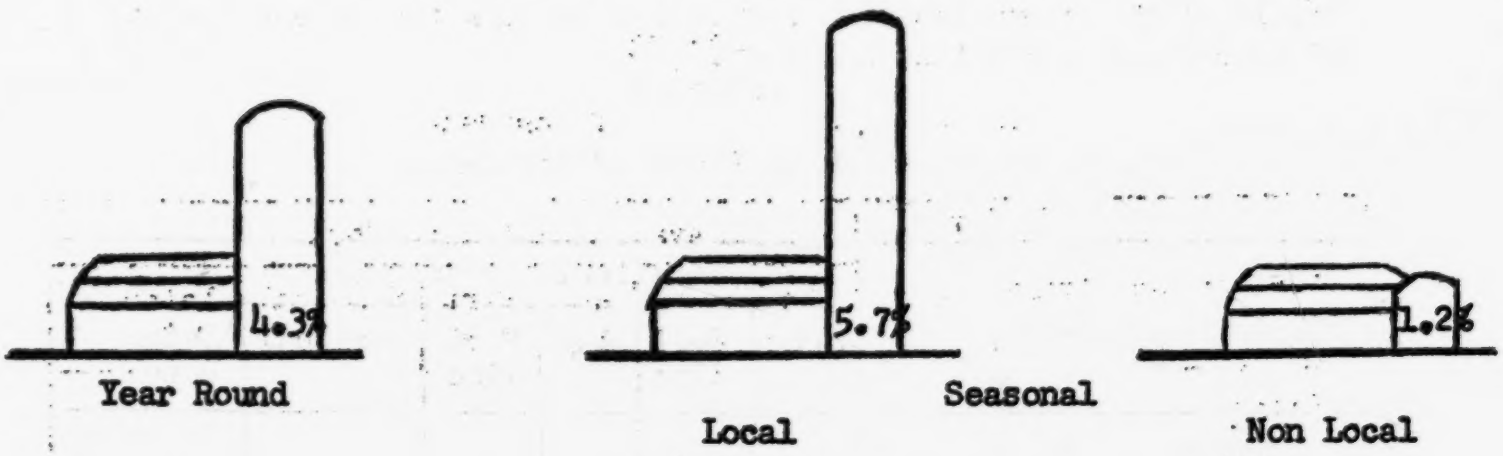
Availability for Work by Sex and Weeks Worked Past Year

		Sex		Availability					
Weeks Worked	Total	Male	Female	None	Full Time	Any	Part Time	Seasonal	Later Date
None	114	26	88	6	16	51	11	11	19
1-18	185	97	88	3	29	41	4	45	63
19-35	109	73	36	0	23	54	2	17	13
36-52	192	157	35	21	65	77	3	17	9
Total	600	353	247	30	133	223	20	90	104

Availability for Farm Work

Chart I

Availability for Farm Work



The chart above depicts the rather little interest in farm work that is held by most Burnett County persons seeking work. Only 26 persons would accept year round farm work out of the 600 total registered and seven of these were high school seniors planning on working on the home farm. Local seasonal farm work was somewhat more attractive with 34 persons being interested, however, eleven of these were students primarily interested in work before college. Many of the persons expressing interest in farm work were farmers operating their own farms or tenant farmers. The only persons with any true availability for farm work were those that would leave the area for non-local farm work. This situation regarding farm work availability is a typical situation probably because of the rather low pay and long hours required of farm workers.

Table 21

Availability for Farm Work

				Total	Male	Female
Total				600	353	247
Availability	Year Round		Yes	26	23	3
			No	574	330	244
	Seasonal	Local	Yes	34	34	0
			No	566	319	247
		Non Local	Yes	7	7	0
			No	593	346	247

Availability by Place of Residence

Table 22 below lists the availability of the applicants for work by place of residence. As might be expected those areas of good farm and industry produced a smaller percentage of people with unlimited availability or availability for full-time work than did the areas of poor farms and little industry.

Table 22

Availability by Place of Residence

Place of Residence	Total	Availability for Work					
		None	Full Time	Any	Part Time	Seasonal	Later Date
Township							
Anderson	9	1	1		1	4	2
Blaine	20		2	1	1	5	11
Daniels	24	1	5	9	1	2	6
Dewey	28		5	17	2	1	3
Grantsburg	48	6	10	25	1	3	3
Jackson	2		1	1			
La Follette	15		5	5		2	3
Lincoln	8		2	4		1	1
Meenon	51	2	13	14	2	6	14
Oakland	16	1	1	3		7	4
Roosevelt	0						
Rusk	26		6	14	1	3	2
Sand Lake	11	1	3	3		1	3
Scott	20	2	1	14	1	1	1
Siren	63	2	17	18	1	13	12
Swiss	37	1	8	10	3	6	9
Trade Lake	46	2	6	31		3	4
Union	6	1	2	1		1	1
Webb Lake	2		1				1
West Marshland	22	1	4	9		2	6
Wood River	50	3	13	10	1	11	12
Villages							
Grantsburg	35	2	7	6	4	13	3
Siren	13	1	1	9	1		1
Webster	27	2	9	13		2	1
Other Counties							
Polk	11		5	3		2	1
Washburn	9		5	3		1	
Barron	1	1					
Total	600	30	133	223	20	90	104

Availability by Occupational Group

An analysis of availability of applicants by occupation reveals that the skilled and semiskilled persons have the least availability while the entry workers have the greatest. Clerical and Sales persons are highest in Part Time work which reflects the housewives who work part time in local offices or as sales clerks. Most agricultural and forestry people prefer any or full-time work. The persons not available for work are so small in number in Burnett County that this should present no problem for someone looking for additional manpower.

Table 23

Availability by Occupational Group

Occupational Group	Availability					
	None	Full Time	Any	Part Time	Seasonal	Later Date
Prof. & Mgr.	1	4	6	1	4	1
Clerical & Sales	3	14	26	6	2	4
Service	2	11	32	2	2	1
Agri. & Forest	3	3	13	1	3	5
Skilled	8	18	25	0	2	3
Semiskilled	6	18	25	0	9	3
Unskilled	0	12	29	1	1	2
Entry	7	53	67	9	67	85
Total	30	133	223	20	90	104

High School Seniors

Table 24 presents the availability of the 156 high school seniors included in the survey. Those available at a later date have become available or have received work since the time of the survey. The large number available for seasonal work reflects those students who intend to go on to further education or training in the fall of 1965. This figure is probably high and some of these persons are now currently seeking full-time work because of changes in plans. As was stated previously the seven persons interested in year round farm work planned on working at home. There was no one available, for hire to do farm work year round, among the students.

Table 24

Availability of High School Seniors

Availability				Total	Male	Female
Availability for Work			None	2	0	2
			Full-Time	2	1	1
			Any	0	0	0
			Part-Time	1	1	0
			Seasonal	65	35	30
			Later Date	86	50	36
Season Available			None	2	0	2
			Any	89	52	37
			Summer	65	35	30
Availability for Farm Work	Year Round		Yes	7	7	0
			No	149	80	69
	Seasonal	Local	Yes	11	11	0
			No	145	76	69
		Non Local	Yes	1	1	0
			No	155	86	69

Section C Mobility of Applicants

Mobility as used in this report refers to the geographic concept and is reflected in three ways.

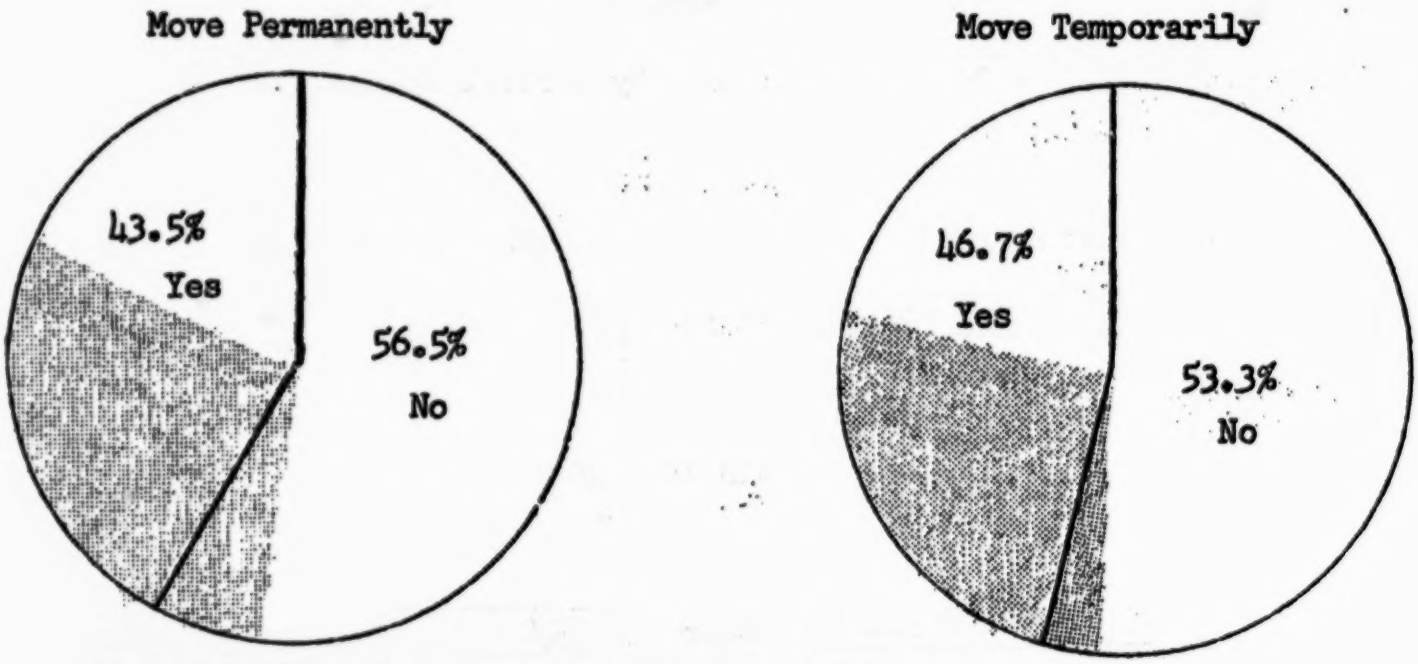
1. The willingness of an applicant to move permantly for work.
2. The willingness of an applicant to move temporarily for work.
3. The distance an applicant will commute or travel one-way for work.

Mobility is influenced by several factors such as home ownership, marital status, age of children, educational attainment, employment status, skill level, sex, and age ties to family and friends and lack of knowledge of the job opportunities out of the immediate area. Five of the factors (marital status, educational attainment, age, occupational skill and place of residence) were studied for this report and the results are shown in tables, charts and graphs on the following pages and in the appendix.

Mobility of Applicants

The willingness of Burnett County applicants to move out of the area for work was above average for the fifteen counties studied to date. More people were willing to leave the area on a temporary basis, such as by the week or month, than would move out permanently for work. This large number of persons willing to move temporarily reflects the number of persons that currently work some distance out of the area and of necessity must commute by the week or month.

Chart J

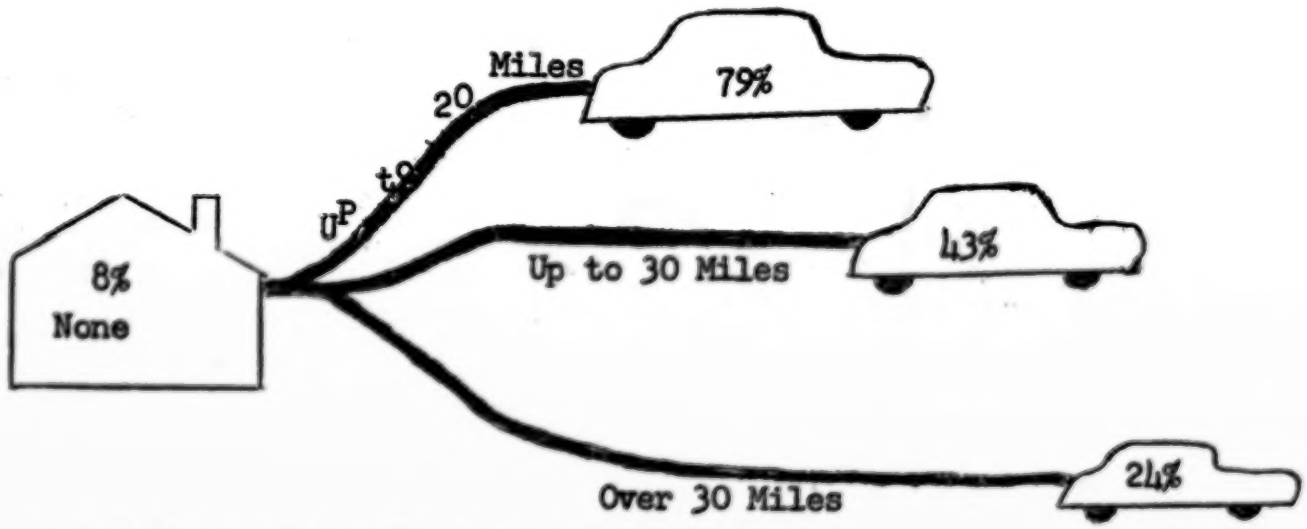


Shaded Portion Denotes High School Seniors

The chart below showing distance willing to commute for work indicates that only 24% will travel over 30 miles daily for work. This again is reflection of the large number of people who prefer or must live away from home during the week because their place of employment is too far away for daily commuting. The fact that 43% would travel up to thirty miles daily for work and that 79% would travel up to twenty miles means that any industrial expansion within Burnett County would be assured of an adequate labor supply.

Chart K

Willingness to Commute Daily for Work

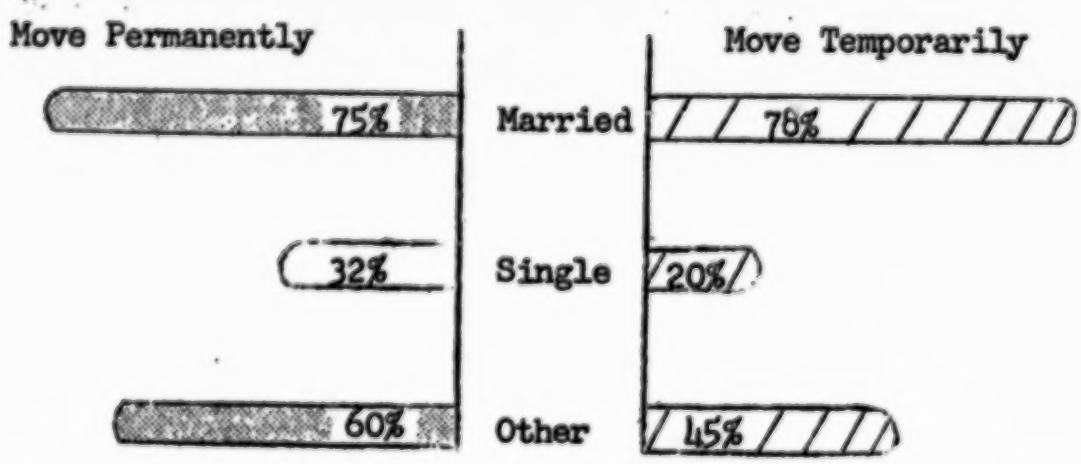


Mobility by Marital Status

Graph E. depicts the willingness of people to move for work, by marital status. As might be expected single people show a much greater willingness to move than do married people while widows, divorcees etc., are about equally divided on the subject. A complete table appears in the appendix.

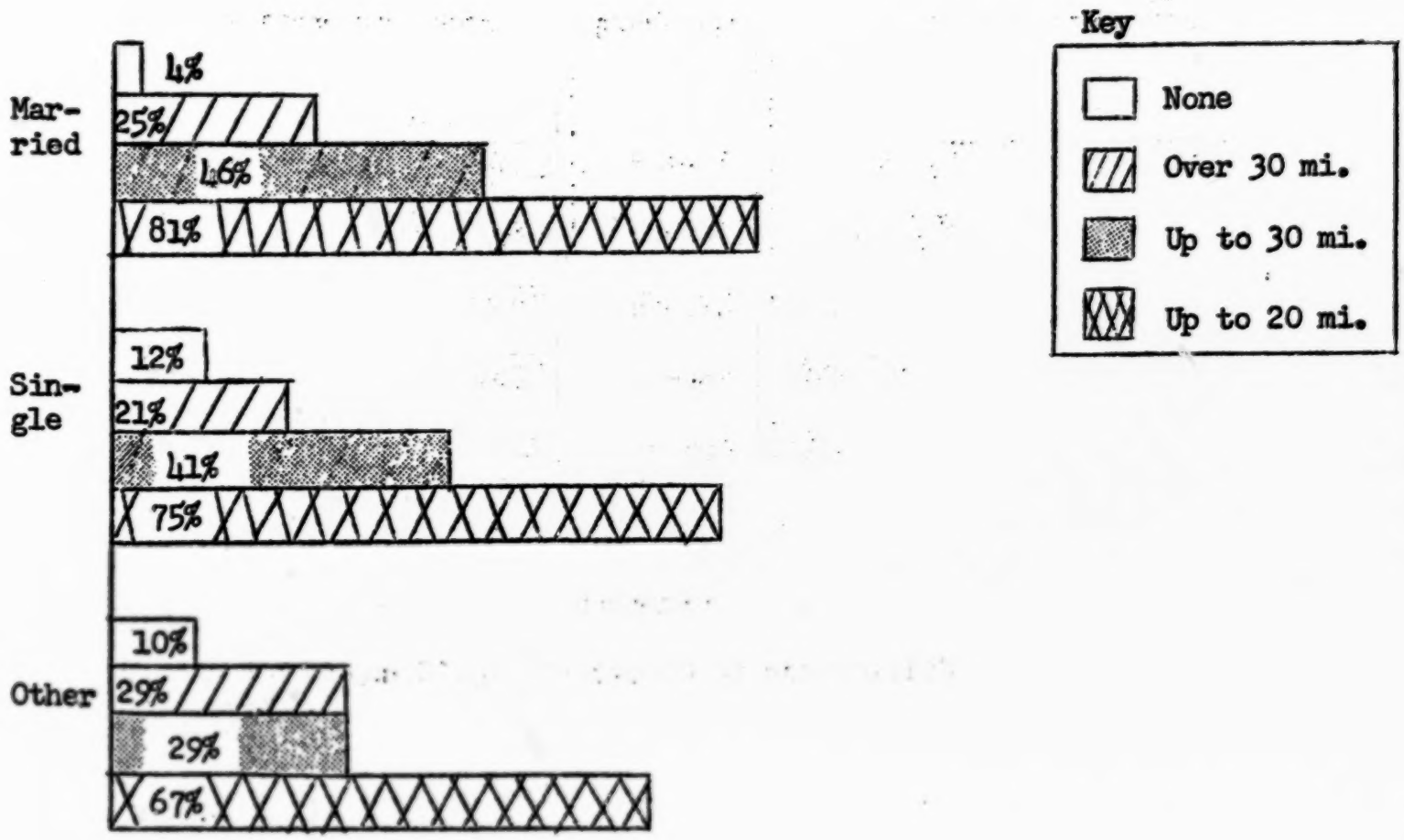
Graph E

Willingness to Move by Marital Status



Graph F

Willingness to Commute Daily by Marital Status



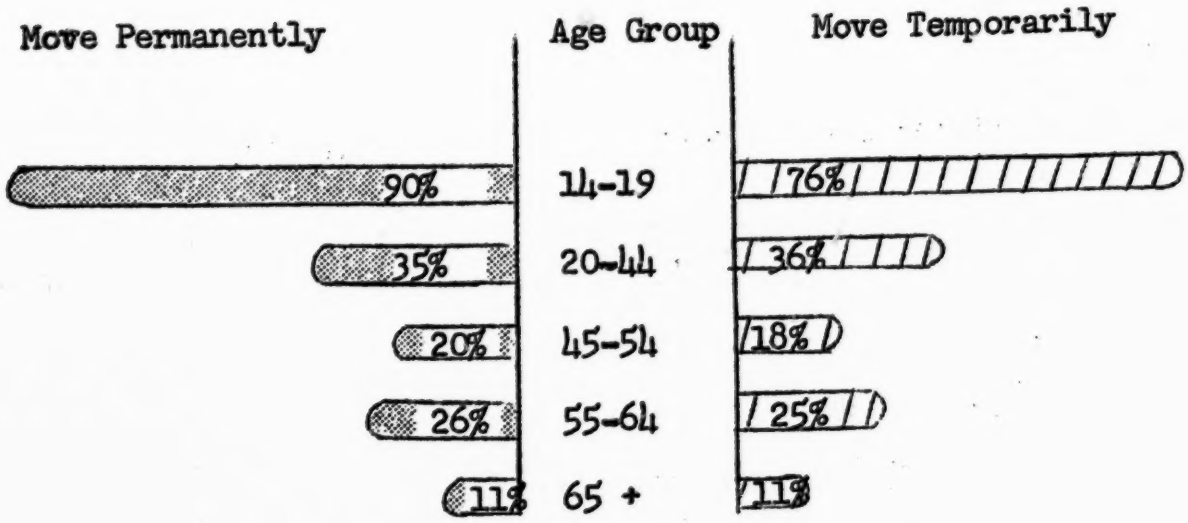
Married persons show the greatest willingness to commute with 46% being willing to commute up to 30 miles daily for work and 81% willing to travel up to 20 miles. The single and other groups have a slightly less willingness to commute. The inability of many high school seniors to commute lowers somewhat the favorable response by single persons.

Mobility by Age Group

The graph at the top of the next page presents a typical picture of mobility by age groups. The young 14-19 age group shows 90% willing to move out of the area permanently for work. This means that most of the youth will in fact leave the area if jobs cannot be found locally. The older persons with homes and friends are reluctant to leave the area but do show a greater willingness to commute longer distances as shown in Graph H. Persons over 65 have very little mobility. The 20-44 age group has about one-third willing to move for work and about the same number willing to commute over 30 miles daily for work. Almost all of this age group will commute up to 20 miles and since they comprise over one-third of the total applicants they provide an excellent source of potential workers for a local industry.

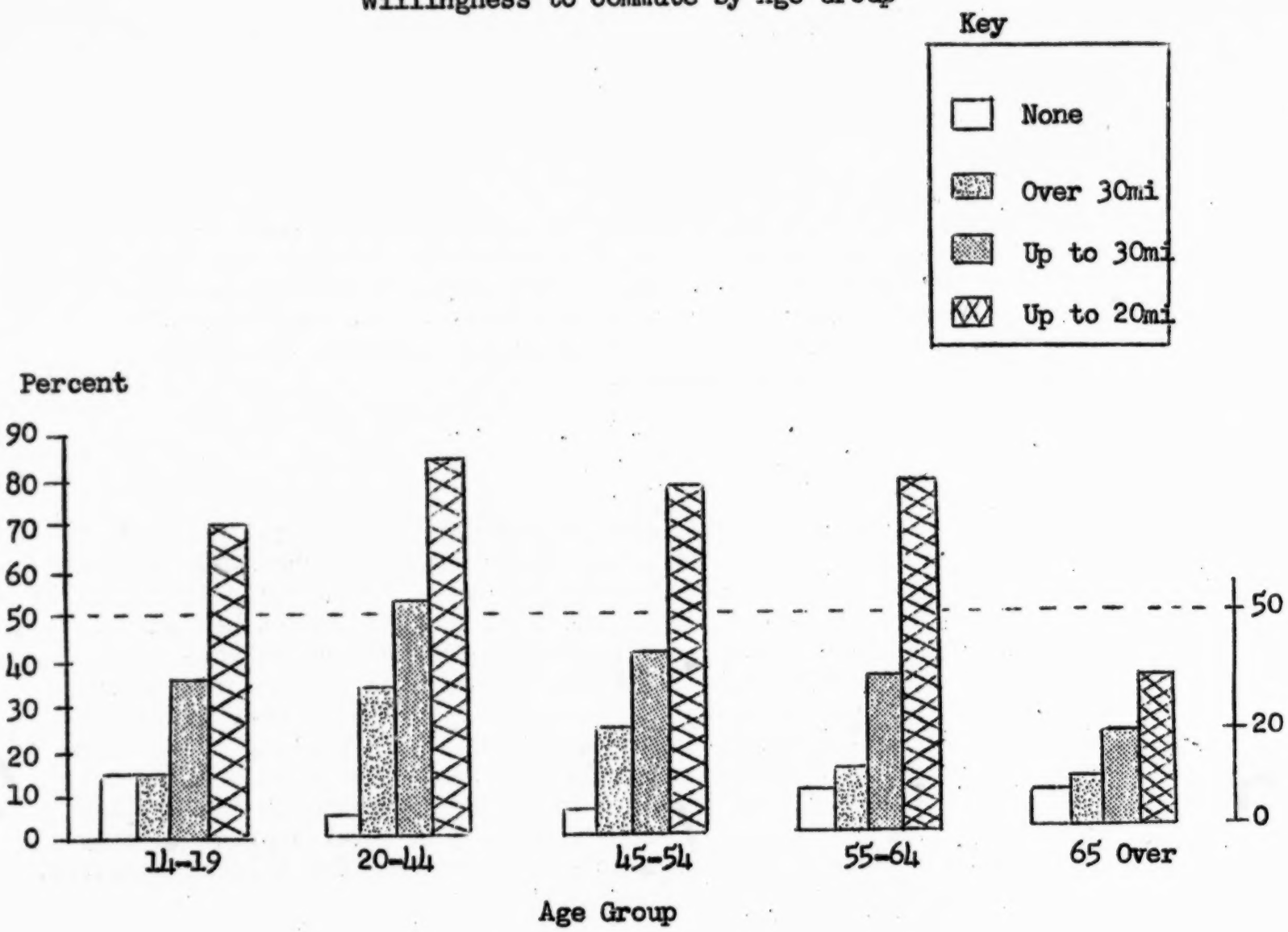
Graph G

Willingness to Move by Age Group



Graph H

Willingness to Commute by Age Group



Mobility by Educational Attainment

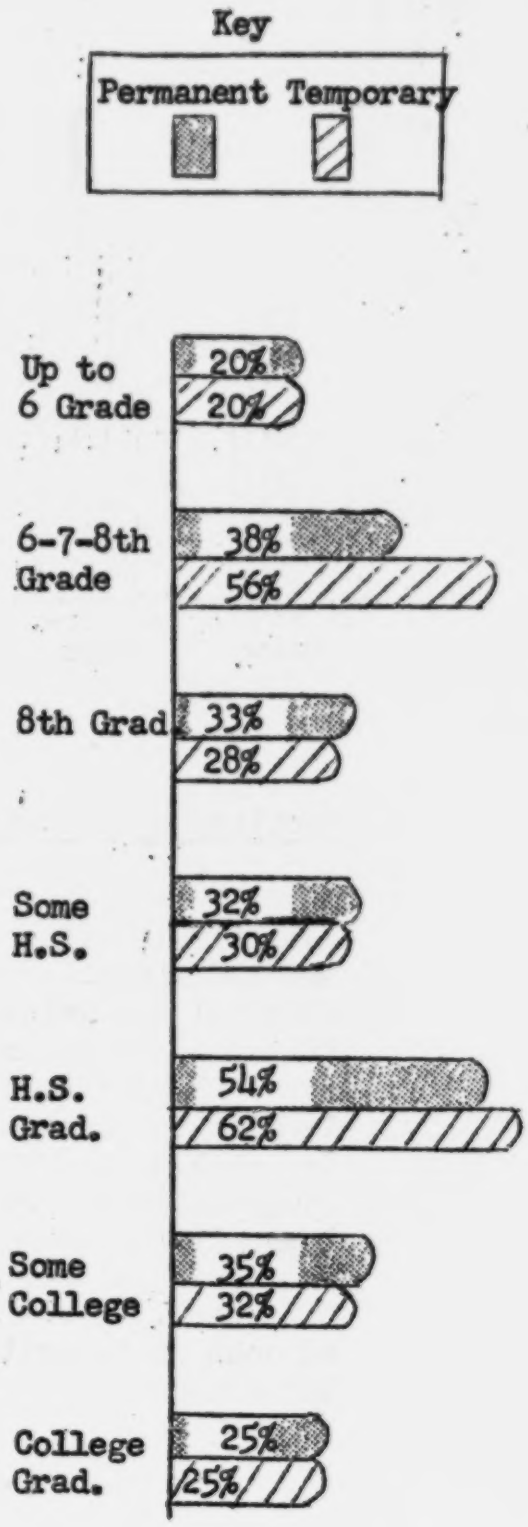
As a general rule mobility increases in proportion to the increase in educational attainment, however in Burnett County we find that those applicants with only a 6-7-8th grade education are almost as willing to move as the high school graduates and more willing than the other high school and college groups. The relatively low mobility of the college graduate group can probably be attributed to the fact that there has been little job opportunity for them in the area so those that would move have already done so. Since over one half of the applicants are in the High School graduate group and they show 62% willingness to move it is obvious that many of these applicants will leave the area if job opportunities are not created for them.

The graph on the next page shows the great willingness of all but the up to 6th grade group to commute up to 20 miles daily for work. Again the 6-7-8th grade group shows good mobility with almost 90% being willing to travel up to 20 miles daily for work. The college graduates show exceptionally high willingness to commute. This can be attributed to the higher saleries generally paid professional people. Most of the 6-7-8th grade group were unskilled or entry workers who would commute in order to get higher wages and year round employment.

Graph I

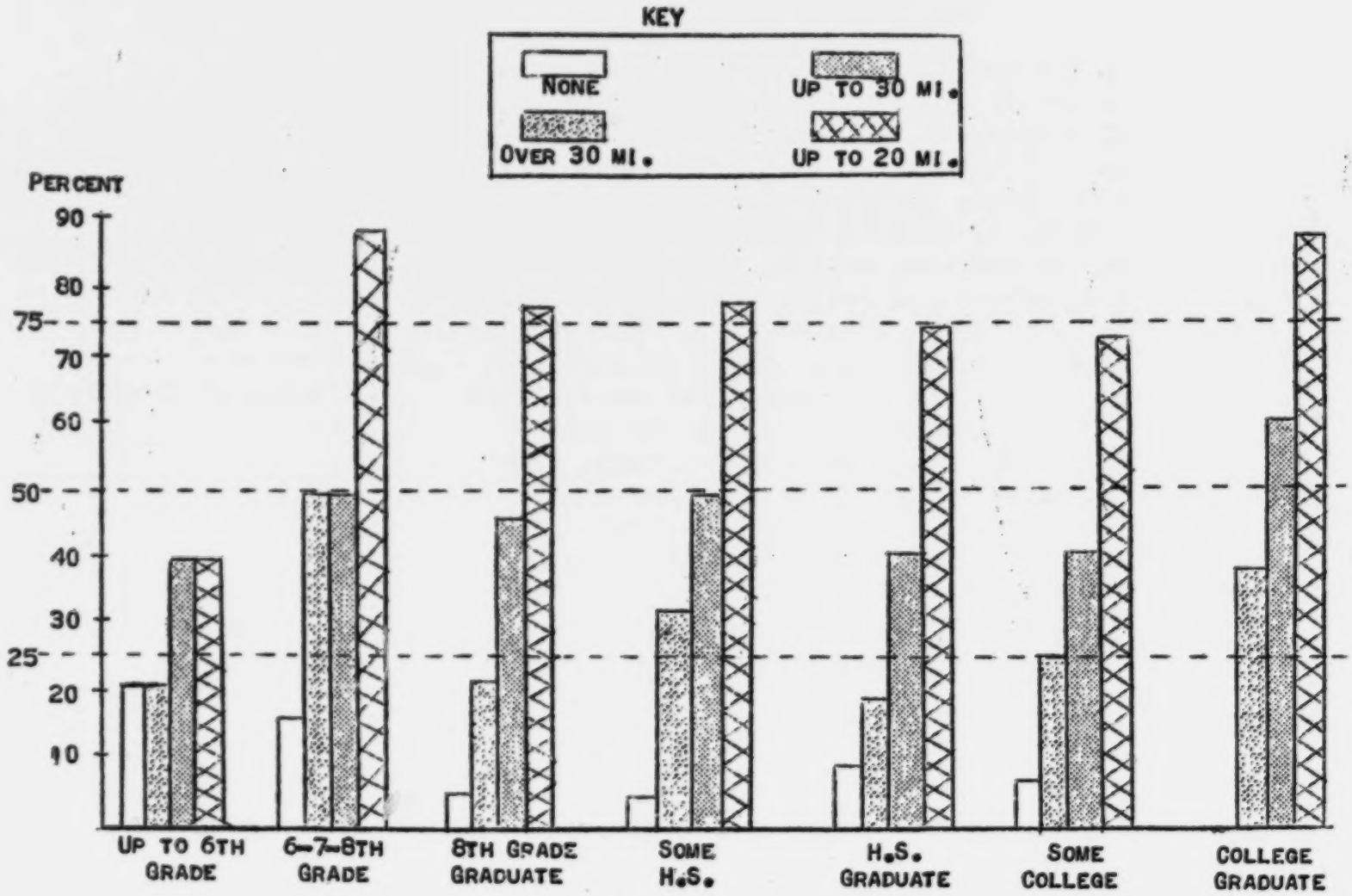
Willingness to move by

Educational Attainment



Graph J

Willingness to Commute by Educational Attainment

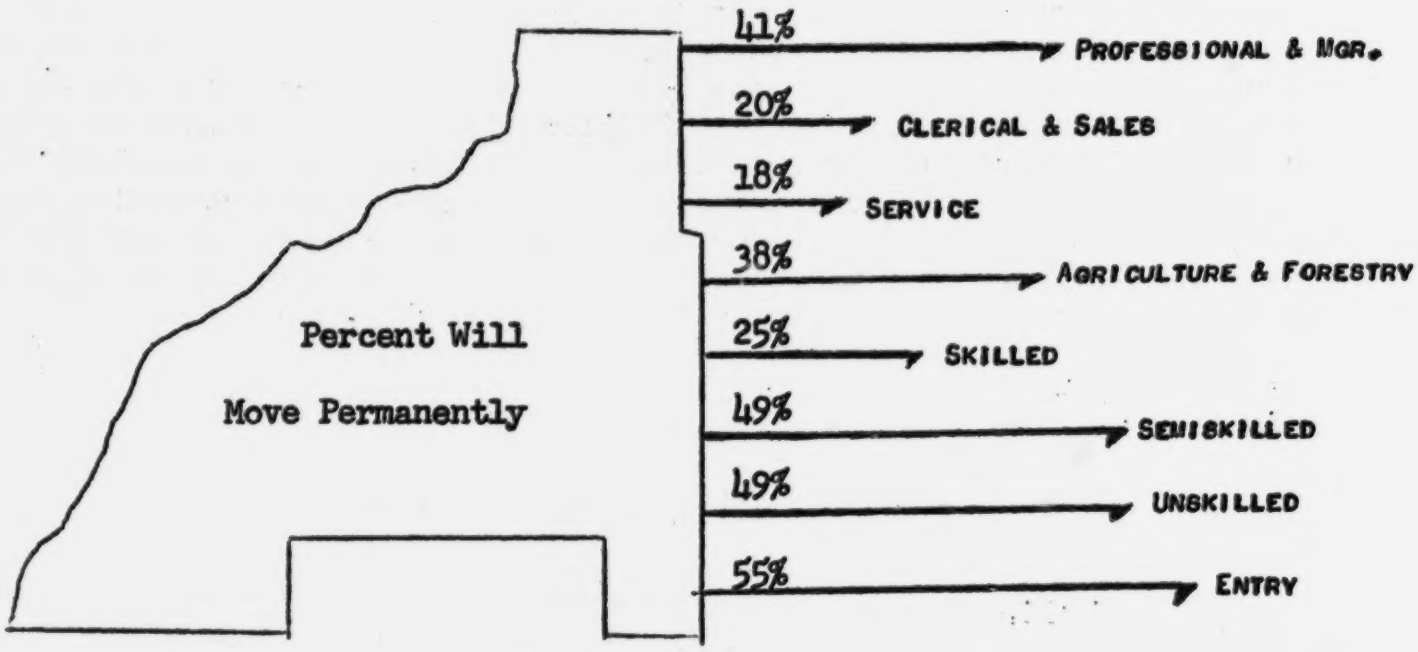


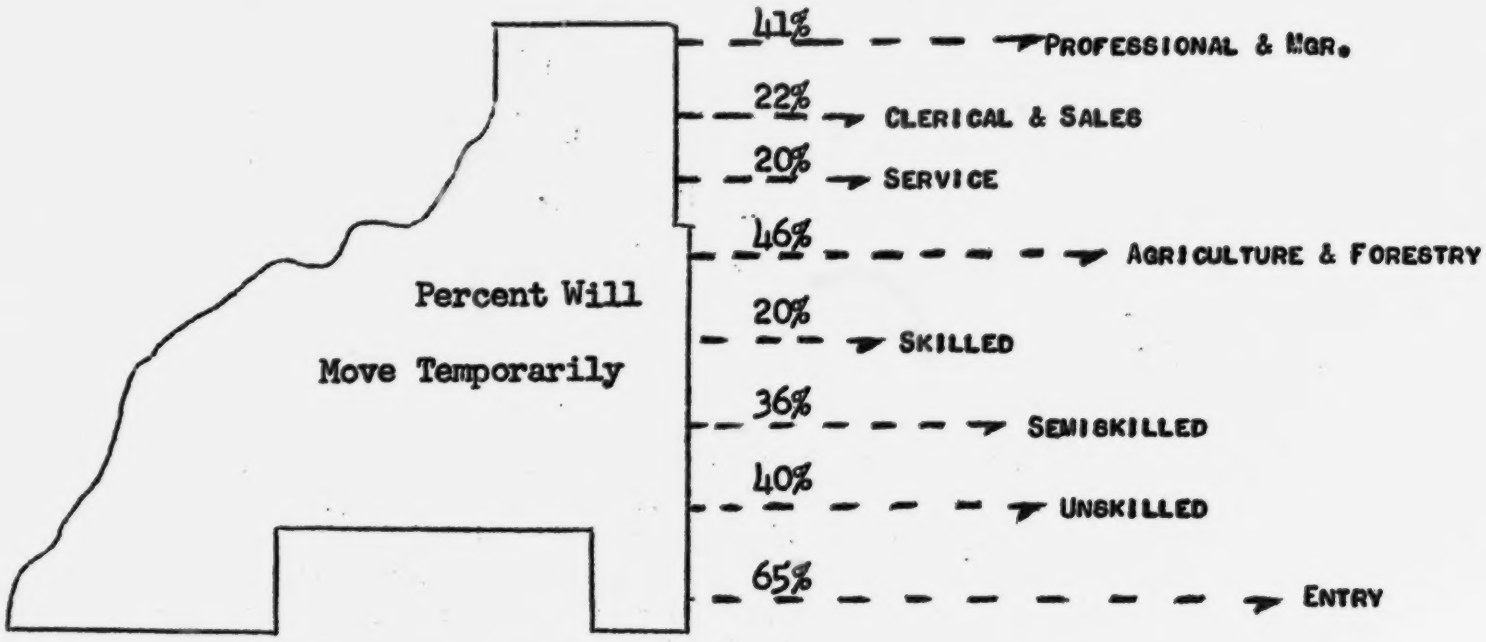
Mobility by Occupational Group

Mobility is affected by the type of occupation and skill level of the individual. As can be seen in the graph on the next page the Clerical and Sales and Service occupations, which as a rule are filled by women in the rural areas, show little willingness to move. Professional people generally have a higher educational level thus more mobility. The semiskilled and unskilled persons are seeking to better themselves by moving to places of greater opportunity as are the entry workers who have no trade or skill. Agricultural workers and farmers are leaving the farms in ever increasing number and will move out of the area, if necessary, to find work. There exists a number of relatively good paying skilled jobs in Burnett County which accounts for the little interest in movement on the part of the skilled applicants.

Graph K

Willingness to Move by Occupational Group





Mobility by Occupational Group (cont.)

Table 25 below shows the comparatively large number of applicants in the skilled and semiskilled occupations that would commute over 30 miles daily for work. These people could provide a good nucleus for any industry that would locate in Burnett County or nearby. The large number of persons in all but the Clerical and Sales group and the Service group that would travel up to 20 miles for work means that an industry could locate in Burnett County and be assured of an adequate labor supply. The Clerical and Sales and Service groups generally do not show much willingness to commute because the jobs are of low pay, often seasonal and many times filled by the older workers or by housewives to supplement their family income.

Table 25

Willingness to Commute by Occupational Group

Occupational Group	Miles Willing to Travel One-Way Daily for Work				
	30 Plus	Up to 30	Up to 20	Up to 10	None
Professional & Mgr.	7	5	3	1	1
Clerical & Sales	11	6	22	14	2
Service	7	10	16	13	4
Agri. & Forestry	3	7	14	2	2
Skilled	27	9	16	1	3
Semiskilled	27	13	19	1	1
Unskilled	16	4	18	4	3
Entry	44	64	103	46	31

High School Seniors

The table on the next page shows the general mobility of the high school seniors included in the survey. It should be noted that most of them would leave the county for work while only a small percent would commute over 30 miles. About three-fourths of the high school seniors would commute up to 20 miles for work which means that they would be available for work anywhere in Burnett County. Many of those who indicated no willingness to commute have done so because they did not have transportation available at the time of the survey. This situation would undoubtedly change if an industry were to locate in the area.

Table 26

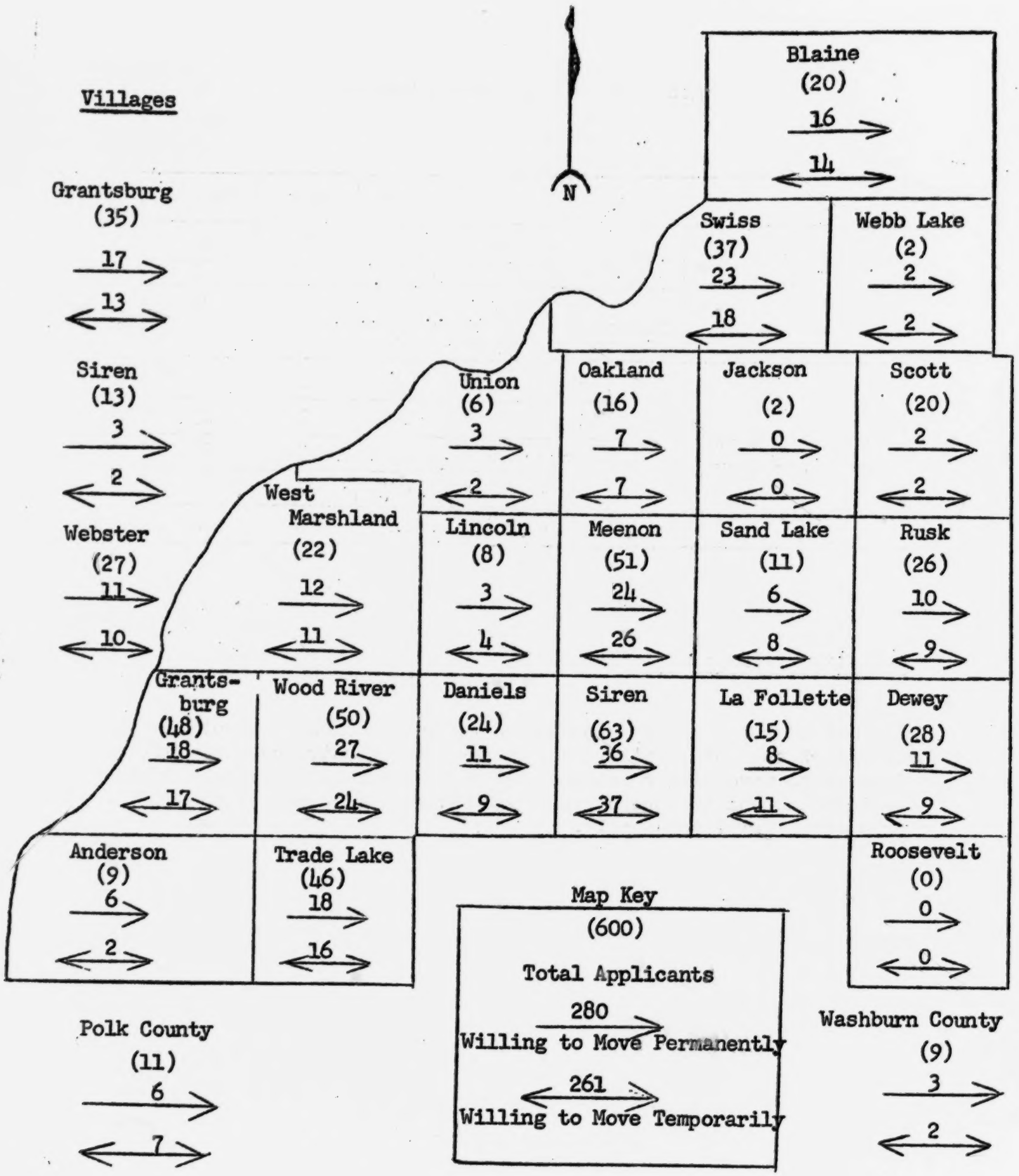
Mobility of High School Seniors

			Total	Male	Female
Willingness to Move out of the Area	Permanent	Yes	148	84	64
		No	8	3	5
	Temporary	Yes	124	66	58
		No	32	21	11
Miles Willing to Commute one-way Daily for Work	None		23	11	12
	Up to 10		18	3	15
	Up to 20		59	36	23
	Up to 30		35	20	15
	30 Plus		21	17	4

Mobility by Place of Residence

The map on the next page indicates the total number of applicants from each township, village and surrounding county and their willingness to move either permanently or temporarily for work. This provides a good picture of the location in the county of the available potential labor supply.

Geographic Mobility by Place of Residence



SECTION D Job Potential of Applicants

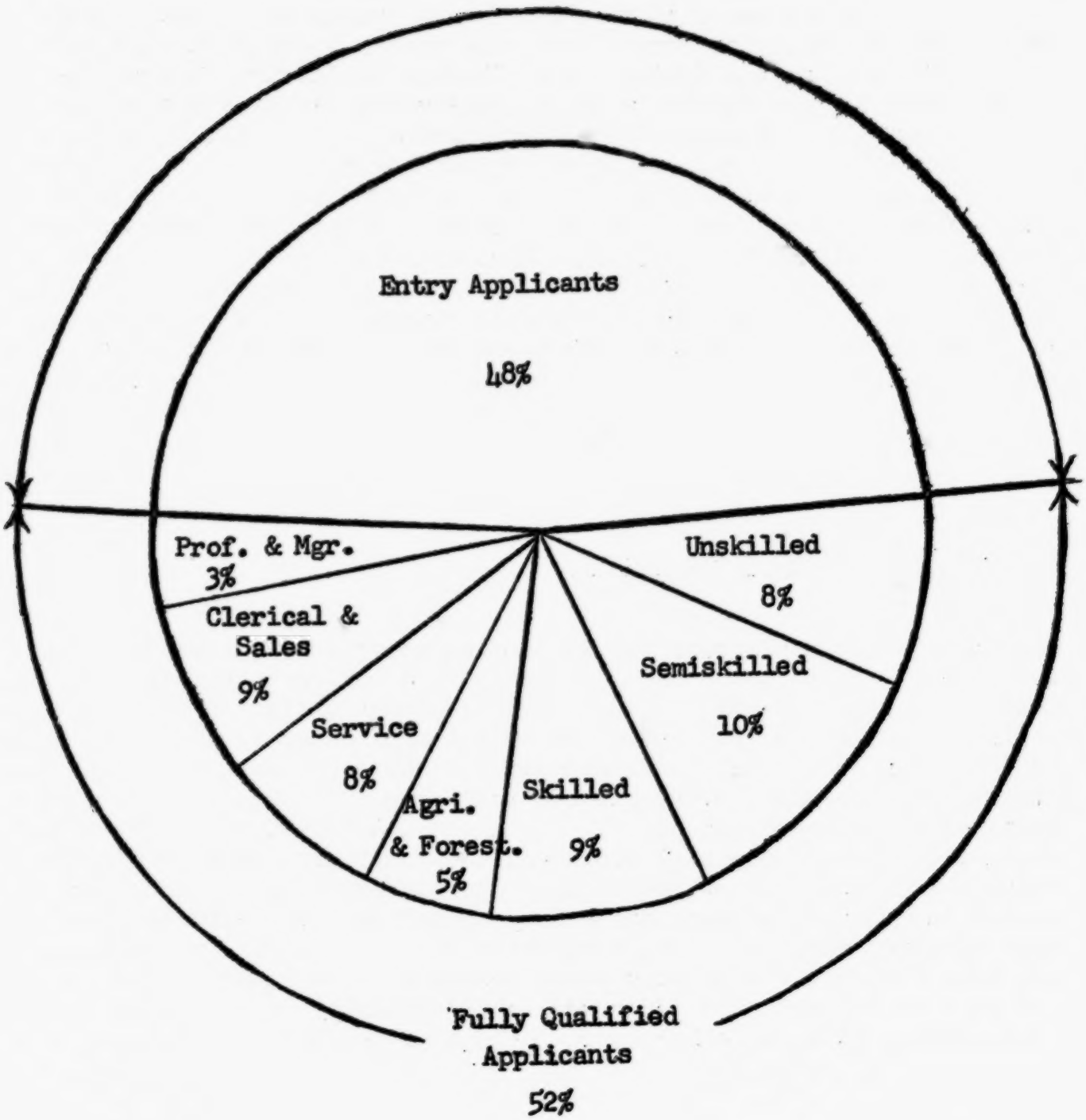
All applicants were classified by primary occupation or occupations for which they possess skills or had recent work experience. Applicants without skills or recent work history or Entry applicants were encouraged to take the United States Employment Service General Aptitude Test Battery (GATB) to assist counselors in their evaluation of each individual's occupational potential. The results of this test combined with a counseling interview determined the occupational potential assigned to each applicant. This section provides charts and tables to present the primary occupation and highest occupational potential of all applicants. In addition the scores of all tested applicants were compared with specific aptitude scores for various occupations to provide a job potential inventory table. A complete breakdown of the primary occupation and occupational potential of applicants can be found in Tables I and II of the appendix.

Primary Occupations of Applicants

Each of the 600 applicants was classified according to his primary occupation. If they had insufficient work experience to qualify them for a full occupational code they were classified as entry applicants. Two hundred and eighty-eight applicants or 48 percent came under this classification. The chart on the next page indicates the percent of applicants that come under each of the primary occupational groups. It should be noted that only the Professional and Managerial group and the Entry group varied significantly in percentage of the total. The low percentage of Professional and Managerial applicants is a normal occurrence because most of these persons are employed at a good wage level and need not look for work. The Entry group represents the young people and persons without experience who have difficulty finding jobs consequently it is a rather large percent of the total.

Chart L

Summary of Primary Occupations

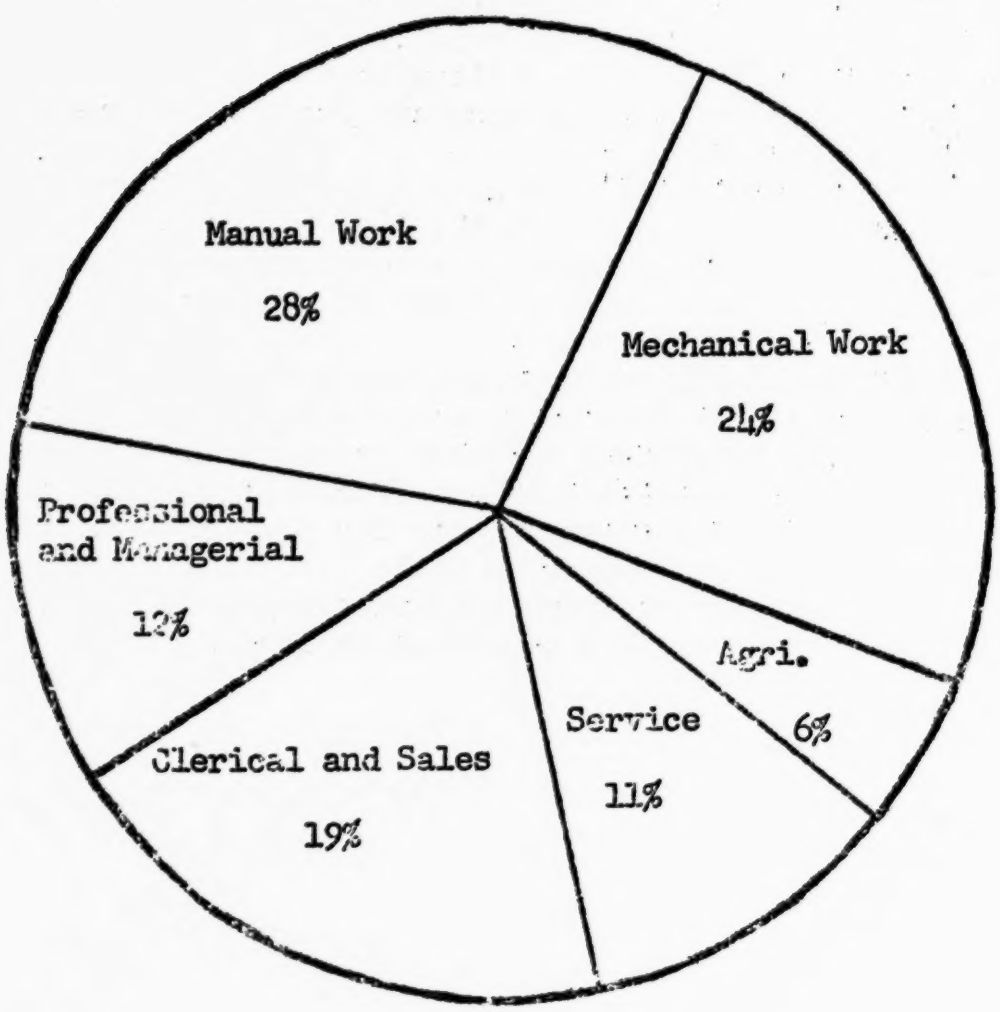


Occupational Potential of Applicants

All applicants were given an occupational code that reflected their present occupation, occupation for which they possessed some skill and occupations for which they possessed potential and interest. As a result some applicants received more than one occupational potential code with the result that the 600 applicants were assigned 1060 codes. The chart below depicts the percentage distribution of the occupational potential in each of the six occupational groups while Table II of the appendix presents a complete breakdown.

Chart M

Occupational Potential of Applicants



Job Potential Inventory

In addition to using the General Aptitude Test Battery (GATB) as an aid in counseling and to determine occupational potential it is also useful in determining specific job potential of the applicants. The GATB consists of twelve tests designed to measure nine aptitudes. The aptitudes are defined as follows:

G - (Intelligence) General learning ability.
V - (Verbal Aptitude) Ability to understand meanings of words and ideas associated with them and to use them effectively.
N - (Numerical Aptitude) Ability to perform arithmetic operations quickly and accurately.
S - (Spatial Aptitude) Ability to comprehend forms in space and understand relationships of plane and solid objects - often described as the ability to visualize.
P - (Form Perception) Ability to perceive pertinent detail in objects or in pictorial or graphic material - to make visual comparisons and discriminations, and to see slight differences in shapes and shadings of figures, etc.
Q - (Clerical Perception) Ability to perceive pertinent detail in verbal or tabular material.
K - (Motor Coordination) Ability to coordinate eyes and hands or fingers rapidly and accurately in making precise movements with speed.
F - (Finger Dexterity) - Ability to move the fingers, and manipulate small objects with the fingers, rapidly or accurately.
M - (Manual Dexterity) Ability to move the hands easily and skillfully - to work with the hands in placing and turning motions.

A total of 279 applicants were administered the GATB and their scores have been compared with the Specific Aptitude Test Battery (SATB) scores listed in the U.S. Department of Labor catalogue of test scores for various specific jobs. These SATB's are frequently used by the Employment Service as a tool to screen applicants for jobs or training. The results of the comparisons appear in Table 27. This table when combined with any known industry staffing pattern can provide answers to the availability of manpower to a potential employer.

Table 27

Specific Job Potential of Applicants Tested

Specific Jobs	Total	Male	Female
Automobile Mechanic	192	104	88
Automobile - Body Repairman	184	105	79
Bookkeeping Machine Operator	103	39	64
Bookkeeping	148	85	63
Clerk, General Office	103	39	64
Stenographer-Typist	158	73	85
Key-Punch Operator	136	62	74
Electronic Unit Assembler	131	53	78
Electronic Assembler	162	91	71
Core Plane Wirer	114	52	62
Module Assembler (electronics)	100	53	47
Electronic Technician	79	42	37
Welder, Inert Gas	247	136	111
Welder, Spot	192	104	88
Welder, Combination	192	104	88
Sheet Metal Worker	162	91	71
Machinist	226	136	90
Tool & Die Maker	181	107	74
Punch Press - Drill Press Operator	227	129	98
Machine Operator, General	216	120	96
Turret Lathe Operator	216	125	91
Woodworking Machine, General	224	126	98
Carpenter (construction)	216	125	91
Cabinetmaker	144	86	58
Airplane Assembler	224	126	98
Airplane Mechanic	182	91	91
Forming Press Op.	184	105	79
Plumber	216	125	91
Electrician	205	113	92
Compression Molding Machine Tender	192	104	88
Nurse Aide	227	128	99
Vamper (Boot and Shoe)	203	119	84
Clicking Machine Operator	216	125	91
Stitcher, Machine (Boot and Shoe)	187	98	89
Sewing Machine Operator	205	113	92
Cheese Wrapper & Packer	192	104	88
Packing-Sorting-Cutting (Canning)	224	126	98

PART III

Employer Survey

Part III consists of tables, charts and graphs illustrating the results of the Employer Survey. The Employer Survey was carried out in Burnett County at the same time as the Applicant Survey. Two members of the team contacted all employers that employed four or more employees in Unemployment Compensation covered employment. Each employer contacted was asked to complete a survey form which asked that he list all his employees by occupation, sex, age and wages paid. He was also asked to project his employment for 1966 and 1969 by occupation. Each employer was also asked a series of questions as follows:

1. Have you had any hiring difficulty the past year and for what reason?
2. What type of training and for what occupations do you feel it is necessary?
3. Do you currently have any job openings?
4. What are the reasons for the location of your business here?
5. How many persons do you hire from outside Burnett County? Where do they reside?
6. What industry would best aid your business?

Highlights of the Employer Survey

Twenty employers were surveyed employing 523 persons or 15 percent of the estimated 1964 labor force.

Slightly over 65 percent of the persons employed by the surveyed employers were employed in manufacturing.

Ninety percent of those employed in manufacturing were men.

The employment increase expected by all surveyed employers totaled only 19 persons by 1966 and 70 persons by 1969.

Manufacturing accounted for an increase of 17 persons by 1966 and 62 persons by 1969.

The skilled and semiskilled occupations accounted for an increase of 16 persons by 1966 and 63 persons by 1969.

Fifty-eight percent of the employed workers were under 45 years of age. Less than 17 percent of the employed workers were women.

Assembly workers and machine operators accounted for the greatest anticipated increase by 1966 and 1969.

Most employers favor any type of new industry especially some type that would utililize the counties natural resources.

Most workers over 65 were owners, managers or part time workers so do not represent replacement potential.

Lack of qualified skilled persons represents the basic problem of employers in hiring new employees.

Wages paid clerical and unskilled workers is low while those of semiskilled and skilled are good considering the rural nature of the county.

More Burnett County workers are employed outside the county than outside residents employed within the county.

Most employers indicate a need for some type of vocational school training but the overall need would not justify the establishment of training except in cooperation with several other counties unless a specific need should develop due to industrial expansion.

Tourism, Raw Materials and Industrial Development assistance were all given as reason for locating in Burnett County.

Current and Anticipated Employment by Industry

A total of 25 employers were surveyed in Burnett County employing 523 persons or 15 percent of estimated 1964 labor force. Over 65 percent of the employed persons surveyed were in manufacturing and 90 percent of these were men. As might be expected a large percentage of the service industry workers were female and these accounted for almost 20 percent of the female work force surveyed. The increase in employment by 1966 and 1969 was very small as indicated in the following graph.

Current and Anticipated Employment

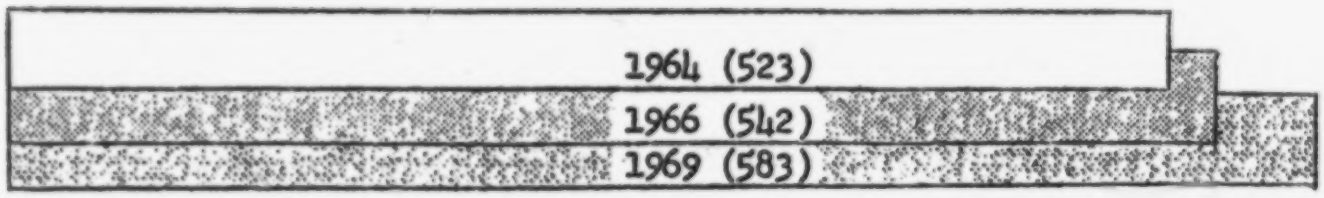


Table 27 below shows the current and anticipated employment by industry and the anticipated increases by 1966 and 1969. As can be seen only manufacturing shows any appreciable increase in the number to be employed. This small increase in employment can not hope to absorb the normal increase in labor force and additional industrial expansion must occur or many people will leave the area for work.

Table 27

Current and Anticipated Employment by Industry

Industrial Group	Current 1964			Anticipated Employment			
				1966		1969	
	Total	Male	Female	Total	Percent Increase Over 1964	Total	Percent Increase Over 1964
Total	523	435	88	542	3.6	593	13.4
Manuf.	342	309	33	359	4.9	404	18.1
Trades	84	65	19	86	2.3	88	4.7
Services	24	7	17	24	---	26	8.3
Utilities and Trans.	55	47	8	55	---	57	3.6
Construction	---	---	---	---	---	---	---
Fin.-Ins.-Real Estate	18	7	11	18	---	18	---

Current and Anticipated Employment by Occupational Group

The current employment by occupation as shown in Table 28 below indicates that very few women are performing skilled or semiskilled jobs. Over 79 percent of all the women currently employed by the surveyed employers were in Clerical and Sales or Service occupations. This would indicate that there is a good opportunity for an industry which employs women to locate in the area. Primarily all the anticipated increase in employment by the industries currently located in the area was in the skilled and semiskilled occupations. This would indicate that training programs currently being conducted must be maintained and expanded to meet the needs of current industry. Industrial expansion must take place in order to take care of the large numbers of skilled, semiskilled and new job applicants that the applicant survey showed were looking for work.

Table 28

Current and Anticipated Employment by Occupational Group

Occupational Group	Current 1964 Employment			Anticipated Employment			
				1966		1969	
	Total	Male	Female	Total	Percent Increase Over 1964	Total	Percent Increase Over 1964
Total All Groups	523	435	88	542	3.6	593	13.4
Professional & Managerial	25	25	0	25	---	25	----
Clerical & Sales	80	35	45	83	2.5	85	6.3
Services	36	11	25	36	---	38	5.6
Agri.-Forest. Fishing	6	6	0	6	---	6	---
Skilled	110	104	6	118	6.3	148	33.3
Semiskilled	217	207	10	225	3.2	242	11.5
Unskilled	49	47	2	49	---	49	----

Age Distribution of Employed Workers

The graph below shows that the surveyed work force of Burnett County is fairly evenly divided between the under 45 and the 45 and over age groups. Only slightly over 2 percent are over 65. Nearly one-half the work force were men under 45 while women accounted for less than 17 percent and those under 45 only 9 percent. This would seem to indicate opportunity for industrial growth to utilize the female work force primarily the younger age groups.

Chart N

Percentage Age Distribution of Employed Workers

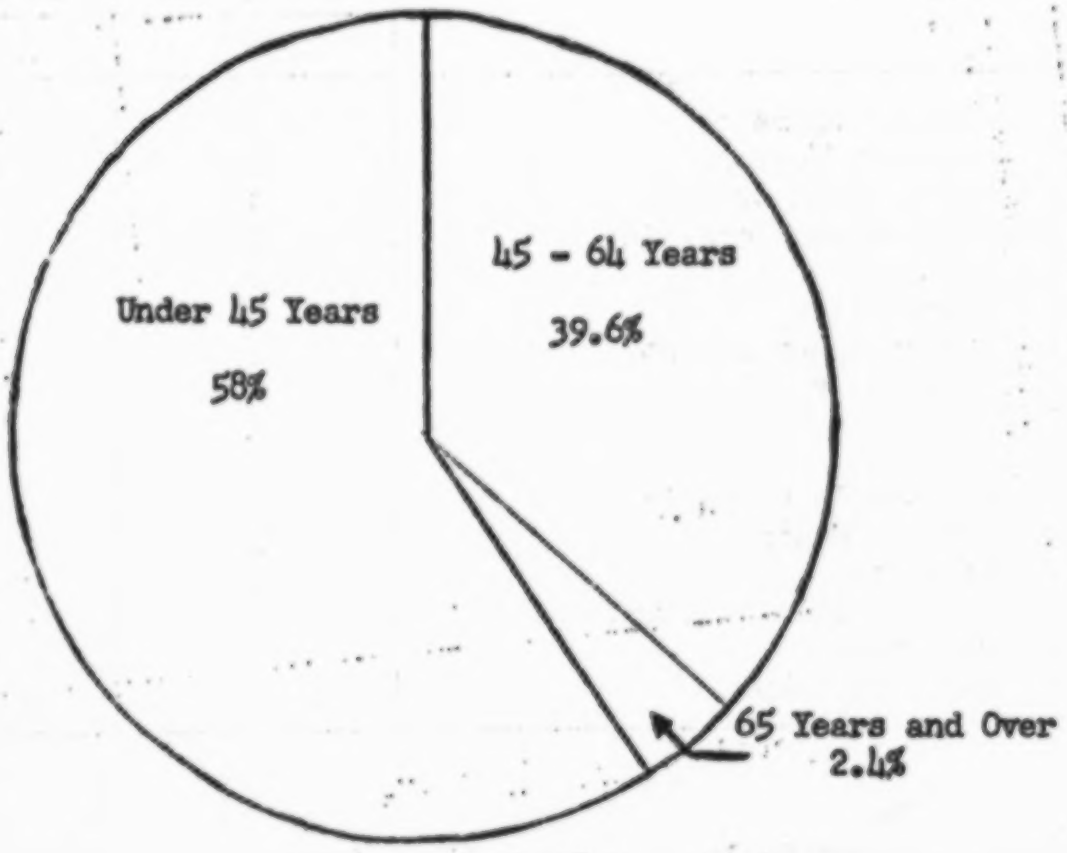


Table 29

Age Distribution of Employed Workers by Sex

	Total	Under 45	45-64 Years	65 Years and Over
Total	523	303	207	13
Male	435	256	168	11
Percent of Total	83.2	49.0	32.1	2.1
Female	88	47	39	2
Percent of Total	16.8	9.0	7.5	.3

Anticipated Employment by Specific Occupation

Nine of the Twenty-five employers surveyed indicated they would be increasing their employment by either 1966 or 1969. Table 30 indicates the anticipated increase by 1966 and 1969 for all the occupations in which increases were expected. It is significant that only two occupations show any amount of increase and these are both semiskilled or skilled factory occupations.

Table 30

Anticipated Increase by Specific Occupation

Occupation	Additional Employment By	
	1966	1969
Machine Operator	5	14
Assembly Workers	4	25
Sheet Metal Workers	1	2
Maintenance Mechanic	1	1
Salesman	2	2
Truckdriver		1
Stenographer-Typist	1	2
Bookkeeper		1
Printer	1	1
Lineman		1
Automobile Mechanic	2	2
Cabinet Maker	1	2
Carpenter	1	2
Service Station Attn.		1
Inspector		1
Cleaning Help		2

Occupations of Employed Workers 65 or Over

The 65 and over age group consisted of 13 workers or 2.4 percent of the surveyed work force. Of these workers 2 were owners or managers of businesses, 2 held part-time clerical jobs, 1 held a part-time semiskilled job. The full-time employed persons over 65 held 5 skilled jobs, 2 semiskilled and 1 laboring job. These last mentioned eight persons represent the only true potential for replacement by retirement. This means that new jobs must be created to absorb the young persons coming into the work force as well as the older workers who are seeking employment.

Employment Problems

Five of the employers surveyed indicated they had difficulty hiring workers in the past year. Only one reason was given and that was a lack of qualified skilled persons to fill the job openings. All the openings were at the skilled occupational level and most persons at this skill level can get higher wages by leaving the area. A general upgrading of wages for skilled workers, industrial expansion to utilize the semiskilled and unskilled and training programs to upgrade the skill level of the applicants is necessary to utilize the work force that is available in the county.

Current Wages of Surveyed Occupations

The table below indicates the highest and lowest wages paid for various occupations among the employers included in the survey. Not all employers indicated exact wages paid but enough information was gathered to make the wage range determinations. In general wages for clerical and unskilled occupation were very low while the semiskilled and skilled occupations were about the same or higher than those paid in other rural northern Wisconsin counties. The wages paid in Burnett County are enough lower than those paid in the more heavily industrialized areas that from the economic standpoint they favor industrial expansion.

Table 31

Current Wages in Surveyed Occupations

Occupation	Low	High
Bookkeeper	1.10	2.75
Sales Clerk	1.00	1.25
Office Clerk	1.25	1.65
Stock Clerk	1.25	1.75
Lineman	1.40	2.85
Truckdriver	1.50	1.75
Foreman	2.45	2.85
Machine Operator	1.25	2.25
Mechanic	1.25	2.05
Janitor and Cleaning Help	1.00	1.75
Laborer	.75	1.90

Employment of Out-of-County Residents

Of the 523 workers currently employed by the employers surveyed only 31 were out-of-county residents. The state of Minnesota supplied eight and the balance came from Polk County. No figures are available on the number of Burnett County residents working outside the county but it is known that the number is substantial. This trend needs to be reversed by increasing job opportunities within Burnett County.

Types of New Industry Favored by Employers

All the employers surveyed indicated that any new industry would be welcomed and would benefit the community if not their own business. The large amounts of forest and timber resources available would indicate the need for an industry that would utilize them and also provide additional employment.

Training Needs

Many of the employers surveyed indicated that additional training at the Technical or Vocational School level should be provided nearby. The possibility of combining with a nearby county to provide this type of school should be considered. Training would be desirable in several occupations as follows:

Carpenter	Office Procedures
Cabinetmaker	Shorthand
Mechanic	Bookkeeping
Machine Operator	Plumbing

In only one of the above listed occupations was there job potential to warrant setting up a training course in Burnett County and there is currently a course being given under the Area Redevelopment Act for that occupation. The training in the other occupations is just as necessary but do to the small needs of Burnett County it would not be practical to set up courses for less than a three or four county area.

Reasons for Locating in Burnett County

Most employers surveyed gave their reasons why they are located in Burnett County, Many of the small retail businesses gave as their reason the fact that the small communities are local trade areas for both the native residents as well as for the summer tourist trade. The resort business provides a big assist to the economy and in some cases is the primary reason why a business is located in the area.

Some of the industry is located in the county because of the source of raw materials. These include forest products as well as products from the farms. Other industries located in the area as a result of an adequate labor supply and assistance on the part of local Industrial Development groups either finacially or by providing facilities or both.

PART IV

APPENDIX

Part IV or the Appendix consists of a set of Tables providing detailed data on the primary occupations, total occupational potential, mobility and industrial experience of all applicants. These tables provided the background for the charts and graphs in Part 2.

APPENDIX

Following is an explanation which delineates the major occupational groups for entry classifications as used in Tables 1 and 2 of the appendix.

PROFESSIONAL, TECHNICAL AND MANAGERIAL WORK:

Persons having the qualifications necessary for entry into work requiring the capacity to acquire and apply special knowledges involved in artistic creation, entertainment, social service work, teaching, scientific study, research, engineering, law, business relations or management.

CLERICAL AND SALES WORK:

Persons having the qualifications necessary for entry into work involving recording, transcribing, composing, compiling, transmitting and systematizing written communications and records, computing or compiling mathematical or statistical data, or dealing with the public in business situations to effect sales, give information, or perform other commercial or administrative services.

SERVICE WORK:

Persons having the qualifications necessary for entry into work that involves ministering to the needs of others in preparing food, serving meals, caring for children and in other types of personal service activities.

AGRICULTURAL, MARINE AND FORESTRY WORK:

Persons having the qualifications necessary for entry into work involving the raising and harvesting of crops; the breeding, care, catching and hunting of fish and other animals; the handling of boats; the preservation of forest; the gathering of forest products and other related outdoor activities.

MECHANICAL WORK:

Persons having the qualifications necessary for entry into work in which the independent judgement of the worker determines the machine and manual operations to be performed in obtaining the proper form and quantity of material to be produced. Workers may be required to lay out work; to estimate quality, suitability, and needed quantities of materials; to make precise measurements; to read blueprints or other specifications; and to make necessary computations or mechanical adjustments to control or regulate processes.

MANUAL WORK:

Persons having the qualifications necessary for entry into work in which the form, quality and quantity of the work depend primarily on prescribed methods and on the performance of machines or equipment or on the use of hands or hand tools. Workers may be required to observe the operation of machines, feed mahcines and to perform other repetitive and physical tasks.

Table I

Primary Occupations of Applicants

Occupational Group	Male						Female					
	Total	Age Group					Total	Age Group				
		14 to 19	20 to 44	45 to 54	55 to 64	65 +		14 to 19	20 to 44	45 to 54	55 to 64	65 +
Total All Applicants	353	107	127	63	50	6	247	76	95	51	22	3
Fully Qualified Applicants	192	13	86	52	35	6	120	3	65	35	14	3
Prof. & Magr.'l	11	---	6	3	2	-	6	---	3	3	---	-
Accountant	1				1							
Writer, Technical	1		1									
County Agents	1		1				1			1		
Teacher	1			1			2		2			
Principle							1		1			
Sign Writer							1			1		
Draftsman, Mech.	1		1									
Fire Lookout	1		1									
ProductionPlanner	1		1									
Magr., Hotel	1			1								
Magr., Restr.							1			1		
Magr., Retail Build. Supply	1			1								
Magr., RetailStore	1		1									
Supt., Constr.	1				1							
Clerical & Sales	6	---	4	1	1	-	49	1	31	11	5	1
Bookkeeper							3		2	1		
Bookkeeping Machine Opr.	1		1									
Clerk, General							2		2			
Clerk, Gen. Office	1		1				20	1	14	2	3	
File Clerk							1		1			
Receptionist							1		1			
Post Office Clerk							2		2			
Secretary							1		1			
Stenographer							2			2		
Telegraphic Opr.	1		1									
Clerk-Typist							4		3		1	
Salesman, Real Estate	1			1								

(cont.)

Table I (cont.)

Primary Occupations of Applicants

Occupational Group	Male						Female					
	Total	Age Group					Total	Age Group				
		14 to 19	20 to 44	45 to 54	55 to 64	65 +		14 to 19	20 to 44	45 to 54	55 to 64	65 +
Sales Clerk							10		4	5	1	
Salesperson, Gen.							1					1
Meat Counterman							1		1			
Salesperson, Gen. Hdw.	1		1									
Salesperson, Music							1			1		
Salesman, Gen.	1				1							
<u>Service</u>	13	--	1	2	7	3	37	2	17	11	5	2
Day Worker							3		1	2		
Laundress							1		1			
Houseman	1				1							
Yardman	7			1	4	2						
Caretaker	1				1							
Maid							2				2	
Child Monitor							2	1		1		
Companion							1					1
Magr., Tourist Camp	1					1						
Executive Chef							1				1	
Cook							9		3	4	2	
Waitress							8		7	1		
Kitchen Helper							3		1	2		
Manicurist							1					1
Beauty Operator							1		1			
Orderly	1		1									
Nurse Aide							5	1	3	1		
Janitor	1				1							
Porter	1			1								
<u>Agri. - Forest-Fishery</u>	28	8	9	7	4	--	--	--	--	--	--	--
Farmer, Gen.	2	1		1								
Bookkeeper	1		1									
FarmHand, Dairy	22	6	8	5	3							
FarmHand, Cranberry	1				1							

(cont.)

Table I (cont.)

Primary Occupations of Applicants

Occupational Group	Male						Female					
	Total	Age Group					Total	Age Group				
		14 to 19	20 to 44	45 to 54	55 to 64	65 +		14 to 19	20 to 44	45 to 54	55 to 64	65 +
Agri. - Forest-Fishery (cont.)												
FarmHand, Gen.	1	1										
Tractor Operator	1			1								
Skilled	56	--	26	19	9	2	--	--	--	--	--	--
Buttermaker	1		1									
Miller	1			1								
Beef Cutter	1			1								
Cabinet Maker	1		1									
Photoengraver	1		1									
Cylinder-Pressman	1			1								
Machinist	7		4	3								
Machinist, Bench	2		2									
Inspector	1		1									
SheetMetalWorker	1				1							
Structural Steel Worker	1			1								
Welder, Arc	2		1	1								
Electrician	1		1									
Bricklayer	1				1							
Carpenter, House	1		1									
Carpenter, Finish	5		3			2						
Carpenter, Rough	12		3	5	4							
Cement Finisher	1		1									
Painter, Constr.	1			1								
Painter, Sign	1				1							
Bus Driver	1			1								
Automobile Mech.	3		2		1							
Tractor Mech.	1			1								
Elect.App.Serv.Man	1				1							
MaintenanceMan, Bldg.	1			1								
MaintenanceMan, Fact.	1		1									
Maintenance Mechanic	2		1	1								
Foreman, Mach. Shop	1		1									
Highway Foreman	1			1								
Foreman, Utilities	1		1									

(cont.)

Table I (cont.)

Primary Occupations of Applicants

Occupational Group	Male						Female					
	Total	Age Group					Total	Age Group				
		14 to 19	20 to 44	45 to 54	55 to 64	65 +		14 to 19	20 to 44	45 to 54	55 to 64	65 +
Semiskilled	50	1	26	13	10	--	11	--	5	4	2	--
CondenserMan (Dairy)	1			1								
DrierOpr.(Dairy)	1			1								
Sewing Mach.Opr.							5		2	3		
SergingMach.Opr.	1			1								
Pulp Cutter	3		1		2							
Sawmill Worker	1			1								
Cement Mixer Tender	1			1								
Jewelry Sawyer	1			1								
Buffer	1		1									
Hand Burrer	1		1				1		1			
Multiple-Spindle-Drill-Press Opr.	1		1				1			1		
Single-Spindle-Drill-Press Opr.	1		1									
Machine Opr., Gen.	2		2									
Flame-CutterOpr.	1			1								
Office Mach. Assem.							1				1	
Electronic Assembler							1		1			
Aircraft,Subassem.	1				1							
Plastic Fabrication, Machine Tender							1		1			
Crusher Opr.	1		1									
Blade Grader Opr.	3		2		1							
Bulldozer Opr.	2		1	1								
Subgrader, Opr.	1			1								
Road Rollar Opr.	2				2							
Rough Painter	1		1									
Grout-Machine Opr.	1				1							
Plumber Helper	1		1									
Truckdriver,Heavy	12		10	1	1		1				1	
Truckdriver,Light	4		1	2	1							
Auto-Serv.-Sta.-Attn.	1	1										
BoilerOpr.Helper	1		1									
Oiler	1			1								
Auto-Mech.Helper	1		1									
Fork-Lift Opr.	1				1							

(cont.)

Table I (cont.)

Primary Occupations of Applicants

Occupational Group	Male						Female					
	Total	Age Group					Total	Age Group				
		14 to 19	20 to 44	45 to 54	55 to 64	65 +		14 to 19	20 to 44	45 to 54	55 to 64	65 +
Unskilled	28	4	14	7	2	1	17	—	9	6	2	—
Bakery Labor	1	1					4		3	1		
Poultry Slought. Labor	1			1								
Laborer Logging	9	1	4	4								
Laborer, Wood Working							5		1	3	1	
Laborer, Furniture							1			1		
Laborer, Plastics							1		1			
Laborer Leather							1		1			
MachineShopLaborer							1			1		
LaborerElect.Equip Manufacture							1		1			
LaborerOpticalGood Manufacture							2		1		1	
LaborerConstr.	12	1	8	2	1							
Laborer, Packing and Filling							1		1			
Car Cleaner (R.R.)	1	1										
Laborer, Moving and Storing	4		2		1	1						
Entry Applicants	161	94	41	11	15	-	127	73	30	16	8	--
Prof. & Magr.'l	39	36	2	1	—	-	26	24	1.	1	—	—
Journalism	2	2										
Gen. Education	12	12					11	11				
Social Welfare Work							1	1				
Guidance Work							1			1		
Protective Service Work	1		1				1	1				
Laboratory Science Work	1	1										
Nursing & Medical Work	1	1					8	7	1			
Biochemical Work	1	1					1	1				

(cont.)

Table I (cont.)

Primary Occupations of Applicants

Occupational Group	Male						Female					
	Total	Age Group					Total	Age Group				
		14 to 19	20 to 44	45 to 54	55 to 64	65 +		14 to 19	20 to 44	45 to 54	55 to 64	65 +
Prof. & Magr.'l (cont.)												
Materials Analysis	2	2										
Business Relations Work	5	5					1	1				
Accounting Work	2	2										
Geog.Science Work	6	5		1								
Engineering WorkGen.	2	2										
Ind.Engineering	1	1										
Structural Eng.	1	1										
Drafting,General	2	1	1									
Pattern Lay-OutWork							1	1				
Managerial Work							1	1				
Cleri. & Sales	9	5	3	—	1	—	44	32	5	5	2	—
Computing Work							1	1				
Gen.RecordingWork	3	2	1				23	17	4	2		
Stenographic Work							4	4				
Equipment&Material Checking	2	1			1		2	1			1	
Routine Recording Work							1	1				
Classifying Work							1	1				
RoutineCleri.,Work	1	1										
Gen.PublicContactWk.							4	3		1		
Selling	1	1					4	2		2		
CustomerServiceWork	2		2				4	2	1		1	
Service	1	—	—	—	1	—	20	12	5	2	1	
Quantity Cooking							2	1		1		
Child Care							1	1				
Personal Service							1	1				
Food Serving							1	1				
Adult Care	1				1		14	8	4	1	1	
Misc.PersonalService							1		1			

(cont.)

Table I (cont.)

Primary Occupations of Applicants

Occupational Group	Male						Female					
	Total	Age Group					Total	Age Group				
		14 to 19	20 to 44	45 to 54	55 to 64	65 +		14 to 19	20 to 44	45 to 54	55 to 64	65 +
Agri.-Forestry	1	1	—	—	—	—	—	—	—	—	—	—
Forest Work	1	1										
Mechanical	68	26	28	7	7	—	8	—	4	3	1	—
Machining Gen.	14	7	6		1							
Metal Machining	15	5	4	2	4		1		1			
Mechanical Repair	6	3	1	2								
Comb.Eng.Repair	7	3	3	1								
Misc.Mech.Repair	1				1							
HaulingMach.Opr.	1	1										
Electrical Repair	1		1									
Misc. Structural Crafts	1		1									
Plumbing	1			1								
Wood Structural Work	2	2										
Welding,General	7		7									
Arc Welding	2		2									
Blasting and Excavating	1	1										
Bench Work General	2	1	1				6		2	3	1	
Metal Bench Work	5	2	2	1								
Cabinet & Pattern Making Work	1			1								
Inspecting & Test							1		1			
Art Work	1	1										
Manual	43	26	8	3	6	—	29	5	15	5	4	—
Observational Work General	3	3					1		1			
Inspecting&Test	2	1			1							
Machine Tending	7	7					1		1			
HaulingMach.Opr.	2	2										
ManipulativeWorkGen.	3	2			1		4		2		2	
Structural Work. Ass. Materials	3	2	1									

Table I (cont.)

Primary Occupations of Applicants

Occupational Group	Male						Female					
	Total	Age Group					Total	Age Group				
		14 to 19	20 to 44	45 to 54	55 to 64	65 +		14 to 19	20 to 44	45 to 54	55 to 64	65 +
<u>Manual</u> (cont.)												
Metal Structural Work	1	1										
Welding & Reveting	3	2		1								
Bench Work Assort. Materials	2		1		1		17	4	8	3	2	
Machine Sewing							4		3	1		
Machine Opr. Ass. Materials	2		2									
Processing Assort. Materials	1	1										
Elemental Work Light	9	4	1	1	3		2	1		1		
Elemental Work Heavy	3	1	2									
Equipment Serv.	1		1									
Misc.PhysicalWork	1			1								

Table II

Occupational Fields of Work for Which Applicants Show Potential

Occupational Group	Total	Male	Female
Total All Applicants	1060	602	458
Prof.,Technical & Magr.'l Work	123	70	53
Artistic Work	8		8
Musical Work	1		1
Literary Work	5	3	2
Public Service Work	49	24	25
Technical Work	19	7	12
Business Relations Work	11	9	2
Geographical Science Work	6	6	
Engineering and Related	4	4	
Drafting and Related	9	8	1
Managerial Work, C.A.F.S.	6	4	2
Managerial Work, Personal Service	1	1	
Managerial Work, Industrial	4	4	
Cleri., and Sales Work	204	37	167
Computing Work	4	2	2
Recording Work, General	72	8	64
Typing	10	2	8
Stenographic	12	1	11
Equipment & Material Checking	12	8	4
Routine Recording Work	5		5
General Clerical Work	11	2	9
General Public Contact Work	20		20
Selling	26	7	19
Customer Service Work	31	7	24
Misc. Public Contact Work	1		1
Service Work	119	13	106
Quantity Cooking	25	1	24
Child Care	7	1	6
Food Serving and Related	29	4	25
Adult Care	42	4	38
Misc. Personal Service Work	16	3	13
Agri., Marine and Forestry Work	57	57	—
General Farming	6	6	
Animal Care	35	35	
Crop Farming	5	5	
Forest Work	11	11	

(cont.)

Table II (cont.)

Occupational Fields of Work for Which Applicants Show Potential

Occupational Group	Total	Male	Female
Mechanical Work	257	234	23
Machining, General	23	23	
Metal Machining	32	30	2
Mechanical Repairing, General	15	15	
Engine and Pump Repair	2	2	
Combustion Engine Repair	20	20	
Misc. Mechanical Repair	1	1	
Complex Machine Operating	1	1	
Printing Press Operating	1	1	
Hauling, Hoisting and Drilling Machine Opr.	28	27	1
Crafts	3	3	
Electrical Repairing	8	8	
Structural Crafts	4	4	
Metal Structural Work	3	2	1
Plumbing and Related	4	4	
Wood Structural Work (Carpentry)	31	31	
Bricklaying	2	2	
Plastic Material Spreading	2	2	
Structural Painting	2	2	
Welding and Related	22	22	
Blasting and Excavating	1	1	
Bench Work Assorted Materials	17	5	12
Electrical Unit Assembling	1		1
Metal Bench Work	10	10	
Wood Bench Work	9	7	2
Garment and Cloth Working	1		1
Bench Work Foods	2	1	1
Inspecting and Testing	3	2	1
Art Work (Bruch, Spray, Pen)	3	3	
Photographic Work	1	1	
Processing Plastic Material and Paint	1	1	
Processing Foods	4	3	1
Manual Work	300	191	109
Structural Equipment Tending	10	4	6
Inspecting and Testing	5	2	3
Machine Tending Assorted Materials	21	20	1
Woodworking Machine Tending	1	1	
Food Machine Tending	1		1
Hauling, Hoisting and Drilling Machine Opr.	20	20	
Non-Metal Process Equipment Tending	3	3	

(cont.)

Table II (Cont.)

Occupational Fields of Work for Which Applicants Show Potential

Occupational Group	Total	Male	Female
Manual Work (cont.)			
Food Process Equipment Tending	1		1
Manipulative Work, General	32	12	20
Structural Work Assorted Materials	9	9	
Metal Structural Work	5	5	
Wood Structural Work	1	1	
Structural Work Plastic Material and Paint	1	1	
Welding and Riveting	5	5	
Draining and Grading Work	1	1	
Bench Work Assorted Materials	35	2	33
Electrical Wire Winding	1		1
Metal Bench, Work	4	2	2
Wood Bench Work	2		2
Simple Shop Painting	1	1	
Bench Work, Fabric and Leather (Sewing)	20	1	19
Bench Work, Foods	2	1	1
Machine Operative Assorted Materials	8	7	1
Metal Working Machine Operative	5	4	1
Woodworking Machine Operator	2	2	
Press Forming	1	1	
Processing Assorted Materials	10	5	5
Processing Foods	3	1	2
Elemental Work	83	73	10
Equipment Serving	1	1	
Misc. Physical Work	6	6	

Table III

Mobility of All Applicants

		Willingness to Change Residence				Miles Willing to Travel One-Way Daily for Work				
		Permanent		Temporary		30 +	Up to 30	Up to 20	Up to 10	None
		Yes	No	Yes	No					
	Total	261	339	280	320	142	118	211	82	47
OCCUPATIONAL GROUP	Prof. & Magr.'l	7	10	7	10	7	5	3	1	1
	Cleri. & Sales	11	44	12	43	11	6	22	14	2
	Service	9	41	10	40	7	10	16	13	4
	Agri.-Forestry	10	18	13	15	3	7	14	2	2
	Skilled	14	42	11	45	27	9	16	1	3
	Semiskilled	30	31	22	39	27	13	19	1	1
	Unskilled	22	23	18	27	16	4	18	4	3
	Entry	158	130	187	101	44	64	103	46	31
EDUCATIONAL ATTAINMENT	Up to 6th Grade	1	4	1	4	1	1	0	2	1
	6 - 7 - 8 Grade	6	10	9	7	7	1	6	0	2
	8 Graduate	43	89	37	95	31	28	45	20	8
	Some H.S.	29	63	28	64	29	17	27	14	5
	H.S. Graduate	167	143	191	119	62	63	118	39	28
	Some College	13	24	12	25	9	6	13	6	3
	College Graduate	2	6	2	6	3	2	2	1	0
Marital Status	Married	84	252	74	262	85	68	120	47	15
	Single	169	75	195	49	51	50	83	30	30
	Other	8	12	11	9	6	0	8	5	2
Age Group	14 - 19	166	17	139	44	28	40	66	22	27
	20 - 44	78	144	79	143	76	42	71	26	7
	45 - 54	23	91	21	93	27	20	41	20	6
	55 - 64	19	53	18	54	11	14	31	11	5
	65 +	1	8	1	8	1	1	2	3	2

Table IV

Industrial Experience by Occupational Group

Occupational Group	Industry Group									
	Total	Non-Applicable	Manufacturing	Agriculture	Construction Mining	Trade	Utilities	Finance-Ins. Real Estate	Service	Government
Total	600	195	101	107	52	35	1	5	75	29
Professional and Managerial	17	1	3		3	4			2	4
Clerical and Sales	55	4	6	3	1	14	1	5	12	9
Service	50	4	3	7		4			30	2
Agriculture and Forestry	28		1	27						
Skilled	56	1	20	12	15	1			4	3
Semiskilled	61	1	22	11	16	3			1	7
Unskilled	45	2	19	8	7	3			5	1
Entry	288	182	27	39	10	6			21	3

VT 001 085
Manpower Resources of Washburn County, Wisconsin

Wisconsin State Employment Service, Superior
Wisonsin Univ., Madison. Agricultural Extension Service
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 65 71p.

*LABOR FORCE; *OCCUPATIONAL SURVEYS; *LOW INCOME COUNTIES; RURAL AREAS; *EMPLOYMENT SERVICES; *EMPLOYMENT OPPORTUNITIES; EMPLOYMENT STATISTICS; POPULATION TRENDS; EMPLOYMENT TRENDS; *JOB APPLICANTS; INDIVIDUAL CHARACTERISTICS
WASHBURN COUNTY; WISCONSIN

A "Smaller Community Temporary Office" was established at Spooner, Wisconsin, as part of a program to extend temporary employment office services to remote, rural low-income areas. Its basic tasks were (1) to provide full-range employment service facilities to the residents and employers, (2) to register and interview all applicants interested in employment, (3) to test and counsel applicants, (4) to survey employers, and (5) to cooperate with other governmental and public organizations in developing plans to improve and stabilize the economic welfare of the county. Washburn County was selected for this program on the basis of its declining population, labor force, and farm employment level as well as its rural, non-industrial status and low median family income. The median age of the county population was 34.2 as compared to 29.4 for Wisconsin. The population and labor force had declined 17.6 percent between 1940 and 1960. Agricultural employment declined from 36.4 percent in 1950 to 21.1 percent in 1960, and presently ranks 59th of 72 counties. Of the persons who registered with the employment office, 107 were fully employed, 57 were underemployed, 294 were unemployed, and 178 were high school seniors. Nearly 70 percent were inexperienced and were classified as entry applicants. Only one-half of the applicants were willing to move out of the area for work and 187 stated that they would commute 20 miles or more. The past annual earning for over 80 percent of the applicants was less than $3,000.00, and 55 percent had worked less than 18 weeks. Employers reported an increase of 76 positions for 1966 with only 54 openings at the time of the survey and additional openings anticipated by 1970. Of the 1,080 employees reported by 59 employers, only 17 were 65 or older. No agricultural or forestry occupations were surveyed. The appendix gives data on primary occupations, total occupational potential, mobility, and industrial experience of all applicants. (EM)

VT 001 085

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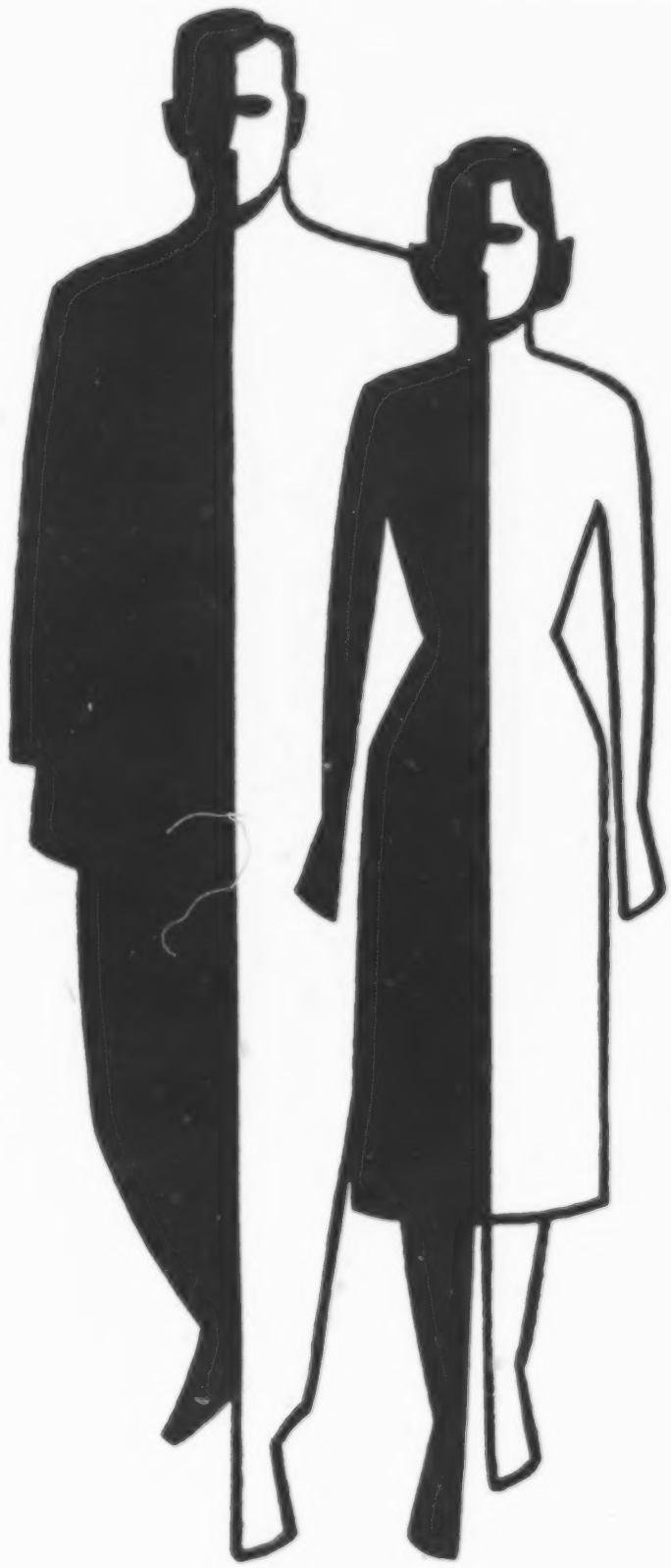
MANPOWER RESOURCES OF WASHBURN COUNTY



VT001085

WISCONSIN

WSES - 3079

MANPOWER RESOURCES OF WASHBURN COUNTY
WISCONSIN
1965

Presented by:
WISCONSIN STATE EMPLOYMENT SERVICE
1616 Tower Avenue
Superior, Wisconsin
J. P. Budzynski, Manager

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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REPORT OF
SMALLER COMMUNITY PROGRAM
of the
Wisconsin State Employment Service
A Division of the Industrial Commission

In Cooperation With
RURAL AREA DEVELOPMENT PROGRAM
of the
Agricultural Extension Service
College of Agriculture, University of Wisconsin

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FOREWORD

OBJECTIVES:

The study of the manpower resources of Washburn County was undertaken and accomplished under the Department of Labor's program of expanded services to smaller communities. The operation of this program in Wisconsin is designed to extend temporary employment office services to remote, rural low-income areas which are not contiguous to a major labor market area and are not now receiving the full-measure of easily accessible service from a permanent local employment service office. The objective of this temporary, but full-time service, is to promote both the economic welfare of the area and the vocational goals of individual residents. This is facilitated in cooperation with the Department of Agriculture's program of Rural Areas Development. The immediate objectives are:

1. To provide employment counseling and placement assistance to individuals for jobs within or outside the area being served.

2. To determine the current and potential manpower resources.

3. To assist local planning groups in evaluating the over-all economic resources of the area in relation to the manpower resources.

4. To encourage and assist those groups in planning a program of economic development.

SERVICES:

To achieve these objectives, the Wisconsin State Employment Service established a "Smaller Community Temporary Office" at Spooner, Wisconsin. The mobile crew, a staff of experienced employment service counselors, was assigned five basic tasks:

1. To provide the full range of employment service facilities and service to residents and employers of the county.

2. To register and interview all applicants interested in employment and to assist them in locating suitable jobs.

3. To test and counsel all interested applicants in evaluating their occupational potential for specific fields of work.

4. To survey the employers of the county to determine both current and anticipated employment requirements of existing business and industry.

5. To cooperate with various federal, state, and local agencies and quasi-public organizations in the development of plans designed to improve and stabilize the economic welfare of the county and its residents.

REASONS FOR SELECTION:

Early in 1964 a decision was made to conduct the manpower survey in a five county area in northwestern Wisconsin over a period of the next two years. It was felt that an area approach would facilitate advance preparation and follow-up. The Washburn County Board Resource Development Committee and the County Resource Agent requested the survey for winter or early spring so as to insure the registration of more seasonal workers. Washburn County was selected for participation in the Smaller Community Program in view of this request and its declining population, labor force and farm employment as well as its status as a rural non-industrial county with a low median family income.

BACKGROUND:

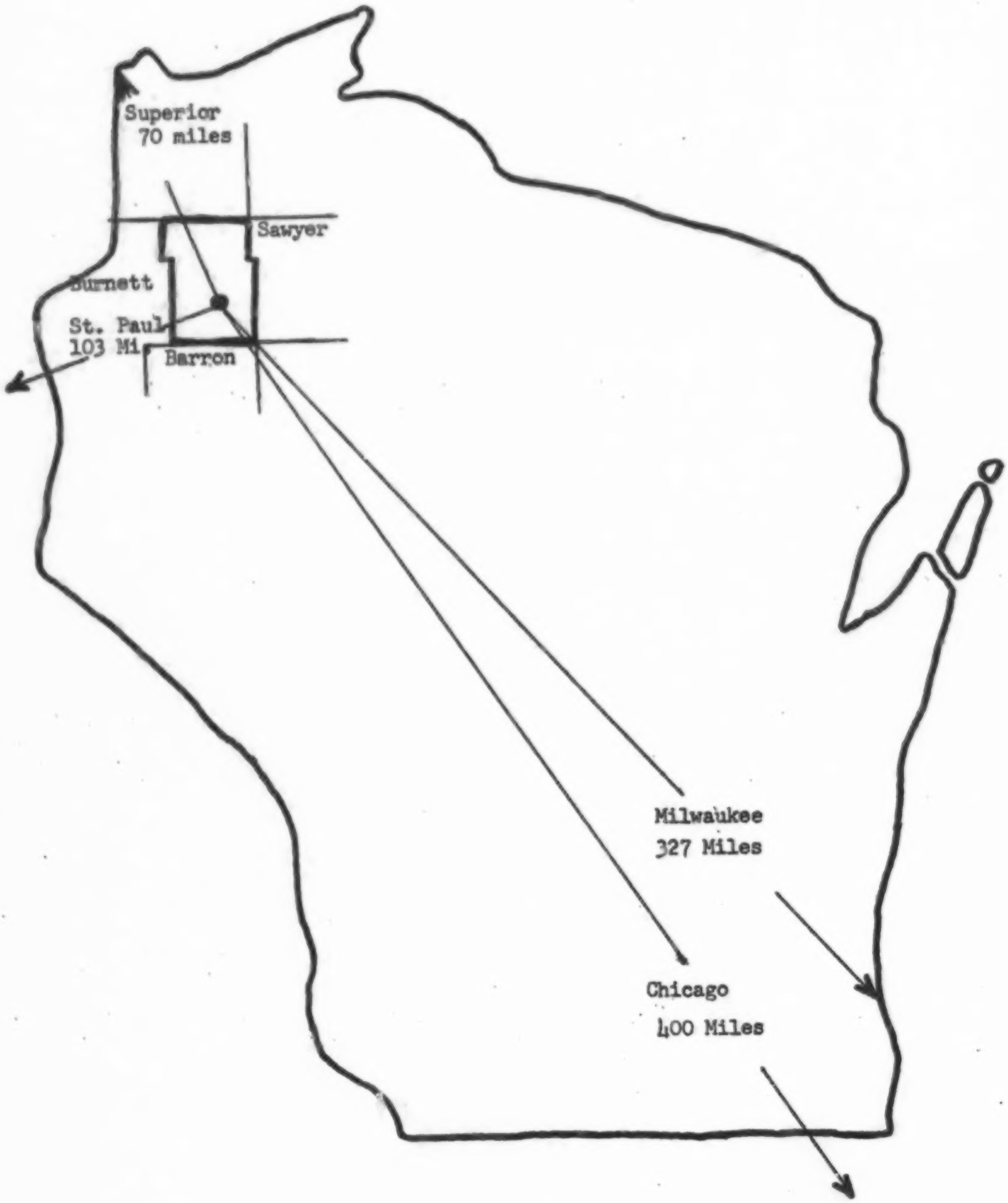
This study represents a part of the total continuing effort by WSES personnel to widen their scope of service and assist the county in its total resource development effort. Employment service personnel are anxious to know of any value this contribution may make in the total resource effort. Employers and businessmen contemplating expansions or new plant locations are urged to critically evaluate this study as to its value to them in terms of manpower resources, and to communicate their comments to the Wisconsin State Employment Service.

This material should also be of interest to other groups sincerely interested in the welfare and future of Washburn County, since much of the detail here actually reflects upon the adequacy of services of local institutions in terms of the needs, desires and ambitions of the people. Groups and agencies who are unselfishly concerned with employment opportunity, vocational training, education, taxes, and welfare should find some items of use and interest in this publication.

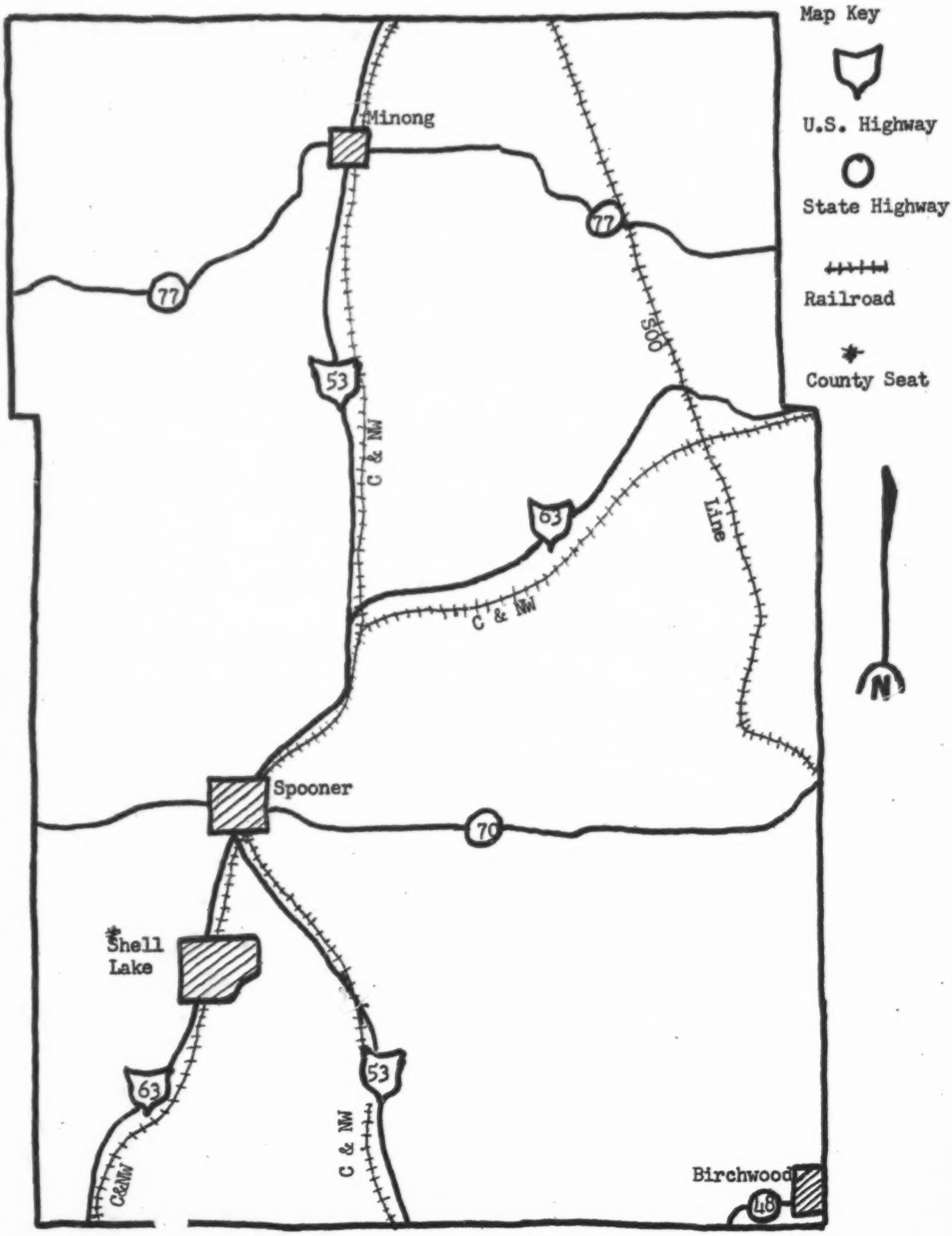
ACKNOWLEDGEMENTS:

We wish to thank the local employers for their assistance in providing certain data for this study. We thank the service groups and individuals who assisted in organizing and promoting the program and we thank the individual participants for their active participation and interest. Most important, we earnestly hope that the services rendered to individual applicants proves to be of value to them in their search for economic security.

LOCATION OF WASHBURN COUNTY RELATIVE TO POPULATION AND TRADE CENTERS



MAJOR TRANSPORTATION ROUTES IN WASHBURN COUNTY



V

SUGGESTIONS

It is very important that Washburn County maintain and strengthen the Technical Action Panel (TAP) organization to promote economic growth by encouraging growth of commercial enterprises, better farming and marketing procedures, more training and retraining facilities, improvement of community services and facilities, development of natural resources and utilization of Federal and State programs which benefit the county.

Some industrial development has occurred in Washburn County and is continuing at the present time. Every effort should be made to assist local industry to prosper and expand as well as encouraging new industry to locate in the area. There is an ample supply of labor both male and female with various skills and potential to be trained for future industrial development.

The large amount of forest land in the county should continue to be developed for marketing of forest products and for recreational use. A general up-grading of jobs connected with forest products harvest would encourage more persons to seek this kind of work and provide a better family living standard for those who would seek these jobs.

The county has done a good job in the promotion of the recreation and tourist industry and must continue to do even more. Development of recreation areas on both private and county owned lands must be accelerated to accommodate the rapidly increasing number of outdoor minded tourists. More promotion of the excellent hunting and fishing is also necessary to the economy of the area. However, while the tourist and recreation industry adds many millions of dollars each year to the economy of the county it will provide, for the most part, seasonal employment of a comparatively low pay and skill level. These types of jobs are necessary to aid the low income farm families and to provide supplemental income for many others but do not attract the youth seeking permanent, lifetime work or the more skilled workers that now commute outside the area for work.

The county must try to obtain industrial development that will at least maintain present wage rates if not increase them or face a continued loss of the youth and skilled workers. They also must encourage industry that will employ many women at year round jobs and reasonable wages.

The county must proceed as rapidly as possible in aligning itself with a vocational district in order that training for existing jobs and future needs will not be delayed.

PART I

HISTORICAL DATA

Part I consists of a set of summary-type population, labor force, educational attainment, wage and employment statistics. These Tables, Charts and Graphs are designed to illustrate population and labor force changes, wages and income, educational attainment, employment and unemployment which should significantly affect county planning.

Highlights of Part One

The population of Washburn County has declined by 2,195 persons or 17.6 percent from 1940 to 1960 and is continuing this same rate of decline to the present time. Both the male and female population has declined however, the ratio has been about 2 men for each woman. The decline has occurred primarily in the 25 thru 44 age groups due to out-migration of primary wage earners.

The out-migration of 50 percent of a selected age group that was 10-14 years of age in 1940 by the time they were 20-24 years of age in 1950 and the loss of an additional 12 percent by 1960 means a great loss to the county in manpower as well as tax dollars used to educate these people.

The median age of the population in Washburn County is 34.2 compared to 29.4 for the state and 35.9 for other area counties.

The labor force of Washburn County has declined at about the same rate as the population since 1940 but there has been an increase in the number of women in the labor force as employment opportunities for them have increased.

Agricultural employment has declined from 36.4 percent of the labor force in 1950 to 21.1 percent in 1960. All other industry groups have gained slightly but the result has been a decline of about 10 percent in total labor force during this period.

Washburn County has a smaller percentage of persons under 15 years of age and larger percentage over 65 than the state as a whole and the over 65 group has been increasing at a much faster rate in Washburn County than in the state.

The educational attainment level of persons over 25 years of age in Washburn County is higher than for most rural northern Wisconsin counties but is still considerably below the state median.

Washburn County ranks 59th out of Wisconsin's 72 counties in median family income. Nearly 40 percent of all the families in Washburn County had incomes under $3,000 annually and 8 percent had incomes under $1,000.

Rural non-farm income in Washburn County is considerably below the state average while farm income is about the same as the state average.

Average weekly wages in U.C. covered manufacturing employment in Washburn County are lower than all other area counties and it ranks among the lowest three counties of the state.

There has been no growth in U.C. covered employment in the county since 1960 and in fact covered manufacturing employment has decreased.

The unemployment rate for Washburn County is higher than for both the state and U.S. rate for the past several years. The unemployment rate in Washburn County fluctuates greatly with the season of the year but even at its lowest point is still above the state average. The average number of unemployed has remained constant over the past six years and the rate has declined because of an increase in the total labor force.

Population Trend

The population of Washburn County has been on the decline since 1940 as indicated in Graph A and in Table 1. The decline from 1940 to 1950 was 831 persons, or less than seven percent, while from 1950 to 1960 it was 1364 persons or nearly 12 percent. The rate of decline is estimated to have continued with a loss of 751 more persons by 1963.

A shift in the sex make-up of the population from 45.9 percent female in 1930 to 49.1 percent in 1960 and to an estimated 50.9 percent in 1963 is characteristic of most rural northern Wisconsin counties and reflects the out-migration of many young men for work. Also of significance is the increase in the number of persons age 15 and under and over 45 and the decrease in those between 20 and 45 especially those between 25 and 44. This again reflects the lack of opportunity for the primary wage earner to earn an adequate living within Washburn County.

Graph A

Population Trend 1930 to 1963 (EST)

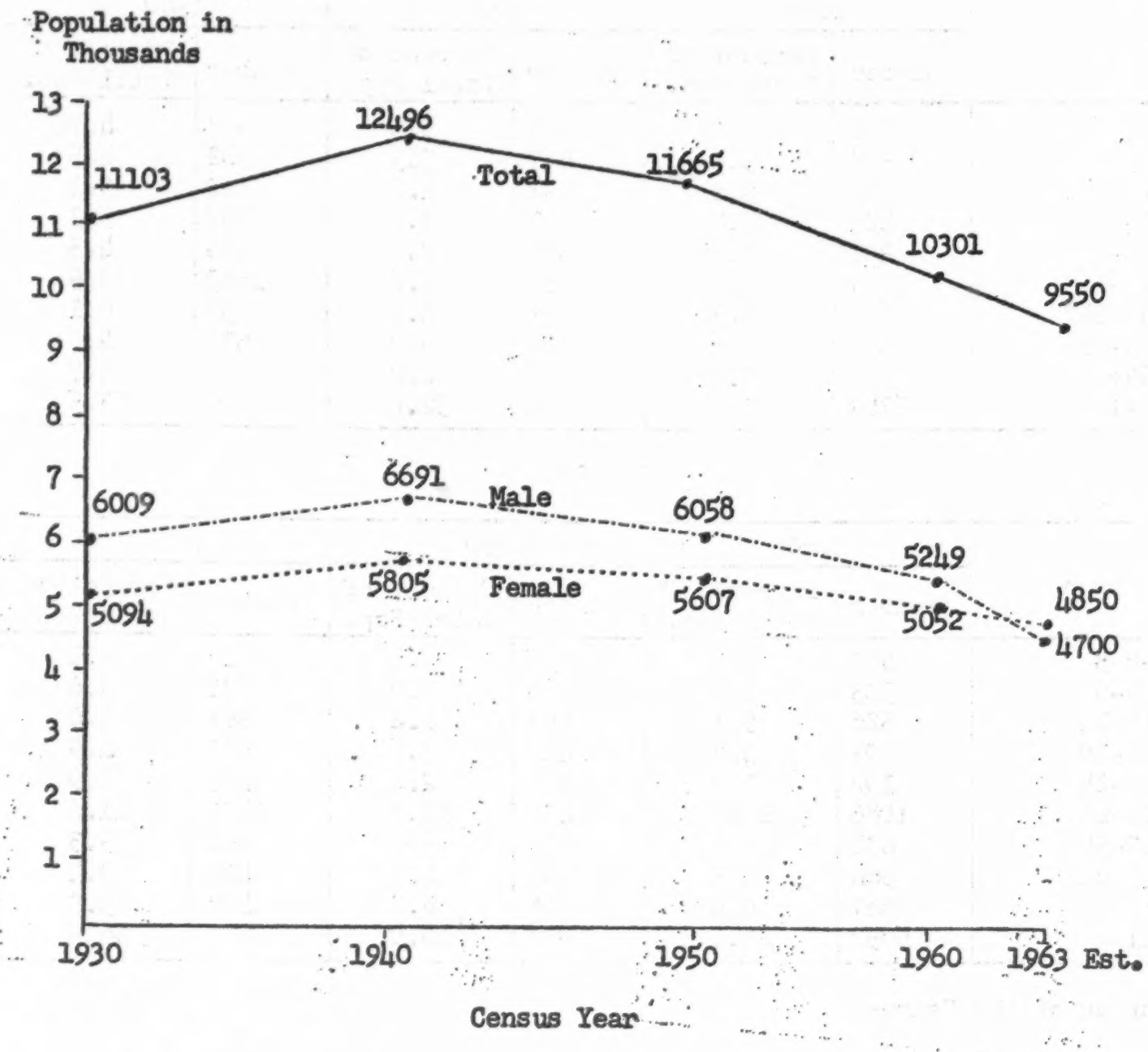


Table 1

POPULATION STATISTICS BY AGE GROUPS AND SEX 1940, 1950, 1960 CENSUS*

Total Population

Age Group	1960		1950		1940	
	Number	Percent of Total Pop.	Number	Percent of Total Pop.	Number	Percent of Total Pop.
Under 5	997	9.7	1283	11.0	1114	8.9
5-9	1051	10.2	1197	10.3	1143	9.1
10-14	1066	10.3	1024	8.8	1248	10.0
15-19	811	7.9	858	7.4	1278	10.2
20-24	393	3.8	624	5.3	1052	8.4
25-44	2099	20.4	2903	24.9	3138	25.1
45-54	1286	12.5	1303	11.2	1419	11.4
55-64	1135	11.0	1191	10.2	1105	8.9
65+	1463	14.2	1282	10.9	999	8.0
Total	10301	100.0	11665	100.0	12496	100.0

Male

Age Group	1960		1950		1940	
	Number	Percent of Total Pop.	Number	Percent of Total Pop.	Number	Percent of Total Pop.
Under 5	512	5.0	647	5.5	588	4.7
5-9	548	5.3	617	5.3	562	4.5
10-14	540	5.2	531	4.6	667	5.3
15-19	420	4.1	439	3.8	667	5.3
20-24	201	1.9	320	2.7	565	4.5
25-44	1013	9.8	1467	12.6	1683	13.5
45-54	648	6.3	699	6.0	757	6.1
55-64	571	5.6	622	5.3	611	4.9
65+	796	7.7	716	6.2	591	4.7
Total	5249	50.9	6058	52.0	6691	53.5

Female

Age Group	1960		1950		1940	
	Number	Percent of Total Pop.	Number	Percent of Total Pop.	Number	Percent of Total Pop.
Under 5	485	4.7	636	5.4	526	4.2
5-9	503	4.9	580	5.0	581	4.6
10-14	526	5.1	493	4.2	581	4.6
15-19	391	3.8	419	3.6	611	4.9
20-24	192	1.9	304	2.6	487	3.9
25-44	1086	10.6	1436	12.3	1455	11.6
45-54	638	6.2	604	5.2	662	5.3
55-64	564	5.5	569	4.9	494	3.4
65+	667	6.4	566	4.8	408	3.3
Total	5052	49.1	5607	48.0	5805	46.5

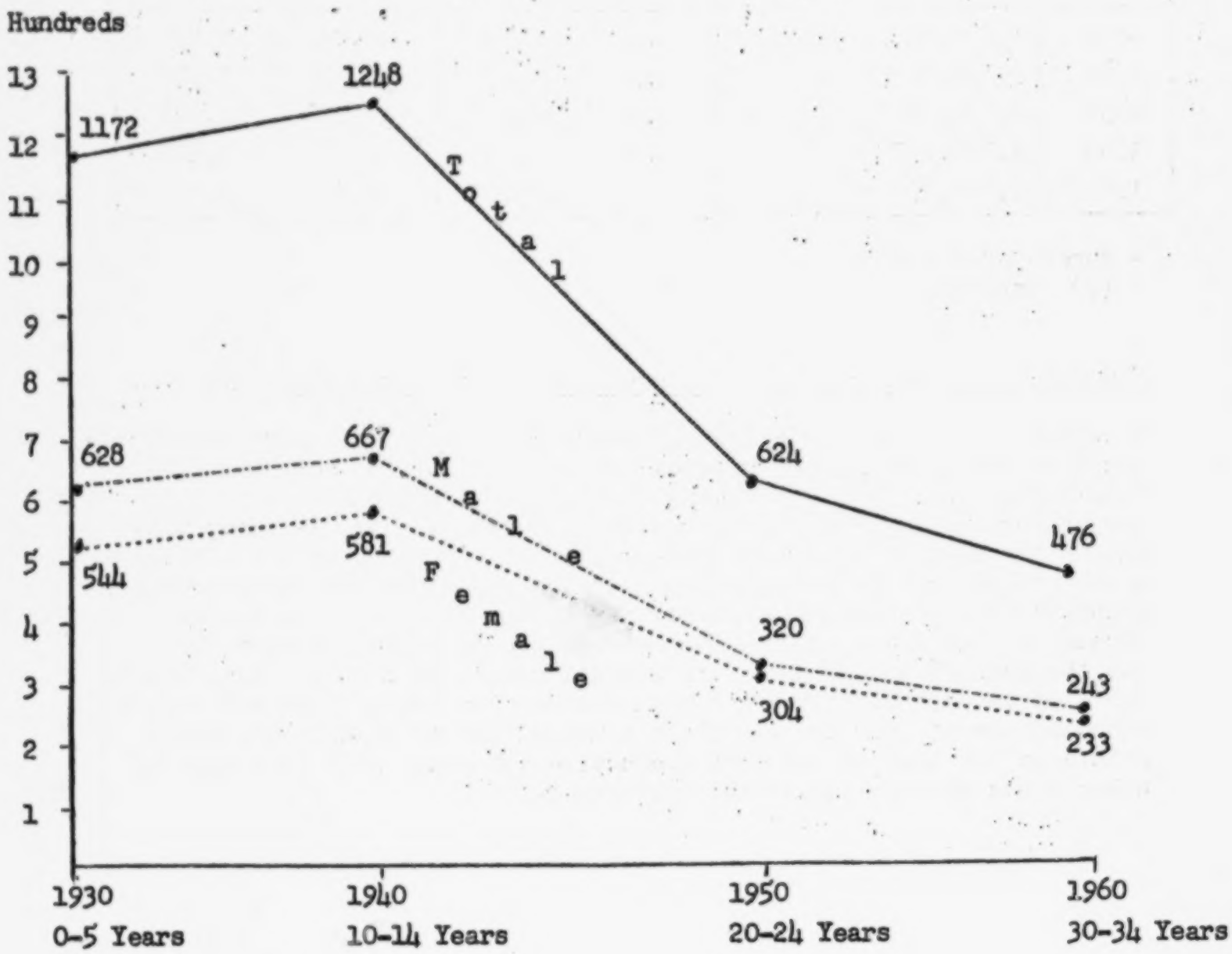
* Bureau of the Census

Out-migration of a Selected Age Group

To present a clearer picture of the loss of primary work force, a selected age group was traced from age 0-5 in 1930 to age 30-34 in 1960. This group numbered 1172 in 1930 and increased to 1248 by 1940 due to in-migration. From 1940 to 1950 the group suffered a loss of 50 percent or 624 persons. During this period the group reached the age of 20-24 years and should have begun their real contributions to the work force of the county. This loss of potential productive young workers after the county has borne the cost of rearing and educating them is a very serious problem and confronts most rural areas. The continued loss of these people even after they reach age 25 is indicated on the accompanying graph and though the rate of loss is less, it means an even greater loss of persons who probably have developed a trade or skill.

Graph B

Loss of a Selected Group by Sex 1930 to 1960*



* Bureau of the Census

Population Trend Compared to Surrounding Area

The population trend in Washburn County as compared to other counties in this area is given in the table below. While the state population has been increasing steadily the population of all the counties in this area has decreased since 1940. As a result of this trend the percent of the state population represented by Washburn County has decreased from four tenths of one percent in 1940 to two tenths of one percent in 1963 (est.). The population of the other counties in this area has decreased at about the same rate as that of Washburn County which emphasizes the need for an area approach to the problem.

Table 2

Washburn County Population Trend Compared to the State and Surrounding Counties*

Year	State	Washburn County	Percent of State	Douglas County	Burnett County	Sawyer County
1930	2,939,006	11,103	.4	47,119	10,233	8,878
1940	3,137,587	12,496	.4	46,583	11,382	11,540
1950	3,434,575	11,665	.3	46,715	10,236	10,323
1960	3,951,777	10,301	.3	45,008	9,124	9,475
1963(1)	4,060,350	9,550	.2	43,200	8,600	9,000

* Bureau of the Census
(1) Estimated

Comparison of Age Groups in Washburn County and Surrounding Area

A comparison by age of Washburn County's population with surrounding counties shows the similarity which exists among rural northern Wisconsin counties. Washburn County has only a slightly higher percentage of persons in the 15 to 44 age group and a slightly less percentage in the over 65 age group than do the neighboring counties of Burnett and Sawyer. In a comparison with the state age breakdown however, Washburn County shows a much lower percentage of persons in the 15 through 44 age group and a higher percentage of persons in the 10-14 and the over 65 age groups. The overall result is that Washburn County has a median age of 34.2 while both Burnett and Sawyer Counties have a median age of 35.9 and the state a median age of 29.4. This again points up the loss of the most productive age group from this area to other areas of more industrial employment.

Table 3

Comparative Age Breakdown 1960 Census of Washburn-
State and Surrounding Counties*

Age Group	County							
	State		Washburn		Burnett		Sawyer	
	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total
Total	3,951,777	100.0	10,301	100.0	9,214	100.0	9,475	100.0
Under 5	469,505	11.9	997	9.7	851	9.2	907	9.6
5-9	428,267	10.8	1,051	10.2	900	9.8	934	9.8
10-14	371,331	9.4	1,066	10.3	973	10.6	950	10.0
15-24	506,708	12.8	1,204	11.7	1,058	11.5	1,077	11.4
25-44	967,528	24.5	2,099	20.4	1,826	19.8	1,843	19.5
45-54	444,852	11.3	1,286	12.5	1,044	11.3	1,262	13.3
55-64	360,850	9.1	1,135	11.0	1,078	11.7	1,087	11.5
65+	402,736	10.2	1,463	14.2	1,484	16.1	1,415	14.9
Median Age	29.4		34.2		35.9		35.9	

* Bureau of the Census

Distribution of the Labor Force by Age and Sex

The age distribution of the Washburn County labor force is very similar to the distribution of the population as discussed previously. There is a higher percentage of persons under 17 years of age and over 45 years of age and a correspondingly lower percentage of persons age 18 thru 44 than in the state labor force. The loss of this large mid-section of the county's labor force presents a serious problem to which all the county's residents must be alerted and an attempt be made to correct.

Table 4

Age and Sex Distribution of the Labor Force
1960 Census*

Age	Washburn County				State	
	Male	Female	Total	Percent of Labor Force	Total	Percent of Labor Force
14-17	163	76	239	6.6	64,028	4.2
18-24	209	84	293	8.1	206,615	13.5
25-44	981	362	1,243	36.9	642,159	41.9
45-64	1,038	476	1,514	41.6	542,355	35.4
65+	205	45	250	6.8	77,804	5.0
Total	2,596	1,043	3,639	100.0	1,532,961	100.0

* Bureau of the Census

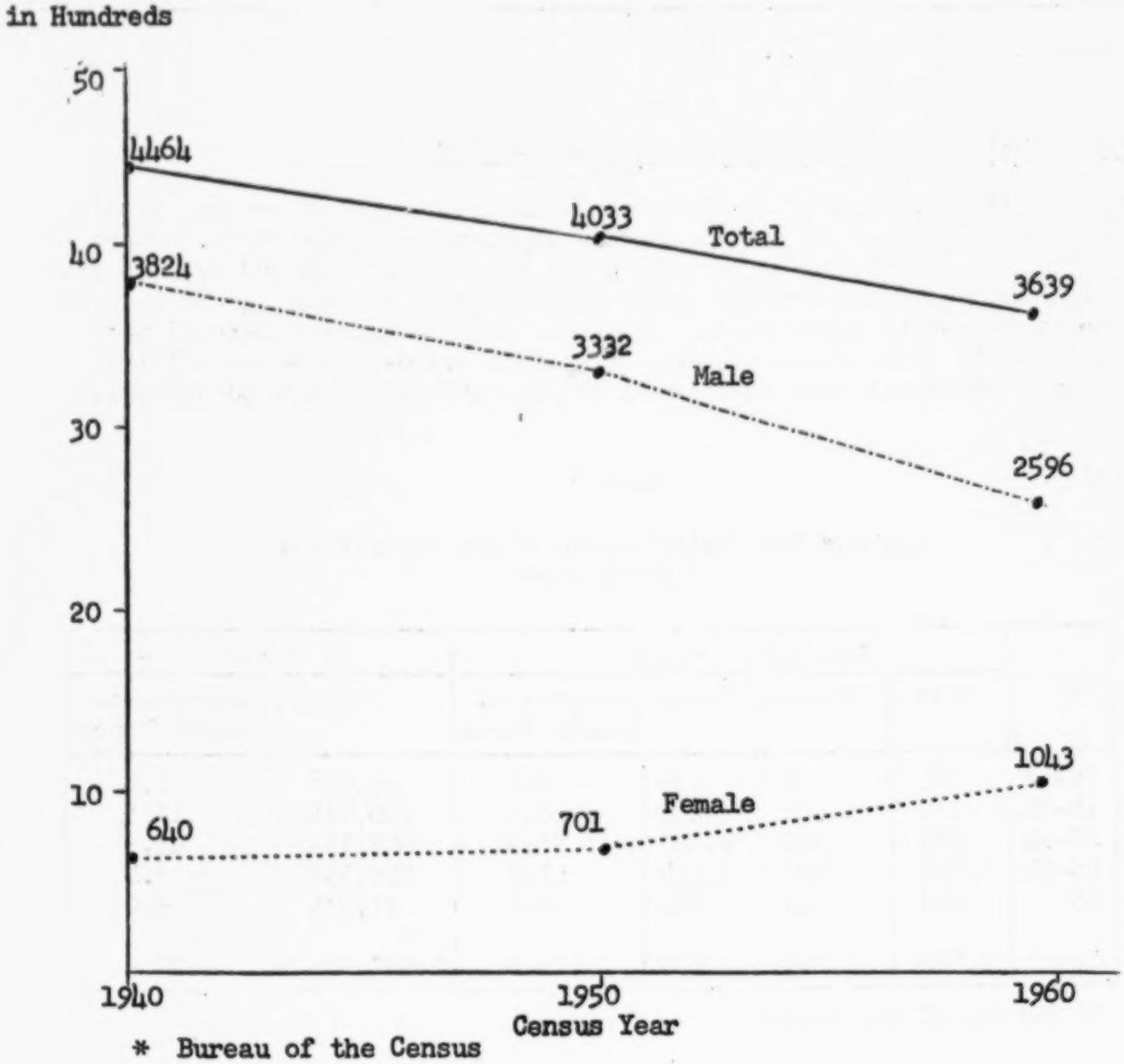
Labor Force Trend

The labor force of Washburn County has been on the decline since 1940 as shown in the graph below. The decline from 1940 to 1960 was 825 persons or over 18 percent. This rate is almost identical to the rate of population decline over the same period.

As more employment opportunities have become available to women their participation in the labor force has increased. This increase has resulted in a gain from 14 percent participation in 1940 to nearly 29 percent participation in 1960. This trend can be expected to continue. New jobs will have to be created to take care of the demand or an increasing number of young, unmarried women will leave the area for employment.

Graph C

Labor Force Trend 1940 to 1960*



* Bureau of the Census

Labor Force Trend Compared to Surrounding Area

The labor force of Washburn County has declined at about the same rate (18.5%) as the other rural northern Wisconsin counties over the past twenty years. Douglas County with the metropolitan area of Duluth-Superior has shown a decline of only 11 percent during this same period. Barron County which has had considerable industrial development has shown an increase in the size of its labor force of five percent in the last 20 years. The total labor force for the state has gained by nearly 25 percent since 1940. The general loss of the labor force in the rural northern area counties again emphasizes the need for united action to stem the tide.

Table 5

Washburn County Labor Force Trend Compared to the State and Surrounding Counties*

Area	Labor Force			Percent Change		
	1940	1950	1960	1940-50	1950-60	1940-60
State	1,227,552	1,394,848	1,532,961	+13.6	+ 9.9	+24.9
Washburn	4,464	4,033	3,639	- 9.7	- 9.8	-18.5
Burnett	4,303	3,732	3,268	-13.3	-12.4	-24.1
Sawyer	3,921	3,245	3,048	-17.2	- 6.1	-22.3
Douglas	18,389	17,853	16,361	- 2.9	- 8.4	-11.0
Barron	12,332	13,243	12,955	+ 7.4	- 2.2	+ 5.1

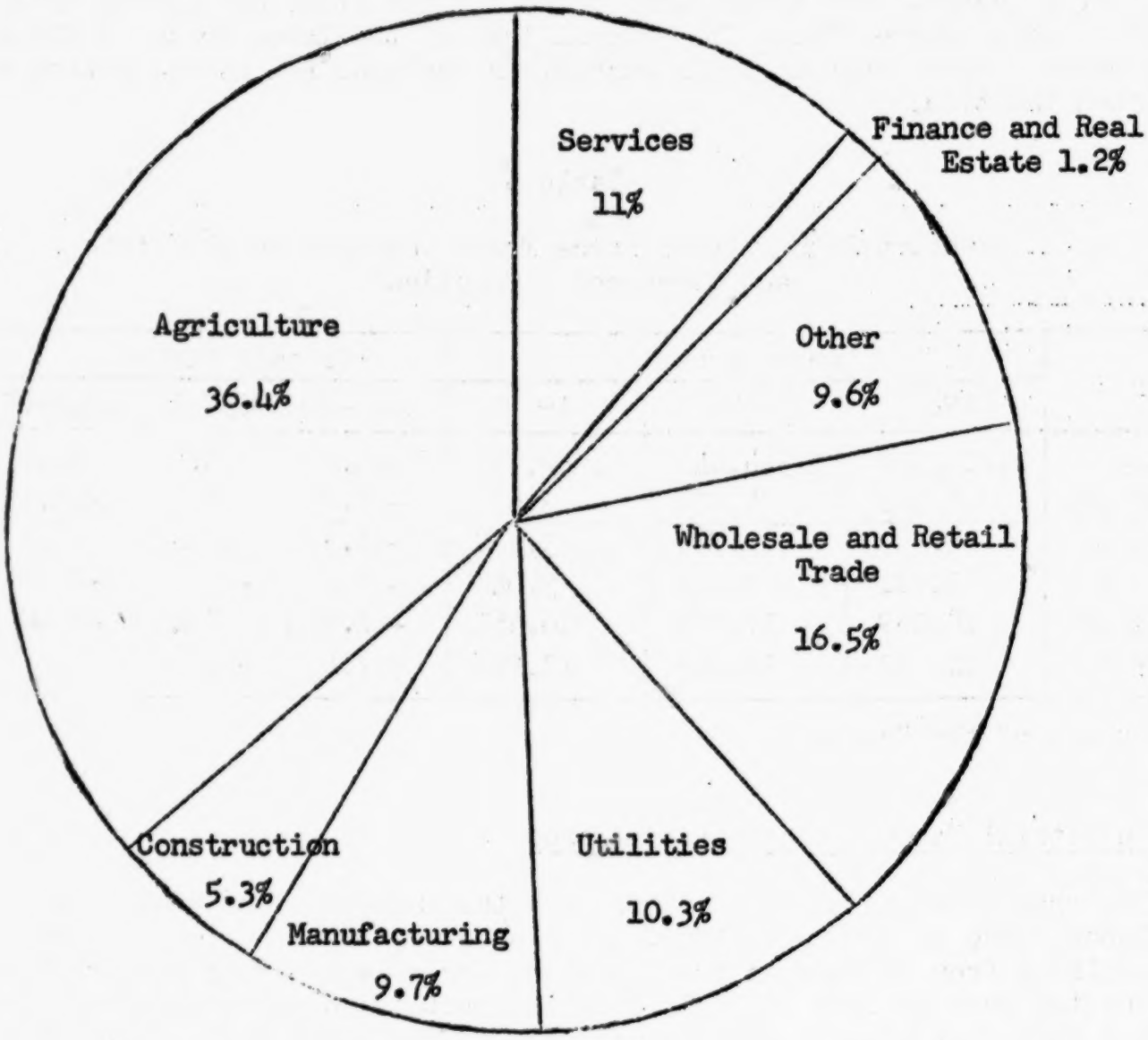
* Bureau of the Census

Industrial Make-Up of the Labor Force

The charts on pages 10 and 11 compare the industrial make-up of the labor force in 1950 with 1960. As can be readily seen Agriculture has declined from 36 percent to 21 percent for a loss of 673 workers in the ten year period. This is a typical situation in America today and would not present as many problems if the total labor force was on the increase. All the other industry groups in Washburn County have shown a percentage gain as well as a slight numerical gain, but not sufficient to keep the total labor force from declining as indicated in table 5 above. The general low pay and long hours required in Agriculture has caused many farm workers to seek off-farm work. The increasing size of farms caused by mechanization and consolidation has forced many farm owners to leave farming and enter the labor market in other fields.

Chart 1

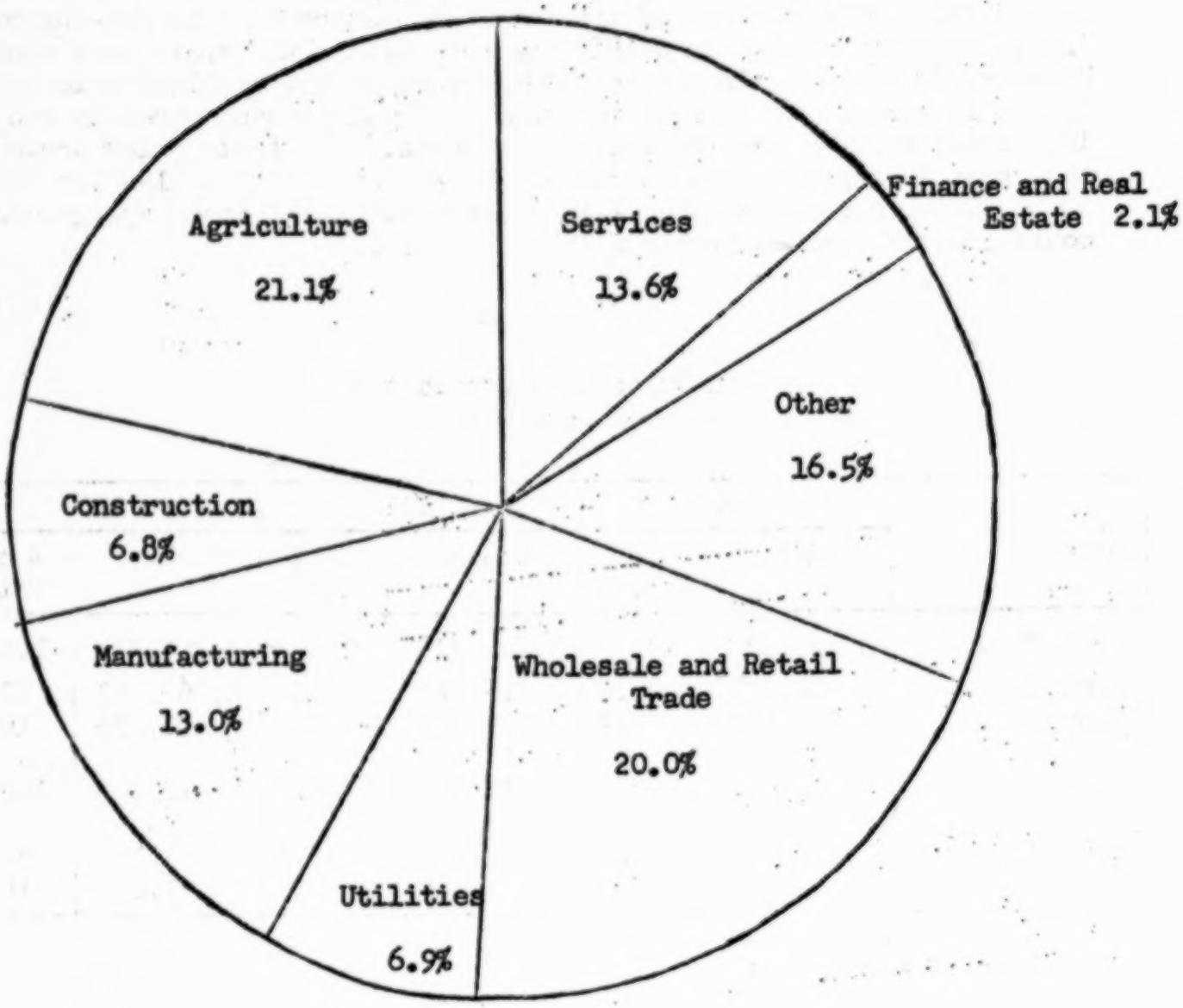
Industrial Make-up of the Labor Force
1950 Census*



* Bureau of the Census

Chart 2

Industrial Make-up of the Labor Force
1960 Census*



* Bureau of the Census

Non-Supporting Population

The non-supporting population is considered as the portion of the total population that is under 15 years of age and over 65 years of age. The persons under 15 years of age are rarely self-supporting because of educational demands and child labor laws, so are a continuing burden upon the economy of the county. This group does, however, provide the labor force of the future. Persons over 65 do contribute to the economy of the county but pose a potential burden if their means of support should fail. The percent of the total population that is non-supporting in Washburn County is nearly the same as for the state as a whole. However, in Washburn County only 30 percent of the population is under 15 and 14 percent is over 65 in contrast to 32 percent under 15 and 10 percent over 65 for the state as a whole. The table below shows the great increase in the number of persons over 65 from 1940 to 1960. This increase coupled with a decrease in all other age groups could present serious problems in the future.

Table 6

Non-Supporting Population
Age 0-14 and Over 65*

Area	1940		1950		1960	
	Number	% of Total	Number	% of Total	Number	% of Total
State Total	3,137,587	100.0	3,434,575	100.0	3,951,777	100.0
Under 15	782,232	25.0	926,573	27.0	1,269,103	32.1
Over 65	242,182	7.7	309,917	9.0	402,736	10.2
Washburn Co.	12,496	100.0	11,665	100.0	10,301	100.0
Under 15	3,505	28.0	3,504	30.0	3,114	30.2
Over 65	999	8.0	1,282	10.9	1,463	14.2

* Bureau of the Census

Educational Attainment

The educational level of attainment of the Washburn County population over 25 years of age is slightly higher than other rural northern Wisconsin counties. Washburn County has a larger percentage of persons with some college education or with college degrees than do most of the nearby counties. The large number of persons that have had only a 7th and 8th grade education or a few years of high school prevents the median years of education from rising much above the ninth grade level. However, with

(cont'd)

only 10 percent of the over 25 population having had less than seven years of schooling. Washburn County ranks better than other rural counties in this area of the State and should be in a good position to take advantage of training and retraining projects.

Table 7

Educational Attainment of Population over 25 Years of Age

1960 Census*

AREA	YEARS SCHOOL COMPLETED								
	TOTAL	NONE	UNDER 7	7 & 8TH GRADE	SOME H.S.	H.S. GRAD.	SOME COLLEGE	COLLEGE GRAD.	MEDIAN YEARS
STATE	2,175,370	22,775	227,096	679,602	342,260	570,291	188,303	145,043	10.4
WASHBURN Co.	5,982	37	593	2,322	874	1,409	426	321	9.1
BARRON	19,028	122	2,346	7,779	2,396	4,103	1,604	678	8.8
BURNETT	5,434	22	799	2,250	714	1,070	414	165	8.8
DOUGLAS	25,532	351	2,261	7,081	5,409	6,926	2,152	1,352	9.7
SAWYER	5,613	61	692	2,160	951	1,112	381	256	8.9

Annual Family Income

Washburn County had a median family income in 1959 of $3,859 and ranked 59th out of the 72 counties. Eight percent of the 2,692 families in the county had annual incomes under $1,000 and another 30 percent had between one thousand and three thousand dollars income, Washburn County has no incorporated places over 2,500 population so is considered 100% rural. Almost one-third of the total population lives on farms but only one-half of the employed farm prople are employed in Agriculture. Income reported by farm families is very nearly the same as that reported by non-farm families in Washburn County and the state average for farm families. The rural non-farm income of Washburn County is comparatively much lower than for the state which points up the need to upgrade non-farm employment in Washburn County.

Table 8

Annual Family Income 1960 Census*

Annual Income	Number of Families	% of Total
Under $1,000	225	8.3
1,000 - 2,999	811	30.1
Total Under 3,000	1,036	38.4
3,000 - 4,999	659	24.5
5,000 - 6,999	530	19.7
7,000 - 8,999	215	8.0
9,000 and over	252	9.4
Total over 3,000	1,656	61.6
Total	2,692	100.0

Table 9

Percent Distribution of Annual Income

1960 Census*

Annual Income	Washburn County		State	
	Rural Farm	Rural Non-Farm	Rural Farm	Rural Non-Farm
Under 1,000	11.7	8.3	8.6	5.1
1,000 - 2,999	35.8	30.1	29.8	17.3
3,000 - 4,999	28.3	24.5	26.7	25.2
5,000 - 6,999	18.2	19.7	16.4	26.3
7,000 - 8,999	4.4	8.0	8.5	13.5
9,000 and over	1.6	9.4	10.0	12.6

Average Weekly Wages

The average weekly wages in U.C. covered manufacturing employment in Washburn County are extremely low. The $62.42 per week average wage places Washburn County among the lowest three in the state for average weekly wages and only slightly more than one-half the state average of $121.59. Among all the surrounding counties only Sawyer County with an average weekly wage of $64.99 is anywhere near as low as Washburn County. Most manufacturing employment in Washburn County can be found in the lumber and wood products industries and these industries do not have a reputation for high wages. These industries have not been in a position to pay high wages and the outlook is not good for their position to change. The other counties in this area of the state have a broader industrial base with more employment in manufacturing of food products, machining and fabricated metal products which normally have higher wage levels.

Table 10

Comparison of Average Weekly Wages in U.C. Covered Manufacturing Employment in Washburn and Surrounding Counties*

Fourth Quarter Year	County				State
	Washburn	Barron	Burnett	Sawyer	
1960	59.34	72.76	94.33	59.67	109.90
1961	52.66	76.62	79.80	55.86	114.48
1962	56.74	77.32	82.21	56.95	118.26
1963	62.42	78.32	84.16	64.99	121.59

* Wisconsin Unemployment Compensation Department

U.C. Covered Employment by Industry

One of the measures of industrial growth in an area is the growth in U.C. covered employment in that area. Table 11 on the next page gives a breakdown of U.C. covered employment by industry for various years from 1950 to 1964. The increase that occurred from 1955 to 1960 was caused by a revision of U.C. laws which increased the number of persons covered. As can be seen there has been little change since 1960. Covered manufacturing employment has declined slightly along with Contract Construction and Utilities while Retail Trade and Service industries have increased slightly. The overall stability of covered employment points up the stagnation which has set in as regards to industrial growth and the resulting lack of employment opportunity.

Table 11

U.C. COVERED EMPLOYMENT BY INDUSTRY

Industry Group	March 1950	March 1955	March 1960	March 1962	March 1963	March 1964
Total - All Establishments	518	514	894	729	808	813
Manufacturing	211	205	338	207	276	259
Durable Goods	192	179	272	141	186	182
Nondurable Goods	19	26	66	66	90	77
Contract Construction	16	20	36	15	24	26
Trans.-Comm.-Utilities	37	29	39	36	21	19
Wholesale Trade	5	6	6	6	7	8
Retail Trade	221	205	353	345	340	366
Finance-Ins. & Real Estate	13	15	20	21	24	24
Services	15	34	102	99	116	111

Employment and Unemployment by Occupational Group

The number of employed persons in Washburn County declined by 413 or 10.8 percent from 1950 to 1960. This decline occurred principally in the Farm related occupations and in general laboring jobs. There were significant numerical increases in Clerical Workers, Service Workers and Private Household Workers. The table on the next page gives a complete breakdown of employment by occupation for the 1950 and 1960 census year and the percentage of change from 1950 to 1960. During this same decade the number of experienced unemployed rose by 20 persons or 9.5 percent. Farmers, Clerical Workers and Sales Workers were the only occupational groups to show a decline in unemployment in the same period. The increase in the number of government agencies has created a demand for Clerical Workers in recent years which in turn has reduced unemployment in this field. Most farmers that leave the farms today do so because they have found other employment so do not appear on the roles as unemployed farmers.

Table 12

Employment and Unemployment by Occupational Group 1950-1960 Census*

Item	1960		1950	% Change
	Total	Female	Total	1950-1960
Employed - Total	3,401	990	3,814	-10.8
Prof., Tech. and Kindred	307	159	241	+27.4
Farmers and Farm Managers	542	17	1,007	-46.2
Managers, Office, Exc. Farm	429	70	389	+10.3
Clerical and Kindred Workers	295	208	199	+48.2
Sales Workers	129	40	193	-33.2
Craftsmen, Foremen and Kindred	375	8	418	-10.3
Operatives and Kindred	369	57	359	+ 2.8
Private Household Workers	92	88	47	+95.7
Service Workers, Exc. House.	388	287	251	+54.6
Farm Laborers and Farm Foremen	140	4	347	-59.7
Laborers, Exc. Farm and Mine	211	8	284	-25.7
Occupations Not Reported	124	44	79	+57.0
Experienced Unemployed - Total	230	49	210	+ 9.5
Prof., Tech. and Kindred	4	--	2	+100.0
Farmers and Farm Managers	--	--	8	-100.0
Mgrs., Office, Exc. Farm	4	--	3	+33.3
Clerical and Kindred Workers	4	4	6	-33.3
Sales Workers	8	4	10	-20.0
Craftsmen, Foremen and Kindred	66	--	32	+106.0
Operatives and Kindred	36	--	30	+20.0
Private Household Workers	8	8	3	+166.6
Service Workers, Except House.	32	25	12	+166.6
Farm Laborers and Farm Foremen	8	4	4	+100.0
Laborers, Exc. Farm and Mine	51	4	30	+70.0
Occupations Not Reported	9	--	70	-87.0

* Bureau of the Census

Unemployment Rates

The unemployment rate for Washburn County has been considerably above the state and national average for at least the last seven years. It has improved slightly in recent years but this is caused by a slight increase in size of the labor force and not a significant reduction in the number of unemployed. The Graph at the bottom of the page indicates the seasonal fluctuations in unemployment that occur during the year. The large number of summer jobs in the resort industry and in seasonal food processing keeps the rate comparatively low during July, August, September and October. It should be noted, however, that the lowest rate achieved in 1963 was still above the state average.

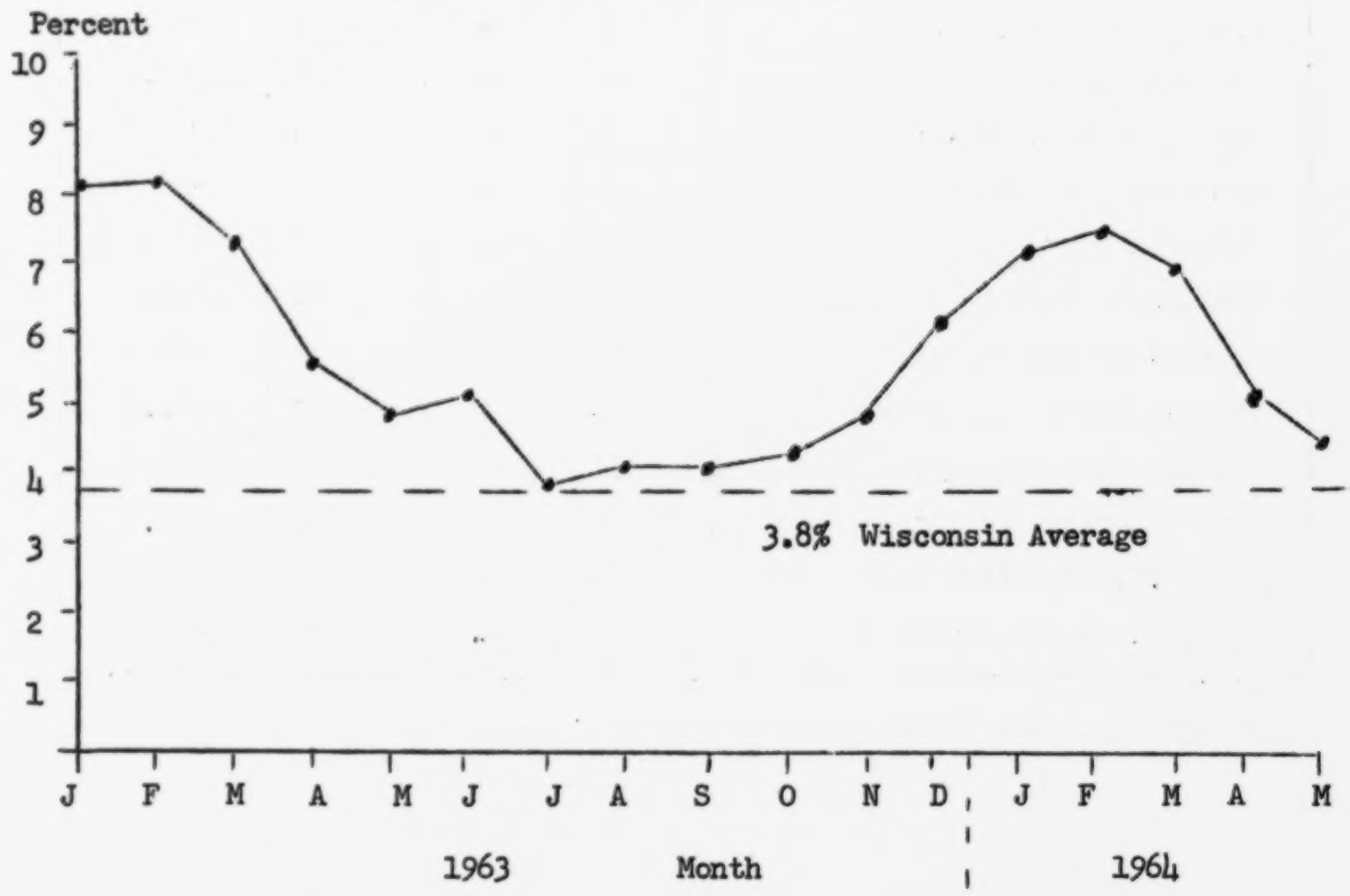
Table 13

Unemployment Rates

Year	Washburn	Wisconsin	U.S.
1964	5.3	3.5	N.A.
1963	5.4	3.8	5.7
1962	6.2	4.1	5.6
1961	6.5	5.2	6.7
1960	6.3	4.1	5.6
1959	6.1	3.4	5.5

Graph D

Unemployment Rate by Month for Washburn County for 1963 Thru the First Quarter 1964



PART II

APPLICANT SURVEY

Part II consists of Tables, Charts and Graphs illustrating the information obtained from the applicants who registered with the Mobile Survey Team, separated into four categories according to the types of information received, as follows:

Section A Characteristics of the Applicants
Section B Availability of the Applicants
Section C Mobility of the Applicants
Section D Job Potential of the Applicants

The Smaller Communities Mobile Survey Team of the Wisconsin State Employment Service started operations in Washburn County on March 1, 1965. The team composed of one supervisor and four interviewer-counselors maintained an office in the City Hall at Spooner with itinerant offices open for one week in each of the villages and cities in Washburn County. They operated continually from March 1 until May 28 registering all applicants and administering the General Aptitude Test Battery (GATB) to all interested persons without prior work or recent work history to determine their potential. All area residents unemployed or employed less than full-time were encouraged to register with the team. As a result 638 residents of Washburn County registered and provided detailed information.

Highlights of the Applicant Survey

A total of 638 persons registered with the survey team in Washburn County. There were 178 high school seniors registered and 460 other persons or 12.3 percent of the estimated work force.

Fifty-one percent of the applicants were men and nearly one-third of the applicants were under 20 years of age.

Only 107 applicants or 17 percent were fully employed while 57 persons were underemployed. There were 294 unemployed applicants and 178 high school seniors.

Over 80 percent of the applicants earned less than $3000 in the past year and 55 percent of them worked less than 18 weeks.

Seventy-four percent of the applicants had at least some high school education and 57 percent were high school graduates or higher.

Fifty-two percent or 336 applicants were available for Unlimited or Full-Time Only employment with an additional 23 percent available at a later date.

Fifty-five persons desired seasonal work and 47 of these preferred summer employment.

Only 34 applicants would even consider farm work and none would leave the local area for farm work.

Over one-half of the applicants would move out of the area for work while only 187 would commute 20 miles or more one-way daily for work.

The under 20 age group was the most willing to move out of the area for work and the 20-44 age group was the most willing to commute over 20 miles one-way daily for work.

Single persons expressed the greatest willingness to move for work while the married persons would commute the farthest for work.

Skilled, Semiskilled and Unskilled applicants would commute the farthest for work.

Four hundred and forty-six applicants or nearly 70 percent were inexperienced or had no recent work history and are classified as Entry applicants.

Four hundred applicants were tested by the GATB to provide job potential information and to assist the counselors.

Section A Characteristics of the Applicants

Total Applicants by Sex and Age Group

A total of 460 applicants or 12.3 percent of the 1964 estimated work force of Washburn County in addition to 178 students registered with the team during the survey. Fifty-one percent of the applicants were men and about one-third of these were under 20 years of age. Slightly less than one-third of the total applicants were under 20 years of age with over one-third being between 20 and 44 years of age. About 28 percent of the applicants were currently in school at the time they registered. Only 64 applicants or 10 percent were over age 55 which means that ninety percent of the applicants have ten or more years of work force participation ahead of them.

Table 14

Total Applicants by Sex and Age Group

Age Group	Number			Percent		
	Total	Male	Female	Total	Male	Female
Total	638	325	313	100.0	51.1	48.9
14-19	203	112	91	31.8	17.6	14.2
20-44	231	110	121	36.2	17.3	18.9
45-54	140	64	76	22.0	10.0	12.0
55-64	55	31	24	8.6	4.9	3.7
65+	9	8	1	1.4	1.3	.1

Current Employment Status

To get a clearer picture of the number of applicants that would be available for industrial expansion the survey team determined each applicant's current employment status. Only 17 percent or 107 persons were fully employed while 9 percent or 57 persons were underemployed. An underemployed person is one who is working less than full-time or at a skill level below his present capabilities. The remaining 474 persons or 74 percent were either students or were unemployed. For the purposes of this survey all persons except, those fully employed represent a potential labor supply for industrial expansion. Since registration was on a voluntary basis, the 531 persons classified as available represent only a portion of the actual total that would be available in the event jobs should become available.

Table 15

Employment Status of all Applicants by Sex and Age

Age Group	Employed	Under Employed		Unemployed	Student
		Skill	Hours		
Total	109	24	33	294	178
14-19	2	0	0	23	178
20-44	53	11	21	146	0
45-54	37	12	10	81	0
55-64	15	1	2	37	0
65+	0	0	0	9	0
Male	85	15	16	115	94
14-19	3	0	0	15	94
20-44	38	9	11	52	0
45-54	31	6	4	23	0
55-64	13	0	1	17	0
65+	0	0	0	8	0
Female	24	9	17	179	84
14-19	2	0	0	6	83
20-44	14	2	10	94	1
45-54	6	6	6	58	0
55-64	2	1	1	20	0
65+	0	0	0	1	0

Weeks Worked and Income Earned the Past Year

The number of weeks worked and the income earned during the past year by the applicants gives a good picture of their employment and economic status. Over 38 percent of the applicants had no work experience during the past year and an additional 17 percent had less than 18 weeks of work for a total of 55 percent that either had no work or less than eighteen weeks of work in the past year. An almost identical percentage of 55 percent had less than $500 income in the same one-year period. Of great significance is the fact that only 18 percent or 116 of the 638 applicants earned over $3,000 in the past year. This means that 522 of the applicants had income less than the accepted minimum of $3,000 annually. All of the 178 high school students had less than 18 weeks of work and earned less than $500 during the past year. This group will of necessity have to increase their earnings considerably during the coming years.

Table 16 below shows the number of weeks worked and the income of all the 638 applicants. Charts 3 and 4 show the percentage distribution of the weeks worked and income earned.

Table 16

Income Earned and Weeks Worked Past Year by All Applicants

Weeks Worked	Total	Dollar Earnings						
		0-499	500-999	1000-1999	2000-2999	3000-4999	5000-5999	6000+
Total	638	353	38	54	77	97	12	7
Percent of total	100	55.3	6.0	8.5	12.0	15.2	1.9	1.1
None	244	242	---	1	---	1	---	---
1-18	110	93	12	2	2	1	---	---
19-35	115	14	22	32	33	14	---	---
36-52	169	4	4	19	42	81	12	7

Chart 3

Weeks Worked

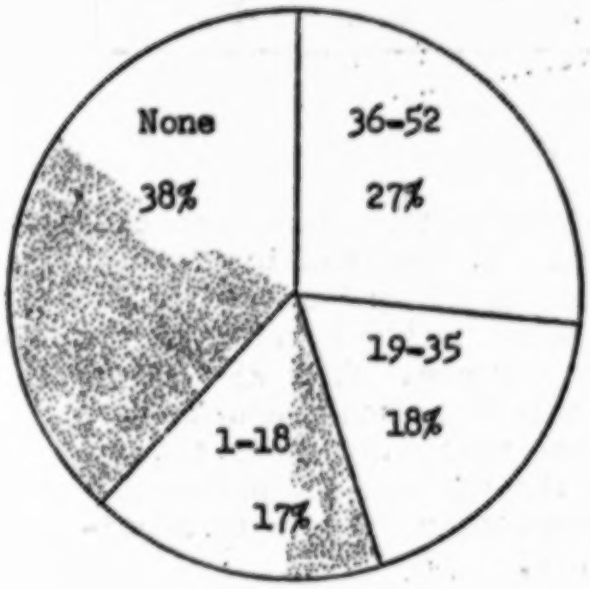
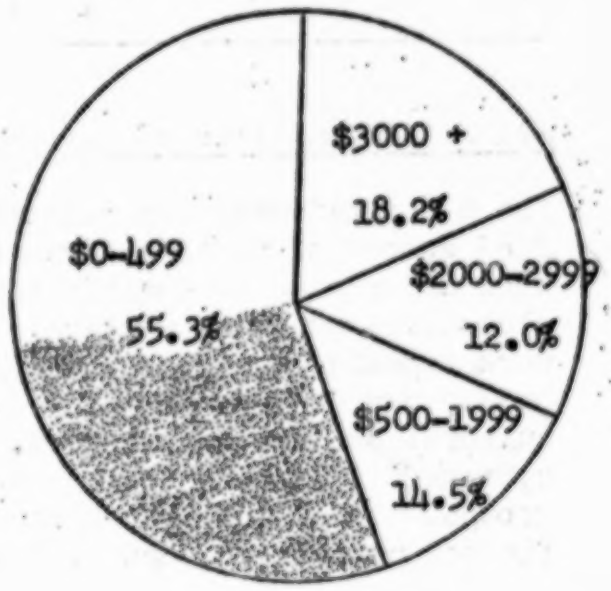


Chart 4

Income Earned



Shaded Portion Represents High School Seniors

Marital Status of the Applicants

The marital status of the applicants to some extent influences their necessity for finding jobs. Nearly all of the married male applicants must support families. Also most of the single applicants of both sexes must be self-supporting as are the widows, divorcees etc. All students were single so are included with the single applicants. The table below shows that of the 638 applicants 172 were married men, 245 were single men and women and 48 were widows, divorcees etc. This means that 466 persons that registered with the team probably need full-time work and adequate living wages. Some of the additional 172 married women who registered contribute to the family support so they also must secure work. Some form of industrial development must take place in the area to provide a living for all these people or they will of necessity move away.

Table 17

Marital Status of Applicants by Sex and Age Group

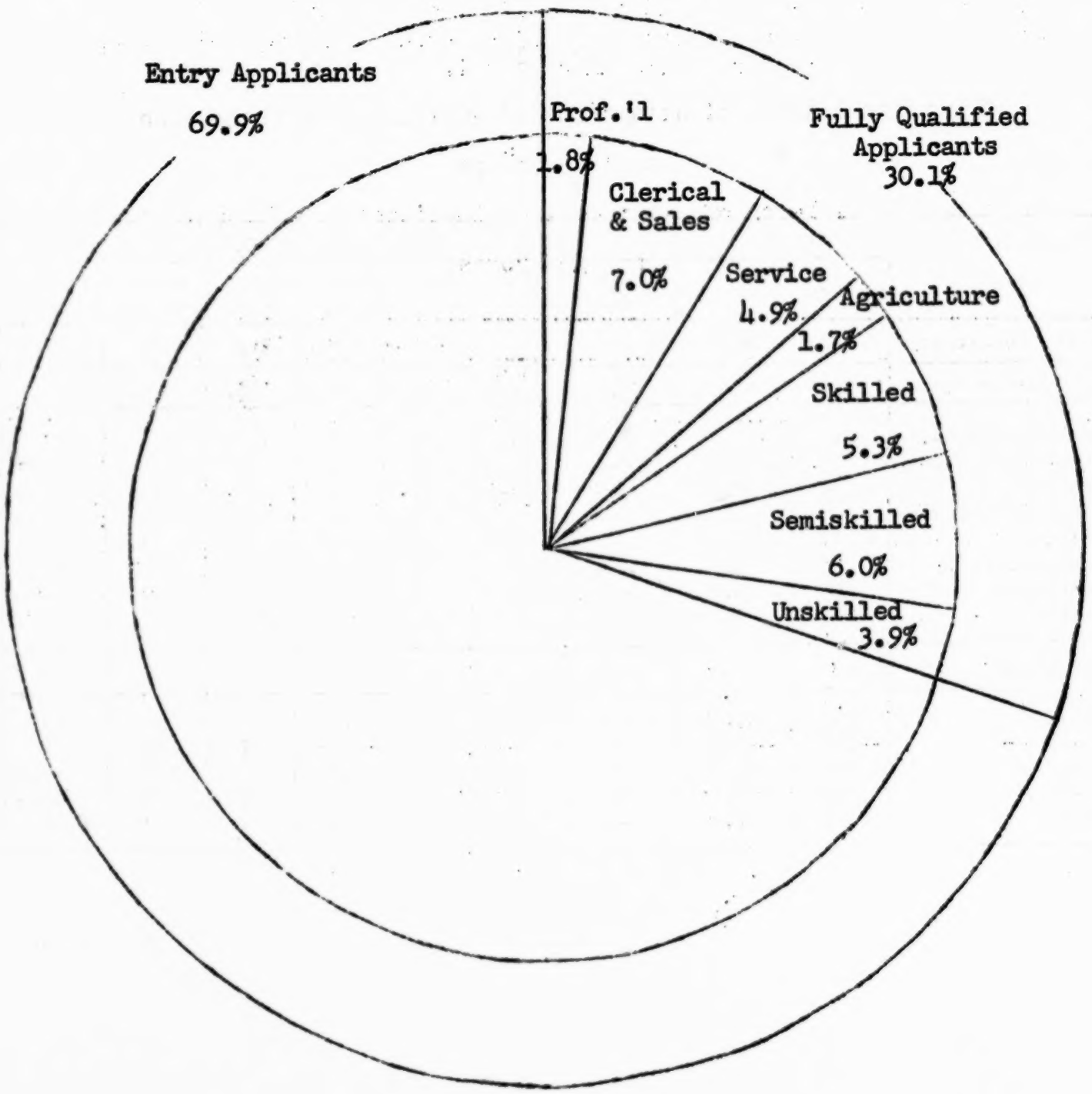
Age Group	Marital Status					
	Married		Single		Other	
	Male	Female	Male	Female	Male	Female
Total	173	172	149	96	3	45
14-19	1	4	111	87	0	0
20-44	80	94	29	8	1	19
45-54	59	57	4	1	1	18
55-64	26	16	4	0	1	8
65+	7	1	1	0	0	0

Primary Occupations of the Applicants

The 638 applicants who registered with the survey team have been classified according to their primary occupations. If they had insufficient work experience to qualify them for a full occupational code they were classified as Entry workers. Nearly 70 percent or 446 persons lacked work experience so were classified as Entry workers. Only 25 persons or 3.9 percent were unskilled workers and only 8 persons were Agricultural or Forestry workers. Chart 5 on the next page shows the percentage distribution of the applicants for the various occupational groups. Table I of the Appendix gives a complete breakdown by specific occupation for each of the 638 applicants.

Chart 5

Summary of Primary Occupations



Educational Level of Attainment of the Applicants

The educational level of the applicants registered was fairly good with about 57 percent having at least a high school diploma. This compares to about 40 percent for the total population over 25 years of age. The large number of young people under 20 that were registered tended to bring the level of education up because most of this group had some high school training or were high school graduates. As might be expected, most of the Professional and Managerial people had at least a high school education as did the Clerical and Sales Entry Groups. Since the Entry group includes the high school seniors, this group shows a high educational attainment level.

Table 18

Educational Level of Attainment of Applicants by Occupation and Age Groups

OCCUPATIONAL GROUP	TOTAL		EDUCATIONAL LEVEL						
	NUMBER	PERCENT	UNDER 6 GRADE	6-7-8 GRADE	8TH GRAD.	SOME H.S.	H.S. GRAD.	GRAD. COLLEGE	COLLEGE GRAD.
TOTAL APPLICANTS	638	100.0	4	21	111	139	319	40	4
PERCENT OF TOTAL	100.0	XXXX	.6	3.3	17.4	21.8	50.0	6.3	.6
PROF.'L & MAGR.'L	11	1.7	---	----	1	2	1	6	1
CLERICAL & SALES	45	7.0	---	----	2	9	25	9	----
SERVICE	31	4.9	---	----	10	10	11	---	----
AGRI. & FORESTRY	8	1.3	---	1	3	---	4	---	----
SKILLED	34	5.3	---	2	12	13	6	1	----
SEMISKILLED	38	6.0	---	2	15	12	7	2	----
UNSKILLED	25	3.9	---	2	8	4	11	---	----
ENTRY	446	69.9	4	14	60	89	254	22	3
AGE GROUP									
14-19	203	31.8	---	----	---	20	181	---	2
20-44	231	36.2	1	7	36	72	97	17	1
45-54	140	22.0	1	9	47	34	33	16	----
55-64	55	8.6	2	4	24	12	7	6	----
65 +	9	1.4	---	1	4	1	1	1	1

SECTION B AVAILABILITY OF THE APPLICANTS

Availability for Work

The number of applicants that reported they would be available for Unlimited work or Full-Time-Only work is the most accurate measure of the available labor force. Those persons reported to be available at a Later Date are usually high school students that plan on seeking work upon graduation and housewives with families that expect to work when their children get older. Since 52 percent of the Washburn County applicants would be available for Unlimited or Full-Time work and another 23 percent would be available Later (most of them are available by now), it is reasonable to assume that at least 75 percent of the 638 persons registered by the team or 478 persons are currently available for industrial expansion. Most of the 55 persons available for Seasonal work and the 42 persons desiring Part-Time work prefer resort or tourist industry employment. Any such industry would count on utilizing these 97 persons plus many of those with Unlimited availability or available Later status.

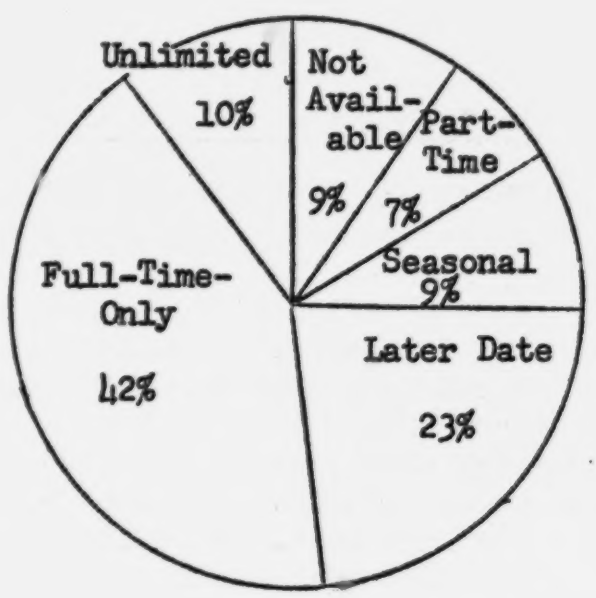
There were about an equal number of men and women desiring Unlimited and Full-Time work but there were more women desiring Part-Time jobs and more men wanting Seasonal work. More men (6%) than women (4%) were Not Available for any work.

Availability of All Applicants

Table 19

Availability	Total	Male	Female
Total	638	325	313
Unlimited	65	25	40
Full-Time-Only	271	146	125
Later Date	145	75	70
Seasonal	55	32	23
Part-Time	42	11	31
Not Available	60	36	24

Chart 6



Seasonal Availability

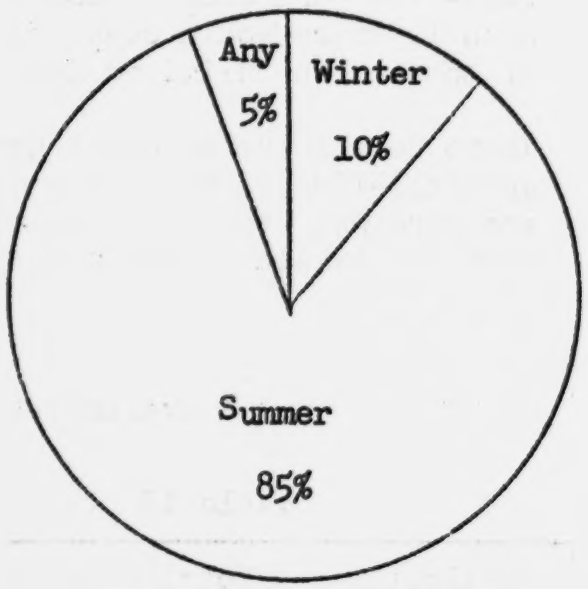
Those persons who indicated interest in Seasonal work were asked in which season they preferred to work. Their answers appear in the table and chart immediately following. Eighty-five percent of those persons with Seasonal availability desired Summer employment and ten percent Winter. None of those interested in Seasonal work wanted to work in the Spring or Fall and only 5 percent indicated no preference. These facts would indicate that most of these people wanted work in the Resort industry or in some type of construction.

Seasonal Availability

Table 20

Season	Total	Male	Female
Total	55	32	23
Any	3	2	1
Spring	--	--	--
Summer	47	27	20
Fall	--	--	--
Winter	5	3	2

Chart 7



Availability for Farm Work

There was very little interest shown in farm work of any kind. Nearly 95 percent of the applicants had no interest in farm work while less than one-half of one percent were actively seeking farm work and these persons all desired seasonal work in the local area. Of the remaining 5 percent, slightly over 3 percent would consider local year round farm work and less than 2 percent would consider local seasonal farm work. Most of the persons that would consider farm work were high school students without definite vocational plans after high school graduation. None of the applicants would leave the local area for farm work. This limited availability for farm work is typical of all counties surveyed to date and reflects the usually low wages and long hours required of farm workers.

Table 21

Availability for Farm Work

	Not Interested	Would Consider				Actively Seeking			
		Year Round		Seasonal		Year Round		Seasonal	
		Local	Non Local	Local	Non Local	Local	Non Local	Local	Non Local
Total	604	21	—	10	—	—	—	3	—
Male	294	20	—	8	—	—	—	3	—
Female	310	1	—	2	—	—	—	—	—

Availability by Occupational Group

A check of Table 22 below shows that there is very little difference in the availability of applicants by occupational group. Percentagewise only the Clerical and Sales and Service groups show any extensive willingness to accept Part-Time work. This is probably due to the fact that these jobs are generally filled by housewives. As might be expected,a number of the high school seniors in the Entry group also wanted only summer work before continuing their education again in the fall and a group of housewives in the Entry group preferred Part-Time work.

Table 22

Availability of Applicants by Occupational Group

Major Occupational Group	Availability						
	Total	Unlimited	Full-Time	Later Date	Seasonal	Part-Time	Not Available
Total	638	65	271	145	55	42	60
Prof'l & Magr.	11	—	8	2	—	—	1
Clerical & Sales	45	9	18	5	2	8	3
Service	31	5	13	5	1	4	3
Agri.-Forestry	8	1	2	3	—	—	2
Skilled	34	5	17	4	2	2	4
Semiskilled	38	3	25	6	1	1	2
Unskilled	25	5	11	1	4	2	2
Entry	441	37	177	119	45	25	43

Availability by Place-of-Residence

Table 23 below indicates the availability of all the applicants by place-of-residence. Availability is excellent in all areas of the county. As might be expected availability is lowest in areas where industrial development and farming provide good family income but a sufficient labor supply for industrial growth could be secured even in those areas.

Table 23

Availability by Place-of-Residence

Place-of-Residence	Total	Availability for Work					
		Unlimited	Full-Time	Later Date	Seasonal	Part-Time	Not Available
Township							
Baronett	17	2	6	2	4		3
Bashaw	41	6	17	9	3	3	3
Bass Lake	6		3	2		1	
Brooklyn	13	2	5	2		1	3
Beaver Brook	24	3	4	13	2	2	
Birchwood	6			4	2		
Casey	14	2	9			2	1
Chicog	4		2	2			
Crystal	9	1	6	1		1	
Evergreen	25	5	12	4		1	3
Frog Creek	3	1	1		1		
Gull Lake	6	1	3	1	1		
Long Lake	1			1			
Madge	13	3	6	3	1		
Minong	16		8	4	2	2	
Sarona	57	5	24	12	4	4	8
Spooner	63	2	40	8	5	4	4
Spring Brook	43	8	18	9	7	1	
Stinnett	9	1	4	4			
Stone Lake	3	1	1	1			
Trego	38	4	15	6	2	7	4
Cities							
Spooner	85	9	43	19	4	6	4
Villages							
Birchwood	10		3	6			1
Minong	10		4	2	3		1
Shell Lake	76	8	26	11	10	5	16
Other Counties	46	1	11	19	4	2	9
Total	638	65	271	145	55	42	60

Section C Mobility of the Applicants

Mobility as used in this report refers to the geographic concept and is reflected in three ways.

1. The willingness of an applicant to move permanently for work.

2. The willingness of an applicant to commute by the week or month for work.

3. The distance an applicant will commute one-way daily for work.

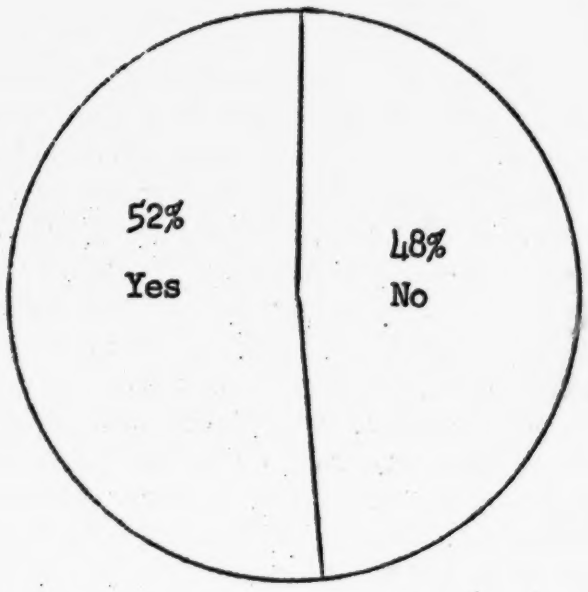
Mobility is influenced by several factors such as home ownership, marital status, age of children, educational attainment, employment status, skill level, age, sex, ties to family and friends and lack of knowledge of the job opportunities out of the immediate area. Five of these factors (marital status, educational attainment, age, occupation and place-of-residence) were studied for this report and the results are shown in tables, charts and graphs on the following pages and in the appendix.

Mobility of all Applicants

Fifty-two percent of the applicants in Washburn County,or 333 persons, were willing to move out of the area for work. This large number of persons willing to leave the area permanently is an indication of the lack of local job opportunities. Ninety-five persons reported they would not move but would commute by the week outside the area for work and another one hundred persons said they would commute on a bi-weekly or bi-monthly basis.

Chart 8

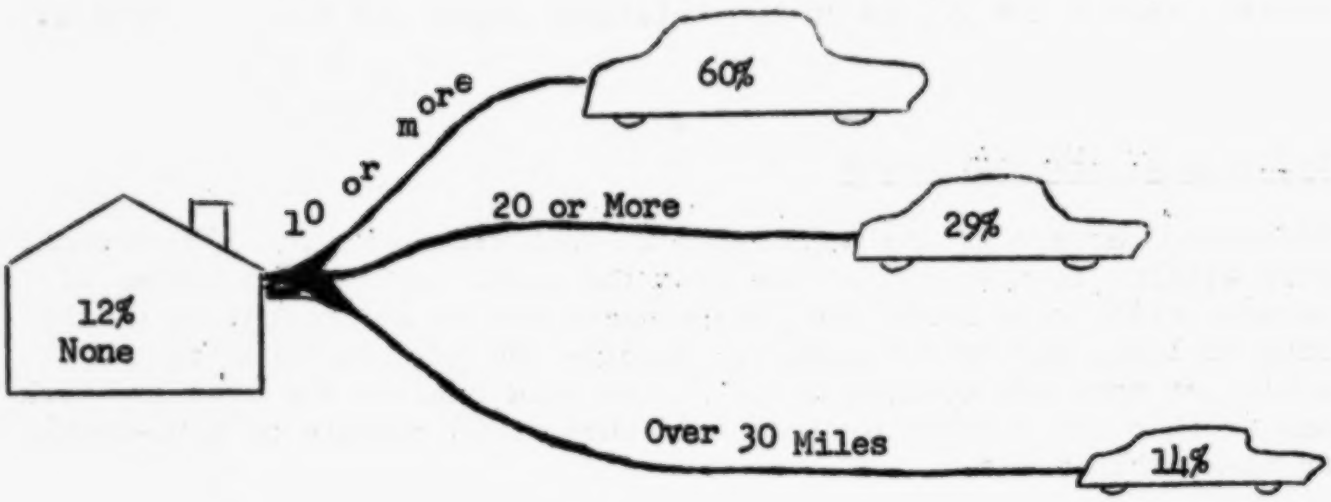
Willingness to Move Permanently
Outside the Area



The number of persons willing to commute over 20 miles daily for work was comparatively small, however, a large number of them would commute at least 10 miles. This would indicate that a large percentage of the applicants would rather move out of the area than commute if it involves much travel. The generally low wages and lack of local jobs probably accounts for this unwillingness to travel any distance for work and the great interest in moving out of the area. If industrial development should occur in the county, most of the applicants have indicated they would be willing to travel at least 10 miles daily for work.

Chart 9

Miles Willing to Travel One-Way Daily for Work

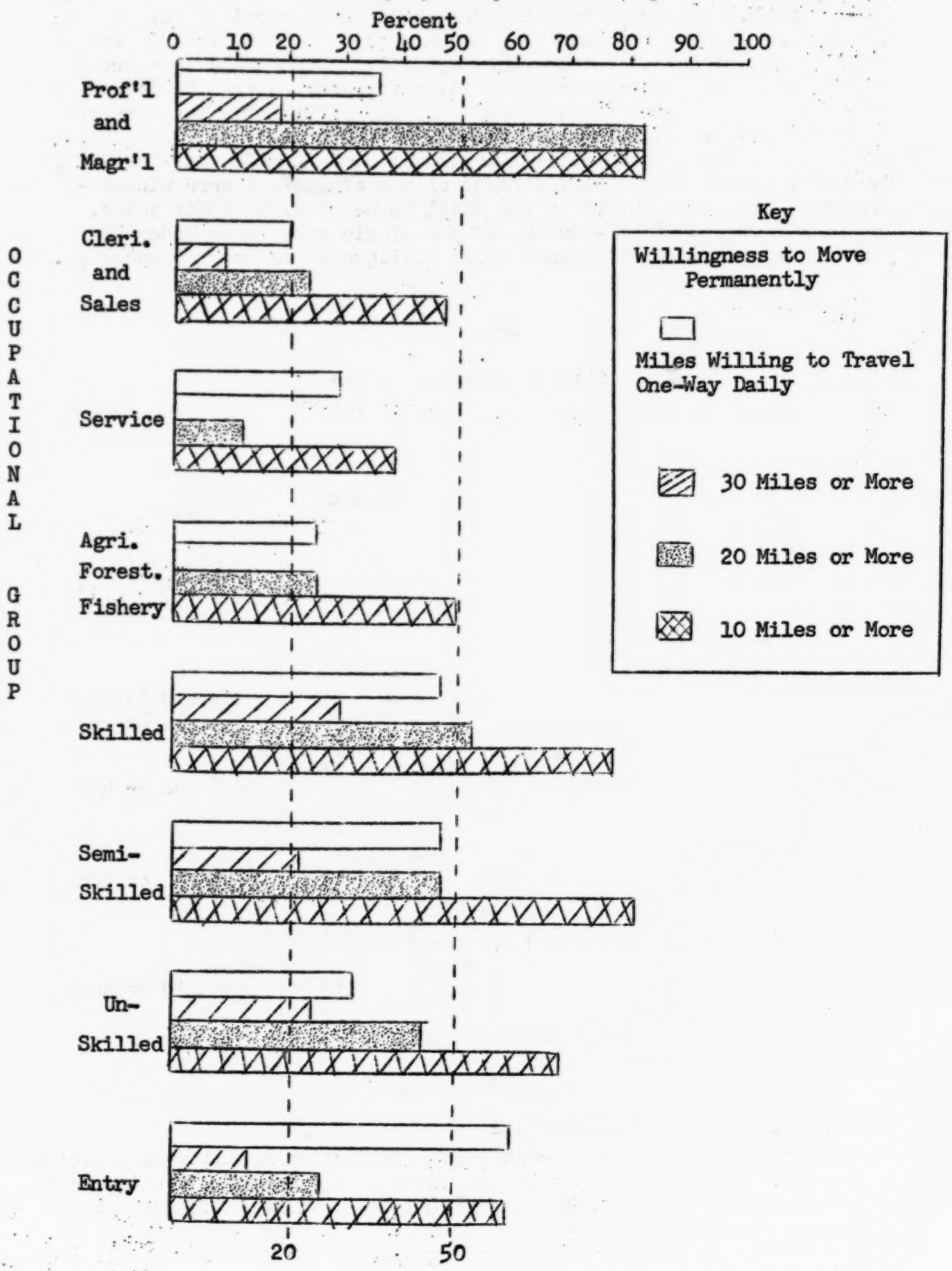


Mobility by Occupational Group

Mobility of occupational groups is generally affected by the skill level and wages of the occupation. Graph E indicates that Professional and Managerial applicants show about one-third willing to move permanently for work and over 80 percent willing to travel 20 or more miles one-way daily for work. Clerical, Sales, Service and Agricultural workers show less than one-third willing to move permanently for work and also less than one-third willing to travel even 20 miles one-way daily for work. These occupations are usually relatively low pay and are filled by persons living in the immediate local area. Mobility is good for the skilled occupations and decreases with the lessening of skills and consequent lower wages. Even the unskilled workers indicated greater willingness to move and a much greater willingness to commute than did the Clerical, Sales, Services and Agricultural workers. The Entry group which consisted of many young high school students, because of their inexperience, showed a high degree of willingness to move permanently but a comparatively low desires to commute.

Graph E

Mobility by Occupational Group

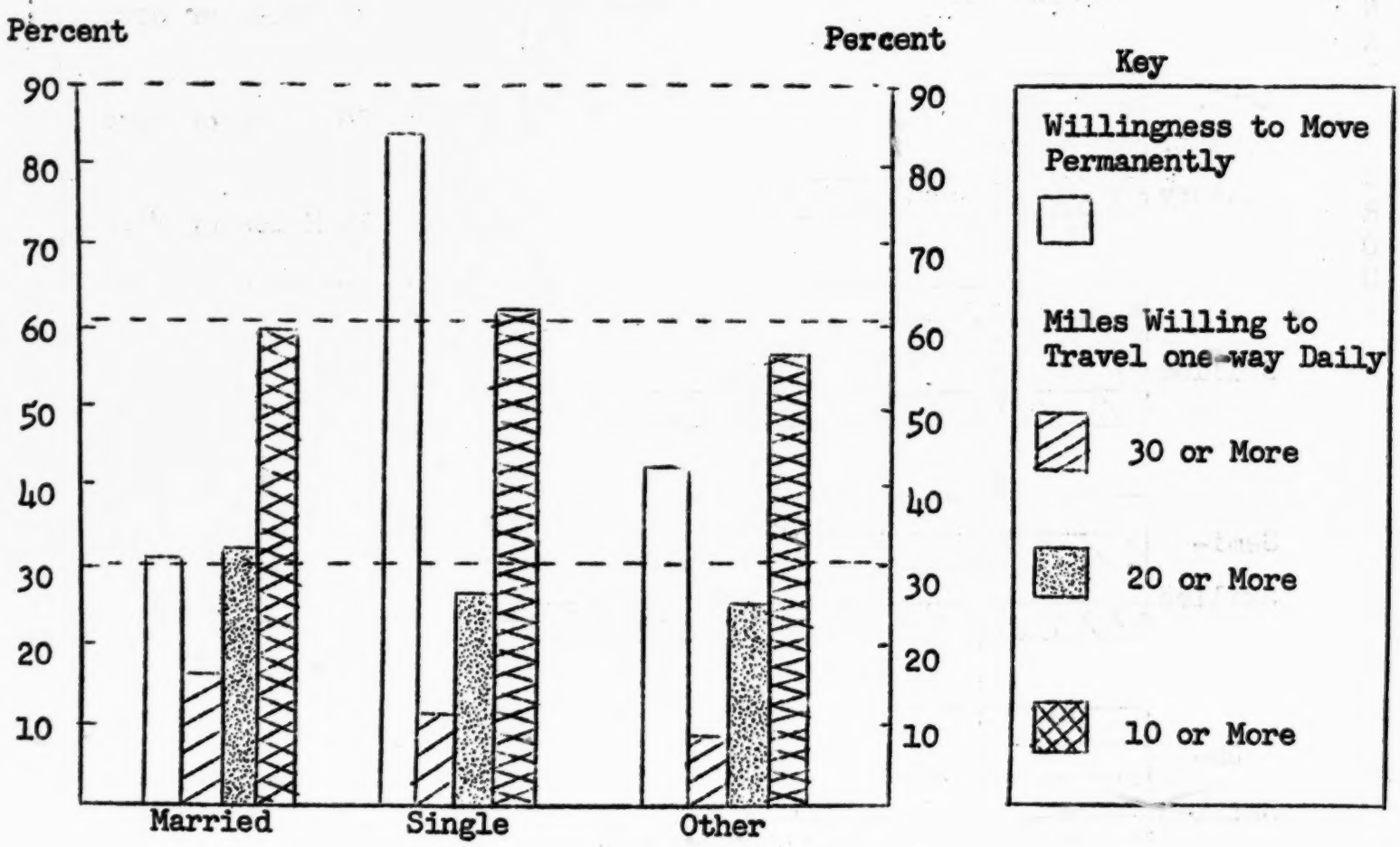


Mobility by Marital Status

Marital status has a decided affect on mobility as indicated by the following graph. It should be noted that while only about 30 percent of the married applicants would move permanently for work over 30 percent would travel at least 20 miles one-way daily for work and 16 percent would travel over 30 miles one-way daily for work. Single applicants indicate a high percentage (84%) willing to move permanently for work and 26 percent willing to travel at least 20 miles one-way daily for work but only 11 percent were willing to travel over 30 miles one-way daily for work. Since less than 8 percent of the applicants were widows - divorcees etc., the sample is too small to be of significant value. The fact that over three-fourths of the single group were under 19 years of age greatly influences their willingness to move permanently.

Graph F

Mobility by Marital Status



Mobility by Educational Attainment

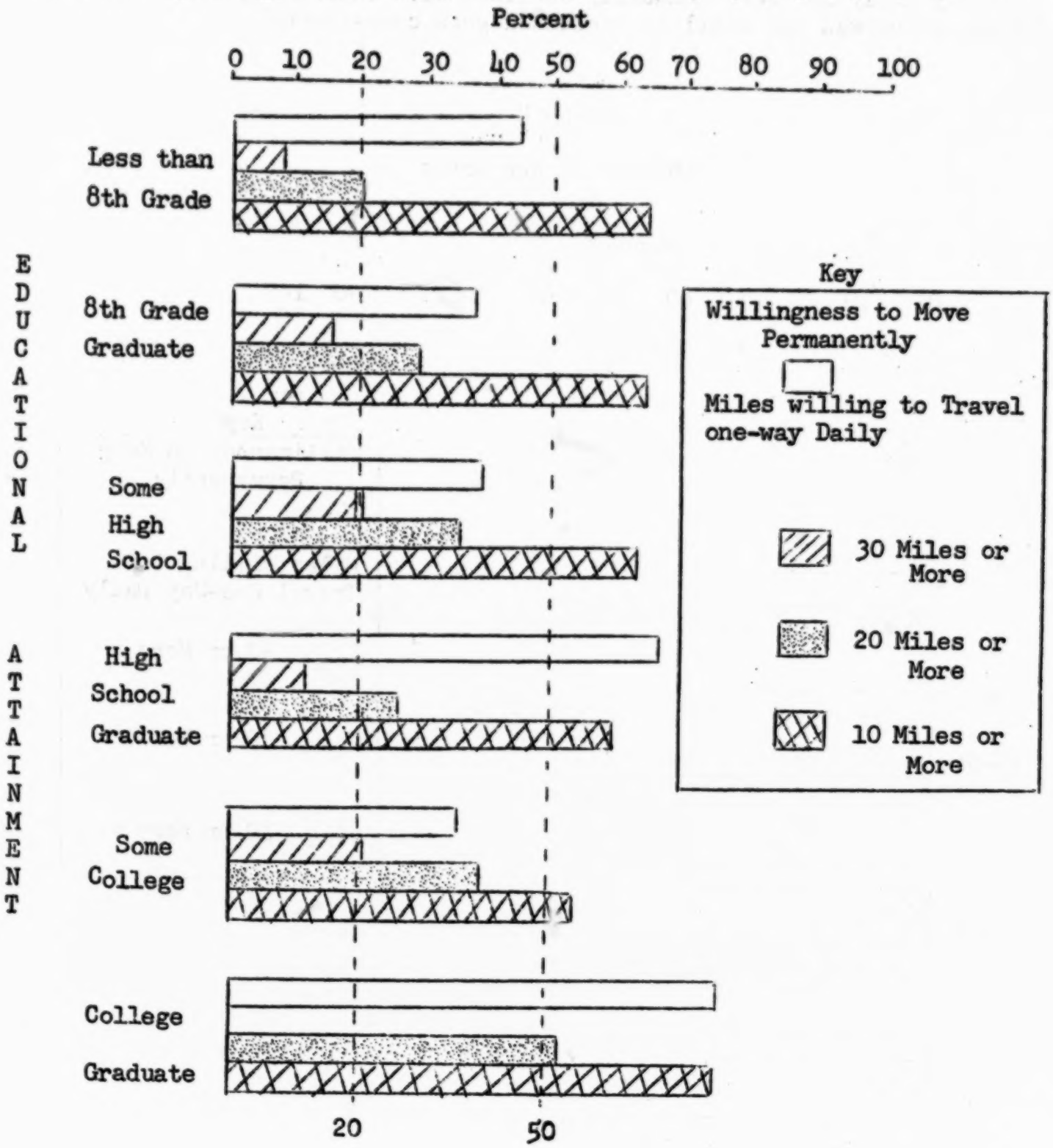
Educational attainment has a considerable affect on mobility as indicated in Graph G. The applicants with less than a high school education show less willingness to move than the high school graduates and the college graduates. The college drop-outs show low mobility probably because of their previous experience of having been out of the area to school. Because the high school graduate groups contained such a large number of young persons, they show a great willingness to move but usually lack transportation

(cont'd)

so are unwilling to commute any distance. The college graduate group consisted of only four persons which is too small a group to present a comparative sample.

Graph G

Mobility by Educational Attainment

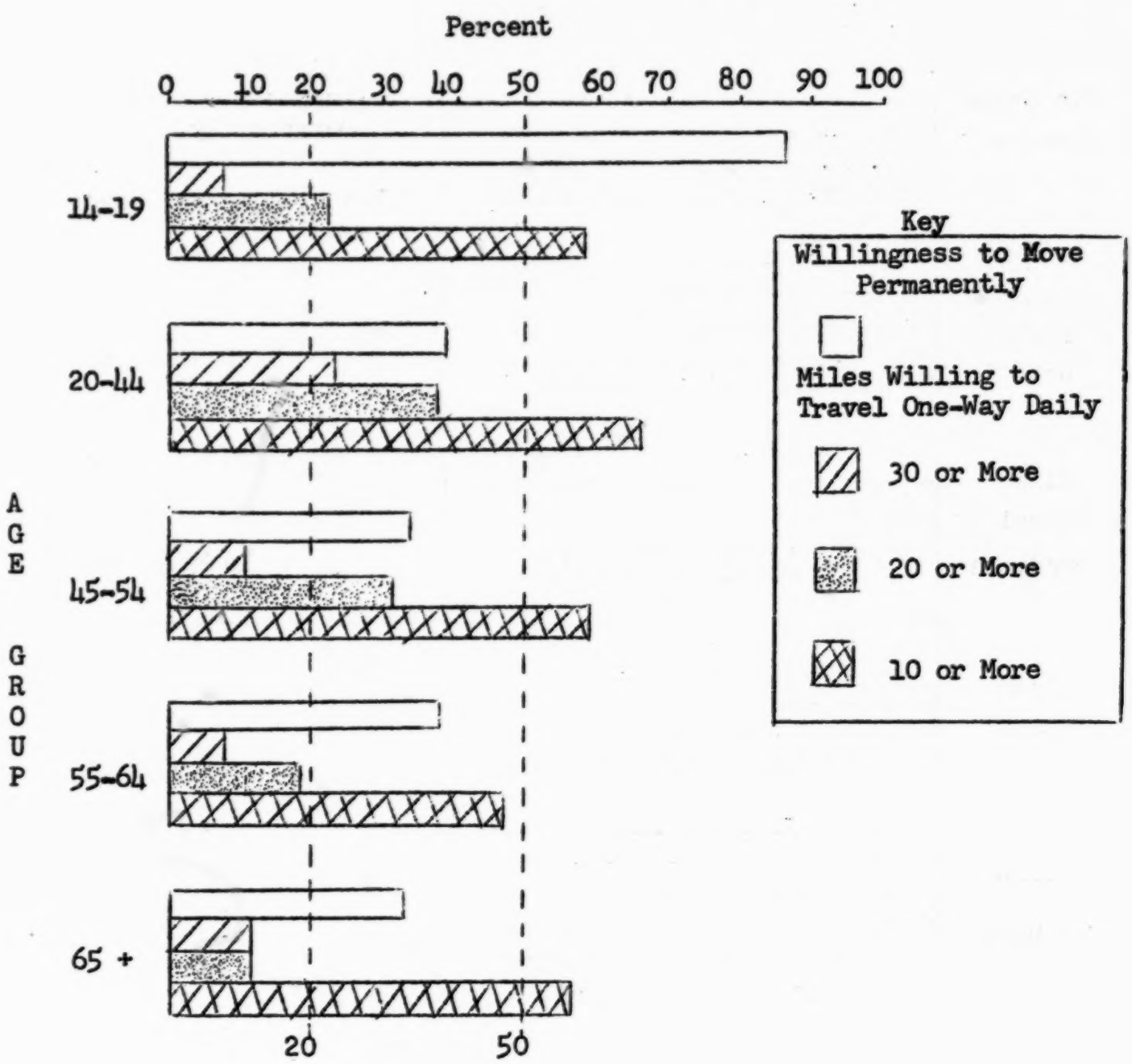


Mobility by Age Group

Mobility for work tends to decrease as age levels increase. The young age group (14-19) shows almost 90 percent willing to move out of the area for work as well as a good percentage willing to travel at least 10 miles each way daily for work. The 20 to 44 age group indicated only 39 percent willing to move out of the area but a much higher percentage willing to travel over 30 miles and over 20 miles each way daily for work. The older age groups indicate about the same percentage willing to move as the 20-44 group but the distance willing to travel each way daily for work gradually declined with increasing age. The over 65 age group was too small to present a good comparison.

Graph H

Mobility by Age Group



Mobility by Place-of-Residence

The place-of-residence had very little affect on the mobility of the Washburn County applicants. Table 24 below indicates the willingness to move permanently and the distance the applicants will travel one-way daily for work by township, village and city of residence.

Table 24

Mobility by Place-of-Residence

Place - of - Residence	Total	Willing to Move Permanently For Work		Miles Willing to Travel One-Way Daily for Work				
		Yes	No	None	1 to 10	11 to 20	21 to 30	30 or More
Barronett	17	12	5	3	1	8	4	1
Bashaw	41	18	23	1	15	15	5	5
Bass Lake	6	4	2	0	0	3	2	1
Brooklyn	13	9	4	0	3	4	4	2
Beaver Brook	24	17	7	1	5	8	6	4
Birchwood	6	6	0	0	1	3	2	0
Casey	14	5	9	0	4	6	0	4
Chicog	4	2	2	0	1	2	1	0
Crystal	9	3	6	1	4	2	0	2
Evergreen	25	13	12	4	5	6	6	4
Frog Creek	3	3	0	0	1	1	1	0
Gull Lake	6	4	2	0	3	2	1	0
Long Lake	1	1	0	0	1	0	0	0
Madge	13	5	8	0	2	6	4	1
Minong	16	8	8	1	3	8	2	2
Sarona	57	17	40	11	15	24	3	4
Spooner	63	33	30	10	24	11	5	13
Spring Brook	43	18	25	1	9	21	9	3
Stinnett	9	5	4	0	2	6	1	0
Stone Lake	3	1	2	0	1	2	0	0
Trego	38	18	20	6	10	11	2	9
Birchwood	10	9	1	1	2	5	2	0
Minong	10	4	6	4	1	3	1	1
Shell Lake	76	43	33	16	19	15	16	10
Spooner	85	43	42	11	30	15	17	12
Other Counties	46	32	14	6	14	11	5	10

Section D Job Potential of the Applicants

All applicants were classified by primary occupation or occupations for which they possess skills or had recent work experience. Applicants without skills or recent work history or "Entry applicants" were encouraged to take the United States Employment Service General Aptitude Test Battery (GATB) to assist counselors in their evaluation of each individual's occupational potential. The results of this test combined with a counseling interview determined the occupational potential assigned to each applicant. This section provides charts and tables to present the primary occupation and highest occupational potential of all applicants. In addition the scores of all tested applicants were compared with specific aptitude scores for various occupations to provide a job potential inventory table. A complete breakdown of the primary occupation and occupational potential of applicants can be found in Tables I and II of the appendix.

Primary Occupations of the Applicants

The 638 applicants were classified according to their primary occupations. One hundred and ninety-two persons were experienced and 446 were inexperienced or Entry workers. Table 25 below and Table 1 of the Appendix show the occupations of all the applicants. Many of the experienced applicants represent potential for immediate plant staffing while the Entry applicants represent potential trainees and workers at the entry or beginning level.

Table 25

Primary Occupations of the Applicants

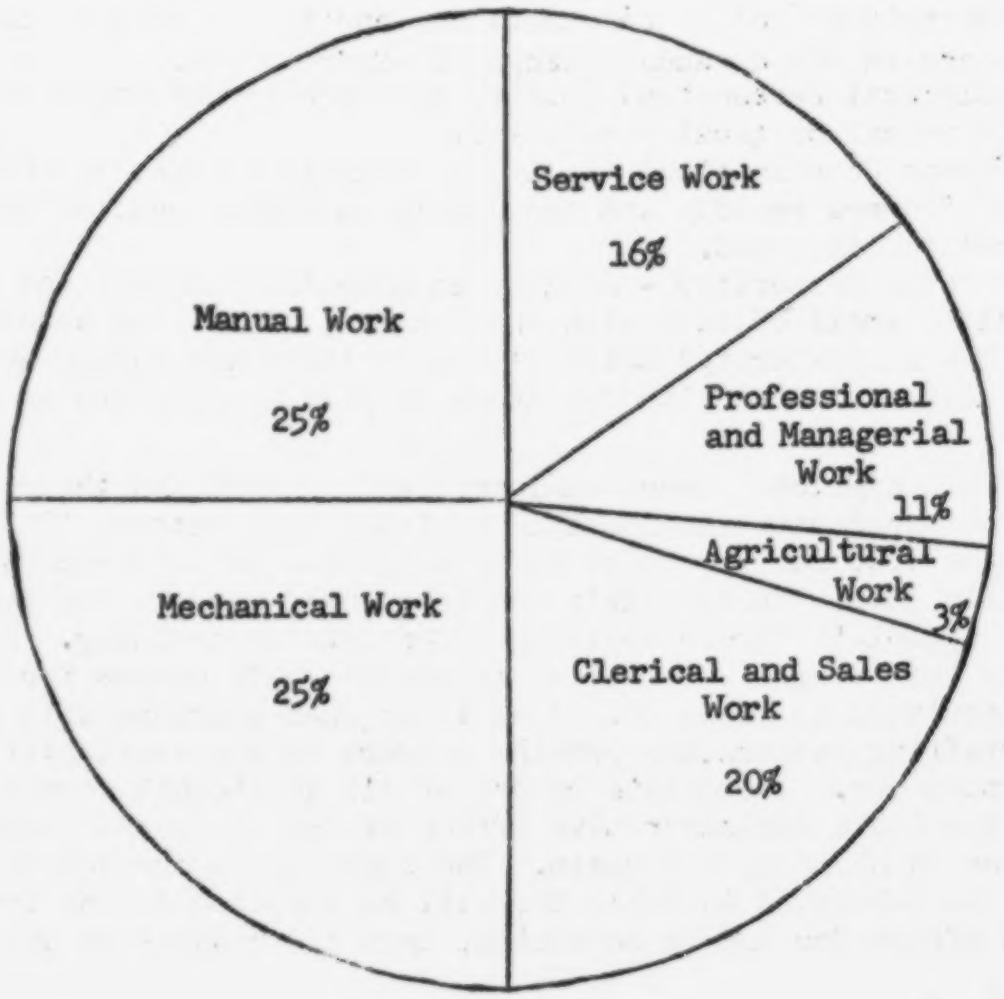
Sex Age	Occupations							
	Prof'l Mgr'l	Clerical Sales	Service	Agri. Forestry	Skilled	Semi-Skilled	Un-Skilled	Entry
Total	11	45	31	8	34	38	25	446
Male	7	1	6	7	33	24	18	229
14-19	0	0	0	0	0	1	0	111
20-44	1	1	0	4	13	13	8	70
45-54	5	0	2	2	9	6	5	35
55-64	1	0	3	1	8	4	5	9
65 +	0	0	1	0	3	0	0	4
Female	4	44	25	1	1	14	7	217
14-19	0	2	1	0	0	0	2	86
20-44	1	24	8	0	0	9	3	76
45-54	1	13	12	0	1	5	1	43
55-64	2	4	4	1	0	0	1	12
65+	0	1	0	0	0	0	0	0

Occupational Potential of the Applicants

All the applicants were given an occupational code that reflected their present occupation, occupations for which they possessed some skill and/ or occupations for which they possessed potential and interest. As a result most applicants received more than one occupational potential code with the result that the 638 applicants were assigned 997 codes. Chart 10 below depicts the distribution of the applicants in the six occupational groups. Table II of the appendix presents a complete breakdown by occupation and sex of all the occupational codes assigned.

Chart 10

Occupational Potential of the Applicants



Job Potential Inventory

In addition to using the General Aptitude Test Battery (GATB) as an aid in counseling and to determine occupational potential it is also useful in determining specific job potential of the applicants. The GATB consists of twelve tests designed to measure nine aptitudes. The aptitudes are defined as follows:

G - (Intelligence) General learning ability.
V - (Verbal Aptitude) Ability to understand meanings of words and ideas associated with them and to use them effectively.
N - (Numerical Aptitude) Ability to perform arithmetic operations quickly and accurately.
S - (Spatial Aptitude) Ability to comprehend forms in space and understand relationships of plane and solid objects - often described as the ability to visualize.
P - (Form Perception) Ability to perceive pertinent detail in objects or in pictorial or graphic material - to make visual comparisons and discriminations, and to see slight differences in shapes and shadings of figures, etc.
Q - (Clerical Perception) Ability to perceive pertinent detail in verbal or tabular material.
K - (Motor Coordination) Ability to coordinate eyes and hands or fingers rapidly and accurately in making precise movements with speed.
F - (Finger Dexterity) - Ability to move the fingers, and manipulate small objects with the fingers, rapidly or accurately.
M - (Manual Dexterity) Ability to move the hands easily and skillfully - to work with the hands in placing and turning motions.

A total of 400 applicants were administered the GATB and their scores have been compared with the Specific Aptitude Test Battery (SATB) scores listed in the U.S. Department of Labor catalogue of test scores for various specific jobs. These SATB's are frequently used by the Employment Service as a tool to screen applicants for jobs or training. All applicants whose test scores were above the minimum SATB scores for selected jobs are tabulated in Table 26. This table, when combined with any known industry staffing pattern, can provide answers to the availability of potential manpower. A complete record of all applicant's scores is maintained in the State Administrative Office of the Wisconsin State Employment Service in Madison, Wisconsin. The names and addresses of all applicants who are tabulated in Table 26, will be supplied to the local district WSES office for use in screening, upon the request of any employer.

Table 26

Specific Job Potential of All Applicants Tested

Specific Jobs	Total	Male	Female
Automobile Mechanic	221	96	125
Automobile Body Repairman	222	95	127
Aircraft Assembler	288	129	159
Airplane Mechanic	218	90	128
Baker	293	129	164
Beauty Operator	246	101	145
Bookkeeper	151	66	85
Bookkeeping Machine Operator	79	19	60
Carpenter (Construction)	247	113	134
Cabinetmaker	147	67	80
Cheese Wrapper	200	80	120
Clicking Machine Operator	315	143	172
Clerk, General Office	102	31	71
Communications Equipment Assembler	83	27	56
Compression Molding Machine Operator	236	98	138
Compositor (Printing)	195	70	125
Cook	201	88	113
Core Plane Wirer	134	49	85
Drill Press Operator	344	150	194
Electrician	172	77	95
Electronic Assembler	222	100	122
Electronic Unit Assembler	88	25	63
Electronic Resistance Spot Welder	243	97	146
Electronic Technician	70	33	37
Forming Press Operator	282	122	160
Key Punch Operator	162	61	101
Machinist	239	105	134
Machine Operator, General	288	125	163
Module Assembler (Electronics)	123	51	72
Nurse Aide	284	111	173
Packing - Sorting - Canning	316	140	176
Plumber - Pipe Fitter	276	124	152
Punch Press Operator	344	150	194
Sewing Machine Operator	265	115	150
Sheet Metal Worker	205	93	112
Stenographer - Typist	99	28	71
Stitcher Machine Operator (Boot and Shoe)	210	80	130
Tool and Die Maker	156	71	85
Toy Assembler	177	74	103
Turret Lathe Operator	272	122	150
Vamper (Boot and Shoe)	273	113	160
Welder, Combination	222	99	123
Welder, Inert Gas	316	143	173
Welder, Spot	243	101	142
Woodworking Machine Operator	287	126	161

PART III

Employer Survey

Part III consists of tables, charts and graphs illustrating the results of the Employer Survey. The Employer Survey was carried out in Washburn County at the same time as the Applicant Survey. Two members of the team contacted all employers that employed four or more employees in Unemployment Compensation covered employment. Each employer contacted was asked to complete a survey form which asked that he list all his employees by occupation, sex, age and wages paid. He was also asked to project his employment for 1966 and 1969 by occupation. Each employer was also asked a series of questions as follows:

1. Have you had any hiring difficulty the past year and for what reason?
2. What type of training and for what occupations do you feel it is necessary?
3. Do you currently have any job openings?
4. Is your business seasonal and if so what is your peak employment season?
5. What are the reasons for the location of your business here?
6. How many persons do you hire from outside Washburn County? Where do they reside?
7. What industry would best aid your business?

Highlights of the Employer Survey

Fifty-nine employers, employing 1080 workers or 30 percent of the estimated work force of the county, were surveyed.

Nearly two-thirds of the surveyed work force were men and one-half of them were employed in Manufacturing.

An increase of 76 jobs were anticipated by 1966 with most of these being in the Service Industry. Manufacturing and Trades accounted for most of the remainder. Only 145 additional jobs were anticipated by 1970 also in the Service, Manufacturing and Trades.

The Professional and Managerial occupations accounted for one-fourth of the surveyed work force. No Agricultural or Forestry occupations were surveyed.

The Service occupations anticipated an increase of 26 persons or one-third of the total increase anticipated by 1966. The Service and Unskilled occupations accounted for one-half the additional jobs anticipated by 1970.

Only 17 of the 1080 workers surveyed were 65 years of age or older and most of them were Professional people, business owners, or part-time custodial workers, so they do not represent replacement potential.

Nearly one-half the surveyed employers reported that they had experienced some difficulty in hiring workers in the past year. Lack of experienced workers was the reason given in nearly all cases.

Twelve employers reported 54 job openings at the time of the survey, however, five openings were for Licensed Practical Nurses, six openings were for Teachers and 24 openings were for Nurse Aides.

Twenty-eight employers indicated that local training is needed. The training most often mentioned was Clerical, Cook, Auto Mechanics and Sales persons.

Wages currently paid are generally low except for a few skilled crafts.

Most employers surveyed wanted new industrial expansion with very little preference as to type except that it provided year round employment.

Current and Anticipated Employment by Industry

Since the employer survey covered only Unemployment Compensation Covered Employers of four or more employees and some governmental agencies the table below provides only a sample of total employment in the county. The 59 employers surveyed, employed 1080 employees or about 30 percent of the estimated labor force. In addition over 800 persons or 22 percent of the estimated labor force were employed in Agriculture which was not surveyed.

Almost one-fourth of the persons employed by the firms surveyed were in manufacturing, one-fourth in wholesale and retail trade and one-fourth in government with the balance employed in Service businesses, Utilities and Transportation, Construction and Finance and Insurance. Nearly two-thirds of the surveyed employees were men with nearly one-half of them employed in manufacturing.

Anticipated employment for 1966 by the firms surveyed indicated an increase of only 76 jobs with most of these being in the Service industries and Manufacturing. Anticipated employment for 1970 showed an increase of only 145 jobs with these also primarily in the Service industries and manufacturing. These slight anticipated increases over present employment for 1966 and 1970 by present employers means that there will be a large available work force for any new industry that might consider locating in Washburn County.

Table 27

Current and Anticipated Employment by Industry

Industrial Group	Current			Anticipated			
				1967		1970	
	Total	Male	Female	Total	Additional Openings Over 1965	Total	Additional Openings Over 1965
Total	1080	646	434	1156	76	1225	145
Manufacturing	267	208	59	291	24	307	40
Trades	259	144	115	278	19	286	27
Services	149	17	132	179	30	222	73
Utilities and Trans.	120	116	4	120	--	120	--
Construction	11	9	2	11	--	11	--
Fin.-Ins.-Real Est.	17	5	12	20	3	22	5
Government	257	147	110	257	--	257	--

Current and Anticipated Employment by Occupation

The 1080 employees of the surveyed firms are grouped by occupation in table 28. The Professional and Managerial group accounted for nearly one-fourth of the total with about an equal number of men and women. Nearly one-half of the Professional group were teachers or school officials. The Clerical and Sales and Service occupations represented about 16 percent each, mostly women. The Skilled occupational group accounted for 18 percent of the total and was predominantly men. Both the Semiskilled and Unskilled groups accounted for less than 14 percent each and were also mostly men.

The Service occupations accounted for one-third of the job openings anticipated by 1960 and by 1970. The Unskilled occupations anticipated a good increase by 1970 but only a few by 1966. The Professional and Managerial group anticipated increase was very small and consisted mostly of nurses and technicians for a proposed hospital expansion.

The anticipated increases in the Skilled and Semiskilled occupations were very small and again emphasizes the lack of job opportunity and the consequent good opportunity for new industry to find workers.

Table 28

Current and Anticipated Employment by Occupation

Occupational Group	Current			Anticipated			
				1966		1970	
	Total	Male	Female	Total	Additional Openings Over 1965	Total	Additional Openings Over 1965
Total	1080	646	434	1156	76	1225	145
Professional & Magr'l	267	153	114	274	7	282	15
Clerical and Sales	171	56	115	181	10	194	23
Service	173	31	142	199	26	222	49
Agri.-Forest.-Fish.	---	--	---	---	--	---	--
Skilled	198	190	8	203	5	208	10
Semiskilled	153	131	22	157	4	157	4
Unskilled	118	85	33	143	5	162	44

Age Distribution of Employed Workers

All of the 1080 employees surveyed were classified by age group. The results of this classification appear in table 29. Just under 53 percent of the employees were under 45 years of age and just under 46 percent were between 45 and 64. The remaining 1.5 percent or 17 persons were over 65 years of age. Most of the jobs filled by persons under 65 do not represent job potential because of retirement. The over 65 age group is discussed in the next paragraph.

Table 29

Age Distribution of Employed Workers by Sex

	Total	Under 45	45 - 64	65 & Over
Total	1080	570	493	17
Male	646	340	296	10
Percent of Total	59.8	31.5	27.4	.9
Female	434	230	197	7
Percent of Total	40.2	21.3	18.3	.6

Occupations of Employed Workers Over 65

Since only 17 of the 1,080 workers in the surveyed firms were over 65, their jobs do not represent much potential for replacement because of retirement. A breakdown by occupation of the 17 workers also shows that four were owners or other professional people whose retirement does not represent job potential for most local applicants and eight were in service occupations as custodial help or as part-time workers. This leaves only five openings in occupations which represents replacement potential to the new entrants in the labor market.

Table 30

Occupations of Employed Workers Over 65

Sex	Total	Professional Managerial	Service	Skilled	Semiskilled
Total	17	4	8	2	3
Male	10	3	3	2	2
Female	7	1	5	-	1

Employment Problems and Opportunities

Twenty-five of the 59 employers surveyed reported that they had encountered some difficulties in hiring during the past year. In most cases the difficulty stemmed from a lack of qualified and experienced workers in the area. In some occupations such as Registered Nurse or Teacher, you find a shortage in nearly all areas of the state, while others, such as cook, waitress and pulp cutter, do not offer a sufficient wage to attract qualified workers. However, only twelve of the employers reported any job vacancies at the time of the survey. These twelve employers reported 54 openings and of these 54 openings five were for licensed practical nurses and six were for teachers. An additional 24 were for nurse aides needed in a hospital expansion program. An MDTA training course has been proposed to train these 24 nurse aides. Table 31 lists all the job openings reported and the number of vacancies as well as the occupations in which the employers had hiring difficulty.

Table 31

Hiring Difficulties and
Job Openings of Surveyed Employers March 1965

Occupation	Hiring Difficulties	Number of Openings
Registered Nurse	X	--
Licensed Practical Nurse	X	5
Nurse Aide	X	24
Appliance Serviceman	X	1
Auto Body Repairman	X	2
Auto Mechanic	X	1
Plumber	X	--
Cashier	X	1
Salesman	X	1
Checkout Clerk	X	1
Teacher	X	6
Fiberglas Laminater	X	5
Printing Trades	X	2
Waitress	X	--
Cook	X	--
Kitchen Help		1
Baker	X	--
Meat Cutter	X	--
Pulp Cutter	X	4

Employment of Out-of-County Residence

There were only 63 out-of-county residents employed by the 59 employers surveyed and one-third of these were employed by one employer, probably because this employer was located very near the county line. Many Washburn County residents are employed outside the county or have moved away to find work but would return with the opportunity for steady employment in the area.

Training Needs

Twenty-eight of the fifty-nine employers surveyed indicated that some type of local training is needed. These twnety-eight employers indicated twenty-one occupations in which they felt training programs were needed. Table 32 below shows the occupations for which they felt training was necessary and the number of times mentioned.

Table 32

Occupations In Which Training is Necessary

Occupation	Times Mentioned
Clerical	5
Cooks	4
Sales Person	4
Auto Mechanic	4
Machine Operator	3
Nurse Aide	3
Meat Cutter	3
Sheet Metal Worker	2
Printing Trades	2
Fiberglas Laminater	2
Waitress	2
Custodian	1
Electrician	1
Plumbers	1
Checkout Clerk	1
Bookkeeper	1
Plant Maintenance Man	1
Licensed Practical,Nurse	1
Auto Body Repairman	1
Kitchen Help	1
Registered Nurse	1

Seasonal Employment

Twenty-one of the fifty-nine employers surveyed reported that their business was seasonal in nature. Fourteen of the twenty-one were in retail trade which is greatly affected by the tourist trade in the area. Several others were engaged in the harvest of forest products or manufacturing of products with a seasonal demand. These twenty-one seasonal employers employed 277 persons or nearly one-fourth the surveyed labor force. While most of these business firms do not close down during the off-season,they cut back considerably on the number of employees.

Current Wages in Surveyed Occupations

Since wages currently being paid in Washburn County are of interest to prospective employers the survey team asked each employer to list the hourly wages paid. A list of the more common occupations and the lowest and highest wages paid for each appears below. This table only lists lowest and highest wages and cannot be used to calculate the average. In general most wages paid in Washburn County are low and should not be a factor in discouraging new industry.

Table 33

Current Wages In Surveyed Occupations

Occupation	Hourly Wage	
	Low	High
Bookkeeper	1.25	1.75
Technician	1.79	3.30
Nurse Aide	1.10	1.48
Clerk-Typist	1.15	1.35
Office Clerk	1.15	1.75
Cashier	1.10	1.75
Sales Clerk	1.10	1.35
Checkout Clerk	1.15	1.60
Stock Clerk	1.10	1.45
Cook	1.10	1.80
Kitchen Help	.85	1.25
Waitress	.85	1.30
Mechanic	1.00	1.75
Electrician-Plumber-Carpenter	2.40	3.15
Skilled Factory Worker	1.25	2.50
Semiskilled Factory Worker	1.55	2.12
Truckdriver	1.41	1.84
Equipment Operators	1.84	2.12
Common Labor	1.57	2.45
Factory Labor	1.35	1.90

Industrial Expansion

Forty-nine of the employers surveyed wanted some new industrial expansion and most of them indicated that any new industry would help the county and their businesses. Some preferred industry to utilize forest and wood products while others wanted to increase the tourist business. Most employers preferred several small industries to a large one and steady employment over seasonal. This positive attitude towards new industry on the part of existing industry should be encouraging to anyone planning to locate in the area.

PART IV

APPENDIX

Part IV or the Appendix consists of a set of Tables providing detailed data on the primary occupations, total occupational potential, mobility and industrial experience of all applicants. These tables provided the background for the charts and graphs in Part 2.

APPENDIX

Following is an explanation which delineates the major occupational groups for entry classifications as used in Tables 1 and 2 of the appendix.

PROFESSIONAL, TECHNICAL AND MANAGERIAL WORK:

Persons having the qualifications necessary for entry into work requiring the capacity to acquire and apply special knowledges involved in artistic creation, entertainment, social service work, teaching, scientific study, research, engineering, law, business relations or management.

CLERICAL AND SALES WORK:

Persons having the qualifications necessary for entry into work involving recording, transcribing, composing, compiling, transmitting and systematizing written communications and records, computing or compiling mathematical or statistical data, or dealing with the public in business situations to affect sales, give information, or perform other commercial or administrative services.

SERVICE WORK:

Persons having the qualifications necessary for entry into work that involves ministering to the needs of others in preparing food, serving meals, caring for children and in other types of personal service activities.

AGRICULTURAL, MARINE AND FORESTRY WORK:

Persons having the qualifications necessary for entry into work involving the raising and harvesting of crops; the breeding, care, catching and hunting of fish and other animals; the handling of boats; the preservation of forest; the gathering of forest products and other related outdoor activities.

MECHANICAL WORK:

Persons having the qualifications necessary for entry into work in which the independent judgement of the worker determines the machine and manual operations to be performed in obtaining the proper form and quantity of material to be produced. Workers may be required to lay out work; to estimate quality, suitability, and needed quantities of materials; to make precise measurements; to read blueprints or other specifications; and to make necessary computations or mechanical adjustments to control or regulate processes.

MANUAL WORK:

Persons having the qualifications necessary for entry into work in which the form, quality and quantity of the work depend primarily on prescribed methods and on the performance of machines or equipment or on the use of hands or hand tools. Workers may be required to observe the operation of machines, feed machines and to perform other repetitive and physical tasks.

Table I

Primary Occupations of All Applicants

Occupational Group	Male						Female					
	Total	Age Group					Total	Age Group				
		14 to 19	20 to 44	45 to 54	55 to 64	65 +		14 to 19	20 to 44	45 to 54	55 to 64	65 +
Total All Applicants	325	112	110	64	31	8	313	91	121	76	24	1
Fully Qualified Applicants	96	1	39	30	22	4	96	5	45	33	12	1
Prof.'l & Magr.'l	7	--	1	5	1	--	4	--	1	1	2	--
Accountant	1			1								
Teacher	1		1				2			1	1	
Nurse							1				1	
Laboratory Tech.							1		1			
Hotel & Rest. Mgr.	1			1								
Retail Manager	2			1	1							
Dept. Store Buyer	1			1								
Business Official	1			1								
Clerical & Sales	1	--	1	--	--	--	44	2	24	13	4	1
Bookkeeper							8		5	3		
Checker							2			2		
Clerk, General							1		1			
Clerk, General Office							16	2	9	4	1	
File Clerk							1				1	
Office Mahcine Op.							2		1	1		
Post Office Clerk							1				1	
Medical Assistant							1		1			
Secretary							1		1			
Stenographer-Typist	1		1				5		4		1	
Agent							4		1	2		1
Sales Clerk							2		1	1		
Sales Person												
Service	6	--	--	2	3	1	25	1	8	12	4	--
Domestic Cook							2			1	1	
General Maid							1			1		
Bellman	1				1							
Cook	1			1			3		2	1		
Waiter-Waitress							5	1	1	2	1	
Kitchen Worker							4		1	2	1	
Beautician							2			2		
Institutional Attend.							6		4	2		
Camp Attendant	1				1							

Table I (cont'd)

Primary Occupations of All Applicants

Occupational Group	Male						Female					
	Total	Age Group					Total	Age Group				
		14 to 19	20 to 44	45 to 54	55 to 64	65 +		14 to 19	20 to 44	45 to 54	55 to 64	65 +
Service (cont'd)												
Cook Apprentice							1			1		
Guard-Watchman	1			1								
Charwomen							1				1	
Porter	2				1	1						
Agricultural	7	—	4	2	1	—	1	—	—	—	1	—
Fruit Farmer	1		1									
General Farmer	2			2								
Farm Hand Fruit							1				1	
Farm Hand-General	1		1									
Farm Mgr.-Farm Foreman	1		1									
Gardener-Ground Keeper	1		1									
Skilled	33	—	13	9	8	3	1	—	—	1	—	—
Baker							1			1		
Machinist	2				2							
Machine Operator	1			1								
Sheet Metal Worker	1		1									
Welder	3		1	2								
Electrician	2		1	1								
Optician-Lens Grinder	1		1									
Brick & Stone Mason	1		1									
Carpenter	9		2	3	1	3						
Cement Finisher	1			1								
Painter	3		3									
Truck & Tractor Driver	2		1	1								
Millwright	1				1							
Auto Mechanic	2		1		1							
Appliance Repairman	4		1		3							
Semiskilled	24	1	12	7	4	—	14	—	9	5	—	—
Food, Canning							1		1			
Preparation Meat Products	1				1							
Fabricating of Textiles							5		2	3		

Table I (cont'd)

Primary Occupations of All Applicants

Occupational Group	Male						Female					
	Total	Age Group					Total	Age Group				
		14 to 19	20 to 44	45 to 54	55 to 64	65 +		14 to 19	20 to 44	45 to 54	55 to 64	65 +
Semiskilled(cont'd)												
Lumberman-Woodchopper	1			1								
Sawmill Occupations	1			1								
Production of Plastics	1		1									
Shoe Production							1		1			
Machine Operators	2		1	1			1		1			
Foundry Occupations	1		1									
Metal Treatment							3		2	1		
Electrical Equip. Manufacturer							2		2			
Construction Equip. Operator	2		1	1								
Routeman	10		6	1	3							
Laundry-Cleaner							1			1		
Station Attendants	1	1										
Fireman	1			1								
Chainman-Rodman	1		1									
Construction Apprentice	1		1									
Printing Apprentice	1			1								
Unskilled	18	—	8	5	5	—	7	2	3	1	1	—
Laborer Food	2		1		1							
Laborer Lumber	3		1	1	1							
Laborer Printing							1		1			
Laborer Metal Work	2			2								
Laborer Constr.	11		6	2	3							
Laborer Packing Filling							4	2	2	1	1	
Entry Applicants	229	111	72	34	9	4	217	86	76	43	12	—
Prof.'l & Mgr'l	41	34	6	—	1	—	27	24	3	—	—	—
Artistic Work	1	1					2	1	1			
Musical Work							1	1				
Public Service Work	2	2					2	2				
Instructive Serv.	13	13					15	15				

Table I (cont'd)

Primary Occupations of All Applicants

Occupational Group	Male						Female					
	Total	Age Group					Total	Age Group				
		14 to 19	20 to 44	45 to 54	55 to 64	65 +		14 to 19	20 to 44	45 to 54	55 to 64	65 +
Prof.'l & Mgr.'l (cont'd)												
Social Service	2		1		1		1		1			
Protective Serv.	1		1									
Technical Work	3	2	1									
Laboratory Science	4	4					5	4	1			
Business Relations	4	4					1	1				
Engineering Work	4	4										
Drafting	4	4										
Managerial, Geographical	1		1									
Managerial, Indust.	2		2									
Clerical & Sales	15	8	3	4	--	--	72	39	16	12	5	--
Computing Work	1	1					2	1		1		
Recording Work	6	4	1	1			26	12	10	4		
Typing							18	12	2	2	2	
Stenographic	1	1					7	6	1			
Equip.-Material Checking							1			1		
Routine Recording	1	1					1	1				
Gen. Clerical	1	1					1	1				
Public Contact	3		1	2			10	5	1	2	2	
Selling	2		1	1			4		2	2		
Customer Serv.							1				1	
Misc. Public Contact							1	1				
Service	5	3	2	--	--	--	63	14	28	17	4	--
Cooking	1	1					5		2	3		
Child Care							3	1	1	1		
Personal Serv.							4		3		1	
Food Serv.							1	1				
Adult Care	3	1	2				49	12	21	13	3	
Misc. Personal Serv.	1	1					1					
Agri. & Forestry	7	4	1	1	1	--	--	--	--	--	--	--
General Farming	1	1										
Animal Care	2	2										
Forestry Work	4	1	1	1	1							

Table I (cont'd)

Primary Occupations of All Applicants

Occupational Group	Male						Female					
	Total	Age Group					Total	Age Group				
		14 to 19	20 to 44	45 to 54	55 to 64	65 +		14 to 19	20 to 44	45 to 54	55 to 64	65 +
Mechanical Work	106	37	47	18	4	—	4	2	1	1	—	—
Machining	31	9	16	6								
Mechanical Repair	27	7	13	5	2							
Complex Machine Op.	1		1									
Crafts	4		4				1	1				
Electrical Repair	9	4	2	1	2							
Structural Crafts	24	8	10	6								
Bench Crafts	2	2					2	1	1			
Graphic Art Work	6	6					1			1		
Processing	1	1										
Welding	1		1									
Manual Work	55	25	12	11	3	4	51	7	28	13	3	—
Observational Wk.							1		1			
Structural Equip. Tending	1				1							
Inspecting & Test.							1		1			
Machine Tending	4	4										
Manipulative Wk.	13	6	3	2	1	1	14	1	9	4		
Structural Work	7	3	3	1								
Bench Work	1					1	24		14	7	3	
Machine Operating	3	2	1				2		1	1		
Elemental Work	26	10	5	8	1	2	9	6	2	1		

Table II

Occupational Fields for which Applicants Show Potential

Occupational Group	Total	Male	Female
Total Potential of All Applicants	997	485	512
Professional & Managerial Work	108	63	45
Artistic Work	4	1	3
Musical Work	2	1	1
Public Service Work	46	19	27
Social Service Work	4	2	2
Protective Service Work	3	3	
Technical Work	17	7	10
Business Relations Work	6	5	1
Geographical Science Work	1	1	
Engineering Work	8	8	
Drafting	4	4	
Managerial Work	1	1	
Managerial Work CAFS	4	4	
Managerial Work Personal Service	1		1
Managerial Work Geographical	2	2	
Managerial Work Industrial	5	5	
Clerical & Sales Work	199	24	175
Computing Work	8	1	7
Recording Work	71	6	65
Stenographic-Typing	37	1	36
Equipment & Material Checking	7		7
Routine Recording Work	5	1	4
General Clerical Work	7	1	6
Public Contact Work	32	7	25
Selling	19	5	14
Customer Service Work	12	2	10
Misc. Public Contact Work	1		1
Service Work	160	11	149
Cooking	7		7
Domestic Cooking	1		1
Quantity Cooking	20	3	17
Child Care	6		6
Personal Service	10		10
Food Serving	21	1	20
Adult Care	82	3	79
Misc. Personal Service Work	14	4	10
Agricultural & Forestry Work	28	27	1
General Farming	4	4	
Animal Care	7	7	

Table II (cont'd)

Occupational Fields for which Applicants Show Potential

Occupational Group	Total	Male	Female
Agricultural & Forestry Work (cont'd)			
Crop Farming	4	3	1
Forestry Work	13	13	
Mechanical Work	246	238	8
Machine Trades	38	38	
Metal Machining	11	11	
Stone & Glass Machining	1	1	
Mechanical Repairing	53	53	
Complex Textile Machine Operating	1	1	
Paper Machine Operating	1	1	
Hauling, Hoisting, Drilling Machine Op.	11	11	
Power Press Forming	1	1	
Crafts	8	5	3
Electrical Repairing	20	20	
Structural Crafts	7	7	
Metal Structural Work	2	2	
Wood Structural Work	20	20	
Structural Work, Stone or Glass	3	3	
Structural Work, Plastic Materials	7	7	
Welding and Related	36	36	
Excavating, Mining, Grading & Related	1	1	
Bench Crafts	2	1	1
Metal Bench Work	5	5	
Bench Work, Plastic Materials	3	2	1
Bench Work, Fabric & Leather	1		1
Bench Work, Foods	2	2	
Graphic Art Work	1		1
Typesetting	9	9	
Processing Foods	2	1	1
Manual Work	256	122	134
Observational Work	11	4	7
Inspecting & Testing	4		4
Machine Tending (N.E.C.)	6	6	
Metal Working Machine Tending	3	2	1
Stone Working Machine Tending	1		1
Hauling, Hoisting, Drilling Machine Op.	17	17	
Non-Metal Process Equipment Tending	3	3	
Metal Process Equipment Tending	1		1
Food Process Equipment Tending	1	1	
Manipulative Work	71	34	37
Structural Work Assorted Materials	3	3	
Metal Structural Work	3	3	

Table II (cont'd)

Occupational Fields for which Applicants Show Potential

Occupational Group	Total	Male	Female
Manual Work (cont'd)			
Wood Structural Work	1	1	
Welding & Riveting	1	1	
Bench Work Assorted Materials			
Metal Bench Work	2	2	
Bench Work Plastic Materials	1		1
Bench Work Fabric & Leather	32	1	31
Machine Operating, Manipulative	8	4	4
Metal Working Machine Operating	3		3
Wood Working Machine Operating	1	1	
Press Forming	2	1	1
Elemental Work	36	26	10
Elemental Work Light	10	8	2
Elemental Work, Medium and Heavy	2	1	1
Elemental Service Work	4	2	2
Misc. Physical Work	1	1	

Table III

Mobility of All Applicants

		Willing to Move Permanently for Work		Willing to Commute					
				Daily				Weekly	Monthly
				Miles willing to Travel one-way					
		Yes	No	1 to 10	11 to 20	21 to 30	30 Plus		
Total		333	305	176	198	99	88	95	8
Occupational Group	Prof.'l & Magr.'l	4	7	1	---	7	2	2	-
	Clerical & Sales	9	36	17	10	7	4	1	1
	Service	9	22	14	10	2	--	2	-
	Agri.-Forestry	2	6	2	2	2	--	-	-
	Skilled	16	18	6	9	8	10	10	-
	Semiskilled	18	20	6	13	10	8	4	-
	Unskilled	8	17	5	6	5	6	3	-
	Entry	267	179	125	148	58	58	73	7
Educational Attainment	Up to 6th Grade	2	2	1	1	1	1	1	-
	6 - 7 - 8th Grade	9	12	5	10	2	1	3	-
	8th Graduate	42	69	24	39	15	17	13	-
	Some High School	54	85	37	38	22	27	13	-
	High School Graduate	209	110	95	103	50	34	60	8
	Some College	14	26	14	6	7	8	3	-
	College Graduate	3	1	--	1	2	--	2	-
Marital Status	Married	106	239	100	95	55	57	34	-
	Single	207	38	63	88	36	27	59	8
	Other	20	28	13	15	8	4	2	-
Age Group	14-19	177	26	60	76	27	17	53	7
	20-44	91	140	51	64	36	52	26	-
	45-54	47	93	41	38	30	14	12	1
	55-64	15	40	20	16	6	4	3	-
	65+	3	6	4	4	-	1	1	-

VT 001 094
McKinnon, George Bruce
Conducting a Non-Farm Agricultural Work Experience Program in Vocational Agriculture; A Handbook.

Louisiana State Dept. of Education, Baton Rouge. Vocational Education Div.
Louisiana State Univ., Baton Rouge. School of Vocational Education

MF AVAILABLE IN VT-ERIC SET.
Pub Date - Sep66 119p.

GUIDELINES; *PROGRAM GUIDES; *VOCATIONAL AGRICULTURE; *OFF FARM AGRICULTURAL OCCUPATIONS; *COOPERATIVE EDUCATION; *PROGRAM DEVELOPMENT; EDUCATIONAL POLICY; HIGH SCHOOLS

This handbook is for teacher use in planning, initiating, supervising, and evaluating work experience programs for high school vocational agriculture students. The content includes material on: (1) surveying the community, agricultural businesses, and students, (2) familiarizing school personnel, (3) establishing policies, (4) state and federal laws, (5) student learner certificates, (6) suggested chronological procedures, (7) publicity, (8) advisory committee, (9) selecting students and orienting parents, (10) establishing a training station, (11) student scheduling, (12) courses of study and training plans, (13) work permits and certificates, (14) employer and teacher responsibility for supervision, and (15) program evaluation. The appendix contains forms for surveying businesses, recording student information, a student enrollment application, an application for a student learner certificate, information about selecting training centers, a training plan agreement, a course of study outline, a training center outline, and evaluation forms for use by all parties. Information sources regarding employment of students and 17 hazardous occupation orders are listed. (DM)

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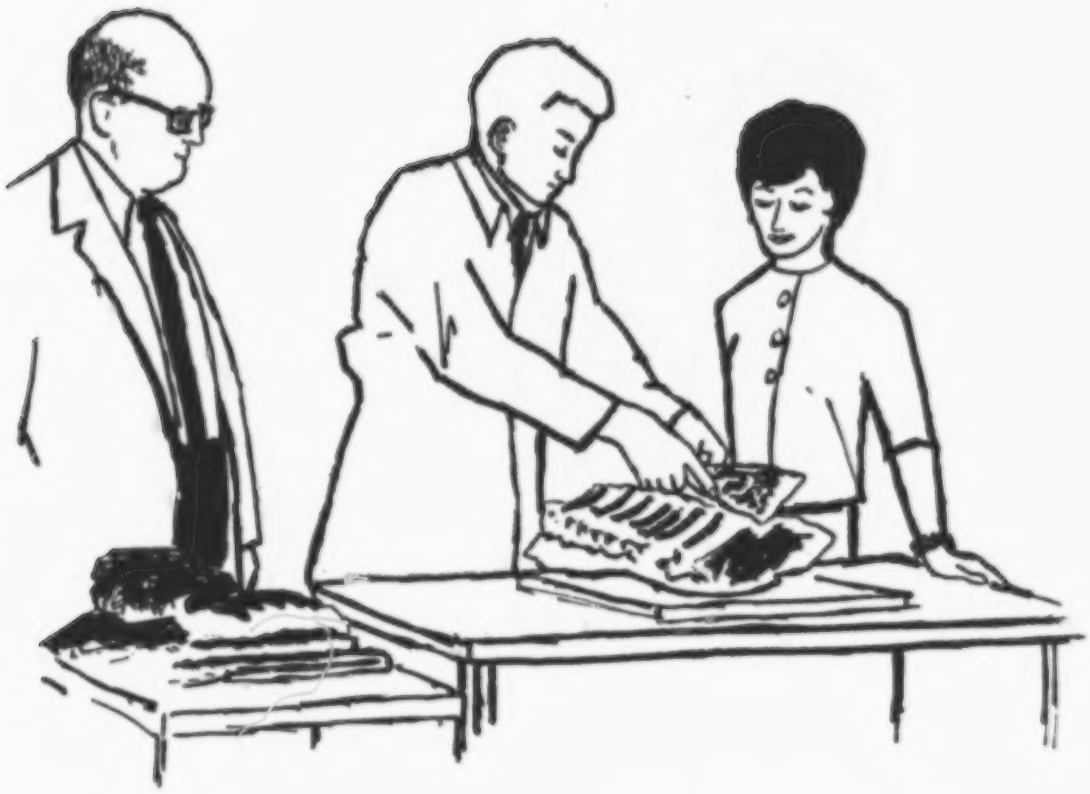
CONDUCTING A NON-FARM AGRICULTURAL WORK EXPERIENCE PROGRAM IN VOCATIONAL AGRICULTURE

A HANDBOOK



LOUISIANA STATE DEPARTMENT OF EDUCATION

Vocational Education Division

in cooperation with
LOUISIANA STATE UNIVERSITY

Baton Rouge
Vo.Ag.Ed. No. 14
September 1966

VT001094

CONDUCTING A NON-FARM AGRICULTURAL WORK EXPERIENCE PROGRAM IN VOCATIONAL AGRICULTURE

A

HANDBOOK

LOUISIANA STATE DEPARTMENT OF EDUCATION
Vocational Education Division

in cooperation with

LOUISIANA STATE UNIVERSITY
School of Vocational Education

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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FOREWORD

Instruction in non-farm agriculture has become an integral part of educational programs of vocational agriculture conducted on the high school level. Policies and procedures are needed for implementing this new educational venture.

This handbook has been designed to give the teacher of vocational agriculture direction as programs of instruction in non-farm agriculture are added to the curriculum. It is not intended that suggestions given will be slavishly followed but rather that they will serve merely as guides with the teacher using initiative in implementation and adaptation of the material to fit the needs of the local school community.

Regardless of the local adaptations in the instructional program, it is felt that there are four basic steps in the development of non-farm vocational agricultural education. These steps are:

1. Planning the work experience program
2. Initiating the work experience program
3. Supervising the work experience program
4. Evaluating the work experience program

The basic principles presented in the handbook should be adaptable for use with instruction in each of the eight fields of non-farm agriculture.

Major responsibility for the preparation of this handbook was assumed by George Bruce McKinnon, a graduate student at Louisiana State University under a fellowship financed by the Louisiana State Department of Education.

No other human occupation opens so wide a field for profitable and agreeable combination of labor with cultivated thought as agriculture.

President Abraham Lincoln
An address delivered at the
State Fair of Wisconsin held
in Milwaukee in 1859.

INTRODUCTION

Education in agriculture at the high school level received initial federal support with the passage of the Smith-Hughes act in 1917. This act provided federal aid for the promotion of vocational education, namely, "that the controlling purpose for such education shall be to fit for useful employment; that such education shall be of less than college grade and be designed to meet the needs of persons over fourteen years of age who have entered upon or who are preparing to enter upon the work of the farm" and that the school giving such education "shall provide for directed or supervised practice in agriculture, either on a farm provided for by the school or other farm, for at least six months per year."[1]

The 1963 Federal Vocational Education Act recognized the need for instruction in agricultural occupations other than farming and stipulated that vocational agriculture funds may be used to train for any occupation involving knowledge and skills in agricultural subjects whether or not such occupations involve work of the farm or of the farm home. This legislation provides for directed or supervised practice, either on-farm or non-farm, and recommends that vocational agriculture

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[1]Rufus M. Stimson, Vocational Agriculture Education By Home Projects (New York: The MacMillan Company, 1919), pp. 19-20.

be broadened to include non-farm agricultural occupations as well as the farming occupations. As a result vocational agriculture should grow in enrollment and in the scope of its offerings. Furthermore, it should serve urban as well as rural students, both boys and girls.

The Louisiana State Plan for Vocational Education 1964-1968 outlines the phase of vocational agriculture pertaining to non-farm agricultural work experience as follows, (Paragraphs 8.11-2, 8.12, 8.13-12).

"Programs of instruction shall be provided for youths and adults who have occupational objectives in agricultural jobs off-the-farm. Instruction will be based on the vocational objectives of the enrollees and supplemented with appropriate supervised work experience for each stated objective. Instruction shall be offered for those who are preparing to farm and for those with occupational objectives in vocations requiring competencies in plant and animal sciences, agri-business, or farm mechanics or any other occupation involving agricultural applications. The organization and content of the instructional program for those with occupational objectives in related fields shall be determined on the basis of individual needs, carried out by the enrollee to provide practical application of skills, knowledges, and techniques requisite to success and advancement in the enrollee's career objective. These work experiences shall be under the supervision of the agriculture teacher and carried out under the terms of a written agreement between the employer, the work experience trainee, and the school."[2]

---

[2]Louisiana State Department of Education, Division of Vocational Education, The Louisiana State Plan For Vocational Education For 1964-1968, pp.78-79.

For a number of years agriculture teachers and staff members have observed a marked increase in the number of non-farm occupations where education in agricultural subjects is essential. In 1965 a comprehensive study was conducted by the College of Agriculture at the Louisiana State University to determine the employment opportunities and needed competencies for workers in Louisiana.

One section of the study identified specific agricultural businesses in which the workers were required to have certain agricultural competencies as a prerequisite of their employment. Opportunities for non-farm agricultural employment were found in eight occupational families; these were determined to be:

Farm Machinery Sales and Service

Farm Supplies and Equipment

Livestock and Poultry

Crops, Forestry and Soil Conservation

Ornamental Horticulture

Wildlife and Recreation

Farm Services

Agricultural Service[3]

Numerous opportunities for training students are found within each of the eight families since each is composed of many specific occupations.

---

[3]Clifford L. Mondart, Sr. and Charlie M. Curtis, Occupational Opportunities And Training Needs For Non-Farm Agricultural Jobs In The Metropolitan Areas of Louisiana (Baton Rouge: Department of Vocational Education, College of Agriculture, Louisiana State University, February, 1965), pp. 15-18.

Little, if any, attempt has been made to train students in a realistic manner for job-opportunities in these areas of employment previously. Now, through enabling legislation, public awareness and teacher enthusiasm, instructors may proceed to develop programs whereby these gaps in the educational program can be closed and the student who graduates in vocational agriculture will be in a position to make job entry into these occupational areas with qualifications heretofore not possessed.

In implementing a program of instruction involving student placement in occupations for work experience, a teacher must become familiar with the laws and policies which affect such a program. He must also devise an organized system whereby he can co-ordinate the program between the student, the classroom and the training station. It is important that school administrators, principals and guidance counselors along with the advisory committeemen, employers and parents understand the total program thus insuring its success.

Broadly speaking, vocational agriculture in the high school will take on the appearance of a two-fold program of instruction. This will mean the offering of a choice of two options to the student, one of which is the supervised farming program for those who are interested and have the potential of becoming farmers. The second option will be cooperative non-farm work experience in an agriculturally related business for those students who plan a career other than farming. Either of these options will be preceded by two years of study in applied

animal science, applied plant science, leadership activities, farm mechanics and supervised experiences which should provide a basic knowledge for any person employed in agriculture.

The supervised farming program phase will remain a part of the program. However, at the end of the second year of study those students who desire training in the cooperative non-farm agricultural business work experience program will branch off from the conventional supervised farming program instruction and will apply for placement in related occupations of their choosing. Classroom instruction at this point will become more specialized to meet the needs of students on an individual study basis.

Having briefly described the direction in which the vocational agriculture program is moving, an expansion will be made upon a specific component of the course, the placement of students in private agricultural business for work experience training.

The work experience program is concerned with the following:

Essential Procedures

1. Planning the work experience program
   - A. Surveying the community to determine the businesses related to agriculture.
     - (1) Surveying these businesses to determine the agricultural occupations involved in them.
   - B. Surveying the students to determine what their occupational objectives are.
   - C. Familiarizing the principal and counselor with the program and securing their cooperation.

D. Becoming familiar with the laws and policies which will affect the program.

E. Establishing policies related to students.

F. Laying out the steps to be followed and scheduling them in a timetable sequence.

2. Initiating the work experience program

A. Publicizing the program

B. Organizing the advisory council

C. Selecting the students

D. Meeting with parents for orientation purposes

E. Establishing the training stations

F. Assisting students in scheduling classes

G. Setting up courses of study and training schedules to fit individual occupational objectives

H. Securing work permits and certificates for student-learners

3. Supervising the work experience program

A. Employer's responsibility for supervision of student

B. Teacher's responsibility for supervision of student

4. Evaluating the work experience program

A. Program evaluation by the teacher

B. Program evaluation by the student

C. Program evaluation by former students

D. Program evaluation by employers

E. Program evaluation by the advisory committee

Definition of Terms

Cooperative. Denotes that the program involves cooperation between the school and private businesses in the community.

Non-Farm Agricultural Business. A business which involves certain agricultural competencies but is not engaged in the actual production of food and fiber.

Work Experience. The opportunity to learn by actual participation in live activities involved in the performance of duties.

Student-Learner. The student enrolled in the cooperative work experience program.

Student-Learner Certificate. A certificate which will enable students enrolled for cooperative occupational experience to be exempt from certain provisions of the Fair Labor Standards Act.

Work Permit. A permit issued by the Parish School Superintendent permitting a student to do certain types of work.

Hazardous Occupations. An occupation considered dangerous and injurious to the health and well-being of minors up to 18 years of age as designated by the Secretary of Labor.

Trainee Supervisor. That person who is responsible for the student's training program in the business.

Training Station. The business where the student receives his training. Sometimes called training center.

Trainee. The student receiving training.

Co-ordinator. The teacher responsible for carrying on the program.

Advisory Council or Committee. A group of persons, representing the community, who assist the teacher in an advisory capacity in establishing policies, evaluating and publicizing the program.

Apprentice. Sometimes used in referring to student-learner or trainee.

STEP I

PLANNING THE WORK EXPERIENCE PROGRAM

Since the primary purpose of this study is to propose a systematic method of carrying out a non-farm work experience program for high school students studying vocational agriculture, the following pages will outline the necessary steps in developing the program and suggest activities which the teacher should employ in dealing with them. These steps or procedures are discussed in chronological order as related to their place in the total program.

Before the teacher should attempt to initiate a program involving the placement of students in private businesses for work experience training there is some essential "ground-work" which should be laid. This preparation is a must if he is to proceed intelligently in executing the program. Certain information is necessary and certain arrangements must preceed the actual launching of the work experience program. The following suggestions are offered as a means of securing this foundation upon which the program will be based.

Surveying the Community

The businesses related to agriculture which are found within the community will determine to a large extent the opportunities for carrying

on a work experience program in the local department of vocational agriculture. Since this is the determining factor for deciding whether or not such a program is practical, the teacher should discover just what agricultural businesses are available to his students. This may be done in several ways. The instructor may utilize the yellow pages in the local telephone directory, consult with the local chamber of commerce, the employment security office and, of course, he will doubtlessly have a knowledge of some agricultural businesses through his own familiarity with the community. At any rate a comprehensive list of these businesses which are located in his community should be developed.

Surveying the Agricultural Businesses

After determining the agricultural businesses found locally, the teacher should then proceed to determine just what agriculturally oriented occupations make up each of the establishments. It follows that he should also seek to identify the various competencies involving agriculture which these occupations require. The purpose of this survey is merely to identify the opportunities for employment found locally and determine the knowledge which is considered important in these various jobs. The teacher is not concerned at this point with establishing working agreements with these businesses. This will follow later after determining the occupational objectives of his students.

A cooperative study by several teacher training institutions has suggested instruments for obtaining this information. For those teachers who may not already be familiar with these forms they are included in the Appendix on pages 56 - 63.

Student Surveying

After the student has completed two years of study in vocational agriculture he chooses whether to follow one of two options, either production farming for those who intend to farm or else non-farm agriculture for those who would like to receive training in businesses which are related to agriculture. Those of the latter group will then make application for enrollment in the non-farm work experience program. This application along with other pertinent information will indicate the student's occupational objective he will have an opportunity to list his first and second choice. The teacher after carefully studying the information will decide whether or not to accept him in the program. This decision will also be based on other information the teacher and guidance counselor will possess such as that from the personal interview and opinions formed from teaching the student for two years previously. An instrument for use in determing the student's occupational objectives is provided in the Appendix on pages 66 and 67

Familiarizing School Personnel

Once the teacher has completed the surveys to determine the opportunities available in his community and the occupational objectives of his students, he should be prepared to discuss his program with the school personnel, especially the principal and the counselor. Whether or not the program will be a success is largely determined by how well the principal regards it since he is in charge of scheduling classes and permitting the student to possibly leave school early. The principal

is also the person who can see to it that the teacher's schedule allots him the necessary time for co-ordinating and supervising the program. The counselor can have a direct influence upon the program in a favorable way once he becomes convinced of its worthiness. Good counseling may assist significantly in routing desirable students into the program as well as guiding students away from the program if it is believed that such students would not fit well into an atmosphere where initiative for self-improvement is essential.

The teacher should be able to explain the program to those concerned and to give illustrations of opportunities for valid vocational instruction based upon the student's occupational objectives. He should be able to outline the types of cooperation he will need from these school personnel in developing a work experience program and secure their support.

Establishing Policies Related to Students

The teacher should establish certain policies regarding students based upon the nature of the program as well as certain state and federal regulations which he must comply with in dealing with a program in which minors are employed.

Eligibility of Students. A student participating in the cooperative non-farm work experience program should, due to the nature of the program, meet certain qualifications.

First, he should have completed two years of vocational agriculture in a four year program, thereby giving him some degree of proficiency and understanding of agricultural subjects.

Second, he should reach the age of 16 before the end of the first semester. If he is to be employed under a student-learner certificate he will have to be 16 before he is eligible for the certificate.

Although a student may be eligible for placement according to the above requirements, he must be interested in preparing for the occupation and have the ability and aptitude for it. Under no circumstances should the time of the instructor, the employer or the student be wasted in merely providing a "job" for students whereby they can receive pay. This is to be an instructional training program, not merely an employment program.

Hours of Training. The student may spend any number of hours at the training station provided that the total of these hours plus those spent in school does not exceed 40 hours per week. Sufficient time should be spent in training to permit adequate experience for the student and adequate opportunity for instruction and observation.

The normal situation would be for the student to spend 5 hours per day in school and 3 hours per day in training. When school is not in session the student may work additional hours provided they do not exceed 8 hours per day and a total of no more than 40 hours per week in training or in school plus training.

Pay for Students. Students must be paid for the time spent on the job in the training station at the same rate as other employees of the same age or experience. Employers may obtain a Student-Learner Certificate allowing them to pay 75% of the minimum wage for a portion of the training period.

Length of Employment. Students must be employed in an occupation at a training station for enough time to justify the program. This may vary according to the occupation and the amount of training at the center.

Travel. The student will be responsible for his own travel to and from the training center. Preferably, the training center approved should be within a reasonable travel distance from the school and home of the student in order to reduce the amount of travel required.

Individual Training Plan. An individual training plan will be worked out for each student. A course of study for his classroom instruction in vocational agriculture and a training outline for his occupational training at the training station are necessary.

Employment Authorization. No student may be employed without first obtaining a work permit from the parish superintendent of education. Student-learners may be employed in certain "hazardous" occupations provided that certain written agreements are executed. (See Appendix under Hazardous Occupations, Order No. 5 paragraph on exemptions).

Departmental Records. The teacher, after receiving the student's application for enrollment in the Non-Farm Work Experience Program, should prepare a personnel form concerning the student and keep this record in the departmental file for future reference. Essentially it should contain the information found on the student's application plus certain material which would be found in the student's cumulative records. A suggested form for this information is found in the Appendix on pages 64 and 65.

State Laws Pertaining to Employment of Minors

In order that a teacher may anticipate any complications of enacting a program which possibly may deal with many of several hundreds of occupations, the Louisiana laws pertaining to these situations are set forth. It is suggested that any teacher working with students in non-farm agricultural occupations become aware of these provisions and incorporate them into his program. The launching of any program of student employment with a disregard of these provisions would certainly lead to embarrassment of the teacher and possibly endanger the success of his program.

Louisiana Child Labor Law. No minor under the age of 18 shall be allowed to work in any gainful occupation until the employer has procured and has on file an employment certificate for such minor issued by this department.

No minor under the age of 18 shall be employed in any gainful occupation for more than 8 hours in any day or more than 44 hours or 6 consecutive days in any one week.

No boy between the ages of 16 and 18 may be employed before the hour of 6:00 A.M. or after the hour of 10:00 P.M.

No girl under the age of 18 and no boy between the ages of 14 and 16 may be employed before the hour of 6:00 A.M. or after the hour of 7:00 P.M.

No minor under the age of 18 (except those indentured as apprentices in accordance with Act 364 of 1938), shall be allowed to work:

1. In the oiling, cleaning or wiping of machinery or shafting or applying belts to pulleys
2. In or about any mine or quarry
3. In or about places where stone cutting or polishing is done
4. In or about plants manufacturing explosives or articles containing explosive components or in the use or transportation of same
5. In or about plants manufacturing iron or steel, ore reduction works, smelters, foundries, forging shops, hot rolling mills or in any other place in which the heating, melting, or heat treatment of metals is carried on
6. In the operation of machinery used in the cold rolling of heavy metal stock, or in the operation of power driven punching, shearing, stamping, metal plate bending, or metal planning machines
7. In or about sawmills or cooperage stock mills
8. In the operation of power-driven woodworking machines, or off-bearing from circular saws
9. In logging operations
10. As driver of any motor vehicle used for commercial or industrial purposes or as a helper thereon the term "helper" being defined as any person other than the driver whose work in connection with the transportation or delivery of goods or commodities in or on a motor vehicle

11. In the operation of passenger or freight elevators or hoisting machines
12. In spray painting or in occupations involving exposure to lead or its compounds or to the dangerous or poisonous dyes or chemicals
13. In any place or establishment in which intoxicating alcoholic liquors are sold for consumption on the premises or in which such liquors are manufactured or bottled
14. In any other place of employment or in any other occupation that the commissioner of labor shall, after a public hearing thereon, determine hazardous or injurious to the life, health, safety or welfare of such minors.

This law does not apply to minors employed in agriculture or domestic service.

Penalties for violations of this law range from fines of $50.00 to $250.00 and/or prison terms from 30 days to three months.

Employment Certificates and Street Trade Permits are obtained in all parishes (except Orleans) from the Parish Superintendent of Schools, located in the parish seat of each parish.

For further information regarding the employment of minors write for a pamphlet entitled, "Labor Laws Relating to Women and Children" in care of the Commissioner of Labor, Baton Rouge, Louisiana.

Laws pertaining to the employment of girls are not the same as those covering boys, therefore in the event that a teacher should have girls enrolled in a program of non-farm work experience he should

secure the above mentioned pamphlet and become familiar with those laws also.

The exceptions for minors employed in "agriculture" refer to farm employment, not farm related occupations in agricultural businesses.

Federal Laws Pertaining to the Employment of Students

In addition to the state laws which should be complied with, the teacher should also become familiar with the federal laws which apply to the practice of employing students in work experience programs. Some of the occupations which students will pursue will be those occupations that come under the U. S. Fair Labor Standards Act. It should be determined without doubt if any occupation chosen by the student is affected by this act. This should be done in order that no student, school or employer violates any of the provisions of the act, either willfully or unintentionally. The following information deals specifically with the provisions of this act as it relates to the employment of students in connection with the "Cooperative Non-Farm Agricultural Business Work Experience Program in Vocational Agriculture."

Hours. The number of hours at work and in school shall not exceed 40 hours per week. When school is not in session on any school day, the student-learner may work a number of hours in addition to the weekly hours of employment training, provided, however, that the total hours worked shall not exceed 8 hours on any such day. A notation should be made in the employer's records to the effect that school not being in session was the reason additional hours were worked on such a day.

During the school term when school is not in session for the entire week, the student-learner may work at his employment training a number of hours in the week in addition to those authorized, provided, however, that the total hours shall not exceed 40 hours in any such week. A notation should be made in the employer's records to the effect that school not being in session was the reason additional hours were worked in such week.

Wages. Students may be paid at a lower rate than the minimum set by law. This can be done only by making application for a student-learner certificate and receiving approval. This application shall be filed by the employer with the authorized representative of the Administrator at the appropriate Regional or Territorial Office of the Wage and Hour and Public Contracts Divisions, United States Department of Labor. (The Regional Office serving Louisiana is located at 1931 North Avenue South, Birmingham, Alabama,)

This certificate allows the employer to pay the student-learner at a wage rate of 75% of the minimum wage. It is suggested that a progressive wage schedule be proposed. If this is done the starting rate must not be less than 75% of the minimum wage.

If the occupation in which the student is employed is not covered by the minimum wage law, the appropriate wage shall be determined by the employer and the advisory committee. Several bulletins are available concerning the employment of minors, and a list of those pertinent will be found in the Appendix on page 72.

Student-Learner Certificates

As an essential part of the planning phase of the program, teachers should become well acquainted with the use of student-learner certificates.

Under regulations established pursuant to both the Fair Labor Standards Act and the Walsh-Healey Public Contracts Act student-learners may be employed at wages below the minimum wages established under those acts in accordance with certificates issued by the Wage and Hour and Public Contracts Divisions of the U. S. Department of Labor. The employment of student-learners at special minimum wages is subject to Regulations, part 520, issued under the authority of section 14 of the Fair Labor Standards Act. Section 50-201.1102 of the general regulations under the Walsh-Healey Public Contracts Act recognizes the standards and procedures of Regulations, part 520, as applicable to the issuance of certificates permitting employment of student-learners at special minimum wages in the performance of Government contracts.

Coverage. The Fair Labor Standards Act applies to employees (including student-learners) engaged in interstate commerce or in the production of goods for interstate commerce, including any closely related process or occupation directly essential to such production, unless specifically exempt by some provision of this act. The act also applies to employees (including student-learners) who are not themselves engaged in or producing goods for commerce but who are employed in certain large enterprises engaged in commerce or in the production of goods for commerce. Popularly known as the Federal Wage and Hour Law, this

act establishes minimum wage, child labor, and maximum hours and overtime standards for employment subject to its provisions.

The Walsh-Healey Public Contracts Act applies in general to all contracts entered into by the Government for the manufacture or furnishing of materials, supplies, articles or equipment in any amount in excess of $10,000. This act requires the payment to employees engaged in the performance of such contracts of not less than the minimum wage determined by the Secretary of Labor to be prevailing for the industry. In addition, the Public Contracts Act contains special provisions for safety and health standards, restrictions against the use of child labor and convict labor, and special provisions for the payment of overtime for work subject to the act.

Special situations which may arise under these two acts are explained under "certificates." The Wage and Hour and Public Contracts Divisions will make available upon request bulletins on the coverage of these acts. If in doubt as to whether either or both of these acts apply to a particular type of employment, a letter setting forth the facts of your situation should be sent to the regional office of these Divisions which serves your area.

Who is a Student-Learner? As defined in the regulation, a student-learner is a student who is receiving instruction in an accredited school, college or university, and who is employed on a part-time basis pursuant to a bona fide vocational training program administered by his school. A bona fide vocational training program is one authorized and approved by a State board of vocational education or other recognized educational

body. Such programs must provide for part-time employment training supplemented by and intergrated with a definitely organized plan of instruction designed to teach technical knowledge and related industrial information which is given as a regular part of the student-learner's course of study in the educational insitutiton he attends. Such programs may be in retail and service occupations as well as in trade and industrial skills.

Who May File. Whenever it is believed necessary in order to prevent curtailment of employment opportunities, application may be made for a certificate authorizing an employer to pay student-learners special minimum wages below the applicable statutory (or wage order) minimum wage under the Fair Labor Standards Act or below a minimum wage determination under the Walsh-Healey Public Contra ts Act. A separate application on official forms furnished for the purpose must be filed by the employer for each student-learner. Parts of this application are best completed by a school official, other parts by the employer. The appropriate school official, the employer, and the student-learner must sign the application. Before a certificate can be issued, the conditions specified in section 520.5 of the regulation must be met. (See Conditions Governing Issuance, page 30)

Where to File. Applications must be made on official forms supplied by the Divisions. The original of the completed application must be filed with the regional office of these Divisions serving your area. The regional office serving Louisiana is:

Regional Director

U. S. Department of Labor

Wage and Hour Division

1931 North Avenue South

Birmingham, Alabama

A copy must be retained in the employer's files. Additional copies may be made available to school officials and to the student-learner.

When to File. Applications should be filed 15 to 30 days in advance of the date the student-learner begins his employment so that the Divisions can take action on the application before employment begins.

Certificates Cannot be Issued Retroactively. Where the student's employment opportunity might be lost by delay in obtaining a certificate, section 520.6 (c) (2) of the regulation establishes a procedure for a temporary authorization. A description of this procedure appears at the top of the face of the application.

Age and Proof of Age. Minors under 16 years of age are not eligible for student-learner certificates. Furthermore, in occupations declared to be hazardous by the Secretary of Labor, the student-learner must be at least 18 years of age. (Hazardous Occupations Orders Nos. 5, 8, 10, 12, 14, 16, and 17, permit student-learner employment at 16 and 17 years of age under certain specified conditions.) For information concerning child-labor provisions of the Fair Labor Standards Act, see Child-Labor Bulletin No. 101. The Appendix contains the regulations pertaining to those occupations considered hazardous, see pages 93 - 109.

For employment subject to the Walsh-Healey Public Contracts Act, male employees must be at least 16 years old and female employees must be at least 18 years old.

In addition to entering the student-learner's birth date in item 3 of the application, the employer should obtain and keep on file an employment or age certificate showing the student-learner to be at least the minimum age for the occupation in which he is employed. In 45 States, the District of Columbia, and Puerto Rico, State employment and age certificates are accepted as proof of age under the child-labor provisions of the Fair Labor Standards Act. (Such certificates also provide assurance that the employment is in compliance with the requirements of the State child-labor law.) In four States, Idaho, Mississippi, South Carolina and Texas, where state age and employment certificates are not available, Federal certificates of age may be obtained within the State from the Wage and Hour and Public Contracts Divisions. Special arrangements have been made in Guam and Alaska. For information concerning proof of age in these areas consult the nearest office of the Wage and Hour and Public Contracts Division.

Period of Employment Training at Special Minimum Wages. A certificate may be issued only for that portion of the employment training period for which special minimum wages below and minimum wages under the Fair Labor Standards Act or the Walsh-Healey Public Contracts Act are necessary. This period may not exceed the length of one school year unless a longer period is found to be justified by

extraordinary circumstances which must be explained in detail at the time of application. No certificate shall authorize employment training beyond the date of graduation of the student-learner.

Employment training at special minimum wage rates during the summer vacation period will not generally be authorized. However, in exceptional cases summer employment training may be authorized when it is an integral part of the vocational training program. Requests for summer vacation employment must be accompanied by a statement explaining the extraordinary circumstances justifying this employment, including the number of hours per week for which special minimum wages are requested.

In item 16 of the application, show only the number of weeks of employment during which special minimum wages will be paid. The beginning and ending dates of employment shown in items 8 and 9 should coincide with this period.

Hours of Work and School Instruction. The term "hours of school instruction" applies to all hours spent by the student-learner in actual classes of school instruction and does not include school hours spent in study hall, home room, and activity periods for which no academic credit is given.

The combined hours of school instruction and employment training authorized under a certificate may not exceed 40 hours a week unless justified by extraordinary circumstances. Such extraordinary circumstances must be explained in detail in a statement submitted with the

application. Hours at special minimum wages in addition to those authorized on a certificate may be worked provided that the total hours worked do not exceed:

(a) 8 hours on any school day when school is not in session;

(b) 40 hours in any week during the school term when school is not in session for the entire week.

The employer shall note in his records the number of such additional hours and that they were worked because school was not in session.

A Student-Learner May Not be Employed in Any Week at Special Minimum Wage Rates for Hours in Addition to Those Authorized in the Paragraph Above. In item 17 of the application, show only those hours of employment during a week the employer intends to pay wages below the applicable minimum wage under the Fair Labor Standards Act or below the wage determination minimum applicable under the Public Contracts Act.

Wage Rates. The hourly wage rate shall be not less than 75 percent of the applicable statutory minimum wage under the Fair Labor Standards Act. It is suggested that consideration be given to the payment of a progressive wage schedule, particularly if a full school year of employment training at special minimum wages is requested. If a progressive wage schedule is proposed, the special minimum starting rate must be not less than 75 percent of the applicable statutory minimum. In item 18, show only those wages which are below the applicable minimum wage under the Fair Labor Standards Act. (This paragraph also applies to work subject to Public Contracts Act wage determinations.) (See special situations under Walsh Healey Act)

Certificates. The original of the student-learner certificate will be mailed directly to the employer. Two copies will be mailed to the appropriate school official, one to be retained for his records and the other to be presented to the student-learner. Applications Which Do Not Contain All Requested Information May Be Returned For Completion Before Action Is Taken. Student-learner certificates can be issued with a minimum of delay where the application provides the details requested. For additional information or application forms, communicate with the regional office of these Divisions which serve your area.

Special Situations Under The Walsh-Healey Public Contracts Act. The general provisions of this act are explained in the introduction to this guide. The general regulations under the Public Contracts Act permit the employment of student-learners at wages below prevailing minimum wage determinations made under this act in accordance with the same standards and procedures as are prescribed for their employment at wages below the minimum wage applicable under the Fair Labor Standards Act. The provisions of Regulations, part 520 and the instructions in this guide apply to student-learners employed in the performance of Government contracts subject to the Public Contracts Act. Special situations may arise where the employment is subject to differing rates of pay under the two acts or is subject only to the Public Contracts Act.

An employer who holds or who obtains a student-learner certificate issued in order to prevent curtailment of opportunities for

employment under the Fair Labor Standards Act may employ the named student-learner in the performance of a Government contract subject to the Public Contracts Act at the authorized special minimum wage and in accordance with the terms specified in that certificate.

An employer may not need a student-learner certificate in order to prevent the curtailment of employment opportunities under the Fair Labor Standards Act or his employees may not be subject to that act. In either case, an employer performing a Government contract subject to a minimum wage determination under the Public Contracts Act may, upon proper application, be issued a certificate authorizing a special minimum wage rate not less than 75 percent of the minimum wage determination applicable to the contract being performed. Employment under such certificates is subject to the standards and procedures of Regulations, part 520.

Compliance. Certificates may not be issued if there are serious outstanding violations of a student-learner certificate previously issued to the employer or if there are serious violations of other provisions of the Fair Labor Standards Act by the employer which provide reasonable grounds to conclude that the terms of the certificate would not be complied with, if issued. Moreover, no certificate permitting a wage lower than the statutory minimum under the Fair Labor Standards Act or a Public Contracts Act minimum wage determination will excuse non-compliance with the child-labor, overtime, or other provisions of these acts or the regulations issued thereunder.

A certificate may be withdrawn if it is no longer necessary to prevent curtailment of opportunities for employment or if the employer fails to comply with the limitations in the certificate or otherwise violates the act.

Conditions Governing Issuance of Special Student-Learner Certificates. The following conditions must be satisfied before a special certificate may be issued authorizing the employment of a student-learner at subminimum wages:

(a) Any training program under which the student-learner will be employed must be a bona fide vocational training program;

(b) The employment of the student-learner at subminimum wages authorized by the special certificate must be necessary to prevent curtailment of opportunities for employment;

(c) The student-learner must be at least 16 years of age (or older as may be required pursuant to paragraph (d) of this sub-section);

(d) The student-learner must be at least 18 years of age if he is to be employed in any activity prohibited by virtue of a hazardous occupation order of the Secretary of Labor; (See Hazardous Occupations in the Appendix).

(e) The occupation for which the student-learner is receiving preparatory training must require a sufficient degree of skill to necessitate a substantial learning period;

(f) The training must not be for the purpose of acquiring manual dexterity and high production speed in repetitive operations;

(g) The employment of a student-learner must not have the effect of displacing a worker employed in the establishment;

(h) The employment of the student-learners at subminimum wages must not tend to impair or depress the wage rates or working standards established for experienced workers for work of a like or comparable character;

(i) The occupational needs of the community or industry warrant the training of student-learners;

(j) There are no serious outstanding violations of the provisions of a student-learner certificate previously issued to the employer, or serious violations of any other provisions of the Fair Labor Standards Act of 1938, as amended, by the employer which provide reasonable grounds to conclude that the terms of the certificate would not be complied with, if issued;

(k) The issuance of such a certificate would not tend to prevent the development of apprenticeship in accordance with the regulations applicable thereto or would not impair establishment apprenticeship standards in the occupation or industry involved;

(l) The number of student learners to be employed in one establishment must not be more than a small proportion of its working force;

(m) The special minimum wage rate shall not be less than 75 percent of the applicable minimum under section 6 of the Act; and

(n) No special student-learner certificate may be issued retroactively.

Employment Records to be Kept. In addition to any other records required under the record-keeping regulations, the employer shall keep the following records specifically relating to student-learners employed at subminimum wage rates.

(a) Any worker employed as a student-worker shall be identified as such on the payroll records, with each student-learner's occupation and rate of pay being shown;

(b) The employer's copy of the application, which is serving as a temporary authorization must be available at all times for inspection for a period of three years from the last date of employment of the student-learner; and

(c) Notations should be made in the employer's records when additional hours are worked by reason of school not being in session.

Duration of Certificates. A special student-learner certificate may be issued for a period not to exceed the length of one school year unless a longer period is found to be justified by extraordinary

circumstances. No certificate shall authorize employment training beyond the date of graduation.

Application for Student-Learner Certificate Form. The Appendix contains a sample of the application for a certificate to employ a student-learner. It has been filled in with the required information (a hypothetical case). This should serve as a guide in the completion of the application under actual conditions, Appendix pages 68 - 70.

Suggested Chronological Procedures For Setting Up and Carrying Out the Training Program.

January

1. Familiarize school personnel with the proposed program and secure their approval and support.
2. Survey the community to locate agricultural businesses, determine existing job titles, and the agricultural competencies needed.

February

1. Publicize the program to create student interest.
2. Organize the advisory committee, establish policies regarding students and training centers, and publicize the program.
3. Survey the students to determine their occupational objectives.
4. Interview the students and their parents to determine their cooperation and sincerity of purpose -- select desirable students.

March

1. Secure cooperation of businesses that afford training in the desired occupations for the following year.
2. Secure the advisory committee's approval of the training station to be used.
3. Assist the students in scheduling classes for the following year.

April

1. Draw up training plans and courses of study for individual students.

May

1. Carry out an evaluation of the previous year's program by all concerned.

June-July-August

1. Place students in their training stations and begin their actual training.
2. Provide close supervision until student and employer become adjusted, visiting each student approximately once each week.

September through May

1. Provide instruction in the classroom pertaining to the student's training program.
2. Provide supervision of the work experience program at monthly intervals and more often in cases where problems may occur.

STEP II

INITIATING THE WORK EXPERIENCE PROGRAM

Assuming that the necessary groundwork has been laid through a thorough job of planning, the next procedure is that of initiating or actually getting the program underway. Several activities are involved in actually beginning the work experience program, although there may be some overlapping in actual practice, an attempt has been made to present the procedures in chronological order.

Publicity

Students should be made aware of the work experience program and the opportunities it presents. To a large extent this may be accomplished in the classroom, however, school assemblies as well as the school newspaper will also serve effectively in informing those who may not already be studying vocational agriculture.

The general public should also be informed as to the expanded purpose of vocational agriculture as they will be instrumental in the program later on, this of course may be accomplished through frequent use of the newspapers, radio and television. Teachers should find greater success in launching their programs if some effort has previously been made to acquaint the community with the proposed modifications. Community support is essential and through a good publicity program much interest and support can be aroused.

Organizing the Advisory Committee

An advisory committee is a requirement of a successful work experience placement program in vocational agriculture. Any teacher

will find the backgrounds of those representing the various agricultural occupational families a source of valuable assistance. It would be wise when possible to select no less than one representative from each of the major occupational areas previously mentioned in the introduction.

Method of Appointing the Committee. To lend weight to the selection, it would be good when possible to have the committee members appointed by the superintendent. They should, however, be recommended by the vocational agriculture teacher. Members should be appointed for one year and reappointed only after they have demonstrated desirable participation.

Qualities of Members. Some of the desirable qualities of the members are that they should:

1. Be familiar with certain agriculturally related businesses.
2. Be influential persons who have the respect of the community.
3. Understand the program of vocational agriculture.
4. Understand the non-farm work experience program.
5. Be a cooperative person who works well with others.
6. Be willing to perform the work of the committee.

Representation on the Committee. Certain representation is desirable, the committee will most likely be effective if it is not too large. Some guidelines are as follows:

1. Composed of representatives from each agricultural occupational family.
2. Approximate size, around 12 members.

3. School should be represented by the teacher of vocational agriculture and possibly one administrator.

4. Training centers should be represented by one or two members (employers or student trainee supervisors).

Duties and Functions of Committee. No committee functions properly unless it has some clearly defined responsibilities and definite assignments of duty. Some of these are:

1. To advise upon approval or rejection of centers
2. To aid in planning a sound course of study for students.
3. To assist in informing the public.
4. To relay public opinion to the instructor.
5. To assist in locating new centers.
6. To assist in securing teaching aids, reference material, equipment, etc.
7. To review criteria for selecting training centers.
8. To render counsel and assistance on special problems and new undertakings.
9. To assist in adapting the program to changing conditions.
10. To review wages and make recommendations.
11. To evaluate program periodically and suggest adjustments.

Meetings of the Committee. The number of meetings held is not as important as the effectiveness of the meetings which are held. Each meeting should have a definite purpose, unless a definite reason exists no meeting of the committee should be called. Probably most meetings will be "called meetings" and it is questionable whether,

after the program is underway, there would be any need for "regular" meetings.

First Meeting.

(a) The vocational agriculture teacher should arrange for the initial meeting, plan the agenda and serve as the temporary chairman.

(b) Though some of the members will be familiar with the proposed program, he should review it for all.

(c) He should be certain that each member fully understands and agrees to carry out his duties and responsibilities.

(d) He should impress the committee with the nature of the advisory committee, that of advisory capacity.

(e) The committee should then elect a permanent chairman.

(f) Usually, in order to relieve members of necessary record keeping and paper work, the vocational agriculture teacher serves as secretary.

(g) Some of the later meetings should involve reports on:

(1) Enrollment

(2) Prospective training centers

(3) Progress of students

(4) General problems, etc.

(h) To insure good attendance, convenient dates should be selected for meetings, written notices of the meetings should be mailed shortly before meeting is to be held.

Selecting the Students

In choosing those students who are to be accepted for training in the work experience program, there are certain factors the teacher should consider.

First of all, the participants should possess the qualifications stipulated previously in discussing policies related to students. Once it has been ascertained that there are no short-comings in this area, the teacher should review the student's information sheet to determine the applicant's interests, dislikes, occupational objectives and records pertaining to his individual analysis.

Other factors should also be given careful attention in the selection of students for participation in the training program. It should be kept in mind that these students are actual representatives of the vocational agriculture department and the school. With that in mind care should be taken to select trainees who will be a credit to the program. This is not to say that the scholarship of the enrollee is of utmost importance, rather the character and sincerity of purpose are possibly even more important than is his academic prowess.

Certain employment situations require varying degrees of academic ability, the student should possess the necessary mental ability for understanding and performing the tasks involved in his particular training program. Often educators may mistake this type of program for one which is primarily intended for those who have little academic ability. This is not the case although it may

certainly provide opportunity for students of this calibre as well as the brighter group.

Some other points should be used as factors in accepting the student for placement in the work experience program. The parents' support should be secured. They should understand the purposes of the program and approve of the objectives which are to be attempted.

The student should not be handicapped physically in any way which would prevent him from being able to carry out his duties.

His school attendance and punctuality may be reviewed by the teacher as a basis for predicting how responsible the student will be in his training situation.

Of necessity the students selected will also be determined by the opportunities offered which are accessible. No student should be received into the placement program if there is no training station available to give him training in his occupational objective, however, there may exist other opportunities which the student might benefit from almost as satisfactorily and he should be given the opportunity of deciding on an alternative training situation.

Selecting the students should involve the following:

1. Informing the students. Approximately six weeks before registration those students who have completed two years of vocational agriculture should be assembled for an orientation and have the program explained to them.

2. Filing of applications. After the student has received explanation of the purposes and objectives of the work experience

program, those who are interested should be given applications to complete requesting enrollment in the program, Appendix pages 66 - 67.

3. Screening of applicants. During the period of time following application for enrollment the teacher should personally interview each student and his parents giving particular consideration to the above points in an attempt to determine the acceptability of the student.

4. Informing the applicants. The students who have applied for enrollment in the program should be informed before pre-registration as to their acceptance. Those who are deemed well suited will then be able to register for the course. Those who for any reason cannot be placed should be counselled with and be made aware that they will not be placed in training stations and given the opportunity of electing another subject. If, however, they still desire to remain in the program, they should be required to have some other type of supervised activity and will receive such instruction as would be most fitting in light of their occupational objective.

Orientating the Parents

After familiarizing the students with the opportunities of the work experience program, the teacher should arrange for a meeting with the parents to determine their willingness to cooperate. Their approval and understanding is essential before the teacher attempts to establish a training station for a student.

One of the points which should be understood by parents first of all is that the purpose of the program is to train students for a particular occupation. The earning potential of the program is a secondary consideration. Parents should also be familiar with the restrictions imposed upon the student-learners by state and federal authority regarding placement and working hours.

Parents must accept the responsibility for assuring that the student meets his obligations to both the school and his employer. In addition, the necessary transportation arrangements for the students must be provided by the parents.

Establishing the Training Station

So that the training may be effective and worthwhile, the teacher should have some definite guidelines to follow in selecting training stations. Poor situations should be avoided if the program involving job placement is to succeed.

One of the important functions of the advisory committee is in assisting in the selection of the training centers. In order for the committee to serve effectively, the teacher should prepare a list of the types of training the students desire. The committee should then be able to select centers appropriate for the training. The following points should be kept in mind when deciding upon the desirability of the training station.

The center:

1. Must provide an approved occupation.
2. Should provide training, not merely employment.

3. Should involve training in all phases of the occupation.
4. Should provide supervision by qualified personnel.
5. Should provide satisfactory working conditions.
6. Should be a reputable company in the community.
7. Must have a good moral climate.
8. Should be interested in the student's training.
9. Employees should understand and appreciate the program.
10. Should be willing to provide adequate number of training hours.
11. Should lay off no regular employee to provide opportunity for student trainee.
12. Should offer opportunity in developing the student's ability to the point that he would be occupationally competent in another establishment.

In selecting the training station, or center, the committee should complete evaluation sheets for each center. These forms should be reviewed each year and brought up to date. In the event of any unusual situations, explanation should be given under "Remarks." If any center agrees to cooperate and then is not approved, the committee should advise the employer of the reason so that he may correct the condition. This should be done so that the prospective center could be used at a future time. This form is in the Appendix on page 71.

Employers should be recognized when they agree to and are approved for student-training. This may be done by the presentation of a certificate or plaque suitable for display in their establishment.

Assisting Students in Scheduling Classes

In initiating the work experience program another arrangement which the teacher should attempt to coordinate is the scheduling of the student's classes. It should be understood that the student's participation in the work experience program will be governed primarily by his academic schedule. In other words, his working hours must be adapted to fit his school program. By wise scheduling assistance, however, the teacher can usually adjust the student's classes so as to afford the maximum utilization of his opportunities.

Setting up Courses of Study and Training Plans

The courses of study should be set up at the beginning of the work experience program. This is an individually prepared outline containing such technical units of instruction as are deemed necessary in the occupation which the student has selected. This course is tentatively drawn up and will likely be revised and supplemented over the months during which the student is receiving training. It should, however, present a systematic proposal of the courses to be followed and studied so that the student may be able to identify his problem areas and thus strengthen his abilities for job performance.

The training schedule is an outline of the training program which the student is to be engaged in and the provisions by which he will be governed. It should be approved by all concerned. This schedule proposes the training the student is to receive during the year, stating the jobs to be learned and the approximate amount of time to

be spent in each. These jobs will involve the manipulative skills, knowledge and abilities which make up the occupation.

As the student completes the planned courses of study and the planned training plan, a notation should be made in the two outlines so that a current record of his progress may be maintained. This record should also be transferred to his Supevised Work Experience Record Book. Instruments for use in developing the courses of study and outlining the training plan as well as keeping a record of the hours planned and completed in each are provided in the Appendix on pages 75 - 76.

Securing Work Permits and Certificates for Student-Learners

Before actually placing the student in the training station, the teacher should have him secure a work permit. The local school superintendent is responsible for issuing the permit. In cases where a student-learner certificate is needed, the procedures have been outlined in pages 20 through 32. Failure to secure these authorizations will immediately jeopardize the program. It is therefore of utmost importance that the teacher not neglect this step in initiating the program.

STEP III

SUPERVISING THE WORK EXPERIENCE PROGRAM

Once the student has been placed in a training station the need for supervision becomes immediate. The most critical supervision is that of the employer or trainee supervisor. He should begin showing and explaining to the student those skills and procedures necessary in the performance of his duties.

The early stages of the training situation also demand more supervisory attention from the teacher. He should stay abreast of what the student is experiencing in the training center and thus be able to give intelligent assistance in the classroom phase of the instructional program.

One of the reasons for recommending that the work experience program enroll only approximately ten students per class is to permit the teacher thirty minutes each week for consultation with each student regarding his specific training program. This form of supervision can be quite beneficial in validating the student's training program. The student will have an opportunity to present his individual problems. This will afford the teacher the necessary insight into these areas which otherwise might escape his attention. Timely suggestions and meaningful assistance on the part of the teacher are important in a dynamic program of this nature. The lack of opportunity for constructive supervision at the time it is needed can lead to a steadily worsening situation which could most likely be avoided if anticipated in time.

Employer's Responsibility for Supervision

The importance of the contribution toward the student's learning made by the training supervisor cannot be overemphasized. He is the key man in the training program in assuring the making of the student a well prepared individual, capable of entering the work world with a valuable understanding of his selected occupation.

The employer, after having assisted in setting up the training outline, should provide instruction in such a manner that it will be understood by the student. He should see that no step, job operation, or procedure is omitted. It is to be expected that a certain amount of overlapping will occur as the students are trained in the various jobs. Therefore it is not intended that the student receive only specific instruction in one job at a time as they are listed in the training plan.

The underlying purpose of all supervision is to improve performance. This being the case then it is natural to expect that the supervision provided by the employer should be of such nature that this purpose will be acheived. The amount and type of supervision will doubtlessly have an effect upon how well the student performs his responsibilities. Certain basic characteristics of the student lend themselves well to a system of measurement by the employer. This evaluation can be understood by the teacher and it will pinpoint some areas in which he may help the student to improve. Thus it is suggested that a rating technique be devised whereby the teacher may determine just how well the student is developing on the job. This instrument

may also prove helpful in the actual grading of the student by the teacher as the marks which he receives in the course should reflect not only his classwork, but also that work which he performs in the training center. An instrument for this purpose is provided in the Appendix on pages 77 - 79.

Teacher's Responsibility for Supervision

The agriculture teacher should not depend wholly upon the employer for the supervision of the student in the training situation. The instructor should make training station visitations frequently. The exact number of visits cannot be predicted because of variations in the number of problems that arise in any given situation, variations in the calibre of the student, variations in the adequacy of training supervision provided by the firm, and the like. Largely, the supervision of the teacher will consist of observation and require frequent consultation with the employer in an attempt to determine whether satisfactory progress is being made by the student-learner.

Some visitations are routine and others result from problems reported by the student or employer. In the event dissatisfaction occurs on the part of the student-learner or the job supervisor during the program to the extent that the educational objectives of the student, the reputation of the program, or the successful operation of the business is in jeopardy, a three-way conference should be held among the teacher, the job supervisor, and the student. A positive solution is desirable. If that is impossible, then the student should be removed from the training station at the most opportune time.

There may be a tendency on the part of the agriculture teacher to assume that the training station personnel know their responsibilities for on-the-job instruction and will carry them out efficiently. Unfortunately, employers and employees often may tend to neglect their responsibilities for instruction of the student. Improving instruction at training stations is a continuous task for the coordinator, particularly as personnel are changed and as individual student-learners grow and develop.

The teacher should, when making his routine supervisory visits, take note of any points of any situations which call his attention to needs of the student and be able to make suggestions for improvement. The instructor will also find that students will respond usually by even greater effort when the teacher recognizes any strong points and compliments them accordingly. It is just as important that these notations also be made for future use. Possibly a check-list could be developed for use in the student visitation practice, however, probably simply a diary of observations would serve as well to record impressions of the visit. As a rule of thumb the effective teacher-coordinator should attempt to make no less than one visit per month and devote at least a half hour per week per student for conferences pertaining to his individual work experience in the training station.

In connection with supervision, the teacher should see to it that the student keeps a current record of his hours and earnings while participating in the program. To some degree, his progress and the employers satisfaction are reflected by this record. A form to serve this purpose will be found in the Appendix on page 80.

STEP IV

EVALUATING THE WORK EXPERIENCE PROGRAM

Evaluation is a logical procedure for improving any educational program. By evaluation teachers are able to identify the strengths and weaknesses of what they are doing and attempting to do in the occupational training of the students. Sound evaluation must be based upon a clear understanding of the objectives of the program and their relationship to the school and community.

The objectives of the local program must fit in with the objectives of the state and national programs to be acceptable. Thus the teacher should understand just what these objectives are if he is to be able to evaluate the program effectively. The total vocational agriculture program for high school students has been expanded to include some objectives which it formerly did not consider. Those now recognized are:

1. To train for proficiency in farming.
2. To train for entry into agricultural occupations other than farming.
3. To provide education and supervised experiences for students who are preparing for professional agricultural occupations requiring college training.

In this work, however, the primary interest is in the evaluation of only the work experience program in non-farm agricultural occupations. The objectives of this part of the total program include

only the second and third of the above objectives. In evaluating the work experience program several points should be considered, not only from the teacher's stand-point but also from others involved.

Before instruments of evaluation are reviewed, it may be wise to recognize that there are some significant questions which need to be answered. Some of these are:

1. What number of students have acquired salable skills?
2. What number of students are placed successfully in related jobs?
3. Is occupational guidance provided for students during the four year vocational agriculture program?
4. Is there an instructional program with co-ordinated work experience training?
5. Is there favorable reaction to the program from school personnel, students, parents and people in agri-business?
6. Is training provided at all levels of employment -- professional, technical, agricultural service, managerial, supervisory sales, clerical, skilled semi-skilled?
7. Is there a reasonable number of students being served to justify the cost of the program?
8. Is the program being provided that will fit into the educational system of the school?
9. Is there an effective follow-up of the former students?
10. What has been done to keep the public informed of the progress of the program?

11. Is the program being evaluated frequently?

Evaluation in non-farm work experience programs should consist of program evaluation by the teacher, the student, former student, the employer and the advisory council.

Program Evaluation by the Teacher

Teachers should find a thorough evaluation of the work experience program beneficial in many respects. It should prove quite helpful in program planning in that it would point out areas of weakness and those which have strengths thus permitting the teacher to improve the program from year to year. By evaluating the program from year to year the teacher will be better able to discuss the shortcomings and accomplishments with school administrators and others who may be interested. Valid judgment can only be based upon actual true evaluation, without which conclusions are apt to be erroneous and misleading. Since the work experience program involves several groups of people it is essential that each of these groups participate in the evaluation, thus giving an insight into how well the program is developing from the various vantage points. An instrument for the teacher's evaluation of the program will be found in the Appendix on page 81 - 82.

Program Evaluation by the Student

Since the primary purpose of the non-farm work experience program is to serve the student in preparing him for an occupational objective it is important that teachers secure his opinion of how well his needs are being met. No one of the other groups will better be

able to determine this on an individual basis than those students which are involved. Of course, their opinions will be limited in scope in that they will evaluate the program only as to how well it is meeting their individual needs, this judgment is of no less importance, however, since the purpose of the program is to provide worthwhile learning experience to all involved. This evaluation will also be of benefit in indicating to the teacher problems of which otherwise he would not be aware. The Appendix contains a suggested instrument for obtaining this information on pages 83 - 85.

Program Evaluation by Former Students

Follow-up evaluation is of importance in that the purpose of the work experience is to prepare the student for work in later life. How well the program is accomplishing this objective can best be determined through the opinions of those students who have completed the program and graduated from high school. The teacher should remain in contact with those students following their high school graudation and in a reasonable length of time after they have been employed secure their evaluation of the work experience program. An instrument for such an evaluation is contained in the Appendix, see pages 86 - 87.

Program Evaluation by Employers

The employer is involved in the rating of students each six weeks to determine how well the student is progressing and again at the end of the year to evaluate the total progress made by the student during the year. This evaluation or rating, however, does not involve

the evaluation of the total program. The light in which the employer sees the total program is significant in that he is in a position to offer constructive suggestions for improving the program in such a way to contribute to the effectiveness of the classroom instruction in meeting the specific needs of the student. The employer evaluation consists primarily in his judgment of the instructional areas. He should rate the areas as to their importance in contributing to the successful training for a person engaged in the various occupations involved in his business. This evaluation should be determined at the time of placing the student in the business to thereby enable the teacher to effectively draw up a course of study for the student to follow. The next type of evaluation to be made by the employer is one for appraising the work experience program in general. By conscientiously explaining the importance of these evaluations, the teacher will be able to convince the employer of their value in making the entire program more meaningful both to the student and to the others concerned. As has been emphasized previously good rapport is essential between the teacher and the employer. Without favorable communication, valid evaluation by the employer will be difficult to obtain and thus handicap the effectiveness of the work experience program. Instruments for conducting the above evaluations are also offered in the Appendix on pages 88 -- 90.

Program Evaluation by the Advisory Committee

The non-farm work experience program will be evaluated to some extent by the general public. Probably the persons most nearly representing this group will be the advisory committee. Since they are instrumental in developing good public relations their judgment and opinions are highly desired. This committee is also important in the development of policy regarding the program so it becomes even more essential that they are involved in the evaluation. The make-up of this group will largely determine their ability to make this appraisal, therefore it becomes essential, for the most part at any rate, the committee be composed of people who are involved in the program and are interested in its success. To a large extent their evaluation will be based upon a study of evaluations of the others concerned with the program, therefore it should only be undertaken after the other studies have been completed. An instrument for the committee's evaluation of the total program is included in the Appendix on page 91 - 92.

APPENDIX

Interviewer_____

Date of Interview_____

CONFIDENTIAL

Pre-Employment and Continuing Educational Needs of Persons Engaged in Off-the-Farm Agricultural Occupations in Selected Areas of Louisiana

Form I

Firm Number_____ Occupational Family_____

I. Name of Business or Service_____

II. Address_____ Town_____

Parish_____ Area_____

III. Person Interviewed_____

Position_____

IV. Estimated percent gross income that is agriculturally oriented___

V. Major agricultural products and/or functions of business or service_____

_____

_____

VI. Employees in this business or service (Total number)_____

A. For employees needing competencies in agriculture, complete the following:

	Number of Employees			
	Presently		Five Years Hence	
Existing Job Titles	Full-Time	Part-Time	Full-Time	Part-Time
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

(continued)

Form I - Page 2

	Number of Employees			
	Presently		Five Years Hence	
Existing Job Titles	Full-Time	Part-Time	Full-Time	Part-Time
6._____	_____	_____	_____	_____
7._____	_____	_____	_____	_____
8._____	_____	_____	_____	_____
Anticipated New Job Titles				
1._____	_____	_____	_____	_____
2._____	_____	_____	_____	_____
3._____	_____	_____	_____	_____
4._____	_____	_____	_____	_____

Fill out a separate Form II for each job title listed above.

Interviewer_____

Date of Interview_____

CONFIDENTIAL

Pre-Employment and Continuing Educational Needs of Persons Engaged in Off-the-Farm Agricultural Occupations in Selected Areas of Louisiana

Form II

Firm Number_____Occupational Family_____Level of Employment_____

I. Name and Address of Firm_____

_____

II. Job Title_____

III. Number of workers in this Job Title: Full-Time_____Part-Time____

IV. Anticipated Number of workers five years hence: Full-Time_____

Part-Time_____

V. Average Age_____Minimum for Entry_____Maximum for Entry_____

VI. Wages or Salary Per Month: (Beginning - Maximum - Present)

1.___150 - 200 4.___301 - 350 7.___451 - 500 10.___601 - 650

2.___201 - 250 5.___351 - 400 8.___501 - 550 11.___651 - 700

3.___251 - 300 6.___401 - 450 9.___551 - 600 12.___701 and above

VII. Activities and Duties of Persons with this Job Title (Detail)____

_____

_____

_____

_____

(continued)

Form II - Page 2

VIII. Agricultural competencies with which worker must be familiar to do job:

A. Area: Animal Science

Necessary	Desirable	Not Necessary	
_____	_____	_____	1. Breeding Farm Animals
_____	_____	_____	2. Livestock Feeding and Nutrition
_____	_____	_____	3. Sanitation, Disease and parasite Control
_____	_____	_____	4. Housing and Equipment
_____	_____	_____	5. Management
_____	_____	_____	6. The Dairy Manufacturing Industry
_____	_____	_____	7. Processing
			_____ Packing Plants _____ Creameries _____ Poultry Processing _____ Butchering
_____	_____	_____	8. Marketing
			_____ Packing Plants _____ Creameries _____ Poultry Processing _____ Livestock Auctions

B. Area: Plant Science

_____	_____	_____	9. Propagation
_____	_____	_____	10. Soils and Fertilization
_____	_____	_____	11. Control of insects_____ diseases_____weeds_____
_____	_____	_____	12. Management

(continued)

Form II - Page 3

VIII. Agricultural competencies with which worker must be familiar to do job (cont'd)

B. Area: Plant Science (cont'd)

Necessary	Desirable	Not Necessary		
_____	_____	_____	13.	Production of Ornamental Plants
_____	_____	_____	14.	Landscaping
_____	_____	_____	15.	Ginning
_____	_____	_____	16.	Warehousing
_____	_____	_____	17.	Processing (food, seed, grain, etc.)
_____	_____	_____	18.	Marketing
_____	_____	_____	19.	Forestry

_____ Establishing a Stand
_____ Hardwood Control
_____ Fire Control
_____ Estimating and Grading
_____ Disease Control
_____ Insect Control
_____ Harvesting
_____ Marketing
_____ Manufacturing
_____ Pulp Wood

C. Area: Agricultural Business Management and Marketing

_____	_____	_____	20.	Records and Accounts, budgeting and Analysis
_____	_____	_____	21.	Agricultural Financing, Credit and Insurance
_____	_____	_____	22.	Farm Organization and Management
_____	_____	_____	23.	Labor Management

(continued)

Form II - Page 4

VIII. Agricultural competencies with which worker must be familiar to do job (cont'd)

C. Area: Agricultural Business Management and Marketing (con't)

Necessary	Desirable	Not Necessary		
_____	_____	_____	24.	Marketing Problems and Practices
_____	_____	_____	25.	Agricultural Policy
_____	_____	_____	26.	Agricultural and Related Price Analysis
_____	_____	_____	27.	Cooperatives and Business Organizations

D. Area: Agricultural Mechanics and Automation

_____	_____	_____	28.	Farm Power and Machinery
_____	_____	_____	29.	Farm Buildings and Conveniences
_____	_____	_____	30.	Farm Electrification and Processing
_____	_____	_____	31.	Soil and Water Conservation
_____	_____	_____	32.	Farm Shop (welding, plumbing, etc.)
_____	_____	_____	33.	Farm Construction and Maintenance

E. Area: Other Agricultural competencies that are needed for this Job Title _____

_____

_____

_____

(continued)

Form II - Page 5

IX. Educational Level Desired for Job Titles (Check only one)

_____1. Less than High School Graduate

_____2. High School Graduate

_____3. Post High School Technical Education

_____4. Some College

_____5. College Degree (Baccalaurate)

_____6. Master's Degree

_____7. Doctor's Degree

_____8. No Preference

X. Residential Background Preferred (Check only one)

1. Farm_____ 2. Rural, nonfarm_____ 3. Urban_____

4. No Preference_____

XI. Farm Experience Preferred

_____1. On a commercial farm

_____2. On a noncommercial farm

_____3. No Preference

XII. Experience Desired to Enter this Job Title_____

_____

_____

XIII. Limitations on Entering this Job Title

A. Licensing or Certification

_____1. Professional

_____2. Industrial

_____3. Civil Service

(continued)

Form II - Page 6

XIII. Limitations on Entering this Job Title (cont'd)

B. Labor Law Restrictions _____

_____

C. Labor Union Restrictions _____

_____

D. Other (specify) _____

_____

XIV. Education Required to Advance in this Job Title:

A. Technical Short course or training provided by:

_____ 1. Your firm or the industry as a whole

_____ 2. On-the-job training

_____ 3. Public school (adult education)

_____ 4. A vocational school

_____ 5. An agricultural college

_____ 6. None

DEPARTMENTAL

STUDENT INFORMATION

Name_____Parents Name_____Date____

Address_____Phone Number_____

Age____Sex____Height_____Weight_____Social Security #_____

Grade in School_____Parent's occupation: Father_____Mother_____

Distance from school_____College Plans:Yes____No____

Credits earned: Math____English____Soc. Studies____Science____

Agriculture____Commercial____Other____

Type of program enrolled in: College Prep____General____Vocational_____ Hobbies_____Grade average_____

Days absent last year_____Transportation to work: Yes____No_____

Clubs and Organizations_____

Physical Handicaps_____Glasses?_____

Previous work experiences

Name of employer	Job	Length of Time

Student's Interests_____

Student's Dislikes_____

Occupational Objectives_____

I. Q. Examinations_____

Other Tests	Results

(continued)

DEPARTMENTAL STUDENT INFORMATION (continued)

Availability for work: after school_____Saturdays_____Summers_____

Subjects needed to graduate_____ _____ _____

Miscellaneous information_____

_____

_____

APPLICATION FOR ENROLLMENT IN THE

NON-FARM WORK EXPERIENCE PROGRAM OF

VOCATIONAL AGRICULTURE

Name_____ Parent or Guardian's Name_____ Date_____

Address_____ Phone number_____

Age____ Sex____ Height_____ Weight_____ Social Security #_____

Distance from School_____

Grade in school_____. Do you plan to go to college? Yes____ No_____

List the high school credits you have earned in : Math____ English____

Social Studies____ Science____ Agriculture____ Commercial____ Other____

Parent's Occupations: Father_____ Mother_____

What type of curriculum are you enrolled in? College Prep._____

General_____ Vocational_____

What hobbies do you enjoy?_____

List the clubs and organizations to which you belong._____

_____

Do you wear glasses? Yes____ No____. Will you have transportation to work? Yes____ No____. Do you have any physical handicaps? Yes____ No____

If "Yes", please explain:_____

List the name of employer and previous jobs you have held and the length of time spent on the job.

Name of Employer	Job	Length of Time

(continued)

APPLICATION FOR ENROLLMEMT IN THE NON-FARM WORK EXPERIENCE PROGRAM OF VOCATIONAL AGRICULTURE (continued)

What occupations do you prefer to receive training in?

First Preference_____

Second Preference_____

What types of work do you dislike?_____

Will you be available to work; after school?_____on Saturday?_____

What subjects do you need to graduate?_____ _____ _____

_____ _____ _____ _____

Have your parents complete the following:

_____has my permission to participate in the Non-Farm Work Experience Program offered in Vocational Agriculture.

Parent or Guardian_____

Date_____

APPLICATION FOR A CERTIFICATE TO EMPLOY A STUDENT-LEARNER

The certification of the appropriate school official on the reverse side of this application shall constitute a temporary authorization for the employment of the named student-learner at less than the statutory minimum wage applicable under Section 6 of the Fair Labor Standards Act of 1938 as amended, or at wages below the applicable Walsh-Healey Public Contracts Act minimum wage determination effective from the date this application is forwarded to the Divisions until a Student-Learner Certificate is issued or denied by the Administrator or his authorized representative, provided the conditions specified in Section 520.6(c)(2) of the Student-Learner Regulation (29 CFR 520) are satisfied.

PLEASE READ CAREFULLY THE INSTRUCTIONS FOR COMPLETING THIS FORM.
PRINT OR TYPE ALL ANSWERS

1. Name and address of establishment making application: Jones' Nursery Anytown, Louisiana	3. Name and address of student learner: John Doe Route 1 Anytown, Louisiana
2. Type of business and products manufactured, sold or services rendered: Nursery, Production and Sale of nursery stock; landscaping	4. Name and address of school in which student-learner is enrolled: Anytown High School Anytown, Louisiana

INFORMATION ON SCHOOL INSTRUCTION

5. Number of weeks in school year	36	11. Are Smith-Hughes Act or George-Barden Act funds used for this program?(Yes or No)	
6. Total hrs of school instruction per week	25	12. Was this program authorized by the State Board for Vocational Education? (Yes or No)	
7. Number of hrs of directly related employment training	5		
8. Proposed beginning date of employment	7/9/66	13. If the answer to item 12 is No, give the name of the recognized local educational body which has approved this vocational training program:	
9. Proposed ending date of employment	7/1/67		
10. Proposed graduation date of Student-learner	May 1967		

(continued)

APPLICATION FOR A CERTIFICATE TO EMPLOY A STUDENT-LEARNER (cont'd)

14. Outline the school instruction directly related to the employment training. (List courses, etc.)
    1. Plant identification
    2. Soils and Fertilizers for Nursery stock
    3. Propogation
    4. Pruning, grafting & budding
    5. Heat, light, water & humidity requirements
    6. Insect & disease control
    7. Nursery equipment
    8. Landscape design

Information on employment training at special minimum wages:

15. How is employment training scheduled? (weekly, alternate weeks, etc.) weekly	19. Title of student-learner occupation: Nursery man	
	20. Number of employees in this establishment.	7
16. Number of weeks of employment training at special minimum wage. 36	21. Number of experienced employees in student-learner's occupation shown in 19	2
	22. Minimum hourly wage rate of experienced workers in 21	1.75
17. Number of hours of employment training a week. 15	23. Is an age or employment certificate on file in this establishment for this student-learner? (If no, see instructions)	yes
18. Special minimum wage (s) to be paid student-learner (if a progressive wage scale is proposed, enter each rate & specify the periods during which it will be paid): $ .95 per hr.-1st 12 weeks; 1.05 per hr.-2nd 12 weeks; 1.15 per hr.-3rd 12 weeks	24. Is it anticipated that the student-learner will be employed in the performance of a Government contract subject to the Welsh-Healey contract?	no

25. Outline training on-the-job (describe briefly the work process in which the student-learner will be trained and list the types of machine used).
    1. Propagating trees, shrubs vines or flowering plants.
    2. Pruning
    3. Controlling Insects & Diseases
    4. Regulating heat, water, light, humidity
    5. Soil & fertilizer requirements
    6. Planting seeds & cuttings
    7. Grafting and budding
    8. Purchasing stock & equipment
    9. Preparing for shipment & sale
    10. Repairing & maintaining equipment
    11. Merchandizing & bookkeeping
    12. Landscape design

(continued)

APPLICATION FOR A CERTIFICATE TO EMPLOY A STUDENT-LEARNER (cont'd)

26. Signature of student-learner:
I have read the statements made above and ask that the requested certificate, authorizing my employment training at special minimum wages and under the conditions stated, be granted by the Administrator or his authorized representative.

John Doe 6/10/66
(Signature of Student) (Date)

27. Certification by school official:
I certify that the student named herein will be receiving instruction in an accredited school and will be employed pursuant to a bona fide vocational training program, as defined in section 520.2 of Student-Learner Regulations.

J. L. Zeitman 6/10/66
(Signature of School Official) (Date)

28. Certification by employer or authorized representative:
I certify, in applying for this special certificate, that all the fore-going statements are to the best of my knowledge and belief, true and correct.

Joe B. Jones 6/10/66
(Signature of Employer or Rep.)(Date)

Title : Owner

SELECTION OF TRAINING CENTERS IN VOCATIONAL AGRICULTURE

NAME: _____

ADDRESS: _____

DATE: _____

TYPE OF BUSINESS: _____

TRAINING AVAILABLE: _____

Factors	Very Poor	Poor	Fair	Good	Superior
1. Interest of employer in training					
2. Amount of training available					
3. Work conditions					
4. Reputation					
5. Up-to-date facilities and methods					
6. Pay schedule					
7. Regularity of employment					
8. Opportunity for advancement					
9. Attitude of employees					
10. Opportunity for permanent employment					
11. Amount of related instruction needed or material available					

Remarks: _____

_____

_____

Approved: _____
(Yes - No)

_____ _____
Chairman of Advisory Committee Vo-Ag Instructor

The following may be obtained from:

U. S. Department of Labor, Wage and Hour and Public Contracts Divisions, Washington 25, D. C.

A Guide to Child-Labor Provisions of the Fair Labor Standards Act. Child Labor Bulletin No. 101.

Agriculture and the Child-Labor Requirements of the Fair Labor Standards Act. Child Labor Bulletin No. 102.

Employment of Student-Learners, Title 29, Part 520.

Agriculture and Related Exemptions Under the Fair Labor Standards Act, Pamphlet.

Exemptions Applicable to Agriculture, Processing of Agricultural Commodities, and Related Subjects, Title 29, Part 780.

Area of Production, Part 536, (29CFR).

Employment of Full-Time Students in Retail or Service Establishments at Special Minimum Wages, Part 519, (29 CFR).

Handy Reference Guide to the Fair Labor Standards Act, Pamphlet.

Social Security.

Many pamphlets on Social Security may be obtained from the local social security offices. There are too many to list each ehat might be used in the instructional part of the program.

TRAINING PLAN FOR

NON-FARM WORK EXPERIENCE IN

VOCATIONAL AGRICULTURE

_____ _____ _____
(Name of Student) (Age) (Grade)

_____ _____
(Agricultural Occupation) (Training Station)

_____ _____
(Person responsible for training) (Number of weeks in training)

HOURS:	MON.	TUES.	WED.	THUR.	FRI.	SAT.
In school	_____	_____	_____	_____	_____	_____
Training center	_____	_____	_____	_____	_____	_____

Beginning wages: $_____per hr. Starting date:_____

Training Center Outline

Knowledge-Manipulative Skills-Abilities ___ __Hours planned

(Use an attached sheet with the above heading)

Occupational Course of Study

(Use an attached sheet with the above heading)

Provisions

1. The school shall be responsible for providing technical and related instruction.
2. The training shall progress from job to job in order to gain experience in all phases of the occupation listed above.
3. The schedule of compensation shall be set by the center and in line with other employees of like experience and ability.
4. The Vo-Ag instructor will assist in the adjustment of problems.
5. The parent shall be responsible for conduct of student.
6. The student agrees to perform his duties at the training center and in school diligently and faithfully.

Training Plan for Non-Farm Work Experience in Vocational Agriculture
Page 2

7. The student shall have the same status as other employees and the training may be terminated for the same reasons as any other employee.
8. No regular employee shall be laid off to train the student.
9. If the student drops out of school, he will not be employed by the training center for a period of less than 90 days.

_____ (Student)	_____ (Employer)
_____ (Parent or Guardian)	_____ (Vocational Agriculture Instructor)
_____ (Chairman of Advisory Committee)	_____ (High School Principal)

OCCUPATIONAL COURSE OF STUDY

UNITS OF INSTRUCTION IN OCCUPATIONAL AREA	HOURS P*	HOURS C**

TRAINING CENTER OUTLINE

KNOWLEDGE-MANIPULATIVE SKILLS-ABILITIES	HOURS	
	P*	C**

EMPLOYER EVALUATION OF STUDENT-LEARNER IN VOCATIONAL AGRICULTURE

Name_____

Business_____

Date_____

Please check the appropriate blanks.

APPEARANCE

_____Appearance is an asset to business
_____Usually neat in appearance
_____Appearance needs improvement
_____Appearance is a detriment to business

PUNCTUALITY

_____Always on time
_____Usually on time
_____Occasionally late
_____Frequently late

ATTENDANCE

_____Usually regular in attendance
_____Seldom absent
_____Occasionally absent
_____Frequently absent

DEPENDABILITY

_____Reliable in following instructions
_____Usually follows instructions
_____Sometimes careless in following instructions
_____Cannot be relied upon to follow instructions

INTEREST IN WORK

_____Usually enthusiastic about work
_____Shows interest in work most of time
_____Interested in certain phases
_____Lacks interest in work

SUGGESTIONS FOR IMPROVEMENT

JUDGMENT

_____Wise in actions and in making decisions
_____Usually shows sound judgment
_____Sometimes shows lack of judgment
_____Demonstrates poor judgment

CUSTOMER RELATIONS

_____Is remembered favorably by customers
_____Customer reaction is pleasant
_____Customer reaction is indifferent
_____Customer relations need improvement

PERFORMANCE

_____Exceeds employee expectation
_____Meets employee expectations
_____Sometimes meets expectations
_____Fails to meet employee expectations

INITIATIVE

_____Recognizes work to be done and does it without being told
_____Sometimes goes ahead in work not assigned
_____Seldom seeks work beyond regular routine duties
_____Sometimes shirks duties

COOPERATION

_____Works unusually well with others
_____Cooperates well, shows willingness
_____Helps when asked
_____Pulls against others
_____Solicits and receives constructive cooperation of others
_____Tends to lead others in right direction
_____Occasionally uncooperative
_____Makes no effort to work with others

OVERALL RATING OF EMPLOYMENT SUITABILITY
(Based on assumption that you needed an employee)

_____I would be eager to hire him.
_____I would be pleased to hire him.
_____I would hire him.
_____I would hire him temporarily.
_____I would not hire him.

EMPLOYER'S PERIODIC RATING FOR TRAINEES IN AGRICULTURAL OCCUPATIONS

Trainee_____ Date_____

Training Center_____ Rated by_____

DIRECTIONS: Please circle one of the numbers (from 1 through 10) opposite each of the five factors in the lefthand column which you think most mearly indicates the trainee's rating for the past six weeks school period.

	UNSATISFACTORY	BELOW AVERAGE	AVERAGE	ABOVE AVERAGE	EXCELLENT
PROGRESS	1 2	3 4	5 6	7 8	9 10
Has he advanced in skill and knowledge during the past 6 weeks?	Has made almost no progress	Has progressed in only a few phases of his training	Has made average progress in his training	Has advanced beyond expectations	Exceptional progress in skills and knowledge
INITIATIVE	1 2	3 4	5 6	7 8	9 10
Can he originate and carry through on ideas?	Has to be told everything to do	Seldom goes ahead on his own	Goes ahead on routine matters	Frequently looks for additional work to do	Always finding jobs that need to be done
RELIABILITY	1 2	3 4	5 6	7 8	9 10
Can the student be depended upon in his work?	Can seldom be relied upon	Frequently fails to come through	Can be relied upon in most cases	Only occasionally fails to come through	Can be relied upon implicitly in all matters
WORK ATTITUDE	1 2	3 4	5 6	7 8	9 10
Does he have a good attitude toward his work?	Bored: shows little enthusiasm	Rationalizes his shortcomings and mistakes	Normally enthusiastic about his work	Tries to improve his work in most cases	Is always alert to finding ways to improve work
COOPERATION	1 2	3 4	5 6	7 8	9 10
Does he work well with others?	Always wants his own way; is hardheaded	Hard for others to work with	Usually congenial and easy to work with	Works well with his associates	Cooperates fully in all matters

ADDITIONAL REMARKS:

COOPERATIVE NON-FARM WORK EXPERIENCE PROGRAM

RECORD OF EARNINGS AND HOURS EMPLOYED

_____ (Student)

_____ (School)

_____ (Agricultural Occupation)

_____ (Training Station)

_____ (Person Responsible for Training)

_____ (Length of Training Period)

Hours:	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
In School	_____	_____	_____	_____	_____	_____
Training Center	_____	_____	_____	_____	_____	_____

Beginning Wages: $_____per hour Starting date:_____

Week and Date	Hours Em-ployed	Rate per Hour	Total Wages	Week and Date	Hours Em-ployed	Rate per Hour	Total Wages

Note: A similiar form should be attached to the student's copy of training plan and filled out at the end of each week.

TEACHER EVALUATION OF TOTAL NON-FARM

WORK EXPERIENCE PROGRAM IN

VOCATIONAL AGRICULTURE

CURRENT INFORMATION: ON HIGH SCHOOL PUPILS:

1. Each class has an up to date course of study . . . . _____
2. Percent of class time used for supervised study. . . _____
3. Percent of teaching directly related to student's supervised non-farm agricultural occupation training programs . . . . . _____
4. Percent of teaching directly related to student's job problems . . . . . _____
5. Percent of teaching directly related to F.F.A. activities and leadership training . . . . . _____
6. Number of students enrolled in vocational agriculture non-farm work experience program:

   Juniors _____

   Seniors _____

   Total _____

   This total is what percent of the total enrollment in vocational agriculture? _____%
7. Number of different occupations in which students are being trained . . . . . _____

List of training centers	Number placed in each
a._____	_____
b._____	_____

Teacher Evaluation of Total Non-Farm Work Experience Program in Vocational Agriculture
Page 2

List of training centers	Number placed in each
c._____	_____
d._____	_____
e._____	_____
f._____	_____
g._____	_____
h._____	_____

8. Average number of hours of work done on the job by the students . . . . . _____

9. Average number of hours the student worked on school released time . . . . . _____

10. Gross income per year per student from non-farm related occupational programs . . . . . _____

11. Number of resource persons used: Last year___This year____

12. The program of vocational agricultural education is based on an analysis of a survey of educational needs of the students. (Yes or No) Last survey completed? (Date)_____

13. An advisory committee has assisted in evaluating and planning the departmental program. Describe_____

_____

_____

14. This evaluation is for the year being terminated, date_____

_____ High School
Vocational Agriculture Department

STUDENT APPRAISAL*

Your name_____Age_____Sex_____Grade_____Date_____

1. List the firm and occupation in which you received on-the-job training.

Name of Firm	Occupation	Months of Service
a._____	_____	_____
b._____	_____	_____
c._____	_____	_____
d._____	_____	_____

2. What are your plans for next year? (check one)

   a. High School_____ d. Employment_____

   b. Trade School_____ e. Farming_____

   c. College_____ f. Others (list)_____

3. How valuable was the on-the-job training to you? Very valuable___ Some value_____ Little value_____ How could it be improved?

   _____

4. How valuable was your related classroom instruction to the work you did? Very valuable_____ Some value_____ Little value_____ How could it be improved?_____

5. How important was the opportunity to earn money while you were still in school? Very important_____ Some importance_____ Not important_____

*Adapted from the Colorado Handbook for Developing and Operating Agricultural Occupations Programs

Student Appraisal
Page 2

6. How could the on-the-job training have been made more valuable to you?_____

7. What topics covered in the related classroom instruction helped you the most?_____

8. What non-agricultural school subjects were of most benefit to you?

_____

9. Did you receive enough assistance from your teacher-coordinator?

Yes_____ No_____ How could he have helped more?_____

10. Did you receive enough assistance from your on-the-job employer-instructor? Yes_____ No_____ How could he have helped more?

_____

11. Could your other teachers at school have helped you prepare for the job or jobs in which you were employed? Yes_____ No_____ If yes, explain._____

_____

12. Would you have continued high school without participating in this program? Yes_____ Probably_____ Probably not_____ No_____

13. For which students would you recommend this program?

All students_____ Undecided students_____

College bound_____ Possible dropouts_____

Non-college bound_____ Others (list)_____

14. How would you recommend that students be selected for this program?

Student Appraisal
Page 3

15. What changes would you make in the overall agricultural occupations program?

16. List ways the agricultural occupations training program has benefited you.

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

17. In what ways do you feel that agricultural occupations training program may help you in the future?

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

FORMER STUDENT EVALUATION OF

NON-FARM WORK EXPERIENCE PROGRAM

IN VOCATIONAL AGRICULTURE

Name_____Date _____

Training Center_____

Dates of Training_____

1. What is your exact position? How long have you held this position? State your job duties and responsibilities.

2. Are you satisfied in your present position? _____. If your answer is "No", what position would you like to have, either in your present place of employment or in another business?

3. What is the next position to which you could be promoted in your present place of employment? What are the traits that your employer is looking for in the next possible position?

4. What requirements will you have to meet to be advanced to the next position?

5. Of what value was your high school training in vocational agriculture as it relates to your present work? How did it help you?

(continued)

FORMER STUDENT EVALUATION (cont'd)

6. What are some things that you are now encountering in your work for which you were not adequately trained in high school?

7. What should be added to or removed from the present vocational agriculture program?

EMPLOYER EVALUATION OF

COURSES OF STUDY IN

VOCATIONAL AGRICULTURE

What should your employee know in these agricultural areas to perform best in his present job? Rate each subject matter area to indicate:

VI - Very Important:	Worker regularly uses content of subject matter area.
I - Important:	Worker often uses content of subject matter area.
SI - Of Some Importance:	Worker sometimes uses content of subject matter area.
U - Unimportant:	Worker does not use content of subject matter area.

_____VI_____I_____SI_____U	1. Basic agricultural mechanics - use of common hand and power tools
_____VI_____I_____SI_____U	2. Welding and soldering - electric arc and oxy-acetylene gas welding, heating, brazing, cutting and soldering
_____VI_____I_____SI_____U	3. Safety - agricultural accidents associated with engineering and mechanics
_____VI_____I_____SI_____U	4. Agricultural engineering including farm power, machinery, drainage, irrigation, and buildings
_____VI_____I_____SI_____U	5. Animal Science - including feeds and feeding, breeding and management
_____VI_____I_____SI_____U	6. Insects, diseases, pests, and controls
_____VI_____I_____SI_____U	7. Crop production including plant propagation, management and weed control.

(continued)

EMPLOYER EVALUATION OF COURSES OF STUDY (cont'd)

_____VI_____I_____SI_____U 8. Food processing including dairy products, meats, cereals, fruits and vegetables

_____VI_____I_____SI_____U 9. Soil Science - including bacteriology, classification and erosion control of soil and fertilization

_____VI_____I_____SI_____U 10. Forestry including propagation, management and timber marketing

_____VI_____I_____SI_____U 11. Horticulture - including fruits, vegetables, landscaping, nursery production, maintaining parks and recreational areas

_____VI_____I_____SI_____U 12. Agricultural Economics - including farm management, credit, marketing, and agricultural policy

_____VI_____I_____SI_____U 13. Occupational experience - placement in occupation for job training experience

_____VI_____I_____SI_____U 14. Others - (please list)

If there are any subject matter areas which the teacher should offer instruction in please note them. Please offer any suggestions which you feel would improve the Non-Farm Work Experience Program.

NAME OF BUSINESS FIRM_____

Name of Employer_____Date_____

_____ High School
Vocational Agriculture Department

EMPLOYER APPRAISAL*

Date_____Firm_____

Name_____Name of Student Trainee_____

Length of training period given trainee_____
(months)

1. Rate the agricultural occupations program, based on your own association with it. Outstanding____Good____Average____Poor____

2. What do you believe to be the greatest strength of the agricultural occupations training program?_____

_____

3. What do you believe to be the greatest weakness of the program?

_____

4. Rate the total performance of your trainee in comparison with other beginning workers. Above average____Average____Below Average_____

5. Did you have sufficient school cooperation? Yes____, No____.

6. Did you have sufficient contact with the teacher-coordinator? Yes_____, No_____.

7. Do you feel the agricultural occupations program should remain a part of the school program? Yes_____, No_____.

8. Do you plan to continue to participate in the agricultural occupations program? Yes_____, No_____.

9. Has this program provided the experience you desire of an employee? Yes_____, No_____.

10. Has the trainee received sufficient training to be hired full time by your firm if an opening existed? Yes____, No_____.

11. For what level of employment is this trainee now competent?_____

_____
(Job title or description)

*Adapted from the Colorado Handbook for Developing and Operating Agricultural Occupations Programs.

ADVISORY COMMITTEE EVALUATION OF NON-FARM WORK EXPERIENCE PROGRAM IN VOCATIONAL AGRICULTURE

Point system: 5 = Excellent; 4 = Good; 3 = Average; 2 = Fair; 1 = Poor

1. The non-farm agricultural occupation placement programs of the students provided a satisfactory basis for teaching the related subjects important to the area.	5	4	3	2	1
2. The non-farm placement programs are resulting in sound student-business relationships with the parents, school officials and employers.	5	4	3	2	1
3. Meaningful non-farm training programs are provided for those students who enroll and are placed on the job.	5	4	3	2	1
4. Upon graduation the students completing the program possess salable skills.	5	4	3	2	1
5. The educational objectives of vocational agriculture and of non-farm agricultural occupational training have been met in the program.	5	4	3	2	1
6. There is evidence of cooperation of the vocational agriculture department in promoting the welfare of the school.	5	4	3	2	1
7. School and community representatives are helping in evaluating and developing the program.	5	4	3	2	1
8. The vocational agriculture program is adjusting satisfactorily to changing conditions.	5	4	3	2	1
9. Substantial earnings and savings are made by students through their supervised experience programs.	5	4	3	2	1

(continued)

ADVISORY COMMITTEE EVALUATION (cont'd)

10. The classroom arrangement, condition, and appearance provides a desirable learning environment.	5	4	3	2	1
11. The reference library materials for students' use are adequate and up-to-date.	5	4	3	2	1
12. Summary evaluation: To what extent does the supervised agriculture occupational training programs for students in vocational agriculture provide purposeful training and experiences in the non-farm agriculture related businesses leading to employment in a non-farm agricultural occupation?	5	4	3	2	1

Suggestions for improvement of the non-farm work experience program.

_____

_____

_____

_____

_____

_____

_____ _____

(Chairman of Advisory Committee) (Date Submitted)

HAZARDOUS OCCUPATIONS

(NOTE) (This section is taken from portions of Child Labor Bulletin No. 101 "A Guide to Child Labor provision of the Fair Labor Standards Act")

The Fair Labor Standards Act Provided a minimum age of 18 years for any occupation which the Secretary of Labor "shall find and by order declare" to be detrimental to the health or well-being of young workers or particularly hazardous for them.

The 17 hazardous occupations orders now in effect apply in some cases on an industry basis, specifying the occupations in the industry that are not covered, and in some cases on an occupational basis irrespective of the industry in which found. Seven of the hazardous occupations orders that have been issued (Orders Nos. 5, 8, 10, 12, 14, 16, and 17) contain exemptions for apprentices and student-learners when employed under the conditions set forth in the exemptions contained in the orders. The orders in effect do not apply to employment in agriculture.

HAZARDOUS OCCUPATIONS ORDERS

Those occupations declared to be particularly hazardous for minors between 16 and 18 years of age are included in the seventeen Hazardous Occupations Orders listed below:

ORDER NO. 1

MANUFACTURING OR STORAGE OCCUPATIONS INVOLVING EXPLOSIVES

The following occupations in or about plants or establishments manufacturing or storing explosives or articles containing explosive components:

(1) All occupations in or about any plant or extablishment (other than retail establishments or plants or establishments of the type described in sub paragraph 2) manufacturing or storing explosives or articles containing explosive components except where the occupation is performed in a "non-explosives area" as defined in sub paragraph 3.

(2) The following occupations in or about any plant or establishment manufacturing or storing small-arms ammunition not exceeding .60 caliber in size, shotgun shells, or blasting caps when manufactured or stored in conjunction with the manufacture of small-arms ammunition:

(a) All occupations involved in the manufacturing, mixing, transporting, or handling of explosive compounds in the manufacture of small-arms ammunition and all other

occupations requiring the performance of any duties in the explosives area in which explosives compounds are manufactured or mixed.

(b) All occupations involved in the manufacturing, transporting, or handling of primers and all other occupations requiring the performance of any duties in the same building in which primers are manufactured.

(c) All occupations involved in the priming of cartridges and all other occupations requiring the performance of any duties in the same workroom in which rimfire cartridges are primed.

(d) All occupations involved in the plate loading of cartridges and in the operation of automatic loading machines.

(e) All occupations involved in the loading, inspecting, packing, shipping and storing of blasting caps.

Definitions

The term "plant or establishment manufacturing or storing explosives or articles containing explosive components" means the land with all the buildings and other structures thereon used in connection with the manufacturing or processing or storing of explosives or articles containing explosive components.

The terms "explosives" and "articles containing explosive components" mean and include ammunition, black powder, blasting caps, fireworks, high explosives, primers, smokeless powder, and all goods classified and defined as explosives by the Interstate Commerce Commission in regulations for the transportation of explosives and other dangerous substances by common carrier.

(3) An area meeting all of the following criteria shall be deemed a "nonexplosives area".

(a) None of the work performed in the area involves the handling or use of explosives;

(b) The area is separated from the explosives area by a distance not less than that prescribed in the American Table of Distances for the protection of inhabited buildings;

(c) The area is separated from the explosives area by a fence or is otherwise located so that it constitutes a definite designated area; and

(d) Satisfactory controls have been established to prevent employees under 18 years of age within the area from entering any area in or about the plant which does not meet criteria in (a) through (c).

ORDER NO. 2

MOTOR-VEHICLE OCCUPATIONS

The occupations of motor-vehicle driver and helper.

Definitions

The term "motor vehicle" shall mean any automobile, truck, truck-tractor, trailer, semitrailer, motorcycle, or similar vehicle propelled or drawn by mechanical power and designed for use as a means of transportation but shall not include any vehicle operated exclusively on rails.

The term "driver" shall mean any individual who, in the course of his employment, drives a motor vehicle at any time.

The term "helper" shall mean any individual, other than a driver, whose work includes riding on a motor vehicle for the purpose of assisting in transporting or delivering goods, but shall not apply to an individual riding in a passenger-type motor vehicle.

ORDER NO. 3

COAL-MINE OCCUPATIONS

All occupations in or about any coal mine, except the occupation of slate or other refuse picking at a picking table or picking chute in a tipple or breaker and occupations requiring the performance of duties solely in offices or in repair or maintenance shops located in the surface part of any coal mining plant.

Definitions

The term "coal" shall mean any rank of coal, including lignite, bituminous, and anthracite coals.

The term "all occupations in or about any coal mine" shall mean all types of work performed in any underground working, openpit, or surface part of any coal-mining plant that contributes to the extraction, grading, cleaning, or other handling of coal.

ORDER NO. 4

LOGGING AND SAWMILLING OCCUPATIONS

All occupations in logging and all occupations in the operation of any sawmill, lath mill, shingle mill, or cooperage-stock mill except the following:

(1) Exceptions applying to logging:
   (a) Work in offices or in repair or maintenance shops.
   (b) Work in the construction, operation, repair, or maintenance of living and administrative quarters of logging camps.
   (c) Work in timber cruising, surveying, or logging-engineering parties; work in the repair or maintenance of roads, railroads, or flumes; work in forest protection, such as clearing fire trails or roads, piling and burning slash, maintaining fire-fighting equipment, constructing and maintaining telephone lines, or acting as fire lookout or fire patrolman away from the actual logging operations: Provided, that the provisions of this paragraph shall not apply to the felling or bucking of timber, the collecting or transporting of logs, the operation of power-driven machinery, the handling or use of explosives and work on trestles.
   (d) Peeling of fence posts, pulpwood, chemical wood, excelsior wood, cordwood, or similar products, when not done in conjunction with and at the same time and place as other logging occupations declared hazardous by this section.
   (e) Work in the feeding or care of animals.

(2) Exceptions applying to the operation of any permanent sawmill or the operation of any lath mill, shingle mill, or cooperage-stock mill; Provided, that these exceptions do not apply to a portable sawmill the lumber yard of which is used only for the temporary storage of green lumber and in connection with which no office or repair or maintenance shop is ordinarily maintained; and further Provided, that these exceptions do not apply to work which entails entering the sawmill building:
   (a) Work in offices or in repair of maintenance shops.
   (b) Straigntening, marking, or tallying lumber on the dry chain or the dry drop sorter.
   (c) Pulling lumber from the dry chain.
   (d) Clean-up in the lumberyard.
   (e) Piling, handling, or shipping of cooperage stock in yards or storage sheds, other than operating or assisting in the operation of power-driven equipment.
   (f) Clerical work in yards or shipping sheds, such as done by ordermen, tallymen, and shipping clerks.

Definitions

The term "all occupations in logging" shall mean all work performed in connection with the felling of timber; the bucking or converting of timber into logs, poles, piles, ties, bolts, pulpwood, chemical wood, excelsior wood, cordwood, fence posts, or similar products; the collecting, skidding, yarding, loading, transporting, and unloading of such products in connection with logging; the constructing, repairing, and maintaining of roads, railroads, flumes, or camps

used in connection with logging; the moving, installing, rigging, and maintenance of machinery or equipment used in logging; and other work performed in connection with logging. The term shall not apply to work performed in timber culture, timber-stand improvement, or in emergency fire-fighting.

The term "all occupations in the operation of any sawmill, lath mill, shingle mill, or cooperage-stock mill" shall mean all work performed in or about any such mill in connection with storing of logs and bolts; converting logs or bolts into sawn lumber, laths, shingles, or cooperage-stock; storing, drying and shipping lumber, laths, shingles, cooperage-stock, or other products of such mills; and other work performed in connection with the operation of any sawmill, lath mill shingle mill, or cooperage-stock mill. The term shall not include work performed in the planing-mill department or other remanufacturing departments of any sawmill, or in any planing mill or remanufacturing plant not a part of a sawmill.

ORDER NO. 5

POWER-DRIVEN WOODWORKING MACHINE OCCUPATIONS

The following occupations involved in the operation of power-driven woodworking machines:

(1) The occupation of operating power-driven woodworking machines including supervising or controlling the operation of such machines, feeding material into such machines, and helping the operator to feed material into such machines, but not including the placing of material on a moving chain or in a hopper or slide for automatic feeding.
(2) The occupations of setting up, adjusting, repairing, oiling, or cleaning power-driven woodworking machines.
(3) The operations of off-earing from circular saws and from guillotine-action veneer clippers.

Definitions

(1) The term "power-driven woodworking machines" shall mean all fixed or portable machines or tools driven by power and used or designed for cutting, shaping, forming, surfacing, nailing, stappling, wire stitching, fastening, or otherwise assembling, pressing, or printing wood or veneer.
(2) The term "off-bearing" shall mean the removal of material or refuse directly from a saw table or from the point of operation. Operations not considered as off-bearing within the intent of this section include:

(a) The removal of material or refuse from a circular saw or guillotine-action veneer clipper where the material or refuse has been conveyed away from the saw table or point of operation by a gravity chute or by some mechanical means such as a moving belt or expulsion roller, and

(b) The following operations when they do not involve the removal of material or refuse directly from a saw table or from the point of operation: the carrying, moving, or transporting of materials from one machine to another or from one part of a plant to another; the piling, stacking, or arranging of materials for feeding into a machine by another person; and the sorting, tying, bundling, or loading of materials.

Exemptions

Apprentices--This order shall not apply to the employment of apprentices in the occupations herein declared particularly hazardous: Provided, that

(1) The apprentice is employed in a craft recognized as an apprenticeable trade,

(2) The work of the apprentice training, is intermittent and for short periods of time, and is under the direct and close supervision of a journeyman as a necessary part of such apprentice training, and

(3) The apprentice is registered by the Bureau of Apprenticeship and Training of the United States Department of Labor as employed in accordance with the standards established by that Bureau, or is registered by a State agency as employed in accordance with the standards of the State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, or is employed under a written apprenticeship agreement under conditions which substantially conform to such Federal or State standards as determined by the Secretary of Labor.

Student-Learners--This order shall not apply to the employment of a student-learner in occupations herein declared particularly hazardous: Provided, however, that such a student-learner is enrolled in a course of study and training in a cooperative vocational training program under a recognized State or local educational authority or in a course of study in a substantially similar program conducted by a private school: Provided, further, that such student-learner be employed under a written agreement which shall provide:

(1) That the work of the student-learner in the occupations herein declared hazardous shall be incidental to his training, shall be under the direct and close supervision of a qualified and experienced person;

(2) That safety instruction shall be given by the school and correlated by the employer with on-the-job training; and
(3) That a schedule of organized and progressive work processes to be performed on the job shall have been prepared. Such a written agreement shall carry the name of the student-learner, and shall be signed by the employer and the school coordinator or principal. Copies of the agreement shall be kept on file by both the school and the employer. This exemption for the employment of student-learners may be revoked in any individual situation wherein it is found that reasonable precautions have not been observed for the safety of minors employed thereunder.

ORDER NO. 6

OCCUPATIONS INVOLVING EXPOSURE TO RADIOACTIVE SUBSTANCES AND TO IONIZING RADIATIONS

Any work in any workroom in which (a) radium is stored or used in the manufacture of self-luminus compound; (b) self-luminus compound is made, processed, or packaged; (c) self-luminus compound is stored, used, or worked upon; (d) incandescent mantles are made from fabric and solutions containing thorium salts, or are processed or packaged, (e) other radioactive substances are present in the air in average concentrations exceeding 10 percent of the maximum permissible concentrations in the air recommended for occupational exposure by the National Committee on Radiation Protection, as set forth in the 40-hour week columnof table one of the National Bureau of Standards Handbook No. 69 entitled "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure," issued June 5, 1959.

Definitions

As used in this section: the term "self-luminous compound" shall mean any mixture of phosphorescent material and radium, mesothorium, or other radioactive element; the term "workroom" shall include the entire area bounded by walls of solid material and extending from floor to ceiling; the term "ionizing radiations" shall mean alpha and beta particles, electrons, protons, neutrons, gamma, and X-ray and all other radiations which produce ionization directly or indirectly, but does not include electromagnetic radiations other than gamma and X-ray.

ORDER NO. 7

POWER-DRIVEN HOISTING APPARATUS OCCUPATIONS

The following occupations involved in the operations of power-driven hoisting apparatus:

(1) Work of operating an elevator, crane, derrick, hoist, or high-lift truck, except operating an unattended automatic operation passenger elevator or an electric or air-operated hoist not exceeding 1-ton capacity.

(2) Work which involves riding on a manlift or on a freight elevator, except a freight elevator operated by an assigned operator.

(3) Work of assisting in the operation of a crane, derrick, or hoist performed by crane hookers, crane chasers, hookers-on, riggers, rigger helpers, and like occupations.

Definitions

The term "elevator" shall mean any power-driven hoisting or lowering mechanism equipped with a car or platform which moves in guides in a substantially vertical direction. The term shall include both passenger and freight elevators (including portable elevators or tiering machines), but shall not include dumb-waiters.

The term "crane" shall mean a power-driven machine for lifting and lowering a load and moving it horizontally, in which the hoisting mechanism is an integral part of the machine. The term shall include all types of cranes, such as cantilever gantry, crawler, gantry, hammerhead, ingot-pouring, jib, locomotive, motor truck, overhead traveling, pillar jib, pintle, portal, semigantry, semiportal, storage bridge, tower, walking jib, and wall cranes.

The term "derrick" shall mean a power-driven apparatus consisting of a mast or equivalent members held at the top by guys or braces, with or without a boom, for use with a hoisting mechanism and operating ropes. The term shall include all types of derricks, such as a frame, breast, Chicago boom, gin-pole, guy, and stiff-leg derricks.

The term "hoist" shall mean a power-driven apparatus for raising or lowering a load by the application of a pulling force that does not include a car or platform running in guides. The term shall include all types of hoists, such as base-mounted electric, clevis suspension, hook suspension, monorail, overhead electric, simple drum, and trolley suspension hoists.

The term "high-lift truck" shall mean a power-driven industrial type of truck used for lateral transportation that is equipped with a power-operated lifting device usually in the form of a fork or platform

capable of tiering loaded pallets or skids one above the other. Instead of a fork, or platform, the lifting device may consist of a ram, scoop, shovel, crane, revolving fork, or other attachments for handling specific loads. The term shall mean and include high-lift trucks known under such names as fork lifts, fork trucks, fork-lift trucks, tiering trucks, or stacking trucks, but shall not mean low-lift trucks or low-lift platform trucks that are designed for the transportation of, and the tiering of, material.

The term "manlift" shall mean a device intended for the conveyance of persons which consists of platforms or brackets mounted on, or attached to, an endless belt, cable, chain or similar method of suspension; such belt, cable, or chain operating in a substantially vertical direction and being supported by and driven through pulleys, sheaves or sprockets at the top or bottom.

ORDER NO. 8

POWER-DRIVEN METAL FORMING, PUNCHING, AND SHEARING MACHINE OCCUPATIONS

The occupations of operator of or helper on the following power-driven metal forming, punching, and shearing machines:

(1) All rolling machines, such as beading, straightening, corrugating, flanging, or bending rolls; and hot or cold rolling mills.
(2) All pressing or punching machines, such as punch presses except those provided with full automatic feed and ejection and with a fixed barrier guard to prevent the hands or fingers of the operator from entering the area between the dies; power presses; and plate punches.
(3) All bending machines, such as apron brakes and press brakes.
(4) All hammering machines, such as drop hammers and power hammers.
(5) All shearing machines, such as guillotine or squaring shears: alligator shears; and rotary shears.

The occupations of setting up, adjusting, repairing, oiling, or cleaning these machines including those with automatic feed and ejection.

Definitions

The term "operator" shall mean a person who operates a machine covered by this Order by performing such functions as starting or stopping the machine, placing materials into or removing them from the machine, or any other functions directly involved in operation of the machine.

The term "helper shall mean a person who assists in the operation of a machine covered by this Order by helping place materials into or remove them from the machine.

The term "forming, punching, and shearing machines," shall mean power-driven metal-working machines, other than machine tools, which change the shape of or cut metal by means of tools, such as dies, rolls, or knives which are mounted on rams, plungers, or other moving parts. Types of forming, punching, and shearing machines enumerated in this section are the machines to which the designation is by custom applied.

Exemptions

Exemptions for apprentices and student-learners in Hazardous Occupations Order No. 5 apply also under this Order.

ORDER NO. 9

OCCUPATIONS IN CONNECTION WITH MINING, OTHER THAN COAL

All occupations in connection with mining, other than coal, except the following:

(1) Work in offices, in the warehouse or supply house, in the change house, in the laboratory, and in repair or maintenance shops not located underground.
(2) Work in the operation and maintenance of living quarters.
(3) Work outside the mine in surveying, in the repair and maintenance of roads, and in general clean-up about the mine property such as clearing brush and digging drainage ditches.
(4) Work of track crews in the building and maintaining of sections of railroad track located in those areas of open-cut metal mines where mining and haulage activities are not being conducted at the time and place that such building and maintenance work is being done.
(5) Work in or about surface placer mining operations other than placer mining operations.
(6) The following work in metal mills other than in mercury-recovery mills or mills using the cyanide process:
    (a) Work involving the operation of Jigs, sludge tables, flotation cells, or drier-filters.
    (b) Work of hand sorting at picking table or picking belt.
    (c) General clean-up work:

Provided, however, that nothing in this section shall be construed as permitting employment of minors in any occupation prohibited by any other hazardous occupations order issued by the Secretary of Labor.

Definitions

As used in this section: The term "all occupations is connection with mining, other than coal" shall mean all work performed underground

in mines and quarries; on the surface at underground mines and quarries; in or about open-cut mines, open quarries, clay pits, and sand and gravel operations; at or about placer mining operations; at or about dredging operations for clay, sand or gravel; at or about bore-hole mining operations; in or about all metal mills, washer plants, or grinding mills reducing the bulk of the extracted minerals; and at or about any other crushing, grinding, screening, sizing, washing or cleaning operations are performed as a part of a manufacturing process. The term shall not include work performed in subsequent manufacturing or processing operations, such as work performed in smelters, electro-metallurgical plants, refineries, reduction plants, cement mills, plants where quarried stone is cut, sanded and further processed, or plants manufacturing clay, glass, or ceramic products. Neither shall the term include work performed in connection with coal mining, in petroleum production, in natural-gas production, nor in dredging operations which are not a part of mining operations, such as dredging for construction or navigation purposes.

ORDER NO. 10

OCCUPATIONS INVOLVING SLAUGHTERING, MEAT PACKING OR PROCESSING, OR RENDERING

The following occupations in or about slaughtering and meat packing establishments, rendering plants, or wholesale, retail or service establishments are particularly hazardous for the employment of minors between 16 and 18 years of age or detrimental to their health or well-being:

(1) All occupations on the killing floor, in curing cellars, and in hide cellars, except the work of messengers, runners, hand-truckers, and similar occupations which require entering such workrooms or workplaces infrequently and for short periods of time.

(2) All occupations involved in the recovery of lard and oils, except packaging and shipping of such products and the operation of hard-roll machines.

(3) All occupations involved in tankage or rendering of dead animals, animal offal, animal fats, scrap meats, blood, and bones into stock feeds, tallow, inedible greases, fertilizer ingredients, and similar products.

(4) All occupations involved in the operation or feeding of the following power-driven meat-processing machines, including setting-up, adjusting, repairing, oiling, or cleaning such machines; meat and bone cutting saws, knives (except bacon slicing machines), head-splitters, and guillotine cutters; snout-pullers and jaw-pullers; skinning machines; horizontal rotary washing machines; casing-cleaning machines such as crushing, stripping, and finishing machines; grinding, mixing chopping, and hashing machines; and presses (except belly-rolling machines).

(5) All boning occupations.
(6) All occupations that involve the pushing or dropping of any suspended carcass, half carcass, or quarter carcass.
(7) All occupations involving hand-lifting or hand-carrying any carcass or half carcass of beef, or horse, or any quarter carcass of beef or horse.

Definitions

The term "slaughtering and meat packing establishments" shall mean places in or about which cattle, calves, hogs, sheep, lambs, goats, or horses are killed, butchered, or processed. The term shall also include establishments which manufacture or process meat products or sausage casings from such animals.

The term "rendering Plants" shall mean establishments engaged in the conversion of dead animals, animal offal, animal fats, scrap meats, blood, and bones into stock feeds, tallow, inedible greases, fertilizer ingredients, and similar products.

The term "killing floor" shall include that workroom or workplace where cattle, calves, hogs, sheep, lamb, goats, or dressed prior to chilling.

The term "curing cellar" shall include that workroom or workplace which is primarily devoted to the preservation and flavoring of meat by curing materials. It does not include that workroom or workplace where meats are smoked.

The term "hide cellar" shall include that workroom or workplace where hides are graded, trimmed, salted, and otherwise cured.

The term "boning occupations" shall mean the removal of bones from meat cuts. It shall not include work that involves cutting, scraping , or trimming meat from cuts containing bones.

Exemptions

The killing and processing of poultry, rabbits, or small game in areas phusically separated from the killing floor.

Exemptions for apprentices and student-learners in Hazardous Occupations Order No. 5 apply also under this Order.

ORDER NO. 11

POWER-DRIVEN BAKERY MACHINE OCCUPATIONS

The following occupations involved in the operation of power-driven bakery machines:

(1) The occupations of operating, assisting to operate, or setting up, adjusting, repairing, oiling, or cleaning any horizontal or vertical dough mixer; batter mixer; bread dividing, round, or molding machine; dough brake; dough sheeter; combination bread slicing and wrapping machine; or cake cutting band saw.

(2) The occupation of setting up or adjusting a cooky or cracker machine.

ORDER NO. 12

POWER-DRIVEN PAPER-PRODUCTS MACHINE OCCUPATIONS

The occupations of operating or assisting to operate any of the following power-driven paper-products machines:

(1) Arm-type wire stitcher or stapler, circular or bandsaw, corner cutter or mitering machine, corrugating and single- or double-facing machine, envelope die-cutting press, guillotine paper cutter or shear, horizontal bar scorer, laminating or combining machine, sheeting machine, scrap-paper baler, or vertical slotter.

(2) Platen die-cutting press, platen printing press, or punch press which involves hand feeding of the machine.

The occupations of wetting up, adjusting, repairing, oiling or cleaning these machines including those which do not involve hand feeding.

Definitions

The term "operating or assisting to operate" shall mean all work which involves starting or stopping a machine covered by this Order, placing materials into or removing them from the machine, or any other work directly involved in operating the machine.

The term "paper-products machine" shall mean power-driven machines used in the remanufacture or conversion of paper or pulp into a finished product. The term is understood to apply to such machines whether they are used in establishments that manufacture converted paper or pulp products, or in any other type of manufacturing or non-manufacturing establishment.

Exemptions

Exemptions for apprentices and student-learners in Hazardous Occupations Order No. 5 apply also under this order.

ORDER NO. 13

OCCUPATIONS INVOLVED IN THE MANUFACTURE OF BRICK, TILE AND KINDRED PRODUCTS

The following occupations involved in the manufacture of clay construction products and of silica refractory products:

(1) All work in or about establishments in which clay construction products are manufactured, except
   (a) work in storage and shipping;
   (b) work in offices, laboratories, and storerooms; and
   (c) work in the drying departments of plants manufacturing sewer pipe.
(2) All work in or about establishments in which silica brick or other silica refractories are manufactured, except work in offices.
(3) Nothing in this section shall be construed as permitting employment of minors in any occupation prohibited by any other hazardous occupations order issued by the Secretary of Labor.

Definitions

The term "clay construction products" shall mean the following clay products: Brick, hollow structural tile, sewer pipe and kindred products, refractories, and other clay products such as architectural terra cotta, glazed structural tile, roofing tile, stove lining, chimney pipes and tops, wall coping, and drain tile. The term shall not include the following non-structural-bearing clay products: ceramic floor and wall tile, mosaic tile, glazed and enameled tile, faience, and similar tile, nor shall the term include nonclay construction products such as sand-lime brick, glass brick, or nonclay refractories.

The term "silica brick or other silica refractories" shall mean refractory products produced from raw materials containing free silica as their main constituent.

ORDER NO. 14

OCCUPATIONS INVOLVED IN THE OPERATION OF POWER-DRIVEN CIRCULAR SAWS, BAND SAWS, AND GUILLOTINE SHEARS

The occupations of operator of or helper on the following power-driven fixed or portable machines except machines equipped with full automatic feed and ejection:

(1) Circular saws.
(2) Band saws.
(3) Guillotine shears.

The occupations of setting up, adjusting, repairing, oiling, or cleaning circular saws, band saws, and guillotine shears.

Definitions

The term "operator" shall mean a person who operates a machine covered by this Order by performing such functions as starting or stopping the machine, placing materials into or removing them from the machine, or any other functions directly involved in operation of the machine.

The term "helper" shall mean a person who assists in the operation of a machine covered by this order by helping place materials into or remove them from the machine.

The term "machines equipped with full automatic feed and ejection" shall mean machines covered by this order which are equipped with devices for full automatic feeding and ejection and with a fixed barrier guard to prevent completely the operator or helper from placing any part of his body in the point-of-operation area.

The term "circular saw" shall mean a machine equipped with a thin steel disc having a continuous series of notches or teeth on the periphery, mounted on shafting, and used for sawing materials.

The term "band saw" shall mean a machine equipped with and endless steel band having a continuous series of notches or teeth, running over wheels or pulleys, and used for sawing materials.

The term "guillotine shear" shall mean a machine equipped with a movable blade operated vertically and used to shear materials. The term shall not include other types of shearing machines, using a different form of shearing action, such as alligator shears or circular shears.

Exemptions

Exemptions for apprentices and student-learners in Hazardous Occupations Order No. 5 apply also under this Order.

ORDER NO. 15

OCCUPATIONS INVOLVED IN WRECKING, DEMOLITION, AND SHIPBREAKING OPERATIONS

All occupations in wrecking, demolition, and shipbreaking operations.

Definitions

The term "wrecking, demolition, and shipbreaking operations" shall mean all work, including cleanup and salvage work, performed at the site of the total or partial razing, demolishing, or dismantling of a building, bridge, steeple, tower, chimney, other structure, ship or other vessel.

ORDER NO. 16

OCCUPATIONS IN ROOFING OPERATIONS

All occupations in roofing operations.

Definitions

The term "roofing operations" shall mean all work performed in connection with the application of weatherproofing materials and substances (such as tar or pitch, asphalt prepared paper, tile, slate, metal, translucent materials, and shingles of asbestos, asphalt or wood) to roofs of buildings or other structures. The term shall also include all work performed in connection with :

(1) The installation of roofs, including related matal work such as flashing and

(2) alterations, additions, maintenance, and repair, including painting and coating, of existing roofs. The term shall not include gutter and downspout work; the construction of the sheathing or base of roofs; or the installation of television antennas, air conditioners, exhaust and ventilating equipment, or similar appliances attached to roofs.

Exemptions

Exemptions for apprentices and student-learners contained in Hazardous Occupations Order No. 5 apply also under this Order.

ORDER NO. 17

OCCUPATIONS IN EXCAVATION OPERATIONS

The following occupations in excavation operations are particularly hazardous for the employment of persons between 16 and 18 years of age:

(1) Excavating, working in, or backfilling (refilling) trenches, except
   (a) manually excavating or manually backfilling trenches that do not exceed four feet in depth at any point, or
   (b) working in trenches that do not exceed four feet in depth at any point.

(2) Excavating for buildings or other structures or working in such excavations, except
   (a) manually excavating to a depth not exceeding four feet below any ground surface adjoining the excavation, or
   (b) working in an excavation not exceeding such depth, or
   (c) working in an excavation where the side walls are shored or sloped to the angle of repose.

(3) Working within tunnels prior to the completion of all driving and shoring operations.

(4) Working within shafts prior to the completion of all sinking and shoring operations.

Exemptions

The exemptions for apprentices and student-learners discussed in Hazardous Occupations Order No. 5 apply also under this Order.

VT 001 101

Ryley, Frederick, Comp.
Report on the Manpower Development and Training Program, Mattoon, Illinois.

Illinois State Board of Vocational Education and Rehabilitation, Springfield
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 17Mar66 17p.

*VOCATIONAL FOLLOWUP; *GRADUATES; *ADULT VOCATIONAL EDUCATION; *FEDERAL PROGRAMS; INCOME; PARTICIPANT SATISFACTION; EMPLOYMENT EXPERIENCE
MATTOON MANPOWER TRAINING CENTER; ILLINOIS; MDTA PROGRAMS; *MANPOWER DEVELOPMENT AND TRAINING ACT PROGRAMS

A questionnaire was mailed to 214 graduates of the arc welding and turret lathe operator programs conducted at the Mattoon Manpower Training Center. Usable returns were received from 145 graduates. Response of 138 graduates to an educational background question indicated that 68.1 percent had completed the 12th grade while only 9.4 percent had completed the 8th grade or less. The majority of the graduates were extremely satisfied with the training they had received and 87.5 percent were employed full time with 39.8 percent employed in occupations for which they were trained, 21.1 percent in related occupations, and 39.1 percent in unrelated occupations. The trainee's average yearly salary before training was $2,620.00 and after training $4,979.00. The average annual income tax paid before training was $44.00 and after training $398.00, indicating that in 2 years and 10 months, additional federal income tax paid by manpower program graduates will repay the total cost of training. (PA)

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Report on the

MANPOWER DEVELOPMENT AND TRAINING PROGRAM

MATTOON, ILLINOIS

This report compiled and collected by:

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OFFICE OF EDUCATION

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This report has been made possible only by
the cooperation and assistance of the following:

COMMUNITY UNIT SCHOOL DISTRICT #2
Virgil Judge - Superintendent
Charles Crites - Director of Adult
Education
ILLINOIS STATE EMPLOYMENT SERVICE
William Disque - Manager
Wayne McKinney - Manpower Supervisor

VT001101

R&S 3-17-66

Introduction

This survey was conducted by the use of a written instrument which was developed and mailed to the 214 graduates of the Mattoon Manpower Program. The survey form was developed as a result of a visit with the personnel involved in the administration of the Mattoon Manpower Training Center, a visit to the Illinois State Employment Service, Mattoon, as well as a solicitation of ideas and criticisms from other individuals familiar with the Manpower Program.

At the date of compilation of the report, 145 usuable returns had been received or 67.8% of the total population. Whenever possible any questionable answers particularly on the graduate's employment and salary record were verified by telephone.

I INTRODUCTION TO MANPOWER STUDY

The 1961 Area Redevelopment Act (ARA) was a forerunner to the Manpower Development and Training Act of 1962. The ARA authorized assistance to areas with substantial and persistent unemployment in two ways: (1) the planning and financing of economic redevelopment, (2) training the area unemployed and underemployed workers. The MDTA is much broader and farsighted in nature. The law is directed toward the unemployed, unskilled and others whose skills need to be updated to meet changing requirements resulting from automation, technological changes, relocation of industry, shifts in market demands and other economic factors. Programs aimed at retraining the hard-core unemployed are emphasized.

Responsibility for training is placed with the Federal Department of Health, Education and Welfare, which in turn contracts with each State Vocational Education Department to organize and conduct the training needed. The responsibility for determination of training needs and locating persons available for such training is placed with the Department of Labor through their local Employment Service Offices.

Under MDTA, one hundred percent of the training costs are presently financed through Federal funds. Illinois has been a leader in the establishment of MDTA classes. In Illinois, more occupational training classes have already been established, or are in the planning stages, than in any other state. As of November 30, 1965, a total of 354 differenent programs for 31,375 trainees had been approved throughout the state since the conception of the MDTA program.[1]

This past Fall, the Illinois State Board of Vocational Education and Rehabilitation expressed a desire to obtain some first hand information on our state Manpower Program. The State Vocational Education Office of Research and Statistics undertook the responsibility of conducting a survey of graduates from Manpower Training Programs to obtain some "grass roots" data for the State Board and other interested parties.

The graduates of the Manpower Training Program conducted by the Mattoon Community Unit School District Number Two was chosen for the survey. Some of the deciding factors in this choice were, first and probably most important, the relatively rural composition of the Mattoon area. It was thought this climate would facilitate the job of tracing down or locating more graduates than larger urban areas. Second, was the interest and progressive attitude prevalent in the Mattoon Manpower Program Administrators, both in the local school district and in their local state employment office. These administrators and program instructors, because of their interest, have maintained contact with many trainees long after graduation. Mattoon has conducted training classes under MDTA almost from the beginning of the Illinois program. These classes have graduated trainees over a longer span of time than many of the other training centers, therefore giving a more varied universe to attempt to secure data from.

1. Source: Illinois Labor Bulletin Fourth Quarter 1965, Vol. 20 No. 4, p. 5

The survey was conducted by the use of a written instrument which was developed and mailed on September 23, 1965 to the 214 graduates of the Mattoon Manpower Program. By October 15th a total of 73 or 34.1 per cent of the graduates had completed the survey forms and the information secured from this group was tabulated. Another group of 72 or 33.6 percent of the total had returned the survey form by January 10, 1966. The securing of such a large second group of returns was aided by the use of a second follow-up letter and survey form mailed to all non-respondents on October 27, 1965.

The original tabulation of data in two groups was used as a means for determining the amount or variance in answers from Group 1 as compared to Group 2. We were interested in the possibility that the returns received after the first surge would gradually deteriorate in quality on factors such as employment, working in a field for which trained, etc. This was based upon the assumption that those graduates who were presently employed and those who were most successful, would be less reluctant to fill out a questionnaire on their background and present status. This assumption was shown to be invalid when Group 1 was compared to Group 2. No further attempt was made to secure a return from the class of non-respondents primarily because of the close correlation between the answers of Group 1 and Group 2.

II GENERAL SUMMARY OF MANPOWER STUDY

A. General Information on Number of Respondents in the Survey

Total number who have completed training as of 9/15/65: 214

Number of completed survey forms from program graduates:

Group I (survey forms completed and mailed back to research department by October 15, 1965) 73 or 34.0% of total

Group II (survey forms received by research department from October 15, 1965 to January 10, 1966) 72 or 33.6% of total

Total Group (comprised of group I plus group II) 145 or 67.8% of all graduates

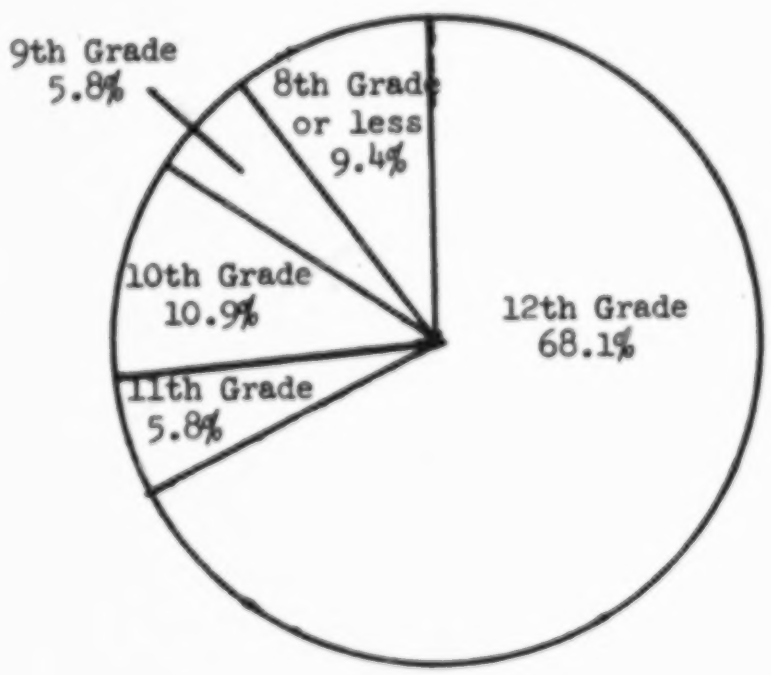
B. General Background Data on Manpower Graduates

	Group I	Group II	Total (Groups I & II)
Per Cent of respondents who were married at the time of the survey:	73.6%	70.8%	72.2%
Average number of dependents (not including trainee):	2.0	2.0	2.0
Per Cent of trainees who were unemployed heads of a household when they enrolled in the training program:	53.5%	54.4%	54.0%
Per Cent of trainees who were unemployed for 5 or more weeks prior to training:	54.9%	70.1%	63.2%
Median age of the trainees when enrolled:	23	23	23
Mean age of the trainees when enrolled:	25.0	25.7	25.3
Average number of 'solid' job offers received upon completion of the Manpower Program:	2.2	2.2	2.2
Average number of hours worked per week by employed at time of study:	43.4	44.3	43.9

C. Education

	Group I	Group II	Total (Groups I & II)
Total number who completed question asking for the highest grade of education completed:	71	67	138
Percent of total who completed the following grades:			
8th grade or less	9.9	9.0	9.4
9th grade	4.2	7.5	5.8
10th grade	5.6	16.4	10.9
11th grade	7.0	4.5	5.8
12th grade	73.2	62.7	68.1
	100 %	100 %	100 %

Education Attainment of the MDTA Trainees



D. Employment of Graduates at the Time of Survey

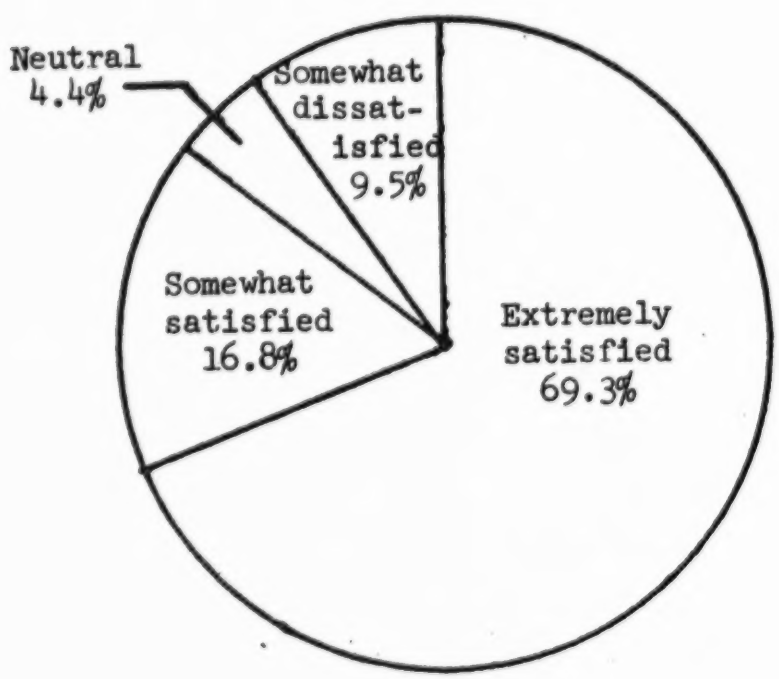
	Group I	Group II	Total (Groups I & II)
Total number of respondents who answered question on their present employment status:	73	71	144
Employment status by percent:			
Employed full time	91.8	83.1	87.5
Employed part time	1.4	2.8	2.1
In Military Service	4.1	9.9	6.9
Unemployed	2.7	4.2	3.5
	100 %	100 %	100 %

Employment Status of the MDTA Graduates

Graduate's Rating of Manpower Training

	Group I	Group II	Total (Groups I & II)
Total number of respondents who answered question on rating their attitude about the MDTA training they received:	71	66	137
Graduate's rating of program by percent:			
Extremely satisfied	66.2	72.7	69.3
Somewhat satisfied	23.9	9.1	16.8
Neutral	4.2	4.5	4.4
Somewhat dissatisfied	5.7	13.6	9.5
Extremely dissatisfied	0.0	0.0	0.0
	100 %	100 %	100 %

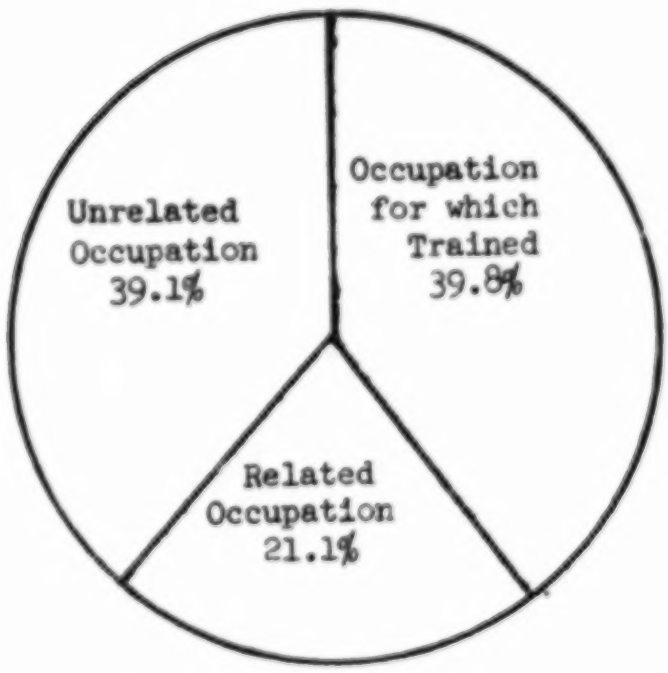
Rating of Manpower Training by Graduates



F. Relationship of Present Job to Manpower Training

	Group I	Group II	Total (Groups I & II)
Total number of respondents who answered question:	67	61	128
Graduates classification of present job by percent:			
Employed in occupation for which trained	44.8	34.4	39.8
Employed in related occupation	14.9	27.9	21.1
Employed in unrelated occupation	40.3	37.7	39.1
	100 %	100 %	100 %

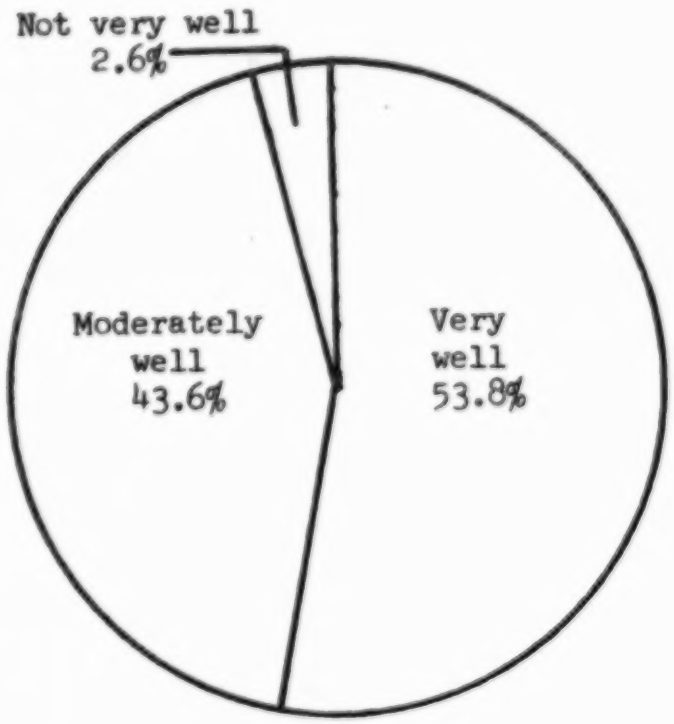
Employment Status of MDTA Graduates



G. Rating of Preparation for Present Job by those Trainees Presently Employed in a Manpower Trained or Related Job

	Group I	Group II	Total (Groups I & II)
Total number of respondents who answered question:	40	38	78
Graduates rating of preparation for their present job by percent:			
Very well	50.0	57.9	53.8
Moderately well	50.0	36.8	43.6
Not very well	0.0	5.3	2.6
Not well at all	0.0	0.0	0.0
	100 %	100 %	100 %

Graduates Rating of Preparation for their Present Job*



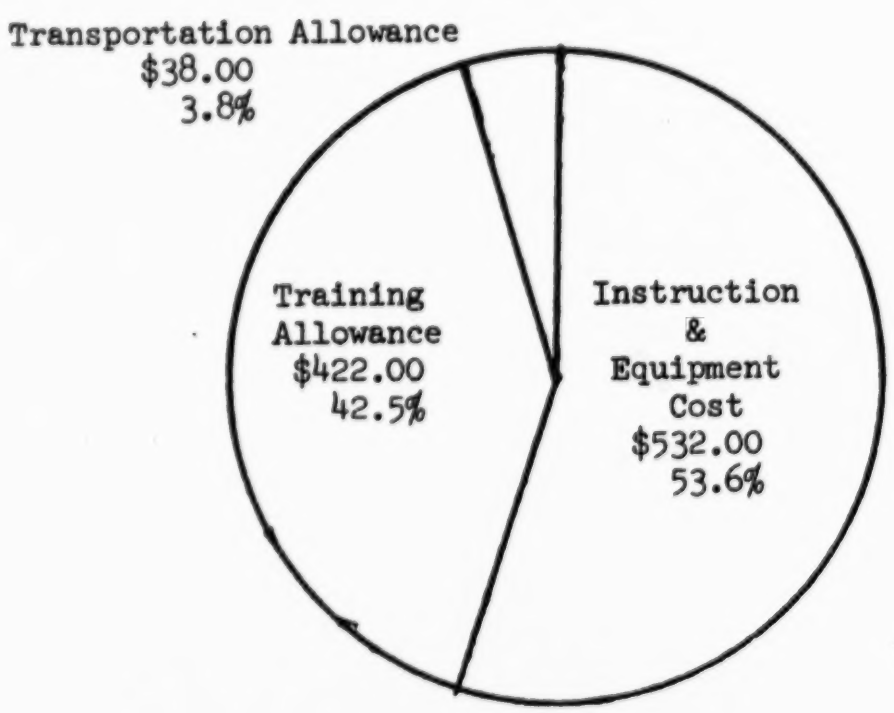
* Rating is by these MDTA graduates who at the time of the survey were employed in a manpower trained or related job.

H. Cost of the Mattoon MDTA Projects (Based on the 3 completed Arc Welding Projects and the 1 completed Turret Lathe Project - total of 127 graduates)

Transportation allowance	$ 4,809	or	$ 38	per trainee
Training allowance	53,565	or	422	per trainee
Instruction & equipment cost	67,581	or	532	per trainee
Total cost	$125,955	or	$922	per trainee

Cost per training hour - Arc Welders (12 weeks @ 30 hours per week = 360 hours)	$2.36
Cost per training hour - Turret Lathe Operators (18 weeks @ 30 hours per week = 540 hours)	$2.27
Average training cost per hour	$2.31

Cost of the Mattoon MDTA Projects Per Trainee*



* Based on 3 completed Arc Welding Projects and 1 completed Turret Lathe Project - Total of 127 graduates.

I. Unemployment, Income and Federal Tax Data on MDTA Graduates*

	Group I	Group II	Total (Groups I & II
Average number of weeks unemployed per year:			
In the year prior to the manpower course**	15.8	15.8	15.8
In the year after the manpower course	4.3	2.8	3.4
** Questionnaire completed by MDTA graduates was not designed to get a valid answer to this question. The 15.8 weeks was derived from a special census of 62 MDTA trainees who were currently enrolled in a Mattoon program in the fall of 1965.			
Trainee's average yearly salary before manpower training (based on an average of 36.2 weeks worked per year)	$2479.00	$2745.00	$2620.00
Average income tax paid (1965 tax rate assuming 2 dependents)	26.00	61.00	44.00
Trainee's average yearly salary after manpower training (based on 47.7, 49.2 and 48.6 weeks worked per year for Group I, Group II, and Total, respectively)	$5022.00	$4915.00	$4979.00
Average income tax paid (1965 tax rate assuming 2 dependents)	$ 405.00	$ 390.00	$ 398.00
Time it would take each trainee to repay through his additional income tax, his total cost of training	2 yrs.,6 mos.	3 yrs.,0 mos.	2 yrs.,10 mos.

* All income data is based on respondents who graduated from either an arc welding or a turret lathe project and who furnished useable income information.
Note: Useable income data was received from 64 or 50.3% of the 127 arc welding and turret lathe graduates.

MATTCON MANPOWER PROGRAM *

Projects	No. Started	No. Now Attending	No. Dropped	No. Completed
Arc Welding	143	13	9	121
Automobile Mechanic	33	14	9	10
Electronics Mechanic	36	33	3	0
Machine Operator, General	30	12	3	15
Turret Lathe Operator	93	11	14	68
Totals	335	83	38	214
Per Cent	100.0	24.8	11.3	63.9

* This is a 'to date' (as of 9/15/65) summary of the Mattoon program since its inception in 1963.

Location of Employment for Manpower Graduates *

No. of Graduates	
175	Employed in 28 different cities in Illinois
8	Employed in 4 other states
6	In military service
7	Unemployed
2	College
16	Unknown
214	

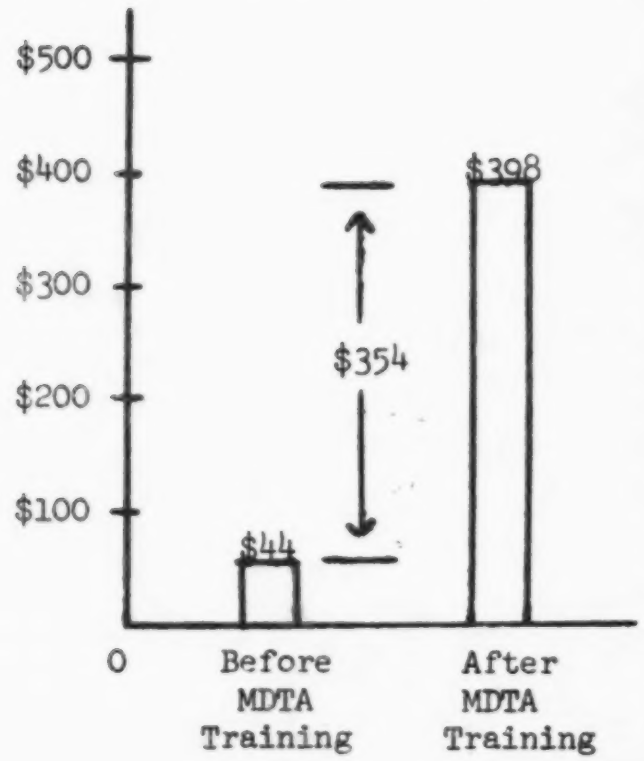
Cities Which Employ Five or More Mattoon Graduates

No. Employed	City
6	Charleston
6	Danville
11	Decatur
56	Mattoon
11	Paris
33	Peoria
5	Rockford
7	Shelbyville
8	Springfield
6	Sullivan
149	

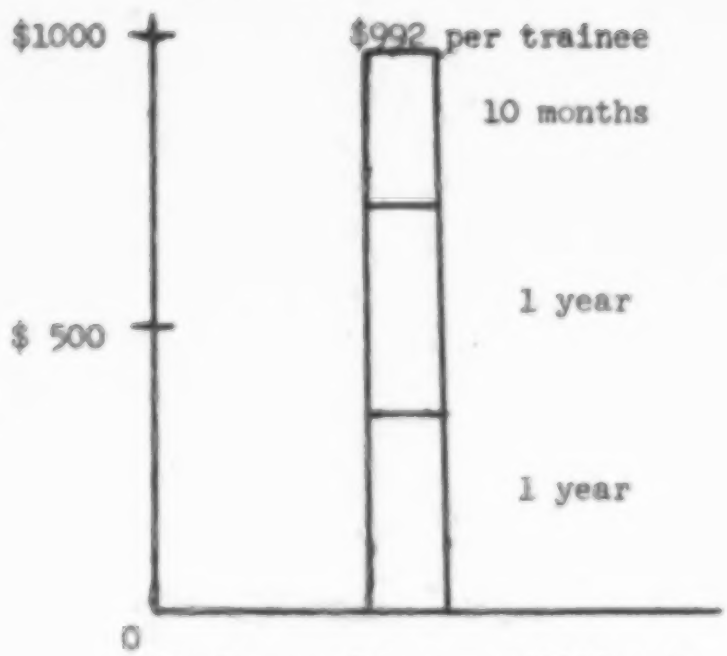
* Source - Mattoon State Employment Service

Income of MDTA Trainees

Federal Income Tax Paid by MDTA Trainees



Cost of MDTA Training



In 2 yrs. 10 mos. additional federal income tax paid by MDTA graduates will repay total cost of training

VT 001 102
Scarnato, Sam
Cass County Study of Vocational-Technical Education. A Report to the Citizens.

Lewis-Cass Intermediate School District, Cassopolis, Mich.
Michigan State Dept. of Public Instruction, Lansing. Div. of Vocational Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jul66 119p.

*VOCATIONAL EDUCATION; HIGH SCHOOL STUDENTS; HIGH SCHOOL GRADUATES; OCCUPATIONAL SURVEYS; *EDUCATIONAL NEEDS; TECHNICAL EDUCATION; SURVEYS; POPULATION TRENDS; EMPLOYMENT TRENDS; *PROGRAM ATTITUDES; EDUCATIONAL INTEREST; GRADUATE SURVEYS; EMPLOYER ATTITUDES
CASS COUNTY; MICHIGAN

A study was conducted by a citizen's advisory committee to show the specific needs for training the youth of Cass County for occupational competency. The 1960 population of Cass County was 36,932, and the 1966 school organization included 12 primary school districts and 4 high school districts. County, state, and national statistical data were studied to show characteristics and projections for the population, education, labor, industry, commerce, and agriculture. Surveys were conducted, and questionnaires were received from 434 high school seniors, 144 business and industrial firms, and 223 high school graduates. Curricular offerings in agriculture, business, home economics, and industrial arts were studied in the county's six high school buildings. Recommendations included: (1) the 4 high school districts should cooperatively employ a director of vocational education, (2) introductory programs should be provided in all high schools for the development of basic skills, attitudes, and habits needed for entrance into the world of work, (3) advanced courses in specific vocational areas should be offered in cooperative exchange programs on a county-wide basis, and (4) each high school should be encouraged to develop and/or expand a cooperative occupational program as approved by the Vocational Division of the Michigan Department of Education. (PS)

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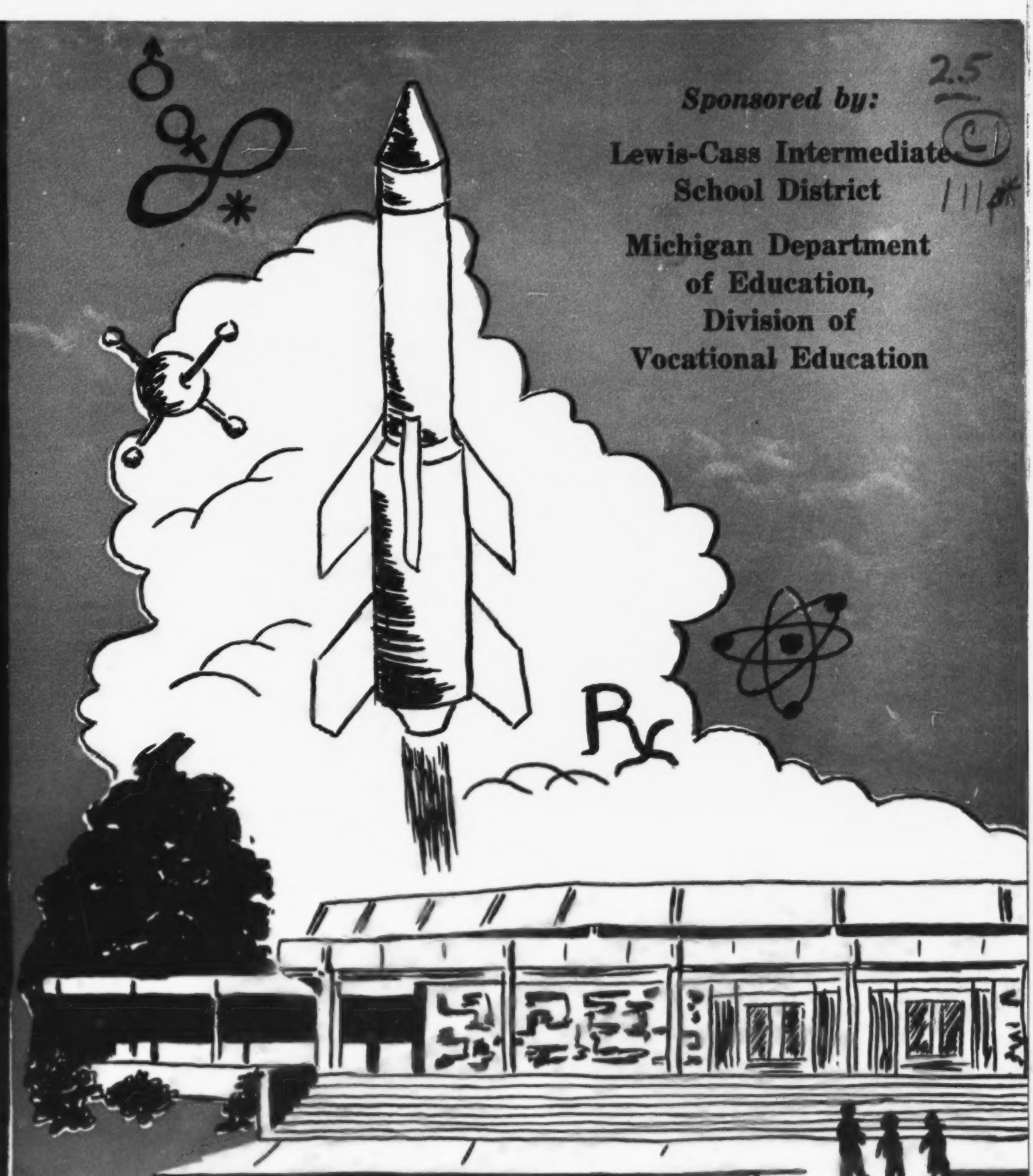

Sponsored by:

Lewis-Cass Intermediate School District

Michigan Department of Education, Division of Vocational Education

Cass County VOCATIONAL-TECHNICAL EDUCATION STUDY

Report to the Citizens

VT 01102

Directed by:
SAM SCARNATO

If YOU ARE

- A PARENT
- AN EMPLOYER
- A SCHOOL BOARD MEMBER
- A PUBLIC EDUCATOR

WHO IS

- INTERESTED IN YOUTH
- INTERESTED IN YOUR LOCAL, STATE AND NATIONAL COMMUNITY

....you will want to read this report on the need for occupational preparation of youth and young adults in the Cass County area.

"The society which scorns excellence in plumbing because plumbing is a humble activity and tolerates shoddiness in philosophy because it is an exalted activity will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water."

John W. Gardner
Secretary of Health,
Education
and Welfare

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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CASS COUNTY STUDY OF VOCATIONAL-TECHNICAL EDUCATION

A Report To The Citizens

Conducted by

The Lewis Cass Intermediate School District
John O. Ames, Superintendent

In Cooperation with

The Michigan Department of Education
Division of Vocational Education

and

Supported By

Cassopolis Public Schools

Dowagiac Union Schools

Edwardsburg Public Schools

Marcellus Public Schools

and

Southwestern Michigan College

Study Director
Samuel A. Scarnato

Cassopolis, Michigan July, 1966

LEWIS CASS INTERMEDIATE SCHOOL DISTRICT

N. BROADWAY CASSOPOLIS, MICHIGAN 49031

Phone 445-2448

JOHN O. AMES, Superintendent
Mrs. Margaret Gleason, Sec'y
Mrs. Virginia Andras, Sec'y.

CASS COUNTY STUDY OF VOCATIONAL-TECHNICAL EDUCATION

DIRECTOR: Samuel A. Scarnato

School Board Members, Educators and
Other Interested Citizens of Cass County

This report of the findings and recommendations of the Cass County Study for Vocational-Technical Education is presented for your thoughtful consideration.

The purpose of this report is to provide you with a sound basis for future direction and action in developing a meaningful program of vocational-technical education that will meet the needs of today's youth and adults.

It represents the efforts and cooperation of many. Any errors of omission or commission are the responsibility of the writer.

Samuel A. Scarnato

Cassopolis, Michigan
July, 1966

LEWIS CASS INTERMEDIATE SCHOOL DISTRICT

N. BROADWAY CASSOPOLIS, MICHIGAN 49031

Phone 445-2448

JOHN O. AMES, Superintendent
Mrs. Margaret Gleason, Sec'y
Mrs. Virginia Andras, Sec'y.

July 29, 1966

Mr. Robert M. Winger, Assistant Superintendent
Division of Vocational Education
Department of Education
Lansing, Michigan

Letter of Transmittal
Re: Vocational-Technical
Education Proposal

Dear Mr. Winger:

This is to inform you that in 1965 a study was initiated under the sponsorship of the Lewis Cass Intermediate Board of Education to make a comprehensive survey of the vocational and technical conditions and needs in Cass County, with the specific objective of making a determination as to the needs and possibilities for vocational and technical education in Cass County.

In order to implement the study, the sponsoring organization employed a director and organized a citizen's advisory committee composed of a wide cross section of representative lay and professional people of Cass County, including representatives of most of the constituent school districts. This committee was also assisted by Mr. Robert Pangman of the Department of Education.

After an extensive study, extending over a period of ten months, the Advisory Committee compiled a comprehensive printed report and recommendations.

With this letter, I am submitting to you five copies of said Study Report, which definitely establishes the need for vocational and technical education to best serve the educational needs of high school and post high school youths and adults in Cass County.

Upon the basis of this letter and copies of the Study Report, and according to a wide cross section of responsible citizens in Cass County, which definitely establish the need for vocational and technical education in said county, I trust that you and other members of the Department of Education, will grant approval for the various programs of vocational and technical education in the constituent high schools and Southwestern Michigan College.

Sincerely yours,

John O. Ames

John O. Ames,
Intermediate Supt.
va

CASS COUNTY STUDY FOR VOCATIONAL-TECHNICAL EDUCATION

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Miss Rosiland Williamson
and
Many Student Volunteers
from Cassopolis High School

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CHAPTER I

INTRODUCTION

Dynamics For Change

If today one were asked to characterize, in one word, education in the United States, that word would likely be "change." Never has education been of such national concern, with tremendous pressures at all levels to improve the product of our educational processes. Yet while we read on the one hand of the various federal acts which provide assistance for education, there appears to be a continuing problem with our youth leaving our high school prior to graduation. Perhaps of even greater concern, large numbers of our high school graduates enter the labor market with little or no employable skill for today's industrial technology. By some estimates as much as 75 per cent of our secondary school student population will not go on to college; an alarming portion of these non-college bound youngsters will follow a general curriculum in high school which fits them for no specific employment without further formal training.

Paradoxically, industry at this time has large numbers of unfilled jobs at low and upper middle levels, and automation, while eliminating some jobs, is also creating jobs at low and upper middle levels. It does not seem too much to ask education to prepare more of our youth for gainful application of their

high school studies. It becomes clearly evident that a new conception and a greater imagination and inventiveness must take place in high schools and community colleges in providing guidance, occupational information, and some form of occupational education for the overwhelming three-fourths of the students.

Since the early days of this century, vocational educators and others have joined with the Congress and with business, agricultural, and industrial people to search out suitable means of providing broad programs of vocational education for those destined to go directly from high school to work. Much legislation has been enacted by both the national and the state governments, but the meagerness of funds and supplies has always limited the broad occupational training opportunities for youth and adults.

With the passage of the Vocational Education Act of 1963, schools are presented a challenge and a mandate on scale and magnitude which demands immediate attention and creative approaches. The act makes appropriations available for meeting the needs of:

1. High skill and technical ability.
2. Youth and unemployment.
3. The high school dropout.
4. The disadvantaged individual.
5. The displaced worker.

It represents a new kind of thinking and provides an unprecedented flexibility. It opens up a whole array of new targets for what could become vocational education. Programs no longer need to be restricted to the traditional, specific

and highly specified services of vocational education. However, guide-lines which denote vocational education as a highly specialized kind of education will still be carefully considered, but programs may involve more than one of the traditional major vocational services, so that crossing of service lines could become characteristic of programs in the future.

On the local level the Study for Vocational-Technical Education in the Lewis Cass Intermediate School District is a beginning step in the direction of re-tooling the educational enterprise for occupational competency. This report will attempt to show the specific needs for training the youth of Cass County for tomorrow.

Early Industrial Development

Cass County, Michigan, was first settled in the 1820's and the first industries were little more than one-man shops for the manufacture of articles too complicated for the settlers of the area to fashion for themselves. These early necessary industries included the typical blacksmith shops and mills for grinding grain of nearly a century and half ago.

The ready power which the Dowagiac Creek supplied for industry was one of the reasons for the development of Dowagiac as the industrial center of the county.

The many small and individual-type industries, which are described in an early Cass County history, passed from the scene "as soon as railroad transportation became general and the centralization of manufacturing began it would be necessary either that the tannery should enlarge to more than a local

concern or go out of business entirely. The latter was more often the case."[1]

The industries of Cass County developed within this framework of growing transportation facilities and increasing specialization. A summary of a factory inspection made in Cass County in April, 1905, as reported in the Twenty-third Annual Report of the Michigan Bureau of Labor indicated the following:

> Cass County had 37 industries which reported employing 994 people or 5 per cent of the county population. (Undoubtly this figure would have been twice as large had all data from the period been available). The City of Dowagiac with a population of slightly less than 5,000, had 16 factories or workshops which produced or handled 11 different kinds of goods. Eighty-seven per cent of the county's industrial employees worked in Dowagiac. The Round Oak Stove Works with 590 employees and the Dowagiac Manufacturing Company with 165 employees were the county's leading industries.

The growth of financial institutions is closely related to the growth of industry in Cass County. In 1855 the first bank in the county was founded by Asa and Charles Kingsbury in Cassopolis. In 1905 this bank reported capital assets of $50,000 and surplus and profits of $50,000. This bank is still in existence today with estimated assets increased a hundredfold since 1905.

The first banker in Dowagiac was H. B. Denman who founded his bank in 1856. In 1865 his bank became the First National Bank of Dowagiac. This bank was later to be sold, experience a merger, a charter expiration and renewal, and numerous other changes. In 1906 this bank reported deposits and surplus

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[1] L.H. Glover, A Twentieth Century History of Cass County (Chicago: The Lewis Publishing Co., 1906), p. 187.

27

totaling $350,000.

The principal industrial firm of the county during the earlier part of this century was the Round Oak Stove Works. Founded in 1854 by P. S. Beckwith for the manufacture of plows, the company in 1870 patented the Round Oak Stove, a product which went on to enjoy great popularity. In 1905 it was estimated that "half the population of Dowagiac depended on the Round Oak Works for livelihood and that 65 per cent of the employees owned their own homes."[1] In 1942 this company drastically curtailed its operation in light of war-time demand with the Kaiser Motor Corporation taking over and finally being forced to close because of severe competition.

Cass County's Industrial Giants of Today

Although many of Cass County's largest industries at the turn of the century are no longer in existence there are many companies whose histories extend almost to that time. It is instructive to examine the histories of the few of Cass County's larger present-day companies because they reveal the forces which have shaped the county in recent years.

The Rudy Manufacturing Company was founded in 1915 by Mr. Arthur E. Rudolphi, who had worked at the Round Oak Furnace Company. At that time the company was known as the Rudy Furnace Company. The company has always been located at its present site on East Praire Ronde Street, Dowagiac, near the railroad lines, but it has undergone much expansion. Today it manufactures

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[1] *Ibid.*, p. 191.

component parts for air-conditioning apparatus, evaporators, and condensers in a plant with 500,000 square feet of floor space and it employs approximately 1,200 persons. Its annual payroll is about $8,000,000 and it is the largest company in the county.

The Jessup Door Company was started after World War II when Mr. Robert R. Jessup returned to his hometown of Dowagiac and began making mouldings and cabinets. In 1954, the company began making louvred doors. The production of louvred doors has grown from 500 to 600 per day to 5,000 to 7,000 per day which also includes the production of paneled doors and blinds. In 1960, Mr. Jessup sold the company to A. J. Industries which owns diversified companies throughout the United States. Today the company occupies a factory with 200,000 square feet of floor space and employs about 300 persons in Dowagiac. Company officials indicate that the company undoubtedly will continue to grow.

Greater Dowagiac Association

One of the most interesting and stimulating developments in the modern history of industry in Cass County was the formation of a citizens' group in 1954 called the Greater Dowagiac Association (GDA). This group was suggested by the local Lions Club when the Kaiser Motor Corporation suspended production in Dowagiac. The group, under the early leadership of Mr. Fred Horner, former mayor of Dowagiac, and Mr. Eugene Jenison, worked out a program to attract new industry to Dowagiac. The GDA formed a number of non-profit organizations, each of which built a building

and then leased or sold it to a new company. The GDA has since become the Greater Dowagiac Chamber of Commerce.

The Cupples Door and Frame Corporation began operations in Dowagiac in 1954 because of the presence of a building which had been built by one of the GDA sponsored organizations. In 1960 the company was sold to the Cupples Products Corporation of St. Louis, Missouri. It is now a wholly owned subsidiary of Alcoa. The company has grown from 12,000 square feet of floor space to 116,000 square feet and now employs over 100 persons in producing commercial doors, frames, and store fronts.

CHAPTER II

POPULATION OF CASS COUNTY

Selected Characteristics and Changes

The rapid rate of change, previously mentioned, is often most visible in material things; however, populations also undergo radical changes in their distributions and characteristics. This section will attempt to provide data taken from the 1960 United States Census of Population of Michigan which describe the population in a number of important ways.

Tables 1, 2, and 3 present the following data: the population of the municipalities of the county and the balance of the county, the county and the state for the years 1940, 1950, and 1960; the number and percentage of increase for 1940-50 and 1950-60; and the components of population change between April 1, 1950 to April 1, 1960.

TABLE 1

POPULATION, CASS COUNTY 1940, 1950, and 1960

Villages, County & State	1940	1950	1960
Dowagiac	5,007	6,542	7,208
Cassopolis	1,488	1,527	2,027
Marcellus	992	1,014	1,073
Edwardsburg	482	616	902
Vandalia	360	360	357
Balance of County	13,581	18,126	25,365
CASS COUNTY	21,910	28,185	36,932
MICHIGAN	5,256,106	6,371,766	7,823,194

Source: U.S. Bureau of the Census, U.S. Census of Population: 1950 and U.S. Census of Population 1960: Michigan General Social and Economic Characteristics (Washington, D.C.: U. S. Department of Commerce, Bureau of the Census).

TABLE 2

INCREASE IN NUMBER AND PERCENTAGE OF POPULATION, CASS COUNTY 1940-50 AND 1950-60

Villages, County & State	Increase 1940-50		Increase 1950-60	
	Number	Per Cent	Number	Per Cent
Dowagiac	1,435	28.7%	666	10.2%
Cassopolis	39	2.6	500	32.7
Marcellus	22	2.2	59	5.8
Edwardsburg	134	29.9	286	46.4
Vandalia	0	0.0	- 3	loss
Balance of County	4,545	28.0	7,239	37.3
CASS COUNTY	6,275	28.6	8,747	31.0
MICHIGAN	1,115,660	21.2	1,451,428	22.8

TABLE 3

COMPONENTS OF POPULATION CHANGE CASS COUNTY, APRIL 1, 1950 TO APRIL 1, 1960

Components	City of Dowagiac	Balance of County	Cass County	Michigan
Births*	1,877	4,471	6,348	1,917,903
Deaths	905	2,724	3,629	628,707
Natural Increase	972	1,747	2,719	1,289,196
Per cent of Natural Increase	145.9%	21.6%	31.1%	88.8%
Net Migration	-306	6,334	6,028	162,232
Per cent of Migration	-45.9%	78.4%	68.9%	11.2%

*figure corrected for underregistration

Source: John F. Thaden, Population of Michigan Counties, Projections to 1970, Institute for Community Development, (Michigan State University, March, 1962) and A. Beegle, et.al., Michigan Population 1960 Special Bulletin 438, (Michigan State University, 1962).

The following conclusions may be drawn from the foregoing population data.

1. The percentages are indicative of a better than average population growth for the county. Caution needs to be noted in making future projections on the percentage-increases of the past two decades. Projections based solely on percentage-increase without consideration to size, composition, and many other factors of the population could over simplify the future growth picture.

2. While the population growth in Michigan has been due to natural increase, seemingly the reverse was true in Cass County. Approximately 89 per cent of the state's growth was to the excess of births over death in the last decade, while less than one-third of the county growth can be attributed to similar reasons.

3. The population of the state of Michigan accounted for 4.4 per cent of the total United States population and Cass County accounted for only .47 per cent of the total Michigan population. The later percentage showed no change from the previous decade.

4. The growth pattern of the city of Dowagiac is atypical in comparison to the balance of the county.

5. The most rapid rate of growth is in the southern portions of the county as noted in the increased growth rate of the village of Edwardsburg.

Rural and Urban Residence

Among the most dramatic changes in our population and particularly in Michigan is its growing centralization. This trend is shown only in part by the increases occurring in the urban residence category. Expansions in the areas near certain cities, but outside incorporated urban areas, are shown as "rural" growth in census reports but should be considered as a part of the process of centralization. Here again Cass County presents a residence pattern different from the state, as evidenced from the data shown in Table 4.

TABLE 4

COMPARISON OF MICHIGAN AND CASS COUNTY POPULATION DISTRIBUTION BY RURAL AND URBAN RESIDENCE, 1960

Population Distribution	Michigan		Cass County	
	Number	Per Cent	Number	Per Cent
Urban Population	5,739,132	73.4%	7,208	19.5%
Rural Population	2,084,062	26.6	29,724	80.5
Rural Population in Places 1000-2500	240,753	3.1	3,100	8.4
Rural Population Outside Places of 1000-2500	1,843,309	23.5	26,624	72.1
Urban Population Increase, 1950-60	1,236,048	27.4		10.2
Rural Population Increase, 1950-60	215,380	11.5		37.3

According to residence, 73.4 per cent of Michigan's population in 1960 was classified as urban, while 80.5 per cent of Cass County's population was classified as rural. The rural population increase was more than three times greater than the urban population in the decade of 1950-1960 in Cass County. During the same period the state experienced an increase rate in the urban population that was more than double the rural population.

TABLE 5

CASS COUNTY POPULATION BY AGE GROUP: APRIL 1, 1960

Age Group	Number	Per Cent	Per Cent for Michigan
Under 5	4,257	11.5	12.3
5-14	8,164	22.1	20.7
15-24	4,601	12.4	12.9
25-39	6,774	18.3	20.0
40-54	6,205	16.8	17.4
55-64	3,030	8.2	8.2
65-74	2,463	6.6	5.5
75 & Over	1,438	3.8	2.5

Population Projection For Cass County

Population growth or decline is a result of a combination of the balance in births and deaths and of selective migration. Differences in rates of change between county units in a state (as has been cited) are evidently due to the effects of migration rather than to effects of natural increase. It must be pointed out at this point that an abrupt change in Michigan's migration pattern began about 1956. Demographers are indicating that the 1950's marked the end of a distinct phase in the state's population growth a period during which Michigan was able to attract large numbers of migrants because of the current growth of industries.[1]

The University of Michigan's Population Studies Center recently completed a study showing a three and one-half per cent increase in 1964 from the state's census count of 1960. The same study indicated a total of 38,100 population in 1964 for Cass County. The most often quoted projections for the state are the ones

[1] See: "A Demographic Analysis of Michigan 1960-80" by David Goldberg in William Haber, et.al. Michigan in the 1970's. (Ann Arbor, Michigan: The University of Michigan)

prepared by the Bureau of the Census in 1957, which estimate the 1970 state population at 9.4 to 10.4 million.[1] Today such figures seem to be out of date in light of the most recent data.

Using and adjusting the projections from studies of the state and national trends in light of the foregoing analysis of Cass County's population characteristics, it appears that there will be changes in the rate of increase through the decade of the 1970's for Cass County. Utilizing data compiled by the Population Studies Center, University of Michigan, projections by age groups for Cass County are shown in Table 6. Population projections cannot be forecast with precision and it can be expected that Table 6 will produce a level of average error to be no more than three per cent in 1965, ten to twelve per cent in 1970, but considerably greater in 1980.

TABLE 6

CASS COUNTY POPULATION PROJECTION BY YEARS AND AGE GROUPS

Age Group	Years				
	1960	1965	1970	1975	1980
0-4	4,257	3,534	4,607	4,904	5,202
5-9	4,192	4,370	3,533	4,648	4,956
10-14	3,972	4,213	4,320	3,525	4,640
15-19	2,809	3,787	3,973	4,118	3,384
20-24	1,792	2,444	3,296	3,529	3,693
25-29	1,943	1,969	2,602	3,537	3,783
30-34	2,346	2,028	1,980	2,647	3,594
35-39	2,485	2,347	1,966	1,949	2,607
40-44	2,217	2,472	2,293	1,941	1,930
45-49	2,124	2,116	2,352	2,200	1,871
50-54	1,864	1,999	1,974	2,210	2,074
55-59	1,655	1,782	1,885	1,871	2,097
60-64	1,375	1,547	1,648	1,748	1,737
65 & Over	3,901	3,929	4,029	4,196	4,417
Total	36,932	38,537	40,458	43,023	45,985

[1]See: U.S. Bureau of the Census: "Illustrative Projections of the Population by States, 1960, 1965 & 1970," Current Population Reports, Series P-25, No. 160.

It is important to note that the projections given in Table 6 do reflect different rates of growth among age groups. Briefly, the following conclusions may be drawn from the data.

1. The number of pre-school children (up to age 4) is not expected to change dramatically in the early 1970's. This is substantiated by the number of natural births as reported by the Vital Statistics Division of the State Health Department.

2. The population segments reaching their teens and twenties will exhibit the largest change. This increase is not speculative, since the people have been born already.

3. The number of pre-school children should rise substantially in later years of 1970's and particularly during the 1980's. The latter increase will result from the rise in the number of births to new parents. This can be noted from the fact that the increased age groups are people reaching their child-bearing years.

4. The latter two points have implications affecting the labor market opportunities in the immediate future and a dramatic need for educational facilities in the long range future.

5. The growth projections will vary in the individual high school districts and is much more difficult to predict. A later section will deal with the secondary school projections for the near future.

CHAPTER III

CASS COUNTY LABOR, INDUSTRY AND COMMERCE

Cass County Labor Force

According to the 1960 census, Cass County had a working force of 12,871 persons. Of this number 71 percent were men, while three out of every ten workers in the county were women. On basis of population increase (described in an earlier section) and with due consideration for the prosperity of the times, it is estimated that the mid 1960's working forces number between 13,400 to 13,500. As shown in Table 7, four of every ten employed persons are engaged in manufacturing. In only two other types of industries are one-tenth or more persons employed, the wholesale and retail trade employing 16 percent and 10.2 percent are engaged in agriculture. Present trends indicate that the percent of Cass County persons in agricultural employment will continue to decline, while the service categories will rise. White collar occupations, the professional, managerial (except farm), clerical and sales occupations comprise 29.3 percent of the total work force.

The 1960 census revealed that 42.3 percent of the county's residents worked outside of Cass County. The industrial complex of South Bend-Mishawaka-Elkhart, Indiana, south of the county, attract a large portion of the work force. Other noteable areas of employment for local residents are the Niles-Buchanan area, the Twin-Cities of Benton Harbor-St. Joseph, and the Three Rivers area. It is estimated that the percentage of residents working outside Cass County is slightly higher at the present time with

the actual number being estimated at 6,000 or more.

TABLE 7

NUMBER AND PERCENT OF CASS COUNTY RESIDENTS EMPLOYED BY MAJOR INDUSTRY GROUPS

Industry Group	Number	Percent
Agriculture	1,308	10.2%
Construction	669	5.2
Manufacturing	5,182	40.3
Utilities (includes transportation & communication)	636	4.9
Wholesale & Retail Trade	2,059	16.0
Finance, Insurance & Real Estate	265	2.1
Business Repair & Personal Service	848	6.6
Public Administration	214	1.7
Other Services (includes medical, health, educational and other professional and related services)	1,037	8.1
Industry not reported	653	5.1
Total	12,871	

Source: U.S. Bureau of Census, U.S. Census of Population: 1960

A break-down of the types of employment within Cass County as recent as March, 1964, are shown in Table 8. It should be noted that Table 8 represents two-thirds of the actual total; missing are 21 percent of the wage and salary workers and 13 percent of the self-employed in Cass County. The wage and salary workers include agricultural workers, domestic services, governmental employees (large group within this category, 14 percent), and others.

TABLE 8

NUMBER AND PERCENT OF PERSONS EMPLOYED IN CASS COUNTY BY MAJOR INDUSTRY GROUPS*

Industry	Number of Industries	Employees	
		Number	Percent
Agricultural Services, Forestry & Fishery	4	11	0.2%
Contract Construction	43	93	2.0
Manufacturing	59	2,656	58.0
Transportation and Other Public Utilities	11	85	1.9
Wholesale Trade	32	228	5.0
Retail Trade	214	1,006	22.0
Finance, Insurance & Real Estate	22	168	3.7
Medical and Other Health Services	22	161	3.5
Personal Services	20	65	1.4
Other Services	44	96	2.1
Unclassified	5	7	0.2
Total	476	4,576	100.0

* Table represents 66 percent of paid civilian employment.

Source: U.S. Department of Commerce, Bureau of the Census, Michigan, County Business Patterns, 1964

In the final analysis it can be seen that the largest share of Cass County residents seek their livelihood in the manufacturing industry and retail trade. These two employment classifications within Cass County include the following:

MANUFACTURING
- Lumber and Wood Products
  - Millwork and Related Products
- Furniture and Fixtures
  - Household Furniture
  - Wood Furniture (not upholstered)
- Fabricated Metal Products
  - (Metal Doors, Sash and Trim)
- Machinery, except Electrical
  - Metalworking Machinery
    - Special Dies and Tools
  - Service Industry Machines
    - (Commercial Refrigeration)
- Transportation Equipment
  - (Trailer Coaches, Mobile Homes)
- Miscellaneous Manufacturing
  - (Toys and Sporting Goods)

RETAIL TRADE
- Building Materials
- Farm Equipment
- Food Stores
- Automotive Dealers
- Service Stations
- Eating and Drinking Trade
- Miscellaneous Retail, from Apparel to Accessories

Manufacturing

When comparisons are made between the manufacturing establishments in Michigan and Cass County for the years 1954 and 1958, as shown in Table 9, the following facts are evidenced:

1. The number of manufacturing establishments increased considerably faster in Cass County than in the state.

2. The increase in the number of manufacturing establishments was virtually concentrated among establishments with 100 or less employees. The number of establishments employing more than 100 did not change between 1949 and 1958.

3. While the state of Michigan experienced a recession or a drop in the number of workers, wages, etc., the county experienced a favorable climate for manufacturing.

4. The total number of persons employed by manufacturing did not increase between 1949 and 1954 (see Table 10) and since 1954 to the present there has been an approximate increase of 100 employees per year.

TABLE 9

MANUFACTURING IN CASS COUNTY, SELECTED COMPARISONS WITH THE STATE OF MICHIGAN 1954 AND 1958.

Item	1958	1954	Percent Change Over 1954
MICHIGAN			
Number of Establishments	13,429	12,711	5.6%
Number of Employees	809,590	1,001,630	-19.2
Payroll ($1000)	$4,618,694	$4,891,749	- 5.6
Number of Production Workers	608,856	809,316	-24.8
Wages ($1000)	$3,184,797	$3,660,965	-13.0
New Capital Expenditures ($1000)	$ 444,030	$ 870,465	-48.9
CASS COUNTY			
Number of Establishments	72	53	35.8
Number of Employees	2,174	1,673	29.9
Payroll ($1000)	$ 8,613	$ 6,560	31.3
Number of Production Workers	1,760	1,368	28.6
Wages ($1000)	$ 6,281	$ 4,457	40.9
New Capital Expenditures ($1000)	$ 964	$ 551	74.9

Source: U.S. Bureau of the Census. U.S. Census of Manufacturers: 1958 Vol. III Area Statistics, U.S. Government Printing Office, Washington, D.C., 1961. Section 21, Table 3.

TABLE 10

MANUFACTURING IN CASS COUNTY SELECTED COMPARISON BETWEEN 1949 AND 1958.

Item	1958	1949	Percent Change Over 1949
Number of Establishments	72	42	71.4%
Number of Employees	2,174	1,690	28.6
Payroll ($1000)	$8,613	$4,593	87.5
Number of Production Workers	1,760	1,499	17.4
Wages ($1000)	$6,281	$3,657	71.8

Source: County and City Data Book, 1952. A Statistical Abstract Supplement. (Washington, D.C.: U.S. Government Printing Office, 1953)

Retail and Wholesale Trade

When one compares retail and wholesale trade statistics in Michigan and Cass County for the years 1954 and 1958, the following facts are gathered from Tables 11 and 12.

1. A comparison of the figures shows that Cass County and the city of Dowagiac have had a much greater rate of growth in the volume of retail and wholesale trade than the entire state.

2. Over 40 percent of the retail business in the county is transacted in the city of Dowagiac and three-fourths of the wholesale business is carried on in Dowagiac.

3. The figures for retail trade indicate that Dowagiac has enjoyed a higher rate of growth than Cass County in general. Such a concentration of the county's economic resources are indicative of the larger population and industrial centers of the county being found in Dowagiac.

TABLE 11

RETAIL TRADE IN CASS COUNTY AND CITY OF DOWAGIAC SELECTED COMPARISONS WITH THE STATE OF MICHIGAN FOR THE YEARS 1954 AND 1958

Item	1958	1954	Percent Change Over 1954
MICHIGAN			
Number of Establishments	72,379	67,995	6.4%
Number of Paid Employees	336,774	324,684	3.7
Total Annual Payroll ($1000)	$ 945,716	$ 878,983	7.6
Total Sales ($1000)	$8,897,661	$8,167,632	8.9
Active Proprietors	78,951	74,320	5.9
CASS COUNTY			
Number of Establishments	365	315	15.8
Number of Paid Employees	855	779	9.8
Total Annual Payroll ($1000)	$ 2,160	$ 1,897	13.9
Total Sales ($1000)	$ 25,033	$ 22,363	11.9
Active Proprietors	418	351	19.1
CITY OF DOWAGIAC			
Number of Establishments	123	109	12.8
Number of Paid Employees	370	329	11.1
Total Annual Payroll ($1000)	$ 943	$ 754	25.1
Total Sales ($1000)	$ 10,802	$ 8,882	21.6
Active Proprietors	132	107	23.4

Source: U.S. Bureau of Census, U.S. Census of Business: 1954 (1958) Retail Trade.

TABLE 12

WHOLESALE TRADE IN CASS COUNTY AND CITY OF DOWAGIAC SELECTED COMPARISONS FOR THE YEARS 1954 AND 1958

Item	1958	1954	Percent Change Over 1954	Percent Change Over 1954 For Michigan
CASS COUNTY				
Number of Establishments	40	33	21.2%	14.4%
Number of Paid Employees	281	215	30.6	5.5
Total Annual Payroll ($1000)	$ 1,177	$ 766	53.6	14.3
Total Sales ($1000)	$26,874	$13,452	99.8	15.5
Active Proprietors	16	27	-68.8	7.2
				Percent of County Total 1958
CITY OF DOWAGIAC				
Number of Establishments	18	13	27.8	45.0
Number of Paid Employees	182			64.7
Total Annual Payroll ($1000)	$ 834			70.9
Total Sales ($1000)	$20,688			76.9
Active Proprietors	10			62.5

Source: U.S. Bureau of Census, U.S. Census of Business: 1954 (1958) Wholesale Trade.

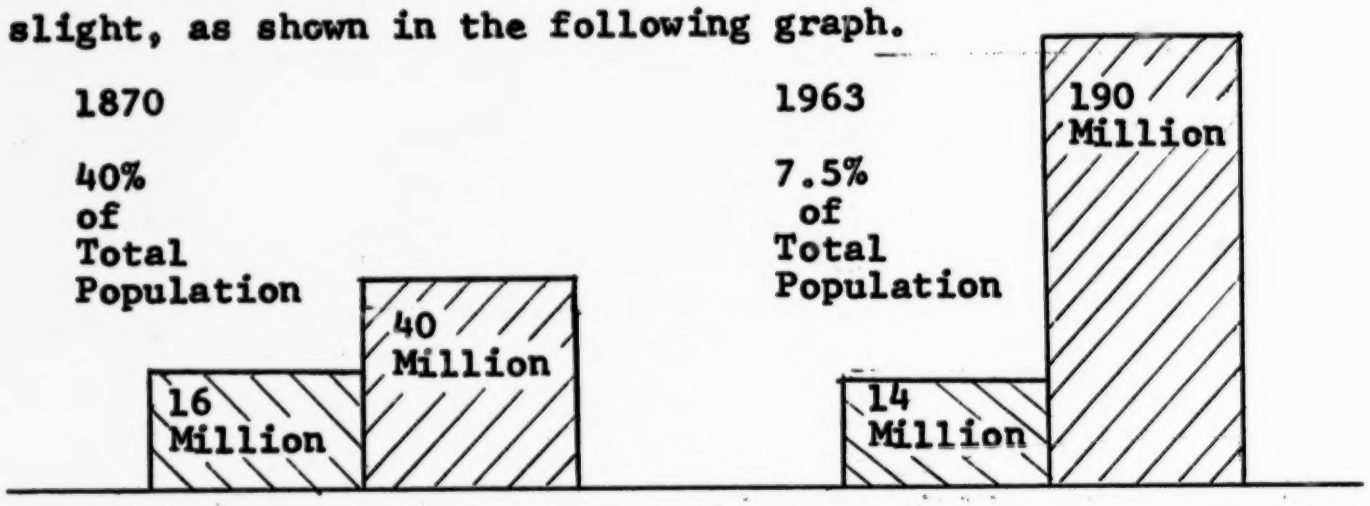
CHAPTER IV

AGRICULTURE AND CASS COUNTY

Introduction

Agriculture is a dynamic industry which has branched out in scope and every phase but one, the number of people on farms. Farm population, once four out of five people in the United States, is becoming a smaller proportion of the total population. This change was brought about by the mechanical revolution, great strides in improved crops and livestock, agricultural chemicals, and disease control resulting from science and research applied to agriculture. The farmer now produces food for himself and 28 others.[1] This releases these "others" to produce the items and conditions making-up our high standards of living.

Comparing the four out of five who once lived on farms to the seven and one-half percent who now live on farms may mislead one to think that there has been a serious decline in farm population. The actual decline in farm population has been slight, as shown in the following graph.



[1]See: Changes in Farm Production and Efficiency, United States Department of Agriculture, Statistical Bulletin 233, September, 1963.

The graph shows that in 1870, sixteen million farm people made up 40 percent of our nation's population. It is estimated that in 1963, fourteen million farm people constituted only seven and one-half percent of the nation's population.

Facts About Agriculture in Michigan

Besides being an industrial state, Michigan also conducts a big agricultural business -- nearly two billion dollars big. The following facts are taken from the Michigan Department of Agriculture publication, Michigan Agricultural Statistics (July, 1963) and from the Michigan Department of Education Publication No. 506, A Look at Agriculture in Michigan (Revised, 1964).

1. Michigan ranks seventeenth in our nations total cash farm income.

2. Michigan ranks among the top 10 states in the production of 28 major crops.

3. Michigan ranks first in the production of field beans, sour cherries, late celery, carrots, market tomatoes and cataloupes.

4. Michigan ranks 7th among the states in total milk production.

5. The total output of agriculture in the United States is 47 percent greater than 20 years ago. In the lake states (Minnesota, Wisconsin, Michigan) the increase has been 49 percent.

6. Agriculture is big business:

   (1) The sale of products from Michigan farms totaled $744,838,000 in 1962.
   (2) The volume of business directly connected with the processing, storing, distribution and transportation of farm products amounted to about $1,200,000,000 in 1961.
   (3) Sale of farm products and the resulting business totaled 1.9+ billions of dollars.

7. Twenty-seven percent of Michigan's labor force is employed in agri-business.
   (1) Seven percent of the total labor force in Michigan is employed on farms.
   (2) Twenty percent of the total labor force in Michigan is employed in one way or another in agricultural occupations other than farming.

8. Over 817,000 people in Michigan are agriculturally employed.
   (1) Approximately 217,000 people work on farms in Michigan.
   (2) About 600,000 people work in non-farm agricultural occupations in Michigan.

Agriculture in Cass County

In 1940, approximately 40 percent of Cass County's labor force was engaged in agriculture, 10 years later this percentage was reduced in half to 20.6, and the past decade has once again cut the percentage in half to 10.2 in 1960. In twenty years the number of farms has been reduced over 1/3 -- 2466 in 1944 to approximately 1500 in 1964.

Such changes are shown statistically in Tables 13 and 14. In the decade of the 1950's substantial reductions are noted in the number of agricultural workers, number of farms and population residing on rural farms (see Table 13). However an equally substantial gain is shown in the value of farm products sold; a productivity amounting to $6,181,000 in 1949 was increased by 30.6 percent in a decade.

Table 14 also shows similar changes in the county's agricultural picture. The tremendous productive efficiency of farmers is clearly illustrated. While the number of farmers and farms has been steadily declining during the five year period between 1959 to 1954, Table 14, shows an increase in the number of large farms, 250 acres or more.

Because Cass County today is still largely rural and agriculturally oriented, most of the changes shown below can be expected to continue at their present rates. The number of farms and farmers will decrease, farm efficiency and productivity, and farm related businesses will increase. The challenge of local agricultural programs includes the ability to prepare young men and women for such occupations as may be found in businesses supplying farm needs, rural banking, communication, agricultural research, and agricultural service organizations as well as farming.

TABLE 13

AGRICULTURE IN CASS COUNTY SELECTED COMPARISONS 1949-50 AND 1959-60

Item	1959-60	1949-50	Percent Change Over 1949-50
Labor Force in Agriculture	1,308	2,067	-36.7%
Percent of Employed in Agriculture	10.2%	20.6%	
Number of Farms	1,610	2,269	-29.
Value of Farm Products Sold Total $1000	$8,071	$6,181	+30.6
Percent of County Population on Rural-Farms by Residence	18.1%	35%	

Source: County and City Data Book, 1952. A Statistical Abstract Supplement. (Washington, D.C.: U.S. Government Printing Office, 1953) and 1959 United States Census of Agriculture, Volume 1, Counties, Part 13, Michigan, United States Bureau of the Census.

TABLE 14

AGRICULTURE IN CASS COUNTY SELECTED COMPARISONS 1954 AND 1959

Item	1959	1954	Percent Change Over 1954
Number of Farms	1,610	2,103	-23.4%
Value of Farm Products Sold Total $1000	$8,071	$7,294	+10.7
Number of Farms Under 100 Acres	807	1,218	-33.7
Number of Farms 100 to 259 Acres	593	682	-13.0
Number of Farms 250 Acres or More	210	203	+ 3.4
Percent of Farm Operators Working off their Farms 100 or more Days	46%	43%	
Percent of Farm Operators with other Income of Family Exceeding Value of Agricultural Products Sold	44%	27%	
Value of all Livestock and Livestock Products Sold ($1000)	$5,159	$4,380	+18.
Value in $1000 of Hired Farm Labor	$ 703	$ 636	+ 6.1

Source: Michigan Agriculture County Data and State Trends. Miscellaneous Series Circular E-22, April, 1962. (Cooperative Extension Service, Michigan State University, East Lansing).

CHAPTER V

FACTS ABOUT THE LEWIS CASS INTERMEDIATE SCHOOL DISTRICT

Geographic Area Served

The Lewis Cass Intermediate School District is for the most part located within Cass County, although its boundaries do not coincide with those of the county. The district is a separate governmental body operated by the Lewis Cass Intermediate School District Board of Education.

Cass County, located in southwestern Michigan, second county east of Lake Michigan, bordered on the south by Indiana, lies 75 miles across the lower end of Lake Michigan from Chicago, and 15 miles from the Lake Michigan ports of Benton Harbor and St. Joseph. Beyond its southern border lies Indiana's industrial and city-centers of South Bend, Mishawaka, and Elkhart.

In size Cass County is 24 miles east and west by 21 1/2 miles north and south and is comprised of 15 townships, one city: Dowagiac, and four incorporated villages: Cassopolis, Edwardsburg, Marcellus, and Vandalia.

Historical Background

The first school west of Detroit and Monroe was taught in Pokagon Township in 1828 by Mrs. Gamaliel Townsend, and the first tax-supported school was established in April, 1840, at what is now Dowagiac.[1]

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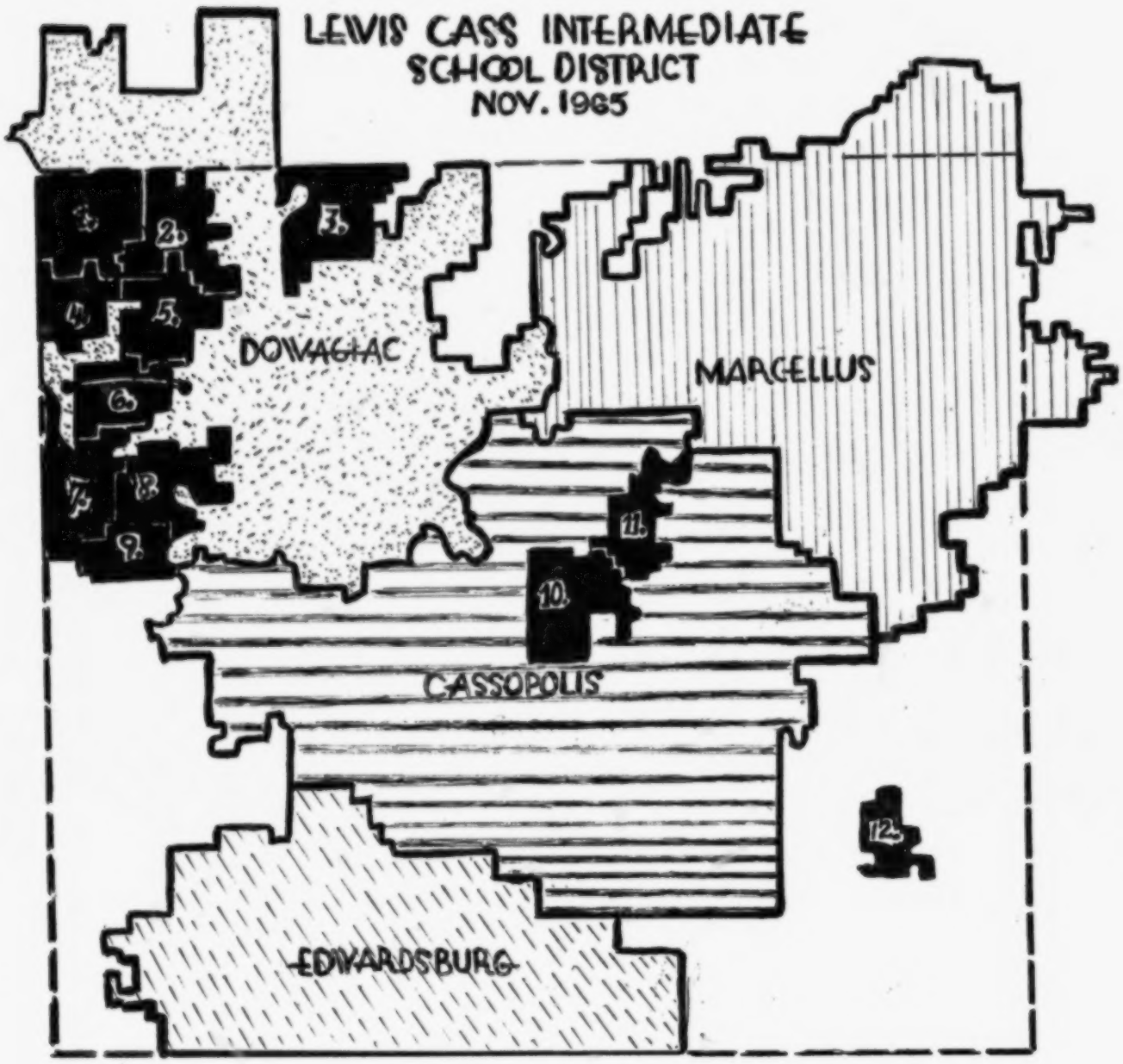
[1]Cass County Historical Society

In 1956-57, ten years ago, there were 7,842 pupils being educated in the county's 57 school districts and five years later, in 1961-62, the number of pupils grew to 9161 and the number of school districts was reduced to 27. The 1965-66 School Directory indicated a total school membership of 9261 and 18 school districts. The changes that have taken place in school district reorganization in Cass County have been numerous over the past decade; however, the problem is far from any final solution at this writing. During the passionate-winter meetings on School District Reorganization, two non-high school districts (one the fourth largest-pupil district, Howard Township) voted to annex to neighboring Niles School District.

Cass County School Reorganization

There remains at this date four high school districts and 12 primary school districts, one of which is a Closed School District, see map. The remaining 11 primary schools have membership enrollments totaling 281 pupils or 3.3 percent of all pupils in the present Lewis Cass Intermediate School District and only two of the schools, Cullinane and Daly in Silver Creek Township, have more than twenty-eight students. Eight are one-teacher rural schools and only one of fifteen teachers in all the primary schools possesses a Bachelor's degree. These 11 primary schools have 88 different sections of kindergarten to the eighth grade, which means that the fifteen primary teachers must provide instructions to meet an average of six varying grade levels daily, not to mention the varying degrees of differences within individual pupils.



Cass County Border in Dark Broken Lines
White Areas In Districts Outside County

Primary School Districts Numbered as Follows:

1. Cullinane (Silver Creek Twp.)
2. Daly (Silver Creek Twp.)
3. North Wayne (Wayne Twp.)
4. Cushing (Silver Creek Twp.)
5. Hinchman (Silver Creek Twp.)
6. Indian Lake (Silver Creek Twp.)
7. Mayflower (Pokagon Twp.)
8. Peavine (Pokagon Twp.)
9. Champlain (Pokagon Twp.)
10. Geneva (Penn Twp.)
11. Penn No. 7 (Penn Twp.)
12. Shavehead: Closed School (Porter Twp.)

Despite what glowing commentaries local advocates claim for the little red school house, the fact remains that the case is extremely well documented both in lay and professional pronouncements concerning the rural primary school being able to provide little more than the basic 3 R's and certainly unable to adequately meet the educational demands of the present local community, the state, and the nation.

On the basis of personal contacts and findings of personal research,[1] the writer is aware of the element of strong feeling in Cass County that considers school district organization as dominion of the local power structure and as a sacred entity that should not be changed. Quite to the contrary, local school districts are a creation of the state and legally operate as a subdivision of the state. The national picture clearly shows that when it has not been able to do the job for which it was created, school districts have been modified. It is an intergral part of the on-going, developing, ever-changing process of American life.

The local school district is the most common and best-known form of local government. It is close to the people and it has exemplified again and again America's finest experience with democratic government. Taking the necessary steps to have it dissolved or absorbed into a larger administrative unit is never easy. Pleasant memories of childhood experiences in the country school and deep satisfactions gained from transacting the district business affairs at the local board meetings are translated into resistance to reorganization. Such resistance

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[1]Samuel A. Scarnato, Study of School District Reorganization for Education in Southwestern Michigan. Unpublished Doctoral Dissertation.

is often expressed in form of fear that local control will be destroyed; that the school house will be done away with and the children transported too far away from home; that vested interests, personal and financial, will come to an end; that school taxes will increase; that parental influence on children will be weakened seriously; that schools will become so big that children will be treated as an automated digit; or that the rural community itself will be seriously weakened or destroyed.

Whether the above fears are well grounded or purely imaginary makes little difference when the opportunity comes to finally count the yeas and nays in Cass County. The crux of the matter is that if sound school district reorganization is to be effected through the expression of the free will of the people, then Cass County's electorate themselves must be so firmly convinced of its advantages to provide the educational services needed for today and tomorrow that they will be willing to give it priority over their personal interest, concerns, prejudices, and fears.

Secondary School Populations

School populations projections are important factors in the planning of programs of school curriculum as well as school buildings. Projections cannot be made with precision and are always more likely to be accurate for short periods than for long ones. The grade survival method of predicting future school populations was used in this study. This method assumes the proportion of seriously handicapped children, death rates, migration, drop-out or retention rates, and school promotion policies will change at the average annual rate which has been

true for the previous ten years. The method takes into account the combined effect of these variables. Projections have also been made to correlate with assumptions of economic and social conditions and future population growth previously cited.

Several factors considered in the projections presented unique difficulties. One was parochial school enrollments and possible future changes in their growth. Discussions with religious educational leaders of the area and Rev. William Meyers, Superintendent of the Lansing Diocese Catholic Schools, indicated that very little change might be expected in their pupil enrollments and scope of program interest within the next year. Changes may well occur in future parochial school policy that would create slight impact on the Dowagiac Public Schools. However, no official changes have been mentioned at this time.

Another factor considered was the high school services received by the students of the county's primary schools. The nine primary schools surrounding the northwestern borders of the Dowagiac Union Schools for the most part send their high school students to Eau Claire High School in Berrien County, a marginal high school by present day standards. It has an approximate enrollment of 350 students in the upper 4 grades (over 20 percent from Cass County and provides 58 different course offerings in grades 9-12; compared to 89 course offerings in grades 10-12 provided by Dowagiac High School).

Another handful of high school students from this area attend Niles and Brandywine High School in Berrien County and Lawrence High School in Van Buren County. A study of the social and economic activity of these primary districts by the

writer revealed a positive identity with the city of Dowagiac.[1] In this study separate projections were made for the Dowagiac Schools and the total Dowagiac Service Area. A similar approach was taken with regard to the two remaining operating primary schools of Geneva and Penn No. 7 of Penn Township. The latter two primary schools are virtually surrounded by the Cassopolis School District and their socio-economic ties are more closely identified with the village of Cassopolis. Presently Geneva and Penn No. 7 send their high school students to Penn-Harris-Madison High School in Mishawaka, Indiana.

TABLE 15

PUPIL PROJECTIONS FOR GRADES 7, 8, 9 CASS COUNTY SCHOOL DISTRICTS

Year	Dowagiac		Cassopolis		Edwardsburg School Dist.	Marcellus School Dist.	Lewis Cass School Dist. Total
	Present School Dist.	Service Area Total	Present School Dist.	Service Area Total			
1965-66	773	874	409	427	496	191	1988
1966-67	808	888	414	427	518	196	2029
1967-68	826	882	411	420	513	204	2019
1968-69	837	909	414	423	515	208	2055
1969-70	866	957	424	430	492	225	2104
1970-71	862	995	432	437	495	224	2151
1971-72	859	1026	439	444	494	221	2185
1972-73	865	1060	425	435	513	218	2226

[1]Scarnato, op. cit.

TABLE 16

PUPIL PROJECTIONS FOR GRADES 10, 11, 12 CASS COUNTY SCHOOL DISTRICTS

Year	Dowagiac		Cassopolis		Edwardsburg School Dist.	Marcellus School Dist.	Lewis Cass School Dist. Total
	Present School Dist.	Service Area Total	Present School Dist.	Service Area Total			
1965-66	723	769	331	344	375	159	1647
1966-67	688	745	332	347	410	149	1651
1967-68	710	752	345	357	426	148	1683
1968-69	710	738	357	364	472	157	1731
1969-70	733	743	361	365	495	160	1763
1970-71	753	765	360	360	487	168	1780
1971-72	764	775	361	362	487	172	1796
1972-73	788	804	371	372	466	170	1812
1973-74	783	835	379	379	466	170	1850
1974-75	777	864	384	384	468	175	1891
1975-76	788	890	361	363	488	180	1921

Conclusions

The projections in Tables 15 and 16 reveal a steady increase in the total number of secondary school pupils in Cass County. In grades 7, 8, 9, with the exception of a one year loss, the increase will be at the rate of approximately two classrooms over the next seven years. In the upper three grades the increase will vary from one to two classrooms per year for the next decade.

The next seven years will show an 11 percent increase in the total secondary enrollment. The upper three grades will show a 16.7 percent increase in a decade, with the largest increase being experienced by Edwardsburg High School. A number of other individual factors may be derived from the tables.

1. The yearly increases in the Cassopolis and Marcellus

School Districts will be steady and manageable for the next decade. Only a social or economic phenomenon in these districts would cause a different growth rate for the next decade, and after five years of optimistic observation, the writer has found no visible evidence for a change of pattern for the next decade.

2. The 1975-76 projection of 488 students in the upper three grades for Edwardsburg High School might well be termed "conservative." The in-migration pattern of that school district might easily find that grade size of 200 pupils five years earlier than forecast.

3. The population center, industrial center, and a majority of the commerce activity in the county are found in the city of Dowagiac; all factors which can contribute a booming school enrollment. While an increase may be expected in the next decade, they are relatively stable. Only a reorganization with the surrounding primary school districts would produce a 20 percent increase. Such a reorganization which obviously would have many ramifications for school buildings, staff, etc., could at the same time produce a wider pupil enrollment that makes the expansion and improvement of programs more feasible and efficient both economically and educationally.

Finally, two observations are presented. First, the projected secondary pupil enrollment, grades 7-12, for the next ten years would need to be <u>three times as large</u> to warrant the recommendation that a separate area vocational center (i.e., separate from one of the four existing high schools or the community college) be established to serve the Lewis Cass Intermediate School District. Second, through first hand visitations, the writer recognizes that one or all of the following conditions existing in each of the four high school districts' physical facilities:

1. Out-dated, obsolete facilities that need to be replaced.

2. Temporary or make-shift arrangements of facilities that need to be replaced or refurbished.

3. Usable facilities in need of rejuvenation and modernization.

4. Newer facilities that require expansion.

The period of time that elapses from the recognization of one of the above needs until it is corrected is measured in years. Therefore if these deficiencies are not provided for within the decade of the early 70's, when projected increases are manageable, it will be discovered that the late 70's will present growth increases and program changes that will burden the local schools beyond their capacities.

CHAPTER VI

EMPLOYMENT AND EDUCATION

Introduction

The need for a greater emphasis on the preparation of people for today's world of work is a national concern. Much is said and written about the importance of general education, which provides for the development of the individual and the preservation of our culture and way of life, as not being enough for the great majority of people who must operate machines, shops, and offices. On the national scene more and more occupations require skills and specialized knowledge for which there must be prior training. In the last 60 years, dramatic shifts have occurred; these have become more pronounced and accelerated in the last 2 decades, 1940-60. As shown in Table 17, the proportion of white-collar workers in the labor force rose from 31.1 percent in 1940 to 42 percent in 1960, more than a one-third increase. During the same period, the proportion of professional and technical workers increased 44 percent, and managers and officials gained 40 percent. Clerical workers increased over 50 percent, while sales workers declined slightly.

Manual workers have been declining in relative importance, from 39.8 percent in 1940 to 37.5 percent in 1960. The largest decline occurred in the unskilled laborers with a drop of over 36 percent.

Service workers, as a whole, increased during this period from 11.7 percent to 12.6 percent. Within this group, however, domestic workers have been declining, which leaves the other service workers with a gain of 30 percent.

TABLE 17

DISTRIBUTION OF MAJOR OCCUPATION GROUPS, BY PERCENTAGES 1900-1960

Major Occupation Group	1900	1910	1920	1930	1940	1950	1960
White-collar workers	17.6	21.3	24.9	29.4	31.1	36.6	42.0
Professional, technical, and kindred workers	4.3	4.7	5.4	6.8	7.5	8.6	10.8
Managers, officials, and proprietors, excluding farm owners	5.8	6.6	6.6	7.4	7.3	8.7	10.2
Clerical and kindred workers	3.0	5.3	8.0	8.9	9.6	12.3	14.5
Sales workers	4.5	4.7	4.9	6.3	6.7	7.0	6.5
Manual workers	35.8	38.2	40.2	39.6	39.8	41.1	37.5
Craftsmen, foremen, and kindred workers	10.5	11.6	13.0	12.8	12.0	14.1	12.9
Operatives and kindred workers	12.8	14.6	15.6	15.8	18.4	20.4	18.6
Laborers, excluding farm and mine workers	12.5	12.0	11.6	11.0	9.4	6.6	6.0
Service workers	9.0	9.6	7.8	9.8	11.7	10.5	12.6
Private household workers	5.4	5.0	3.3	4.1	4.7	2.6	3.3
Other	3.6	4.6	4.5	5.7	7.1	7.9	9.3
Farm workers	37.6	30.9	27.0	21.2	17.4	11.8	7.9
Farmers and farm managers	19.9	16.5	15.3	12.4	10.4	7.4	4.0
Farm laborers and foremen	17.7	14.4	11.7	8.8	7.0	4.4	3.9

Note: Groups do not always add to 100 percent because of rounding.

Source: U.S. Department of Commerce, 1900-1950; U.S. Department of Labor, 1960.

The most dramatic decline has occurred in farm workers. This has been going on since the turn of the century. Between 1940 and 1960, the proportion of farm workers decreased 55 percent.

The pace of technological change has been accelerated through the impressive increase in expenditures for research and develop-

ment by the federal government, private industry, and others. In the period 1950-61, these expenditures increased from $2.9 billion to $14 billion, 380 percent.

In addition to adjusting to these technological innovations, the labor market is feeling the impact of large numbers of workers in search of employment. The supply of workers willing, able, and actively seeking to work is being affected by three major forces.

First, there are those workers whose jobs have been and are being affected by economic and technological change. Of particular importance was the movement of nearly two million workers out of agricultural and rural areas which took place in the decade 1950-60. Agricultural employment dropped 24 percent, from 7.5 million to 5.7 million, yet total output increased substantially. Another dramatic example of workers affected by technology occurred in bituminous coal mining. Here production workers declined from 351,000 in 1950 to 149,000 in 1960, a decrease of about 60 percent, while productivity, defined as average tons per man, more than doubled. In manufacturing, the number of production workers in 1960 was about the same as in 1950, approximately 12.5 million. During this same period the Federal Reserve Manufacturing Index, adjusted for seasonal variation, rose from 75.8 to 109.7 percent.

Technology, as reflected in increases in productivity, that is, output per man-hour, affects many workers each year. The Bureau of Labor Statistics has estimated that if annual productivity increases 2.5 percent the labor displacement will be 1.5 million workers. If there is a three percent increase, the

displacement will be nearly two million.[1] It must be noted, however, that displacement is not the equivalent of unemployment, nor can productivity rates be translated directly into unemployment figures. If the real product of the economy increases as much as productivity, the displaced workers (or an equivalent number of others) will be reabsorbed.

A displaced worker may not necessarily be involved in a labor market transaction; he may be transferred to another job with the same employer and may never experience any unemployment at all. Others may experience varying periods of unemployment before finding other jobs; still others may have become occupationally obsolete and experience extreme difficulties in finding suitable jobs. Here, we are concerned with those workers who are not absorbed by their employers and who are in search of a job.

Second, a major force affecting the supply of labor is the proportion of women working. Between 1950 and 1960, the number of women in the labor force increased from 19.8 million to 23.6 million, a gain of over 25 percent. Currently, about one-third of the labor force are women. Although we cannot go into the many factors responsible for this trend, it is important to note that women have developed a two-phase working cycle. Once out of school, they seek jobs. After marriage, they tend to leave their jobs to rear their children. Once the children no longer tie them to the home, many re-enter the labor market.

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[1]Evan Clague, Social and Economic Aspects of Automation, report before the Joint Automatic Control Conference (Boulder, Colorado: University of Colorado, 1961.)

Between 1950 and 1960, the number of women in the labor force, ages 14 to 44, increased only 12 percent, while the number over 44 years of age increased 57 percent.

Third, the most impressive factor affecting the labor supply and of principal concern to this study is the large number of young people entering the labor force. The nation is beginning to feel the effects of the high birth rate after World War II. In 1950 there were 13.3 million workers 14-24 years of age in the labor market; in 1960 there were 13.9 million; and in 1961 there were 14.4 million. In one year (1960-61), over 500,000 young workers entered the labor force.

The labor market requires time to adjust to the impact of technology and the forces affecting labor supply. Over a long period of time, it does adjust; however, the long period may take a lifetime. Therefore educational programs designed to prepare people for employment must be concerned with the immediate need of employment as well as the long period needs.

Description of the Unemployed

Changing technology is having an effect on the kind of workers employers are seeking. United States Department of Labor data on the characteristics of the unemployed suggest that employers are seeking workers with higher levels of education, training, and skill. During 1962 about two-fifths of the unemployed were in the semi-skilled and unskilled occupational classifications. If those with no previous work experience were included, they would account for about half of all the unemployed.

TABLE 18

UNEMPLOYMENT RATES IN 1950 AND 1959 FOR MALES 18 YEARS OF AGE AND OLDER, BY YEARS OF EDUCATION COMPLETED

Years of Education	Percent of Civilian Labor Force		Change as Percent of 1950 Rate
	1950[a]	1959	
0-4	8.5%	9.9%	+16%
5-7	8.3	9.7	+17
8	6.7	7.3	+ 9
9-11	7.1	8.1	+14
12	4.7	4.9	+ 4
13-15	4.3	3.3	-23
16 plus	2.3	1.4	-39
Unemployed males 18 years of age and older	6.3	6.3	0

[a]All unemployment rates in 1950 are adjusted upward for: (1) census under-count labor force and unemployment compared with the Current Population Survey; and (2) persons with jobs but on temporary layoff or waiting to be called to new jobs, excluded from the unemployment classification in 1950 but included in 1959.

Source: U.S. Congress, Joint Economic Committee, Employment and Unemployment, Hearings, 87th Cong., 1st sess., subcommittee on Economic Statistics, December 18, 19, 20, 1961 (Washington: Government Printing Office, 1962), table by Clarence Long, p. 378.

Table 18 shows how the less educated workers are feeling the impact of employers' changing manpower requirements. The unemployment rates for males 18 years old and over are presented for 1950 and 1959, by years of education completed. These 2 years were selected because the unemployment rates for the group as a whole were identical, 6.3 percent. In 1950 the unemployment rate for those workers with 0 to 4 years of schooling was about 3.5 times that for those with 16 years or more. In 1959 the rate for the former was seven times that of the latter -- viewed another way, 16 percent between 1950 and 1959. The rate for those with 13-15 years of education declined 23 percent; and for those with

16 years or more of schooling, the rate declined 39 percent.

Those with less formal education are not able to compete realistically for the available jobs. Among this group are nonwhites whose unemployment rate during the last five years has been more than double that for whites. Although nonwhites compose less than 10 percent of the labor force, they have accounted for about one-fifth of all unemployment in each of the last five years. According to 1960 census figures, 10.4 percent of Cass County's 36,932 people were classified as nonwhite.

Also in the group whose educational preparation handicaps them in meeting employers' current hiring requirements are the school dropouts. It has been estimated that about one-third of the nation's young people drop out of school before completing high school. Unprepared for the world of work, the school dropouts experience difficulty in finding employment. In many instances, they have had little help in vocational guidance. Too many of them have no clear understanding of their abilities, talents, shortcomings, or how to go about getting jobs. In addition, some have not developed work habits.

According to United States Department of Labor data, 18 percent of the 214,000 school dropouts in 1960 were unemployed in October 1960. In October 1959, about one out of every four of the school dropouts in the labor force were unemployed.[1] If the current dropout rate continues, 7.5 million of the estimated 26 million youths entering the labor market during the 1960's

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[1]Sophia Cooper, "Employment of June 1960 High School Graduates," Monthly Labor Review, LXXXIV, No. 5 (May, 1961) p. 465.

will be school dropouts. Of this number, 2.5 million will not have gone beyond elementary school.

TABLE 19

NUMBER UNEMPLOYED IN SELECTED AGE GROUPS AS PERCENT OF ALL UNEMPLOYED, AND ALL UNEMPLOYED AS PERCENT OF CIVILIAN LABOR FORCE IN THE UNITED STATES 1957-61

Age Group	1957	1958	1959	1960	1961
14-19 years of age (000)	574	757	727	792	921
Percent of all unemployed	19.6	16.2	19.1	20.1	19.2
45 years of age and over (000)	861	1,357	1,144	1,130	1,424
Percent of all unemployed	29.3	29.0	30.0	28.7	29.6
All Ages (000)	2,936	4,681	3,813	3,931	4,806
Percent of civilian labor force	4.3	6.8	5.5	5.6	6.7

Source: Employment and Earnings, Annual Supplement, Vol. 8, No. 12 (June 1962).

The employment problems of school dropouts are interrelated with those of young workers in general. The unemployment data reflect the difficulties of the nation's youth in finding jobs. Table 19 shows the rate of unemployment between 1957 and 1961 for the age group 14-19 years. With the exception of 1958, this group of workers accounted for about one-fifth of all unemployment in each of the years. In this five-year period, the unemployment rate among young workers has been between two and three times the rate for the nation as a whole.

Both inexperienced young workers and older workers (45 years old and over) have difficulty in finding jobs because of their inability to measure up to employers' hiring requirements. As indicated in Table 19, this older age group has accounted for about three-tenths of all unemployed in each of the five years.

While their age may be a handicap in their bid for employment, they may also be lacking in other qualifications, such as education. These can be termed the dropouts of a generation age.

Job Opportunities and Education in Cass County

Recognizing what the national picture clearly reveals, an attempt was made to focus on this problem on the local level. This section presents the findings of a study of 1096 job opportunities in Cass County and views expressed in personal interviews transpiring between 23 employers and the writer while conducting the survey of business and industry.

This particular study was done with the cooperation of the local office of the Michigan Employment Security Commission and the assistance of Mr. Martin Smith, Jr., manager of that office. It undertook to analyze all the announced job openings in the Cass County area from January 1, 1965 to November 1, 1965. The analysis attempted to determine what kind of work was available locally, whether formal education was required for the work and what beginning financial remuneration could be expected. Of the 1096 job announcements investigated, 193 called for part time or seasonal help and were eliminated from any analysis. The analysis of the remaining 80 percent or 903 job opportunities for permanent employment revealed the following educational requirement to gain job entry:

	Number	Percent
Less than high school diploma	707	78.3%
A high school diploma	177	19.6
More than a high school diploma	19	2.1

It can be seen that three of every four jobs workers sought in this study were not required to have a formal high

school education. It should also be noted at this point that the time period of this study happened to be during the crest of national prosperity.[1] The 78.3 percent appears to be a large portion and could possibly be somewhat smaller in the actual practice for job entry opportunities for the individual without a high school diploma. However the portion of jobs available in Cass County is still large enough to indicate that the non-high school graduate could find employment readily in 1965. While job opportunities exist in the local area for non-high school educated or high school dropouts, the latter in many cases is competing with the marginal high school graduate for the job entry. It would be in periods of economic stress, recession, labor abundance, etc., that the lack of a high school diploma would be a handicap. There is also the danger of the local labor market being filled with many individuals who possess a high school diploma but not saleable skills.

The second conclusion and relating to the last statement was what one personnel director aptly put as the "quality of a different brand" of education that prepares "the youth to work in my shop." Here the employer was not concerned with the attainment of a high school diploma or a community college degree, nor was criticism of the local school intended in his remarks. The emphasis of this and other statements was placed upon the previous training the applicant had which qualified him for entry

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[1]In a number of interviews with employers and personnel directors in the County, the writer was repeatedly informed of the increased demand for "workers" during 1965. See also findings of Survey of Business and Industry, Chapter VIII.

into a job and all its implications. When parents speak of the quality of education they are generally talking about improving or upgrading the present curriculum either through new teaching methods, new approaches to subject matter, etc. But in this study employers were not talking about the quality of the 3 R's needed for advanced educational degrees but "quality of a different brand" which would prepare young people not only with a possible shop skill but also with some understanding or knowledge about the world of work "beyond the money earned and the training required for a job."

The permanent job openings available fell into the following categories:

1. Unskilled - strictly common labor work, generally known as the strong back and weak mind type of work.
2. Domestic - all types of household help from babysitters, yardmen, etc.
3. Semi-skilled - common machine operators, who were not required to read blueprints, truck-drivers, punch press operators, etc.
4. Foods & Related Services - waitresses, cooks, bartenders, etc.
5. Clerical - secretary - all office type work, from filing, typing, bookkeeping, etc.
6. Skilled - machine trade, tool-die makers, electricians, mechanics, etc.

An analysis of the permanent job openings available to individuals with less than a formal high school education (707 openings) indicated the following break-downs:

I. Type of work	Number	Percent
1. Unskilled	185	26.1%
2. Domestic	19	2.7
3. Semi-skilled	424	59.9
4. Foods & Related Services	33	4.7
5. Clerical-Secretary	13	1.9
6. Skilled	33	4.7

II. Beginning Pay	Number	Percent
Salaries	19	2.7
$2.03 per hour & up	23	3.3
$1.61 to $2.02 per hour	168	23.7
$1.26 to $1.60 per hour	344	48.7
Up to $1.25 per hour	153	21.6
III. Was Previous Experience Required		
Yes	387	54.7
No	320	45.3

The majority of the work available to non-high school graduates in this study was classified as semi-skilled and unskilled, which accounted for 86 percent of all the opportunities, while 94 percent of the jobs had a starting wage of $2.02 per hour or less. Nearly half or 48.7 percent of the jobs were in the wage price range of $1.26 to $1.60 per hour. Both the type of the work and the wage paid reflect a direct relationship to the level of formal education required for job entry in Cass County.

Over half the job opportunities available to non-high school graduates did require previous work experience. It is interesting to note the vast difference in percentages of the types of work available to the non-high school graduate with previous work experience and the one without:

	Previous Work Experience Required: Percentages	
	No	Yes
Semi-skilled	47.6	70.3
Unskilled	42.9	12.4
Domestic	4.5	1.3
Food & Related Services	3.0	5.9
Skilled	1.2	7.5
Clerical-Secretarial	0.8	2.6

In summary, employment opportunity for the non-high school graduate exists in the Cass County area, however, it is limited

in nature of the work available and in the pay scale. There is also the constant threat of this individual being second choice to the high school graduate in job entry. While individual differences exist, a very comparable picture exists in the educational level and employment opportunities on the national and county level.

The educational implications which might be derived from the foregoing are:

1. The importance of providing training for economic competence at an early age;

2. Emphasis upon attitudinal outcomes which will prepare individuals for our changing world of work;

3. Need for vocational guidance and counseling services; and

4. The desirability of establishing on the job training programs with business and industry for both youth and adults.

CHAPTER VII

WHAT OUR STUDENTS TELL US

Introduction

One important part of assessing the vocational interests and needs of youth of an area, is a study of the plans, aspirations, interests, and attitudes of youth. Previous studies have indicated that plans of high school seniors are predictors of post-school actions with a validity sufficient to warrant careful attention. Many of the same influences and forces which effect the formulation of plans, tend to be those which operate to influence their implementation and determine the extent to which a senior is likely to follow them. Assuming the characteristics of Cass County seniors in 1965-66 are similar to those who will be succeeding them during the several consecutive years ahead, perhaps even the next decade, certain conclusions based upon a study of them can serve as a basis upon which to offer some insight for the future.

During the fall of 1965, in cooperation with the principals, counselors, and various faculty members of the county's four high schools, a survey questionnaire was administered to all seniors of Cassopolis, Dowagiac, Edwardsburg, and Marcellus High Schools. Questionnaire responses were obtained from 434 seniors from a possible total of 491, representing 88 percent participation. Absenteeism and un-usable data accounted for the other 12 percent.

Mobility and Nature of Student Population

For further educational planning in Cass County, it is important to determine whether the prospective student body is composed of persons who have lived in the community for some lengths of time or whether it changes rapidly due to constant migration. Some idea may be obtained by examining the length of time the present seniors have resided in the area served by the respective high schools. These data appear in Table 20.

TABLE 20

LENGTH OF RESIDENCY IN PERCENTAGE IN AREA SERVED BY HIGH SCHOOL

Time of Residence	Percentages		
	Boys	Girls	Total
Less than a year	4.5	2.3	3.4
1-2 years	4.5	6.6	5.5
3-5 years	9.9	9.0	9.5
6-10 years	16.6	15.3	16.0
Over 10 years	64.4	66.5	65.4

Findings show that 91 percent of the seniors have lived in the area at least three years, and eight of every ten have been there at least six years, or since junior high school. More than six of every ten have lived in the area over ten years, while only one in every ten has lived there less than three years. While the data do not show out-migration of youth from the area, they indicate that of those currently in school, most of them have been there a considerable period of time. These findings evince a relatively high degree of population stability, which corroborates the findings in the previous chapter on population regarding the changing pattern of migration.

Less than 5 percent were found to be living with someone other than both parents while attending school. This fact shows that the incidence of family instability in terms of living with both parents is far less than in most communities.

Plans After Graduation

Students were asked, "What do you plan to do on a full-time basis the first year after high school graduation?" Two-thirds indicated they plan to seek further education or training and one-third indicated their intention to enter the world of work. Ninety-eight, or 22 percent, planned to continue their education by attending a business college, a trade or technical school. When asked, "Do you plan to attend college or university?", 38.7 percent indicated yes definitely and 25 percent indicated probably so.[1]

Occupational aspirations of youth give clues to types of education and training required if they are to achieve their occupational goals. All seniors were also asked to list their first preference for the kind of job which they would like to be doing ten years from now. An attempt was then made to determine the extent to which occupational goals of youth were compatible with their plans for further educational training. These data are contained in Table 21 which are categorized into types of fields and a comparison is made of the percentage of the youths' occupational goals and their plans for further educational training.

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[1]In a similar type question two years ago on the Cass County Community College Survey with juniors (graduating class of June, 1965) the writer found 33 percent indicating definitely planning to go and 26 percent indicating probably will go.

TABLE 21

OCCUPATIONAL ASPIRATIONS AND FURTHER TRAINING AND EDUCATIONAL PLANS OF YOUTH

Type of Field	Aspiration In 10 Years		Plans for Training	
	Number	*Percent	Number	*Percent
Professional: Education	44	10.1	40	9.2
Professional: All Others	85	19.5	119	27.4
Semi-skill Trades (Boys: mechanics, TV & radio repair, drafting, etc. Girls: beautician, etc.)	91	19.9	91	20.9
Business including Accounting	40	9.4	48	11.
Secretarial	47	10.8	25	5.7
All Others (Agriculture, Commercial Art, Housewife, Civil Service, etc.)	95	21.8	37	8.5

*Percent based upon all 434 seniors in study but both items had 32 and 74 non-responses respectively.

The above table is a simple summarization but typical of the findings of a series of extentive analysis on the compatibility of data. Responses were coded for processing in such a way that a more refined analysis was possible. For example, the writer was able to conclude that 69 percent of those desiring to enter an office-clerical-secretarial type work were interested in further training in accounting, general business or secretarial-clerical types of training; of the seniors aspiring to work in drafting, 56 percent were interested in obtaining more advanced work in drafting.

In summary, Table 21 and most of the analysis done by the writer indicate a relatively high compatibility between the expressed occupational aspirational, his field of interest for continued study, and his expressed rank in the graduating class.

Studies of the aspirations of youth have been found to be less realistic the lesser the age of the student; and the aspiration level is always higher than is generally achieved. In this study the latter statement may be applicable but in comparison with similar studies in southeastern Michigan, higher levels of aspirations of youth were found.

The data on occupational aspiration and field of interest for further training seem to indicate needs for curriculum and programs at both the high school and community college levels in areas of the semi-skilled trades (drafting, mechanics, electronics, and business education).

How the School Could Better Prepare Students

One of the open ended items asked in the senior survey was: "How do you think the high school could prepare you better?" Recognizing that a questionnaire entitled Vocational Educational Study might elicite a bias response, it would still be considered educationally, if not statistically, significant to have 35 percent of all responses relate in one way or another to the school's programs of vocational or occupational education. Only two other types of responses elicited as much as 20 percent reaction and they related to the expansion of curricular offerings and suggestions relating to teachers and teaching method. Most predominate was the request for more course offerings such as in business, automotive mechanics, and improvement or addition of facilities and equipment in the field of occupational training.

CHAPTER VIII

SURVEY OF EDUCATIONAL NEEDS FOR LOCAL BUSINESS AND INDUSTRY

Introduction

One important aspect of determining the needs of vocational and technical education and training is to ascertain the needs of local industry and business for qualified employees. This chapter is devoted to the presentation of the results of a survey conducted among Cass County industrial and business firms and governmental units to determine the nature of jobs in our local economy and to explore the extent of any interest employers might have in job training or occupational educational programs at both the high school and post high school level.

Since the purpose of this study was to acquire information about job entry and employment practices in the local area, it was decided to survey all known employers, large and small, who employed two or more individuals other than their immediate family. The identification of employers and addresses was made possible through the assistance of Mr. Martin Smith, district manager of the M.E.S.C. office, and officials of the four high school districts. Questionnaires were both mailed and distributed in person by the writer and local school staff members. Members of the guidance staffs also assisted with telephone pleas in a follow-up on the non-response to the initial survey. The writer also conducted a series of informal interviews with employers or personnel directors on return or follow-up visits to pick up completed questionnaires.

A total of 267 industrial and business firms and governmental

units were included in the initial survey, during the month of December, 1965. The first returns of questionnaires gathered were 99. Final response was gathered from 161 firms (or 60.2 percent). Of the 161 questionnaires returned, 17 were eliminated from analysis for the following reasons. It was established that 6 firms had gone out of business; 2 firms indicated dual operations under two separate names but under a single proprietorship; 2 branch organizations (located in county) of parent companies with general offices elsewhere responded with form letters declining to participate because the divulging of such information violated company policy (several others undoubtedly fell in this category without indicating such); 3 firms indicated the nature of their business as seasonal, operating with new part-time employees each year; and 4 organizations returned un-completed questionnaires with personal letters explaining in detail the nature of their businesses and employment practices. The analysis presented is based upon the completed questionnaires of 144 firms in Cass County employing a total of 4,967 persons.

Description of Companies Surveyed

Even though many of the companies surveyed categorized themselves as performing more than one type of activity, it is instructive to arbitrarily classify the business and industrial firms in this survey in order to get an overview of the local picture. The survey returns were separated into three groups: companies employing 1-49 persons, companies employing 50-99 persons, and companies employing 100 or more persons and then classified into 15 descriptive categories, as shown in Table 22.

TABLE 22

CLASSIFICATION OF COMPANIES SURVEYED IN CASS COUNTY

Classification of Companies	Number of Companies	Number with 1-49 Employees	Number with 50-99 Employees	Number with 100 or More Employees	Number of Employees in this Category	Percent of Total Employees in Survey
Agriculture Services	6	6			33	0.7%
Banking, Finance & Insurance	10	10			84	1.7
Construction	5	5			32	0.6
Education, includes Library	7	4		3	498	10.0
Entertainment & Recreation	2	2			21	0.4
Food, Dairy and Drink	13	13			144	2.9
Government: Federal, State, Local	12	11	1		195	3.9
Health: Hospital, Medical, Dental	8	6	2		208	4.2
Industrial and Manufacturing	27	15	3	9	2992	60.2
Lumbering	6	6			47	0.9
Printing, Publishing, Communications	4	4			47	0.9
Professional, other than medical & dental	5	5			13	0.3
Retailing and Wholesale, other than food, dairy, & drink	25	25			324	6.5
Service Establishments	11	11			53	1.1
Utilities	3	2		1	276	5.6
Total	144	125	6	13	4967	

Only brief comment is warranted on the content of Table 22. First, it is again emphasized that the results do not portray the full picture of Cass County's labor force. Second, the 15 categories listed in the table do not indicate a break-down of the division of labor for each occupational distribution, such as the number of white-collar workers, technical, skilled, clerical, etc. but only indicate a description of types of

businesses and industries surveyed. Some possible interpretations follow:

1. Nearly nine out of ten businesses or industries in the county are small in terms of people employed. In this study 86.8 percent of the companies employed 49 or less persons.

2. The largest number of persons are employed by manufacturing and industrial firms, i.e., six out of ten.

3. Again industrial manufacturing and retailing and wholesaling companies comprise the two largest numbers and represent 36.1 percent of the total number of companies.

Average Number Employed During The Past Year With High School Education

To investigate the characteristics of the local labor force for which high school level education and training (plus work experience) are considered sufficient and desirable, each company was asked to give the average number on the payroll during the past year at the Cass County location of the enterprise. Table 23 shows for each job type the number employed, the number of employers who expected the annual rate of employment for 1966-72 to either increase, or remain the same or decrease, and the number of employers who indicated that the local supply of qualified employees was scarce, adequate, or a surplus existed. The comparative infrequency of companies indicating a decrease in employment in the next five years can be attributed to such factors as the unprecedented economy of 1965 and employer optimism; similarly the infrequent indication of a surplus of qualified employees available in local labor market is due, in part, to the discriminate judgment and attraction for applicants by the employer.

As reported by employers and other officials, Table 23

shows that the largest number of employees (for which high school education is considered sufficient) can be classified as assembly-line or production line workers, comprising one-third of the workers in this part of the survey. The next largest number are classified as industrial machine operators. It should be noted that employers predominately anticipate their numbers to increase and have indicated both in the survey and in interviews that there is a scarcity in the local labor market. Other job categories containing an average of 100 or more employed are unskilled-workers (other than those indicated in the table such as general labor, etc.), salespersons-cashier (such as retail store clerk) and clerical-typist.

TABLE 23

EMPLOYMENT REQUIRING HIGH SCHOOL EDUCATION: AVERAGE NUMBER EMPLOYED, FUTURE OUTLOOK AND LOCAL SUPPLY.

Type of Job	Average Number Employed This Past Year	Number of Companies			
		Expect Annual Rate of Employment for 1966-72		Indicating Local Supply of Qualified Employees is:	
		Increase	Same	Scarce	Adequate
Industrial Jobs					
Assembly or Production Line Worker	1330	7	4	9	2
Carpenter & Cabinet Maker	39	5	5	7	2
Electrician: Lineman & Wireman, Servicemen	87	7	1	13	2
Foundry Worker	67	4		3	1
Foreman, Shop,Gang,etc.	487	12	3	11	7
Machinist	95	4	3	6	2
Maintenance & Millwright	73	7	8	9	7
Mechanic: General	16	1	3	4	
Tool & Die Workers	28	5		5	
Other Workers: Skilled	26	5	1	4	2
Other Workers:Semi-Skilled	19		*	1	1
Other Workers: Unskilled	189	5	4	7	2**

TABLE 23 -- CONTINUED

Type of Job	Average Number Employed This Past Year	Number of Companies: Expect Annual Rate of Employment For 1966-72		Number of Companies: Indicating Local Supply Of Qualified Employees is:	
		Increase	Same	Scarce	Adequate
Sales & Service Jobs					
Automotive Mechanics	57	10	5	13	2
Automotive Salesman	13	3	1	1	3
Automotive Servicemen	17	5	5	4	6
Bus Boys & Stock Boys	26	4	2	1	3**
Cooks	43	1	4	3	2
Janitorial, Yardman, etc.	20	3	5	4	3
Law Enforcement	20	1	1	2	
Meter Readers	10	1		1	
Nurse's Aid & Maids	85	3	1	2	2
Postal Workers	37		3	3	3
Plant Security Guards	21		4	1	2
Plumbing & Heating	10	6	1	5	1
Route Salesman	16	1	2	4	1
Salesperson-Cashier	101	11	13	11	10***
Service Station Attendant	36	1	2	2	1
Truck & School Bus Drivers	97	8	11*	12	8
Waitresses	40	2	2	2	2
Business Office Jobs					
Bank Clerk-Teller	13	3		2	1
Bookkeeper	43	6	25*	7	25
Clerk-Typist	122	14	30*	9	35
General Office Worker	24	6	3	5	4
Office Machine Operator	19	1	3	1	3
Secretary	44	4	16	8	10
Stenographer	13	6	3	5	4
Agricultural Related Jobs					
Implement Sales & Service	16	2			2
Feed-Mill Workers	24	2			2
Meat Cutters-Butchers	12	4	4	6	3

* 1 Company also indicated an expected decrease

** 1 Company also indicated a surplus in local supply of qualified employees

*** 2 Companies also indicated a surplus in local supply of qualified employees

Among the jobs in survey not shown in Table 23, which had less than 10 as an average number employed are: Bartender, Bricklayers, Draftsman, Dental Assistant, Electronics, Fireman, Insurance Adjusters, Library Assistants, Marine Service, Masonry, Office-Dispatcher, Painter, etc.

Employers are proportionately divided in their opinions as to whether the next five years will show an increase or remain the same in the total employment picture and in many of the types of jobs listed. Similar opinions are shown in Table 24 regarding employers' opinions on the scarcity and adequacy of the labor market. Nearly three out of every four employers indicated that the local labor market shows a scarcity of employees for industrial-type jobs. While two out of every three employers expressed the opinion that availability of office workers locally is adequate. The adequacy of persons available for business-office jobs can to a large share be attributed to the products of the high school business education programs.

TABLE 24

FIVE YEAR OUTLOOK AND AVAILABILITY OF JOBS SURVEYED REQUIRING HIGH SCHOOL EDUCATION.

Response Indicated for 1966-72...	Industrial		Sales & Service		Business Office		Agricultural Related		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Increase	66	60.6	60	48.8	40	32.8	8	66.7	174	47.5
Same	42	38.5	62	50.4	80	65.6	4	33.3	188	51.4
Decrease	1	0.9	1	0.8	2	1.6	0	0.0	4	1.1
Response Indicated of Local Supply...										
Scarce	86	72.3	71	57.7	37	31.1	6	46.2	201	53.7
Adequate	32	26.9	49	39.8	82	68.9	7	53.8	169	45.2
Surplus	1	0.8	3	2.5	0	0.0	0	0.0	4	1.1
Total Number Employees in Survey	2484		649		278		52		3463	

Employment for People With Formal Education Beyond High School But Less Than College Degree:

Employers were also to give similar information concerning the kinds of semi-professional and technical jobs for which one or two years of post high school education are ordinarily

considered desirable or essential. The findings to this question are shown in Table 25. Although a section was provided to show if a decrease in number of jobs would be anticipated in the next five years, there was not a single entry made in that section, nor did any employer indicate that a surplus of qualified semi-professional or technical employees existed locally.

TABLE 25

EMPLOYMENT REQUIRING MORE THAN HIGH SCHOOL EDUCATION: AVERAGE NUMBER EMPLOYED, FUTURE OUTLOOK AND LOCAL SUPPLY.

Type of Job	Average Number Employed This Past Year	Number of Companies			
		Expect Annual Rate of Employment For 1966-72		Indicating Local Supply Of Qualified Employees is:	
		Increase	Same	Scarce	Adequate
Industrial & Technican Jobs					
Drafting & Design Technician	35	5	4	8	2
Foreman-line Supervisor	116	8	10	19	
Industrial Technician	16	2	3	7	
Industrial Engineering	11	2	1	2	1
Technician: Others (chemical, automotive, heating, electrical, etc.)	17	6	4	9	
Tool & Die	29	3	1	4	
Business and Office Jobs					
Accounting	20	4	8	8	3
Business Management	12	3	4	2	4
Date Processing & Business Machines	10	3	1	2	2
Outside Salesman	45	7	6	6	5
Sales Management	30	12	11	16	5
Secretarial	36	9	15	18	5
All Other Categories					
Newspaper & Radio	10	1	3	4	
Medically Related	12	3	2	4	1
Nurse (Practical)	14	3		2	1

Among the jobs in survey not shown in Table 25 which had less than 10 as an average number employed are: Advertising, Purchasing Agent, Food Technician, Library Assistant, Law Enforcement, Court Reporter, Social Worker, etc.

In our survey, the jobs requiring more than high school education were noticeably smaller in number then those shown in Table 23. There are persons employed in a wide range of particular positions which Table 25 is unable to show because of the small number that would come under each job title. It can be shown that a relatively large percentage (54.2) are employed in industrial and technical positions. In these positions, foreman and supervisory personnel show the greater number and drafting and design technology and tool and die making have significant numbers. In the field of business; salesmanship, management, and secretarial are emphasized.

Again employers had divided opinions regarding the employment outlook for this type of worker in the next five years--whether employment would increase or remain the same. However, on the question of the availability of locally qualified employees, in eight out of every ten responses the answer was scarce. This was especially the situation in the case of shop foreman and industrial supervisory jobs. Where Table 23 shows more employers indicating an adequacy in secretarial personnel, Table 25 shows that employers are saying that secretarial personnel of a better-trained and higher quality are scarce in local labor market.

From these data, one can conclude that the greatest need for post-high school training would seem to be for programs designed for supervisory training. The same program was recommended by the Citizens Study for the Community College in their survey of the type of training that would be helpful to

local business.[1] Need for programs designed for various technology programs, draftsmen, and tool and die makers would seem to be warranted. Business needs would suggest that programs be developed in the areas of salesmanship, management, and secretarial studies.

Employer Opinions And Practices For Entry Employment

In the preceding chapter findings were reported on the job availability during the past year to non-high school graduates in Cass County. Conclusions reached in that analysis appear to be compatible with data received from employers to the questions of "With respect to the requirements of your firm for entry employment, in what job categories do you employ young persons who have 'dropped out' without finishing high school?" A second exact question concerned persons who have just graduated from high school? Three levels of response were suggested and a percentage table of comparison are presented in Table 26.

TABLE 26

PERCENT OF RELATIVE FREQUENCY WITH WHICH DROP-OUTS AND HIGH SCHOOL GRADUATES ARE EMPLOYED BY FIRMS FOR VARIOUS TYPE ENTRY JOBS.

	Common Practice		Infrequently		Almost Never	
Type of Job	Drop-out	H.S. Grad	Drop-out	H.S.Grad	Drop-out	H.S.Grad
Highly Skilled Jobs	0.0	21.0	8.2	15.8	91.8	63.2
Business Office Jobs	1.8	50.0	13.0	30.0	85.2	20.0
Sales Jobs	2.1	34.1	10.9	29.3	87.0	36.6
Apprenticeship for highly-Skilled Trades and Crafts	12.8	53.5	14.9	25.6	72.3	20.9
Semi-Skilled Jobs (assembly Line & Production Workers)	21.5	71.4	37.3	11.9	41.2	16.7
Service Jobs	12.5	64.0	33.9	18.0	53.6	18.0
Unskilled Labor Jobs	44.2	79.6	35.1	16.7	20.7	3.7
Technician Jobs	-	17.7	-	23.5	-	58.8

[1]Citizen's Study for the Establishment of a Cass County Community College, July, 1964, page 57.

A brief study of these data show that employers will commonly employ the non-high school graduate for job entry in the jobs classified as unskilled and semi-skilled production work more so than any other category. The desirability of employing a high school graduate in preference to a drop-out are sharply indicated in the percentages. The expressed opinions of employers concerning job entry employment correlate highly with previous findings on all their employing practices.

It should be pointed out that it is not only the educational level which is involved; but also the maturity level and responsiveness of the individual to his work--many respondents wrote in such comments as "Do not accept responsibility", "Need continuing supervision", "Lack of interest", etc. However, maturation and education take place simultaneously while the student is enrolled in school and in a community college occupational education program, and the completion of a high school education and further training in the community college in many cases, would solve this problem of job preparedness. Further information on this question was sought in the next chapter of the survey.

Employer Evaluation Of Non-High School Graduates And Young Persons Just Out Of High School

Employers were asked to recall the employment practices of their firm over the past five years, and then check one of several statements which best described the official policy of the firm in evaluating non-high school graduates and high school graduates who applied for entry jobs with the firm. The data from those responses are tabulated in Table 27.

TABLE 27

EMPLOYER EVALUATION OF NON-HIGH SCHOOL/NEW HIGH SCHOOL GRADUATES APPLYING FOR ENTRY JOBS. (144 FIRMS SURVEYED)

EVALUATIVE STATEMENT	No. of Firms Checking Each	Percent of Total Firms
Non-High School Graduates		
We have employed a number of young non-high school graduates and we have found they can perform satisfactorily.	28	19.4
We have employed a number of young non-high school graduates but find they need a considerable amount of additional education and/or training before they can perform satisfactorily.	21	14.6
We have found non-high school graduates unsatisfactory for the following reasons.	50	34.7
Firms not responding to this item.	45	31.2
New High School Graduates		
Most young high school graduates who apply seem reasonably well prepared for entry employment and we have employed them as openings have occurred.	41	28.5
We have employed a number of young high school graduates, but find they need a considerable amount of additional and/or training before they can perform satisfactorily.	30	20.8
We have found it inadvisable to employ young high school graduates except for unskilled jobs.	11	7.6
The nature of most of the entry jobs in our firms is such that young high school graduates are virtually unemployable because of lack of occupational education and training.	18	12.5
Firms not responding to this item	44	30.6

The higher number of non-response in Table 27 is due to the large number of firms with small numbers of employees who have had little or no experience with hiring of young people in the past five years. The statement receiving the largest response relates to dissatisfaction with non-high school graduates by the

employer. A careful review of the reasons enumerated by employers revealed the most frequent response (in nearly half the cases, 24 out of 50) to be related to a lack of formal education, such as unable to read, do simple arithmetic, etc. The next reason given was the one commonly associated with the drop-out student: lack of initiative and laziness. A lack in some mechanical ability or skill, undependable-not responsible, need for constant supervision, and unable to follow directions were other reasons given in order of frequency in 10 to 20 percent of all responses.

On the basis of the results of this query and within the limitation of the sample responding to Table 27, it might seem that Cass County employers do feel that the local high schools are meeting the need for occupational education today. However, there is also a definite expression of opinion from employers that young people "need additional education and training", both high school level and post high school for job entry.

Employers' Opinions Regarding Vocational Education In Cass County

Opinions were sought from employers on the extent to which existing educational facilities in the Cass County area meet the occupational and training needs of their companies. Seven percent of all firms thought existing facilities meet the needs very well, 39 percent considered them as fair, and 29 percent thought they were poor. None of the largest employers (50 or more employees) considered the existing facilities as meeting the needs very well, rather their opinions were evenly divided between a rating of fair and poor. This could be interpreted to mean that there is considerable room for improvement and/or a

need for additional facilities in the opinion of those responding.

Employers were asked, if they considered occupational education and training in the area needed improvement, which five suggested developments they would support. More than one response could be given and the number of companies responding to this question was 110. The findings are shown in Table 28.

TABLE 28

EMPLOYER OPINION ON SUGGESTED DEVELOPMENTS FOR VOCATIONAL EDUCATION IN CASS COUNTY. (NUMBER OF FIRMS RESPONDING - 110)

Developments Suggested	No. of Firms Checking Each	Percent of Total Responses
Substantial improvement of the present vocational education program in the existing high schools	37	19.7
Specialization in a particular area of vocational or occupational education by each high school with cooperative sharing of facilities, faculty, programs, etc. and the exchange of students among all high schools in the county.	22	11.7
Creation of an area vocational-technical facility center designed for secondary (high school) and post-high school occupational training on the Southwestern Michigan College campus.	70	37.2
Development of a program of tuitioning students on a part-time basis from our county high schools to neighboring vocational training centers which are in the planning stages, such as the South Bend Area Vocational High School.	10	5.3
Creating an office of Director of Vocational Education for Cass County to coordinate the programs of occupational training in our county schools and to serve as a liaison to business and industry.	30	16.0
Other (mostly related to specific curriculum and goals for vocational education, such cooperative training, drop-out work study program, specific subject content; 1-vocational high school, 1-Community College Director of Vocational Education serve county High Schools, etc.)	19	10.1

The development for an area vocational-technical facility center designed for high school and post high school occupational training on the Southwestern Michigan College campus received the most support from Cass County business and industry surveyed. The seventy firms who reacted favorably to this proposal constitutes nearly half of the total sample (144) and 64 percent of the firms responding to the question. A substantial number of employers also indicated a willingness to support the improvement of the present high school vocational programs and willingness to support structured leadership and cooperation for vocational education on a county-wide basis.

A willingness to cooperate further is evidenced as 68 firms or 47 percent responded yes when asked if they would be interested in participating in discussions or further study of plans for improving occupational educational and training at high school and post-high school levels in the Cass County area. Sixteen firms or 11 percent indicated no interest in further participation. (In more than twenty interviews with employers in the county, the writer found many extremely limited in time but not a one fell in the latter category.) Another 38 firms (26%) indicated they were undecided.

Employers were asked whether their firms conducted formally organized training programs, and if so, what type of program was being conducted. Twenty-five percent of all firms responding revealed some type of training program was provided. The type of programs most frequently provided can be described as apprenticeship, supervisory on-the-job training, and job upgrading. Seventy-four percent of all firms responding indicated no

organized training program for employees, this points to a void that could be filled by local schools.

A series of three questions were asked that elicited employers' opinions concerning post high school education at Southwestern Michigan College. First was: "If within the next five years you anticipate job opportunities in your firm which will require education beyond the high school, what type of program will best meet this requirement for your firm?"

Fifty-six percent of the firms surveyed responded as follows:

6	(7.5%)	All occupational courses
35	(43.8%)	Strongly occupational with some academic studies
20	(25.0%)	About the same amount of occupational and academic studies
12	(15.0%)	All academic studies
7	(8.7%)	All other responses

The second question, directed to industrial and manufacturing firms, was: "At what level do you believe Southwestern Michigan College should provide training for industry to meet your future job openings?"

A total of 41 firms responded as follows:

10	(24.4%)	The semi-skilled trades (simple machine operation)
12	(29.3%)	The skilled trades (learning how to operate and repair difficult machines)
6	(14.6%)	Semi-professional technology (advanced technology and design: just below the professional)
8	(19.5%)	All of the above skills
1	(2.4%)	Should not offer industrial training
4	(9.8%)	All other responses

A third question was: "If Southwestern Michigan College were limited to offering only one program in the area of vocational-technical education, which one, if any, of the following programs would your firm consider an absolute essential?" Respondents were asked to make only one selection and 78 percent

of the firms surveyed responded as follows:

20	(18%)	Industrial education leading to jobs in highly skilled trades
11	(10%)	Technical education leading to semi-professional jobs in support of science and engineering
8	(7%)	Cooperative training education: office
7	(6%)	Cooperative training education: distributive (Sales)
16	(14%)	Business Management and Accounting
16	(14%)	Secretarial Studies
5	(4%)	Drafting Technology
12	(11%)	Automotive Technology
5	(4%)	Agri-business
4	(3%)	Practical Nursing
9	(8%)	All other responses

CHAPTER IX

SURVEY OF HIGH SCHOOL GRADUATES

Introduction

In assessing the educational needs of vocational-technical education programs for Cass County it is desirable to make an appraisal of the present offerings through the opinions and views held by individuals who are a product of the local high schools. With the assistance of the guidance counselors of Cass County's four high schools, the names and addresses of 496 graduates were obtained. The sample was selected from the graduating years of 1955, 1960 and 1964. Because Dowagiac High School has had twice as many graduates as the next two larger schools, the larger number of the sample came from that school and selected graduates of the years 1954, 1959 and 1963 were also surveyed. The ability to find the present address of a past graduate was considered a prime criterion in the selection of the sample for this survey.

In March 1966, 496 questionnaires were mailed to these graduates with a cover letter from their respective high school principals along with a business reply envelope. In about four weeks following the initial mailing, a second questionnaire and letter were forwarded to a selected sample of 150 of those who had not responded to the first invitation for assistance and cooperation.

Response to the initial mailing brought 159 completed questionnaires while an additional 29 envelopes were returned for lack of sufficient address. The second mailing of the 150

selected sample brought 64 more completed questionnaires. A statistical analysis was made between the two sets of returned questionnaires on the assumption that the returns to the second request represented a non-responding population. The important question here was would a large number of non-response tend to bias the findings. This analysis revealed that the two groups of responses (159 and 64) were evenly distributed by sex, year and school. The statistical anaylsis of the first ten even numbered questions also revealed no significant difference between the two groups. Since there was no reason to suspect any bias relating to non-response, all data presented here is based upon the total completed questionnaires, 223 out of a possible 467, or a 47.8 percent return.

Description and Residence Status of Graduates

The greater number of the graduates responding to the graduate survey were graduates of Cassopolis High School, who were undoubtedly more familiar with the name of the writer and therefore responded more readily to the study. Also a higher percentage of response was received from those who had been graduated the longest. Data are shown in Table 29

TABLE 29

RESPONDENTS TO GRADUATE SURVEY BY YEAR OF GRADUATION AND HIGH SCHOOL

Year	Dowagiac	Cassopolis	Edwardsburg	Marcellus	Responding	Total Number Surveyed	Percent Responding
1954-55	9	24	12	6	51	92	55.4
1959-60	17	23	28	12	80	145	55.2
1963-64	17	41	29	5	92	230	40.0
Total	43	88	69	23	223	467	47.8

Of all graduates responding to the study, 60 percent live in Cass County, 11.6 percent lived outside but in a county immediately adjacent, 8 percent lived elsewhere in Michigan, and 21 percent lived outside of Michigan (one completed questionnaire was received from Australia). With about six of every ten graduates of this study being residents of the county, one might expect attitudes developed about the local high schools they attended and the educational program they received to be heavily reflected in the local adult population. Only 20.5 percent of the respondents left their home county within a year following graduation from high school. Of the respondents who moved out of the county 78 percent did so in less than three years. These findings correlate very highly with the mobility pattern found in a previous study of Cass County graduates done two years ago.[1]

The respondents were nearly divided equally as to men and women, 104 men and 119 women responded, or 46.6 percent and 53.4 percent respectively.

High School Curriculum and Type of Further Education

Graduates were asked to describe their high school course of study or curriculum. The findings are shown in Table 30. Nearly seven out of ten graduates were enrolled in the college preparatory or general curriculum, the traditional classroom oriented program of studies. The only vocational curricula

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[1]See Citizens Study for the Establishment of a Cass County Community College (July, 1964), p. 37 (Mimeographed).

pursued by the graduates to a noticeable extent was the commercial or business education program. Again this may be partially attributed to the fact that this curricula is one of the few provided by the local high schools. While one third of the county's graduates go on to a college or university, over two-thirds graduate from academically oriented programs and while nearly three-fourths of all the county's high school students are destined to go from the high school classroom directly into the world of work or married life, only one-third are enrolled in curricula designed for such purposes.

TABLE 30

NUMBER AND PERCENT OF ENROLLMENT OF GRADUATES BY CURRICULUM

Curriculum	Number	Percent*
Commercial or Business Education	43	19.3
College Preparatory	74	33.8
Shop or Industrial Arts	14	6.3
Agriculture	12	5.4
Home Economics	10	4.5
General	76	34.1
Other	4	1.8

*Question permitted more than one reply, however, percentage based upon 223 graduates rather than total number of replies.

In regard to the type of further training or education graduates had received after leaving high school, it was found that almost two-thirds of the respondents (62.32 percent) had either received no additional training or had received on-the-job training where they were employed. Findings are shown in Table 31 along with a comparison of the percentages found in answer to the same question in Community College Study of 1963-64.[1]

[1] Ibid, p. 39

TABLE 31

NUMBER AND PERCENT OF GRADUATES BY TYPE OF FURTHER TRAINING RECEIVED

Type of Education or Training	Number	Percent*	Percent* of 1963-64 Study
No additional training	42	18.83	15.24
On-the-job training where I was employed	97	43.49	32.73
Business College	11	4.93	5.38
Trade or technical school	35	15.69	11.65
College or university	65	29.14	42.60
Adult education course at a local high school	12	5.38	2.69
Military service school	25	11.21	6.72

*Question permitted more than one reply, however, percentages are based upon 223 graduates rather than total number of replies.

It is significant that the findings of this graduate survey are relatively similar with the early community college survey of graduates. The difference in the percent found between the two studies of those who go on to a college or university can be attributed to the sample difference and the rise in percentage receiving further training through military service is a factor attributed to the increased participation of the nation in war. From both surveys it would appear that three to four graduates out of every ten go on to a college or university; two out of every ten seek further training in a business college or trade and technical school, another three to four out of every ten received further training on the job and nearly two out of every ten received no additional training.

It was found that 192, or 84 percent of the graduates responding were not going to any school at the present time.

Present Interest in Further Education

Graduates were asked, "Are you presently interested in further training or education?" Of those responding to the question, 137, or 65.86 percent replied, "Yes." They were also asked to indicate by writing in their answers what type of further training or education they would want. Types of training or education are shown in Table 32, showing the number of respondents indicating each. From the data shown, it would appear that a strong need exists for post high school educational opportunities relating to an undergraduate program of study and programs in business education.

TABLE 32

TYPES OF FURTHER TRAINING OR EDUCATION INTEREST TO GRADUATES

Type of Further Training	Number	Type of Further Training	Number
Liberal Arts	43	Technical	
Mathematics	4	Electronics	7
Advanced Degree	9	Drafting	2
Business Education	56	Not specified	3
Management	15	Industrial	
Secretarial	4	Tool & Die	7
Bookkeeping-Accounting	7	Mechanics	9
Sales	4	Not specified	5
Data Processing	6	Electricity	3
Insurance	3	Cosmetology	4
Not specified	17	Commercial Art	5
Nursing	8		
Agriculture Related	3		

Survey of Graduates' Opinions

An attempt was made to determine the opinions of graduates as to how effective school services had been in helping them to achieve certain educational goals. Each was asked to indicate whether the extent of the help given by the school was "much," "some," "little," or "none." This data is presented in Table 33

analyzed in percentages. For ease of interpretation, the largest percent of responses for each item is underscored.

TABLE 33

PERCENT OF GRADUATES BY EXTENT TO WHICH THEY THOUGHT THEIR HIGH SCHOOL HAD HELPED THEM

Educational Goal	Much	Some	Little	None	No Opinion
Taking part in community and civic affairs	17%	38%	17%	14%	14%
Preparing for a job	25	44	18	10	3
Getting a job	26	28	15	27	4
Getting along with other people	51	33	7	5	4
Preparing for further education	25	40	16	8	11
Usable or practical mathematics skills	24	43	18	9	6

In general, it can be seen that the largest percent of graduates considered the socialization goal of getting along with other people to be the one in which the school gave the most help and conversely it was on the matter of getting a job that the school was believed to be least helpful. In reponse to a similar item relating to the extent to which the high school prepared them for employment, if they had gone directly from graduation to full or part employment, 54 percent of the graduates indicated that the high school had done a poor or fair job in that respect.

Whether the foregoing are valid judgments on the part of the respondents is not the point to question. These data do show opinions expressed by a part of an adult population and that opinions and attitudes have been formed by 1 out of every 10 graduates that the high school has done nothing to prepare him for a job, further education, or participation in civic affairs; while 1 out of every 6 graduates considers himself "short

changed" in the same respect.

When asked if they felt that the local high school had a sufficient number of vocational courses available for the work-bound student, 60 percent of the graduates answered negatively. Only 26 percent answered yes, while 14 percent indicated they did not know. Would the graduates have taken more vocational type courses had they been offered to them, 48 percent said they would and 13 percent said they would not and 39 percent of the graduates indicated that they did not know whether they would.

The image of vocational education (i.e., the way vocational education, its activities and rationale, are perceived) is an intangible factor whose influence is considered a deterring element by educators. At best an accurate measurement of the image held by an adult population lies within variable limits. In this study of graduates, an attempt was made to measure the image, by asking if the graduates would encourage their children (if they were or are parents) to follow a program of study for the vocational-bound student, if interest and aptitude were present. Three out of four respondents (75.66 percent) indicated affirmatively and only 4.23 percent stated no; 20.11 responded undecided.

Opinions were also gathered from graduates concerning a number of developments they would support if they believe occupational education and training in the area needed improvement. Findings were as follows:

Developments Suggested:	Number	Percent of Total Response	Percent of Respondents
Substantial improvement of the present vocational education programs in the existing high schools.	85	23.5	38.1
Specialization in a particular area of vocational or occupational education by each high school with cooperative sharing of facilities, faculty, programs, etc. and the exchange of students among all high schools in the county.	52	14.4	23.2
Creation of an area vocational-technical facility center designed for secondary(high school) and post high school occupational training on the Southwestern Michigan College campus.	99	27.4	44.4
Development of a program of tuitioning students on a part-time basis from our county high schools to neighboring vocational training centers which are in the planning stages, such as the South Bend Vocational High School.	45	12.5	20.2
Creating a Department of Vocational Education for Cass County for purpose of developing and co-ordinating programs of vocational education within our county high school.	70	19.4	31.4
Gave other suggestions	10	2.8	4.5

It is worthy to note that over 60 percent of the above respondents are of voting age and represent a portion of a decision making population. Almost half of the respondents, 44 percent, indicated support to the creation of an area vocational technical facility for high school and post high school occupational training on the Southwestern Michigan College campus.

CHAPTER X

STATUS OF OCCUPATIONAL EDUCATION IN CASS COUNTY, 1965-66.

Introduction

A study of the curricular offerings and the physical facilities and classrooms was conducted in Cass County's six high school buildings: Cassopolis High School, Dowagiac Central Junior High School, Dowagiac Union High School, Edwardsburg High School, Edwardsburg Junior High School, and Marcellus High School. This study included the gathering of data and teacher opinions; visitations to all the schools named; numerous conferences with individual teachers, administrators, and counselors; and meetings with groups of teachers. This study was conducted in the curriculum areas of agriculture, business, home economics, and industrial arts. This chapter includes tables showing all the offerings in these areas, the number of sections (S) of each course, and the number of students (N) enrolled in each. It should be pointed out that the total numbers in each table do not necessarily represent total number of different individual students. This is true because many students are taking more than one course in a subject field. For example, a student might be taking Mechanical Drawing II, Woodworking II and Machine Shop II; numerous other combinations are also possible.

The writer wishes to emphasize here that in this section it is not the intent to be critical for "the sake of being critical" or critical of any school or teacher (who in many cases called the critical appraisal to the writer's attention) or any group. The sole purpose is to present in writing and/or re-emphasize, in most

cases, a deficiency in terms of contemporary educational standards that need attention in order to improve the vocational and occupational education for the young people of Cass County.

Agriculture

There are two programs of Vocational Agriculture in Cass County: Cassopolis High School and Dowagiac High School. The former school has been noted for its traditional strong support for agriculture and this year expanded into a 2 man department. Efforts have also been made this year to begin an Agricultural Mechanics program at Cassopolis High School. Table 34 shows the number of youth who are participating in these two programs. Reimbursement under the Vocational Education Act is received for both of these programs.

TABLE 34

AGRICULTURE OFFERINGS IN LOCAL HIGH SCHOOLS, 1965-66

Title of Course	Dowagiac		Cassopolis		Total	
	S	N	S	N	S	N
Agriculture I	1	22	2	*50	3	72
Agriculture II	1	21	1	17	2	38
Agriculture III	1	25	1	18	2	43
Agriculture IV	1	13	1	18	2	31
Horticulture	1	21			1	21
Total	5	102	5	103	10	205

* Includes 1 section of 25 from Edwardsburg High School.

Note: Column heading S denotes sections and N denotes students enrolled.

The agriculture classroom at Dowagiac High School is supplemented with a work room area, both are relatively new and adequate. There is a definite need for proper storage, adequate laboratory facilities for varied agricultural related activities,

and traditional classroom furniture in this room is not satisfactory. No provisions or offerings are made at Dowagiac High School for Farm Mechanics. The classroom facility at Cassopolis High School is extremely poor. The present shop facility is a very long way from being adequate both in equipment need and a farm shop design.

In an experimental program this year, Edwardsburg High School daily sends 25 students for agriculture class to Cassopolis High School, the latter school provides the program of instruction, instructor, and facilities. All indications are that this will continue and current plans are to expand the exchange to two sections for next year.

The programs of agriculture are in need of being broadened, such as agriculture mechanics on a two or three hour per day basis, horticulture, floriculture and forestry.

Serious consideration and study should be given to creation of a county wide program of Vocational Agriculture centered at Cassopolis High School. This would necessitate the building of new facilities that would include classroom facilities for the varied agricultural subjects, office spaces for counseling and instructors, laboratory facilities, and fully equipped farm shop facilities, designed and utilized for agricultural mechanics.

Business Education

All four high schools are offering a fairly adequate program in teaching two years of typing and one year of bookkeeping and shorthand at the tenth, eleventh, and twelfth grade levels. This is clearly shown in Table 35.

TABLE 35

BUSINESS EDUCATION OFFERINGS IN LOCAL HIGH SCHOOLS, 1965-66

Title of Course	Dowagiac		Cassopolis		Edwardsburg		Marcellus		Totals	
	S	N	S	N	S	N	S	N	S	N
Bookkeeping	2	42	2	47	1	18	2	43	7	150
Business English	1	25	1	*24					2	49
Business Law	1	27	2	32					3	59
Commerical Law	2	38							2	38
Consumer Economics	1	15			1	*23			2	38
Coop-Training	1	10	1	10					2	20
General Business			1	15			2	60	3	75
Introduction to Record Keeping					1	*23			1	23
Modern Merchandising	1	22							1	22
Office Practice	2	29	1	14	1	17			4	60
Record Keeping	4	103							4	103
Shorthand I	1	23	1	33	1	23	1	27	4	106
Shorthand II	1	15			1	9			2	24
Typing I	7	222	3	87	4	120	2	48	16	477
Typing II	1	5	2	56	2	37	2	39	7	137
Totals	25	576	14	318	12	270	9	217	60	1381

* Denotes a one semester course

Table 35 shows that Dowagiac is providing a wider range of courses than all other schools. The large number of students enrolled in Typing I in all schools shows the increased interest of all students to obtain this skill; in more cases for personal utilitarian value rather than reasons of seeking a salable skill. In Cassopolis and Edwardsburg High School typing classrooms are scheduled to the full capacity.

In terms of facilities, equipment, and program, the Business Education Department of Dowagiac High School would probably rank very high among Cass County's vocational education programs. However, there is a definite need as indicated in previous parts of this report and also a keen interest on the part of the instructors, to expand vocational offerings. Expansion and improvements could be made in distributive education, cooperative

training, and business management; this means added room space, facilities, equipment, and instructors.

The business education facilities and equipment at Edwardsburg High School are adequate for the present program, which is minimal. It is the only Business Education program in the county that is partially reimbursed under the terms of the Vocational Education Act. Improvement and expansion of this program depends upon additional facilities and equipment. With the expected increase in size of that high school, make-shift or temporary re-arrangements would not be advisable or considered wise educationally or economically in the long range.

The enrollment of Marcellus High School is too small to allow a diversified curriculum except at an exorbitant expense. This exorbitant expense places any extended program of vocational education out of the financial reach of the local high school. Therefore, under existing circumstances, any possible desire to adequately prepare the Marcellus youth for the world of work must for the most part be found among the following possibilities: area vocational education programs, co-operative arrangements with neighboring schools, or tuition students on a part-time basis for vocational courses. Although the Business Education facilities are probably the better teaching stations, it must be emphasized that the present high school building at Marcellus, if it would ever pass the fire and safety standards, it would certainly fail mid-twentieth century standards for school buildings. Any needed staff and program expansion, either academic or vocational, are virtually impossible at the present building in Marcellus.

At Cassopolis High School, the Business Education program

is minimal; possibilities for improvement and expansion are very limited in the present facilities. There is a complete lack of any furniture designed for business education. The availability of equipment for office practice and electric typewriters leaves much to be desired.

Considering the evidence presented previously there appears a definite need for all the local high schools to begin providing opportunities for exploration work and begin a program of vocational guidance in the junior high school grades. In business education this might be business arithmetic, general business, business exploratory, or personal typing. A second consideration should be given to development of the whole field of distributive education (selling, merchandising, marketing, advertising, retailing, consumer education, distributive occupations, etc.) and cooperative training in business education. The possibility of a full-time vocationally-certified co-ordinator of Cooperative Training for a business education program as approved by the Division of Vocational Education of the State Department of Education to serve all the schools should be studied carefully.

Home Economics

All the high schools provided at least two years of home economics or homemaking (terms used interchangeably) and comply with the standards that have been set forth under the original Smith Hughes Act. Only Dowagiac Schools provides opportunity to eighth graders for homemaking. Table 36 shows the extent of this program in local schools.

TABLE 36

HOME ECONOMICS (HOMEMAKING) OFFERINGS IN LOCAL HIGH SCHOOLS, 1965-66

Title of Course	Dowagiac		Cassopolis		Edwardsburg		Marcellus		Totals	
	S	N	S	N	S	N	S	N	S	N
Home Economics-eighth grade	8	132							8	132
Home Economics I	4	83	2	53	2	48	1	24	9	208
Home Economics II	3	62	1	20	2	33	1	13	7	128
Home Economics III			1	23	1	17			2	40
Home Economics IV			1	19					1	19
Home Economics III & IV	1	29							1	29
Living for Moderns	1	16							1	16
Totals	17	322	5	115	5	98	2	37	29	572

The facilities at Edwardsburg and Dowagiac High Schools are most adequate. At Edwardsburg and Cassopolis facilities are utilized to capacity. The home economic station at Edwardsburg can be utilized as a two teacher station but the Cassopolis facilities leaves much to be desired, as does the one at Marcellus. Improvements need to be made with the home economics station at Dowagiac Junior High.

It would seem that experience in home economics should be available to all junior high school girls in the county and not just at Dowagiac.

Industrial Arts

Table 37 shows there is much to be desired in the pre-vocational offerings of shop classes in half the schools and much improvement needed in the other half. One of the things that Table 37 does not reveal is the number of boys in Cass County who are not receiving any instruction in the area of the manual or

industrial arts. A close estimate would probably show the figure to be higher than 50 percent.

TABLE 37

INDUSTRIAL ARTS OFFERINGS IN LOCAL HIGH SCHOOLS, 1965-66

Title of Course	Dowagiac		Cassopolis		Edwardsburg		Marcellus		Totals	
	S	N	S	N	S	N	S	N	S	N
Electricity-Electronics					2	42			2	42
General Shop I: Wood-Metal	4	70			3	*65	1	32	8	167
General Shop II					2	40	1	19	3	59
Machine Shop I	3	56							3	56
Machine Shop II	1	18							1	18
Mechanical Drawing (Drafting) I	2	48	2	36	3	84	1	22	8	190
Mechanical Drawing (Drafting) II	1	24			1	31			2	55
Mechanical Drawing (Drafting) III	1	18			1	11			2	29
Mechanical Drawing IV	1	16							1	16
Metal Working	1	19							1	19
Woodworking I			2	39	1	20			3	59
Woodworking II	2	37	2	37	2	40			6	114
Woodworking III & IV	1	24							1	24
Arts & Crafts (Art IV)	1	15	1	24					2	39
Totals	18	345	7	136	15	333	3	73	43	887

* Includes one section of 18 students from Cassopolis High School

NOT SHOWN ABOVE: 1 semester of shop experience provided for 8th graders at Dowagiac Junior High School and 8 weeks of Arts and Crafts experiences provided for 8th graders at Cassopolis High School.

Inability to secure qualified personnel, limited facilities and equipment, and in some cases completely inadequate facilities are evidently the main reasons for the small numbers. It was found in most cases that facilities were being taxed to capacity.

The present facilities at Marcellus High School can hardly warrant leaving the shop courses in the program of studies.

Storage space and facilities are either wholly lack or insufficient in other school shops. Limited space is a crucial matter at Edwardsburg High School. The present metal shop arrangement, of students moving from the senior high school to junior high, is not a satisfactory one.

The absence of power mechanics of any kind (due to inability to find a qualified teacher at Dowagiac) in Table 37 is a serious handicap. The almost complete lack of shop experience for junior high school youth (only Dowagiac provides a minimal program below ninth grade level) can hardly be tolerated any longer, if there is any sincere desire to improve occupational training for youth.

The need based on the study of local industry and the national labor changes and interest based on the study of seniors is ample evidence to broaden the scope of the pre-vocational programs at the local high school level and to develop new programs more specifically vocational in nature on a county-wide basis. Such programs can be on a block-of-time basis and include cooperative training opportunities.

Selected Opinions Expressed By Cass County Educators

Opinions were received from forty administrators, counselors, and teachers of the vocational education subjects shown in the four preceding tables. Their expressed opinions on six selected questions were as follows:

If you think vocational education needs improvement, which of the following developments would you recommend? (Respondents were permitted to check more than one)

	Number Favoring
Substantial improvement of the present vocational education programs in the existing high schools.	17
Specialization in a particular area of vocational or occupational education by each high school with cooperative sharing of facilities, faculty, programs, etc. and the exchange of students among all high schools in the county.	20
Creation of an area vocational-technical facility center designed for secondary (high school) and post high school occupational training on the Southwestern Michigan College campus.	28
Development of a program of tuitioning students on a part-time basis from our county high schools to neighboring vocational training centers which are in the planning stages, such as the South Bend Vocational High School.	8
Creating an office of Director of Vocational Education for Cass County to coordinate the programs of occupational training in our county schools and to serve as a liaison to business and industry.	18

In terms of broad occupational categories where you think these programs should be offered. (Respondents were permitted to check more than one or express no opinion).

	In Existing High Schools	In an Area Program	In The Community College
Agricultural Education	19	18	9
Distributive Education	14	13	15
Office Education	27	11	12
Home Economics Education	30	7	2
Industrial Education(power mechanics, machine shop, drawing, etc.)	17	19	16
Advanced Drafting	6	12	21
Technician Education	2	14	21

If it is determined that area vocational education programs should be operated, please indicate which of the following administrative arrangements you would favor:

	Number Not Favoring	Number Favoring
Two or more local school districts cooperatively operating such programs	3	22
The intermediate school district providing such programs for its constituent districts	13	9
The provision of such programs by Southwestern Michigan College for high school youth	6	26
The provision of such programs by Southwestern Michigan College for post-high school students and adults	1	31
State operated and administered schools or centers for such programs	18	6
Industry and/or trade union sponsored	18	5

Assuming your school district would be reimbursed for transportation, how far would you be willing to transport students to an area vocation education program or center? (Check below the greatest distance which would be practical):

5	Less than 10 miles	4	20 to 30 miles
27	10 to 20 miles	1	30 to 40 miles

What type of students do you feel should be enrolled in area vocational education programs?

	Should Not Be Enrolled	Should Be Enrolled
Youth who have dropped out of school	1	36
High school youth who plan to seek employment immediately after graduation from high school	1	37
High school youth who plan to secure additional occupational training after graduation from high school	2	32
High school youth who plan to secure a four-year college degree	26	5
Post-high school youth and adults who are preparing to enter the labor market and are full-time students	1	28
Youth and adults unemployed or working who need training or retraining to achieve employment stability	0	35

Summary

In summary of the foregoing there appears to be a realistic feeling on part of local educators that programs of vocational education can not be handled by the local school district alone. There is indicated a willingness to cooperate with neighboring schools and a definite desire to have Southwestern Michigan College make available its vocational education facilities for the use of eleventh and twelfth grade high school students as soon as these facilities are built. The county's community college is within a 20 mile radius of all four high schools, which is the maximum distance that most local school people would be willing to transport students. This would mean a dual area usage of the community college's vocational education facilities which has certain disadvantages. On the other hand, it would provide for a wider variety of occupational preparation opportunities, for greater depth of specific training, for more extensive equipment, and for a more specialized staff than would be possible under other arrangements.

CHAPTER XI

RECOMMENDATIONS

The Cass County Advisory Committee for the Study of Vocational-Technical Education, after studying the educational needs for vocational and technical opportunities for youth of Cass County, recommends:

1. That the four high school districts of the Lewis Cass Intermediate School District cooperatively employ a Director of Vocational Education and that he assume the following responsibilities:

   (1) To provide leadership in program development.

   (2) To encourage and develop cooperative instructional programs among the respective high schools.

   (3) To cooperate with the community college in the development of secondary and post-secondary programs.

   (4) To coordinate and articulate the total vocational program in the secondary schools of Cass County.

   (5) To act as chairman and work with a Cass County Advisory Committee on Vocational Education.

   (6) To assist, upon request, with the recruiting, selection and assignment of personnel in vocational education.

   (7) To organize and direct the in-service education for professional personnel in vocational education and guidance.

   (8) To assist, upon request, with the preparation of budgets for vocational education programs.

   (9) To work with the Division of Vocational Education of the Michigan Department of Education.

   (10) To make an annual report of vocational education in Cass County.

   (11) To assume responsibility for the promotion and publicity of vocational education in the county.

2. That introductory programs be provided in all high schools for the development of basic skills, attitudes and habits needed for entrance into the world of work.

3. That advanced courses in specific vocational areas be offered by a high school including students in the curriculum on a county-wide basis i.e. Cassopolis and Edwardsburg are presently conducting cooperative exchange programs in agriculture and general metal shop.

4. That vocational education in Cass County include the development of skills, attitudes, and habits necessary for entry and advancement in the world of work.

5. That each high school be encouraged to develop and/or expand a cooperative occupational program as approved by the Vocational Division of the Michigan Department of Education.

6. That each guidance department in the county make a definite attempt to improve and expand their services to include and improve vocational counseling.

7. That an expanded and improved vocational program be carried out through the use and expansion of present educational institutions in Cass County.

8. That a continuing Advisory Committee to the Intermediate District, with representation from agriculture, management, and labor, meet at least twice a year, and other times necessary, with a Director of Vocational Education as Chairman.

VT 001 108

Ottawa Area Vocational-Technical Education Needs; A Report of the Ottawa Area Vocational-Technical Education Study.

Ottawa Area Intermediate School District, Grand Haven, Mich.
Michigan State Dept. of Public Instruction, Lansing. Div. of Vocational Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Mar66 114p.

*VOCATIONAL EDUCATION; *AREA VOCATIONAL SCHOOLS; TECHNICAL EDUCATION; OCCUPATIONAL SURVEYS; COOPERATIVE EDUCATION; SPECIAL EDUCATION; SURVEYS; *EDUCATIONAL NEEDS; POPULATION TRENDS; STUDENT ENROLLMENT; GRADUATE SURVEYS; EMPLOYMENT TRENDS; HIGH SCHOOL STUDENTS; PARENT ATTITUDES; *PROGRAM ATTITUDES; EDUCATIONAL INTEREST; EMPLOYER ATTITUDES; MANPOWER NEEDS; CURRICULUM; QUESTIONNAIRES
OTTAWA COUNTY; MICHIGAN

A study of the Ottawa area was made to determine what vocational-technical training programs and facilities were needed to meet the needs of an estimated population of 107,000 and a K-12 school enrollment of 35,000. Survey questionnaires were received from (1) 1,520 seniors of the 1964-65 high school classes, (2) 683 graduates of the 1959, 1962, and 1963 classes, (3) 1,706 parents of 5th and 9th grade students, (4) 418 business, industry, and agriculture firms, (5) 173 farmers, and (6) 20 agriculturally related businesses. Separate committees were organized to study legislation and finance and to investigate the school programs in business and distribution, industry, home economics and food services, agriculture, and special education. Recommendations included (1) A vocational-technical center or centers should be constructed in the area to provide a breadth of offerings in specialized preparatory, apprentice, and adult occupational education, (2) The recommended centers should be available to all students from public, parochial, or private schools, (3) Students should continue to be identified with their local schools for general academic programs, extra-curricular activities, and graduation, and (4) Present cooperative occupational training programs should be continued and improved, and should be coordinated in the office of the administrator of the vocational-technical center. (PS)

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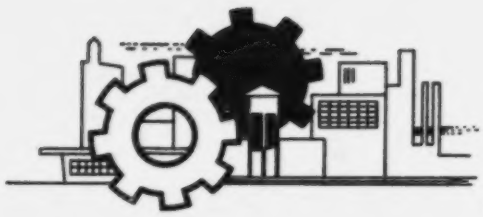
Ottawa Area Vocational-Technical Education Needs

March, 1966



A REPORT OF THE OTTAWA AREA
VOCATIONAL — TECHNICAL
EDUCATION STUDY

CONDUCTED BY THE OTTAWA AREA
INTERMEDIATE SCHOOL DISTRICT

JENNIE KAUFMAN, SUPERINTENDENT

VT 01108

O T T A W A A R E A
V O C A T I O N A L - T E C H N I C A L E D U C A T I O N
N E E D S

A report of the Ottawa

Area Vocational - Technical

Education Study

Conducted by

The Ottawa Area Intermediate School District

March, 1966

Jennie Kaufman

Superintendent

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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OTTAWA AREA VOCATIONAL-TECHNICAL EDUCATION NEEDS

A Research Study to Determine If a Need Exists to Establish One or More Vocational-Technical Education Center (s) for the Study Area.

Conducted by the

Ottawa Area Intermediate School District

In Cooperation with

The Michigan Department of Education
Division of Vocational Education

and

The Nine School Districts in Ottawa County

and

The Districts of Hamilton and Saugatuck in Allegan County

Grand Haven, Michigan

March, 1966

FOREWARD

The Ottawa Area Vocational-Technical study began with a group of interested people from the northern part of Ottawa County. It was their intent to study future vocational-technical needs for that area. However, to qualify for funds under the Vocational Act of 1963, it was recommended to expand the study area to include all of Ottawa County and the northern part of Allegan County.

The Ottawa Area Intermediate School District Board consented to serve as the educational agency for the study with the participation of eleven school districts located in Ottawa and Allegan Counties. This area vocational study is one of many being conducted in Michigan covering most of the geographical area of the State.

It is the hope of the survey directors that the results of this study will give direction to the school administrators to develop a realistic vocational-technical program that will meet the needs of today's youth and adults.

The co-directors thank all the committee members who worked so diligently to complete their assigned task. Our thanks also goes to the project consultant, Mr. Gordon Johnson, for his leadership and guidance in assisting us organize and conduct the study.

Mr. Eugene Rothi, Coordinator
Guidance and Counseling
Grand Haven Public Schools
Grand Haven, Michigan

Mr. Donald Gebraad, Director
Vocational Education
Holland Public Schools
Holland, Michigan

OTTAWA AREA VOCATIONAL - TECHNICAL EDUCATION STUDY

Executive Committee

Miss Jennie M. Kaufman,	Superintendent,	Ottawa Area Intermediate School District
Fred Schmidt,	Superintendent,	Allendale School District
Allen Robinson,	Superintendent,	Coopersville School District
Ralph Van Volkinburg,	Superintendent,	Grand Haven School District
Peter Lamer,	Superintendent,	Hamilton School District
Donald Ihrman,	Superintendent,	Holland School District
Marvin Overway,	Superintendent,	Hudsonville School District
Glenn Nykerk,	Superintendent,	Jenison School District
Byron Antscliff,	Superintendent,	Saugatuck School District
Richard Fonger,	Superintendent,	Spring Lake School District
Lloyd Van Raalte,	Superintendent,	West Ottawa School District
Julius Schipper,	Superintendent,	Zeeland School District
Raymond Lokers,	Superintendent,	Hamilton School District (1964-65)
Kenneth De Pree,	Superintendent,	Saugatuck School District (1964-65)

OTTAWA AREA VOCATIONAL - TECHNICAL EDUCATION STUDY

General Co-chairmen

Mr. Paul Johnson, Grand Haven

Mr. Ab Martin, Holland

Co-directors

Mr. Gene Rothi, Grand Haven

Mr. Donald Gebraad, Holland

Consultant

Mr. Gordon Johnson, Western Michigan University, Kalamazoo

OTTAWA AREA VOCATIONAL - TECHNICAL EDUCATION STUDY
COMMITTEE MEMBERS

LEGISLATION & FINANCE COMMITTEE

Mr. Harold Mac Kinnon, Chairman	Saugatuck
Mr. Lee Arnold, Coordinator	Grand Haven
Mr. Myles Runk, Coordinator	Holland
Mrs. Julian (Joyce) Hatton	Grand Haven
Mr. Robert Murray	Coopersville
Mr. Harold Denig	Holland
Dr. William Arendshorst	Holland
Mr. Chester Harmsen	Holland

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Mr. John Harvey, Co-chairman	Grand Haven
Mr. James Van Lente, Coordinator	Holland
Mr. Bob Brinkert, Coordinator	Grand Haven
Mr. William Gargano	Holland
Mr. Dean Heath	Coopersville
Mr. William Beebe	Holland
Mr. Jerome Essink	Holland
Mr. Norman Phelps	Fennville

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Mr. William Strating, Co-chairman	Holland
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Mr. Dave Kauffman, Coordinator	Grand Haven
Mr. Neal Steketee	Holland
Mr. Walter Bright	Grand Haven
Mr. Robert Snyder	Holland
Mr. John La Duke	Coopersville
Mr. Paul Winchester	Holland
Mr. Neil Kalkman	Holland

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Mrs. Leroy (Meriem) Elwell	Grand Haven
Mr. Gerald Kelly	Saugatuck
Mr. Jack Dykstra	Holland
Miss Virginia De Witt	Holland
Mr. George Vander Wier	Coopersville
Mr. Ken Zuverink	Holland
Mr. Ken Folkertsma	Zeeland

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Mrs. Lowell (Harriet) Heneveld, Co-chairman	Holland
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Mrs. Donald (Alice) Wilson, Coordinator	Spring Lake
Mrs. Frank (Virginia) Groat	Grand Haven
Mrs. Robert (Norma) Longstreet	Holland
Mrs. Oscar (Mabel) Hecksel	Coopersville
Mrs. Fred (Elizabeth) Morse	Jenison
Mrs. Lawrence (Jean) McOmber	Spring Lake
Miss Viva Shell	Grand Haven
Miss Mary Hager	Zeeland

SPECIAL EDUCATION COMMITTEE

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AGRICULTURE COMMITTEE

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Mr. Edward Dowdy, Coordinator	Holland
Mr. Herb De Kleine, Coordinator	Hudsonville
Mr. John Billett	Hamilton
Mr. Stuart Zandstra	Byron Center
Mr. Richard Machiele	Zeeland
Mr. Richard Van Dorp	Zeeland
Mr. Byron Carpenter	Grand Haven
Mr. Willis Boss	Holland
Mr. Roger Peacock	Coopersville
Mr. Paul Smith	Hamilton

CONSULTANT

Mr. Zane Cooper, Manager, MESC Office	Holland

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CHAPTER I

Introduction

Education is the key to our national strength, and educators all over the country are seeking ways to develop a sound, balanced education curriculum, recognizing the need for vocational education in addition to general education. All phases of vocational-technical education throughout the country are being scrutinized because of the vital need to prepare people to assume their respective place in society.

Need for Study

Approximately 50 per cent of our graduates go on to higher education and many of the remaining 50 per cent are ill-prepared to enter today's automated society and the world of work. A lack of adequate vocational-technical training programs force students into curriculums not in line with their vocational objectivies. These facts point out the need for improving existing vocational programs and developing new ones in vocational-technical education equally available to all students in the study area.

Purpose of the Study

The purpose of the Ottawa area study is to determine what vocational-technical training programs and facilities are needed in this geographical area to meet the needs of all people. The objective of the study is to gather, interpret, and present information basic to the development of vocational and technical training programs and facilities. This information should serve as a guide for school boards and school administrators in developing future programs as well as making better use of present facilities. Basic areas explored in the study are:

1. What are the labor market needs, including skills and training?

2. What happens to our graduates? Where do they obtain the training they need, and what kind of training and opportunities should be provided in this area?

3. What kind of training, facilities, and opportunities should be provided for handicapped children?

4. What facilities and opportunities are needed to upgrade those already employed?

5. How can the required training facilities be financed?

6. What areas of the present school programs should be strengthened?

7. What training facilities and programs are needed to meet the needs of girls?

8. How many students go on to college or institutes of higher education? How many are in need of vocational-technical training?

Procedure

In February, 1965, approval was granted by the Michigan Department of Vocational Education to conduct an area study consisting of Ottawa County and the school districts of Hamilton and Saugatuck. This survey was made possible through the Vocational Act of 1963, which permits the Department of Vocational Education to pay a portion of the survey cost. The remaining portion was to be provided by the participating districts on public school membership basis. The Boards of Education approved the share of the cost assigned to their districts. These districts include:

Allendale Public Schools
Coopersville Public Schools
Grand Haven Public Schools
Hamilton Public Schools
Holland Public Schools
Hudsonville Public Schools
Jenison Public Schools
Saugatuck Public Schools
Spring Lake Public Schools
West Ottawa Public Schools
Zeeland Public Schools

The study covered an area with an estimated population of 107,000 people, and a K-12 grade school enrollment of 35,000. The state equalized evaluation of the cooperating school districts totals approximately $370,000,000. The study was one of twenty-two approved in Michigan (at the time this study was started) by the Department of Education, through the Office of Vocational Education.

The Ottawa Area School District served as the educational agency for the study. Superintendent Jennie Kaufman was secretary to a steering committee composed of the superintendents of all the cooperating school districts. Don Gebraad, Director, Vocational Education, Holland Public Schools, and Gene Rothi, Coordinator, Guidance and Counseling, Grand Haven Public Schools, were appointed co-directors for the study. Gordon Johnson, Administrative Assistant, School of Applied Arts and Sciences, Western Michigan University, served as project consultant.

At the March 8, 1965, meeting of the superintendents, the proposed areas for study were selected. It was decided to organize the following committees to investigate the proposed areas:

1. Legislation & Finance
2. Business & Distribution
3. Industrial
4. Home Economics & Food Services
5. Agriculture
6. Business-Industry-Agriculture
7. Special Education

The Boards of Education, through their superintendents, submitted the names of people whom they felt would contribute to and serve on the above mentioned committees. Mr. Paul Johnson, President of Dake Corporation in Grand Haven, and Mr. Ab Martin, General Manager of General Electric in Holland, were recommended and approved as co-chairmen for the entire study pending their acceptance, which was received in May.

The survey instruments to be used in the study were selected and developed for approval by the steering committee. The instruments are similar to those used in other area studies so the results may be used on a statewide basis.

With the approval of the steering committee the following instruments were selected:

1. Business-Industry-Agriculture Survey
2. Curriculum and Facilities Survey
3. Follow-up of 1959 and 1962 graduates
4. The 1965 Graduate Class Survey
5. Parent Opinionnaire of 5th and 9th grade students
6. Agriculture Survey

Mailing lists for survey recipients were compiled with the aid of schools, chambers of commerce, Committee for Economic Development, and telephone directories.

A letter was sent to the people suggested for committee membership asking their acceptance and notifying them of a general meeting to be held at West Ottawa High School, June 1, 1965.

At this meeting an explanation and history of the Ottawa Area Vocational-Technical Study was explained. The committees then met separately to organize and determine procedures for completing their assignments.

During the course of the summer and up to the present time there were 34 individual committee meetings. In addition, there were 18 general meetings involving the general co-chairmen, the co-directors, the consultant and the superintendents.

At the time of organization the committees were headed by co-chairmen representing the north and south areas of the study. This was felt necessary to allow for the separate population concentrations in Ottawa County. In spite of greater travel, each committee decided to hold all their meetings as a single unit and to alternate as much as possible their meeting sites. This tends to show the feeling of cooperation exhibited by committeemen throughout the study time.

ORGANIZATIONAL CHART

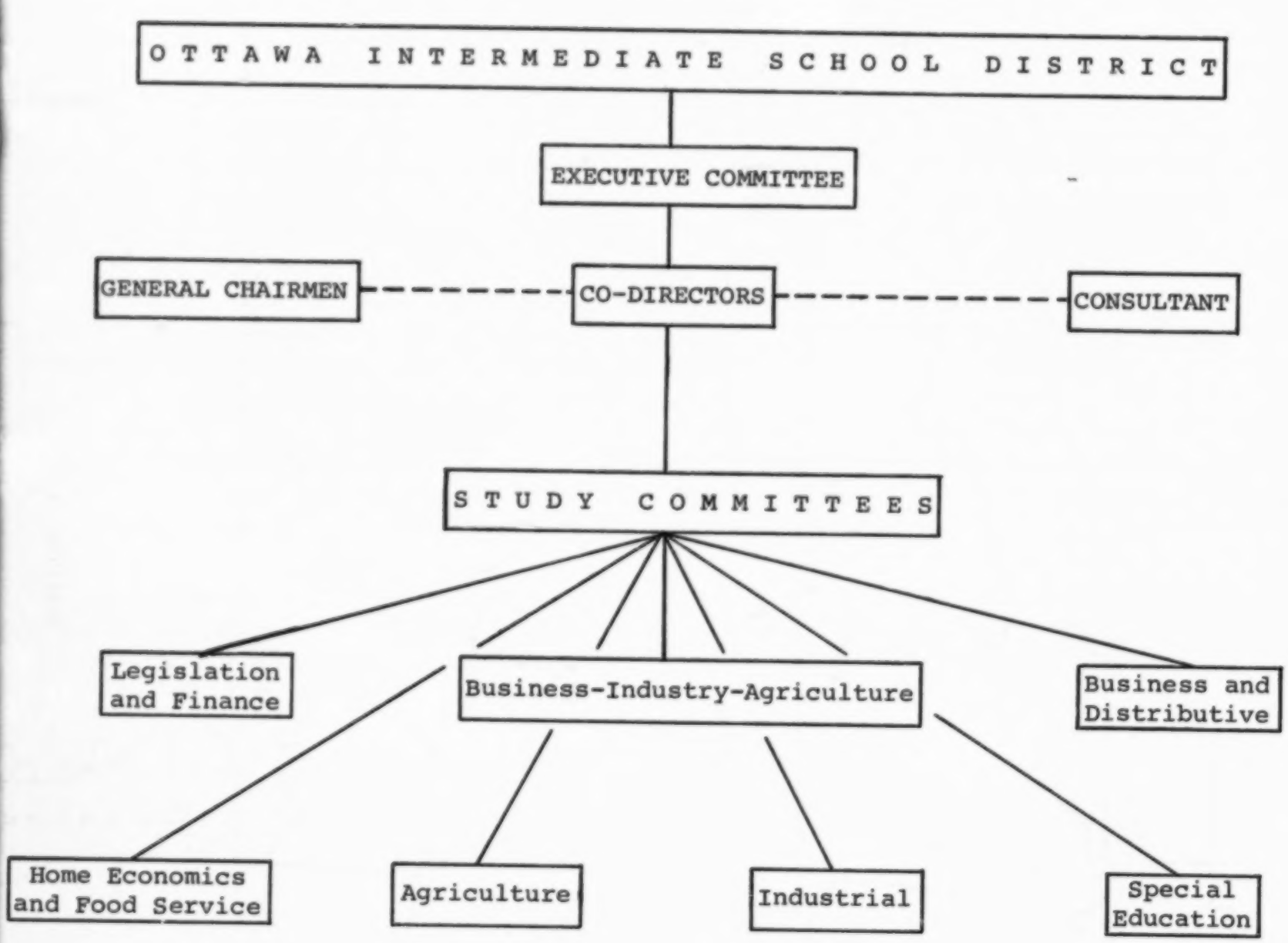
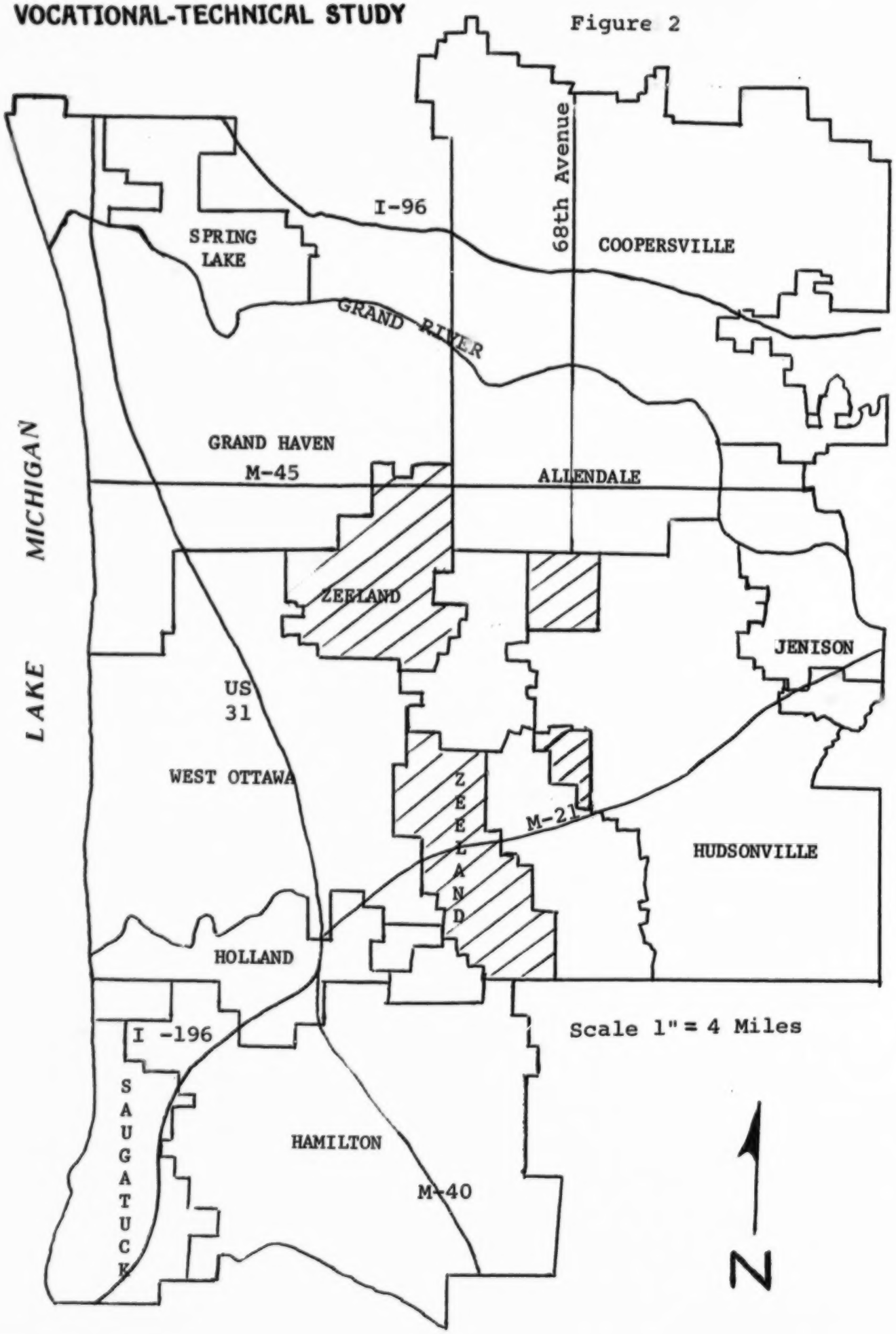


Figure 1

Figure 2


68th Avenue
I-96
SPRING LAKE
COOPERSVILLE
GRAND RIVER
GRAND HAVEN
M-45
ALLENDALE
LAKE MICHIGAN
ZEELAND
JENISON
US 31
WEST OTTAWA
ZEELAND
M-21
HUDSONVILLE
HOLLAND
I -196
Scale 1" = 4 Miles
SAUGATUCK
HAMILTON
M-40
N

OTTAWA COUNTY SCHOOL AGE CENSUS 1960-65

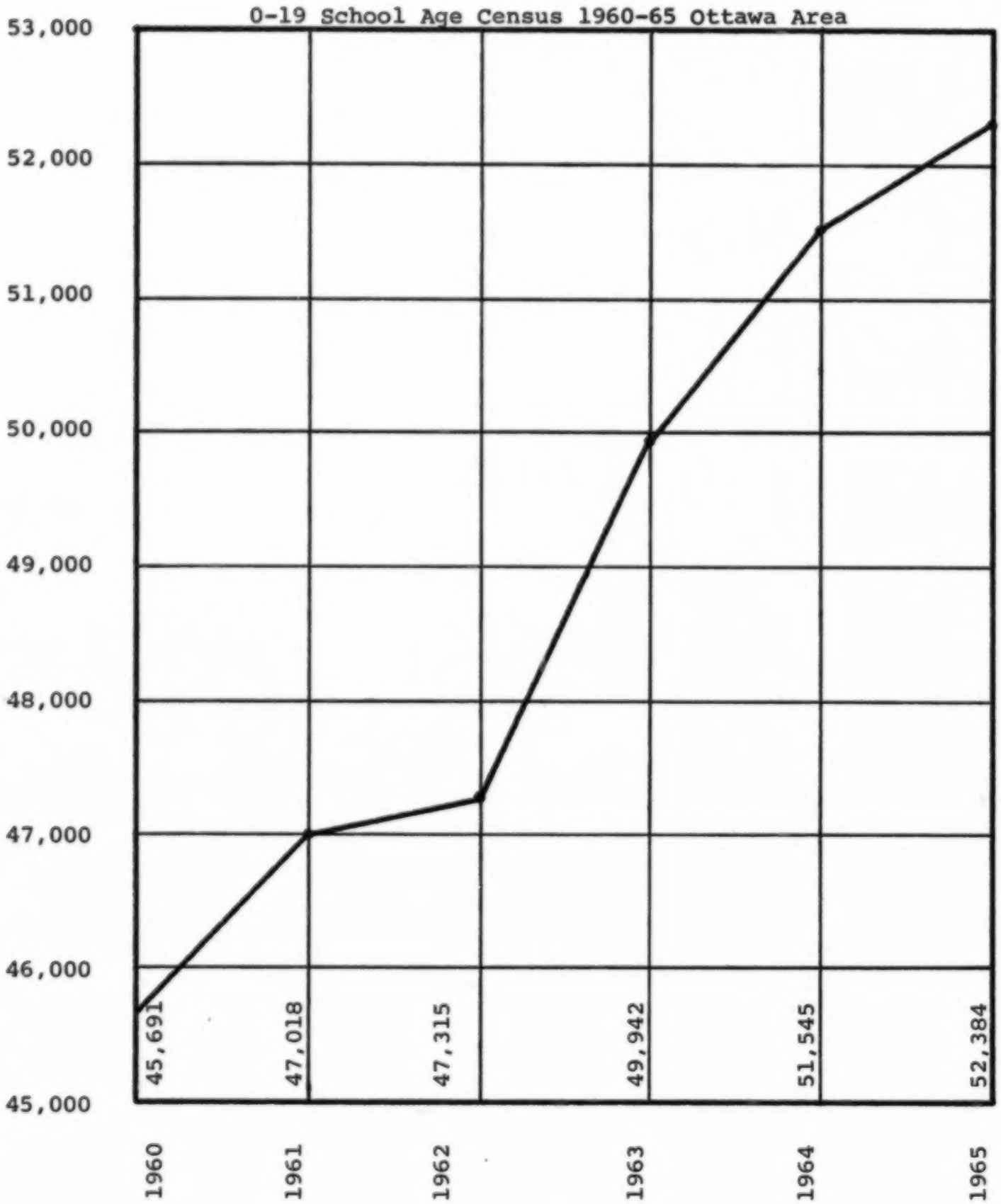
Table 1

Year	Age 0-4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1960	12505	2528	2553	2465	2387	2330	2232	2158	2135	2127	1640	1601	1671	1762	1543	1347
1961	12460	2604	2560	2568	2459	2417	2347	2224	2177	2138	2132	1634	1613	1664	1713	1480
1962	12320	2602	2605	2499	2519	2427	2363	2299	2175	2146	2110	2108	1601	1551	1573	1567
1963	12675	2651	2694	2660	2567	2611	2502	2415	2382	2238	2203	2148	2169	1634	1524	1533
1964	12934	2724	2725	2737	2652	2609	2635	2518	2446	2394	2261	2179	2168	2166	1569	1426
1965	12705	2711	2745	2745	2750	2653	2591	2615	2524	2413	2393	2258	2154	2165	2075	1447
HAMILTON AND SAUGATUCK																
1960	704	156	167	178	155	141	138	152	148	144	109	104	111	114	102	85
1961	726	158	161	172	182	156	153	140	166	147	146	111	104	108	110	88
1962	735	154	163	162	181	159	153	142	140	149	145	148	112	101	106	98
1963	818	211	182	183	189	206	193	167	168	163	182	170	163	128	109	106
1964	805	184	204	194	187	203	212	188	196	167	159	182	171	156	117	97
1965	777	164	191	207	182	205	204	202	202	173	165	162	176	168	166	100

	OTTAWA COUNTY TOTAL Age 5-19	HAMILTON AND SAUGATUCK TOTAL Age 5-19
1960	30479	2004
1961	31730	2102
1962	32145	2113
1963	33929	2520
1964	35209	2617
1965	36235	2667

*OTTAWA AREA STUDY SCHOOL AGE CENSUS
1960-65

Figure 3



* These figures include the school census for Ottawa County and the school districts of Hamilton and Saugatuck.

Table 2

OTTAWA AREA PUBLIC SCHOOL ENROLLMENTS 1965-66

SCHOOL	SP. ED.	K.	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
Allendale	30	41	52	50	45	48	49	52	35	31					433
Borculo		8	11	19	5	16	7	17	11	16					110
Conklin	1	17	14	19	11	17	13	20	10	10					132
Nunica		23	22	29	24	14	24	22	21	24					203
Bursley		59	48	66	48	54	48	53							376
Jenison		172	182	170	164	150	137	122	112	109	79				1,397
Hudsonville	42	157	157	156	128	142	144	111	175	131	166	192	165	173	2,039
Federal		28	23	23	26	20	11	20							151
New Groningen		33	36	27	28	25	27	26	28	25					255
East Holland		3	10	2	4	8	2	4	5	8					46
Harrington		45	39	46	27	38	35	35	37						302
Coopersville	23	157	152	162	139	130	143	146	147	144	197	195	181	165	2,081
Spring Lake		172	151	162	146	145	140	137	122	155	172	120	137	108	1,867
Vriesland		10	7	11	5	9	7	15	11	11					86
Huyser		8	9	6	7	7	7	7	6	6					63
Grand Haven	137	455	487	428	421	391	382	363	432	390	434	362	381	299	5,357
Holland	161	403	382	359	346	332	367	375	336	384	345	354	301	318	4,763
West Ottawa	63	324	291	283	270	274	263	257	283	308	272	233	243	207	3,571
Zeeland	15	105	105	100	113	111	106	86	96	98	168	181	160	142	741
Mitchell		8	8	0	2	1	2	2	5	1					29
Big Springs		8	3	5	4	6	3	2	4						35
Drenthe		4	7	11	7	6	12	9	6	13					75
Hamilton	14	108	129	129	116	90	117	103	104	107	136	108	117	86	1,464
Saugatuck		54	35	40	50	45	46	57	56	53	57	42	52	41	628
TOTALS	486	2,361	2,402	2,303	2,136	2,079	2,092	2,041	2,042	2,024	2,026	1,787	1,737	1,534	26,204

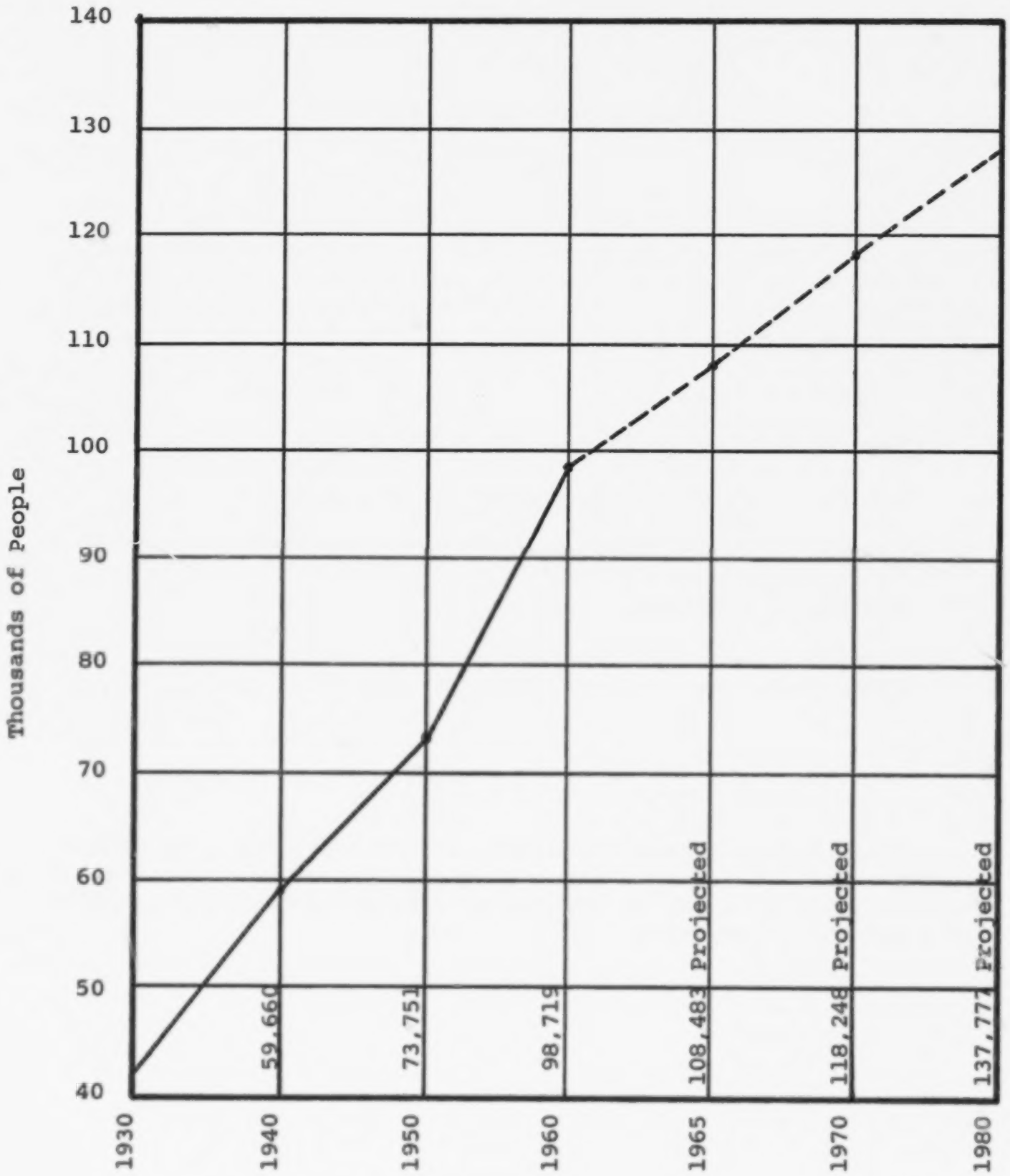
Table 3

OTTAWA AREA NON-PUBLIC SCHOOL ENROLLMENTS 1965-66

SCHOOL	K	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
Allendale Christian	31	38	39	38	35	39	36	40	35	38				369
Beaverdam Christian		10	10	10	10	8	10	7	4	10				79
Borculo Christian	22	12	20	19	15	20	22	12	23					165
G. H. 7th Day Adventist		6	8	7	4	4	4	9	7					49
Holland 7th Day Adventist		2	3		4	4	5	5	1					24
Hudsonville Christian	93	102	83	68	84	79	92	84	86	67	179	175	140	1,332
Jenison Christian	146	158	130	128	109	107	88	81	97	74				1,118
Lamont Christian	9	8	11	10	14	11	15	9	6	8				101
Holland St. Francis De Sales		40	45	50	49	39	42	29						294
G. H. St. John's Lutheran	19	13	16	16	13	8	9	14	6					114
Conklin St. Joseph		20	19	16	16	17	18	20	10					136
Spring Lake St. Mary's		43	44	46	43	41	39	42	31					329
Coopersville St. Michael's		24	25	23	25	20	23	25	15					180
G. H. St. Patrick's			22	28	31	34	34	23	14					186
South Olive Christian	19	11	12	13	14	14	10	8	2					103
G. H. Christian	31	39	34	46	30	45	35	41	33	34				368
Holland Christian	181	196	207	205	185	220	223	209	198	216	268	255	243	2,806
Zeeland Christian	64	65	57	67	72	65	66	52	69	52				629
Wright 7th Day Adventist										2	11			13
Saugatuck, St. Peter's		19	16	19	19	18	17							108
TOTALS	615	806	801	809	772	793	788	712	637	501	458	430	383	8,503

*OTTAWA COUNTY POPULATION CHART

Figure 4



* The population does not include the figures for the Hamilton and Saugatuck areas. It is estimated that Hamilton has a population of approximately 3,250 and Saugatuck 1,350.

Figure 5

OTTAWA COUNTY LABOR FORCE

1964

The total average labor force for Ottawa County for 1964 was 31,500. The average unemployment for this same period was 1,100 for an unemployment index of approximately 3.5 per cent. Following is a breakdown of the job classifications and numbers employed in each classification:

Classification	No. employed
Wage & salaried employees	24,700
Manufacturing employees	14,000
Non-manufacturing employees	8,400
Government employees	2,300
Self-employed (includes farmers, proprietors, owners, etc.)	6,800
Total	*56,200

*This total exceeds the number in the labor force in Ottawa County. Some individuals may be counted in more than one category--e.g. an individual may be counted as a salaried employee and also as a government employee.

Table 4

UNEMPLOYED PEOPLE IN OTTAWA COUNTY

Below is a list of people registered for work by sex and age group with the Michigan Employment Security Commission as of November 15, 1965.

AGE	MEN	WOMEN
Under 18	4	3
18-19	14	53
20-21	7	24
22-24	12	28
25-34	29	55
34-44	23	52
45-54	21	35
55-59	10	13
60-64	5	6
65 and Over	18	3
Total	143	272

Total Registration 415

Table 5

FALL OF 1965

Freshmen and Sophomores from Area-Study Schools
at Junior or Community Colleges

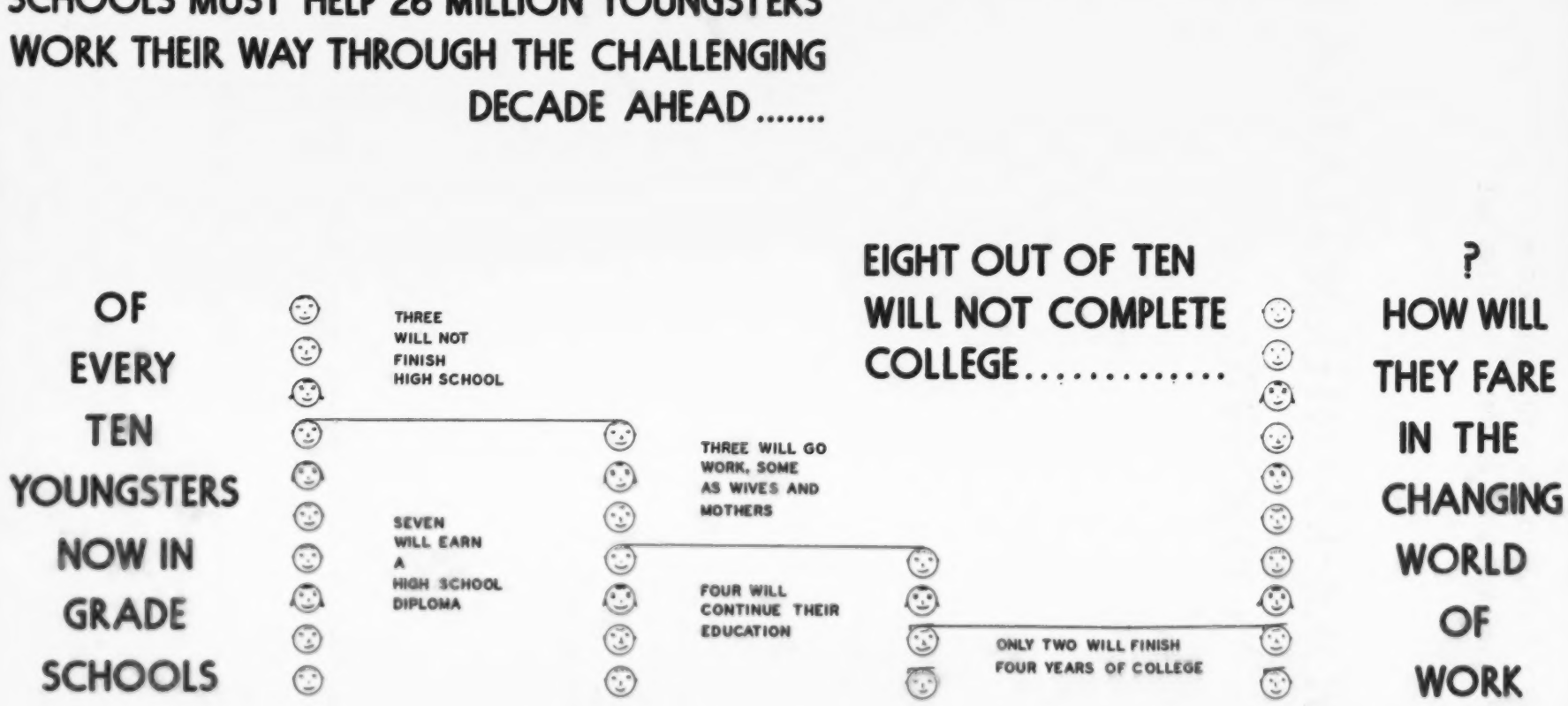
		Grand Rapids	Muskegon
1.	Coopersville	26	0
2.	Grand Haven	7	108
3.	Holland	62	8
4.	Holland Christian	29	0
5.	Hudsonville	24	0
6.	Spring Lake	3	14
7.	Hudsonville Christian	33	0
8.	West Ottawa	19	0
9.	Zeeland	26	0
	Total	229	130

Grand Total *359

* This only includes day time enrollment and does not include night programs.

LEVEL OF EDUCATIONAL ATTAINMENT

Figure 6



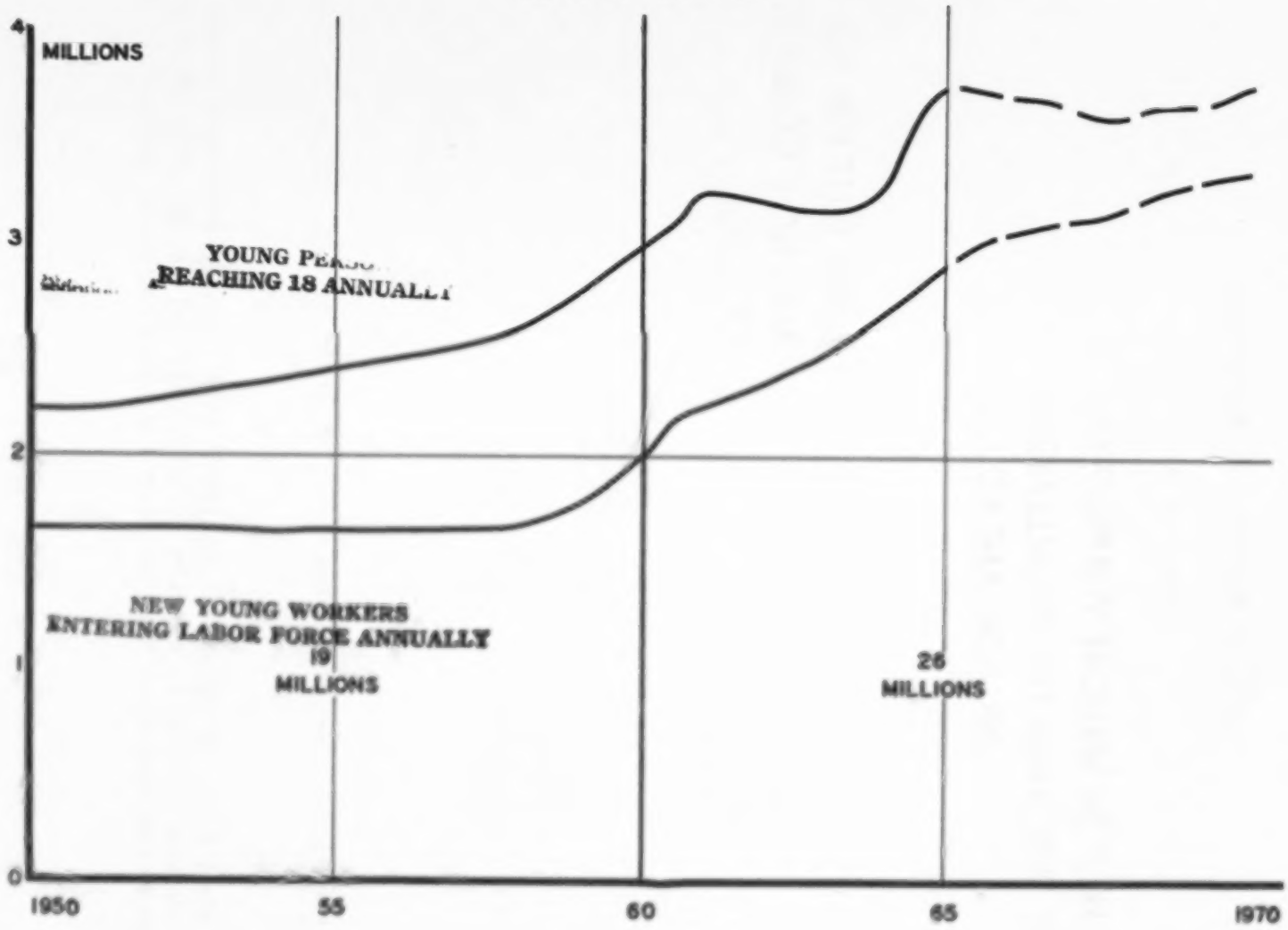
Source: "Education for a Changing World of Work". U. S. Office of Education

Students should not be permitted to leave high school, even by graduation, without being provided an opportunity to receive occupational skills and knowledge for initial employment. It is imperative that each student have the opportunity to achieve to the utmost of his ability.

RAPID POPULATION GROWTH WILL OCCUR
AMONG YOUTH REACHING WORKING AGE

Figure 7

NEW YOUNG WORKERS ENTERING LABOR FORCE 1950-1970



Source: "Manpower -- Challenge of the 1960s". U. S. Department of Labor

Y O U N G W O R K E R S

Will have to prepare themselves for a rapidly changing and more complex world of work

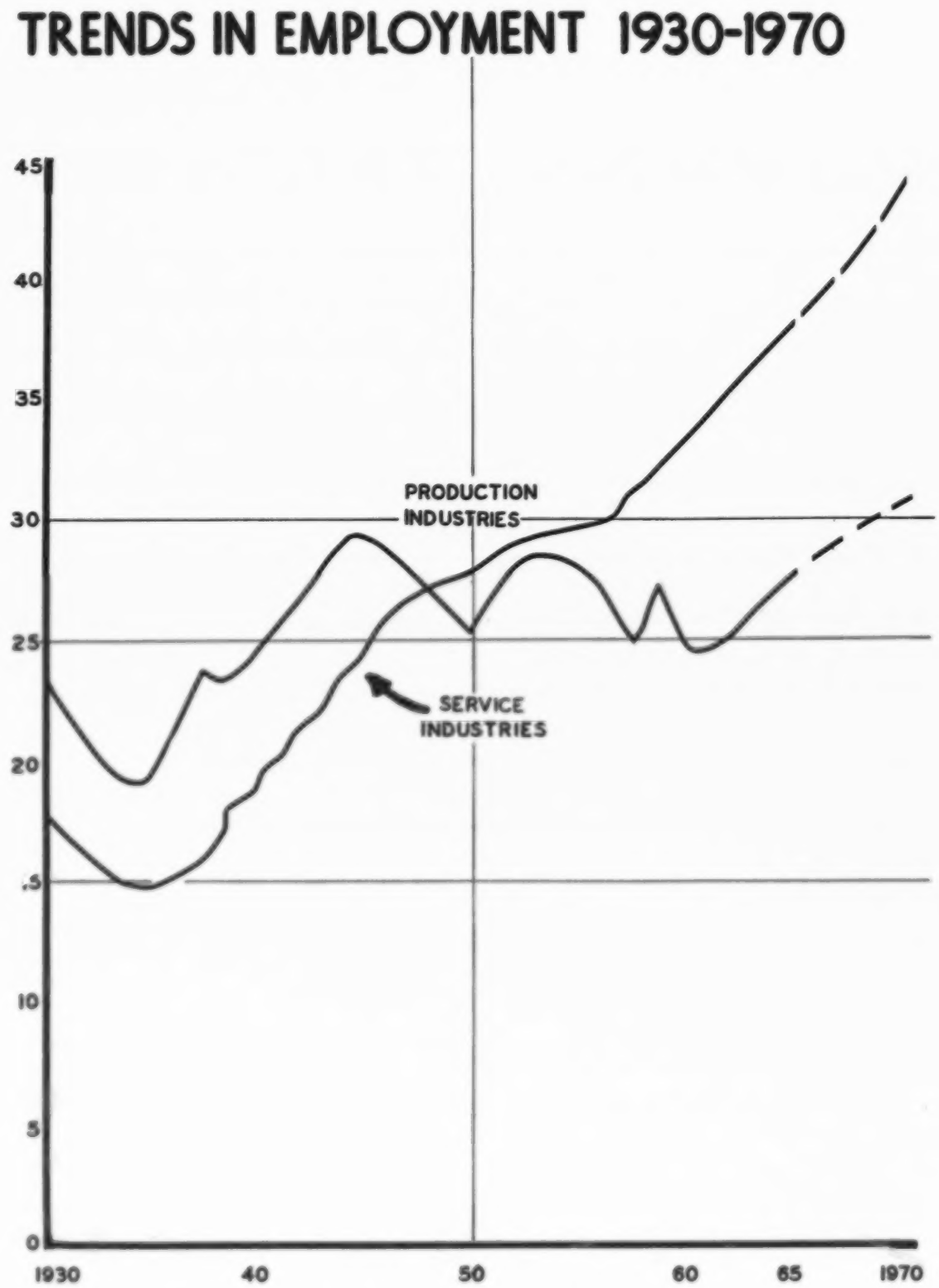
Will need more education and training, with better guidance and counseling

Will have to compete more keenly for the better jobs

EMPLOYMENT WILL CONTINUE TO GROW FASTER IN THE SERVICE INDUSTRIES

THAN IN THE PRODUCTION INDUSTRIES

Figure 8

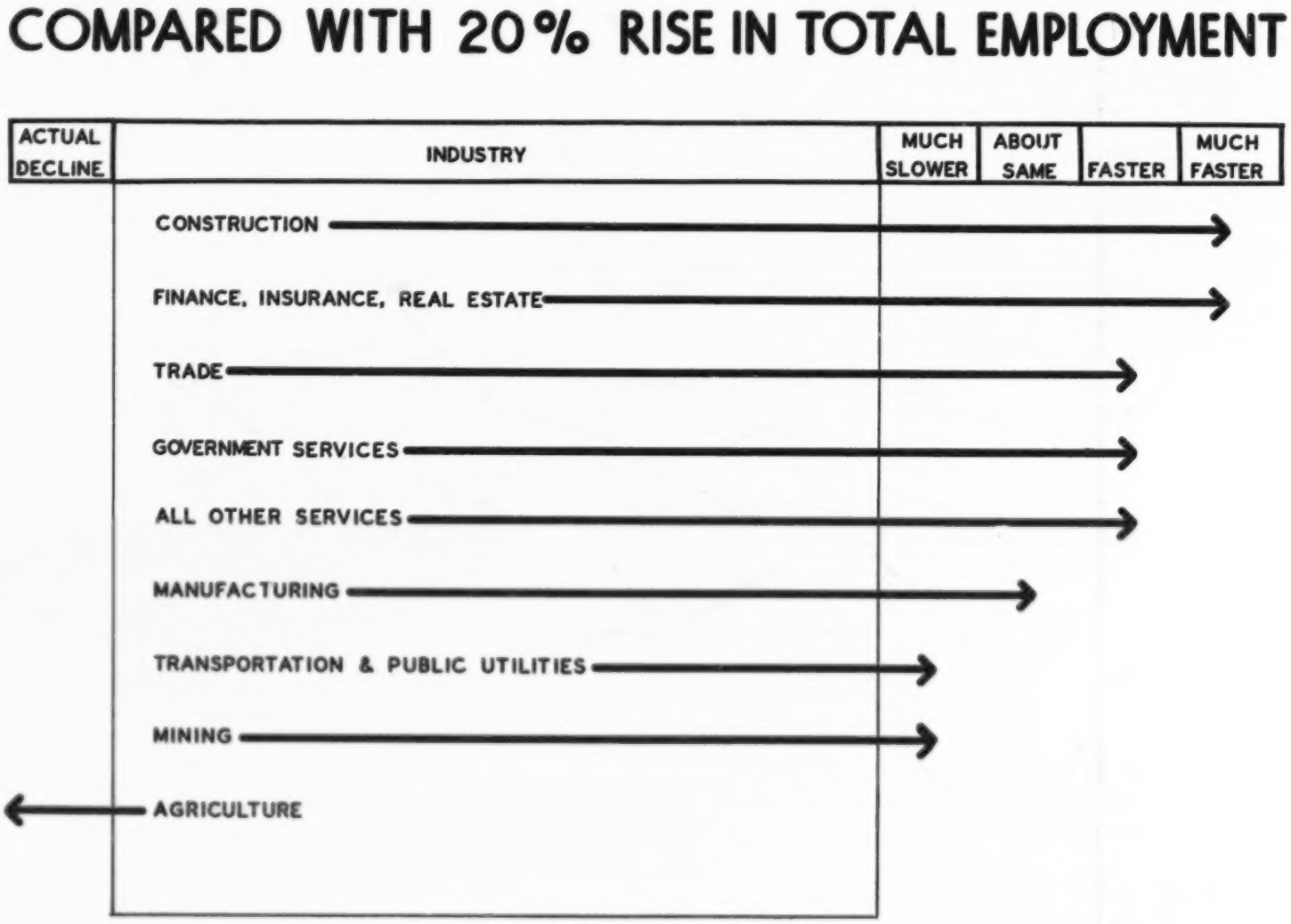


Source: "Manpower — Challenge of the 1960s".
U. S. Department of Labor

As our technology advances, proportionately fewer workers will be needed to produce the goods we use. More workers will be needed to provide the increasing service required as our standard of living goes up.

INDUSTRIES WILL VARY WIDELY IN THEIR RATE OF GROWTH

Figure 9



Source: "Manpower -- Challenge of the 1960s". U. S. Department of Labor

BETWEEN 1960 AND 1970 TOTAL EMPLOYMENT WILL RISE BY ABOUT 20%

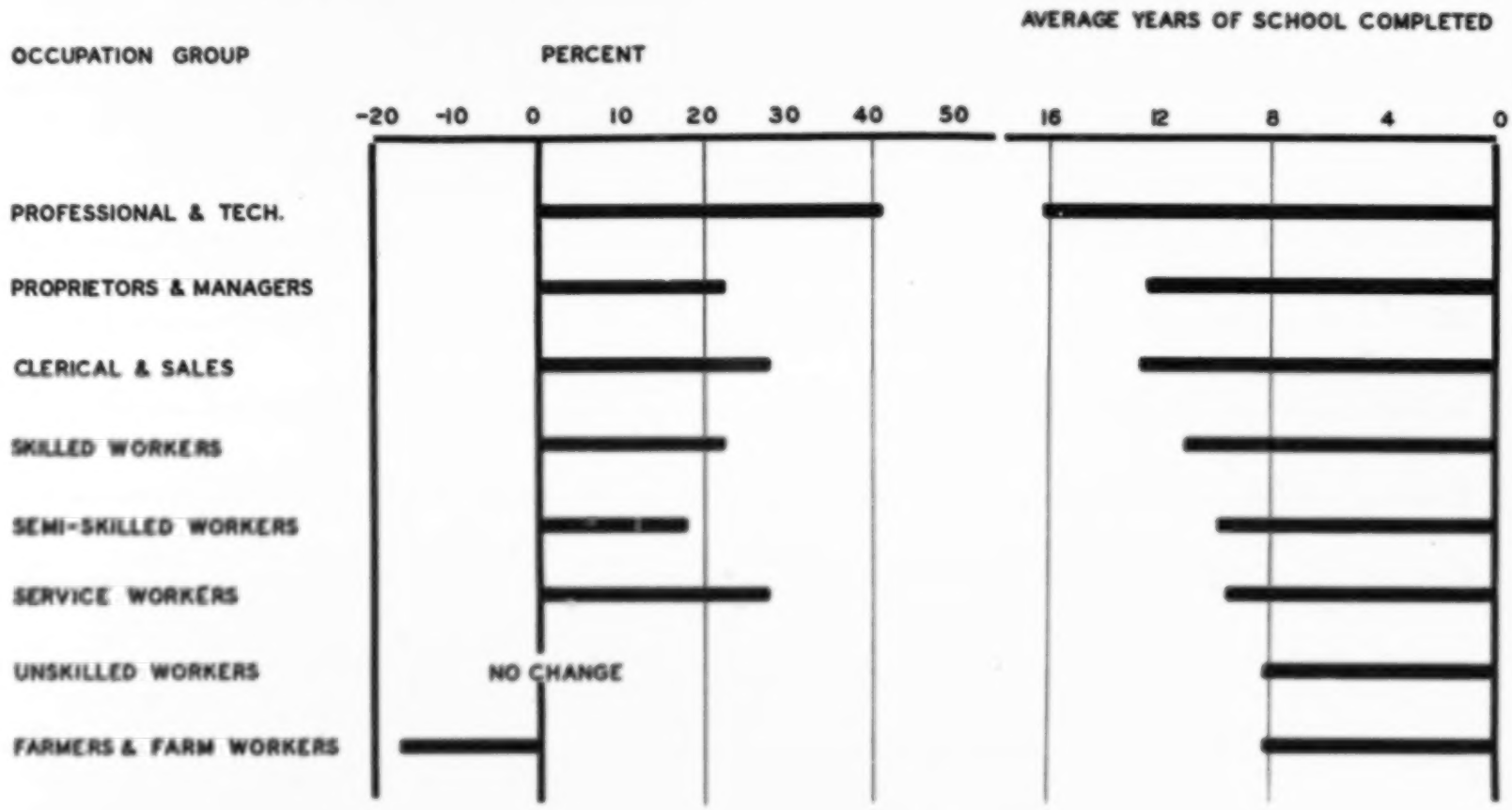
The above table shows how the major industries in the United States are expected to grow in the next ten years, compared with the overall rise in total employment.

THE LARGEST PER CENT OF CHANGE IN EMPLOYMENT WILL OCCUR

IN OCCUPATIONS REQUIRING THE MOST EDUCATION AND TRAINING

Figure 10

PERCENT CHANGE IN EMPLOYMENT 1960-1970



Source: "Manpower -- Challenge of the 1960s". U. S. Department of Labor

These anticipated changes in employment in various occupation groups during the coming decade will result from several major causes:

*The continuing shift from an agricultural economy to one that is predominantly industrial

*The rapid expansion in research and development activities

*The tremendously rapid increase in application of technological improvements

*The increasing size and complexity of business organization

*The widespread growth of record keeping among all types of enterprises

*The growing need for educational and medical services

THE KIND AND AMOUNT OF EDUCATION YOUNG PERSONS RECEIVE AFFECT THEIR LIFETIME CAREERS

Table 6

OCCUPATIONS	EDUCATION — PERCENT WITH: LESS THAN HIGH SCHOOL GRADUATION	HIGH SCHOOL GRADUATION	SOME COLLEGE EDUCATION
PROFESSIONAL & TECHNICAL WORKERS	6	19	75
PROPRIETORS & MANAGERS	38	33	29
CLERICAL OR SALES WORKERS	25	53	22
SKILLED WORKERS	59	33	8
SEMI-SKILLED WORKERS	70	26	4
SERVICE WORKERS	69	25	6
UNSKILLED WORKERS	80	17	3
FARMERS & FARM WORKERS	76	19	5

Source: "Manpower -- Challenge of the 1960s". U. S. Department of Labor

20

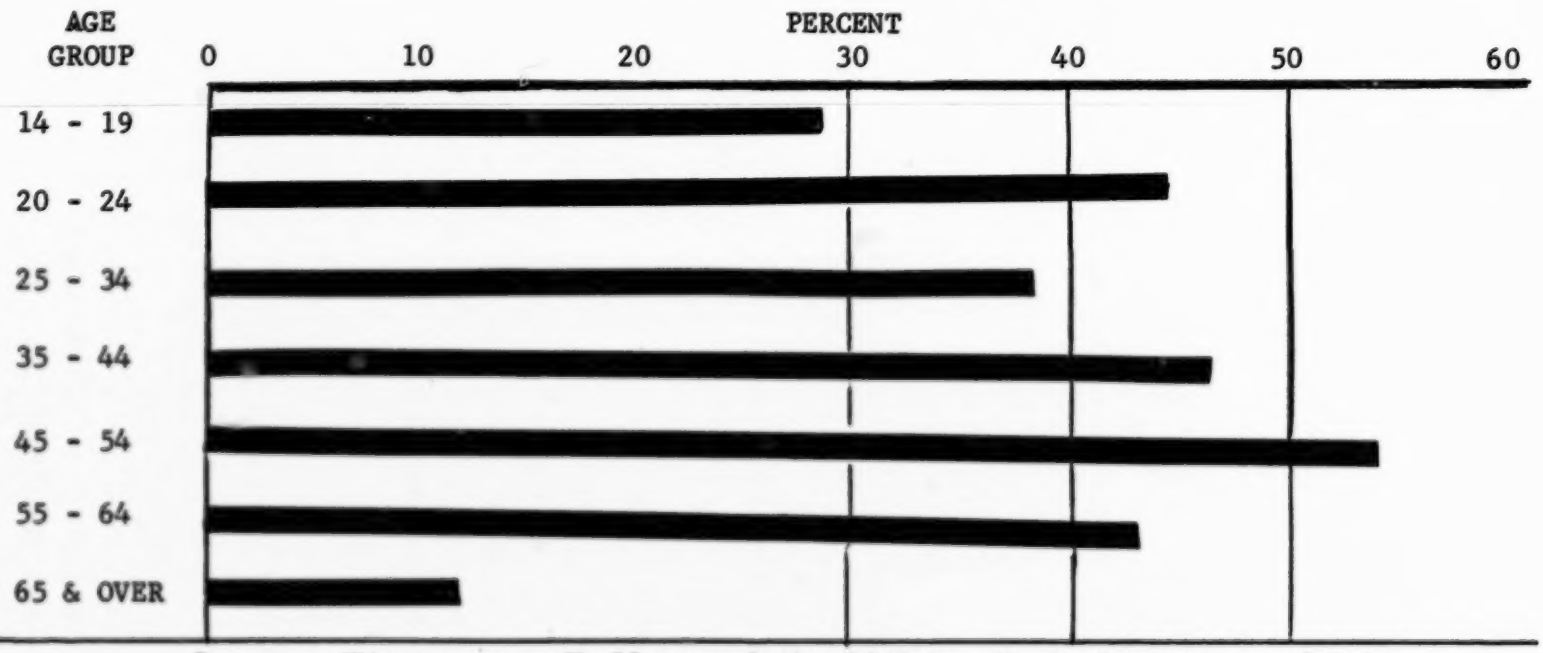
Those persons with more schooling usually have higher earnings.

THE NUMBER OF WOMEN WORKERS WILL INCREASE

AT NEARLY TWICE THE RATE FOR MEN

Figure 11

PERCENT OF WOMEN IN EACH AGE GROUP
WHO WILL BE IN THE LABOR FORCE IN 1970



Source: "Manpower -- Challenge of the 1960s". U. S. Department of Labor

BY 1970, there will be about 30 million women workers,

six million more than in 1960. This represents a 25% increase for women, as compared to a 15% increase for men.

One out of every three workers will be a woman.

Figure 12

*LABOR FORCE BALANCE SHEET FOR THE 1960S

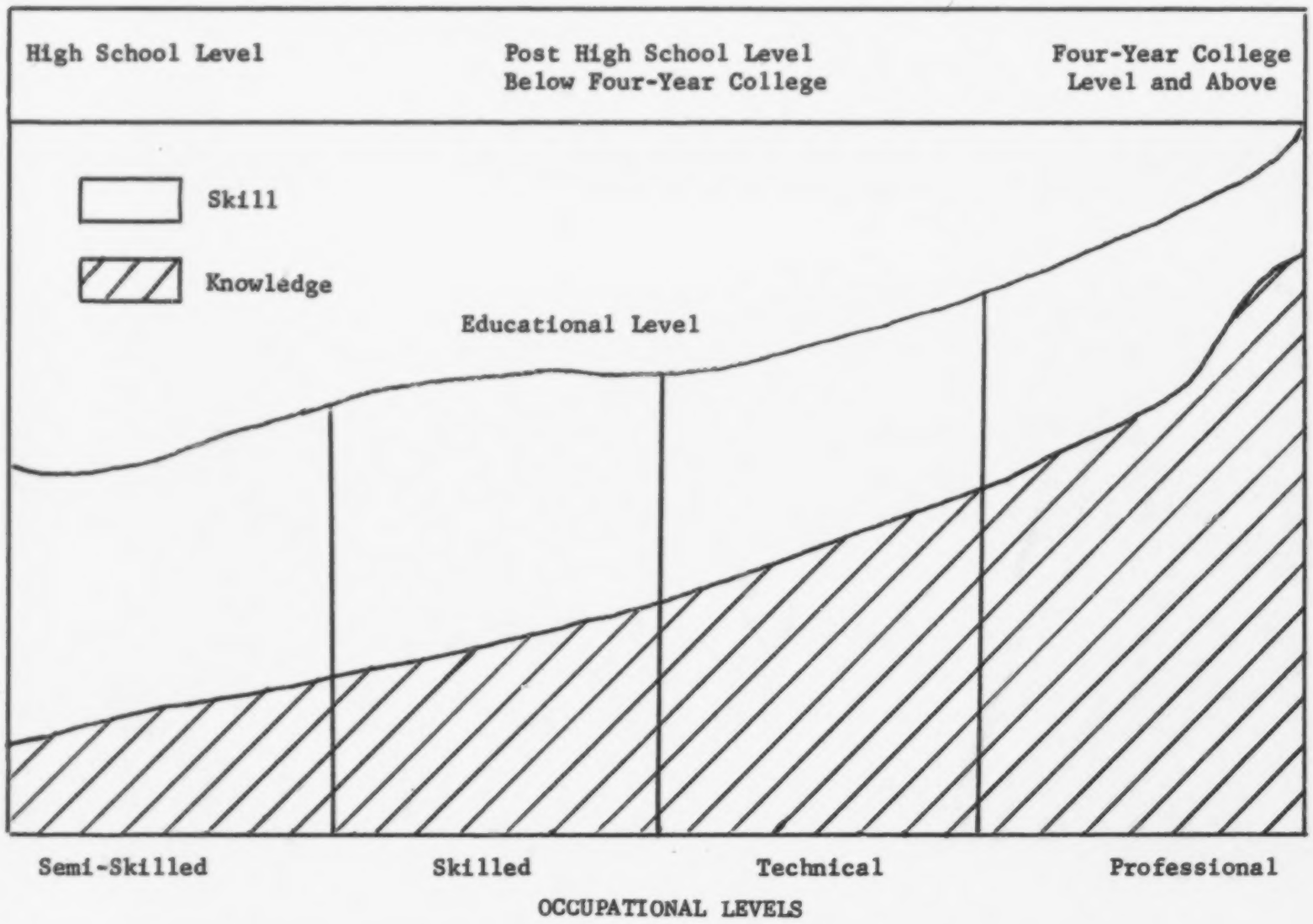
		(MILLIONS)
Number of workers in 1960		73.6
SUBTRACT:		
Withdrawals from the labor force because of death, retirement, marriage, childbearing, etc.	-15.5	
1960 workers still in labor force in 1970		58.1
ADD:		
Young workers coming into the labor force during the 1960s		26.0
Women returning to the labor force during the 1960s		3.0
Number of workers in 1970		87.1

1970 more than 100 million persons will be working at some time during the year--a number equal to the total population of the United States around 1920.

* Taken from "Manpower -- Challenge of the 1960s". U. S. Department of Labor

RELATIONSHIP OF SKILL AND KNOWLEDGE IN VOCATIONAL-TECHNICAL PROGRAMS

Figure 13



Source: "Vocational and Technical Education in Illinois". Urbana: University of Illinois, Bureau of Educational Research, 1960.

CHAPTER III

This chapter consists of: Senior Class Survey; Parent Opinionnaire; and Graduate Survey 1959 - 1962. A copy of each survey instrument used follows the general summary of that survey in this chapter. The data pertaining to these surveys are reported by percentage for each area of response.

Senior Class Survey

The Senior Class Survey was administered in each public high school under the direction of the principal.

The purpose of the questionnaire was to determine what course of study the graduating senior pursued in high school; what plans were made for the future; and the effectiveness of the guidance departments (if available) in assisting them to develop these plans.

General Summary

There were 1520 seniors, 766 males and 751 females, present in school who completed the survey on the date of administration. The results of this study revealed:

1. 1091 seniors were completing a college preparatory course or general program while in high school.

2. 344 were enrolled in a business or vocational-trade course of study.

3. 604 indicated hopes of completing four years of college or more.

4. 722 had no plans for going on to college right after graduation.

5. 395 of the 722 planned to go right to work if their job prospect materialized.

6. 150 of the 722 wanted to take some technical and trade courses or business and commercial courses after graduation.

7. 475 of those planning on going on to school intended to take programs in the vocational and technical areas.

8. 899 seniors were employed while attending high school. Only 15 per cent felt this was the kind of work they would like to do.

9. The question about relationship of high school to the type of work they eventually expect to do brought a significant response. The percentage ran from 64 per cent in one school to 31.5 per cent in another school who saw little direct relationship.

OTTAWA AREA VOCATIONAL - TECHNICAL EDUCATION
Study Committee

1964-65 Senior Class Survey

Name _____ Name of High School 1520 Respondents

Sex: Male 50.5 Female 49.5

1. What is your present course of study?

48.4 1. College Preparatory
24.8 2. General
14.4 3. Commercial (Business)
8.7 4. Vocational-Trade-Technical
3.7 5. Other

Why? _____

2. How certain are you of going to college after high school graduation?

47.3 1. Very certain
12.3 2. Fairly certain
23.3 3. No intention of going to college
16.5 4. Don't know

3. If you do not now plan to go to college upon graduation, what do you plan to do?

5.1 1. Get married and become a full-time housewife
54.7 2. Go to work
14.5 3. Take some technical or trade courses in a trade school
6.2 4. Take some business or commercial courses in a business school
9.3 5. Go into the armed services
10.1 6. Undecided

4. How far in school do you plan to go?

21.5 1. Through high school
26.9 2. Some training beyond high school
11 3. Two years of college
25.9 4. Four years of college
14.7 5. College plus advanced degree

5. If you plan to go on to school, what type of program would you most likely follow?

19.5 1. Pre-professional
24.7 2. Industrial, technical, vocational courses
14.5 3. Business or secretarial courses
20.7 4. General education (Degree Program)
20.6 5. _____

6. If you plan to attend college for TWO YEARS OR LESS, what occupation or area do you plan to enter after you complete your education? (Check one choice only.)

BUSINESS AREA

3.4 1. Accounting or bookkeeping
.2 2. Banking and finance
3.2 3. Business administration
3.2 4. Business machines
2.2 5. Data processing
0 6. Hotel-motel management

2.6 7. Receptionist
2.1 8. Retailing and sales
4.8 9. Secretarial
1.6 10. Stenographic-clerical
.4 11. Switchboard operator
1.3 12. Typist

HEALTH RELATED OCCUPATIONS

.9 13. Dental technician
.7 14. Medical technician
.3 15. Medical receptionist
8.5 16. Practical nurse (one year program)
4.1 17. Registered nurse (two year program)

TRADES AND INDUSTRY

7.9 18. Auto or airplane mechanic
8.9 19. Beautician or barber
3.7 20. Building trades
4.7 21. Drafting
2.2 22. Electrical-Electronics
1.9 23. Engineering technician
.7 24. Foods preparation
0 25. Hydraulics and pneumatics
1.3 26. Illustration and commercial art
1.5 27. Industrial technician

COMMUNICATIONS AREA

.6 28. Advertising
.6 29. Journalist or writer
2.3 30. Radio-TV-Theatre

MISCELLANEOUS

1.9 31. Agriculture
1.3 32. Art
.6 33. Homemaking
2.1 34. Music
18.2 35. No answer

If none of the above listed occupations or areas fit your plans, explain or describe your occupational plans._____

_____

7. To what extent has the counseling you received in school been helpful to you?

a. 6.8 Didn't have any in high school
b. 6.9 It wasn't helpful at all
c. 17 Very little help
d. 54.3 Some help
e. 15 Extremely helpful

8. To what extent did the counseling you received help you with personal problems?

a. 55.1 Didn't need any
b. 8.8 It wasn't helpful at all
c. 13.5 Very little help
d. 18.3 Some help
e. 4.3 Extremely helpful

9. Did you ever use the counseling services voluntarily?

a. 73.6 Yes
b. 26.4 No

10. To what extent did the counseling you received help you with school problems?

a. 29.9 Didn't need any
b. 6.5 It wasn't helpful at all
c. 16.2 Very little help
d. 39.6 Some help
e. 7.8 Extremely helpful

11. Which high school subjects do you feel will be most helpful to you in the future?

_____

_____

12. Which subjects do you think would have been helpful to you that were not offered in high school?

_____

_____

13. To what extent did the counseling you received in high school help you choose your career?

a. 31.6 Didn't need any
b. 18 It wasn't helpful at all
c. 19.9 Very little help
d. 24.8 Some help
e. 5.7 Extremely helpful

14. If you are now employed, how did you obtain the job?

a. 38.8 Through family or friend
b. .5 Public employment agency
c. .2 Private employment agency
d. 2.1 Newspaper advertisement
e. 17.6 Through the school
What person in school_____
f. 40.8 Found it yourself

15. If you are now employed, to what extent did the counseling you received in high school help you in choosing this kind of work?

a. 63.1 Didn't need any
b. 21.7 It wasn't helpful at all
c. 6.7 Very little help
d. 6.5 Some help
e. 2 Extremely helpful

16. Is this the kind of work you intend to do for your lifetime livelihood?

a. 15.8 Yes
b. 65.4 No If no, indicate your preference_____
c. 18.8 Undecided

17. If you plan to work upon graduation, what is the relation of your high school training to the type of work you expect to do?

a. 38 No relation at all
b. 50.3 Gave me a general background
c. 11.7 Gave me a specific background

18. Where will you be employed next fall?

a. 41.3 Within 50 miles of the high school I am attending
b. 6.2 Other cities in Michigan
c. 7.4 Out of state
d. 45.1 Don't know

19. If you plan to attend a school or college after high school, have you been accepted?

a. 74.6 Yes
b. 25.4 No

20. What school do you plan to attend?

School	City	State

21. What will be your course of study?

_____

22. What career do you plan for yourself?

_____

23. To what extent did the counseling you received in high school help you in choosing a college?

a. 34.8 Didn't need any
b. 15.4 It wasn't helpful at all
c. 13.7 Very little help
d. 26.3 Some help
e. 9.8 Extremely helpful

24. Your suggestions for and evaluations of your high school would be appreciated.

_____
_____
_____
_____

Follow-up Study

The Follow-up Survey was mailed to all public high school graduates of the classes of 1959 and 1962. (Except West Ottawa, the class of 1963 was surveyed.)

Purpose of the Survey

1. Determine what the graduates had been doing since completing high school.

2. Post-high school educational institutions attended, and the curriculum followed.

3. Present employment, type of work, and how secured.

4. Number of occupational changes and reason (s) for changing.

The answer differed for each class, therefore, it was necessary to make a separate analysis for each year. For example, many of the 1962 graduates are still in college. The number of job experiences were more numerous and varied for the 1959 graduates.

General Summary

The 683 returns represents 32.9 per cent of the total number mailed to graduates. The study revealed:

1. 115 students listed reading as a problem while in high school.

2. 246 students listed poor study habits while in high school.

3. 353 students listed college preparatory curriculum as their program in high school.

4. 423 of those returning the survey had attended or were presently enrolled in college or other post-high school institution.

5. A better return of surveys came from those who went on to post-high school training than those who did not go on to school.

6. Slightly over 50 per cent of those working are working within 50 miles of the high school from which they graduated.

7. Direct application is the most successful and used method of gaining employment.

8. About 55 per cent of those answering a question regarding placement on jobs felt the schools should provide this service.

9. The combined influences of the school were cited by over 50 per cent of students as directing them in their vocational choice.

10. The parent was the single most effective influence in determining occupational choice.

11. 421 of the 683 returning a survey form worked while attending high school.

12. 72 per cent of the class of 1959 are married, whereas only 35 per cent of the 1962 graduates are married.

OTTAWA AREA VOCATIONAL-TECHNICAL FOLLOW-UP STUDY

School Name 310 Respondents Date of Graduation 1959

Name _____ Maiden Name _____

Address _____ Phone No. _____

1. 47 Male
   53 Female

2. Single 26.4
   Married 71.6
   Divorced 1
   Separated .3
   Widowed 2.9

3. Date of Marriage _____
   Month Year

4. Birthdate _____
   Month Day Year

5. While in high school, which of the following curriculums did you pursue?

   52.6 College Preparatory 30 General 14.5 Vocational

6. Did your parents encourage you to finish high school? 92 Yes 8 No

   Check any of the following that was a problem to you while in high school.

   9 School expenses
   3.9 Need for part-time work
   7.4 Clothing
   13.8 Time for extra curricular activities
   2.3 Lack of friends
   4.5 Restrictions of parents
   16.1 Reading
   36.8 Poor study habits
   7.4 Too much outside work

7. Were you satisfied with the courses you took? 83.2 Yes 16.8 No
   Explain _____

8. How much did your high school help you to:

	Great Deal	Considerably	Some	Little	None
a. Choose a vocation					
b. Get a job					
c. Prepare for further education					
d. Understand your abilities and interests					
e. Know about jobs					

9. Who or what helped you most in choosing an occupation and in making your educational and vocational plans? Rank in order your first, second, and third choices.

5.8	School Counselor	7	Something you read	4.2	Your Employer
27	School Principal	20	Your Parents	.3	Career Day
12.5	A Teacher	3.5	Other Relatives	14.2	Other _____
16.8	Subjects you studied	6.4	Friends		_____

10. Were you employed while in high school? 61 Yes 39 No

If yes, what did you do? _____

Average hours worked per week 19.3

12. Did you or are you attending a college or other school? 59.6 Yes 40.4 No

Name of school _____ Course Taken _____

Number of years attended _____ Degree 63.2

When did you decide to attend college? Before 9th grade 41.6 9-12 40 After high school 16.2

If no, are you planning to go on to school? 15.2 Yes ____ No

If not planning to go on to school, would you go if a community college or other institution offered a job training program near you? 35.2 Yes 64.8 No

13. Are you now or were you in the Armed Forces? 12 Yes 88 No

If yes, when did you enter? _____ When did you leave active duty? _____

14. Are you presently working? 67 Yes 33 No

If yes, part-time 19.3 Full-time 89.4

Location within 50 miles of H. S. attended 56.2

Other cities in Michigan 15.3

Out of state 17.8

15. What kind of work do you do? _____

_____

How do you feel about this work? Like 75

Acceptable 18.8

Dislike .5

If you have worked since leaving high school, complete the following:

16. First job after leaving high school.

Name of job _____ Part-time 19.7 Full-time 59.6

Date started _____ Date of Leaving _____

First job after leaving high school continued).

Reason for leaving _____

How did you get the job? _____

17. Second job after leaving high school.

Name of job _____ Part-time 13.5 Full-time 44.5

Date started _____ Date of Leaving _____

Reason for leaving _____

How did you get the job? _____

18. Third job after leaving high school.

Name of job _____ Part-time 7.1 Full-time 26.1

Date started _____ Date of leaving _____

Reason for leaving _____

How did you get the job? _____

19. List any other jobs held since last one listed above. _____

_____

_____

20. Of these jobs, which did you like best? _____ Least? _____

21. What kind of work would you like to be doing five (5) years from now? _____

_____

22. If you have not worked since leaving school, how have you occupied your time?

_____

23. If you are not now working, are you looking for a job? 12.7 Yes _____ No

If yes, what kind of work? _____

If no, why? _____

24. How are going about looking for a job?

Michigan Employment Service 7.8

Apply directly to employer 23.5

Relative or friend 6.8

Help from school 6.8

Newspaper ads 17.6

Other (describe) 4.9

25. Are you or were you registered for work with the:

State Employment Service 55.9 Yes 44.1 No

Other (describe) _____

26. Do you feel the high school should provide a placement service? 51.6 Yes 48.4 No

27. Will you suggest ways the high school might better have prepared you for work you have done since graduation?

THANK YOU FOR YOUR COOPERATION.

OTTAWA AREA VOCATIONAL-TECHNICAL FOLLOW-UP STUDY

School Name 373 Respondents Date of Graduation 1962

Name _____ Maiden Name _____

Address _____ Phone No. _____

1. 43.7 Male
   56.3 Female

2. Single 64
   Married 34.5
   Divorced .3
   Separated 0
   Widowed 1.9

3. Date of Marriage _____
   Month Year

4. Birthdate _____
   Month Day Year

5. While in high school, which of the following curriculums did you pursue?

   50.9 College Preparatory 32.2 General 15 Vocational

6. Did your parents encourage you to finish high school? 94 Yes 6 No

   Check any of the following that was a problem to you while in high school.

   7.2 School expenses
   8 Need for part-time work
   3 Clothing
   14.5 Time for extra curricular activities
   4 Lack of friends
   6.2 Restrictions of parents
   17.4 Reading
   35.4 Poor study habits
   6.7 Too much outside work

7. Were you satisfied with the courses you took? 82.8 Yes 17.2 No
   Explain _____

8. How much did your high school help you to:

	Great Deal	Considerably	Some	Little	None
a. Choose a vocation					
b. Get a job					
c. Prepare for further education					
d. Understand your abilities and interests					
e. Know about jobs					

9. Who or what helped you most in choosing an occupation and in making your educational and vocational plans? Rank in order your first, second, and third choices.

6.7	School Counselor	6.7	Something you read	3.8	Your Employer
27.6	School Principal	24.1	Your Parents	1.3	Career Day
12.6	A Teacher	3.5	Other Relatives	16.9	Other _____
12.9	Subjects you studied	4.3	Friends		_____

10. Were you employed while in high school? 61.6 Yes 38.4 No

If yes, what did you do? _____

Average hours worked per week 19.8

12. Did you or are you attending a college or other school? 63.8 Yes 36.2 No

Name of school _____ Course Taken _____

Number of years attended _____ Degree 23.1

When did you decide to attend college? Before 9th grade 39.9 9-12 39.5 After high school 15.5

If no, are you planning to go on to school? 23.7 Yes ____ No

If not planning to go on to school, would you go if a community college or other institution offered a job training program near you? 26.7 Yes 73.4 No

13. Are you now or were you in the Armed Forces? 9.9 Yes 90.1 No

If yes, when did you enter? _____ When did you leave active duty? _____

14. Are you presently working? 61.8 Yes 38.2 No

If yes, part-time 29.7 Full-time 83

Location within 50 miles of H. S. attended 58.5

Other cities in Michigan 11.5

Out of state 10.5

15. What kind of work do you do? _____

_____

How do you feel about this work? Like ____ Acceptable ____ Dislike ____

If you have worked since leaving high school, complete the following:

16. First job after leaving high school.

Name of job _____ Part-time 22.5 Full-time 50.1

Date started _____ Date of Leaving _____

First job (after leaving high school continued).

Reason for leaving _____

How did you get the job? _____

17. Second job after leaving high school.

Name of job _____ Part-time 13.1 Full-time 34.3

Date started _____ Date of Leaving _____

Reason for leaving _____

How did you get the job? _____

18. Third job after leaving high school.

Name of job _____ Part-time 6.4 Full-time 19.6

Date started _____ Date of leaving _____

Reason for leaving _____

How did you get the job? _____

19. List any other jobs held since last one listed above. _____

_____

_____

20. Of these jobs, which did you like best? _____ Least? _____

21. What kind of work would you like to be doing five (5) years from now? _____

_____

22. If you have not worked since leaving school, how have you occupied your time?

_____

23. If you are not now working, are you looking for a job? 19.4 Yes _____ No

If yes, what kind of work? _____

If no, why? _____

24. How are going about looking for a job?

Michigan Employment Service 11.8

Apply directly to employer 32.6

Relative or friend 10.4

Help from school 4.2

Newspaper ads 15.3

Other (describe) 3.5

25. Are you or were you registered for work with the:

State Employment Service 57.6 Yes 43.4 No

Other (describe) _____

26. Do you feel the high school should provide a placement service? 60 Yes 40 No

27. Will you suggest ways the high school might better have prepared you for work you have done since graduation?

_____

THANK YOU FOR YOUR COOPERATION.

Parent Opinionnaire

Parents of all public school fifth and ninth graders in the study area were asked to complete the Parent Opinionnaire. Due to the fact there was no appreciable differences in the responses of the fifth and ninth grade parents, the totals were combined into one analysis.

Parents of ninth graders were selected because this is a critical time for curriculum planning for a high school program best suited for their child's needs. Considerable attention at this time would be directed to the available programs in the vocational-technical areas in addition to the traditional subject matter.

The fifth grade parents were chosen as their children would receive the benefits of an expanded and improved program for vocational-technical education.

General Summary

Of 1706 surveys, 46.6 per cent were returned. The results are as follows:

1. 424 families indicated a definite interest in vocational-technical courses in a night program if a facility were available.

2. 473 families, or 59 per cent answering the question about where training should be given, suggested a vocational-technical training facility or post high school facility like a junior college.

3. Occupational areas in order of preference were: electronics, machine tool, automotive, business machines, building trades, welding, woodworking, hospital-aides, appliance repair, and retail and sales. (These figures are similar to national statistics.)

4. 1604 families felt a definite need for academic and vocational counseling in junior and senior high school.

5. 1532 families favored courses of an exploratory nature to help students make a more realistic occupational choice.

6. 325 families felt existing facilities should be expanded to accommodate students from other school districts.

7. 368 families felt a new vocational-technical center should be built to serve all students in the area.

8. 875 families favored a combination of the two previous statements.

9. 1529 families answered the question pertaining to financing a program and 1334 favored a county-wide millage.

PARENT OPINIONNAIRE OF 5TH & 9TH GRADE STUDENTS

1706 Respondents

1. In your opinion, should vocational and academic counseling be provided in the junior and senior high school?
   Yes 96.22 No 3.77

2. In your opinion should the junior and senior high schools provide the opportunity to study information about occupational areas? Yes 95.74 No 4.25

3. In your opinion, should courses of an exploratory nature be provided in the junior and senior high school to enable students to make more realistic choices of occupational objectives?
   Yes 93.52 No 6.47

4. In your opinion, should the schools provide instruction in vocational education in several occupational areas?
   Yes 93.76 No 6.23

5. If your answer to number 4 is "yes", what kinds of courses do you think should be included? (Check any number)

67.76	Machine Tool	36.69	Data Processing
46.48	Welding	63.24	Business Machines
12.36	Foundry	38.92	Retail and Sales
63.83	Automotive	38.92	Medical Technology
42.32	Appliance Repair	42.73	Hospital Aides
45.72	Woodworking	26.14	Food Service
58.55	Building Trades	32.94	Graphic Arts (Printing)
35.75	Agriculture	32.94	Work Attitudes
67.99	Electronics	10.55	_____ (Others)
		3.92	_____

6. In order to provide adequate training in the above vocational courses, additional buildings and equipment will be needed.

In your opinion (Check one):

20.72 (a) Should existing vocational classrooms and shops be expanded in order to accommodate students from several school districts?

23.46 (b) Should a new vocational center be built and available to all students in the Ottawa Vocational-Technical Study Area?

55.80 (c) Should a combination of both A & B be considered?

7. The type of instruction, equipment, and buildings needed for vocational-technical training must be financed and will require additional funds. In your opinion, would this be more easily accomplished by:

87.24 (a) County-wide millage for financing?

12.75 (b) Local school millage for financing?

8. Providing that your children are not interested in college, and occupational training in a quality vocational-technical program were made available to them, would you encourage them to avail themselves of this kind of training?

Yes 84.81 No 2.22 Possibly 12.95

9. If we have vocational-technical programs as discussed above, would you be interested in attending evening school to improve your own abilities?

Yes 25.96 No 26.20 Possibly 47.82

10. If your answer to number 9 is "yes", would you prefer this training be provided by:

30.68 (a) high school

59.72 (b) vocational-technical center

7.57 (c) Other (Specify) 2.02

OTTAWA AREA VOCATIONAL - TECHNICAL EDUCATION STUDY

Survey Response Chart

	Graduate Follow-Up 1959	Graduate Follow-Up 1962	Senior Survey	Parent Opinionnaire 5th Grade	Parent Opinionnaire 9th Grade	Business - Industry & Agriculture
Grand Haven School						
No. sent out	257	312		335	345	412
No. returned	107	94	300	172	124	123
Percentage returned	41.7	30		51.3	35.9	29.8
Spring Lake School						
No. sent out	-	-		132	114	-
No. returned	-	-	107	64	69	-
Percentage returned	-	-		48.5	60.5	-
Coopersville School						
No. sent out	129	134		129	191	67
No. returned	26	27	144	69	158	19
Percentage returned	20	20		56.5	82.6	28.3
Allendale School						
No. sent out	-	-	-	50	-	-
No. returned	-	-	-	28	-	-
Percentage returned	-	-	-	56	-	-

OTTAWA AREA VOCATIONAL - TECHNICAL EDUCATION STUDY

Survey Response Chart

	Graduate Follow-Up 1959	Graduate Follow-Up 1962	Senior Survey	Parent Opinionnaire 5th Grade	Parent Opinionnaire 9th Grade	Business - Industry & Agriculture
Jenison School						
No. sent out	-	-		55	61	-
No. returned	-	-	58	32	13	-
Percentage returned	-	-		58	21.3	-
Holland School						
No. sent out	348	253		383	374	612
No. returned	119	100	300	193	134	201
Percentage returned	34.2	39.6		50	36	32.8
West Ottawa School						
No. sent out	-	Class of 1963 128		252	242	-
No. returned	-	52	198	129	145	-
Percentage returned	-	40.6		51	60	-
Zeeland School						
No. sent out	106	179		176	180	165
No. returned	40	62	166	75	90	44
Percentage returned	37.7	34.6		43	50	26.7

OTTAWA AREA VOCATIONAL - TECHNICAL EDUCATION STUDY

Survey Response Chart

	Graduate Follow-Up 1959	Graduate Follow-Up 1962	Senior Survey	Parent Opinionnaire 5th Grade	Parent Opinionnaire 9th Grade	Business - Industry & Agriculture
Hudsonville School						
No. sent out	96	110		141	158	66
No. returned	33	35	137	71	59	19
Percentage returned	34.3	31.8		50	37	28.8
Saugatuck School						
No. sent out	16	24		58	58	62
No. returned	5	5	33	32	15	9
Percentage returned	31.2	20.8		55	26	14.5
Hamilton School						
No. sent out	-	-		122	112	47
No. returned	-	-	72	21	33	4
Percentage returned	-	-		17	29	8.5

CHAPTER IV

Business - Industry - Agriculture

The Business-Industry-Agriculture Committee analyzed the labor market data from the survey instrument sent to business, industry and agriculture.

The mailing lists for the survey recipients were compiled with the aid of the schools, chambers of commerce, Committee on Economic Development, and telephone directories.

Purpose of the Committee

1. Collect and analyze labor market data from the Business-Industry-Agriculture Survey.

2. Disseminate the results for the survey to the appropriate committees.

3. Determine from survey results those occupational areas which might receive additional or less emphasis and training in the schools.

4. Investigate the type of vocational-technical training facilities which are needed to provide adequate training.

Procedure for the Study

To obtain the necessary information, questionnaires were sent to employers in the Ottawa Study area. The stated purpose of the confidential survey was "to gather information and opinions from business and industrial employers to use in improving educational programs for employment-bound youth in the Ottawa County area." The response to the survey was good. Employers of various sizes were well represented. (See Table No. 1)

Table No. 1

Numbers of Employees in Participating Firms

Number of Employees	Number of Firms
1- 25	315
26- 50	56
51-100	19
101-200	11
201- & over	17

Each firm was also asked to identify their major activities. It is felt that the 418 firms that replied gave us a good sampling of the diverse economic activity in Ottawa County. (See Table No. 2)

Table No. 2

Major Activities of Participating Firms

No. of Firms	Major Activities	No. of Firms	Major Activities
24	1. Agricultural Services	28	13. Insurance
8	2. Advertising	4	14. Marine Services
15	3. Banking and Finance	6	15. Printing & Publication
10	4. Communications	20	16. Professional - not Medical or Dental
25	5. Construction	9	17. Real Estate
0	6. Education	96	18. Retailing - Not food, dairy, or drink
8	7. Entertainment and recreation	52	19. Service establishment
40	8. Food, dairy and drink	22	20. Transportation
9	9. Government-Federal, State & Local	7	21. Utilities
8	10. Health, hospital, medical, dental	27	22. Wholesaling
3	11. Hotel and Motel	85	23. Others
85	12. Industrial or Manufacturing		

The employers of Ottawa County were asked to indicate the number of people employed by them in 109 job classifications, from semi-professional to unskilled. In every category, almost all employers expected employment to increase or at least remain the same in the next four years. The employers also indicated that local labor supplies will not adequately fill the needs of their firms. Very few firms indicated a labor surplus in any of the 109 job classifications. In most areas, particularly in skilled jobs, a labor shortage was noted by a large number of firms.

The survey indicates that employers in Ottawa County do not, as a common practice, hire drop-outs except as unskilled laborers. Of the 52 per cent of the employers who have hired drop-outs in the last five years, 40 per cent have found them unsatisfactory as employees even in unskilled categories. Table No. 3 summarizes employer experience in hiring non-high school graduates. (See Table No. 3)

Table No. 3

Employers Experience in Hiring Drop-outs

Employer reaction	Per cent of Employers
Satisfactory	33
Need considerable additional education or training	27
Unsatisfactory	40

Even high school graduates may encounter some difficulties in finding suitable employment because some employers infrequently or hardly ever hire those with just a high school education. Sixty-six per cent of the firms answered the question concerning the employment of high school graduates. Of this number, 47 per cent felt they were not well prepared for employment. (See Table No. 4)

Table No. 4

Employers Experience in Hiring Young High School Graduates

Employer reaction	Per cent of Employers
Well prepared	53
Need considerable additional education or training	33
Unskilled jobs only	5
Virtually unemployable	9

Seventy-four per cent of the companies do not have a formally organized training program of their own. There is a wide spread feeling that the existing educational facilities in the Ottawa County Study Area do not entirely meet the occupational and training needs of their companies. (See Table No. 5)

Table No. 5

Extent to which Existing Facilities Meet Occupational Needs of the Company

Extent	Per cent of Firms
Very well	23
Fairly well	54
Poorly	23

Table No. 6 indicates the types of facilities employers felt were needed to meet the occupational education and training requirements of their business.

Table No. 6

Type of Education or Training Companies Would Support

Type of Education	Per cent of Firms
Substantial expansion of vocational education in existing high schools	37
Creation of an area vocational school (s) for high school training	35
A post-secondary institution	28

General Summary: Business - Industry - Agriculture Survey

A sum of 416 firms completed their survey form. This represents a 29 per cent return.

1. With only one or two exceptions they were optimistic about their economic growth between now and 1970.

2. In very few areas was there a surplus of labor.

3. In several areas there is a scarcity of trained employees.

4. Some questions regarding employer opinions and practices were interesting. Almost no one in skilled jobs, sales, business office jobs or the apprentice programs will employ anyone with less than a high school diploma.

5. 85 of 216 firms commenting on the question about employing "drop-outs", said they are definitely unsatisfactory.

6. In reply to the question as to what extent the existing educational facilities meet the occupational and training needs of a company or firm, 69 out of 294 firms said poorly.

7. A total of 168 firms commented that creation of an area vocational school and post-secondary school of the nature of a junior college to meet the needs of both high school age people and post-secondary people would be an asset to them and the area.

8. Only 89 out of 338 replies indicate any kind of training program within their firm.

9. Firms totaling 114 said they would be interested in participating in discussions and further study for improving occupational education and training at the high school and post-high school levels.

Conclusion & Recommendations

It is the feeling of those who participated in the work of this committee that substantial improvement must be made in the occupational training facilities for the Ottawa area labor force; both those presently employed and those who will enter the market in the future. There is a scarcity of labor in almost all job categories. This scarcity is chronic in the skilled areas. Our current facilities are not providing the Ottawa area labor market with young men and women sufficiently skilled to obtain and hold those jobs most demanded by employers.

It is therefore the recommendation of this committee that:

1. Existing Facilities

   a. continue to be used and improved.
   b. continue to offer exploratory subjects.
   c. may offer occupational preparation in selected subject areas and schools.

2. A new Vocational-Technical Center should be:

   a. considered immediately.
   b. built to accommodate a minimum of 500 students.
   c. located centrally.

3. The Vocational-Technical Center should provide education and/or training for:

a. every person capable of occupational employment.
b. new members of the labor force.
c. part-time high school students.
d. those seeking retraining.
e. school drop-outs.
f. interested adults.

4. The Vocational-Technical Center should include training for occupations in:

a. agriculture.
b. business and distribution.
c. health.
d. home economics.
e. industry.
f. services.
g. other women's occupations.

5. An administrator should be hired immediately to organize and develop this program.

The committee would like to emphasize the urgency of the situation. The parents, students, and employers of the study area have overwhelmingly expressed a need for new facilities. The labor situation demands that education and training be provided to adequately prepare people to meet the needs of the labor market. The schools at the present time do not have the facilities, equipment, or organization to efficiently provide this type of instruction and training.

CONFIDENTIAL CONFIDENTIAL

OTTAWA AREA VOCATIONAL - TECHNICAL STUDY

Business, Industry and Agriculture Survey

Introduction: The purpose of this questionnaire is to gather information and opinions from business and industrial employers to use in improving educational programs for employment-bound youth in the Ottawa County area. You can help by completing the questionnaire as completely as possible. The results will be used for statistical analysis and your firm will not be identified in any published reports.

Special Note: Except for large firms, the completion of the questionnaire will require only a few minutes. Study the heading of each section. If it is applicable to your firm, please check or fill in the information; if not, proceed to the next section.

General Information

1. Firm name 418 Respondents
2. Mailing address _____
3. Name of person reporting _____
4. Your job title _____
5. Telephone number _____
6. Please check the space opposite the description which best identifies the activities of your firm. Check more than one if needed.

24	1. Agricultural services	6	15. Printing and publishing
8	2. Advertising	20	16. Professional - other than medical and dental
15	3. Banking and finance	9	17. Real estate
10	4. Communications	96	18. Retailing - other than food, dairy and drink
25	5. Construction	52	19. Service establishment
0	6. Education	22	20. Transportation
8	7. Entertainment and recreation	7	21. Utilities
40	8. Food, dairy and drink	27	22. Wholesaling
9	9. Government - Federal, State, Local		Other: Write in below
8	10. Health, hospital, medical, dental	85	23. _____
3	11. Hotel and motel		24. _____
85	12. Industrial or manufacturing		25. _____
28	13. Insurance		
4	14. Marine services		

Part II - Jobs That Do Not Require Formal, In-School Education Beyond High School

Please supply the information requested, relative to your establishment, for the skilled, semi-skilled, and unskilled jobs listed below, for which high school level education and training (plus work experience) are considered sufficient and desirable. If formal education and training beyond high school is essential or desired, do not make entries here, but see Part III, following. Be sure to consider all of the sections - A, B, C, D, E.

Type of job	Average no. on payroll 1964		Expected annual rate of employment 1966-70 (Check One)			Local supply of qualified employees (Check One)		
	Female	Male	Increase	Same	Decrease	Scarce	Adequate	Surplus
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)
A. Industrial jobs								
1. Air cond., refrig., and/or heating mechanic	0	43	7	6	0	11	1	1
2. Appliance repairman	0	7	3	0	0	4	0	0
3. Auto mechanic	27	144	15	14	0	19	11	1
4. Assembly line worker	619	552	18	7	1	11	15	0
5. Aviation mechanic	-	-	-	-	-	-	-	-
6. Boat builder	3	663	4	0	0	3	1	0
7. Cabinet maker	4	231	10	4	0	11	4	0
8. Carpenter	0	125	3	10	0	5	9	1
9. Chemical worker	5	167	3	1	0	3	1	0
10. Electrician (wireman)	4	63	5	11	0	9	5	0
11. Electrician (lineman)	0	42	2	5	0	2	5	0
12. Electronics repairman	0	34	2	7	0	4	4	0
13. Explosives worker	-	-	-	-	-	-	-	-
14. Foundry worker	5	79	1	1	1	3	0	0
15. Machine operator	279	1131	32	21	2	27	25	1
16. Machinist	7	222	13	14	0	26	6	1
17. Mechanic - general	4	224	11	20	0	17	16	1
18. Meat cutter	9	34	4	4	0	1	6	0
19. Millwright	0	57	9	11	0	14	5	0
20. Miner	0	62	0	0	0	0	0	0
21. Painter	9	129	10	7	0	8	10	0
22. Photographer	2	2	1	2	0	2	1	0
23. Plasterer	0	12	1	0	0	1	1	0
24. Plastics worker	5	47	5	2	0	3	4	0
25. Plumber	2	41	5	7	0	5	6	0
26. Printer	18	23	1	0	0	1	1	0
27. Railway worker	1	57	1	3	0	1	3	0
28. Roofer	0	24	2	1	0	1	2	0
29. Sheet metal worker	0	245	5	2	0	6	0	0
30. Stationary operator	30	29	1	1	0	1	1	0
31. Steel worker	0	10	0	2	0	0	2	0
32. Truck driver	21	262	19	30	1	8	40	0
33. Welder & flame cutter	7	1026	9	8	1	14	5	0

Type of job (1)	Average no. on payroll 1964 Female (2)	Average no. on payroll 1964 Male (2)	Expected annual rate of employment 1966–70 (Check One) Increase (3)	Same (4)	Decrease (5)	Local supply of qualified employees (Check One) Scarce (6)	Adequate (7)	Surplus (8)
A. Industrial jobs (con't)								
34. Heavy equip. operator	8	52	4	7	1	3	7	1
35. Unskilled laborer	28	1621	19	24	2	7	33	4
Other (write in below)								
36.								
37.								
B. Sales and service jobs								
1. Bartender	3	6	0	3	0	0	3	0
2. Barber	0	11	1	5	0	1	4	1
3. Beautician	18	1	2	3	0	2	0	3
4. Bus boy	1	13	3	2	0	1	4	0
5. Bus driver	8	0	0	1	0	0	1	0
6. Cashier (retail store)	92	20	8	10	0	1	16	3
7. Cook or chef	68	21	3	12	0	6	11	0
8. Fireman	0	24	1	2	0	0	3	0
9. Florist	12	5	0	2	0	0	2	0
10. Gardener – yard care	22	18	2	3	0	0	6	0
11. Hospital attendant	0	5	0	1	0	1	0	0
12. Janitor	17	87	5	31	0	8	31	1
13. Laborer	22	47	7	4	0	1	6	3
14. Laundry and dry cleaning worker	43	11	2	4	0	0	6	0
15. Law enforcement officer	0	38	1	1	0	2	1	0
16. Marine service worker	9	4	2	0	0	2	0	0
17. Meter reader	0	10	0	4	0	0	4	0
18. Nurse's aid	63	0	2	5	0	3	4	0
19. Plant security guard	0	28	0	7	0	1	7	0
20. Postal worker	0	11	0	0	1	0	0	0
21. Route salesman	2	278	3	7	0	3	5	0
22. Salesperson (retail)	365	279	22	27	0	18	33	2
23. Seamstress	15	0	1	4	0	3	1	0
24. Service station attendant	8	60	3	11	1	3	14	0
25. Shoe repairman	0	0	1	0	0	0	0	0
26. Stock boy	28	68	11	13	0	3	18	4
27. Tailor	0	1	2	0	0	2	0	0
28. Waiter or Waitress	147	20	2	8	1	5	7	0
29. Water treatment or sanitation worker	0	24	2	5	0	5	2	0
Other (write in below)								
30.								
31.								

Type of job (1)	Average no. on payroll 1964 Female (2)	Average no. on payroll 1964 Male (2)	Expected annual rate of employment 1966 - 70 (Check One) Increase (3)	Same (4)	Decrease (5)	Local supply of qualified employees (Check One) Scarce (6)	Adequate (7)	Surplus (8)
C. Business office jobs								
1. Bank clerk or teller	87	35	8	6	0	2	8	0
2. Bookkeeper	154	37	24	64	3	25	55	1
3. Clerk-typist	189	359	28	37	0	15	49	3
4. Dispatcher	413	10	3	5	0	4	5	0
5. General office worker	216	456	31	44	1	11	62	1
6. Office machine operator	151	7	8	12	0	8	10	0
7. Stenographer	124	115	19	24	1	22	25	0
Other (write in below) 8.								
9.								
D. Agricultural jobs								
1. Farm worker	122	43	1	3	0	0	6	0
2. Nursery worker	100	201	1	0	0	0	0	0
3. Packer or shipper	37	40	2	1	0	2	2	0
Other (write in below) 4. 3 Others								
5.								
E. Miscellaneous jobs								
Not requiring post-high school education (Write in below) 1. 29 Others								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								

PART III - Jobs For People With Formal Education Beyond High School, But Less Than 4-Year College Degree

Please supply the information requested from your establishment or firm for the kinds of semi-professional and technical jobs listed below for which one or two years of post-high school education are ordinarily considered desirable or essential. Be sure to consider all the sections - A, B, C, D, E.

Type of job	Average no. on payroll 1964		Expected annual rate of employment 1966-70 (Check One)			Local supply of qualified employees (Check One)		
	Female	Male	Increase	Same	Decrease	Scarce	Adequate	Surplus
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)
A. Industrial jobs								
1. Air cond., refrig. and/or heating technician	1	18	8	3	0	7	3	0
2. Architectural draftsman	7	18	5	6	0	7	4	0
3. Automotive technician	3	4	2	2	0	2	1	0
4. Chemical technician	1	35	4	5	0	8	2	0
5. Civil and highway technician - surveyor	0	7	2	3	0	3	2	0
6. Drafting and design technician	3	141	17	9	0	18	6	1
7. Electrical technician	1	199	4	2	0	4	1	0
8. Electronic technician	0	11	2	1	0	1	1	0
9. Foreman - first-line supervisor	6	269	24	20	1	30	14	0
10. Industrial technician	0	16	5	2	0	5	1	0
11. Instrumentation technician	1	1	1	1	0	2	1	0
12. Mechanical technician	100	8	3	3	0	6	0	0
13. Metallurgical technician	0	1	1	1	0	2	0	0
14. Quality control technician	0	28	6	8	1	7	6	1
Other (write in below)								
15. 13 Others								
16.								
B. Business jobs								
1. Accountant	13	174	15	28	1	14	27	0
2. Advertising and/or commercial art	108	9	2	8	0	6	4	0
3. Business data processing	4	5	2	3	0	2	2	0
4. Business machine oper.	7	12	2	7	0	4	4	1
5. Business management	0	46	8	15	0	11	11	0
6. Merchandising	11	21	5	7	0	7	4	0

Type of job (1)	Average no. on payroll 1964 Female (2)	Average no. on payroll 1964 Male (2)	Expected annual rate of employment 1966-70 (Check One) Increase (3)	Same (4)	Decrease (5)	Local supply of qualified employees (Check One) Scarce (6)	Adequate (7)	Surplus (8)
B. Business jobs (Con't)								
7. Outside salesman	2	141	30	15	0	27	14	0
8. Real estate, insurance and/or finance	0	29	7	5	0	4	6	0
9. Retail management and buying	11	22	7	8	0	13	3	0
10. Sales manager	2	28	6	17	0	12	9	0
11. Secretary	38	13	11	18	0	12	16	0
Other (write in below) 12. 6 Others								
13.								
C. Health, Hospital and Medical Jobs								
1. Dental office asst.	2	0	0	1	0	1	0	0
2. Dental hygienist	0	0	1	0	0	1	0	0
3. Medical office asst.	3	0	0	0	0	1	0	0
4. Medical lab technician	7	8	2	1	0	3	0	0
5. Nurse (Practical)	24	0	2	2	0	6	0	0
6. Nurse (Registered)	153	0	2	3	0	6	0	0
7. Psychiatric technician	1	1	0	1	0	1	1	0
8. X-ray technician	6	1	0	1	0	3	0	0
Other (write in below) 9. 3 Others								
10.								
D. Agriculture jobs (Write in below) 1. 5 Others								
2.								
3.								
4.								
E. Public service jobs (Write in below) 1. 7 Others								
2.								
3.								
4.								

PART IV - Employer Opinion and Practice

A. With respect to the requirements of your firm for entry employment, in what job categories do you employ young persons who have "dropped out" without finishing high school? Please put check marks under the headings which best describe your firms operating policies.

Entry job category		Frequency of employment		
		Common Practice	Infrequently	Almost Never
		(1)	(2)	(3)
1. Highly-skilled jobs	96	3	10	83
2. Business office jobs	124	3	8	113
3. Sales jobs	124	6	13	105
4. Apprenticeship for the highly-skilled trades and crafts	88	9	20	59
5. Semi-skilled jobs (assembly line and production workers, machine operators)	104	36	35	33
6. Service jobs	132	36	42	54
7. Unskilled labor	160	81	50	29

B With respect to the requirements of your firm for entry employment, in what job categories do you employ young persons who have graduated from high school? Please put check marks under the headings which best describe your firm's operating policy.

Entry job category		Frequency of employment		
		Common Practice	Infrequently	Almost Never
		(1)	(2)	(3)
1. Technician jobs	73	28	21	24
2. Highly - skilled jobs	84	30	31	23
3. Business office jobs	153	112	27	14
4. Sales jobs	133	77	25	31
5. Apprenticeship for the highly-skilled trades and crafts	97	56	22	19
6. Semi-skilled jobs (assembly line and production workers, machine operators)	102	78	12	12
7. Service jobs	128	95	16	17
8. Unskilled labor	117	80	17	17

C. Recalling the employing practices of your firm for the past five-year period, which one of the following statements best describes your evaluation of young persons who have applied for entry jobs with your organization? Please check one in each category.

1. Drop out 216

73 (a) We have employed a number of young non-high-school graduates; and we have found they can perform satisfactorily in the following jobs: (Specify)

_____

_____

58 (b) We have employed a number of young non-high-school graduates, but find they need a considerable amount of additional education and/or training before they can perform satisfactorily.

85 (c) We have found young non-high-school graduates unsatisfactory for the following reasons: _____

_____

_____

2. High School Graduate 274

145 (a) Most young high school graduates who apply seem reasonably well prepared for entry employment, and we have employed them as openings have occurred.

91 (b) We have employed a number of young high school graduates, but find they need a considerable amount of additional education and/or training before they can perform satisfactorily.

13 (c) We have found it inadvisable to employ young high school graduates, except for unskilled jobs.

25 (d) The nature of most of the entry jobs in our firm is such that young high school graduates are virtually unemployable because of a lack of occupational education and training.

D. To what extent do existing educational facilities in the Ottawa County area meet the occupational and training needs of your company or firm? 294

68 (1) very well 157 (2) fairly well 69 (3) poorly

E. If you think occupational education and training in the area need improvement, which of the following developments would you support? (Please check, more than one if you like) 268

100 (1) Substantial expansion of vocational education programs in the existing high schools.

94 (2) Creation of an area vocational school (s) for secondary (high-school) occupational training.

74 (3) Establishment of a strong program of occupational education in a post-secondary institution.

F. Would you and your firm be interested in participating in discussions or further study of plans for improving occupational education and training at high school and post-high school levels in Ottawa County area? 316

114 (1) Yes 80 (2) No 122 (3) Undecided

G. Is there a formally organized training program in your company or firm? 338

89 (1) Yes 249 (2) No

H. If "yes" please check each type of program you now operate on a formal basis. 97

47 (1) Apprenticeship
46 (2) Supervisory training
15 (3) Technician training
8 (4) Plant management
17 (5) Job upgrading
14 (6) Executive development

Other (write in below)

21 (7) _____
_____ (8) _____
_____ (9) _____

I. General comments: (Add any comments which you, or other officials of your firm, may wish to make about the improvement of education and training opportunities in the Ottawa County area. Include in your suggestions the kind and level of educational programs which should be provided.)

_____

_____

_____

_____

_____

_____

_____

_____

_____

Please return this questionnaire at once in the envelope provided.

Thank you for your interest and cooperation.

Ottawa Area Vocational - Technical Committee

CHAPTER V

Agriculture Report

The information gathered by the agriculture committee was obtained by administering two separate surveys. One survey was directed to those people engaged in farming to determine farm labor needs. The other survey was given to agriculture related businesses.

Presently there are four high schools in the study area that offer vocational agriculture. They are Coopersville, Hamilton, West Ottawa, and Zeeland.

Purpose of the Committee

1. Collect and analyze Survey of Farm Labor Needs.

2. Interpret Facility-Curriculum data pertaining to agriculture in each high school.

3. Determine usage of existing facilities in each school and the availability of programs to all students.

4. Check the curriculum offerings in each school.

5. Examine what additions, deletions, or changes should be made in the agricultural offerings for students in each school as a result of:

    a. changes in agriculture-business-distribution.

    b. methods of scientific farming.

    c. changes to specialized farming.

Procedure for the Study

Prior to the formation of the Area Study, a committee was organized for the purpose of correlating the Zeeland, West Ottawa, and Holland Vocational Agriculture Curriculums to offer specialized courses on an area basis. As a result of this co-operative effort, several students from Holland are enrolled in vocational agriculture classes at West Ottawa High School.

The present Agriculture Committee was reorganized to serve as a sub-committee for the total Ottawa Area Vocational-Technical Education Study Committee. A series of meetings were held to discuss the facilities, course offerings and course outlines presently used in the county and to evaluate the programs. The committee concluded that the curriculum could be strengthened by placing more emphasis on related opportunities and basic scientific principles pertaining to agriculture, and less emphasis on general farming.

The Coordinators were assigned the task of preparing a course of study outline for the first two years of Vocational Agriculture. On an experimental basis, West Ottawa and Zeeland are presently following this course of study.

Project 80, a research project conducted by Michigan State University, predicts what life in Michigan will be like in 1980. The following statements from this report have implications for developing future agriculture programs.

1. The population of the United States and Michigan will increase about 30 per cent in the next 15 years. The composition of the population will change as a larger proportion of the 1980 population will be in the suburbs.

2. Food processing will become much more prominent with increased emphasis on convenience, quality control and cost reduction.

3. Farm prices (in 1959-63 dollars) are expected to be somewhat lower in 1980 than in 1959-63 on crops, but somewhat higher on livestock.

4. Cropland harvested in Michigan will drop at least 5 per cent in the next five years; and if recent information on urbanization is correct, this decline could be as much as 20 per cent.

5. The production of nearly every major livestock and crop enterprise is expected to expand in Michigan by 1980. Most optimistic is the projection that beef cows will triple and that cattle feeding will more than double. Turkeys, soybeans, dry beans, potatoes, corn, fruits, and vegetables also look particularly promising.

6. Only 1 out of 100 laying flocks on farms in 1959 will be producing in 1980, with about 25,000 layers per flock.

7. The brightest spot in forest products is pulpwood, projected to increase 171 per cent from 1962 to 1980. Veneer log and Christmas tree are to double.

8. Demands for recreational lands will be strong, with the greatest increase in Southern Michigan where lands receiving significant recreational use may well increase four to five times the 1964 acreage.

9. By 1980, only about one half of the farms in existence in 1959 will be operating. The decline will occur in farms grossing less than $10,000. Farms grossing more than $20,000 will double. Part-time and part-retirement farms will also decline but will continue to represent about 42 per cent of the total. The number of all types of farms will be declining, with livestock farms (other than dairy and poultry), cashgrain farms and fruit farms decline the least. There will be a tendency to more specialization.

10. The average size of a farm will increase with acreage up nearly 50 per cent; investment, marketings and production expenses up 1½ times. On strictly "commercial" farms, the changes will be even more striking.

11. Total imput requirements in agriculture will increase. Total land in farms may drop as much as 20 to 30 per cent, but investment in land will increase in the aggregate as land values per acre rise about 3 per cent per year. The labor imput will decline about 50 per cent in physical terms, but will be offset by rising wages. Fertilizer used will double or triple. Capacity of feed manufacturing will double. Michigan farmers may buy fewer tractors but will spend more in total -- on tractors over 50 horsepower and also garden tractors. More tractors will be diesels. Farmers will buy more self-propelled implements and mechanical harvesting equipment for fruit and vegetables.

12. Because of fewer farms, net income per farm will increase to about $3,570, up 54 per cent over the 1959-63 average. On commercial farms, "realized" net farm income is projected to $5,469, up 85 per cent over 1959-63.

13. Only one out of every 5 herds in 1959 will be left in 1980. Herds over 50 cows will expand, however.

Agri-business Firms -- Dr. Robert Kramer, Director of the Agricultural Marketing and Utilization Center of the College of Agriculture, Michigan State University, gleaned from Project 80 papers the following changes in businesses related to agriculture for the next 15 years.

1. Fewer and larger business firms -- each with more volume. The fewer firms are expected to have an increasing power as buyers of farm products.

2. Plans to meet consumer demands -- Michigan farmers are expected to form more storage, grading, packing and sales organizations to supply the volume and quality needed.

3. More direct marketing and a changing market structure. Terminal or central and local markets will continue to decline in importance.

4. More bargaining by more producers -- Bargaining has been used by some Michigan farmers for 50 years.

5. More automation and the adoption of new processing and marketing technologies. Output per man hour will increase significantly.

6. More rigid quality control standards. Large, uniform lots of some specified quality and some assurance of regular delivery will be expected.

7. Integration and coordination of marketing, processing, and distribution functions. More contracts will be used.

8. An attempt by processors and other businesses to operate on a year-round basis with an even or a more level production schedule.

9. A faster turnover with probably lower margins per unit.

The following statements are taken from a recent publication from Massey Ferguson Inc. entitled "Farming for the Future": "Today's successful farmer must have more than the mere desire for farming. It requires the same intelligence, discipline, and dedication required of any other career or profession. The farmer of the future will need to be trained in soil care, crop growth, farm chemicals, farm machinery; modern business management, investments, and how to produce crops and animals at the lowest possible price."

There will be many opportunities in planning, engineering, manufacturing and servicing of farm equipment. Handling and processing of farm products will require many persons also. Other job openings will be in educational and advising services to farmers, technical services such as veterinarians, soil conservation technicians, foresters, and farm record analysis experts.

Education provides the key for all these job. Modern agriculture requires the student to have scientific training associated with plants, animals, and soils. Principles of breeding, feeding, disease and insect control must be understood. Training should cover technological phases as selection, operation, care and maintenance of farm machinery and needed mechanical skills.

Progress is being made to provide this instruction in vocational agriculture in the local high schools and also beyond high school. Some is done in area schools or in junior or community colleges. Several states now offer highly technical training in specific agricultural subjects. Michigan State University now offers several advanced courses of a technical nature. They offer an opportunity for the high school graduate who has no college or farming plans to learn specialized skills leading to employment in an agricultural occupation.

The following information is taken from "Do you know Ottawa County?" booklet published by Ottawa County Cooperative Extension Service, Michigan State University. Statistics, based on the 1960 census report, show the following:

1. 2,636 farms.
2. 65 farms classed as field crop farms.
3. 105 vegetable farms.
4. 170 fruit farms.
5. 238 poultry farms.

6. 670 dairy farms.
7. 160 livestock farms.
8. 1,228 miscellaneous and general farms.

The value of all farm products sold was $29,137,501. There are 2,390 people employed in the Agricultural Industry in Ottawa County. This is a 30 per cent decrease from 3,421 in 1950.

Farmers and farm managers represent 4 per cent of the labor force in the county as compared to 2 per cent on a Michigan basis.

Farm laborers represent 2 per cent of the labor force in the county as compared to 1 per cent in the state.

General Summary (Compiled from the Survey of Farm Labor Needs)

A total of 173 farmers were surveyed, (most of them by the personal interview method) which represents about six per cent of all part-time and full-time farmers within the study area.

1. Approximately 20 per cent of the farmers indicated they would hire additional help if available.

2. Seventeen per cent of the farms contained about 160 acres; 50 per cent between 40 and 120 acres.

3. Thirty per cent of the farmers surveyed indicated they would be interested in enrolling in adult education classes.

4. Eleven per cent of the farmers were under 35 years of age, and 19 per cent were over 55 years old.

5. The survey identified the following areas of training necessary to qualify individuals for future jobs on the farm:

    a. machinery & mechanics.
    b. welding.
    c. soils and crops.
    d. animals.
    e. bookkeeping and farm management.
    f. conservation and forestry.

General Summary of Survey of Agriculture Related Businesses

Twenty agriculturally related businesses were surveyed.

1. Twenty-three per cent of all employees working in agriculture related businesses are part-time farmers.

2. Agriculture related businesses indicated that 52 per cent of their employees would benefit from a background or training in agriculture.

3. These businesses would like to hire employees who are trained in the following areas:

    a. plant science.
    b. animal science.
    c. agricultural business management and marketing.
    d. agricultural mechanization.

Conclusion and Recommendations

With the present emphasis being placed in agriculture related occupations, there is a need for curriculum change. There should be an opportunity for all students who have an interest in agriculture to receive instruction in this field even though their school does not presently offer this program. This instruction may be provided in cooperation with other schools or in an area vocational-technical center.

OTTAWA AREA VOCATIONAL - TECHNICAL EDUCATION STUDY

SURVEY OF FARM LABOR NEEDS

173 Respondents

1. Size of farm:

Acres	Per Cent
1 - 40	18
41 - 80	28
81 - 120	27
121 - 160	9
161 - up	17

2. Kind of farming done:

Crop	Per Cent	Livestock	Per Cent
Corn	75	Dairy	39
Oats	47	Beef	24
Wheat	58	Swine	23
Hay	75	Poultry	28

3. Do you work full-time on your farm?

Yes 49 per cent Part-time 51 per cent

4. Would you hire additional help if available and dependable?

Yes 22 per cent

5. Farm operator by age:

	Per Cent
a. Under 25	7
b. 26 - 35	4
c. 36 - 44	34
d. 45 - 54	36
e. 55 - 64	13
f. Over 65	6

*6. What types of adult agricultural education could the high school offer that could be of benefit to you?

*7. What subject knowledge or skills would be of benefit to your employees?

*8. What do you think should be taught in high school agriculture?

*9. What training should boys have for future jobs on the farm?

*Due to the similarity of these questions, the most frequent answers given were:

		Per Cent
a.	animal husbandry	14
b.	crops & chemicals	20
c.	machinery & mechanics	23
d.	management & bookkeeping	19
e.	soils & fertilizers	30

AGRICULTURAL OCCUPATIONS SURVEY

20 Respondents

1. How many part-time farmers are employed? 23 per cent

2. How many people in your plant have jobs or positions which would benefit from a background or training in agriculture?

   52 per cent

3. How would you designate your job classifications?

		Per Cent	
a.	laborer	30	
b.	seasonal laborer	37	
c.	semi-skilled or skilled craftsman	17	
d.	supervisory, junior supervisory and sales managerial	16	
e.	season junior supervisory	25	(Total seasonal labor)

4. 52 per cent a. Permit students to visit plant to observe operations.
   43 per cent b. Employ interested students on a part-time basis during school year.
   43 per cent c. Employ interested students during vacation period.
   38 per cent d. Work with school personnel in outlining the type of program which would help prepare students for work in agricultural industries.
   31 per cent e. Cooperate with school for classes in in-service training for present employees.

5. Which of the following areas of training should the schools teach to prepare a boy for your business?

   The most frequent answers given were:

   a. plant science.
   b. animal science.
   c. agricultural business management and marketing.
   d. agricultural mechanization.

CHAPTER VI

Business and Distribution

Business education in the secondary school includes general business, office, and distributive education.

General business deals with the free enterprise system: how the American economic system operates and how business satisfies our economic needs and wants. This class is primarily general education in nature, but it is essential that students have an understanding of every day business functions and practices. The students enrolled in this course are taught how to live in the business society so they can manage their earnings competently and successfully deal with the economic problems that will confront them in life. Most of the schools in the study area offer a course in general business.

Distributive education pertains to those areas of wholesaling, retailing, and service industries. The flow of goods or services from the producer to the ultimate consumer is known as distribution. This program teaches the student the importance of distribution and its function in our free enterprise system. The distributive education classes prepare the student for initial employment in the retail, wholesale, or service industries. To gain experience under actual employment conditions, a junior or senior student may elect cooperative training. Presently, four high schools in the study area offer courses in distribution.

Office education teaches those basic skills and knowledge that will be useful to students for their own personal use. Its chief function, however, is to equip students with the necessary skills for entry occupations in office work and other related business occupations. Students may supplement their learning by working on the Cooperative Training Program. All schools offer some classes in office education.

Purpose of the Committee

1. To collect and analyze facility-curriculum data pertaining to business education in each high school.

2. To determine usage of existing facilities in each high school and the availability of programs to all students.

3. To determine curriculum offerings in each school.

4. To recommend additions, deletions, or changes that should be made in the business and distribution offerings for students in each school.

5. To consider changes in merchandising techniques, automation, and business trends.

Procedure for the Study

Findings were based largely upon the results of the following survey instruments:

1. Parent Opinionnaire.

2. 1965 Senior Class Survey.

3. Survey of 1959 Graduating Class.

4. Survey of 1962 Graduating Class.

5. Business, Industry, and Agriculture Survey.

In addition, each school in the area submitted charts showing curriculum offerings, equipment, and facilities available and utilization of the available space. Following is a list of course offerings and enrollments for the 1964-65 school year:

School	Area	9	10	11	12	Total Enrolled
HAMILTON	BUSINESS					
	1. Beginning Typing		x	x	x	26
	2. Intermediate Typing		x	x	x	41
	3. Advanced Typing			x	x	23
	4. Shorthand I			x	x	9
	5. Bookkeeping			x	x	43
	6. Office Practice				x	17

School	Area	9	10	11	12	Total Enrolled
GRAND HAVEN	BUSINESS					
	1. Typing I		x			158
	2. Typing II			x		51
	3. Personal Typing			x		89
	4. Bus. Procedures				x	33
	5. Office Practice				x	76
	6. Bookkeeping			x		110
	7. Business Law			x		38
	8. Stenography				x	16
	9. Retail Selling				x	49
	10. Business Management				x	55
	11. Shorthand I				x	30
SAUGATUCK	BUSINESS					
	1. Typing I (Adult)	x	x	x	x	40
	2. Typing II			x	x	10
	3. Personal Typing	x	x	x	x	35
	4. Bookkeeping		x	x	x	18
	5. Business Principles			x	x	14
	6. Office Practice			x	x	7
	7. General Business	x	x			27
ZEELAND	BUSINESS					
	1. Typing I		x	x	x	121
	2. Personal Typing			x	x	21
	3. Bookkeeping			x	x	72
	4. Shorthand I			x	x	22
	5. Stenography & Office Practice				x	32
	6. Office Practice				x	51
	7. Business Law				x	46
	8. Consumer Economics		x	x		56

School		Area	9	10	11	12	Total Enrolled
COOPERSVILLE		BUSINESS					
	1.	Gen. Business	x				81
	2.	Bookkeeping			x		59
	3.	Typing I		x			156
	4.	Typing II				x	38
	5.	Business Law			x		34
	6.	Business Arithmetic		x			30
	7.	Personal Typing			x		22
	8.	Notehand			x		25
	9.	Shorthand I				x	14
HUDSONVILLE		BUSINESS					
	1.	Typing I			x	x	177
	2.	Typing II				x	19
	3.	Office Machines				x	43
HOLLAND		BUSINESS					
	1.	Typing I and II		x	x	x	206
		(Summer)					20
	2.	Typing III and IV			x	x	50
	3.	Bookkeeping			x	x	49
	4.	Office Practice			x	x	51
	5.	Shorthand I and II			x		20
	6.	Shorthand III and IV				x	26
	7.	Business Math.		x	x	x	62
	8.	Business Training	x				65
	9.	Transcription				x	16
	10.	Stenographic Machines				x	16
SPRING LAKE		BUSINESS					
	1.	Gen. Business	x				32
	2.	Bookkeeping		x			34
	3.	Sec. Practice				x	16
	4.	Typing I			x		74
	5.	Typing II				x	60

School	Area	9	10	11	12	Total Enrolled
WEST OTTAWA	BUSINESS					
1.	Business Training	x				33
2.	Beginning Typing		x			153
3.	Voc. Typing I - II		x			61
4.	Stenography I - II			x		29
5.	Office Practice				x	20
6.	Stenography III - IV				x	9
7.	Typing III - IV			x		35
8.	Bookkeeping			x		98
9.	Business English				x	19
10.	Business Law				x	87

Conclusion and Recommendations

The committee feels there is need to upgrade the status of the business curriculum. One method of upgrading would be to provide more descriptive titles to course offerings. For example:

1. business preparatory course instead of commerical course.
2. basic accounting instead of bookkeeping.
3. business communication instead of business english.
4. salesmanship instead of retail selling.

All teachers should be vocationally oriented to their particular subject so that they can make students aware of the various fields of work and career opportunities for which their subject helps prepare the student. Counselors should be aware of fields of vocational opportunities in their particular community and service area.

The Business Education department is adequately providing the basic skills and knowledge necessary for students to qualify for entry occupations in office occupations. Due to automation and technological change, it is not financially practical for a school district to provide automated equipment needed for specialized training in the fields of business and distribution. For example, a computerized tape cash register in a modern department store would cost approximately $4,000 to $5,000 each. A Vocational-Technical Center could best meet the needs for this type of program.

It is the opinion of the committee that the following business education courses should be available to all students, either in their local high school or area facility:

1. typing.
2. shorthand.
3. business machines (office practice).
4. salesmanship, merchandising, and buying.
5. business management.
6. basic accounting.
7. business procedures (office procedures).
8. business law.
9. business communication.
10. business arithmetic.
11. data processing.

It would not be practical to offer this complete program in a school with limited enrollment or facilities. This should not lessen our responsibility to provide these courses to all students who wish to take them. In some instances this may be done on a cooperative basis by sharing facilities, and/or sending them to an area facility.

In the event that a junior college or post high school vocational-technical center is organized, a committee should study the type of specialized technical training to be offered.

It is the feeling of this committee that there are at least three categories of people whose needs are not now adequately met:

1. High school graduates who want beginning or advanced training in business field.

2. The high school drop-out who wishes to complete his high school education in the business field.

3. The adult who wants to supplement (or refresh) his education in the business fields.

CHAPTER VII

Home Economics and Food Service

At the present time, all schools in the study area offer home economics classes. Due to the increased emphasis in the food service area, it was included in the home economics report.

Because of the changing role of future housewives and mothers, the home economics curriculum should be re-evaluated to better prepare students for their places in society. Also, more experiences should be provided for girls that will prepare them for entry occupations in business and industry.

Purpose of the Committee

1. Collect and analyze facility and curriculum data pertaining to home economics and food service in each of the high schools in this area.

2. Determine usage of existing facilities in each school and the availability of programs to all students.

3. Determine if there is a need for a vocational program in this area.

Procedure for the Study

The committee studied the problem by making visits to each of the schools to inspect the home economics facilities and equipment.

The survey of equipment was to establish the possibilities of developing a more comprehensive vocational training program within the field of home economics: a program which could better prepare the student seeking employment after high school graduation, the student needing part-time work while in school, and the "drop-out".

It was found that the curriculum varied slightly in each individual school visited, and very little vocational training is being offered to the high school student enrolled in home economics. The facilities and equipment in all but one school were found to be functional and could be adapted to meet the needs of a vocational training program.

The committee found, the equipment was excellent in most of the home economics departments. However, some of these departments were not constructed in a manner that is conducive for offering food and clothing classes simultaneously. In some instances, lack of personnel prevents full-utilization of the facilities.

The committee feels that facilities and equipment now in use teaches the basic information necessary for the home economics student. If an area vocational school were realized it could be equipped to meet the needs of the girl wishing to specialize within the field of home economics and food service.

The committee made use of all the surveys that have been previously mentioned in this report. The home economics curriculum is similar in all high schools in the study area.

Resource people used in conjunction with the report are:

1. Mrs. Francis Sanderson - Wayne State University, Detroit.

2. Mr. K. Bandstra - owner of Beacon Drive Inn, Grand Haven.

3. Mr. R. Den Uyl - Manager of Point West, Holland.

4. Mrs. Jean McOmber - Home Economics teacher, Spring Lake.

Conclusion and Recommendations

The committee feels that it is our area responsibility to train more girls with a saleable skill. Because of the possibility that more girls will work after leaving school, it is important that we provide opportunity for her to train herself in such a skill.

In a report recently compiled by Mrs. Jean McOmber, we learned that the trends in society point definitely to a need for more vocational training. The following is an excerpt from the report which points to the necessity of re-evaluating the home economics curriculum:

1. Increased Automation--It is estimated that more than two million jobs will be vacated over the next decade in the United States as a result of technological advance and improved productivity.

2. Continuing Education--The Department of Labor predicts that today's youth will change occupations five times during the 40 years he is in the labor market. A life of continuing occupational adjustment will mean a life of continuing education.

3. Specialization--There is little room in the labor market for the undereducated, unskilled young worker. Unskilled jobs today account for only five per cent of all United States employment.

4. American Labor Force--Presently, some 25 million, more than one-third of all women over 14 years of age are employed. Three million women will be entering or re-entering the labor force.

5. School Drop-outs--A high proportion of unmotivated young people drop out of school and there is strong evidence that they are much more likely to stay in school when the school offers a program to prepare them for wage earning.

6. Unemployment Rate--If our current rate of youth unemployment persists, as the youth population increases, by 1970 the number will be close to one and one-half million.

7. More Service Occupations--There has been an increase in service occupations, both in private households and outside the home. Many of these service occupations have a relationship to home economics. One of eight workers is in a service occupations.

Following is a list of the types of job training activities that could be taught in the Home Economics department of an area vocational-technical school:

1. child care services.
2. food service worker.
3. hotel & motel aides.
4. nursing & health occupations.
5. clothing & maintenance specialists.
6. government work (county home extension & home demonstration).
7. related arts (interior decorating, design, etc.).

It is apparent that none of the high schools in the Ottawa Area is of sufficient enrollment to warrant offering these courses in their own schools. (They also do not have adequate facilities.)

In cooperation with an area vocational-technical center, these courses could be offered not only to students of high school age but also to the adults of the communities involved.

The committee feels that home economics has not been given enough publicity. A lack of communication leaves much to be understood about the broad area covered in the home economics curriculum of today.

A county vocational-technical school could be utilized for high school training, for drop-outs, for retraining, and refresher courses on the adult education level. The main objective for the high school student is to train them with a saleable skill.

We believe our concern for home economics education can be best stated from the following quotation taken from Mrs. McOmber's report. "For many years, we have given most of our time and attention to the preparation for the role of homemaker, now our concern for preparing young women for the wage-earning program should share equally with our concern for the former. The success of the wage-earning program will depend upon the degree of separation from the present home economics program. It is true that all communities need programs for instruction in homemaking, but programs for employment will be provided only when there is established evidence of job opportunity. When we develop cooperation between preparation of youth for employment and the employment opportunities, we will be helping more youth to leave school with the training most suited to their interests and needs."

*HOME ECONOMICS PROGRAMS IN MICHIGAN

PRE-VOCATIONAL

Home Economics Grade 7

Home Economics Grade 8

VOCATIONAL

Preparation for Homemaking - Grades 9-12

Basic Program - Home Economics I and II
- Family Foods and Nutrition
- Family Clothing and Textiles
- Child Development
- Family Relations
- Home Management
- Housing, Furnishings and Equipment
- Family Health and Safety

Special Interest Courses Grades 11-12
- Child Development
- Family Finance
- Housing and Furnishings
- Nutrition and Meal Management
- Textiles and Clothing
- Home and Family Living

Adult Education
- Adult classes may be offered for upgrading the preparation for homemaking

Preparation for Employment

Pre-employment - Grades 9-10
- Becoming employable
- Job attitudes
- Grooming for the job
- Relationships on the job
- Interviewing
- Job Sampling
- Homemaking I and/or II

Training for Wage Earning - Grades 11-12
(Some suggested occupations)
- Child Day Care Aide
- Homemaker's Assistant
- Companion to the Elderly
- Supervised Food Service Worker
- Hotel-Motel Aides
- Visiting Homemakers
- Clothing Maintenance Specialist
- Home Management Aide

Adult Education
- Adult classes may be offered for preparatory initial training, or supplementary upgrading for employment

Community College
(Vocational-Technical Programs)
- Child Day Care Assistant
- Food Service Supervisor
- Dietitian's Aide

*State of Michigan
Department of Education
Division of Vocational Ed.

CHAPTER VIII

Industrial Education

The Industrial Education Committee studied the present programs of industrial arts, vocational-industrial, and industrial-technical education to determine those programs that should continue as they are presently being offered, those which need strengthening, and the occupational areas which could best be offered in a separate specialized facility.

Purpose of the Committee

1. Study the Industrial Education curriculum in each school participating in the survey.

2. Study the available facilities and equipment in each school participating in the survey.

3. Determine what revisions should be made in industrial offerings for students in the schools.

4. Determine if there is a need for a vocational-technical center (s) to provide training at an advanced level.

5. Determine what provision should be made for training or retraining of employed persons or those who seek training for full-time employment.

Procedure for the Study

To study and analyze the programs in the different schools, the committee used the Curriculum-Facility Survey and also toured the schools involved. Teachers and administrators were interviewed in the various schools to gain an understanding of the type of programs that were being conducted.

The Business-Industry-Agriculture Survey, Senior Class Survey, Follow-Up Survey, and Parent Opinionnaire were reviewed. By studying these instruments an attempt was made to determine and correlate the technical needs of the businesses and industries of the area; to determine the strengths and weaknesses of the available educational programs to meet these needs; and to suggest revisions that would be beneficial to a total program of education.

Facilities and Curriculum

The first step was to analyze the current course offerings, the physical facilities, and the present availability of programs to all students; the Curriculum-Facility Survey was used to collect this information.

The Industrial Committee arranged to tour all of the facilities for industrial education in the nine high schools represented in the Ottawa Area Vocational-Technical Education Study.

It was interesting to note that the buildings housing the industrial education departments were relatively new. In some instances the equipment had been installed recently, and in those instances where the equipment was of an older vintage, the buildings were new.

The Scope of Industrial Education

The term "industrial education" is used in this report to include the program areas of (1) industrial arts education, (2) vocational-industrial education, and (3) industrial-technical education. All of these programs are concerned with the industrial phases of work and society, and while the emphasis and major purpose of each is different, they are not mutually exclusive, but rather should be considered as complementary to each other.

Since the terms (1) industrial arts, (2) vocational-industrial, and (3) industrial-technical education are often misunderstood, the following definitions will be used throughout this report:

1. Industrial Arts is a study of industry, its materials, processes, products and organization through laboratory experiences with tools and materials that provide students with an understanding and appreciation of industry, its development and contributions to our industrial way of life and the inherent social and technological problems. Industrial arts programs are operated primarily at the junior and senior high school levels.

2. Vocation-Industrial Education is described as a program to prepare workers for entrance into employment or to up-grade employed workers in various occupations in the fields of industry. It is designed to develop skills, abilities, understandings, attitudes, work habits and appreciations, encompassing knowledge and information needed by workers to enter and make progress in employment on a useful and productive basis.

3. Industrial-Technical Education is intended to prepare students to enter and succeed in an occupation in which success is dependent largely upon technical information and an understanding of the laws of science and technology as applied to modern design, production, distribution, and service.

Basic Characteristics of a Good Program of Industrial Education

A quality program of industrial education commences with a comprehensive industrial arts program at the junior high school level that provides experience in as many areas of industrial arts as possible. One semester or year of industrial arts at either the 7th, 8th, or 9th grade should be required of all students, both girls and boys, with additional courses available on an elective basis. Programs should emphasize exploration of many material areas, application of concepts from other classes, development of the students' concept of their own abilities and limitations and interpreting industry--its organization, problems and contribution to American society.

At the high school level, industrial arts programs should be available to all students on an elective basis. Emphasis should be placed on metals processing and fabrication, electricity-electronics, power mechanics, drafting-design and illustration, graphic arts, materials testing, research and experimentation, and product servicing.

Specific programs of Vocational-Industrial Education should be available to all students who desire such preparation at least at the 11th and 12th grade levels, and a broad range of different program offerings should be available. Programs of Vocational-Industrial Education at the high school level should provide for supervised practical on-the-job experience that can be arranged through cooperative education programs.

Vocational-Technical Education should be provided in an area Vocational-Technical school or post secondary school. This should be offered at no cost to the student. Post secondary programs could be operated as vocational-technical institutes, operated independently or as part of a community college.

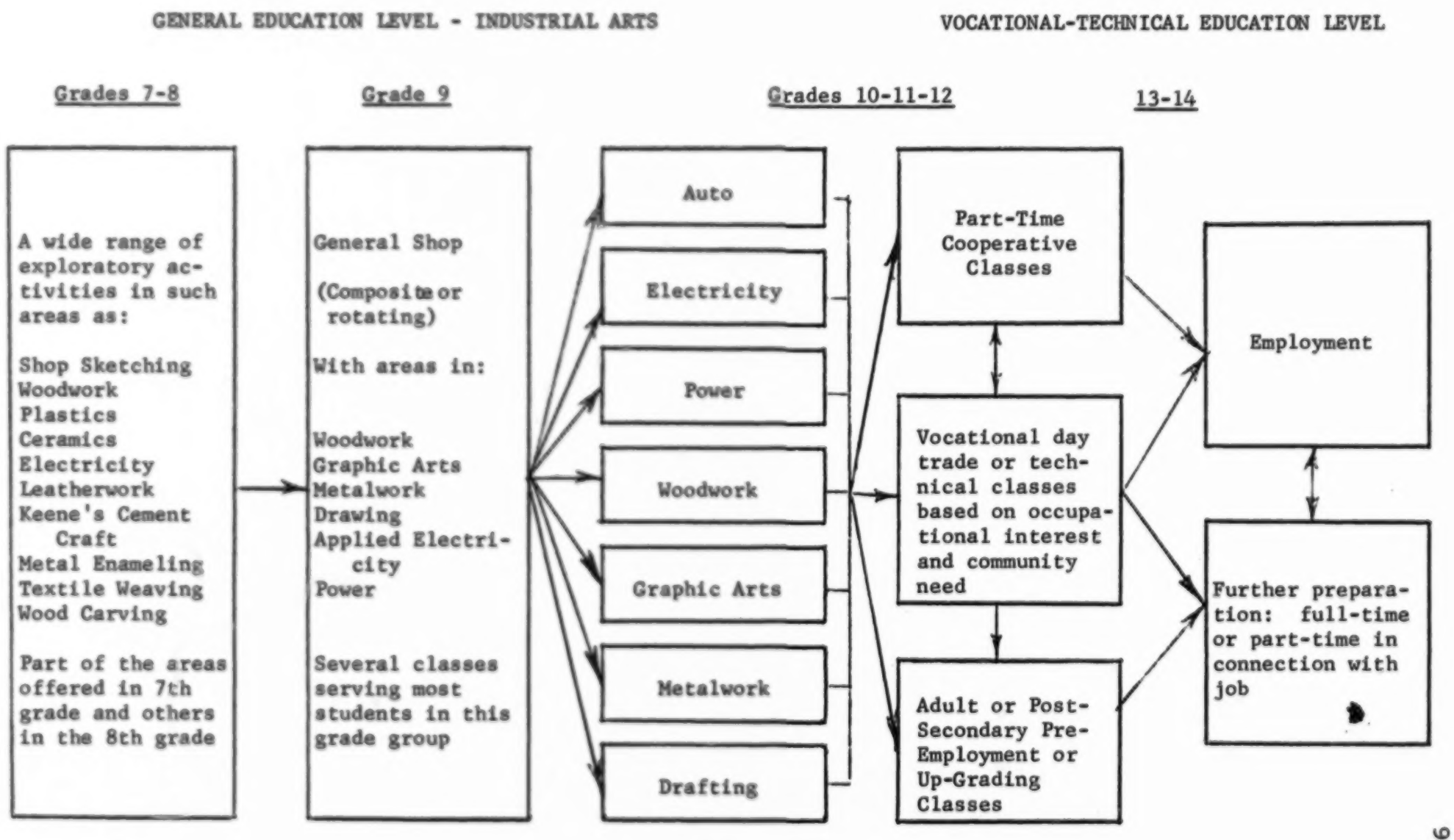
Post high school programs and courses of vocational-technical education should also be available for adults for retraining, promotion and upgrading, and general interest purposes.

In general, a quality program of Industrial Education should assist in providing for the maximum development of each student's talents and abilities to the fullest, regardless of difference in talents and abilities between individual students.

Suggested Curriculum Organization

The following graphic material is presented to suggest courses, sequence, grade placement and relationship of subjects in an industrial education curriculum. The arrows indicate patterns of movement of the student through the program. It is understood that any individual student may take more than one curricular area and, in most cases, more than one subject in an area.

INDUSTRIAL EDUCATION CURRICULUM FOR JUNIOR AND SENIOR HIGH SCHOOL



Findings

An analysis of the findings of the committee would reveal that:

1. All the schools provided instruction in woodworking and drafting. One school offered a class in vocational carpentry.

2. Five of the schools had programs in metalworking. One school offered a vocational machine shop.

3. Power mechanics or auto mechanics was included in only four school systems. One school will offer a vocational auto mechanics program during the 1965-66 school year.

4. Printing was included in only two schools, with limited enrollments in each program.

5. Electricity was not currently being offered in the industrial education departments. Two schools plan to offer courses in electricity during the 1965-66 school year.

6. Shops and laboratories are being utilized, on an average, only about 60 per cent of the time during the school day.

Recommendations

It is recommended that:

1. The secondary schools strengthen their industrial arts programs and offer exploratory training in a wide range of industrial areas.

2. Certain selected secondary schools should provide additional vocational-technical courses in their existing schools.

3. Every student should have cooperative occupational education programs available to him and participate in them if he so desires.

4. Vocational-Technical center (s) should be constructed in the Ottawa study area to provide:

   a. Intensive occupational education on an all-day basis for high school graduates or drop-outs without occupational preparation.

   b. Quality occupational preparation on a shared-time basis for those still in high school.

   c. Re-training.

   d. Supplementary training part-time for employed persons who need updating or desire advancement.

CHAPTER IX

Legislation and Finance Committee

This committee was charged with the responsibility of studying permissive legislation as it pertains to the financing and development of area facilities on a cooperative basis.

The committee was asked to suggest ways and means of financing the expansion of existing facilities; establishment of area vocational-technical school; junior college; or any combination of the above.

Purpose of the Committee

Study permissive state and federal legislation and methods of financing an area vocational-technical school. The following are summaries of permissive legislation that pertain to this study:

Michigan Act, #35, 1951--This act is a summation of the Attorney General's opinion concerning the legality of two or more school districts to establish and operate a vocational-technical high school. Vocational-technical high school being construed as a school established for training in vocational subjects or practical arts.

The Attorney General ruled on April 7, 1959, that: under Michigan Act, #35, 1951, and Michigan Act, #269, 1955, Sections 583 and 585, two or more school districts have full authority to establish and operate technical high schools.

Public Law (Federal) 88-210, Part A--The importance of this Act to our study area permits monies be provided by the state through the Federal Government for construction of facilities for the purpose of vocational training and retraining for anyone who desires and needs this type of education. Under this Act, the Federal Government authorized $177,500,000 for 1966, and $225,000,000 for each fiscal year thereafter.

It is important to note that prior to July 1, 1969, one-third of a state's allotment must be used either for construction of vocational facilities, or for a vocational education program

for persons who have completed high school (or both). Thereafter, only 25 per cent shall be used for these purposes. The Federal Government will not pay for more than half of the cost of each vocational-technical education school facility.

Amendment to Michigan Act. #190, 1962--This bill amends Act 190 to provide area vocational-technical education programs on the same basis as special education programs. The bill also provides a means for K - 12 school districts to raise additional millage to operate vocational education programs on an area basis with the intermediate school district as the taxing unit.

The intermediate district may levy millage, by referendum, on charter basis to finance the program, but does not actually operate the program. If they raised the millage they may contract with the K - 12 district to operate the program on a long term basis (not less than 15 years) and pay the total cost less any money received by the operating unit from Federal, State Vocational Education reimbursement. The K - 12 district would hold title to the capital outlay and be the controlling unit. The K - 12 districts who contract the programs must serve the intermediate district area as designated and approved by the State Board of Education. Students from other districts in the area survey would attend Area Vocational center on a non-tution basis.

Amendments to Michigan Act, #188, 1955: This Act was amended by House Bill #807 to provide the following:

1. Clarification of the role of community college in the provision of area vocational-technical education programs for persons who have graduated from high school or who are beyond high school age and for persons enrolled in high school but who need the advantages of a vocational program provided on an area basis. In addition this would permit community colleges to provide vocational programs for high school students as requested by superintendents of K - 12 districts.

   It would also permit the organization of a community college district under the provisions of Act 188 for the exclusive purpose of providing an area vocational-technical education program.

2. Permission for the Board of Trustees of the community college to expend monies for buildings and operation for community college programs both in and outside the district and, in addition, permission for community college districts to borrow money for periods up to 30 years.

3. Identification of community college districts in accordance with the new constitution as a charter unit of government with certain limited privileges and also clarification of the procedures for boards of canvassers under the various alternatives for organizing community college districts.

School enrollments for the school year of 1964-65 and state equalized evaluation for the Ottawa Study Area, K - 12, is as follows:

OTTAWA AREA VOCATIONAL - TECHNICAL STUDY

North

SCHOOL	ENROLLMENT	ST. EQ. EVALUATION
Grand Haven	5,017	90,990,369
Coopersville	2,061	14,693,271
Spring Lake	1,820	19,895,743
Allendale	421	4,490,516
Nunica	195	1,876,787
Delaney	165	1,334,281
Conklin	131	1,104,300
Sand Creek	98	818,784
Big Springs	28	491,124
Miller	closed	409,632
sub-total	9,936	136,104,807

NORTH NON-PUBLIC

SCHOOL	ENROLLMENT	ST. EQ. EVALUATION
Grand Haven Christian	381	
Allendale Christian	369	
Spring Lake St. Mary's	332	
Grand Haven St. Patrick's	232	
Coopersville St. Michael's	192	
Conklin St. Joseph	137	
Grand Haven St. John's Lutheran	105	
Lamont Christian	90	
Grand Haven 7th Day Adventist	32	
Wright 7th Day Adventist	18	
sub-total	1,888	
TOTAL	11,824	136,104,807

SOUTH

Holland	4,760	85,095,799
West Ottawa	3,411	37,356,561
Hudsonville	1,959	18,629,825
Zeeland	1,587	21,851,400
Bursley	350	4,514,511
Harrington	290	6,189,546
New Groningen	249	5,009,008
Federal	164	5,094,723
Borculo	115	1,660,148
Vriesland	91	1,155,063
Drenthe	71	881,305
Huyser	53	847,785
East Holland	48	601,358
Mitchell	18	436,974
Sherbourne	closed	819,329
Jenison	1,171	14,818,756
sub-total	14,337	203,467,961

SOUTH NON-PUBLIC

SCHOOL	ENROLLMENT	ST. EQ. EVALUATION
Holland Christian	2,793	
Hudsonville Christian	818	
Hudsonville Unity Christian	498	
Zeeland Christian	620	
Holland St. Francis De Sales	368	
Borculo Christian	163	
South Olive Christian	99	
Beaverdam Christian	74	
Holland 7th Day Adventist	27	
Jenison Christian	1,039	
sub-total	6,499	
TOTAL	20,836	203,467,961
North Public	9,936	136,104,807
North Non-Public	1,888	
TOTAL	11,824	136,104,807
South Public	14,337	203,467,961
South Non-Public	6,499	
TOTAL	20,836	203,467,961
North & South TOTAL	32,660	339,572,768
Hamilton (Public)	1,601	18,662,010
Saugatuck (Public)	581	11,354,559
Saugatuck St. Peter's (Non-Public)	108	
TOTAL	2,290	30,016,569
GRAND TOTAL	34,950	369,589,337

Conclusion

Upon completion of this study the committee felt it would be more economical to operate one good vocational-technical school rather than attempt to expand the present facilities in each school district. The committee also agreed it would be more advantageous for the student to have a greater selection of courses that an area school would provide.

The committee believes the Ottawa Area has the potential valuation and school enrollment to establish and operate an area vocational and technical school.

They also believe the best method to finance such a school would be through a special millage levied on a county basis. Areas outside the Ottawa Intermediate School District to participate in this program should do one of the following:

1. Consolidate with the intermediate school district.

2. Vote a similar millage.

3. Attend on a tuition basis.

CHAPTER X

Special Education

The Special Education Committee was asked to provide information regarding the number of physically handicapped students presently attending our schools, the types of occupational training programs now available for these people on a state or local level, and the employment opportunities present in the Ottawa study area.

Mr. Ken Heuvelman, Coordinator of Special Education for Ottawa Intermediate School District, provided the information contained in the following Special Education report:

1. How many physical handicaps do we have in our schools?

   The following list of physically handicapping conditions and number of children afflicted was obtained from a survey of the physically handicapped (birth through age 25) completed during the 1964-65 school year by the Special Education Division, Ottawa Area Intermediate School District:

   a. 15 - blind and partially seeing.
   b. 69 - hearing handicapped.
   c. 35 - cerebral palsy.
   d. 16 - cardiac.
   e. 96 - orthopedically handicapped.
   f. 48 - mentally retarded with physical handicap.
   g. 16 - other physical handicaps.
   h. 1,000- speech defects (estimated).
   (The State of Michigan recognizes children with speech defects as being physically handicapped.)

2. What types of occupational training programs do we have for these people?

   Other than adaptations made within the existing school programs for non-handicapped children, there are none.

3. What facilities and training are available on a state level or local level (a) while in school, (b) post-high school?

The State provides additional state-aid money for operating special approved programs in public schools for all of the types of handicapping conditions listed above. Children qualify for programming from birth through age 25. The State programs include the following:

a. deaf and hard of hearing.
b. blind and partially seeing.
c. crippled and otherwise physically handicapped.
d. homebound and hospitalized.
e. speech correction.
f. teacher-counselor for physically handicapped.

The State of Michigan also maintains a school for the blind at Lansing and a school for the deaf at Flint. It is recommended that any child within the Ottawa study area who qualifies should attend the appropriate State School, to maintain a program of uniform quality.

Post-high school training can be obtained through Vocational Rehabilitation for Physically Handicapped Children.

4. What are employment opportunities for handicapped persons in the Ottawa study area?

These persons must compete on the open labor market. With one exception, there is job training and placement that takes place within secondary special education programs.

The Ottawa study area is in need of a sheltered workshop to provide work experience for those who are potentially employable and work for those who are not employable.

During the 1965-66 school year, the following programs will be operated in the area for physically handicapped children:

a. 1 - teacher - counselor for the physically handicapped.
b. 2 - orthopedic or otherwise physically handicapped.
c. 9 - speech correction.
d. 1 - homebound - hospitalized.

CHAPTER XI

Cooperative Training

Cooperative training has as its primary purpose the training of in-school youth for basic competency in specific occupations which fit their abilities, aptitudes, and interests. It is an integral part of the regular instructional program which more effectively enables them to bridge the gap between school and full-time employment. Through enrollment in a cooperative training program, a boy or girl is able to continue in high school, while at the same time receiving training and supervised work experience under actual paid employment conditions.

A trainee enrolled in a cooperative program divides his time between school and a part-time job, spending approximately half his time in each. His in-school schedule includes a balanced combination of subjects required for graduation and subjects directly related to his job activities. His job time is devoted to performing tasks normally assigned to new workers in the occupation. The trainees job activities are organized in advanced, and his performance and progress on the job are supervised by the employer in cooperation with the school coordinator.

Cooperative training correlates work experience and school instruction, and thus makes the greatest possible use of the school and the community in the development of a sound education program.

In the fall of 1962 West Ottawa joined forces with Holland to expand the cooperative training program. Zeeland was added to the program starting in the fall of 1965. To simplify the operation of the program, Holland has been selected to assume the responsibility of staffing and directing the program. In addition to the Holland Area Cooperative Training Program, Grand Haven operates a cooperative training program in its high school.

There are three basic fields in which cooperative training students are placed: trade and industry, office, and distributive education. The occupations or trades which are recognized as belonging in the field of industry are included in these training courses. Cooperative industrial occupations training is a program in which the schools utilize the facilities of

industrial plants which serve as training shops and laboratories. The cooperative office program prepares students for careers in office occupations. The distributive education cooperative training program prepares youth for initial employment in retail businesses, wholesale establishments, and service industries.

CHAPTER XII

Summary -- Findings and Recommendations

Summary

The Ottawa Area Vocational-Technical Study was made to determine the type of vocational-technical training programs needed to provide a complete educational program for all people in the study area.

The findings and recommendations represent the efforts and cooperation of many citizens.

Findings

1. In 1955 there were 117 school districts in Ottawa County. Through reorganization this number had decreased to 24 school districts by September of 1965. This number will likely be reduced still further in the year ahead as all districts must become a part of a K - 12 district.

   The reorganization plans for school districts, however, should have no effect on the need nor time of implementing the recommendations for an area vocational-technical facility.

2. The population of the study area, as a whole is one of normal growth compared to the State and Nation.

   The concentration of population is located in the extremities of the county.

3. It has been indicated that the present practical arts facilities are not being used to the maximum of their capacity. The scope and content of offerings are limited in school.

4. The greatest unemployment for Ottawa County according to MESC figures are females in the 18-19 age category. (See Table 4.)

5. According to figures released by Grand Rapids Junior College and Muskegon Community College, there were 351 full-time day students enrolled from Ottawa County in the fall of 1965. These colleges have been meeting the needs of Ottawa County students desiring grades 13 and 14. As these facilities are reaching capacity, we cannot expect them to continue to serve our students if they cannot adequately meet the needs of their own community. (See chart on Junior College enrollment.)

6. There is at present little or no vocational education in the high schools of the study area.

7. In general, there is insufficient time and information provided regarding occupations and vocations in area secondary schools.

8. A majority of employers indicated a desire to see the expansion of vocational-technical education at the secondary and post-secondary levels to meet community needs in business and industry.

9. It was the consensus that the student should keep his identity with his home school for the general education programs and extra-curricular activities.

10. It was interesting to note that of the graduates responding to the survey; that 56 per cent of the 1959 graduates and 50 per cent of the 1962 graduates were working within a radius of 50 miles of the high school they attended. It was also noted that an additional 15 per cent of the 1959 and 11 per cent of the 1962 graduates were still working in Michigan.

11. Federal and State vocational funds are available to reimburse in part the cost of instruction, construction and equipment for area vocational-technical facilities.

12. Michigan Public Act, No. 246, 1964, provides that school districts may operate vocational-technical programs on an area basis with the Intermediate School District serving as the taxing and contractual unit with local school districts and/or community colleges. Where area schools are operated to provide high school level vocational training, no tuition can be charged students.

13. Michigan Public Act, No. 237, 1964, provides that community colleges may serve as area vocational-technical education units to provide both post high school education for employment and vocational education for those still in high school who need training on an area basis. The act further stipulates that community colleges, in providing such education, may expend monies for buildings and program operation both within and outside its district and may levy taxes for the purpose of providing vocational-technical education.

14. The total public and non-public school enrollment in grades 10 through 12 for the study area is 6,378 students.

    The number of students who would normally attend a vocational-technical center would fall in the range between 14 and 30 per cent of the 10th through 12th grade of the school population. Using these percentages, a potential vocational-technical enrollment of 893 students to slightly over 1,900 is indicated in addition to the post-secondary student.

15. This is not a matter of making a choice between college preparatory course and a vocational-technical program. It should be possible to qualify for college entrance and still have developed a saleable skill in one of the vocational-technical areas.

Recommendations

The Ottawa Area Vocational-Technical Study was organized to ascertain the need for expanding and improving the practical arts and vocational-technical offerings in the present secondary schools, and also to determine the existing need for one or more Vocational-Technical Centers to provide specialized types of occupational training for the secondary youth and adults in the study area.

On the basis of study findings, the following recommendations are being made by the executive committee:

1. The Practical Arts courses in the present secondary schools should expand the scope, content and offerings of the present program in general business, general agriculture, home economics and industrial arts. These exploratory courses should provide experiences to all students, boys and girls, which should serve a guidance function in determining occupational patterns in keeping with the interest, aptitude and ability of the students.

2. Local school districts should expand vocational-technical programs in certain occupational areas to provide instruction for students in their school or on a shared time basis with other public, parochial and private schools.

3. Vocational-Technical Center (s) should be constructed in the Ottawa Study Area to provide the breadth of offerings necessary in specialized preparatory, apprentice, and adult occupational areas.

4. These Vocational-Technical Center (s), when constructed, should be available to all students, whether public, parochial or private in the Ottawa Study Area.

5. The Vocational-Technical Center (s) would be financed on a county-wide millage levy in the same manner as is presently being done to meet the needs of special education in Ottawa County. One mill would provide approximately $370,000.

6. An advisory committee be formed, representing business, industry and education to determine what courses or occupational areas should be developed to serve:

   a. youth in high school who wish preparation for employment.

   b. youth who have completed or left high school but need preparation for employment.

   c. adults who have already entered the labor market and who need training or re-training to achieve stability or advancement in employment.

   d. adults who wish training for upgrading on their present jobs or for promotion.

   e. persons with academic, social-economic, or other handicaps, and who need special programs of vocational or pre-vocational education.

   This committee should also be charged with the responsibility of recommending location of vocational-technical center (s), cost, and curriculum.

7. An administrative organization should be established and a full-time director or administrator be employed at the earliest possible date to give direction to planning, construction and curricular offerings of the Vocational-Technical Center (s).

8. The local school district should provide flexibility in scheduling students' programs so that they may attend the area school.

9. Students continue to be identified with their local school for general academic programs, extra-curricular activities, and graduation.

10. With the large number of students attending community colleges and four-year institutions in the proximity of the study area, consideration should be given to a feasibility study to determine:

a. the need for a community college.

b. the possibility of school districts affiliating with established community colleges.

c. the incorporating of a community college in conjunction with the recommended Vocational-Technical Center (s).

11. Present co-operative occupational training programs should be continued and improved. To eliminate the duplication of services among the schools, these programs should be coordinated in the office of the administrator of the Vocational-Technical Center (s).

VT 001 109
Erskine, Edward J.
Macomb Occupational Education Survey, A Citizen's Report; A Blueprint for Occupational Education in Macomb County, Michigan.

Macomb County Community Coll., Warren, Mich.
Macomb Association of School Administrators, Mt. Clemens, Mich.
Michigan State Dept. of Public Instruction, Lansing. Div. of Vocational Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 66 206p.

*VOCATIONAL EDUCATION; OCCUPATIONAL SURVEYS; GRADUATE SURVEYS; SURVEYS; PARENT ATTITUDES; HIGH SCHOOL STUDENTS; STUDENT ATTITUDES; MANPOWER NEEDS; HIGH SCHOOL GRADUATES; CURRICULUM PLANNING; AREA VOCATIONAL SCHOOLS; ADULT VOCATIONAL EDUCATION; COOPERATIVE EDUCATION; TECHNICAL EDUCATION; COMMUNITY COLLEGES; HIGH SCHOOLS; STUDENT ENROLLMENT; *PROGRAM ATTITUDES; POPULATION TRENDS; EMPLOYMENT TRENDS; EDUCATIONAL INTEREST; EDUCATIONAL IMPROVEMENT; *EDUCATIONAL NEEDS; CURRICULUM; COLLEGE HIGH SCHOOL COOPERATION
MACOMB COUNTY; MICHIGAN

This survey was made to determine the present status and future needs for occupational education opportunities for the citizens of Macomb County, Michigan. National, regional, and local studies of the economy, population, and work force were utilized in an analysis of the local employment outlook. The survey information presented in the report includes responses from 516 local business employers, opinions from 5,078 high school seniors, data from 12,403 parents of 8th grade students, and responses from 27 high school principals concerning follow-up studies of high school graduates. Recommendations included are that increased effort be made to upgrade quality and expand the types of occupational education in the secondary schools, a system of area occupational education centers be established, and an intensive study of the most appropriate means of providing occupational education be a continuing responsibility of all public education authorities in the county. Suggestions are made for program improvements at the secondary, adult, and post-secondary levels. Suggested curricula for a high school-community college sequence in various occupational programs are included. (PS)

VT 001 109

MACOMB COUNTY COMMUNITY COLLEGE
EDO 30001

A BLUEPRINT FOR OCCUPATIONAL EDUCATION IN MACOMB COUNTY, MICHIGAN

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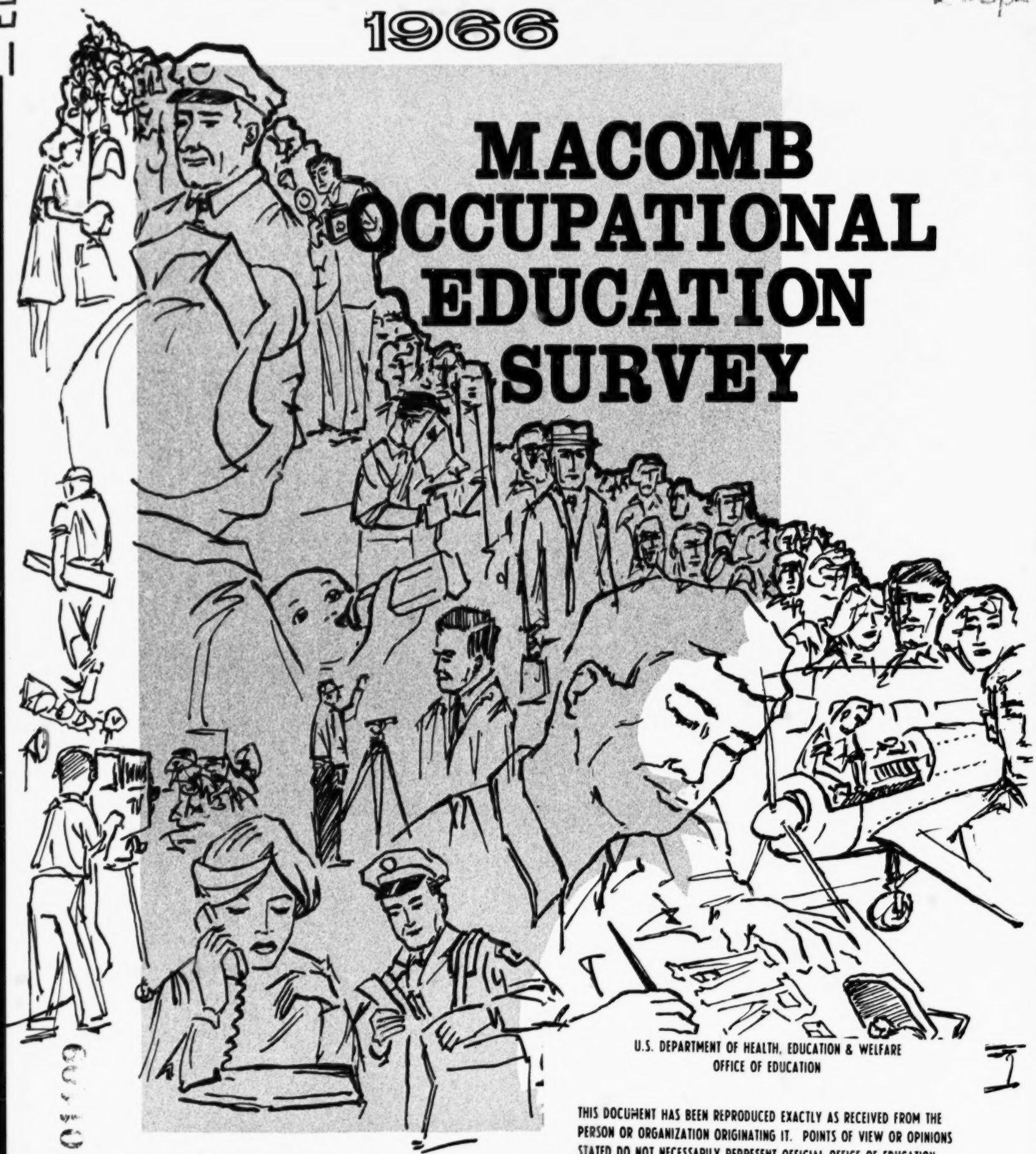
A CITIZENS REPORT 1966



MACOMB OCCUPATIONAL EDUCATION SURVEY

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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MICHIGAN DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL EDUCATION

CALENDAR FOR THE IMPLEMENTATION OF THE SURVEY RECOMMENDATIONS

YEAR	ACTIVITY
1965	Investigate the status and needs for occupational education opportunities in Macomb County. Recommend ways to coordinate, upgrade, expand articulate occupational education efforts.
1966	Enter interim agreements for sharing high school vocational programs on an area basis. Develop pre-technical programs for Community College-bound students. Secure approval for a suitable means to finance and administer the Area Occupational Education Centers from: Local School Boards State Department of Education The State Legislature Macomb County citizens Institute county-wide follow-up study of high school graduates and drop-outs as basis of program evaluation and upgrading. Coordinate adult vocational education offerings of the school districts and the Community College.
1967	Implement the Area Occupational Education Centers. Engage chief administrator and staff nucleus Lease existing buildings for operation Enter construction contracts for new sites Commence limited operation in existing schools and leased buildings.
1968	Expanded operation of programs in three Area Occupational Education Centers. Assess the implementation of the 1965 Survey and program a study of the 1970-1980 needs in occupational education programs.
1969	Program, and if necessary, commence construction of fourth and fifth Area Centers.

January 1, 1966

To all persons concerned about the role of vocational education in high schools:

It is apparent that some persons do not support vigorously vocational education as a legitimate activity of the public high school. Misunderstanding of the purposes and misinformation as to the values and achievements of occupational training are the causes of this reluctance. The Macomb Occupational Education Survey and the report of its conclusions deal with the measurement of conditions as they exist and are likely to exist in the near future. Yet, attitudes which are not vulnerable to these measurements may, in the final analysis, be more influential than the documentation of need. For this reason, and in behalf of the large proportion of Macomb County's youth whose educational needs are involved, an examination of the more common arguments against increased emphasis and support for vocational education is offered as pertinent to the consideration of the subject. No apology is made for the projected pro-vocational education views which are those of the writer and not necessarily the views of the members of the Citizens Committee.

Some Common Misconceptions Concerning Vocational Education.

I. One frequently hears that the comprehensive high school is the optimum agency for all secondary school purposes. "Comprehensiveness" is hard to define, but if the several high schools in Macomb County which offer their students significantly broader and richer programs and services are considered to be "comprehensive", then by the same definition, the majority of County high schools are something less than "comprehensive". It is also significant to note that administrators and vocational personnel of those Macomb County schools which presently are offering broader and richer vocational and specialized training have expressed their dissatisfaction with the extent and quality of their programs, when these are measured against the needs of their students.

While the comprehensive high school promotes democratization, which is a cherished American value, evidence is lacking that it offers advantages in attaining other essential educational goals. There is, however, overwhelming evidence that excellence in any endeavor is achieved through dedication and specialization. This evidence is found in the medical field, in business, athletics, the military, education, and especially in American industry which has outstripped the world because of its intensive specialization of skills and processes. The purpose of area vocational programs is to bring this dedication and specialization to the achievement of excellence. This study recommends a plan whereby the values of the comprehensive high school will be preserved, and the values of specialization will be achieved.

II. A second argument which is advanced holds that the high school vocational program is "dead end", and that the youngster enrolled in such a program is being cheated of his cultural birthright for the short-term goal of entry employability. This argument overlooks the evidence that many industrial and business leaders have "come up from the ranks", without benefit of advanced formal education, and that in the most open-ended society in the world, re-entry into the educational stream is possible at any time. Many universities no longer specify high school course requirements for entry. For many persons, this re-entry is more likely and more rewarding after they have attained maturity, saleable skills, and economic self-sufficiency. On the other hand, when vocational programs are weak and embryonic, the majority of non-college bound students terminate school without employable skills, or are compelled to seek such skills through enrollment at their own expense in other institutions. It might be asked if these persons are not being short-changed in their high school experience.

III. The numbers of high school graduates who lack employment skills is sometimes cited as proof that high school youngsters are not ready for such skills development. On the contrary, some teenagers have demonstrated the capacity to excel in art, trades, music, business, athletics, military service, writing, acting, in fact, in all areas excepting those which require a number of years of specific formal education beyond high school. These exceptional persons are a small proportion of all teen-agers, but still significant considering the lack of opportunities for teen-agers to demonstrate ability. It is not physical immaturity which inhibits the employability of high school graduates, but a rapidly changing economic and social culture which provides too few maturing experiences. It should be a fundamental purpose of public education to provide programs which supply opportunities and experiences through which youngsters can mature.

IV. A closely related belief holds that employers do not want to hire high school graduates. There is an understandable reluctance of any person to entrust his property, his health, or his business to the unskilled, the irresponsible, the immature. This reluctance would apply regardless of the age of the job-seeker. But among the essential and realizable aims of a good vocational program in the high school are the development of responsibility, proper work and safety habits, viable occupational skills, and respect for the employer, his business, and his tools.

V. Another assumption is that general education provides a better basis for future career development than does education of a specific nature such as vocational education. This is not true for all persons. One person may apply successfully the concepts of the study of physics to an understanding of the functioning of an internal combustion engine; another person might find it easier to comprehend the principles involved by the repair and adjustment of such engines. If the student's purposes include employability as a mechanic, there can be little doubt as to which learning experience holds more value. A truer reason for the emphasis upon generalized learnings in our schools may be the difficulty in securing qualified teachers who can instruct in depth in vocational and technical subject areas.

VI. Some educators profess the fear that offering occupational education programs in specialized facilities or at locations apart from the comprehensive high school implies a downgrading of the persons enrolled in such programs. This view, which is readily dispelled by asking the students themselves, overlooks recent educational developments. Area vocational programs and facilities, which have been developed to serve a population and tax base larger than the local school district are a vigorous and growing segment of education in more than half of the states. Area programs are favorably accepted by parents, students, employers, and educators. An examination of literature about area programs and schools does not disclose any movement away from the area concept and back to the individual district effort. Area vocational education is encouraged by the Vocational Education Act of 1963 and by the Michigan State Plan for Vocational Education. The absence of area occupational programs in Michigan, far from proving that such programs are inappropriate here, is the result of local district autonomy, a condition which is not the most appropriate for realistic vocational education.

Edward J. Erskine
Survey Coordinator

IF YOU ARE ...

- A PARENT
- AN EMPLOYER
- INTERESTED IN YOUTH
- CONCERNED WITH PUBLIC EDUCATION
- INTERESTED IN YOUR COMMUNITY

---- you will want to read this report on the need for occupational preparation of youth and young adults in Macomb County.

CITIZENS ADVISORY COMMITTEE

"The society which scorns excellence in plumbing because plumbing is a humble activity and tolerates shoddiness in philosophy because it is an exalted activity will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water."

John W. Gardner
Secretary of Health,
Education
and Welfare

INDUSTRY • EDUCATION • BUSINESS

MACOMB OCCUPATIONAL EDUCATION SURVEY

A Cooperative Project By Macomb County Citizens and Educational Institutions

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Macomb County Community College

January 20, 1966

School Board Members, Educators, and other
Concerned Citizens of Macomb County:

This report of the findings, conclusions, and recommendations of the Citizens Committee concerning occupational education needs in Macomb County deserves your thoughtful consideration.

Executive Committee
Macomb Occupational Education Survey

William L. Berkhof, Chairman
Urey B. Arnold
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MACOMB OCCUPATIONAL EDUCATION SURVEY

to determine the needs for occupational education opportunities in Macomb County, Michigan

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R E C O M M E N D A T I O N S

1. It is recommended that greatly increased efforts be made to upgrade the quality and expand the types of occupational education opportunities offered by Macomb County secondary schools and Macomb County Community College.

2. It is recommended that the necessity of self-fulfilling work as essential to a satisfying life experience be stressed throughout all school grades. Schools should actively cooperate with the child in identifying his own career goals and students should be encouraged, as a part of their regular school experience, to "try on" occupational roles.

3. It is recommended that the exploratory function of the junior high grades be re-identified, broadened, and emphasized. Industrial arts, homemaking, music, art, and other programs which provide opportunities for vocational and career exploration, should be widely available, imaginatively developed, and creatively taught. Opportunity should be provided for the child to discover his own interests and aptitudes through school experiences.

4. It is recommended that intensive study of the most appropriate means of providing opportunities to develop occupational and social proficiency should be a continuing responsibility of all public education authorities in Macomb County.

5. It is recommended that every student should have the benefit of interest and aptitude testing and the interpretation of the results of such tests prior to the selection of his high school program. Every student should be fully informed of the nature and purposes of the high school programs which are available to him.

6. It is recommended that efforts be made to identify each potential early school-leaver and to provide testing, remedial, and counseling services which will improve the potential school-leaver's chances for retention and success in a school program appropriate to his abilities and interests.

7. It is recommended that the senior high schools, the Community College, and the Intermediate District cooperatively institute and conduct systematic follow-up studies of early school-leavers and graduates, preferably the first and fifth year following high school graduation. The primary purpose of these follow-up studies shall be the gathering of data, evaluations, and recommendations for the improvement of education programs in the County schools.

8. It is recommended that a continuing study of high school students should be conducted to determine the quantitative and selective demand for post-high school education and the students' perceptions and recommendations for improving the quality and nature of high school experiences.

9. It is recommended that the continuing study of employment needs in the Detroit Metropolitan Area be jointly undertaken by all public agencies responsible for providing occupational education in the County. Macomb County Community College, having the capacity and resources for such research, should provide the necessary leadership.

10. It is recommended that occupational programs should be flexible and broad enough to develop competence in a broad area of skills.

11. It is recommended that occupational programs be provided for the retarded, the slow-learner, and the handicapped, so that realizable, self-satisfying goals can be determined and achieved by these persons.

12. It is recommended that special tuition-free occupational programs be developed and conducted for the out-of-school unemployed, both adolescents and adults. Such programs should be offered on local resources if state or federal programs do not meet these needs.

13. It is recommended that every high school student should be informed annually of the programs which are available to him in the Macomb County Community College, the requirements for success in these programs, and the high school program which will fit him best for entry to the Community College program of his choice.

14. It is recommended that secondary and community college occupational educators jointly develop pre-technical high school programs which will provide entry into community college occupational programs at all levels and in as many curriculum areas as can be suitably developed for employment opportunities in the local economy.

15. It is recommended that a system of Area Occupational Education Centers be established to provide adequate occupational education opportunities for public and parochial high school students in all districts of Macomb County.

16. It is recommended that the Area Occupational Education Centers should be made available for Community College programs to the extent that these can be utilized after high school students' occupational education needs have been met.

17. It is recommended that each school district make the maximum possible effort to expand and upgrade its vocational offerings for the pressing needs of their students for the period during which the Area Centers are being implemented. Informal inter-district programs should be implemented where these can be utilized advantageously.

18. It is recommended that public schools make every effort to meet the occupational education needs of students enrolled in private high schools in Macomb County.

19. It is recommended that adult vocational or continuing vocational education in Macomb County be coordinated to offer more meaningful opportunities and to eliminate destructive competition.

20. It is recommended that every high school vocational student and every community college terminal occupational program student should have a supervised work study experience as an integral part of his occupational preparation.

21. It is recommended that formal job placement services be available, preferably in his own school, to every senior high and Community College student in Macomb County. The Michigan Employment Security Commission should be solicited in advising of job opportunities. Job placement should be related to the students training and the student referred should have reasonable expectation of success in the job situation.

22. It is recommended that, excepting for adult education programs offered by the K-12 school districts, all public vocational-technical education of a post-high school level in Macomb County be provided by Macomb County Community College.

23. It is recommended that the number of occupational programs under development in Macomb County Community College should not exceed the College's capacity to do so in an orderly manner and to insure the quality of each.

24. It is recommended that the College should study the advisibility of maintaining and expanding arrangements for the use of secondary vocational-technical laboratories both in the existing high schools and in the proposed Area Occupational Education Centers for those portions of the Community College programs for which secondary facilities are adequate and available.

25. It is recommended that Macomb County Community College should undertake cooperative study and planning with other Community Colleges in the Detroit metropolitan area to coordinate calendars and schedules and to avoid duplication of technical programs wherein high instructional costs and low potential enrollments would make such duplication unwise.

26. It is recommended that an annual inventory of vocational programs, faculty, facilities, and equipment should be compiled and disseminated for all vocational education agencies in the County in order to make the maximum utilization of these. The Vocational Consultant, Intermediate District should be responsible for the preparation and administration of instruments to gather this information.

27. It is recommended that all vocational educators in Macomb County high schools and the Community College organize associations along curriculum area lines for the coordination and upgrading of occupational programs and services. Because a major responsibility of the high school should be to identify and prepare high school students for success in the Community College occupational programs, leadership in the development of these organizations should be provided by the Community College.

28. It is recommended that all occupational educators should meet at least twice annually for the purpose of promoting the educational efficiency of their efforts. For this reason, an agenda should be prepared in advance and recognized educational, industrial, or business authorities should be engaged as resource persons when appropriate for such conferences.

29. It is recommended that the Macomb County Community College offer teacher-training experiences to assist in developing and upgrading the proficiency of the County teachers in occupational instruction. The more advanced laboratories of the College should be utilized for work-shops in the emerging practices and equipment used in commerce and government. The participation and sponsorship of a state university should be secured in order that teachers may elect to participate in such upgrading for academic credit.

30. It is recommended that the commitment and involvement of employers and skilled persons be secured for the development and evaluation of occupational programs. It is advisable that a single advisory committee be formed to serve the needs in each occupational specialty for all the schools in the County.

F O R E W O R D

The accompanying report of the Macomb Occupational Education Survey attempts to determine the present status and the future need for occupational education opportunities for the citizens of Macomb County within the public high schools and the Community College. The report presents a number of recommendations, the adoption of which would, in the opinion of the Citizens Committee, narrow the gap which now exists between the occupational skills needs of our population and economy and the capacity of public education to provide training in occupational skills.

The recommendations of this report do not make reference to the traditional compartmentalized programs of vocational education which have been employed since the 1917 passage of Smith-Hughes. It is the conviction of the study staff that new and fresh approaches to occupational training are needed if educational practice is to be brought into balance with technological changes. Such new approaches clearly are intended by the terms of the Vocational Education Act of 1963, which is expected to provide significant portions of the financial support required to upgrade public school efforts in occupational education.

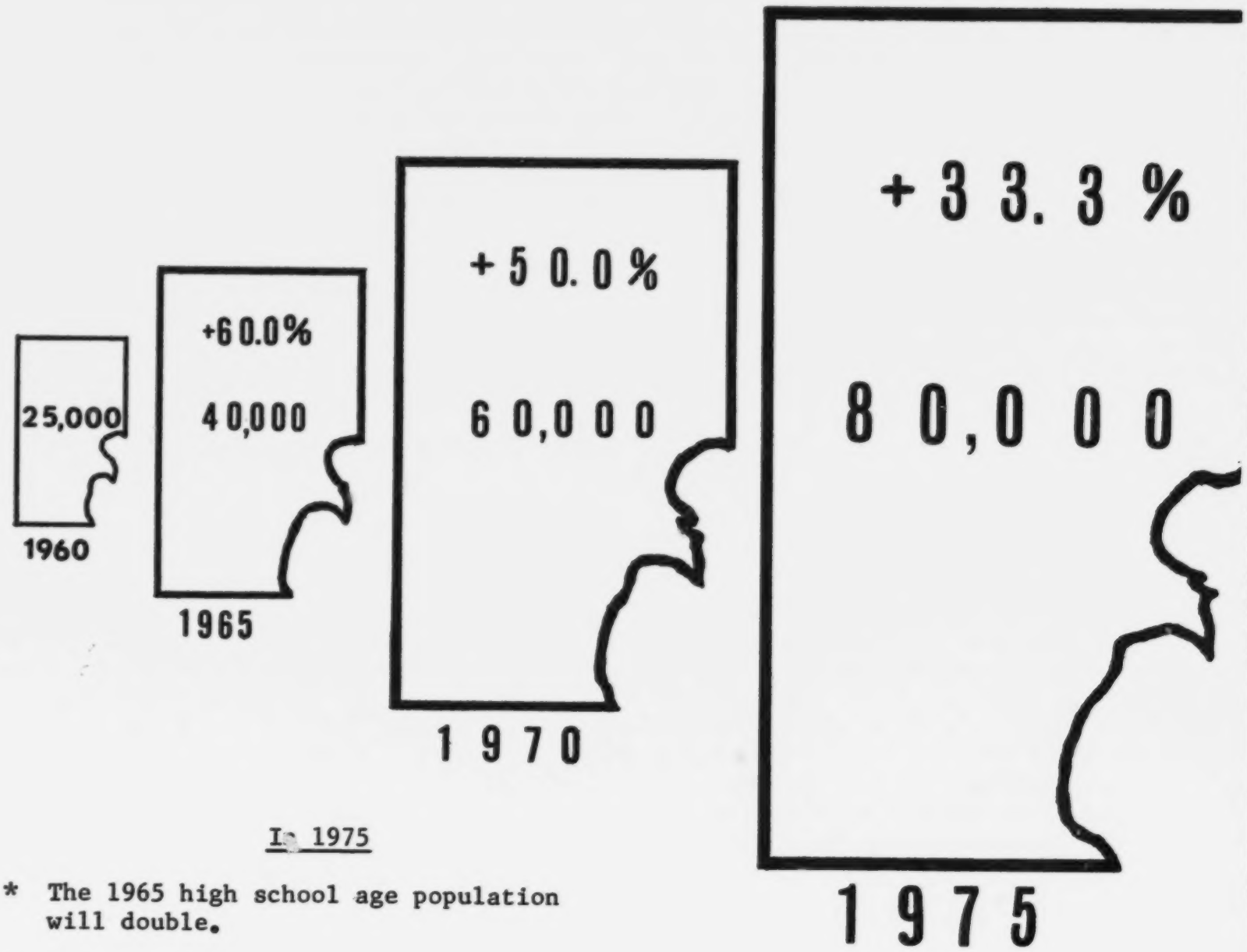
The report presents the survey's findings concerning occupational opportunities which are likely to exist during the coming decade, and the solicited opinions of concerned groups (students, parents, employers, counselors, administrators), as to the practicality or desirability of providing public training for particular occupations or groups of occupations. The report, however, purposely confines itself to suggestions concerning specific curriculum content and instructional methods. These matters are the heart of the required new approaches and must be determined by vocational and technical educators and persons expert and active in the occupational skills for which educational programs are being considered. Curriculum and method cannot be permitted to again atrophy as they have in the past, but must be fluid, experimental, and exploratory. It is for this reason that recommendations in these areas are generalized rather than specified. To secure this needed flexibility and responsiveness to technological changes in industry, commerce, and government which create demands for new occupational skills, a number of recommendations are offered which are designed to promote the continuation of occupational research, establish close articulation between high schools and the Community College, and coordinate program planning among all educational agencies in the County.

The Citizens Committee recommends a County-wide approach to meet the serious and rapidly growing need for expansion of occupational education opportunities in the County. The Committee examined the available statutory means for implementing area vocational-technical programs. In the opinion of the Committee, each of these available means has serious practical limitations. Consequently, the Committee has recommended a plan of organization and control not presently specified in State statutes. This will require either the approval of the Attorney General as to its legality, or more probably, action by the State Legislature to empower the Intermediate School District to delegate the control over the financing and operation of the proposed Area Occupational Education Centers to a special board

of control, and to authorize the encumbrance of a long-term millage issue for construction of area centers. Precedent for this latter course is found in the present statutes covering the financing of Michigan's community colleges.

At first inspection, the division of Macomb County's public educational effort among 21 local districts makes a coordination of effort seem unlikely. However, Macomb County educators have a long-standing record of cooperating to accomplish tasks which overmatch the resources of the individual districts. Joint study and planning, and where feasible, joint action have been undertaken to meet just such problems as we are now facing in vocational education.

POPULATION—AGES 15-19
MACOMB COUNTY, MICHIGAN



In 1975

* The 1965 high school age population will double.

* Twice as many high school classrooms will be needed.

* The need for employment skills will require new types of schools and the upgrading of existing schools.

* There will be a need for Community College facilities to serve more than 20,000 persons.

This Survey has attempted to determine the future Macomb County population in the high school and community college age group, and the geographic distribution of this population.

Data measuring the County population, its age-group composition, its rate of growth and geographic distribution, have been assembled. These data and their projections provide a basis for judgments concerning the extent of future need for occupational education programs in Macomb County, and in a generalized manner, the quantitative need for additional occupational education facilities and the most practical location for these.

A Committee for Population and Enrollments was formed from the Citizens' Advisory Committee. The Committee prepared a report which has provided guidance for the other studies undertaken in connection with this Survey. The Committee drew upon four main sources for the material of its report:

1. Macomb County Populations, 1960-1980, a study prepared by the Macomb County Planning Commission in 1961;

2. the Annual Expanded School Census, a joint activity of the local school districts and the Intermediate School District of Macomb;

3. the annual membership reports prepared by the local school districts; and

4. a questionnaire, prepared by the Committee, which requested each district superintendent's projection of the local district enrollments, by grade, for the 1965-1970 period. The questionnaire also measured the distribution of high school students by curriculum, and the superintendents' judgments concerning the desirability of separate vocational education facilities at the high school level in Macomb County.

The Report on Population and Enrollments has been distributed to the local school districts for their guidance. The accompanying information summarizes the Committee report and presents some additional information in support of the Committee's findings, and extends some of the pertinent data to 1975 and 1980. In addition to the previously identified resources, the United Community Services study, The Future Population of the Detroit Metropolitan Area 1965-1980, has provided age-group projections used in the study.

Significant Characteristics of the County Population.

Table P-1 compares certain features of Macomb County's population with the population characteristics of the larger communities of which Macomb County is a part. The data, extracted from the U. S. Census of Population for 1960, indicate that Macomb County is younger, more fertile, wealthier, more industrialized and urbanized than the larger parent communities. Youth, family size, and fertility ratio indicate that Macomb's population will continue to grow at higher than national rates. The relationship which exists within the Detroit area between the educational attainment of the adult population and family income differs significantly from the relationship which prevails state-wide and nationally.

Table P-1

CHARACTERISTICS OF POPULATION FOR SELECTED COMMUNITIES, 1960

	Macomb	DSMSA	Michigan	United States
Median age	24.8	29.4	28.3	29.5
Population per household	3.78	3.44	3.42	3.3
Fertility ratio	656	519	534	
Percent under age 5	15.9	12.4	12.4	11.3
Percent of persons 25 and older completed high school	41.8	40.9	40.9	41.1
Median school years completed, persons 25 years and older	11.0	10.8	10.8	10.6
Percent urban population	87.4	94.7	73.4	69.9
Median Family Income	$7,091	$6,825	$6,256	$5,660

Table P-2, which was prepared by the Macomb County Planning Commission, details the 1965 Macomb County population in the pre-school, school age, and adult groups for the cities, villages, and townships of Macomb County. The 0-4 age group contains 13% of the total population, 33% are in the 5-19 ages, and 54% are 20 or older. The 5-19 age group increased as a proportion of the total population from 28.8% in 1960 to 33% in 1965. Three of every four Macomb County residents live in a city, slightly fewer than a fourth of the total population resides in the townships, and the villages house fewer than one of every fifty County residents. Table P-2 indicates the accelerating building boom in Macomb County. The 1965 dwellings exceed the 1964 total by 8,254; an increase of 6.2%, compared to a 1964 increase of 4.2% over the 1963 total.

Table P-2

MACOMB COUNTY POPULATION & DWELLINGS MAY 31, 1965

MUNICIPAL UNIT		NUMBER OF DWELLINGS				POPULATION											
		Occupied By Child. & Adults	Occupied By Adults Only	Unoccupied Exterior Complete	Total Number of Dwellings	Pre-School Age 0-4			School Age 5-19			Adults 20 or Over			Total Population of Unit of Government		
						M	F	Total	M	F	Total	M	F	Total	M	F	Total
CITIES	Center Line	1,705	1,169	22	2,896	523	524	1,047	1,647	1,684	3,331	2,946	3,121	6,067	5,116	5,329	10,445
	East Detroit	8,022	4,659	112	12,793	2,306	2,223	4,529	8,274	7,652	15,926	13,380	14,324	27,704	23,960	24,199	48,159
	Fraser	1,699	750	170	2,619	778	751	1,529	1,734	1,674	3,408	2,430	2,474	4,904	4,942	4,899	9,841
	Memphis*	100	81	14	195	40	43	83	112	99	211	169	182	351	321	324	645
	Mt. Clemens	2,869	2,307	36	5,212	981	951	1,932	2,939	2,804	5,743	4,828	5,455	10,283	8,748	9,210	17,958
	New Baltimore*	399	350	113	862	160	155	315	445	422	867	729	775	1,504	1,334	1,352	2,686
	Roseville	8,948	4,875	169	13,992	3,724	3,574	7,298	10,190	9,522	19,712	13,584	14,043	27,627	27,498	27,139	54,637
	St. Clair Shores	14,711	7,835	238	22,784	5,047	4,855	9,902	15,159	14,599	29,758	22,965	24,271	47,236	43,171	43,725	86,896
	Utica	395	417	10	822	115	115	230	372	348	720	771	895	1,666	1,258	1,358	2,616
	Warren	27,434	14,447	438	42,319	12,128	11,494	23,622	24,305	22,874	47,179	40,683	41,399	82,082	77,116	75,767	152,883
	Sub-Total	66,282	36,890	1,322	104,494	25,802	24,685	50,487	65,177	61,678	126,855	102,485	106,939	209,424	193,464	193,302	386,766
VILLAGES	Armada	191	154	29	374	53	47	100	208	206	414	323	349	672	584	602	1,186
	New Haven	270	167	49	486	100	118	218	294	284	578	450	430	880	844	832	1,676
	Richmond	470	405	9	884	170	154	324	515	456	971	772	867	1,639	1,457	1,477	2,934
	Romeo	556	474	38	1,068	189	198	387	568	592	1,160	1,004	1,129	2,133	1,761	1,919	3,680
	Grosse Pte. Shs.* (Lake Twp.)	16	20	0	36	1	3	4	10	18	28	40	36	76	51	57	108
	Sub-Total	1,503	1,220	125	2,848	513	520	1,033	1,595	1,556	3,151	2,589	2,811	5,400	4,697	4,887	9,584
TOWNSHIPS	Armada	420	297	56	773	78	74	152	272	265	537	451	387	838	801	726	1,527
	Bruce	259	180	34	473	82	85	167	313	273	586	445	484	929	840	842	1,682
	Chesterfield	1,198	1,047	272	2,517	501	462	963	1,222	1,168	2,390	2,156	2,178	4,334	3,879	3,808	7,687
	Clinton	5,534	2,578	539	8,651	2,259	2,154	4,413	5,659	5,219	10,878	8,048	8,294	16,342	15,966	15,667	31,633
	Harrison**	2,391	2,081	146	4,618	934	894	1,828	2,236	2,117	4,353	5,640	4,236	9,876	8,810	7,247	16,057
	Lenox	387	293	50	730	165	148	313	468	432	900	706	656	1,362	1,339	1,236	2,575
	Macomb	946	559	77	1,582	341	323	664	1,038	965	2,003	1,551	1,490	3,041	2,930	2,778	5,708
	Ray	350	259	39	648	104	137	241	405	396	801	659	641	1,300	1,168	1,174	2,342
	Richmond	206	163	20	389	67	67	134	289	249	538	417	363	780	773	679	1,452
	Shelby	3,513	2,004	28	5,545	1,540	1,442	2,982	3,997	3,642	7,639	5,568	5,638	11,206	11,105	10,722	21,827
	Sterling	4,814	1,969	18	6,801	2,289	2,110	4,399	4,573	4,324	8,897	6,710	6,753	13,463	13,572	13,187	26,759
	Washington	651	367	59	1,077	240	207	447	743	606	1,349	1,028	1,045	2,073	2,011	1,858	3,869
	Sub-Total	20,669	11,797	1,338	33,804	8,600	8,103	16,703	21,215	19,656	40,871	33,379	32,165	65,544	63,194	59,924	123,118
	TOTAL	88,454	49,907	2,785	141,146	34,915	33,308	68,223	87,987	82,890	170,877	138,453	141,915	280,368	261,355	258,113	519,468

** Selfridge Air Force Base included in Harrison Township totals. * Portions outside of Macomb County are not included in the tabulations.

MACOMB COUNTY PLANNING COMMISSION

The rate of increase for Macomb County is expected to continue to exceed the growth rate of the larger parent communities as illustrated in Table P-3.

Table P-3

POPULATION PROJECTIONS FOR SELECTED COMMUNITIES

Area	1960 Population	1970 Projection	Percent Increase 1960-70	1980 Projection	Percent Increase 1970-80
United States	179,323,175	203,800,000	13.6	232,000,000	13.8
Michigan	7,823,194	9,150,000	16.9	10,800,000	18.0
Detroit Area*	3,762,360	4,414,500	17.3	5,355,000	21.3
Macomb County	405,804	614,500	51.4	855,000	39.1

A comparison of available projections of Macomb County's population is presented in Table P-4. The high projection (Column 1), was prepared by David Goldberg for Michigan in the 1970's, An Economic Forecast, by William Haber, et al.[1] The low projection, (Column 2), is derived from the United Community Services study. Column 3 indicates the projections prepared by the Macomb County Planning Commission. The MCPC projection anticipates a County-wide population growth of 65% from 1965 to 1980.

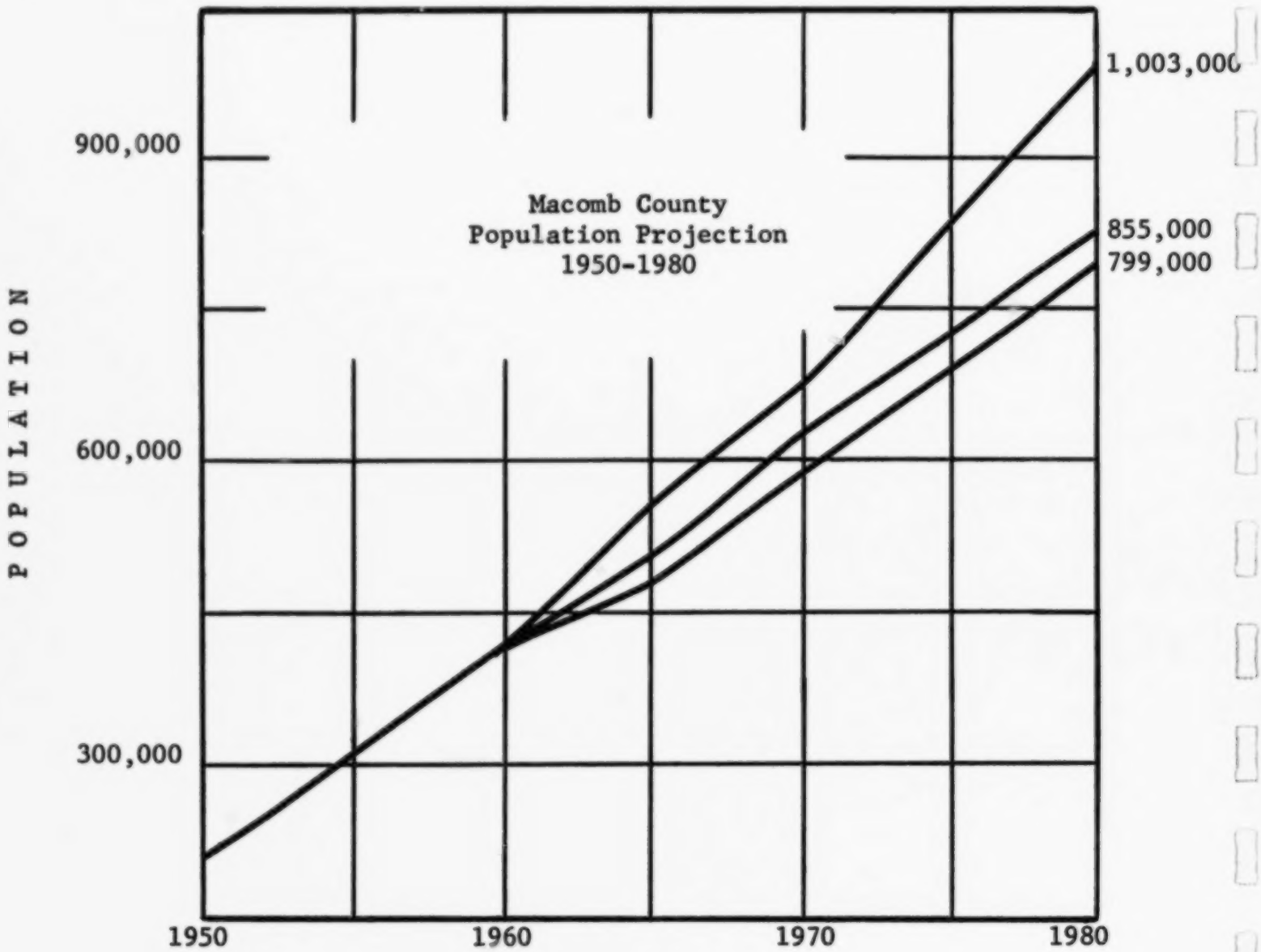
Table P-4

A COMPARISON OF POPULATION PROJECTIONS
FOR MACOMB COUNTY FROM 1965 to 1980

Year	(1) High	(2) Low	(3) MCPC	Actual
1965	532,100	491,613	509,000	519,468
1970	669,300	590,000	614,500	
1975	829,800	693,148	732,500	
1980	1,003,900	799,205	855,000	

[1]Bureau of Business Research, Graduate School of Business Administration, The University of Michigan, Ann Arbor, Michigan, 1965.

Table P-4 indicates that the actual 1960-65 increase has exceeded both the low and the middle projections, but is 12,632 less than the high projection for 1965. The projection prepared by the Planning Commission in 1961 is 10,468 short of the actual 1965 population. The Planning Commission projection appears to be the most realistic of those examined by this study, and is the only source of population projections for the political subdivisions of the County. The accompanying graph illustrates the comparative effect of each of the three population projections studied.



High projection: Michigan in the 1970's
Middle projection: Macomb County Population Projections 1960-1980
Low projection: The Future Population of the Detroit Metropolitan Area 1965-1980

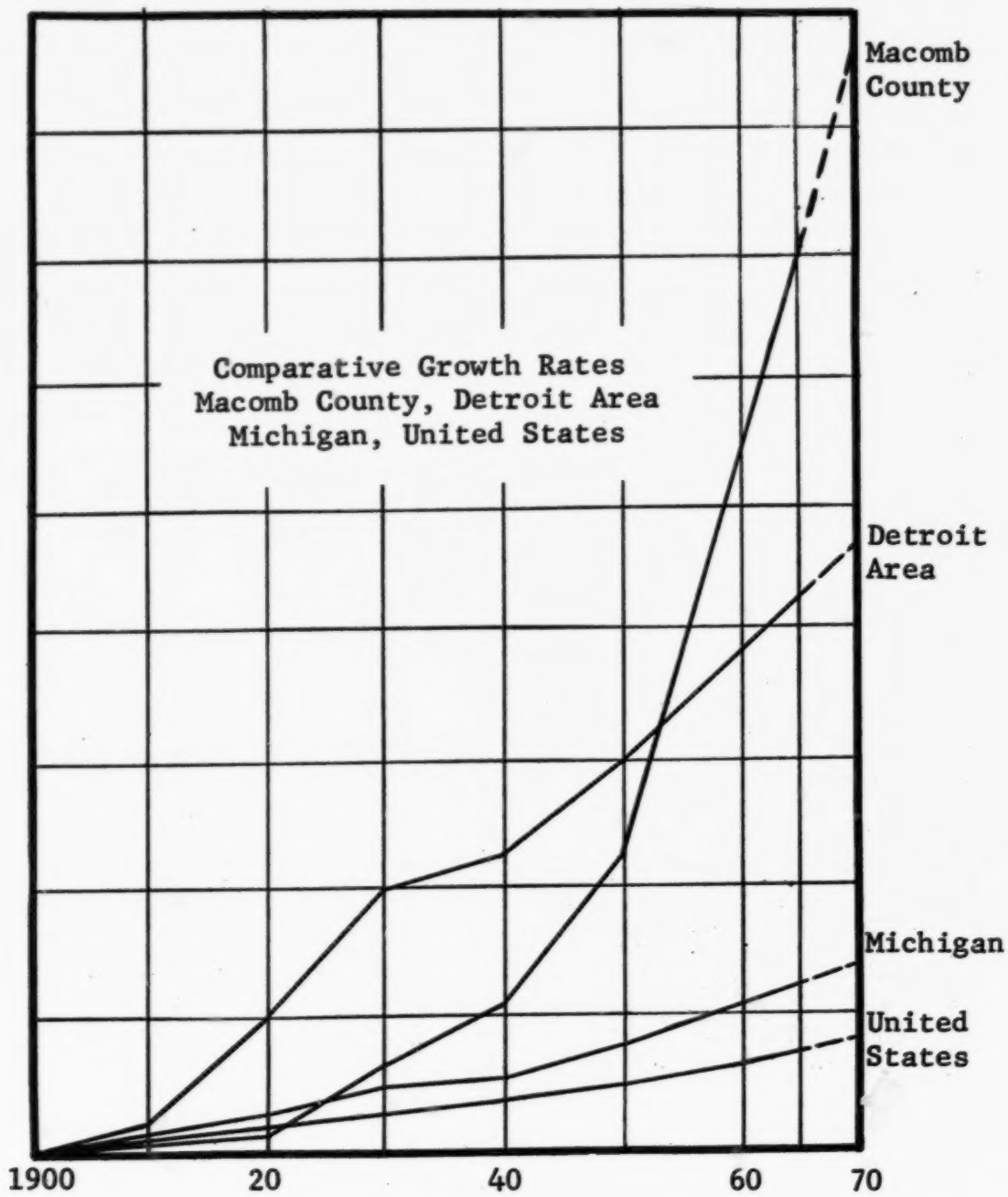
The school age population (5-19) will continue to increase as a percent of the total county population, at least until 1975.

Macomb County Population by Age Groups
Percents

	0-4	5-19	20+	
1960	15.4	28.8	55.8	405,804
1965	13.1	32.9	54.0	519,468

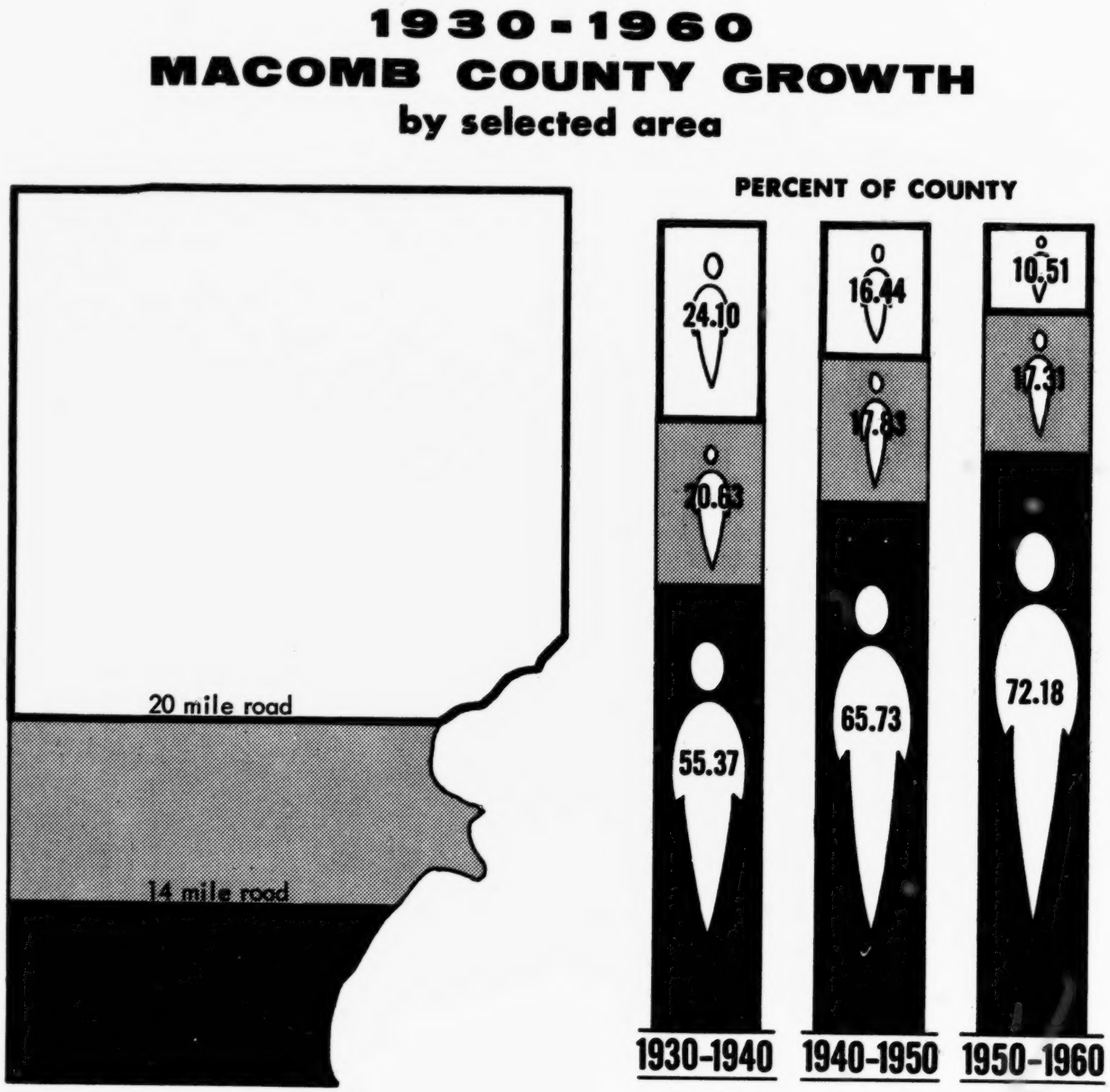
Population Growth.

The rate of population increase in Macomb County has been much greater than that of the larger communities of which the County is a part. The comparative rates of growth are indicated on the following graph. The acceleration of Macomb's population began during the 1920's; since the 1930's Macomb has been the fastest-growing county in the state.



Population Distribution.

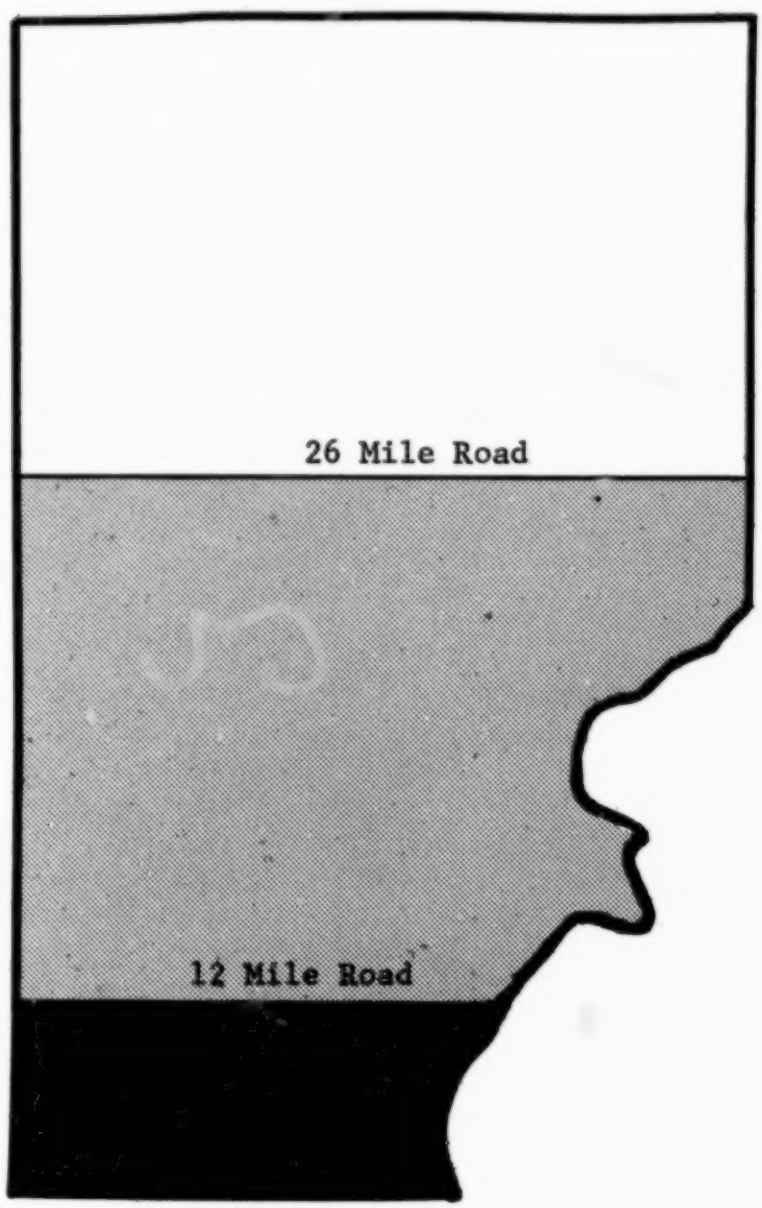
A major activity of the Survey has been the determination of the effect of anticipated population growth upon the future need for vocational technical education facilities in Macomb County. An examination of the distribution of population by areas of the County provides an indication of the quantitative need for such facilities in various localities within the County. For this purpose, the County has been divided into three regions which are characterized by significant past and anticipated future growth patterns. The accompanying graph, prepared by the Planning Commission, illustrates past County growth by regions, and indicates that 72% of the 1950-60 total growth occured between 8 Mile and 14 Mile Roads.

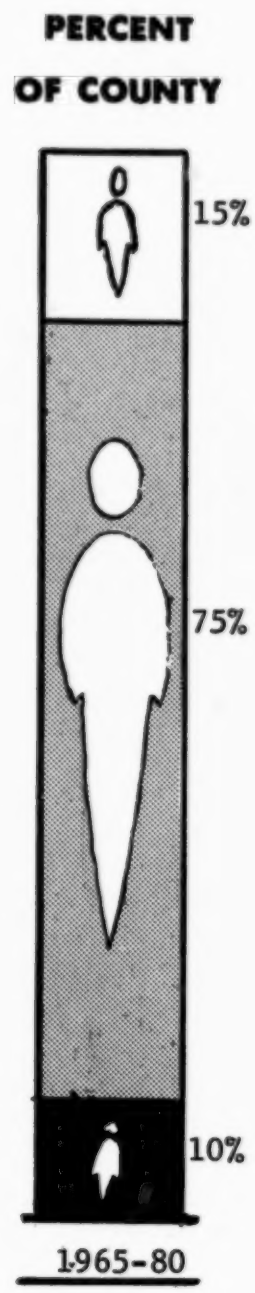


This projection of regional population growth is based upon the Macomb County Planning Commission projections to 1980 for all communities within the County, with subjective extrapolations to adjust for political boundaries which do not coincide with the 12 Mile and 26 Mile Roads.

MACOMB COUNTY GROWTH
by selected area

1965-1980





The southernmost area, extending County-wide from 8 Mile Road north to 12 Mile Road, has experienced the brunt of the post-World War II population growth. Relatively little land remains available for future residential development within this area.

The central area, extending from 12 Mile Road to 26 Mile Road, will continue to experience rapid urbanization. The major impact of the1965-1980 population growth in the County will be concentrated in this central area, which is expected to increase by about 260,000 persons. This is a gain of 135% for the fifteen year period. Population growth in the central area will account for about three-fourths of the total County increase from 1965 to 1980. The 26 Mile Road is a generalized northern limit of the area which will receive the major portion of the 1965-1980 population growth. Various expansionary factors could cause the outline of this central area to shift northward. Urbanization will not proceed evenly as a south-to-north movement, for the lack of utilities or the unsuitability for ready development of some land below the 26 Mile Road will result in relatively low growth for such areas.

Population growth in the six townships, and included cities and villages, which lie north of the 26 Mile Road is expected to account for only 15% of the County increase from 1965 to 1980. However, the rate of development of external factors could accelerate the urbanization of the north area. Some of these factors include:

the continuing economic expansion of the Detroit area

the extension of limited access highways

development of an adequate storm drainage system

extension of sewers and water lines

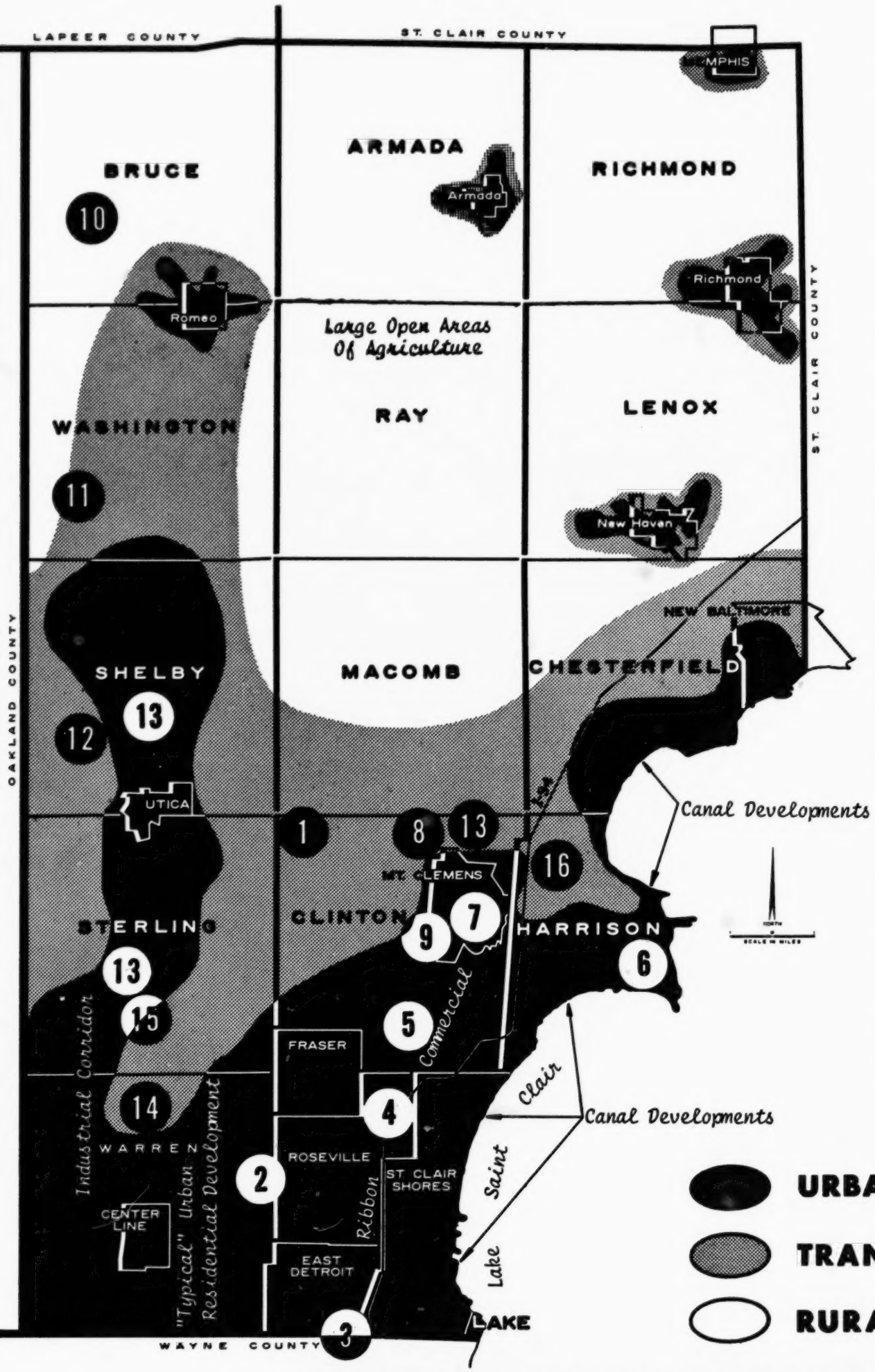
orderly land use management

cost of capital for land development and construction

property tax rates required to expand schools and other government services.

The accompanying Macomb County Profile indicates the urbanized area of the County in 1965, the rapidly urbanizing transitional area, and the rural area. This map, prepared by the Planning Commission, also identifies significant economic and cultural centers in the County. Urbanization of the central and north areas will develop most rapidly along the industrial corridors (M-53 and M-97), and major highways (US-23, M-53, M-94, M-97). Arterial road development and water line and sewer installations will cause some leap-frogging in the pattern of residential construction.

MACOMB PROFILE COUNTY



1. MACOMB COUNTY COMMUNITY COLLEGE CENTER CAMPUS
2. MACOMB COUNTY COMMUNITY COLLEGE SOUTH CAMPUS
3. EASTLAND SHOPPING CENTER
4. MACOMB MALL
5. REGIONAL SHOPPING CENTER
6. METROPOLITAN BEACH
7. COUNTY BUILDING
8. COUNTY SERVICE CENTER
9. COUNTY ENGINEERING BUILDING
10. FORD PROVING GROUNDS
11. STONY CREEK PARK
12. ROCHESTER-UTICA STATE PARK
13. FORD PLANT
14. GENERAL MOTORS TECH. CENTER
15. CHRYSLER STAMPING PLANT
16. SELFRIDGE AIR FORCE BASE

URBANIZED AREA

TRANSITIONAL AREA

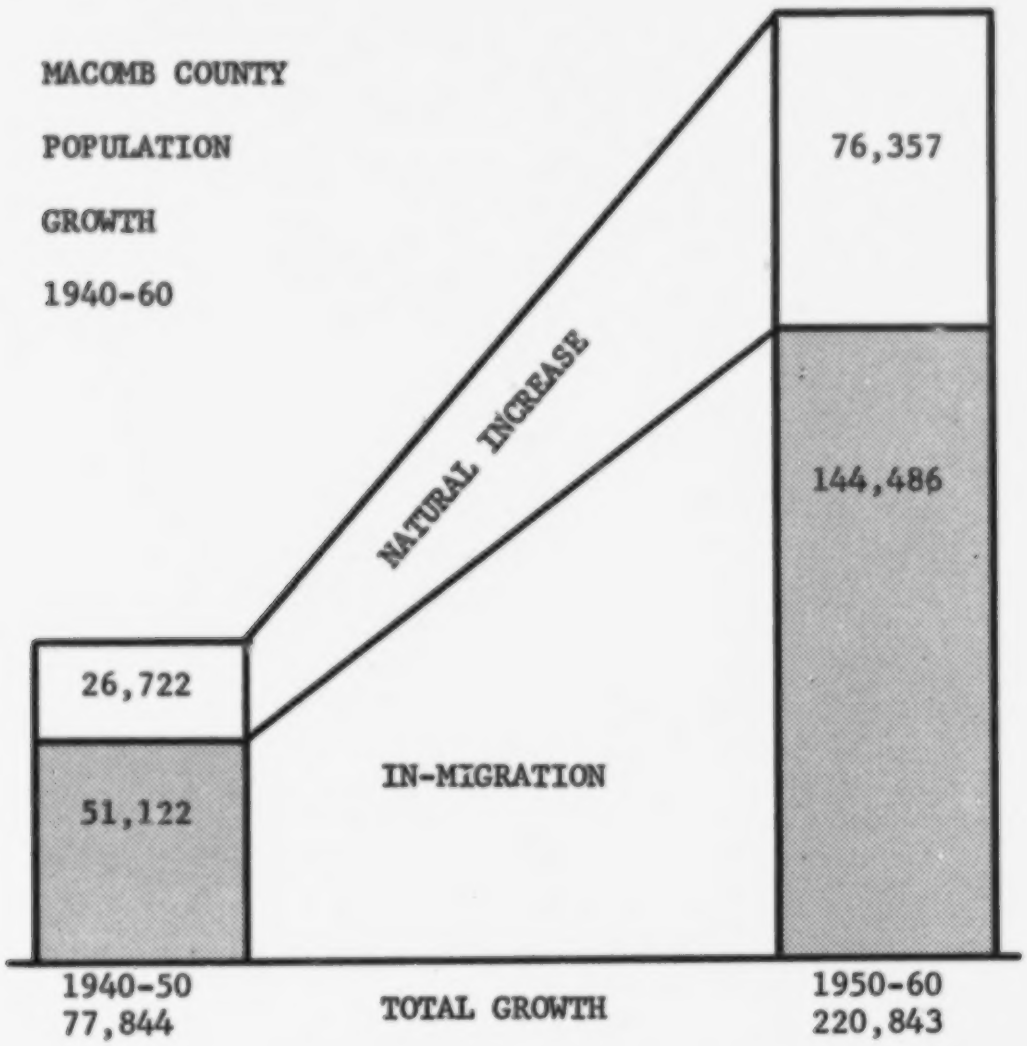
RURAL AREA

MACOMB COUNTY PLANNING COMMISSION

macomb county land use survey 1965

Natural Increase and In-migration.

The youthfulness of the County population and the large-scale increase in the number of its families indicate a continuing large number of births in the County. However, the 1964-65 decline in the birth rate nationally may be evident in the County census statistics. The 1964 population of 492,815 included 12,134 persons less than 1 year old, or 2.46% of the total population. The 1965 population of 519,468 includes 11,973 persons, or 2.30% of the total, in the under 1 year age group. Births account for slightly more than half of the net population increase of 113,664 persons from 1960 to 1965. This is in contrast to the 1940's and 1950's when in-migration brought twice the population growth which resulted from natural increase.

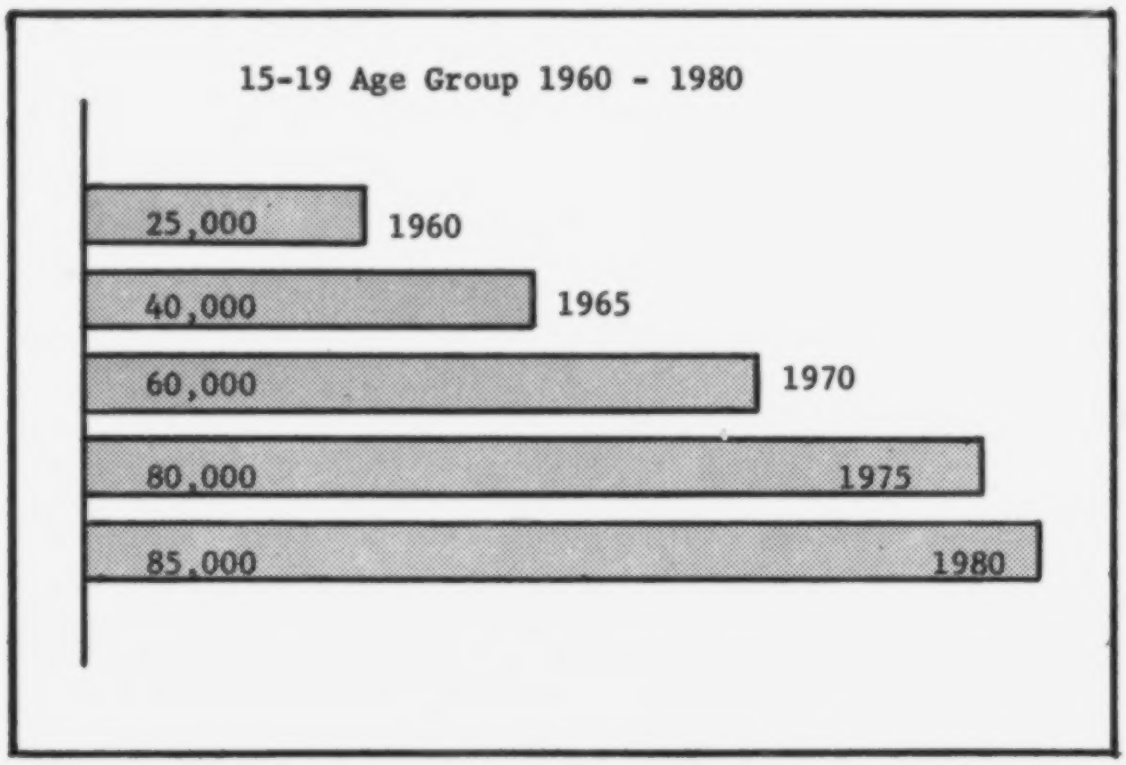


Planning Commission projections of population to 1980 assume continuing in-migration at a significant level. In-migration has added more than 10,000 persons annually to Macomb County's population for each of the past 20 years. In-migration has been high even in periods of relatively slow economic activity. The major portion of the Macomb in-migrants are received from neighboring counties.

Population in the 15 to 19 Age Group.

Identification of the age composition of the population is essential for determining the need for public services. The 15 to 19 age group, a grouping for which certain U. S. Census data is tabulated, has special significance because it contains virtually all persons enrolled in high school, the majority of all new work force entrants, new drivers of cars, and for many other such characteristics. This method of grouping has limitations; only about one fourth of all 18-19 year olds are enrolled in high school. Measurement of the age group does, however, provide the population of the largest group from which new Community College enrollments are drawn. The United Community Services study includes the projection of Macomb County populations by five-year age groups and offers a comparison for the age group projections made in this report. Further refinement of the 15-19 age group will be necessary to differentiate the high school population from the potential Community College population.

The exceptional growth of the 15-19 age group in the County population can be seen in the following graph.



Future populations in the 15-19 age group, and all similar projections in this report, have been derived by adding to each five-year age group (0-4, 5-9, 10-14), in the present resident population, the actual number of persons who migrated into the comparable age group during the 1960-65 period.

In-migration is predicted to continue numerically consistent with the 1960-65 experience for the succeeding five year periods from 1965 to 1980. Projections of migration are speculative. Fortunately, the Annual Expanded School Census identifies the 0-19 age population of the County by yearly age group and it is possible to re-assess migration projections annually.

Two sources are available for the estimation of the future size of the 15-19 age group in the County population. The United Community Services study projections are compared in Table P-5 with projections based upon the Annual Expanded School Census.

Table P-5

MACOMB COUNTY POPULATIONS IN THE 15-19 AGE GROUP, 1965-80

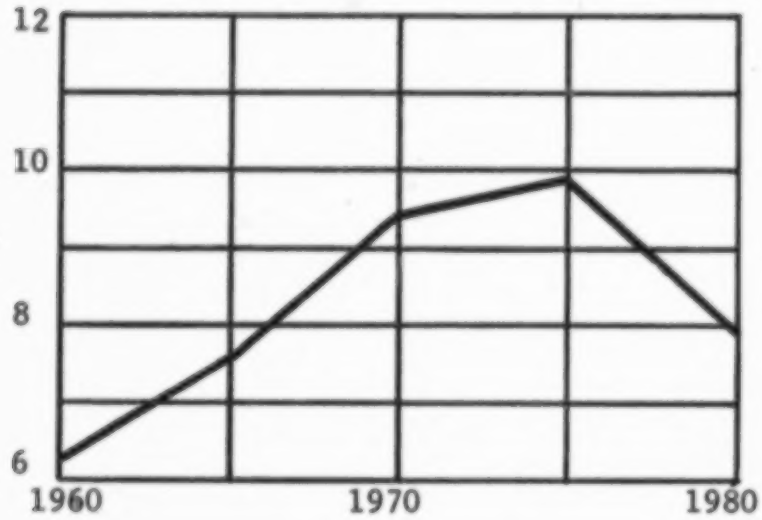
Year	UCS Projection	1965 Population	Projection based upon 1960-65 Migration
1965	44,707	39,877	------
1970	62,997	57,929 (10-14)	59,058
1975	74,838	72,771 (5-9)	78,495
1980	77,354*	68,223 (0-4)	84,298

*adjusted upward to reflect actual 1965 population in the under-5 age group.

The actual 1965 population in the 15-19 age group is 4,830 less than the UCS projection for 1965. However, the 1970 population in the age group could equal or exceed the UCS projection for that date. If in-migration continues at the 1960-65 rate for the 1965-75 and 1965-80 periods, populations in the 15-19 age group will be greater in 1975 and in 1980 than the projections of the UCS study. It seems a conservative assumption that the 15-19 age group will contain between 75,000 and 80,000 persons in 1975.

The proportion of 15-19 year olds to the total County population will increase significantly from 1965 to 1975 as indicated in this graph.

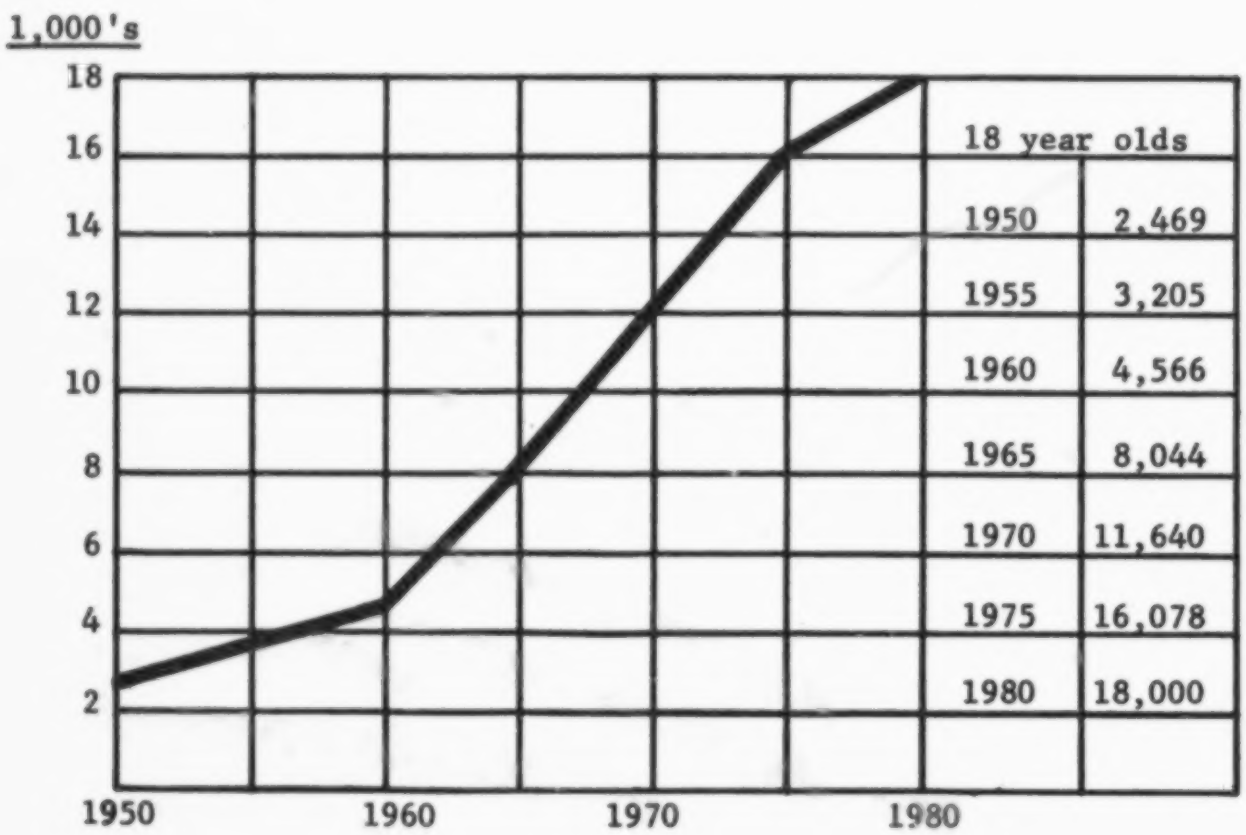
15-19 Age Group
Percent of County Population



Labor Force Entrants.

One measure of the potential increase in the labor force is determined by the number of persons reaching age 18 each year. Each year, for at least the next fifteen years, Macomb County will experience a new record in the number of persons reaching age 18. The rate of increase will be fairly regular and will average an additional 800 18 year olds annually from 1965 to 1975.

Number of 18 Year Old Persons
in Macomb County 1950 to 1980



Senior High School Enrollments, 1965-1980.

Measurement of the future senior high school enrollments cannot be made precisely. An examination of the school participation rate for age groups and judgments concerning changes in this participation rate can be coupled with present population and anticipated in-migrants to project the future enrollments in Macomb County senior high schools.

The majority of 12th grade students are 17 years old, 11th graders, 16 years old, and 10th graders, 15 years old. The greatest variation from this pattern occurs in grade 12, in which approximately one third of the 18 year olds and somewhat fewer than one fifth of the 19 year olds are enrolled. This older group is offset by a small number of persons who graduate before attaining age 17, and by a larger group of 17 year olds who are enrolled in grades lower than grade 12. Similarly, some 16 year olds have not attained grade 11. Significantly more persons require more than three years to complete grades 10-12 than complete these grades in less than three years. The consideration of these factors, and making some reservation for the numbers of 15-17 year olds in the County population who are institutionalized, in ungraded special education programs, attending schools outside the County, or have terminated school before high school completion, indicates that enrollments in grades 10-12 will be greater than the number of 15 to 17 year olds enrolled in school, but less than the total number of 15 to 17 year olds in the County population. The following table indicates the ratio of population by age to grade enrollments. No adjustment has been made for migration during the period from May, when the census was taken, to October, when school enrollments were counted.

Table P-6

COMPARISON OF POPULATION AGED 15-17 AND HIGH SCHOOL ENROLLMENTS

Age Group	Population May 31, 1965	Enrollments October 1, 1965	Ratio of Age Group to Grade Enrollments
15	9,308	10th- 9,153	98.3
16	9,182	11th- 8,247	89.8
17	8,565	12th- 7,163	83.6
15-17	27,055	24,563	90.8

While enrollments in grades 10-12 are equal to 90.8% of the County population in the 15-17 age group, the factors pointed out above indicate that the school participation rate of the group is significantly lower than this. The 1960 Census data for Macomb County reported the school participation rate for 16-17 year olds as 84.1%. Reports submitted by Macomb County high school principals indicate that 20% of the public high school student body terminate school before graduation. For every 100 Macomb County residents who entered 9th grade in September, 1960, only 81 persons graduated from high school in 1965, despite a gain of in-migrants over out-migrants in the age group.

The long range trend toward retaining in school a higher proportion of the school age population will continue, but at a decreasing rate. U. S. Census data reveals this trend for 16-17 year olds in Michigan.

Table P-7

ENROLLMENT OF 16-17 AGE GROUP IN SCHOOL, MICHIGAN - 1930-60

Year	1930	1940	1950	1960
Percent Enrolled	61.7	73.1	80.2	84.1
Increase Over Previous Period	----	11.4	7.1	3.9

Table P-8 indicates possible high school enrollments from 1965 to 1980. In addition to an increasing school participation of the 15-17 age group, a significantly higher proportion of 18-19 year olds are expected to remain in high school until graduation. Based upon these assumptions, high school enrollments in 1970 are expected to exceed the 1965 participation rate by five percent of the 15-17 age group, and by ten percent in 1975.

Table P-8

MACOMB COUNTY POPULATION AGED 15-17
AND POTENTIAL HIGH SCHOOL ENROLLMENTS

Year	Population	Grades 10-12 at 1965 Participation Rate	+5% of age Group	+10% of age Group
1965	27,055	24,545	----	----
1970	38,646	35,052	36,984	38,917
1975	49,818	45,185	47,676	50,167
1980	51,677	46,871	49,455	52,039

The high projection for 1970, 1975, and 1980 would probably be achieved with the participation of 90% of the 15-17 population. Participation rates well above this figure are being attained already by some school districts in the Detroit area.

Other factors which may increase future County high school enrollments include:

increasing migration into the County,

more rigid compulsory attendance statutes,

changing economic conditions,

effects of government social welfare programs, especially those designed to keep the potential dropout in school, or to re-enroll the early leaver,

school programs which are realistic to the interests and capacities of the majority of the school age group which is not identifiable as college-bound.

Superintendents' Estimates of Enrollments.

Estimates of September, 1969 enrollments in grades 10-12 were prepared by the superintendents of the 21 local school districts. Table P-9 presents these projections by districts.

Table P-9

ENROLLMENTS IN GRADES 10-12 MACOMB COUNTY SCHOOL DISTRICTS

North Area		Central Area	
Anchor Bay	575	Chippewa Valley	653
Armada	314	Clintondale	752
New Haven	295	Fraser	1,036
Richmond	373	L'Anse Creuse	1,343
Romeo	800	Mt. Clemens	1,445
		Utica	3,240
Total	2,357	Total	8,469
Southeast Area		Southwest Area	
East Detroit	2,820	Center Line	1,131
Lakeview	1,750	Fitzgerald	1,210
Roseville	3,094	Van Dyke	1,320
St. Clair Shores	1,940	Warren	4,734
South Lake	940	Warren Woods	1,370
Total	10,544	Total	9,765
Total Public Schools			31,135
Projected Parochial 10-12 Enrollments			2,500
Total all schools - grades 10-12			33,635

The addition of County parochial enrollments, including an increase based upon the past ten years' experience, indicates a County-wide enrollment in grades 10-12 of 33,635 in September, 1969. This is 585 students more than projected by this report if no reduction in the school dropout rate is achieved between 1965 and 1969. If an additional 1% of the 15-17 group participates in school each year, as predicted by this report, the September, 1969 enrollment will be 34,505, or 870 more students than the total of the district superintendents' projections. The differences between these projections do not seem extreme considering the wide array of criteria which may have been used in the 21 local district estimates and the conceded imprecision of population and enrollment projections such as those presented in this report.

Future Vocational Enrollments in Senior High School.

Data is not available which identifies the future quantitative need for particular high school programs of study. Some generalizations can be made from the existing enrollments coupled with judgments concerning future trends. Various activities of the Survey attempted to measure the present enrollments by program of Macomb County senior high school students.

Table P-10

ENROLLMENTS BY PROGRAMS MACOMB COUNTY HIGH SCHOOLS, 1965

Source	College Prep	Vocational	General
Students	42.5	33.4	24.1
Principals	37.4	32.0	30.6
Superintendents	40.0	37.0	23.0
Averages	40.0	34.	26.

The greatest variation in these identifications of student enrollments by programs exists between the principals' and superintendents' estimates of the proportion of high school students who are not enrolled in either the college preparatory or a vocational program of studies. Superintendents reported that 23% of the high school students are general program students; high school principals report one-third more students in this group.

The measurement of present enrollments in vocational programs have only limited value in determining future need for vocational programs. Enrollments may result from what is not available rather than what is available. Poor programs draw few students; non-existent programs enroll no students. The present high enrollments in college preparatory and general programs, (66 of every 100 Macomb County high school students) seem unrealistic in view of the numbers of students who intend to seek employment upon high school

graduation, (48 of every 100 seniors in 1965). Of Macomb County parochial high school seniors, 49.3% were enrolled in college preparatory programs compared to 41.9% in public high school. There is no evidence that more parochial students in the County continue on to college than do public school graduates. There is, however, ample evidence that parochial students have less opportunity to enroll in vocational programs. More pertinent indication of potential enrollments may be found in the reports of 1965's seniors. Sixty percent of all students, and three fourths of those enrolled in the general program, definitely or probably would have taken a vocational program if a wider choice of such programs had been available when they entered high school. Fewer than one tenth of the seniors rated the choice of courses now offered in high school as "excellent."

The Annual Fall Statistical Report (Form DS-A) submitted to the Michigan Department of Education provides an indication of the high school graduates' enrollment in college. These reports are, to some degree, prepared from high school students indications of intent while still enrolled in high school.

Table P-11

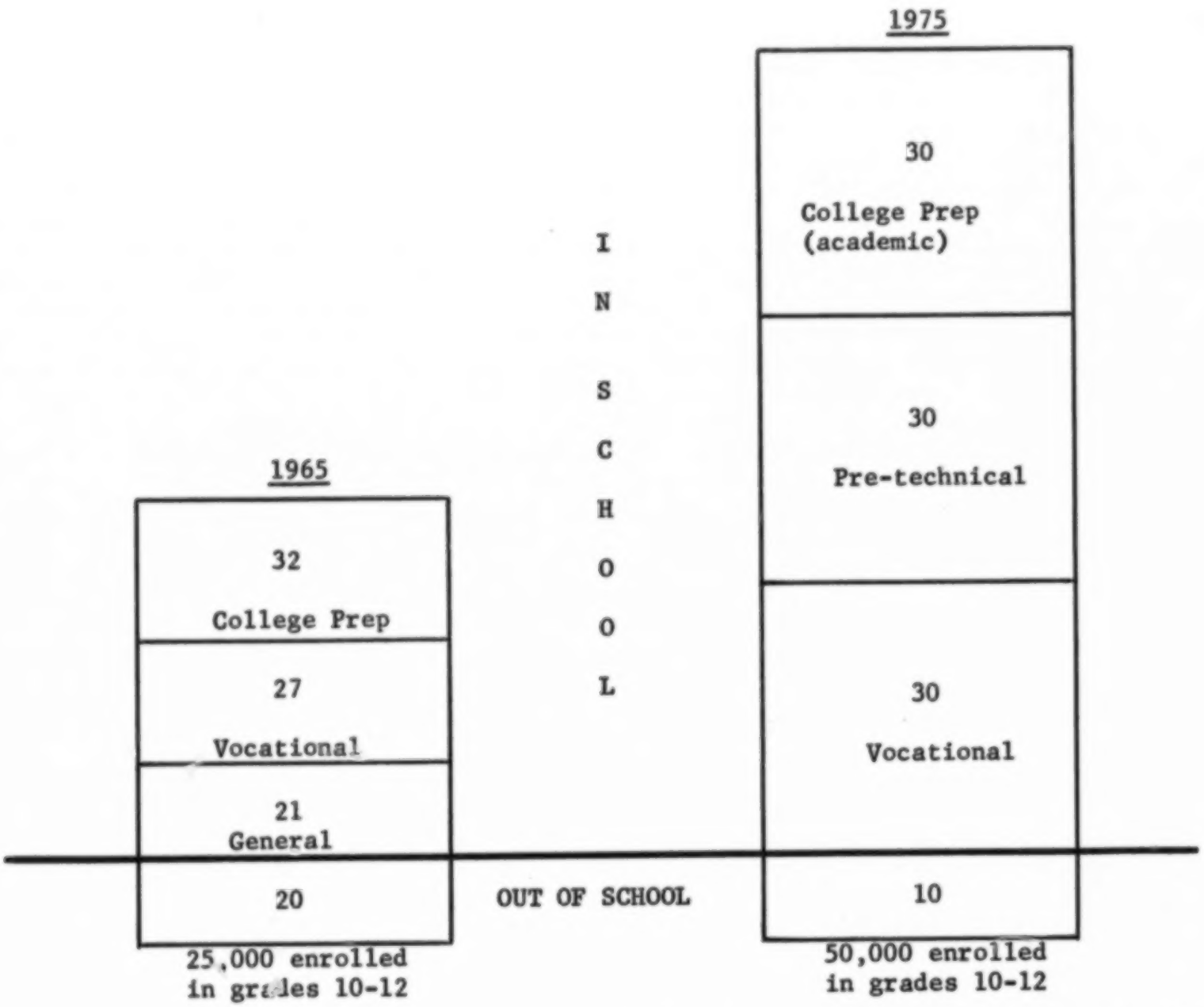
COLLEGE ENROLLMENTS OF MACOMB COUNTY HIGH SCHOOL GRADUATES
1962-64

Year	Percent enrolling Colleges, Junior Colleges, Universities	Percent enrolling Business Schools, Trade Schools, etc.	Percent not enrolling
1962	31.1	8.8	60.1
1963	32.4	7.4	60.2
1964	31.3	5.2	63.5

Comparison of Tables P-10 and P-11 indicates that, even if all persons enrolling in college had followed a college preparatory program in high school, only three of every four such persons actually proceeds to college upon high school graduation. Table P-10 indicates that 6 of every 10 high school graduates, at least for a time, enters the work force upon high school completion. An additional twenty percent of the high school age group have terminated school before high school completion, and are presumed to be in the work force.

A distribution of 1975's high school students in programs more realistic to their own and society's needs is presented in the following graph. Senior high school enrollments will be 50,000, double today's. While the projected participation by program may seem idealistic, actually these, or any more desirable distribution, can be achieved if suitable opportunities are made available. The most influential determinant in students' program choice is the quality and variety of the choices available.

1965 ACTUAL AND 1975 POTENTIAL DISTRIBUTION
OF MACOMB COUNTY HIGH SCHOOL AGE GROUP BY
ACADEMIC PROGRAMS



Of every 100 persons in the Macomb County high school age group today, 20 are school dropouts, and 21 are identified as general program students. Expanded high school vocational programs for employment-bound youth are predicted to cut the dropout rate in half by 1975. The development of high school pre-technical programs designed to prepare youth for occupational programs in the Community College should virtually eliminate the practice of classifying non-program students as "general program" students.

Under the grouping visualized for 1975, 16,000 students would be enrolled in each of the three major high school programs, college preparatory with academic emphasis, pre-technical as preparation for Community College occupational programs, and vocational for direct job entry.

Implications of the Population Growth and Increasing School Participation.

No attempt has been made to measure the adequacy quantitatively of existing senior high schools facilities in Macomb County. Assuming that present high schools are being utilized to capacity, a doubling of present facilities from a capacity of 25,000 students to 50,000 students in 1975 is indicated by the projected population growth alone. The trend toward retaining in school a larger proportion of the high school age population will likely add another 10% to the needed capacity by 1975.

The need for additional classrooms will not be a County-wide problem, but will be concentrated in the school districts serving the population residing between the 12 Mile and 26 Mile Roads, and to a lesser extent, north of the 26 Mile Road. If the adequacy of the vocational education facilities existing south of 12 Mile Road could be assumed, there would be little additional need for such facilities in this area. Examination of student enrollments by programs, the judgments of high school principals, and the Survey study of the existing facilities and programs in vocational education do not support this assumption. Vocational programs and facilities in the South Macomb area can only be evaluated as better than programs and facilities found in the central and north County regions. Measured against student needs and the nature of entry employment opportunities, the need for improved occupational programs and facilities is critical County-wide.

Each year will see a record number of 18 year olds in the Macomb County population, averaging an increase of 800 over the previous year. The adequacy of the preparation of these persons for employment or for further education is of concern to all.

This report raises the following questions:

What types of new school facilities will serve best the needs of the school age population in a changing economy?

Where should these facilities be located for the greatest utility?

Will it be more practical to provide some types of education on bases larger than the individual school districts?

How can new facilities be most practically and equitably financed?

Subsequent chapters of this Survey report will attempt to provide guidance in determining the answers to these questions.

EMPLOYMENT OUTLOOK FOR MACOMB COUNTY YOUTH
1965 - 1975

The Detroit Metropolitan Area of Wayne, Oakland, and Macomb Counties Offers Many and Varied Opportunities for Satisfying Careers...

TO

....1975's Labor Force Which Will Be 28% Larger than 1960's Labor Force...

WITH

....15 to 24 Year Olds in the Labor Force Increasing by 85%...

Job Opportunities Will Increase at About the Same Rate

BUT

....Unskilled and Semi-skilled Jobs Will Not Increase...

AND

....Young People Entering the Labor Force Without Adequate Job Skills Will Face Unemployment...

UNLESS

....Our Educational System Meets the Challenge of Our Changing Technology

MANPOWER NEEDS 1965 - 1975

The Need for Analyzing Employment Trends.

Occupational education is effective to the degree that programs are developed and offered upon the study and analysis of present and emerging employment characteristics within an area which can be most effectively utilized for the placement of persons trained in such programs. Past occupational program planning essentially consisted of the expansion of existing programs to accommodate rising enrollments. Federal and state reimbursement policies have compelled a rigidity in programs which have ignored changing employment patterns. For example, reimbursement of school programs in agriculture and homemaking as vocational subjects have had little relationship to the employment opportunities in these fields; while office occupations, a major emerging job entry field, has not benefited from federal reimbursement until quite recently. The rapidity and breadth of technological changes in our productive processes have made further continuation of planning occupational programs for the past an untenable practice. The social costs for society and the individual are exorbitant. As a consequence of this failure to keep pedagogy abreast of technology, the once reasonably adequage, though non-directed, relationship between the skills requirements of our economy and the development of our educational institutions has been seriously dislocated. This dislocation has gone unattended as we have failed to reinvest a sufficient share of our capital increment in education.

The unrelatedness of public education to employment needs has been aggravated since 1957, when apparent deficiencies in the preparation of scientists gave impetus to a massive upgrading of the college preparatory function of the U. S. high school. As a consequence, high school students in 1964 reported by a seven to one margin that the high school favors the college-goer's needs over the needs of the employment-bound student. This is a 50% increase over the proportion of students registering the same opinion in 1953, four years before SPUTNIK triggered the adoption of the National Defense Education Act.[1]

One consequence of ignoring the educational needs of the non-college bound majority is that many opportunities for employment in highly skilled categories are not being exploited. At the same time, a significant number of persons are seeking employment at levels where there are insufficient jobs to meet their demands. This imbalance between jobs and job-seekers is most alarming at the low-skills level, but it is also experienced by college graduates who lack specific skills. Secretary of Labor, W. Willard Wirtz, has expressed the human aspect of the problem as it applies to the untrained: "There is no future in this country for the unskilled worker. What has been his job is going to be done by machine."

[1] Youth's Attitude Toward School, Teenage Employment Problems, and Women Working, Measurements and Research Center, Purdue University, Lafayette, Indiana, January, 1965. p.4.

There are risks inherent in attempting long-range projections of the employment characteristics of the national or local economy. Factors which cannot be measured precisely, such as new inventions, productive changes, changes in consumer demand, population migration, and domestic and international political developments, will unbalance the most carefully drawn projections. The need for the best available estimates of emerging economic trends and the consequent changing needs for labor is so vital to the planning of effective occupational education programs that the effort must be made despite the risks of error. Any errors made in venturing such projections are sure to be less costly than the certain consequences of avoiding this responsibility.

Sources of Data.

The most comprehensive source of information on employment by occupations and industries for the Detroit area has been data provided by the decennial population census. Between census years, estimates of employment are issued in the Monthly Report on the Labor Force which is based on a nation-wide sample survey of 35,000 households, and reports of the Michigan Employment Security Commission. Unfortunately, information on the details of the future demand for labor is not in proportion to the need for this information in educational planning. The needed information can only be derived from a continuing analysis of all factors affecting demand for workers in each occupation and industry, the assessment of how these factors may operate in the future, and the projection, based on judgment, of the combined effects of these factors on future skills requirement.

Some current research activities hold promise for planners of occupational programs. The Battelle Memorial Institute of Columbus, Ohio, is currently analyzing the future labor market in Michigan and the Detroit Metropolitan Area, under the sponsorship of the Michigan Employment Security Commission, the Michigan Department of Education and the Michigan Department of Economic Expansion. The U.S. Department of Labor has made grants to many universities throughout the country, for research of the complex of factors affecting the growth of occupations. This information will be available to schools as these studies are completed.

The U.S. Bureau of Labor Statistics' current revision of the Occupational Outlook Handbook, which will be available in 1966, is making occupational projections by industries identified to the three-digit level of the Standard Industrial Classification Code.

In addition to these sources, the following studies of the national, regional and local economies, populations, and work forces have been utilized in this analysis of the local employment outlook which has been prepared for the use of educators as a basis for the planning of effective programs of occupational education in Macomb County.

Michigan in the 1970's, An Economic Forecast,
William Haber, W. Allen Spivey, Martin R. Warshaw;

Manpower in Michigan, A Reappraisal of the 1960's,
Michigan Employment Security Commission;

Future Population of the Detroit Metropolitan Area, 1965-1980
United Community Services of Metropolitan Detroit

The Detroit Area Economic Fact Book, 1965
Detroit Area Economic Forum

Occupational Outlook Handbook, 1963-64 Edition,
United States Department of Labor

"Unemployment and the American Economy," a mimeo paper on the proceedings of a special conference at the Brookings Institute, June 25-26, 1964.

Identification of the Local Labor Market.

The labor market is the focus of attention for an analysis of occupational opportunities. The labor market is a recognizable area which provides a fixed number of persons within a given region, at a given time, with employment or potential employment. The three counties, Macomb, Oakland, and Wayne constitute the labor market which can be most usefully studied to identify the local needs for occupational education and which can be profitably exploited by such programs. The Bureau of the Census recognizes the economic unity of this region and much of the population and economic data of the Census is reported for the three counties as a unit identified as the Detroit Standard Metropolitan Statistical Area (DSMSA). The Michigan Employment Security Commission utilizes the same region for reporting labor force and employment data. The practicality of this is borne out by local employment characteristics. Of Macomb County's 1960 work force, 47.6% were employed outside of Macomb County, and the corresponding figure for Oakland County was 39.8%; only 16.6% of the three-county labor force were employed outside the Detroit Metropolitan Area. The occupational analysis prepared for this report uses the Detroit Metropolitan Area as the local labor market, unless otherwise noted. Table L-1 illustrates that the Detroit area's employment by occupation is a virtual microcosm of the national picture. This is a happy circumstance for it provides a richness in the variety of opportunities for employment and a degree of assurance of employability for skilled workers who migrate to other areas. This indicates that Macomb County schools can be somewhat provincial in the determination of the labor needs for which youth are to be trained, and that local curriculum planning can be based upon national labor needs studies with a minimum of adaptations for local variations.

Table L-1
OCCUPATIONAL GROUPING OF EMPLOYED MALES FOR MACOMB COUNTY
DETROIT METROPOLITAN AREA, MICHIGAN, AND THE UNITED STATES, 1960

	MACOMB COUNTY		DETROIT SMSA		STATE OF MICHIGAN		UNITED STATES	
	Number Employed	Percent of Total	Number Employed	Percent of Total	Number Employed	Percent of Total	Number Employed	Percent of Total
Professional, Technical								
Engineers	3,273	3.3	27,462	3.0	43,558	2.3	853,738	2.0
Medical and other Health Workers	745	.8	11,255	1.2	22,125	1.1	520,048	1.2
Teachers	1,124	1.1	8,881	1.0	19,854	1.0	417,725	1.0
Other Professional	6,890	7.0	62,901	6.8	115,332	6.1	2,687,847	6.2
Farmers and Farm Managers	1,153	1.2	2,607	.3	57,130	3.0	2,387,584	5.5
Managers, Officials & Proprietors	7,785	7.9	83,635	9.0	173,876	9.1	4,629,842	10.7
Clerical and Kindred Workers	7,338	7.4	71,110	7.7	124,454	6.6	3,015,476	6.9
Sales Workers								
Retail Trade	2,354	2.4	24,852	2.7	50,486	2.7	1,247,878	2.9
Other than Retail Trade	3,915	4.0	43,970	4.7	76,469	4.0	1,729,994	4.0
Craftsmen, Foremen and Kindred								
Construction	5,306	5.4	38,145	4.1	85,593	4.5	2,404,323	5.5
Foremen (N.E.C.)*	3,666	3.7	29,457	3.2	58,100	3.1	1,096,658	2.5
Mechanics and Repairmen	6,584	6.6	53,124	5.7	107,340	5.7	2,197,193	5.1
Metal Craftsmen	8,163	8.2	52,113	5.6	94,230	5.0	1,099,835	2.5
Other	3,768	3.8	32,514	3.5	64,847	3.4	1,690,768	3.9
Operatives and Kindred	25,212	25.3	237,235	25.6	494,849	26.0	8,641,687	19.9
Service Workers								
Protective Service	1,533	1.5	16,609	1.8	29,596	1.6	662,133	1.5
Waiters, Bartenders, Cooks	688	.7	8,718	.9	16,544	.9	508,589	1.2
Other	2,466	2.5	30,748	3.3	62,471	3.3	1,489,010	3.4
Farm Laborers and Foremen	533	.6	1,692	.2	20,767	1.1	1,201,922	2.8
Laborers, Non-Farm								
Construction	767	.8	7,714	.8	17,514	.9	645,423	1.5
Manufacturing	1,139	1.1	19,556	2.1	42,466	2.2	984,323	2.3
Other	1,932	1.9	21,961	2.4	44,814	2.4	1,368,043	3.1
Occupations not Reported	2,740	2.8	40,765	4.4	75,619	4.0	1,986,907	4.6
TOTAL	99,094	100.0	927,024	100.0	1,898,034	100.0	43,466,946	100.0

Source: United States Bureau of the Census

*Not Elsewhere Classified

While the opportunities for job entry are metropolitan in scope, the responsibility for providing educational programs which are adequate to securing entry employment, and the financial and social costs which are consequent to a failure to provide such education, are primarily obligations of the County and its political subdivisions, and its public schools. Stated as a broad generalization, the school systems of the three counties of the Detroit Metropolitan Area are in competition to provide their respective clients with the education necessary to gain and hold employment in a complex and rapidly changing economy. In times of economic dislocation, those communities whose schools have failed to meet the challenges of this competition will bear an inordinate share of the consequent welfare costs.

The Detroit Area Labor Outlook.

Jobs exist because there is a population to be served. In projecting the future demand for labor, one of the fundamental parameters is the projection of future population and its participation in the labor force. Table L-2 compares these projections for the Detroit area in 1975 with the 1960 Census data.

The projections reflected in Table L-2 indicate a number of changes that are significant to the planning of occupational programs for the youth of Macomb County. In the Detroit area the workers in the 15 to 24 age group will increase from 220,000 in 1960 to 406,000 in 1975. Macomb County's participation in the labor force for this age group will increase from 22,000 to 65,000 during this period. The growth of this age group is the most important single factor shaping the labor force of the coming decade, and will account for over fifty percent of the total growth of the Detroit area labor force during the 1960-75 period. Despite an increase of more than 300,000 workers in the total labor force, the number of operatives and laborers (forecast in Table L-7), will decrease as a proportion of the total labor force.

The most obvious consequence of the large increase in the number of young people in the labor force will be the intense competition for the jobs which will be available to semi-skilled and unskilled workers. The extent of this problem is detailed further in a subsequent discussion of the occupational outlook for operatives and laborers. Table L-2 indicates the 1975 labor force participation based upon the 1960 participation rates. While these rates are, in most age ranges, adequate for the purposes of this study, the participation rates of two groups will change markedly from 1960 to 1975;

a) an increasing proportion of women will re-enter the work force after raising their families;

b) the continuing trend toward earlier retirement will reduce the participation rate for workers in the 65 and over age group.

Table L-2

LABOR FORCE PARTICIPATION BY AGE GROUPS
DETROIT STANDARD METROPOLITAN STATISTICAL AREA, 1960-1975

	1960			1975	
	POPULATION OF AGE GROUP	PARTICIPATION RATE	LABOR FORCE	POPULATION OF AGE GROUP	LABOR FORCE*
0 - 14	1,237,558	-----	-----	1,471,397	-----
15 - 19	301,902	.3093	93,387	453,367	140,226
20 - 24	197,071	.6384	125,819	416,755	266,056
25 - 29	231,558	.6226	144,162	346,053	215,452
30 - 34	276,651	.6304	174,409	243,666	153,607
35 - 39	292,378	.6571	192,119	193,434	127,105
40 - 44	262,725	.6854	180,077	226,114	154,979
45 - 49	231,738	.6939	160,795	266,469	184,903
50 - 54	197,449	.6781	133,925	275,418	186,761
55 - 60	180,531	.6367	144,941	238,286	151,717
60 - 64	144,206	.5306	76,515	198,228	105,180
65 & over	265,044	.1674	44,369	413,297	69,186
Total Population	3,764,131			4,742,486	
Total Labor Force			1,440,518		1,755,172

SOURCE: The Future Population of the Detroit Metropolitan Area; United Community Services of Metropolitan Detroit

* At 1960 Participation Rate

Table L-3

DETROIT AREA CIVILIAN LABOR FORCE
Percent Distribution by Occupational Groups

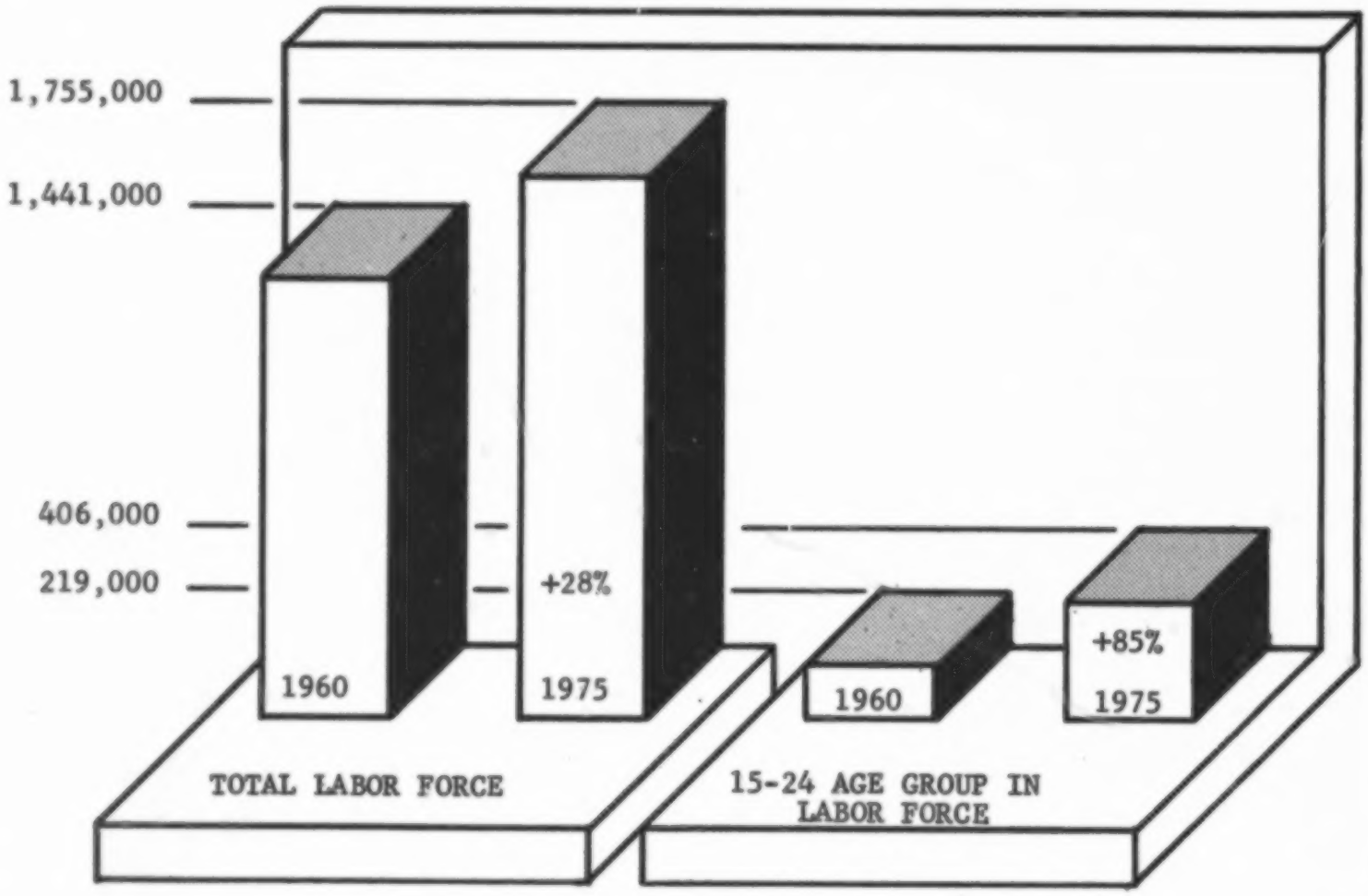
	1960 1,328,700 Workers	1975 1,705,000 Workers
Service	10.7	12.
Clerical & Sales	23.8	26.
Professional, Technical	12.1	18.
Operatives	21.4	16.
Craftsmen & Foremen	15.8	14.
Proprietors, Managers	7.4	7.
Laborers	4.0	3.
Not Reported	4.8	4.

Nationally, the participation rate of women in the 45-54 age group is projected to increase from 49.3% in 1960, to 57.6% in 1975. For the same period, participation by males over 65 will decrease from 32.2% to 23.4%. These are but two examples of the effects of institutional changes upon the labor force; in the case of women re-entering the labor force, early marriage is a significant factor. For males over 65, and eventually for significant numbers in the over 60 age group, labor contracts with special incentives for early retirement are a causative factor. The full significance of these participation rates changes can be best understood when compared to the labor force participation rate of the entire population, which will increase by only one-fourth of one percent from 1960 to 1975. Participation rates must be examined in conjunction with the quantitative measurement of specific groups. Because of the unusual growth of the 15 to 24 age group, the participation rate alone does not indicate the great numerical increase in the labor force participation of this group.

Table L-4 projects the 1975 labor force participation of the Detroit area population, by age groups.

Table L-4

DETROIT METROPOLITAN AREA LABOR FORCE AND LABOR FORCE PARTICIPATION OF THE 15-24 AGE GROUP 1960 and 1975



Population, its age and sex characteristics, and its participation in the labor force comprise but one facet of the complex of factors which must be projected to determine the future need for occupational education programs. An understanding of coming changes in industry and the occupational patterns of employment is required. The problem might be simplified as follows:

> The changing nature of the demands for goods and services, conditioned by such factors as rising population, increased disposable income, advertising and new products, changing customs and tastes,
>
> **STIMULATES**
>
> innovations in productive and distributive processes, the development and use of new materials, which
>
> **CREATES**
>
> demands for more highly developed skills, changes in quantitative demands for existing skills, needs for skills in new technical areas, and unique combinations of existing skills, and
>
> **DIRECTS**
>
> educational efforts to impart these skills to persons seeking to participate in the economic life of the community.

Industry, occupations, and education are factors which must not only be examined as unities but as interacting aspects of a larger whole.

There are various approaches which can be taken in projecting future occupational employment. One method is to review past trends and to assume a continuation of these patterns into the future. The primary recommendation for this technique is its convenience; it has demonstrably little merit for the forecasting of trends. Significant shifts in employment patterns frequently result from the unexpected innovation, such as mechanical inventions, rather than as consequences of measurable trends. Historical experience does, however, provide insights into the tremendous dislocations in employment which can occur during relatively short periods of time.

Table L-5 reflects the occupational shifts which occurred in the Detroit area during the 1940's and '50's. Operatives and kindred workers increased by 38.2% during the 1940's yet decreased by 13.2% during the 1950's. The employment of laborers remained relatively static during the 1940's and '50's quantitatively, while the total work force increased by 49.8%. Craftsmen increased by 33% from 1940 to 1950, but did not increase in numbers during the decade of the 1950's despite a total labor force increase of 11.4% locally.

Table L-5

OCCUPATIONAL DISTRIBUTION OF THE LABOR FORCE
DETROIT STANDARD METROPOLITAN STATISTICAL AREA
1940 - 1960

	1940		1950		1960		PERCENT CHANGE 1940-50	PERCENT CHANGE 1950-60
	PERCENT OF TOTAL	NUMBER	PERCENT OF TOTAL	NUMBER	PERCENT OF TOTAL	NUMBER		
Professional, Technical & Kindred Workers	7.4	65,461	8.7	103,821	12.1	160,892	+58.6	+55.0
Proprietors, Managers & Officials, including Farm	8.1	71,271	8.5	100,894	7.4	98,644	+41.5	- 2.2
Clerical, Sales & Kindred Workers	20.1	178,628	21.6	257,975	23.8	316,622	+44.2	+22.7
Craftsmen, Foremen & Kindred Workers	17.8	157,915	17.6	210,419	15.8	210,103	+33.2	0.0
Operatives & Kindred Workers	26.7	236,935	27.5	327,437	21.4	284,141	+38.2	-13.2
Service Workers	11.9	105,678	9.6	114,980	10.7	142,048	+ .9	+23.5
Laborers including Farm	7.3	64,670	5.3	62,790	4.0	53,368	- 2.9	-15.0
Occupations not reported	.7	6,218	1.2	13,964	4.8	62,917		
Total Labor Force	100.0	886,776	100.0	1,192,280	100.0	1,328,735	+34.4	+11.4

Source: Employment data from the U. S. Census of Population

A significant change, both nationally and locally, has been the shift to white collar jobs. During the 1950's, for the first time in both areas, white collar workers (professional, technical, managerial, office, and sales workers), outnumbered blue collar workers (craftsmen, operatives, and laborers). Nationally, both blue collar and white collar jobs increased during this period; however, most of the total growth in employment was represented by the white collar occupations. Locally, during the fifties, blue collar employment decreased by 50,000, while white collar employment increased by over 100,000 workers. The loss of blue collar jobs was almost totally due to technological and geographic changes in the production of motor vehicles.

While the earlier shift from an agricultural economy to a manufacturing economy did not require a higher level of education for workers, the shift to white collar employment demands higher educational attainment, even for blue collar workers. The more highly trained craftsmen experienced a more favorable employment trend than the less skilled operatives and the unskilled laborers, whose numbers declined by 14% during the 1950's.

Among the white collar workers, the fastest growing group, locally and nationally, have been those employed in the professional-technical sector. The growth rate of this group has been five times the rate of increase in the total labor force. Clerical, sales, and service workers increased at a rate twice that of the total labor force. Only the proprietor-manager group, consisting mostly of owners of small businesses and salaried officials in government and private business, decreased during the period. This decrease resulted principally from a decline in the number of self-employed proprietors. The salaried officials reflect employment increases similar to those of clerical and sales workers - one of the fastest growing employment sectors.

Opportunities for Employment.

Where will the 1,755,000 persons in the Detroit area labor force of 1975 find employment? Attempts to answer this question must necessarily be highly speculative. Because this information is essential for the planning of occupational programs, the available studies deserve careful scrutiny by educators. Information is very limited as to the future requirements for specific occupations, but generalizations can be drawn from the available projections of industry growth patterns. Dr. Wilbur Thompson of Wayne State University has projected employment by industry to 1975 in the study, Michigan in the 1970's. Table L-6 which is drawn from this study reflects the estimated changes in the distribution of employment by industry.

Table L-6
DETROIT METROPOLITAN AREA EMPLOYMENT PROJECTIONS, 1975, BY INDUSTRY

	Employment, 1960		Projected Employment, 1975		Projected Change 1960-75	
	Number	Percent	Number	Percent	Number	Percentage Increase
Agriculture, forestry, fisheries	7,500	0.6	7,500	0.4	0	0.0
Mining	1,000	0.1	1,000	0.1	0	0.0
Construction	53,600	4.0	78,200	4.6	24,600	45.9
Manufacturing	541,400	40.8	627,300	36.9	85,900	15.9
Durables	(447,900)	(33.7)	(499,800)	(29.4)	(51,900)	(11.6)
Nondurables	(93,500)	(6.9)	(127,500)	(7.5)	(34,000)	(36.4)
Transportation	43,500	3.3	55,600	3.3	12,100	27.8
Communication	16,600	1.2	21,600	1.3	5,000	30.1
Utilities and sanitary services	19,100	1.4	24,600	1.5	5,500	28.8
Wholesale trade	42,800	3.2	58,700	3.5	15,900	37.1
Retail trade	195,600	14.7	242,200	14.2	46,600	23.8
Finance, insurance, real estate	51,000	3.8	74,800	4.4	23,800	46.7
Business and repair services	35,500	2.7	50,200	2.9	14,700	41.4
Personal services	63,600	4.8	79,000	4.6	15,400	24.2
Entertainment and recreation services	10,000	0.8	12,800	0.7	2,800	28.0
Professional and related services	146,300	11.0	224,400	13.2	78,100	53.4
Public administration	49,800	3.7	76,500	4.5	26,700	53.6
Industry not reported	51,300	3.9	65,600	3.9	14,300	28.0
Total employment	1,328,600	100.0	1,700,000	100.0	371,400	28.0

Source: Haber, Spivey & Warshaw, Michigan in the 1970's

Manufacturing will maintain its position as the most significant employer, and will provide one-third of all jobs in 1975; however, it will be the industry with the slowest rate of growth. This is partially because manufacturing is the largest industry, but more significantly, the result of a trend toward service type employment. Employment will increase fastest in the areas of professional services, public administration, business and repair services, and the construction industry. This marked trend toward service and white collar employment should receive careful consideration in curriculum planning, and indicates the advisability of reassessing the need for the traditional vocational programs.

Thompson projects 371,400 more jobs in 1975 than were available in 1960. In the United Community Services study, Dr. Albert J. Mayer, also of Wayne State University, estimates a need for 314,655 more jobs in 1975 than were available in the Detroit area in 1960.

The industry shifts indicated in Table L-6, coupled with technological and institutional changes will affect the distribution of employment by occupations. Occupational distribution projections identify the need for vocational-technical programs quantitatively. Table L-7 is based upon the rates of occupational change predicted for the State through the year 1970, by the Michigan Employment Security Commission, and upon the non-quantitative judgments contained in Michigan in the 1970's.

Table L-7

DETAILED OCCUPATIONAL GROUP OF EMPLOYED PERSONS
DETROIT STANDARD METROPOLITAN STATISTICAL AREA 1960-1975

	D.S.M.S.A. PERCENT CHANGE 1950-60 ACTUAL	PERCENT CHANGE 1960-75 PROJECTED INCREASE U.S.	PERCENT CHANGE 1960-75 PROJECTED INCREASE D.S.M.S.A.	EMPLOYMENT 1960 D.S.M.S.A.	PROJECTED EMPLOYMENT D.S.M.S.A. 1975
Professional and Technical	+55.0	+65.	+85.	160,892	297,650
Managers and Proprietors	- 2.2	+32.	+23.	98,644	121,332
Clerical & Sales Workers	+22.7	+43.	+41.	316,622	446,437
Skilled (Craftsmen)	0	+30.	+17.	210,103	246,030
Semi-skilled (Operatives)	-13.2	+18.	- 6.	284,141	267,092
Unskilled (Laborers)	-15.0	0	-15.	53,368	45,363
Service Workers	+23.5	+50.	+43.	142,048	203,413
Occupations not reported *	+11.4	+33.	+25.	62,917	78,394
Total Employment				1,328,735	1,705,711

* Average rate all occupations

The Occupational Outlook for Specific Groups.

Local educators charged with planning and offering programs in occupational education must be provided with evidence, both quantitatively and selectively, of the employment needs of the local labor market. The employment outlook for selected population groups and for selected occupational areas are presented in an effort to provide guidance to local educators. The information offered represents the study staff's interpretation of the information derived from available studies and statistical data.

The Employment Outlook for Men, 1965-1975.

Table L-8 identifies the employment by general occupational grouping of males, ages 18-29, in 1960. Seven of every ten 18 and 19 year old male workers in 1960 found entry employment as operatives, laborers, clerical, or sales workers. Table L-7 projects a sharp decline in the proportion of operatives and laborers in the 1975 work force. While entry opportunities will expand markedly for clerical and sales, and service workers, the combination of low wages and custom make the entry level jobs available to unskilled men unattractive. Many jobs in these areas will be part-time, and/or low-paying, and will not satisfy the financial needs of men who are heads of households. Traditionally, most men are not attracted to secretarial, stenographic, clerical, retail sales, nursing, and many of the service occupations, and few boys enroll in high school programs designed to provide competence in these fields (only 8.2% of 1965 senior boys in Macomb County high schools were enrolled in business or office occupations). If the employment opportunities which will exist in these fields are to be adequately exploited by males, strong efforts will need to be made to overcome the stereotyped attitude that certain jobs are "women's work."

Employment opportunities will expand most rapidly in the professional and technical occupations (Table L-7). These occupations require two or more years post-high school education of a specific nature for entry. Unfortunately, very little opportunity to acquire this type of education is available locally.

Manufacturing will continue to offer the greatest number of job opportunities for men in the local area during the 1965-1975 period. However, manufacturing employment will account for only 36.9% of all local employment in 1975 as compared to 40.8% in 1960. The contraction will occur in the employment of operatives, a traditional entry occupation for young men, which is reported in more detail in another section of this study.

In summary, the entry employment opportunities for young males who lack saleable skills will be bleak, as the need for large numbers of operatives and laborers in manufacturing disappears. This is a recurrence of an earlier experience when mechanization displaced the farm worker; with this disturbing difference: the factory provided employment for the displaced farm worker. There is no similar alternate opportunity today for the employment of unskilled young men unable to find employment in manufacturing. The implications are quite clear. Strong efforts must be made to retain boys in school, at least until high school completion, and to make available to each student an educational program through which he can acquire the specialized skills needed to continue up the educational ladder or to gain entry employment, and preferably, both.

Table L-8

OCCUPATIONAL GROUP OF EMPLOYED MALES BY SELECTED AGE GROUPS - 1960
DETROIT METROPOLITAN AREA

	18 - 19		20 - 24		25 - 29	
	PERCENT OF TOTAL	NUMBER	PERCENT OF TOTAL	NUMBER	PERCENT OF TOTAL	NUMBER
Professional & Technical	4.3	837	12.0	7,989	18.4	17,848
Managers & Proprietors	1.7	334	4.1	2,703	6.0	5,799
Clerical	13.9	2,730	13.9	9,231	9.6	9,327
Sales Workers	12.8	2,514	7.6	5,017	6.6	6,388
Skilled (Craftsmen)	9.0	1,765	16.6	10,993	19.6	19,028
Semi-skilled (Operatives)	25.9	5,098	26.5	17,571	24.7	23,907
Unskilled (Laborers)	18.9	3,709	8.2	5,427	5.4	5,210
Service Workers	6.9	1,357	5.3	3,502	5.3	5,106
Occupations not reported	6.6	1,305	5.9	3,915	4.4	4,317
Total in Labor Force	100.0	19,658	100.0	66,371	100.0	96,930
Not in Labor Force		11,847		11,164		5,805
Unemployed		4,682		9,591		7,777
Employed but not at work		249		889		1,301
Employed - Full Time		11,259		56,076		88,501
Part Time		8,150		9,406		7,128
Total Males in Age Group		36,187		87,126		110,512

Source: United States Census of Population 1960, PC (1) 24D Mich.

Table L-9

POPULATION AND MALE LABOR FORCE 1975
DETROIT STANDARD METROPOLITAN STATISTICAL AREA

AGE GROUP	POPULATION OF AGE GROUP (A)	MALE POPULATION	PERCENTAGE OF MALES (B)	MALES IN LABOR FORCE	MALES LABOR FORCE PARTICIPATION RATES (C)
15 - 19	453,367	218,976	48.3	97,225	.444
20 - 24	416,755	184,247	44.2	162,343	.867
25 - 29	346,053	165,136	47.7	158,861	.962
30 - 34	243,666	118,714	48.7	114,203	.962
35 - 39	193,434	94,299	48.8	91,187	.967
40 - 44	226,114	110,231	48.8	106,593	.967
45 - 49	266,469	132,329	49.7	125,713	.950
50 - 54	275,419	136,773	49.7	129,934	.950
55 - 59	238,287	121,669	51.1	110,110	.905
60 - 64	198,228	101,215	51.1	77,227	.763
65 - Over	413,297	195,448	47.3	45,735	.234
Projected Male Labor Supply				1,219,131	

(A) Source: The Future Population of the Detroit Metropolitan Area, 1965-1980 United Community Services of Metropolitan Detroit

(B) Source: United States Census of Population PC (1) 24C Michigan

(c) Source: U. S. Dept. of Labor, Bureau of Labor Statistics

The Employment Outlook for Women, 1965-1975.

Local employment of women probably will be at a slightly higher rate than the national employment of women. Women are predominantly employed in the professional-technical (nurses, teachers, medical technicians), clerical-sales (secretaries, typists, clerks, retail salesworkers), and service occupations, which will undergo the greatest expansions during the period. Table L-10 indicates that entry employment for women in the 18-19 age group is found primarily in the secretarial, stenographic, clerical, and sales occupations. Existing programs in these areas are the most effective occupational preparations offered by high schools at the present time. Because of the continuing expansion of these occupational areas and the relative adequacy of school programs, girl graduates who have followed these programs have significantly better opportunities for entry employment than do boys, regardless of their high school program.

Table L-10

EMPLOYED PERSONS AGED 18-19
DETROIT STANDARD METROPOLITAN STATISTICAL AREA-1960

	18-19 MALE EMPLOYED	18-19 FEMALE EMPLOYED	18-19 TOTAL
Draftsmen	298	---	298
Medical, Dental Technicians	13	129	142
Managers - Retail Trade	154	18	172
Bookkeepers	100	908	1,008
Cashiers	Incl. in A	832	832
Office Machine Operators	" " "	619	619
Secretaries	" " "	2,147	2,147
Stenographers	" " "	744	744
Telephone Operators	" " "	356	356
Typists	" " "	1,649	1,649
Other Clerical	(A) 2,630	5,437	8,067
Salesmen, Sales Clerks	2,514	2,180	4,694
Carpenters	120	Incl. in B	120
Machinists, Job Setters	97	" " "	97
Automotive Mechanic	371	" " "	371
Other Skilled Workers	1,177	(B) 86	1,263
Apprentices	392	Incl. in C	392
Truck Drivers, Delivermen	824	" " "	824
Operatives - Manufacturing	1,255	171	1,426
Operatives - Non-mfg.	197	78	275
Operatives - Other (NEC)	2,668	(C) 237	2,905
Janitors, Porters, Charwomen	328	61	389
Cooks	89	40	129
Hairdressers, Cosmetologists	Incl. in D	224	224
Waiters, Counter Workers	108	1,026	1,134
Hospital Attendants	Incl. in D	281	281
Other Service Workers	(D) 804	335	1,139
Laborers	3,717	130	3,847
All Other Employed	2,173	3,184	5,357
Total Employed Aged 18-19	19,658	20,872	40,530

Source: U. S. Census of Population, 1960 PC (1) 24D Mich.

Large numbers of young women, older women, and married women will enter or re-enter the work force during periods of expansion. The employment of married women and older women, especially in part-time work, will fluctuate with economic conditions. Much of the labor force participation of these women is optional, and reacts to market demand and wages offered. The training needs of women re-entering the work force after raising their families and the need to upgrade secretarial skills will create a continuing demand for post-high school occupational education.

Entry Level Occupations.

Table L-10 shows the employment of 18 and 19 year olds by sex in 1960. Entry into employment in the less skilled occupational categories will continue to dominate the employment pattern of these groups during the period. Entry level data may be misleading. Frequently, persons gain entry employment at low skill levels because they possess training which indicates that they will be able to perform at higher levels with a minimum of additional training. Macomb County employers' indications of entry level jobs and the education required to gain entry are reported in a separate section of this report. (Tables L-14, L-15, L-16).

Employment of Technicians.

This is the key occupational level for the 1960's and 70's, and offers the greatest opportunities for entry employment at significant wage levels.

An adequate supply of highly skilled workers is essential to the establishment and expansion of business enterprises and the upgrading of public services; an inadequate or uncertain supply of needed skills discourages the investment of enterprise capital. A failure to provide adequate educational facilities and programs for the training of technicians and semi-professional workers can be predicted to have a depressing effect on employment opportunities at all skill levels.

The Associate in Technology degree is expected to achieve the recognition locally which has been evident already in other regions, as the graduates of six to ten Detroit area community colleges are placed in industry to supplement the limited numbers of skilled tradesmen who attain journeymen status through formal apprenticeships. The broader training of the technician should give him an advantage over the apprentice in accommodating to occupational change. Most local area technicians will be employed in manufacturing (Metallurgical, industrial, design, graphics, mechanical, data processing, electronics), but, increasingly, this level of skill will be in demand for public service (sanitation, police, fire, recreation, transportation, engineering), and in health services. Table L-5 indicates that growth of the professional, and technical, and kindred workers group has been 5 times as rapid as the growth of total employment in the Detroit area during the 1950's and 1940's.

Foremen and Craftsmen.

This group will increase numerically in the Detroit area between 1965 and 1975, but not so rapidly as the total labor force. Greater productivity per worker because of increasing capital investment in manufacturing will enhance the importance of foremen and craftsmen and cause their wages to increase faster than the general index for the area.

Operatives and Laborers.

This group will decline both quantitatively and as a proportion of the local work force as it continues to be most susceptible to technological displacement. However, because of high productivity in local manufacturing and the generally high wages which will prevail in the area, operatives' wages will continue to be high in comparison to operatives in other localities, and in relation to national and local income medians. This decreasing need for operatives and laborers in the work force is the most significant factor in the local employment outlook for the next decade. A failure to meet this condition head-on will be disastrous for Macomb County as can be seen by the following projection of the availability of local jobs in these categories.

DETROIT AREA EMPLOYMENT OF OPERATIVES AND LABORERS IN 1975

AGE	Estimated Male Labor Force, 1975	Percentage 1960 Labor Force in Operative and Laborer Jobs	1975 Need for Operative and Laborer Jobs at 1960 Participation Rate
18 - 19	38,890	44.8	17,423
20 - 24	162,343	34.7	56,333
25 - 29	158,861	30.1	47,817
Total	360,094		121,573
Available Operative and Laborer Jobs, 1975			55,975
Detroit Area Males 1975, aged 18 to 29, who will be unemployed unless higher level skills have been acquired.			65,598

It is likely that this projection of the future demand for operatives and laborers is optimistic rather than pessimistic. One local automotive plant, employing several thousand operatives, projects a 66 2/3% decline in the employment of operatives by 1970. At the same time, as the job opportunities in these categories are decreasing, the male labor force in the 18-29 age group will increase by an estimated 177,100 persons. The result of this inverse relationship between the shrinking semi-skilled and unskilled employment opportunities and the growing population, is projected to result in unemployability for twenty percent of the 18-29 age group, unless saleable skills in other expanding occupational areas have been acquired. At least 10,000 Macomb County males of the 18-29 age group will be found in this unenviable class of persons in 1975. Because unemployment generates increased tax burdens, in addition to the waste of manpower and the loss of personal dignity, the potential employability of our citizens is of concern to all.

The employment of operatives in manufacturing was abnormally high in 1965, reversing the long-run downward trend, and reflecting the high demand for all labor created by continued high levels of durable goods production, especially motor vehicles. This boom condition headed off the crisis anticipated to occur with the entry of a record number of eighteen-year olds into the labor force in 1965. If the present peak demand for automobiles continues, manufacturers can be expected to react by expansion of productive capacity, especially by the additional use of automated production machinery which will cut heavily into those structured jobs which are most susceptible to elimination. Thus, the marginally-employed operative who does not upgrade his job skills to a significant level may be displaced even during a period of relatively high employment and economic prosperity.

Clerical and Sales Workers.

The proportion of area workers in these occupations will increase by 41% from 1965 to 1975. The demand for secretarial and high level office skills will intensify, but the need for routine clerical skills will be curtailed by applications of automated processes for reproducing, filing, and retrieving information. The demand for sales workers will be high, but many of these jobs will be at wage levels significantly lower than the median for the area. Women will continue to dominate in clerical and sales employment, partly because of prevailing low wage levels.

Service Workers.

While this group will increase in the 1965-1975 period, it should be noted that the largest single included group are waitresses, an occupation with generally low income. The rising level of personal income and the increase in population, especially among the aged and the very young, will stimulate demands for health services, personal services, and food services. High levels of disposable personal incomes will stimulate many innovative businesses seeking to exploit this income. If past patterns continue, service occupations will provide significantly more employment opportunities for women than for men.

Farmers and Farm Workers.

A steady shrinking of local farm employment will characterize the decade. The per-acre income from such local farm products as sod, garden produce, ornamental shrubs, flowers, and specialty foods such as mushrooms and rhubarb, is very high in comparison to farm income generally, and should be reflected in more realistic incomes for farm workers who are at present the lowest paid occupational group in the national economy. Limited opportunities will exist for agricultural specialists such as ornamental landscapers and florists.

Manufacturing Employment.

Employment in local manufacturing will increase, but at a significantly lower rate than the increase in the total labor force (Table L-6). Manufacturing is particularly adaptable to computerized and automated techniques, and local manufacturers have the capital to undertake these changes. The result will be a continuous rise in output per worker with a lessening need for new workers. The heavy local dependence upon the motor vehicle industry which provides 17.5% of all wage and salary employment, compared to 1.3% nationally, will continue, but at a decreasing rate. In the fifteen years from 1947 to 1962, annual output per worker in the manufacture of vehicles increased from 7.55 units to 14.65 units, or a virtual halving of the manpower requirements per unit. This trend will continue. The reduction in manpower requirements will be almost solely in the unskilled or semi-skilled areas, while opportunities for employment at higher skill levels will expand.

Non-manufacturing Employment.

Most new jobs will be created outside of manufacturing. Construction is anticipated to increase locally, but with much of the construction work pre-fabricated rather than built on the site. Construction wages will remain relatively high and contractors will innovate to reduce the seasonal nature of construction work in an effort to reduce costly over-time wages. All service industries will expand to meet the needs of a rising population and increasing incomes, with the greatest employment opportunities in professional services, finance, insurance, and real estate, business and repair services, and wholesale trade. The implications here are very strong for programs in distributive education in the schools.

Government Employment.

Local government employment will increase more rapidly than employment generally or employment by state and federal governments. Urbanization in Macomb and Oakland Counties will create a demand for public services without a corresponding decrease in government employment in the central city. More leisure time and more disposable income for recreation, and the overdue expansion and improvement of school services will push government employment upward. The ratio of public safety personnel to the total population can be predicted to rise significantly. Post-high school programs will be required to prepare persons for the increasingly complex jobs in public employment.

SURVEY OF MANPOWER NEEDS OF MACOMB COUNTY EMPLOYERS

One of the activities undertaken in connection with this study was the gathering of information from employers as one basis for measuring the needs for occupational education programs. A questionnaire was mailed to 2300 businesses in Macomb County representative of all types of local economic activity. A personal interview follow-up was attempted for employers of 100 or more workers. These two efforts resulted in 516 employer responses. Table L-11 indicates the responding employers by size and type of business. Table L-12 compares the relationship of the survey group to the total employers registered with the Macomb office of the Michigan Employment Security Commission by types of businesses and numbers of employees. While the number of responses is only 17.6% of the total number of Macomb County businesses registered, the number of employees reported is 61% of the total employees registered with the MESC, and the occupational makeup of the sample has a reasonable relationship to the MESC group. Employers were queried as to the number of workers employed, the minimum education required for various occupations, the identification of entry jobs, their future needs for each occupational classification, and their assessment of the adequacy of the local supply of worker in each occupation. Table L-13 indicates the responses most frequently reported by employers for each occupation.

The total occupational categories reported by the responding employers were reduced to 115 for practicality in handling by combining closely related occupations which could not be differentiated by the normal existence of specific pre-employment training programs. An example is the merging of a small reported number of draftsmen with a large group identified as drafting and design technicians. A wide range of occupations was reported by industrial employers under such titles as press operator, punch press operator, drill press operator, rolling machine operator, shear operator, slitter operator, polishers and buffers, secondary machine operator, burring machine operator, and other similar specific descriptions. These operatives were combined into the classification of machine operators so that the significant characteristics of this level of job in local industry could be determined.

Educational Requirements.

Employers varied widely in their assessments of the minimum education necessary for employment in a particular occupation. A few employers indicated that high school graduation is not a requirement for employment even in occupations which are usually only attainable with some post-high school training. Such employers were undoubtedly reporting on the educational status of some persons now in their employ, rather than what they would require of a new applicant, or currently acceptable levels resulting from an extremely tight labor supply. Table L-13 indicates the minimum educational requirement most frequently reported for each occupation covered. On this basis, employers reported 23 occupations open to persons not possessing a high school diploma, 45 available to high school graduates, 20 occupations for which one or two years of technical school are required, 17 occupations for which an apprenticeship is necessary, and 10 occupations open to college graduates. These occupations are identified in Table L-13.

Table L-11

RESPONDING MACOMB COUNTY EMPLOYERS GROUPED BY NUMBER OF EMPLOYEES REPORTED

( ) Number of employees reported for each group

TYPE OF BUSINESS	TOTAL EMPLOYERS	1-10 EMPLOYES	11-25 EMPLOYES	26-100 EMPLOYES	100-500 EMPLOYES	500-Over EMPLOYES	EMPLOYES NOT REPORTED	TOTAL REPORTED
Agricultural service	9	6 (41)	2 (24)	0 (0)	1 (111)	0 (0)	0	176
Banking & finance	11	3 (22)	3 (54)	4 (316)	0 (0)	0 (0)	1	392
Commercial foods & dairy	4	0 (0)	1 (22)	2 (103)	0 (0)	0 (0)	1	125
Construction	48	23 (108)	5 (104)	15 (757)	1 (105)	0 (0)	4	1,074
Education	21	1 (5)	0 (0)	12 (908)	6 (1469)	1 (800)	1	3,182
Entertainment & recreation	4	1 (6)	0 (0)	3 (150)	0 (0)	0 (0)	0	156
Government	21	1 (2)	6 (118)	3 (179)	8 (1416)	3 (8064)	0	9,779
Hospital, medical, dental	21	14 (46)	1 (16)	1 (75)	3 (476)	1 (590)	1	1,203
Manufacturing	183	18 (111)	48 (868)	63 (3376)	43 (8170)	7 (33139)	4	45,664
Insurance	13	11 (57)	0 (0)	2 (66)	0 (0)	0 (0)	0	123
Marine services	3	3 (17)	0 (0)	0 (0)	0 (0)	0 (0)	0	17
Printing & publishing	4	1 (5)	0 (0)	2 (122)	1 (193)	0 (0)	0	320
Professional (non-medical)	20	17 (59)	2 (48)	1 (95)	0 (0)	0 (0)	0	202
Real Estate	6	4 (30)	1 (25)	1 (32)	0 (0)	0 (0)	0	87
Restaurant & tavern	21	14 (89)	1 (24)	5 (218)	0 (0)	0 (0)	1	331
Retailing	63	29 (180)	12 (187)	9 (328)	10 (2381)	2 (3520)	1	6,596
Service establishment	26	14 (74)	4 (66)	6 (220)	0 (0)	0 (0)	2	360
Transportation	6	3 (22)	0 (0)	3 (185)	0 (0)	0 (0)	0	207
Utilities	2	0 (0)	0 (0)	0 (0)	1 (487)	1 (777)	0	1,264
Wholesaling	12	2 (13)	4 (61)	6 (349)	0 (0)	0 (0)	0	423
Other	18	5 (36)	1 (14)	1 (34)	0 (0)	0 (0)	11	84
Total Employers Reporting	516	170	91	139	74	15	27	71,765
Employees by employers' size		923	1,631	7,513	14,808	46,890		71,765

Table L-12

A COMPARISON OF MACOMB EMPLOYERS RESPONDING TO A SURVEY OF MANPOWER NEEDS WITH MACOMB COUNTY EMPLOYERS COVERED BY THE MICHIGAN EMPLOYMENT SECURITY ACT

	SURVEY GROUP		MESA GROUP		SURVEY GROUP		MESA GROUP	
Type of Business	Number of Employers	Percent of Total	Number of Employers	Percent of Total	Employes Reported	Percent of Total	Employes Reported	Percent of Total
Agricultural Services	9	1.7	13	.4	176	.3	210	.2
Banking and Finance	11	2 1	38	1 3	392	.5	787	.7
Commercial Foods and Dairy	4	8	17	.6	125	.2	500	.4
Communications	-- d	---	3	.1	--- d	--	751	.6
Construction	48	9.3	422	14 5	1074	1.5	4,472	3.8
Education	21	4.1	3 a	.1	3182	4 4	31 a	.03*
Entertainment and Recreation	4	.8	61	2.1	156	.2	931	.8
Government	21	4 1	-- b	---	9779	13.6	--- b	---
Hospital, Medical, Dental	21	4.1	42 a	1.4	1203	1.6	597 a	.5
Hotels and Motels	--	---	22	.8	---	---	218	.2
Manufacturing	183	35.5	801	27.4	45,664	63.7	82,108	69.8
Insurance	13	2.5	9	3	123	.2	232	.2
Marine Services	3	.6	3	1	17	.03*	16	.01*
Printing and Publishing	4	8	16	.5	320	.4	463	.4
Professional, Non-medical	20	3.8	83 c	2.8	202	.3	1475 c	1.3
Real Estate	6	1.2	17	.6	87	.1	135	.1
Restaurant	21	4.1	231	7.9	331	.5	2596	2.2
Retailing	63	12.2	540	18.6	6596	9.2	10,419	8 9
Service Establishment	26	5.0	430	13.8	360	.5	6072	5.2
Transportation	6	1.2	61	2.1	207	.3	1031	.9
Utilities	2	.4	9 a	.3	1264	1.8	1610 a	1 4
Wholesaling	12	2 2	126	4.3	423	.6	2876	2.4
Other	18	3.5	---	---	84	1	----	---
TOTALS	516	100.0	2920	100 0	71,765	100.0	117,530	100 0

a Does not include government-supported and government-owned institutions
b Not available as they are not covered by the Act
c Not all inclusive as the professions cut across industry lines
d Duplication: included in utilities
* Too insignificant to be included in total

Table L-13

EDUCATIONAL REQUIREMENTS, HIRING PRACTICES, ANTICIPATED DEMAND AND SUPPLY OF WORKERS IN NON-PROFESSIONAL OCCUPATIONS AS REPORTED BY MACOMB COUNTY EMPLOYERS, JUNE, 1965

		EDUCATIONAL REQUIREMENT						HIRING PRACTICE		EXPECTED EMPLOYMENT			AVAILABI SUPPLY	
	Number of Workers Reported	Non-High School Graduate	High School Graduate	1 or 2 Years Technical School	Apprentice	College Graduate	Experience not Required	Hire Only Experienced Worker	Will Remain Constant	Will Increase	Will Decline	Adequate Number Available	Surplus Available	Critically Short Suppl
PROFESSIONAL, TECHNICAL, & KINDRED WORKERS														
Engineers, technical														
Automotive technician	18		X					X	X			X		
Metallurgical technician	66			X				X	X				X	
Civil & highway technician-surveyor	120			X				X		X			X	
Electrical technician	45			X			X			X			X	
Electronics technician	10			X				X	X			X		
Chemical technician	36			X				X		X		X		
Industrial technician	31			X				X		X			X	
Mechanical technician	139			X				X		X			X	
Instrumentation technician	104			X				X		X			X	
Quality control technician	486			X				X		X			X	
Medical & other health workers														
Psychiatric technicians	2					X								
Medical/dental technicians	41			X			X		X			X		
Registered nurse	243					X		X	X				X	
Dental hygenist	2					X		X		X			X	
Dietician	73					X		X	X			X		
Hospital attendant	32		X				X		X				X	
Nurse's aide	213		X				X		X				X	
X-ray technician	18			X				X	X			X		
Other Prof'l., tech'l., & kindred workers														
Accountant	236					X		X	X			X		
Architectural draftsmen	14					X		X		X			X	
Drafting & design technician	713			X				X	X				X	
Advertising and/or commercial art	14					X		X	X			X		
Public relations	9					X		X	X			X		
Designer	4					X		X		X			X	
Production control	2		X					X	X				X	
Technical report writer	4			X				X		X		X		
Art-photographic	8		X					X	X			X		
MANAGERS, OFFICIALS, & PROPRIETORS-EXCEPT FARM														
Credit worker	28		X					X	X			X		
Paymaster	9		X					X	X			X		
General, office & plant managers	357					X		X	X			X		
Postal worker	483			X			X			X		X		
CLERICAL & KINDRED WORKERS														
Secretaries, stenographers, & typists														
Secretaries	459		X					X	X			X		
Stenographers	363		X				X		X			X		
Typists	773		X				X		X			X		
Bookkeepers	528		X					X	X			X		
Bank teller	129		X				X			X		X		
Cashiers	182		X					X	X			X		X
Office machine operators	220		X				X		X			X		
Business machine operators	172		X					X	X			X		

Table L-13 Cont'd.

		EDUCATIONAL REQUIREMENT						HIRING PRACTICE					EXPECTED EMPLOYMENT		AVAILABLE SUPPLY	
	Number of Workers Reported	Non-High School Graduate	High School Graduate	1 or 2 Years Technical School	Apprentice	College Graduate		Experience not Required	Hire Only Experienced Worker	Will Remain Constant	Will Increase	Will Decline	Adequate Number Available	Surplus Available	Critically Short Supply	
OPERATIVES AND KINDRED WORKERS																
Drivers and deliverymen																
Bus driver	197	X						X		X			X			
Chauffeur-taxi driver	136		X						X	X			X			
Service driver	6	X						X		X					X	
Truck driver	489	X						X		X			X			
Delivery and route man	208		X					X		X			X			
Other operatives & kindred workers																
Assemblers	2086	X						X		X			X			
Foundry worker	123	X			X			X			X				X	
Meat cutter	131				X				X		X		X			
Marine engine assembly	22		X						X	X			X			
Laundry and dry cleaning worker	61		X					X		X			X			
Packers and wrappers	106		X					X		X			X			
Meter reader	40			X				X			X		X			
Recreation worker	17					X			X		X				X	
Water treatment or sanitation worker	23		X								X		X			
Welder and flame cutter	390		X						X	X			X			
SERVICE WORKERS EXCEPT PRIVATE HOUSEHOLD																
Protective service workers																
Plant security guard	101		X					X		X			X			
Fire fighter	176		X					X			X				X	
Law enforcement officer	261		X					X			X				X	
Waiters, cooks, and bartenders																
Bartender	10	X							X	X					X	
Busboy	102	X						X			X			X		
Cook, chef or baker	334	X							X		X				X	
Waiter/waitress	253	X						X			X		X			
Other service workers																
Barber	10								X	X					X	
Beautician	9			X				X		X			X			
Hotel/motel housekeepers	2	X							X	X			X			
Janitor	673	X						X		X			X			
Practical nurse	176								X	X					X	
FARM LABORERS & FARM FOREMEN																
Farm foremen	3			X					X						X	
Farm implement mechanic	10							X			X		X			
Farm workers	18	X						X							X	
Florist	15	X						X		X			X			
Gardner-yard care	25	X						X		X			X			
LABORERS, EXCEPT FARM AND MINE																
Marine service worker	6		X					X		X			X			
Service station attendant	9	X						X		X			X			
Unskilled	4463	X						X				X	X			

Table L-13 Cont'd.

		EDUCATIONAL REQUIREMENT						HIRING PRACTICE					EXPECTED EMPLOYMENT		AVAILABLE SUPPLY	
	Number of Workers Reported	Non-High School Graduate	High School Graduate	1 or 2 Years Technical School	Apprentice	College Graduate	Experience not Required	Hire Only Experienced Worker	Will Remain Constant	Will Increase	Will Decline		Adequate Number Available	Surplus Available	Critically Short Supply	
Other clerical workers																
Stock clerk	404		X				X			X			X			
Checkers	102	X					X		X				X			
General office worker	578		X				X		X				X			
Other clerical & kindred workers	543		X				X		X				X			
SALES WORKERS																
Sales clerk, retail	1126		X				X			X					X	
Salesmen	465		X					X		X			X			
CRAFTSMEN, FOREMEN, & KINDRED WORKERS																
Construction craftsmen																
Heavy equipment operator	73	X						X	X				X			
Bricklayer, mason	106				X			X	X						X	
Carpenter	299				X			X	X						X	
Electrician	319				X			X		X					X	
Painter	132	X						X	X				X			
Plasterer	14				X			X	X				X			
Plumber, pipe fitter	159				X			X		X			X			
Grademen	4	X						X		X			X			
Fence erectors	15		X					X	X						X	
Foreman-first line supervisor	1124		X					X	X						X	
Mechanics & repairmen																
Air conditioning, refrig., and/or heating mechanic	5				X			X	X						X	
Appliance repairman	63		X					X	X				X			
Auto mechanic	239		X					X		X					X	
Aviation mechanic	8				X			X	X						X	
Electronics repairmen	8			X				X	X				X			
Mechanic-general	177		X					X	X						X	
Dispatcher	30		X					X	X				X			
Metal craftsmen--except mechanics																
Heat treat, annealer	49		X					X	X				X			
Machine operator	7785	X					X			X					X	
Machinist-general	1025				X			X		X					X	
Millwright	259				X			X	X						X	
Pattern & model maker	167				X			X	X						X	
Secondary machine operator	10		X				X			X			X			
Tool and die maker	2293				X			X		X					X	
Plater	43	X					X			X					X	
Other Craftsmen																
Plastics worker	177		X				X			X			X			
Maintenance men	6		X					X	X						X	
Machine set-up	5				X			X							X	
Seamstress	2		X				X		X				X			
Cranemen, hoist workers	5			X				X					X			
Linemen & servicemen-utility	14		X				X		X				X			
Boat builder	4		X					X		X					X	
Cabinet maker	74				X			X	X						X	
Printer	61		X					X	X						X	
Steam fitter	38				X			X							X	
Sheet metal worker	142				X			X	X						X	
Steel worker	142	X					X			X					X	

The survey was not designed to measure employment characteristics of occupations for which the college degree is a requirement. The responses that indicated the degree requirement were representative of very small samplings, except for accountants, registered nurses, dieticians, and managers. A significant number of employers indicated college graduation is a requirement for employment in these occupations.

Entry Occupations.

Employers differed in their indications of entry occupations and occupations requiring previous experience. For each occupation wherein a significant number of employers reported, some employers indicated that experience is a hiring requirement. The consensus of all employers was that 42 occupations are entry occupations and 71 occupations require experience. Of the 42 entry occupations

19 are in sales and service
9 are in stenographic and clerical
7 are in manufacturing
3 are in health services
4 are in agriculture

In 32 of these 42 occupations, employers reported an adequate or surplus supply of available workers. Because these appear to hold the most promise for job entry, the ten occupations reported as entry jobs characterized by a short supply of available workers were examined in detail. The significant characteristics of these occupations are detailed in Table L-14.

Table L-14
RANK, EARNINGS, AND EDUCATIONAL ATTAINMENT FOR OCCUPATIONS REPORTED AS ENTRY OCCUPATIONS IN SHORT SUPPLY BY MACOMB COUNTY EMPLOYERS, 1965

Occupation (all data pertain to 1959)	Rank*	Median Annual Earnings**	Median School Years Completed	Percent Employed Full Year**	Percent of Women in Occupation
Steel Worker	135	$6,381	10.0	35.5	.4
Fire Fighter	138	6,430	12.1	94.7	.2
Law Enforcement Officer	161	5,838	12.2	91.5	2.7
Foundry Workers	177	5,312	8.9	40.6	1.7
Operatives, Man'f'g.	212	5,102	9.4	42.7	30.7
Retail Sales Clerk	251	4,202	12.1	62.6	53.6
Plater	260	5,193	8.7	48.4	4.4
Hospital attendant, Nurse's aide	288	2,280	10.6	54.1	73.6
Farm Worker	316	1,465	7.9	42.0	10.5

*Ranked by average annual earnings in 321 occupational groups according to the U. S. Bureau of Labor Statistics.

** Based upon data for Detroit Metropolitan Area, 1960.

Table L-15

EMPLOYERS' INDICATIONS OF EXPERIENCE REQUIREMENTS FOR SELECTED OCCUPATIONS, MACOMB COUNTY, 1965

OCCUPATIONS DEFINITELY AVAILABLE FOR ENTRY EMPLOYMENT (as determined by the significant ratio of responses)

	Employes Covered	Number of Employers Responding		
		Entry Occupation	Experience Required	Percent of Entry Occupations
PROFESSIONAL, TECHNICAL & KINDRED WORKERS				
Hospital Attendant	32	4	1	80.0
CLERICAL & KINDRED WORKERS				
Typists	773	47	22	68.1
Stock Clerk	404	11	7	61.1
Checkers	102	6	1	85.7
Other Clerical	543	64	42	60.4
General Office Worker	578	50	25	66.6
SALES WORKERS				
Sales Clerks	1000	17	13	56.7
CRAFTSMEN, FOREMEN & KINDRED WORKERS				
Plastic Worker	177	6	1	85.7
OPERATIVES & KINDRED WORKERS				
Truck Driver	489	62	26	70.5
Delivery & route man	208	21	5	80.8
Assemblers	2086	25	6	80.6
Foundry Worker	123	8	3	72.7
Packers and Wrappers	106	6	2	75.0
Steel Worker	142	6	1	85.7
SERVICE WORKERS EXCEPT PRIVATE HOUSEHOLD				
Plant Security Guard	101	8	3	72.7
Janitor	673	33	5	86.8
LABORERS, EXCEPT FARM & MINE				
Unskilled	4463	147	18	89.1

Table L-16

EMPLOYERS' INDICATIONS OF EXPERIENCE REQUIREMENTS FOR SELECTED OCCUPATIONS, MACOMB COUNTY, 1965

OCCUPATIONS FOR WHICH A HIGH RATE OF RESPONSE INDICATES EXPERIENCE IS REQUIRED FOR EMPLOYMENT
(as determined by the significant ratio of responses)

	Employes Covered	Number of Employers Responding: Entry Occupation	Experience Required	Percent of Entry Occupations
PROFESSIONAL, TECHNICAL, & KINDRED WORKERS				
Mechanical Technician	139	5	15	25.0
Quality Control Technician	486	12	19	38.7
Registered Nurse	243	5	11	31.3
X-Ray Technician	18	1	6	14.3
Accountant	236	14	58	19.4
Drafting & Design Technician	707	15	41	26.8
MANAGERS, OFFICIALS & PROPRIETORS-EXCEPT FARM				
General Office, Plant Manager	357	39	65	37.5
CLERICAL & KINDRED WORKERS				
Secretaries	459	27	64	29.7
Bookkeepers	528	47	74	38.8
SALES WORKERS				
Salesmen	465	21	39	35.0
CRAFTSMEN, FOREMEN, & KINDRED WORKERS				
Heavy Equipment Operator	73	5	11	31.3
Bricklayer, Mason	106	2	14	12.5
Carpenters	299	6	21	22.2
Electrician	319	3	39	7.1
Painter	132	7	18	28.0
Plumber, Pipe fitter	159	4	17	19.0
Foreman-First line Supervisor	1124	12	85	12.4
Auto Mechanic	2309	10	38	20.8
Mechanic-General	177	6	21	22.2
Machinist-General	1025	11	41	21.2
Pattern & Model Maker	167	2	12	14.3
Tool & Die Maker	2293	2	63	3.1
Cabinet Maker	74	2	7	22.2
Sheet Metal Worker	142	2	13	13.3
OPERATIVES & KINDRED WORKERS				
Welder & Flame Cutter	390	10	30	25.0
SERVICE WORKERS EXCEPT PRIVATE HOUSEHOLD				
Practical Nurse	176	2	6	25.0

A small number of employers reported very limited employment of hospital attendants, nurses' aides, platers, steel workers, foundry workers, and farm workers. These are not sufficient indicators that these occupations hold promise for job-seekers. In addition, some jobs in this group are traditionally hard to fill in times of high employment because of their low pay and status, their seasonal nature, or arduous working conditions.

Six employers of fire fighters, an entry occupation, were evenly divided over the adequacy of the available supply of persons to fill these jobs. Law enforcement officers were reported by four employers as in short supply. Pre-employment standards of health, education, and other requirements for fire fighters and law enforcement officers make these occupations unavailable for many job seekers.

Employers of 1126 retail sales clerks reported, by a 28 to 25 margin, that retail sales is an entry occupation, and 25 to 20 that a critically short supply exists in the occupation. The narrowness of these margins of opinion and the looseness of the occupational classification do not permit the pin-pointing of specific job opportunities for the inexperienced. Undoubtedly, many of the available jobs are attractive only to the marginal worker because of the low pay offered. The size of this group makes further detailed examination advisable. Table L-15 indicates those occupations which a significant proportion of employers reported as entry jobs. Table L-16 identifies jobs for which experience is a hiring requirement.

Machine Operators.

The largest single group of employees reported by businesses participating in the Survey of Manpower Needs was reported under the entry machine operator. 95 employers reported that they presently employ 7785 persons in this category. Because of the size of this group and the traditional importance of this occupation as entry employment for young men with few, if any, developed occupational skills, a close scrutiny of all reports on the employment of machine operators was undertaken. The results of this examination are detailed in Table L-17.

Table L-17

SUMMARY OF EDUCATIONAL, HIRING, SUPPLY CHARACTERISTICS OF MACHINE OPERATORS AS REPORTED BY 95 EMPLOYERS, JUNE, 1965

	Totals All Employers Reporting Machine Operators (95)		Operatives Employers Requiring High School Graduation or Less (64)		Craftsmen Employers Requiring Post-High School Education (31)	
Number of Employees	7785	Percent	5692	Percent	1093	Percent
Educational Requirement						
Less than high school	32	33.7	32	50.0	--	----
High school graduate	32	33.7	32	50.0	--	----
Technical school 1 or 2 yrs.	11	11.6	--	----	11	35.5
Apprentice	20	21.0	--	----	20	64.5
Hiring Practice						
Entry Occupation	50	56.2	39	61.9	11	40.7
Experience necessary	39	43.8	24	38.1	16	59.3
Expected Employment 1965-70						
Need will be constant	24	30.0	19	34.5	10	34.5
Will add workers	47	58.8	29	52.7	17	58.6
Will drop workers	9	11.2	7	12.8	2	6.9
Available Supply of Workers						
Adequate number available	30	36.6)37.8	28	48.3)50.0	2	8.3
Surplus Available	1	1.2)	1	1.7)	--	----
Critically short supply	51	62.2	29	50.0	22	91.7
Net change 1965 - 1970						
Total reported	7785		5692		1093	
Total employers will drop	3530		3410		120	
Total employers will add	2600		2325		275	
Net change	- 930		-1085 (-19%)		+ 155 (+14%)	

Two thirds of all employers of machine operators reported that this occupation can be filled by persons possessing a high school education or less. Other employers specified that technical school and/or an apprenticeship is required for employment. On the assumption that employers who require post-high school education and/or apprenticeship for machine operators are in reality reporting skilled machinists and craftsmen, such as jig borer operator, thread grinder, tool maker, or die maker, the 31 returns from these employers were studied separately. A comparison of the information reported on these returns concerning educational and experience requirements, expected future demand, and available supply, supports the assumption that the occupations being reported are highly skilled, rather than semi-skilled. On this basis, these 31 returns were subtracted from the total group identified as machine operators, and the returns for the latter group were re-examined. The newly-defined group of machine operators has a definitely altered profile. The number of operatives covered by the Survey shrinks from 7785 to 5692, with a corresponding increase in the craftsmen occupations. The most significant effect of this re-classification is the disclosure that one-half of the employers of machine operators, identifiable as semi-skilled operatives, do not anticipate a shortage of workers in the occupation. For machine operators, identified as craftsmen by their employers' education requirements, 22 of 24 responding employers indicated a critically short supply of available workers.

While the division of the reported machine operators into operatives and craftsmen on the basis of the educational requirement for entry employment alone is not completely reliable, the employers anticipated needs for these occupations in the five year period, 1965 to 1970 is significant. Employers of the group identified as operatives predict a decline of 19% in the employment of machine operators. The group identified as craftsmen by the significant education required for entry employment is expected to increase by 14%.

Employment Outlook.

When queried as to their expected need for employees during the 1965-70 period, many employers were reluctant to predict their future needs for specific skills. Only one classification, unskilled laborer, was reported as a declining need, 71 occupations were reported as remaining constant in demand, and employment in 39 occupations is expected to increase by 1970. An adequate supply of available workers was reported for 64 occupations, a surplus supply for one, busboy, and a critically short supply for 50 occupations. (Table L-13).

The small return (less than one response from each five employers contacted) to the Survey of Manpower Needs should be considered when viewing employers' needs for specific occupations. Table L-13 does not evaluate the numbers of employees report ' by each reporting employer. Thus the opinion of the employer of three stenographers is tabulated as equal to the opinion of the employer of thirty stenographers. Table L-13 indicates only that response

to each question which was most frequently reported by employers rather than the proportion of all possible responses. This practice is employed to emphasize that the value of the Survey lies in the presentation of generalized collective aspects of local employment, and to discourage the Survey results from being considered in themselves as adequate evidence of the quantitative need for specific occupational education programs.

In assessing the employers' reports, several factors should be noted. The survey was taken at a time of unprecedented high employment which would cause the number of job skills in short supply to be reported rather high. The large number of responses indicating that the need for particular trades will remain unchanged over the next five years seems unrealistic in view of the same high employment factor. Perhaps employers felt that their indication of future need for specific occupations might obligate them should this need fail to materialize. This interpretation is borne out by the cautious nature of some of the written comments about existing occupational education programs in the schools.

Table L-18

EMPLOYERS' EVALUATION OF YOUNG PERSONS WHO APPLY FOR ENTRY JOBS

	TOTAL ALL EMPLOYERS 516	PERCENT OF ALL EMPLOYERS 516=100%	
Most Young High School Graduates are Reasonably Well Prepared for Entry Employment.	157	30.4	
Young High School Graduates Need a Considerable Amount of Additional Education and/or Training Before They Can Perform Satisfactorily.	138	26.7)	49.8
Young High School Graduates are Virtually Unemployable Because They Lack Occupational Education and Training.	119	23.1)	
Did Not Answer	102	19.8	
Do You Find That Employees Who Have Had Occupational Training in High School are Better Prepared for Entry Jobs in Your Firm?			
Yes	225	43.6	
No	61	11.8	
No opinion	72	14.0)	44.6
Did not answer	158	30.6)	

Employers who were contacted by personal interview tended to be more openly critical of school programs than the employers who responded by mail.

Employability of Job Seekers

When asked to evaluate the employability of young high school graduates who apply for jobs, employers indicated, by a 5 to 3 margin, that high school graduates are virtually unemployable or need a considerable amount of additional training for satisfactory employment. Employers reported, by 4 to 1, that persons with high school occupational training are better prepared for employment. Responding employers feel that present school programs are meeting their occupational needs very well, or fairly well, by almost 2 to 1.

Table L-19

EMPLOYERS' OPINIONS CONCERNING OCCUPATIONAL PROGRAMS IN MACOMB COUNTY SCHOOLS

	TOTAL ALL EMPLOYERS 516	PERCENT OF ALL EMPLOYERS 516=100%	
To What Extent do Existing Educational Facilities in Macomb County Meet the Occupational Training Needs of your Company?			
Very well	38	7.4)	29.9
Fairly well	116	22.5)	
Poorly	84	16.3	
No opinion	110	21.3)	53.8
Did not answer	168	32.5)	
If You Think Occupational Education and Training in the Area Need Improvement, Which of the Following Developments Would You Support?			
Strengthening of occupational programs in the high school.	159	30.8	
Area vocational school(s) for high school occupational training.	131	25.4	
Co-op work-study programs.	118	22.9	
More and stronger community college occupational programs.	120	23.3	

The inference can be made that employers are quite frank in criticizing the employability of the high school graduate but reluctant to criticize the schools. A significantly large percentage (53.8), of the respondents do not have, or declined to reveal, opinions as to the adequacy of occupational programs in the public schools. There was fairly uniform support for four suggested means of upgrading occupational education programs at the high school and community college levels.

Table L-20

EMPLOYERS' ADVICE FOR THE IMPROVEMENT OF OCCUPATIONAL EDUCATION IN MACOMB COUNTY SCHOOLS

240 RECOMMENDATIONS FOR PROGRAM IMPROVEMENT	FREQUENCY	PERCENT OF ALL RECOMMENDATIONS 240=100%
Basic education	44	18.3
Specific occupational programs	78	32.3
Economic education	14	5.8
Character traits and attitude improvement	104	43.3

Employers were more emphatic when they offered their own comments about the specific improvements in school programs which are required to upgrade the employability of job seekers. Two of every five recommendations were for education to improve attitudes and basic character, one of every three was for specific occupational programs, and one of five recommended improved basic education. A small number of employers requested economic education so that the new employee would have an appreciation of the free enterprise system.

In-service Training.

Employers were asked which types of formal training programs are being operated for the in-service training of their workers. The answers are detailed by type and size of business in Table L-21.

The most frequently reported training program was apprenticeship, with almost half of the 171 programs reported by manufacturing companies. Employers reported 91 supervisory training programs, and 69 technician training programs. As expected, many employers operate more than a single program. The larger companies (measured by number of workers reported) operate the greatest number of programs, but even the 170 employers of 1 to 10 workers reported 98 training programs. Obviously, these reports indicate nothing about the depth or extensiveness of the training programs. In a few cases wherein small companies reported several training programs, it is reasonable to assume that the definition used for a training program is a very loose one.

One purpose of the Survey was the identification of employers' interest in participating with the schools to serve or upgrade their training needs. The results of this measurement are detailed in Table L-22.

Table L-21

PRESENT IN-SERVICE TRAINING PROGRAMS OF
MACOMB COUNTY EMPLOYERS RESPONDING

QUESTION: Which of the Following Training Programs Does Your Company Operate?

Type of business and number of establishments ( )		Apprentice-ship	Super-visory Training	Technician Training	Plant Manage-ment	Executive Development	TOTAL
Agricultural services	(9)	2	-	-	-	-	2
Banking & finance	(11)	1	3	-	-	1	5
Commercial foods & dairy	(4)	2	-	-	-	-	2
Construction	(48)	25	5	1	-	2	33
Education	(21)	-	5	3	-	2	10
Entertainment & recreation	(4)	2	1	-	-	-	3
Government	(21)	6	11	6	-	4	27
Hospital, medical, dental	(21)	8	6	6	-	-	20
Manufacturing	(183)	83	22	21	7	9	142
Insurance	(13)	2	10	1	-	1	14
Marine services	(3)	1	1	-	-	-	2
Printing & publishing	(4)	3	-	-	-	-	3
Professional (non-medical)	(20)	3	2	7	-	-	12
Real estate	(6)	1	2	-	-	1	4
Restaurant & tavern	(21)	-	5	1	-	-	6
Retailing	(63)	19	10	14	-	9	52
Service establishment	(26)	9	2	1	-	-	12
Transportation	(6)	1	-	2	-	-	3
Utilities	(2)	-	2	2	-	2	6
Wholesaling	(12)	2	3	3	1	-	9
Other	(18)	1	1	1	-	-	3
TOTAL	516	171	91	69	8	32	370
Employers grouped by number of employes							
1-10 Employes	(170)	40	31	23	1	3	98
11-25 Employes	(91)	33	12	14	2	4	65
26-99 Employes	(139)	62	16	10	-	6	94
100-500 Employes	(74)	28	18	11	-	8	65
500 + Employes	(15)	7	13	11	5	9	45
No. of Employes not reported	(27)	1	1	-	-	1	3
TOTAL	516	171	91	69	8	31	370

Table L-22

EMPLOYERS' INTEREST IN USING PUBLIC SCHOOLS
TO MEET THEIR TRAINING NEEDS

QUESTION: Which of Your Present Training Programs Would You Prefer to Turn Over to the Schools?

Type of business and number of establishments ( )		Apprentice-ship	Super-visory Training	Technician Training	Plant Manage-ment	Executive Development	TOTAL
Agricultural services	(9)	1	1	-	-	-	2
Banking & finance	(11)	-	2	-	-	2	4
Commercial foods & dairy	(4)	1	1	-	-	1	3
Construction	(48)	12	4	4	1	1	22
Education	(21)	1	1	3	-	-	5
Entertainment & recreation	(4)	-	-	1	-	-	1
Government	(21)	2	3	2	-	3	10
Hospital, medical, dental	(21)	4	3	6	-	2	15
Manufacturing	(183)	56	18	22	8	11	115
Insurance	(13)	-	2	-	-	1	3
Marine services	(3)	-	-	1	-	-	1
Printing & publishing	(4)	2	1	-	-	-	3
Professional (non-medical)	(20)	1	-	5	-	-	6
Real estate	(6)	-	1	-	-	-	1
Restaurant & tavern	(21)	-	2	2	-	-	4
Retailing	(63)	9	4	7	-	4	24
Service establishment	(26)	6	-	1	-	-	7
Transportation	(6)	-	1	-	-	-	1
Utilities	(2)	-	-	1	-	-	1
Wholesaling	(12)	-	1	1	1	-	3
Other	(18)	-	1	1	1	-	3
TOTAL	516	95	46	57	11	25	234
Employers grouped by number of employes							
1-10 Employes	(170)	25	14	19	2	4	64
11-25 Employes	(91)	14	7	12	2	3	38
26-99 Employes	(139)	35	9	10	7	10	71
100-500 Employes	(74)	16	14	11	-	6	47
500 + Employes	(15)	4	2	4	-	2	12
No. of Employes not reported	(27)	1	-	1	-	-	2
TOTAL	516	95	46	57	11	25	234

Employers indicated an interest in using the public schools for 234 training programs, or 63.3% of the 370 programs reported. Least interest was reported by employers of 500 or more workers, indicating that these employers are equipped to meet their own training needs, or that satisfactory arrangements with public institutions have been provided already. The positive respondents to this query should be the objective of further inquiry by Macomb County Community College.

Qualification of the Survey of Manpower Needs.

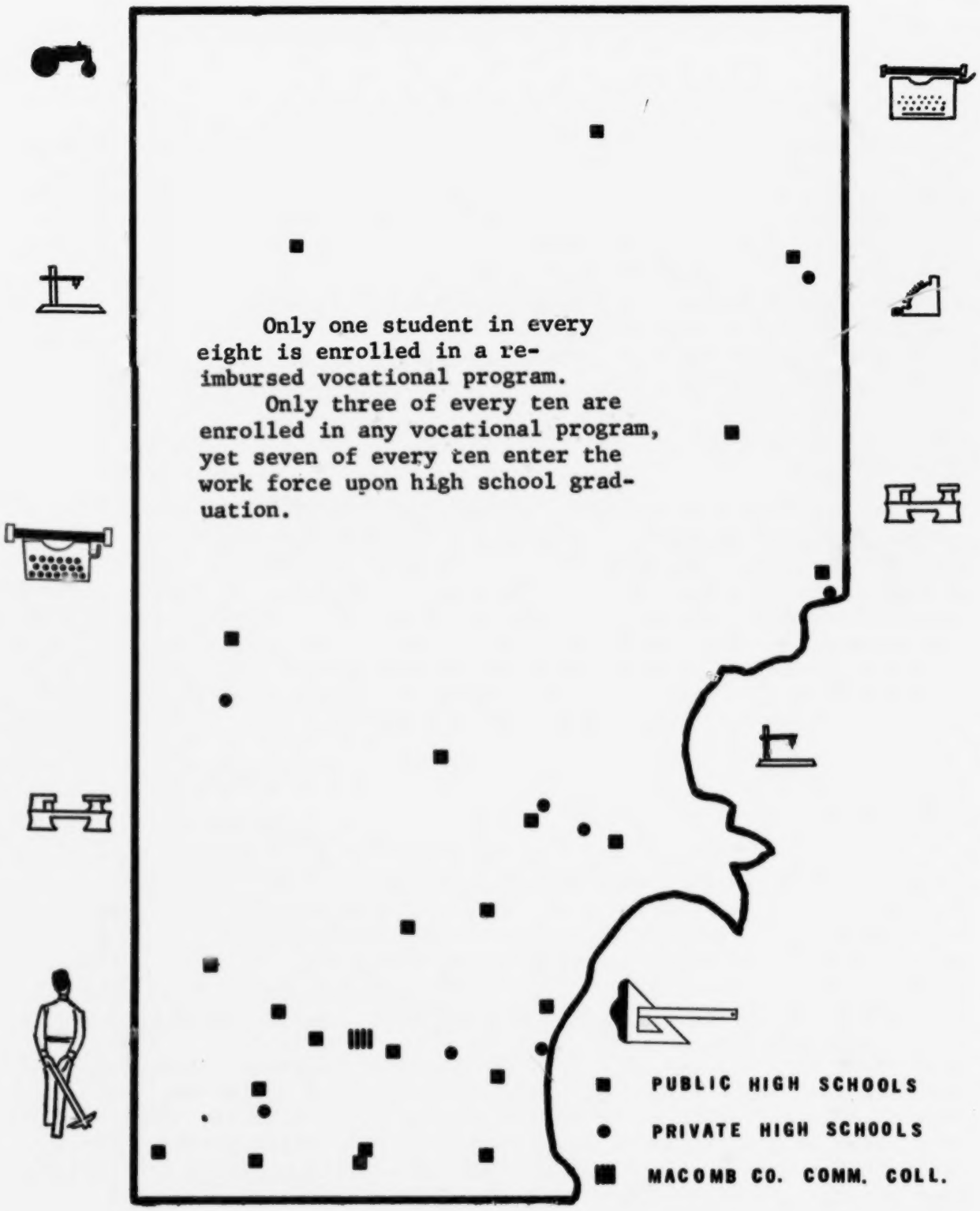
Employer surveys, such as the one taken in connection with this study, have limitations and should be used with caution. Mr. Sol Swerdloff, Bureau of Labor Statistics, United States Department of Labor, speaking at a June 25, 1964 conference, commented on this technique as follows:

> "This method has certain drawbacks. Few companies or other employers devote time to making long-term projections of their activity or manpower requirements, and thus most employers tend to make only a hasty guess when confronted with a request for the number of workers they will need in some future year. Even if all employers guessed correctly, they could not provide the data for firms not now in existence but which will be created in the future. The summation of employers' reports, therefore, has often resulted in projections of manpower requirements which appeared to be unreasonable..."

Many of the returned Survey questionnaires were incomplete, indicating that the information sought was not available, too detailed, or regarded as confidential by the employer. Other returns contained contradictions which indicated that the questionnaire itself was confusing to persons who were desirous of cooperating with the study. The reliability of a completed questionnaire derives from the knowledgeability of the person who is supplying the information. This knowledgeability can only be assumed for mailed-in responses. Financial and manpower resources for this study were too limited to permit extensive personal interviewing of employers. This factor and an apparent apathy of many Macomb employers concerning this study were responsible for the low proportion of responses to the Survey.

The 'moment of time' fallacy must be considered in evaluating the significance of questionnaire responses. June, 1965, during which the employer survey data was collected, was a period of exceptionally high employment. It is a fairly safe assumption that employers' indications of skills needs, and the availability of workers differ markedly from the same measurements taken in June, 1964, or perhaps, June, 1966. It can be assumed, however, that educational and experience requirements, at least as reported, would remain more consistent.

EXISTING VOCATIONAL PROGRAMS AND FACILITIES
IN MACOMB COUNTY HIGH SCHOOLS



VOCATIONAL EDUCATION IN MACOMB COUNTY

Types of Measurements

The survey has undertaken a number of measurements and evaluations of the status and adequacy of the existing vocational education programs and services in Macomb County high schools. A special committee of the Citizens Advisory Committee compiled the first detailed balance sheet ever prepared for any educational curriculum in Macomb County. The complete report of this district-by-district inventory of vocational programs, enrollments, and facilities has been forwarded to the superintendents and vocational directors of the County school districts for their information and use. Data which is of interest and significance to all County educators and the public are summarized below. Summary reports of vocational education reactions and evaluations by students, employers, high school principals, and guidance counselors are also included.

The complete tabulations of the survey of Macomb County's 1965 senior class are included in this report because the responses of these students convey strong implications of needed improvements in school programs and services. This is the first County-wide attempt to solicit students' opinions as one basis for the evaluation of school services. Responses are separately reported by students' sex, types of school attended, students' programs of study, and students' indications of academic ranking. These reports deserve the careful study of County school administrators, teachers, and counselors.

Conclusions

From these survey activities and data from State reports on vocational enrollments and reimbursements in Macomb County, a fairly accurate picture of local efforts in vocational education can be drawn. In summary, these sources indicate that Macomb County vocational education efforts compare favorably with vocational education in other counties in Michigan, but can only be described as inadequate, when compared to the needs of a large proportion of Macomb County high school students for such training. Reports filed with the State Department of Education by Macomb County school districts indicate that 63.5% of the 1964 County high school graduates did not enroll in four-year or two-year colleges or in business or trade schools. This large proportion of graduates who leave high school to enter directly into the work force is double the number of persons who prepared for employment through a high school vocational program, and five times the number of Macomb County students who are enrolled in a vocational program which meets the minimum state standards for re-imbursement.

Costs of Vocational Education.

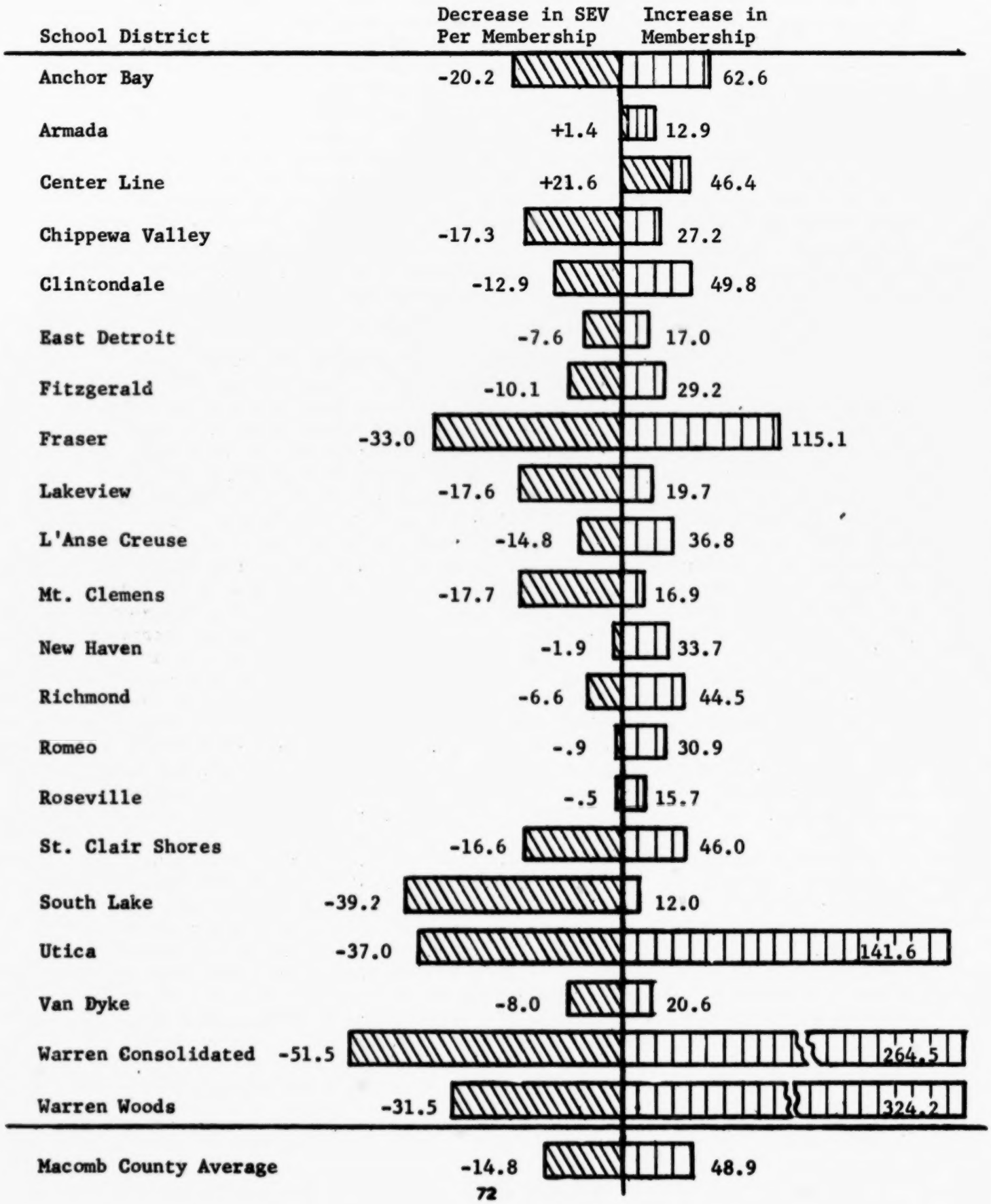
Vocational education programs are among the most costly services which the public school is expected to provide. The more sophisticated programs and the specialized terminal portions of vocational programs are costliest. The explanation for the underdevelopment and low enrollments in vocational programs which meet the State-determined standards for reimbursement is found in the examination of the financial condition of Macomb County school districts. Graph V-1 illustrates the most significant financial problem which affects Macomb County school districts. The school age population increase of most County districts has been so large that serious dislocation has resulted for the local district's ability to maintain the standards of its educational programs. For the five-year period 1959-64, 19 of the 21 local school districts experienced a reduction in the tax base, when measured as the State Equalized Valuation per membership child in the district. In most of these districts, the loss in tax base per membership child has been roughly proportional to the increase in memberships during the 1959-64 period.

One purpose of state and federal-derived support for vocational education programs is to encourage greater local effort to provide such programs. However, financially-pressed districts frequently cannot participate in the reimbursement. School districts which have the local financial resources to provide vocational facilities and to hire vocationally certifiable teachers are thereby enabled to qualify for reimbursement of vocational programs. A comparison of the per capita operating costs of Macomb County school districts (Graph V-2) and the vocational programs reimbursement per student enrolled in grades 11 and 12 (Graph V-3) illustrates this relationship. Only two County districts with per capita operating costs below the median for all County districts in 1964-65, received vocational reimbursements at per capita rates above the median for all County districts. In both of these schools, extremely small 11th and 12th grade enrollments caused the reimbursement of a single modest vocational program to reflect this apparent affluence. The two County districts with per capita expenditures significantly above County-wide levels also receive vocational reimbursements at per capita level well above the other County districts. It is likely that local educational leadership in these districts is partly responsible for higher levels of local education expenditures and for vocational education programs which achieve higher rates of reimbursement.

Complicating the problems for local districts which result from the County's position as the fastest-growing county in Michigan is the extent to which the balance of total public school costs have been shifted from state-derived support to local resources during the ten-year period from 1954-55 to 1964-65. Graph V-4 illustrates this situation as it affects all of Michigan's school districts. The local district's share of financing the public schools increased from 38% in 1954-55 to 50.2% in 1964-65, while the state share decreased from 57.7% to 46.4% over the same period. Table V-5 indicates that state support per student has been raised by the Legislature during recent years, but not on a scale which is in proportion with the increasing costs of providing public education.

V-1

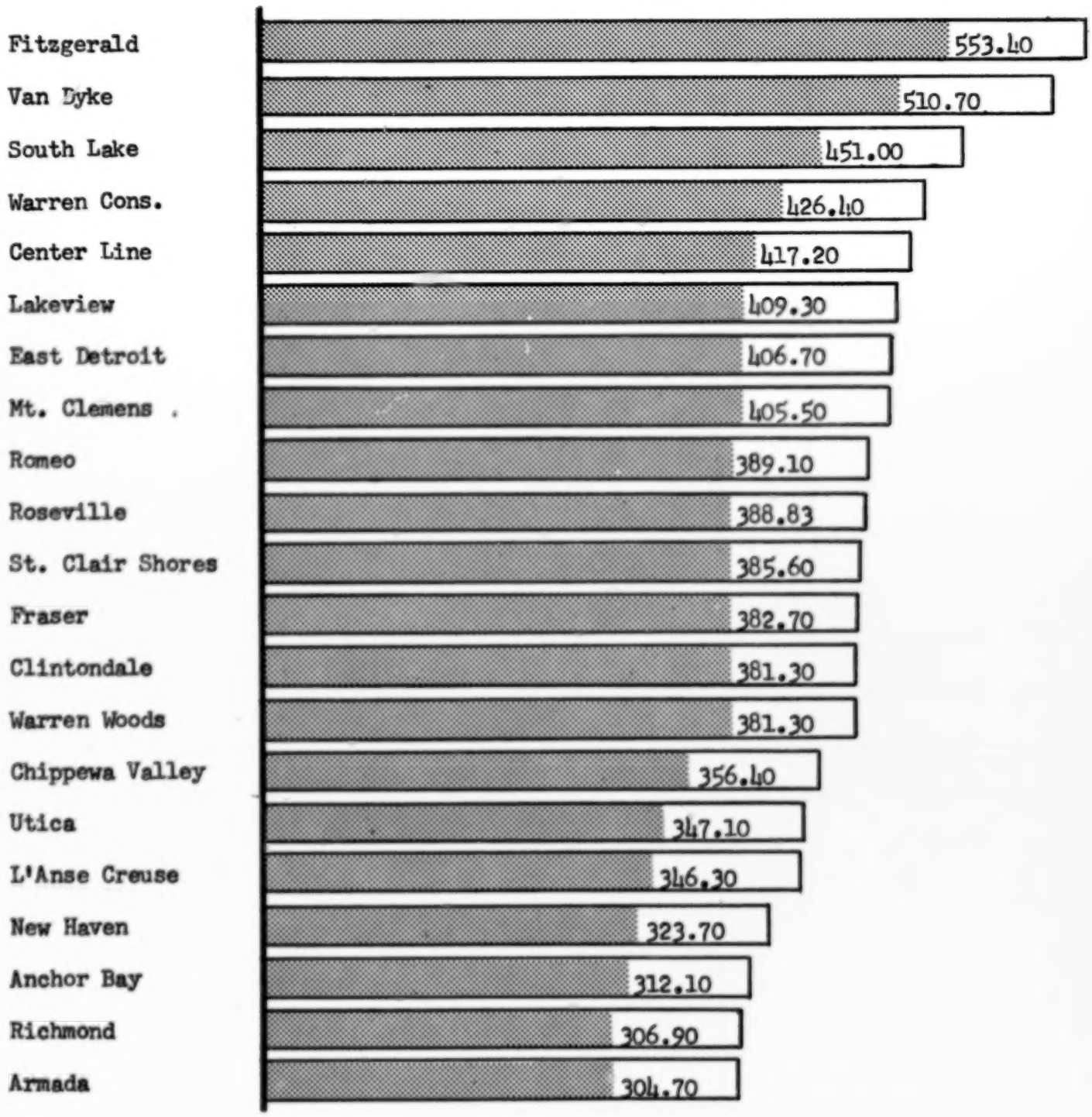
COMPARISON OF INCREASES IN RESIDENT MEMBERSHIPS AND DECREASES IN STATE EQUALIZED VALUATIONS PER RESIDENT MEMBERSHIP FOR MACOMB COUNTY SCHOOL DISTRICTS, 1959 to 1964



V-2

PER CAPITA OPERATING COSTS

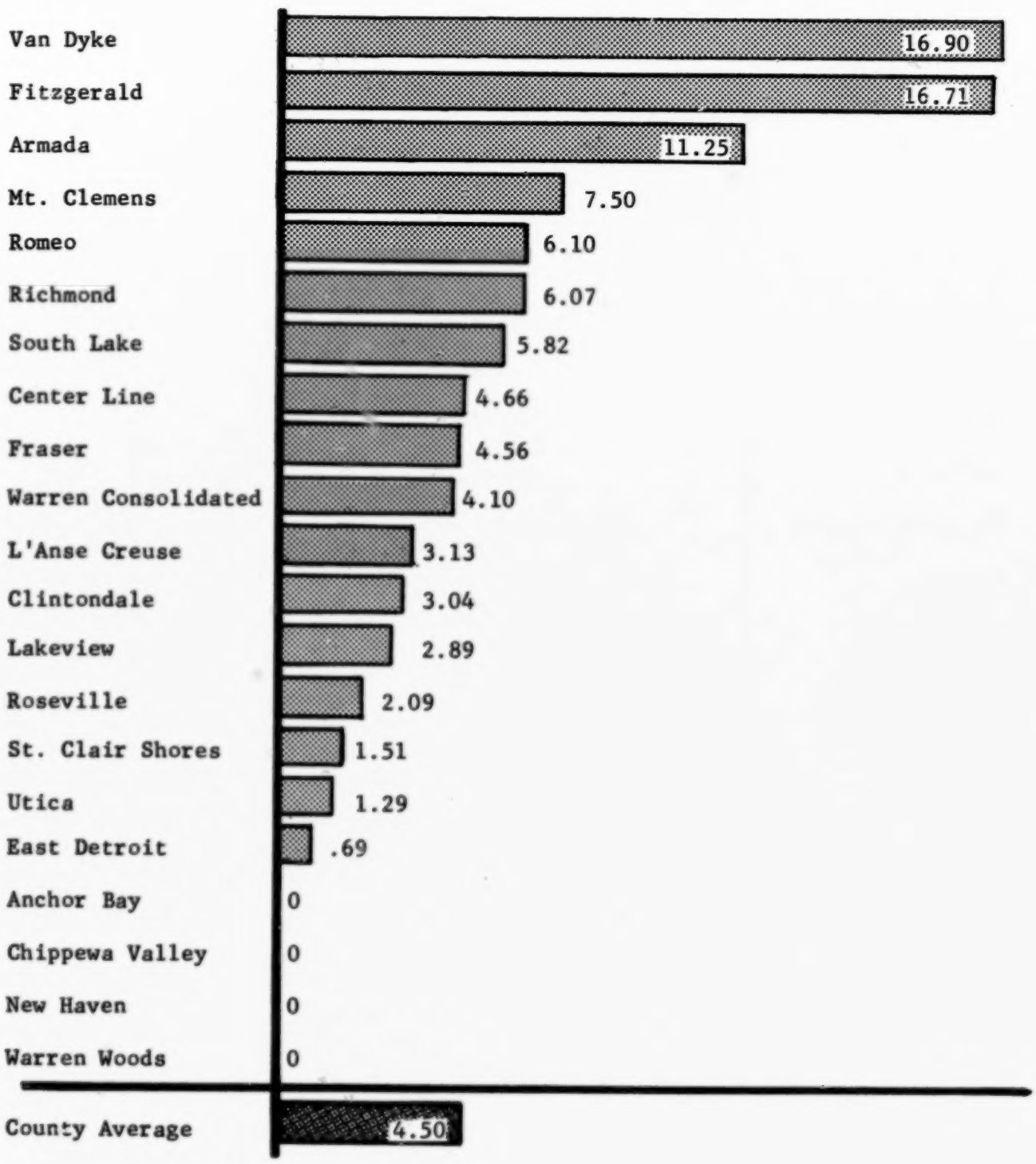
MACOMB COUNTY PUBLIC SCHOOL DISTRICTS 1964-65



V-3

VOCATIONAL PROGRAM REIMBURSEMENTS PER STUDENT IN GRADES 11 AND 12

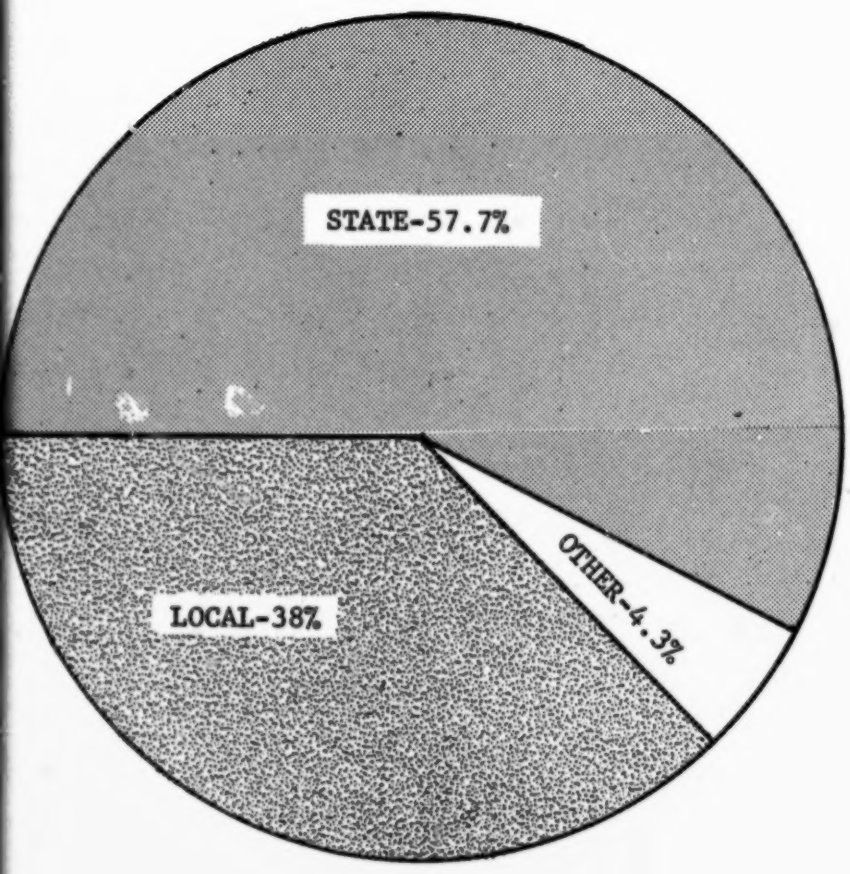
MACOMB COUNTY PUBLIC HIGH SCHOOLS 1964-65



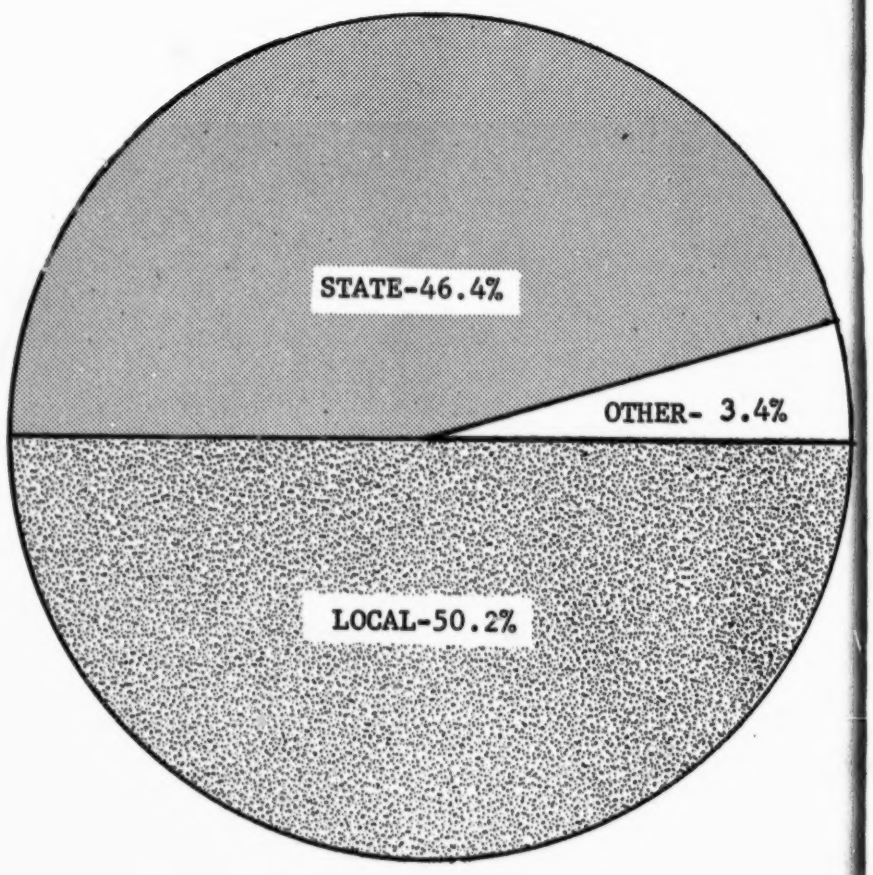
Homemaking reimbursements not included

V-4

CHANGING PATTERN OF FINANCIAL SUPPORT FOR PUBLIC SCHOOLS IN MICHIGAN
1954-55 to 1964-65



1954-55



1964-65

V-5

CURRENT OPERATION REVENUE RECEIPTS PER PUPIL
AND PERCENT BY SOURCE FOR THE PERIOD 1959-60 TO 1964-65

School Years	Local Property Tax	State Taxes	Other	Total
1959-60	$170 (47.4%)	$174 (48.4%)	$15 (4.2%)	$359
1960-61	185 (49.7)	171 (46.0)	16 (4.3)	372
1961-62	192 (50.4)	172 (45.1)	17 (4.5)	381
1962-63	198 (49.2)	189 (47.0)	16 (3.8)	403
1963-64	208 (50.5)	188 (45.8)*	15 (3.7)*	411*
1964-65	215 (50.2)	199 (46.4)*	15 (3.4)*	429*

*Estimated

Increases in state aid have been reduced in effectiveness by legislative exemption from full local taxation of the personal and real property of special groups such as veterans, elderly persons, and manufacturers. The State Tax Board has required changes in assessing practices which are reducing the tax base in some school districts.

Graph V-6 indicates the sources of funds for local programs of vocational education in Michigan for the biennium, 1962-64.

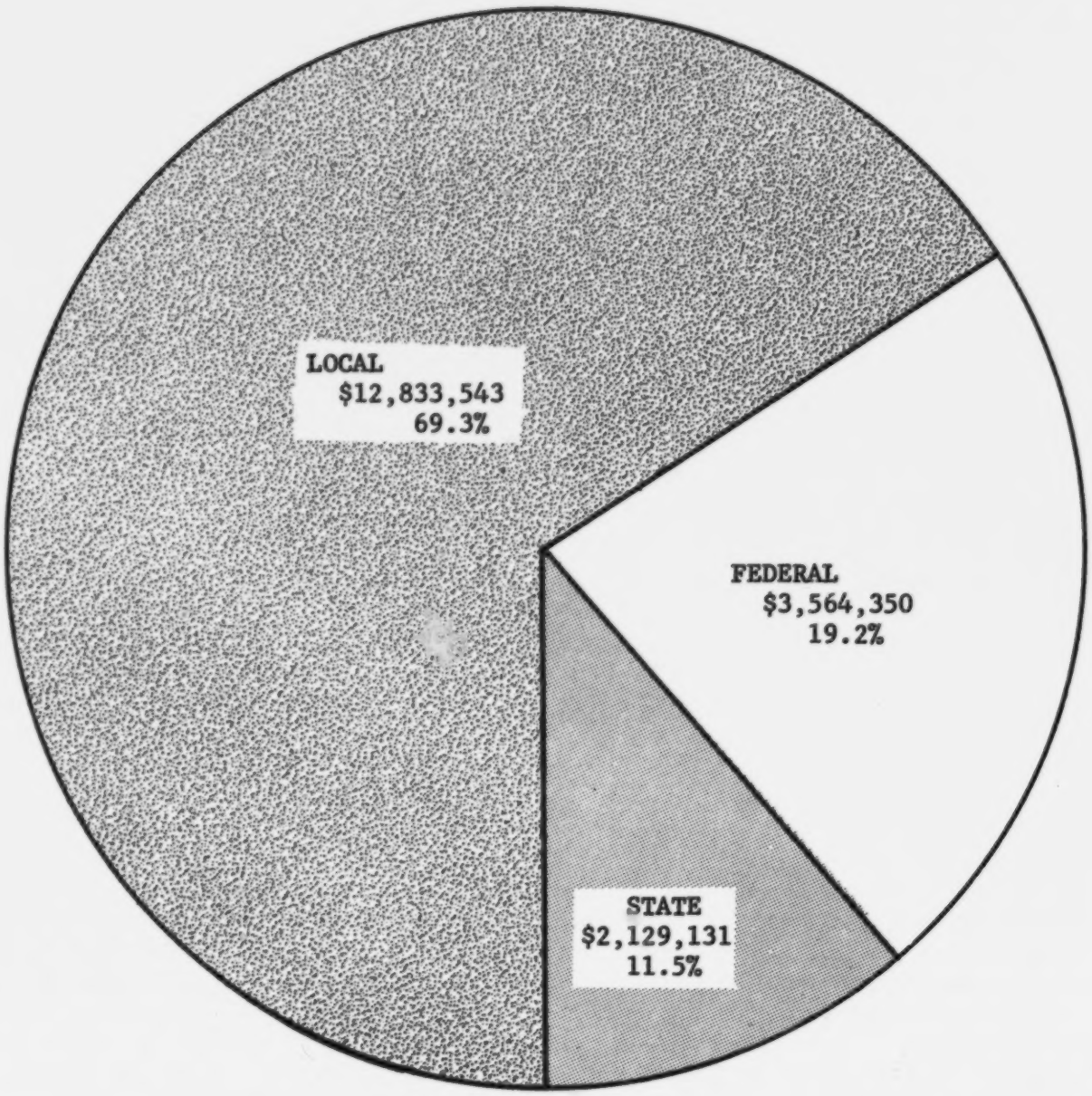
State support for vocational education in the local districts equalled or surpassed federal support from 1949-50 to 1959-60. Since the latter year, however, state support has remained virtually unchanged, while federal funds have increased.

Vocational Enrollments

A major obstacle to efforts to summarize numerically the extent of vocational education in Macomb County is presented by the widespread confusion over the definition of the term "vocational education". Both the broad and narrow outlines of the topic are found in Guidelines for Establishing Trade and Technical Education Programs.[1]

> Vocational Education
>
> Education designed to develop skills, abilities, understandings, attitudes, work habits and appreciations, encompassing knowledge and information needed by workers to enter and make progress in employment on a useful and productive basis. It is an integral part of the total education program and contributes toward the development of good citizens by developing their physical, social, civic, cultural and economic competencies.

[1]Lynn M. Bartlett, (Division of Vocational Education Department of Public Instruction; Lansing, Michigan, 1965) Bulletin No. 2147.



SOURCES OF FUNDS USED FOR LOCAL PROGRAMS OF
VOCATIONAL EDUCATION IN MICHIGAN FOR THE BIENNIUM, 1962-64

Reimbursable Vocational Program

A class or curriculum offered through a public school or teacher-training institution which is organized and conducted in accordance with the provisions of the State Plan for Vocational Education approved by the United States Office of Education. Such programs are eligible to receive funds from the state (from state and federal vocational education appropriations) to cover, in part, certain costs already incurred.

Under the above definition for Vocational Education, student enrollments in homemaking, and single or unrelated courses in industrial arts or vocational subjects can be included in the measurement of vocational education enrollments. This broad definition has been applied by many Macomb County administrators in their contacts with Survey personnel. Local directors of Vocational Education, however, usually adhere to the narrower limits of Reimbursable Vocational Programs as their definition of Vocational Education.

Vocational directors are oriented toward the conceptions of Vocational Education which have become traditional since the passage of the Smith-Hughes Act in 1917. Reimbursement under Smith-Hughes required that the following standards be met:

1. Vocational certification of the instructor.

2. Relatedness of the course to a specific occupational area within the Smith-Hughes spectrum of agriculture, trade and industry, office, and distributive education.

3. Length of the daily instruction period (2 hours daily minimum in shop classes and 1 hour of related instruction).

Under the 1965 Michigan State Plan for Vocational Education, the requirements for teacher-certification have been liberalized, the occupational areas have been broadened to include programs in any occupations excepting the professions, and the instructional time requirements have been opened to a more liberal interpretation. Under the new Plan, vocational program students are required to identify with a specific occupational goal. It remains to be demonstrated whether local vocational educators or the State Division of Vocational Education will change their thinking and policies significantly from the traditional Smith-Hughes concepts.

Under the latitude provided by these differing definitions of Vocational Education, it is not surprising that vocational enrollments are reported by high school principals as ranging from 13 to 63 percent. Senior boys reported a range of 6 to 32 percent for vocational enrollments in the 22 public high schools in Macomb County. The corresponding range of vocational enrollments reported by public high school girls was from 30 to 57 percent. The high vocational enrollments for girls results from the popularity of office occupations programs. Table V-7 indicates vocational enrollments by schools.

V-7

VOCATIONAL ENROLLMENTS AS INDICATED BY
MACOMB COUNTY PUBLIC HIGH SENIORS, May, 1965

High School	Percents Boys	Girls
Anchor Bay	12	42
Armada	17	30
Center Line	30	40
Chippewa Valley	12	30
Clintondale	27	51
East Detroit	25	57
Fitzgerald	21	31
Fraser	20	42
Lakeview	14	38
L'Anse Creuse	29	42
Mt. Clemens	20	38
New Haven	13	50
Richmond	22	40
Romeo	6	33
Roseville	32	56
St. Clair Shores	19	32
South Lake	20	46
Utica	22	40
Van Dyke	22	47
Warren Cousino	31	44
Warren High	24	40

Table V-8 indicates Macomb County high school enrollments in reimbursed vocational programs in 1963-64 and 1964-65. Approximately one of every eight Macomb County 11th and 12th grade students is enrolled in a reimbursed vocational program.

V-8

ENROLLMENTS IN REIMBURSED VOCATIONAL PROGRAMS
IN MACOMB COUNTY HIGH SCHOOLS

	1963-64	1964-65	PERCENT OF CHANGE
Trade and Industry	1011	944	- 6.6
Distributive	266	312	+17.3
Office	331	381	+15.1
Agriculture	118	138	+16.9
County, excluding Homemaking	1726	1775	+ 2.8
Homemaking	3781	3893	+ 3.0
County Totals	5507	5668	2.9

It will be noted that homemaking enrollments and reimbursements have been extracted before certain measurements of vocational programs have been made. This is not an attempt to downgrade or eliminate homemaking, for this curriculum area has excellent educational values. It was deemed proper, however, to extract homemaking data from vocational education data in order to present an accurate picture of vocational education in Macomb County. Homemaking, as it is presently offered in Macomb County, is general education, rather than vocational (i.e., oriented toward the development of specific employable skills which can be exploited in the local labor market).

Table V-9 compares vocational enrollments in four regions of Macomb County. The regions have been identified as one logical pattern for the establishment of the proposed Area Occupational Education Centers. The South West Area which includes 27.6% of 11th and 12th grade enrollments receives 44.2% of all vocational reimbursements in Macomb County.

V-9

ENROLLMENTS IN GRADES 11 AND 12 IN MACOMB COUNTY PUBLIC SCHOOLS COMPARED WITH VOCATIONAL EDUCATION REIMBURSEMENTS 1964-65

AREA	SEPTEMBER, 1964 ENROLLMENT Grades 11-12	PERCENT OF COUNTY TOTAL	VOCATIONAL REIMBURSEMENT	PERCENT OF COUNTY TOTAL
North Area	1060	8.15	$ 7,900.15	7.7
Central Area	3412	26.23	19,368.83	19.0
South East Area	4941	38.0	29,444.88	29.1
South West Area	3592	27.63	44,976.25	44.2
Macomb County Totals	13,005	100.01	$101,690.11	100.0

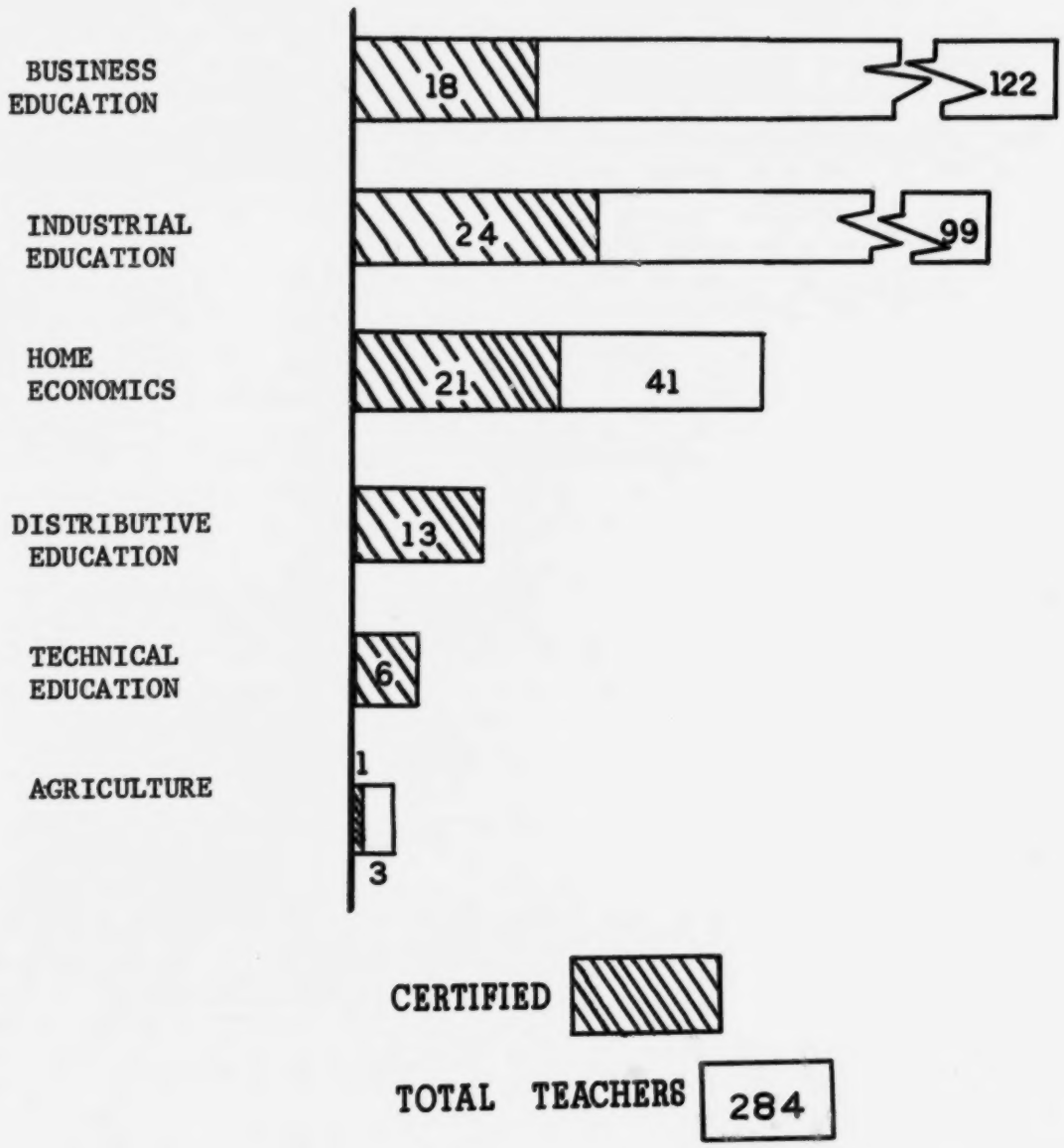
North Area: Anchor Bay, Armada, New Haven, Richmond, Romeo.
Central Area: Chippewa Valley, Clintondale, Fraser, L'Anse Creuse, Mt. Clemens Utica.
South East Area: East Detroit, Lakeview, Roseville, St. Clair Shores, South Lake.
South West Area: Center Line, Fitzgerald, Van Dyke, Warren, Warren Woods.

Vocational Certification.

Graph V-10 indicates the distribution of the 83 vocationally certified teachers in Macomb County high schools by program areas.

V-10

CERTIFICATION OF VOCATIONAL TEACHERS



MACOMB COUNTY PUBLIC HIGH SCHOOL PRINCIPALS' VIEWS ON VOCATIONAL-TECHNICAL EDUCATION

High school principals exert considerable influence upon the direction of secondary education. Not only are they in the best position to know all aspects of their schools, but their opinions and attitudes very often translate into procedures, policies, and programs. The responses of each of the twenty-two public high school principals in Macomb County to questions measuring present vocational programs and the need for improved programs were obtained through personal interviews.

Dropouts.

Students in the 10th, 11th, and 12th grades of Macomb County public high schools who dropped out of school during the 1964-65 school year, including those who completed the year but neither graduated nor returned in September, 1965, total 1430. This is 6.34% of the total who enrolled in September, 1964. Projecting the same dropout rate for three years to cover the span of grades 10 to 12 indicates that 19.1% of the students entering grade 10 do not complete grade 12. While this is a single year measurement, the conclusion is comparable to the findings of more sophisticated studies of dropout rates taken nation-wide.

Program Enrollments.

According to the high school principals, 11th and 12th grade students are divided among the three programs of study as indicated:

College Preparatory	37%
General	31%
Vocational or Occupational	32%

Vocational Program Costs.

Principals were asked "What is the cost, in your school, of vocational education as compared to general education?" Answers were recorded as the ratio of vocational education costs to general education costs. Twenty respondents indicated that vocational education is more expensive. The most frequently expressed opinion was that vocational education is 1½ times as costly as general education; five principals thought vocational education is twice as costly.

COST OF VOCATIONAL EDUCATION
COMPARED TO COST OF GENERAL EDUCATION
Estimates of 21 Macomb County High School Principals

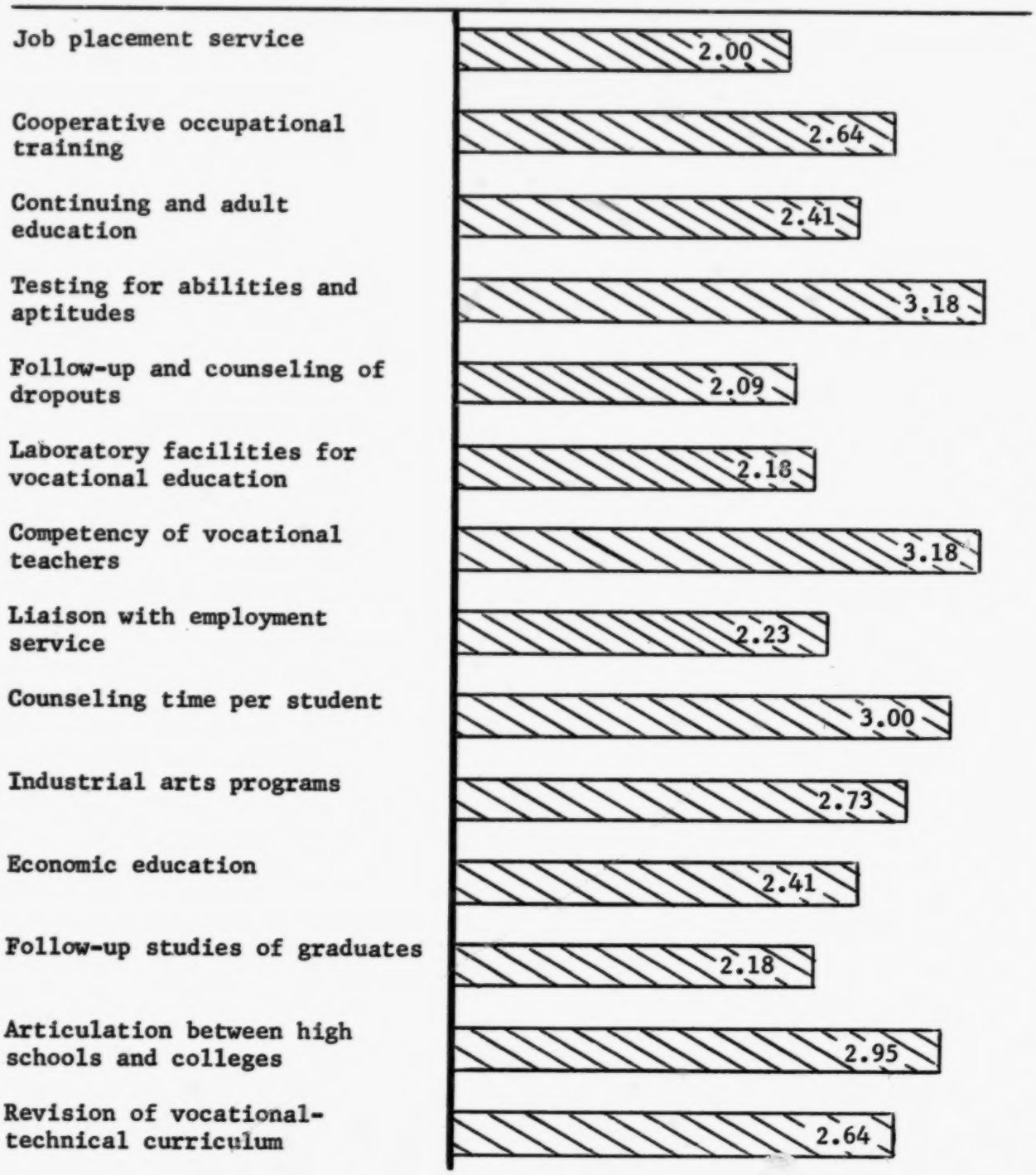
Expense Ratio	No. of Responses
1 to 1	1
1½ to 1	11
2 to 1	5
2½ to 1	3
3 to 1	0
More than 3 to 1	1
No Opinion	1

Present Programs.

Principals were asked to rate the adequacy in their schools of fourteen various services, programs, or activities which are closely associated with vocational education. The composite responses below indicate that principals believe considerably more attention should be given to these aspects of the high school program.

PRINCIPALS' RATING OF VOCATIONAL SERVICES IN MACOMB COUNTY PUBLIC HIGH SCHOOLS 1965

Rating scale
(4) Exceptionally good
(3) Adequate
(2) Less than adequate
(1) Very poor
(0) Not being done



Most high schools are providing counseling personnel at a ratio of one counselor for each 300 students which is the minimum recommended by accrediting agencies. While there are several factors which determine a student's course of study, and no one factor is applied to the exclusion of the others, most principals indicated that the student's own choice has more weight than either the choice of his parents or the recommendation of the school.

Two-thirds of the principals stated that staff personnel, usually counselors, are assigned to contacting students who drop out of school. Such contacts are confined, however, to those students who indicate their intent to leave school before actually leaving. There is little evidence that students who leave without giving prior notice are contacted other than to confirm their status. Students who give notice of their decision to leave school are encouraged to remain in school.

Principals indicated that all schools perform some placement of their graduates, but only one of the 22 schools has a formalized placement service. In most situations students are referred, generally through a member of the counseling staff, upon requests from employers. Only one of the high schools provides placement services during the summer months.

Program Expansion.

Principals are of the opinion that many of the students enrolled in college preparatory and general programs would benefit by enrollment in one of their present vocational programs. An average of all responses indicates that 25% of those not on vocational programs would benefit by participation in a vocational program that presently is being offered.

There was a wide divergence of opinion regarding the numbers of students the high schools could prepare for meaningful job entry by expanded use of existing facilities. A few high school principals indicated that their present facilities are utilized to capacity. Others stated that the use of facilities could be expanded, but that vocational teachers were unavailable. About half of the principals indicated that their present facilities could accommodate expansion of some programs of vocational education.

In none of the schools were all vocational laboratories in use, for vocational instruction only the entire school day. While some laboratories are adaptable to regular academic instruction, other facilities such as machine shops, drafting rooms, and graphic arts laboratories may be used practically only for their specific purposes. Vocational-technical laboratories are utilized for vocational instruction about 70 percent of the school day.

There is more intensive utilization of vocational teaching personnel than of vocational facilities. Vocational teachers frequently have other teaching, supervisory, or preparatory assignments in addition to their vocational classes. The survey indicates that vocational teachers are engaged in teaching vocational subjects about 85 to 90% of their "in-class" time.

Adequacy of Student Preparation.

When asked what proportion of their graduates leave school without adequate preparation for further education or for direct employment, the principals' answers were as high as 80% with an average of 21.1%. The wide range of answers indicate differing personal philosophies of the purposes of high school education rather than differences in the quality of education among the schools. Every principal agreed that at least some of his students are graduating without adequate preparation for his next step in life.

If a wider choice of vocational programs were available, principals believe such programs would benefit over one-third of those students presently enrolled in non-vocational programs.

Means of Improving Vocational Education.

When asked how Macomb County high schools should conduct programs in vocational education, 15 of 22 principals favor area vocational schools providing a much wider choice of programs than local schools are able to offer. The responses were as follows:

	No. of Responses
Within the individual schools for their own students	1
Through area vocational high schools which would enroll selected students on a full-time basis	1
Through area--vocational high schools which would share the students time with the home high school on a half-day, alternate week, or other arrangement	15
Through the County Community College	2
By sharing students, programs and facilities among neighboring districts-a decentralized arrangement.	2
Other - describe	0

With the exception of one high school, credit requirements for graduation are the same for all students, regardless of program. However, in practice, the vocational program student may be required to attend school for more class hours daily. This increased attendance is required to meet both the minimum academic credit requirements for graduation and the minimum class hours of participation for reimbursement of the vocational program. Two Macomb County schools extend the daily schedule by one hour to meet the needs of students in vocational programs.

In an effort to determine local impact of the Vocational Education Act of 1963, principals were asked if new vocational programs had been initiated that could be attributed to the Act. Eight high schools have developed new programs primarily because of the financial assistance which the Vocational Act of 1963 provides. All are larger schools in the southern half of Macomb County.

VOCATIONAL GUIDANCE

Preliminary to the full effectiveness of vocational programs and facilities within the school is the student's identification of attainable and satisfying personal career goals. The adolescent needs assistance in identifying the relationship which exists between his own pattern of aptitudes and interests and the pattern required for effective performance in an occupation. This assistance cannot begin too early, for as Baer says, "From childhood on, individuals need an organized program of counseling and group processes designed to help them assess the meaning of occupational experiences and project new experiences for further testing . . . Occupational experience is an essential part of an individual's orientation and induction into his culture".[1] Only after the student has established for himself what he wants to achieve can the available educational opportunities be fully utilized.

Vocational goals need not be permanent and persistency of goals is not necessarily a virtue. A study of 507 Merit scholars indicated that almost one half of the total group changed their vocational choice between the senior year of high school and the junior year of college. It should be the purpose of the school to encourage the student toward more realistic choices as he learns more about his own abilities and more about occupational choices. Goal-oriented high school students can be programmed into the most appropriate course of study available within the school. Students possessing vocational goals characteristically perform better academically, and are less likely to terminate school before successful completion.

There is little evidence of success on the part of schools in identifying the student with a vocational goal of his own choosing. Results of a recent survey[2] covering 440,000 students in high schools throughout the United States indicate that the great majority of young people do not make an appropriate choice of career while attending high school. Of the 5078 high school seniors responding to a questionnaire of the Macomb Occupational Education Survey, 24.1% did not identify themselves with the college preparatory program or a vocational program. Of the total students reporting to the Macomb survey, 62% indicated that they had received little or no help in high school in making post-high school plans. In both surveys the problem of non-direction was found to be most acute with the general program student. In Macomb County, 75 percent of the general program students reported little or no help in planning what to do after high school. If the high school general program has values, these are not evident to the students. Only 35 percent of the general program students said their school program fit their future goals.

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[1]Max F. Baer and Edward C. Roeber, Occupational Information, (Chicago, Science Research Associates, Inc., Chicago, 1964) p.46.

[2]Project Talent.

The corresponding figure for the college-bound was 77 percent, and for the business students, 71 percent. These figures indicate that vocational guidance service in the school must be expanded and upgraded.

Dr. James B. Conant, in speaking before the "Conference on Unemployed, Out-of-School Youth in Urban Areas", stated that "This expansion of the school's function will cost money and will mean additional staff -- at least a doubling of the guidance staff in most of the large cities; but the expense is necessary, for vocational and educational guidance must be a continuing process to help assure a smooth transition from school to the world of work."

In order to assess the present state of vocational guidance in Macomb County high schools, guidance counselors were requested to supply information to the Survey. Of the 65 counselors indicated as being on the staffs of the public senior high schools of Macomb County, 33 responded to a questionnaire from the Survey.

The responses to the question "Circle the level of education that applies to you" were as follows:

70% indicated possession of a masters degree or more incounseling and guidance

21% indicated having a masters degree in education with some graduate course work in counseling and guidance

9% indicated they did not have the masters degree but had some graduate work in counseling and guidance

The number of students assigned to each counselor varied from 250 to 600. The average student load per counselor was 332. The most frequent (modal) response was 300 students per counselor. Student reaction to the adequacy of vocational guidance service, reported below, indicates that a siginificantly smaller ratio, perhaps 150 students per counselor, deserves serious consideration.

The effectiveness of the counselors' services is proportional to the amount of time they have available for counseling. Counselors indicated the following time utilization:

	Average
Counseling	55%
Administration	9%
Teaching	11%
Clerical Work	22%
Other	3%

Based upon a 180 day school year, with seven in-school work hours per day, application of the above counseling rate of 55% would permit 693 counseling hours per year, or 2.1 hours per student yearly. Obviously, not every student receives this amount of personal counseling, nor is this an adequate measure of the need of many students for counseling services.

In the utilization of available counseling time, counselors indicated the following ranking of effectiveness in dealing with student problems.

COUNSELORS' INDICATION OF EFFECTIVENESS
IN DEALING WITH STUDENT PROBLEMS

Problem Area	Degree of Effectiveness (percent of responses)			
	1	2	3	4
Counseling on School Problems	18	47	22	13
Counseling on Personal Problems	26	17	22	35
Counseling on Vocational Choice	9	22	43	26
Counseling on College Education	52	17	9	22

1 = most effective
4 = least effective

In the significant area of vocational choice, 9% of the counselors felt they were most effective and 26% felt they were least effective.

A similar evaluation of counseling services was asked of the high school seniors. Comparison of their ratings with that of the counselors reflects some interesting similarities and differences:

COMPARISON OF SENIORS' AND COUNSELORS' RATING OF
COUNSELING EFFECTIVENESS IN STUDENT PROBLEM AREAS

	Seniors	Counselors
Counseling on School Problems	4	1
Counseling on Personal Problems	1	3
Counseling on Vocational Choice	3	4
Counseling on College Education	2	2

1 = most effective
4 = least effective

These comparisons indicate that counselors and students agree that counseling on vocational choice is least effective, and that counseling on college education is adequate.

The confidence expressed in the quality of counseling on college education is not surprising and results from a relative harmony of factors:

* Counselors have extensive personal experience in the area of college matters.

* The high school program is generally suitable to the attainment of the college-entry goal.

* The student has established his immediate goal -- college education.

The non-college bound are not so fortunate. These students are less apt to have determined their career goals. (24.1% of 1965 Macomb County seniors indicated their school program as 'general'.) Counselors are on less certain ground when advising on vocational choices and employment opportunities. Reliable information about job opportunities in non-professional occupations is not readily available, nor is information as to what school training will open up these jobs to the high school graduate. Even when the counselor has such information, the school may not be able to provide the recommended educational experiences. The local findings are reinforced by information extracted from a nation-wide survey of high school students taken by Purdue University. In the Purdue poll, high students indicated by a 7 to 1 margin that the high school programs favor the college-goer over the non-college bound student. Students indicated that the vocational programs were most in need of upgrading.[3]

The Survey reviewed the testing programs utilized in Macomb County junior high schools to determine the extent to which standardized interest tests are used as one basis for assisting the student to make a high school program choice compatible with his interests and aptitudes.

STANDARDIZED TEST USED IN MACOMB COUNTY GRADES 7 to 9

Types of Tests	Districts Using	Frequency
Intelligence Tests	20	31
Scholastic Aptitude Batteries	20	27
Scholastic Achievement Tests	20	45
Interest Inventories	5	5
Total		108

There is extensive use of standardized tests in grades 7, 8, and 9. It is significant, however, that interest inventory testing comprises only 5% of the total testing program and is offered by only 5 of the 21 public school districts. No testing of non-scholastic aptitudes is undertaken as a part of the normal testing program.

High school counselors indicated that the results of standardized tests are used in counseling students for vocational and academic choices. Counselors reported that students are informed of test results, and in some cases, parents are also advised of test findings. Most counselors are reasonably satisfied with the extent of their current testing program. A few counselors professed the opinion that the amount of test data was excessive compared to the time available for its practical utilization.

Counselors in districts which do not have testing specialists on the regular staff indicated the desirability of adding such personnel.

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[3] Youth's Attitude Toward School, Teenage Employment Problems, and Women Working, Measurements and Research Center, Purdue University, Lafayette, Indiana, January, 1965. p. 4.

The Macomb County survey of high school seniors indicates that the majority of non-college bound students fail to develop appropriate educational and occupational goals. Two-thirds of the general program students indicated their intent to go directly to work after high school, yet they were not preparing for this in a vocational program. Counselors indicated the following obstacles to the development of goals by the non-college-bound student. These responses are listed in the order of frequency reported:

1. Counselors lack the time to work adequately with students.

2. The attitudes of the community and the school emphasize the needs of the college-bound student.

3. The college-bound students form a "peer" group and to be identified as non-college bound may be considered an admission of failure.

4. Some students are under parental pressure to attend college regardless of their scholarship.

5. Students lack understanding of the various occupational fields and have no frame of reference on which to base a vocational decision.

6. Adequate vocational programs and facilities are not available.

7. Counselors do not have reliable information as to current employment opportunities and future employment trends.

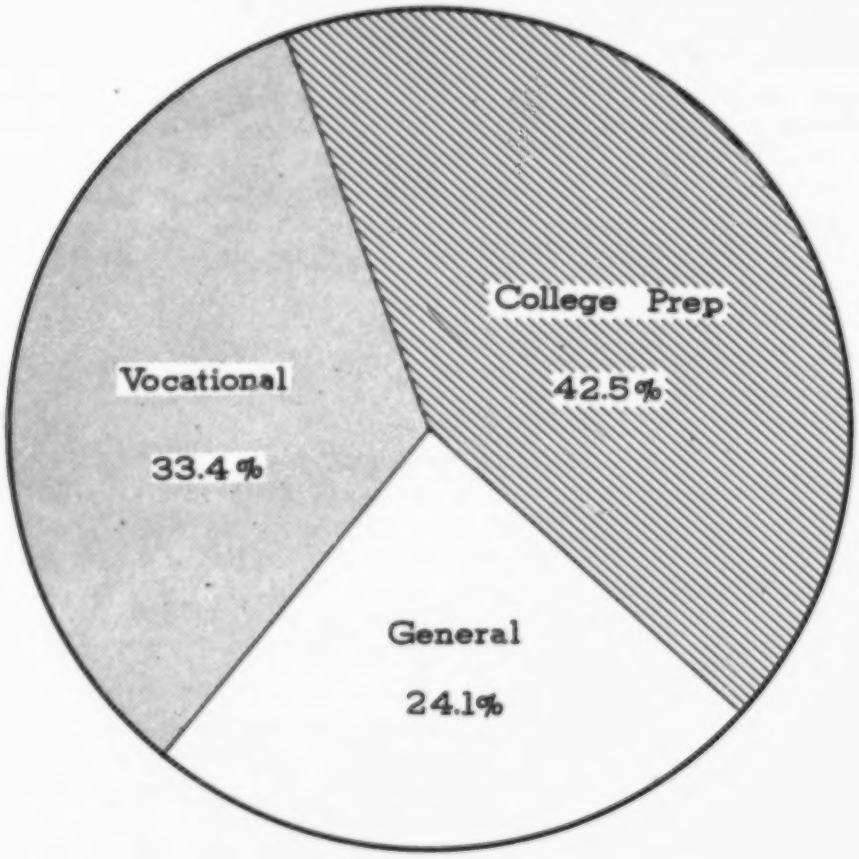
Recommendations

It is recommended that the exploratory function of the junior high grades be re-identified, broadened, and emphasized. Industrial arts, homemaking, music, art, and other programs which provide opportunities for vocational and career exploration, should be widely available, imaginatively developed, and creatively taught. Opportunity should be provided for the child to discover his own interests and aptitudes through school experiences.

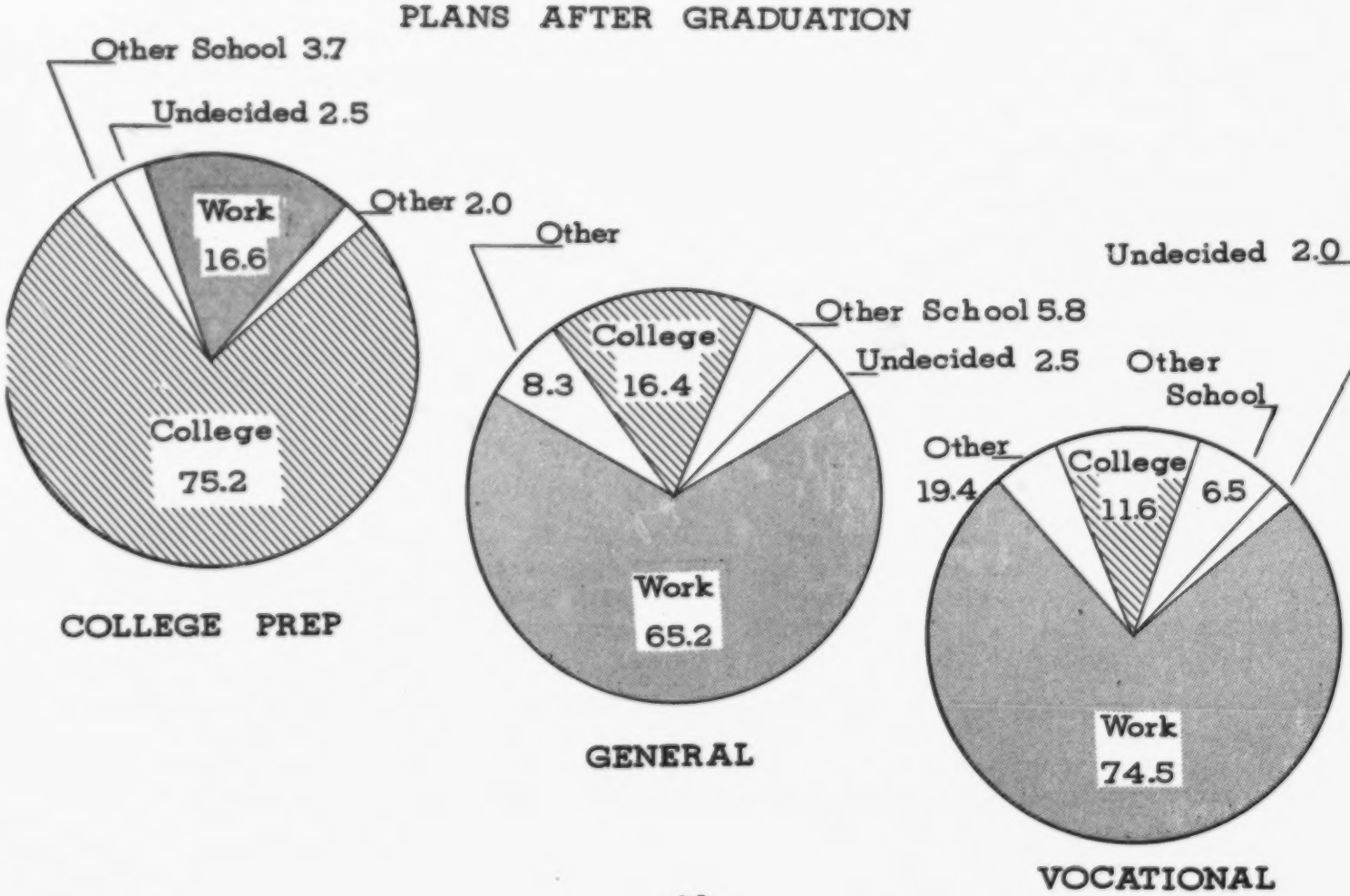
It is recommended that every student should have the benefit of interest and aptitude testing and the interpretation of the results of such tests prior to the selection of his high school program. Every student should be fully informed of the nature and purposes of the high school programs which are available to him.

It is recommended that efforts be made to identify each potential early school-leaver and to provide testing, remedial, and counseling services which will improve the potential school-leaver's chances for retention and success in a school program appropriate to his abilities and interests.

MACOMB COUNTY SENIORS BY CURRICULUM, 1965



PLANS AFTER GRADUATION

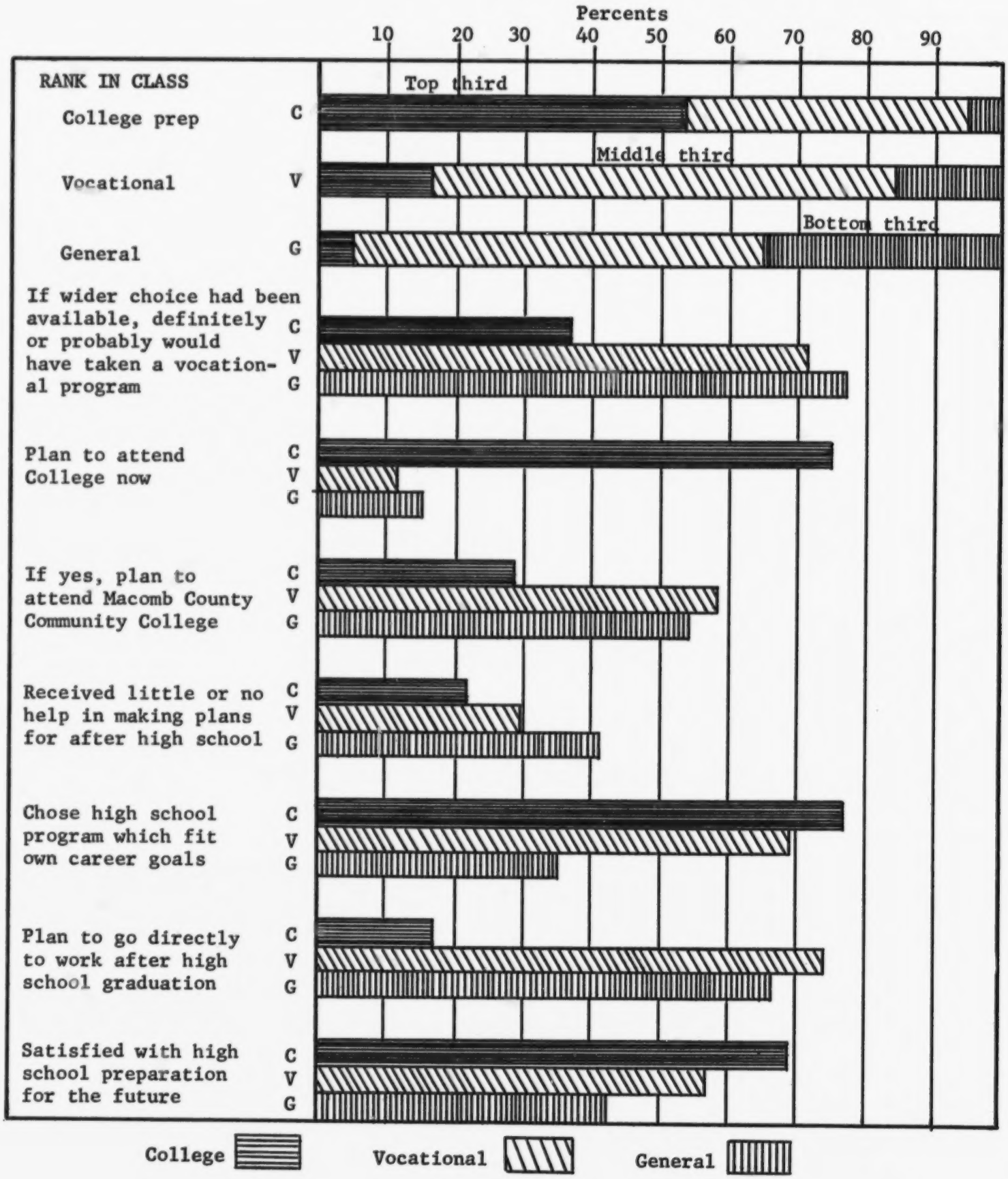


COLLEGE PREP

GENERAL

VOCATIONAL

RESPONSES TO SELECTED QUESTIONS BY MACOMB COUNTY
HIGH SCHOOL SENIORS GROUPED BY PROGRAMS OF STUDY
May, 1965



Seniors in Macomb County public and parochial high schools were polled by the Survey staff in May, 1965 to determine their occupational goals and their opinions of high school opportunities. Returns were received from 5078 of the 6500 seniors. This is a 79% return. Some significant findings from the questionnaire are pointed out below: the complete results are included at the end of this report.

Programs of Study and Post-High School Plans.

Macomb County high school enrollments by program have remained remarkably stable over a three year period as seen by comparing the results of similar surveys conducted by Macomb County Community College in 1963 and 1964 to determine high school students' plans for further education. An analysis of the three yearly surveys reveals the following information:

SENIOR STUDENTS' IDENTIFICATION
OF THEIR HIGH SCHOOL PROGRAMS

Year	College Prep	Commercial	Shop	General
1963	45 %	24 %	7 %	24 %
1964	43.5%	24.5%	9 %	23 %
1965	43 %	23 %	9.5%	24.5%

The proportion of students enrolled in the general program remains constant despite heavy publicity being given to the importance of specific skills for entry employment. Vocational enrollments in the County appear to be unrealistically small when one considers that 40% of all employment in the Detroit area is in manufacturing, and 25% in clerical and sales occupations.

College preparatory enrollments have not increased during the period despite the nation-wide trend toward greater college attendance. College preparatory programs enroll one-third more Macomb County high school students than actually go to college upon high school graduation.

HIGH SCHOOL PROGRAMS OF STUDY--BOYS

	% College	% General	% Commercial	% Shop	% Other
Total	47.8	26.9	8.2	14.0	3.1
Public	47.2	26.6	8.3	14.7	3.2
Private	56.2	36.2	7.2	2.7	1.3
Top 1/3	87.5	5.6	2.7	2.8	1.8
Middle 1/3	41.1	27.8	9.6	17.9	4.6
Bottom 1/3	17.0	51.1	11.5	17.2	4.2

The nature of the entry employment opportunities for boys in the Detroit area raises questions of whether boys are taking high school programs which will help them to obtain jobs. College preparatory and general programs which enroll three-fourths of all boys offer little opportunity for the development of specific occupational skills.

1. One-fourth of all boys are neither preparing for college nor for any specific occupation. This is more than half of the public and three-fourths of the private school boys who are not planning on college. Seven of every ten boys are hopeful of apprenticeship or other on-the-job training--an unrealistic goal in view of the limited numbers of apprentices in training and the high entry qualifications.

2. Very few boys, regardless of academic rank, display an interest in the commercial program of study. It seems likely that boys view commercial studies as being "feminine" and are reluctant to identify with these studies. This is unfortunate in view of the opportunities in business, banking, and industrial offices, as well as in sales and sales-related jobs.

3. Only 20 students of the 5,078 total named agriculture (included in "other") as their high school program of study.

4. Lack of adequate vocational programs undoubtedly causes many boys to enroll in college preparatory or general programs.

HIGH SCHOOL PROGRAMS OF STUDY--GIRLS

	% College	% General	% Commercial	% Other
Total	37.4	15.7	43.2	3.7
Public	36.8	15.4	44.0	3.8
Private	44.3	19.0	33.7	3.0
Top 1/3	70.8	2.8	24.1	2.3
Middle 1/3	23.6	18.6	53.7	4.1
Bottom 1/3	10.0	36.7	47.6	5.7

1. More girls than boys select a high school program designed to prepare the student for employment.

2. The commercial program obviously has greater appeal to girls than the "male" vocational programs have to boys. The enrollment of 43% of all girls in a commercial program results in a smaller enrollment of girls in both college preparatory and general programs.

3. Home economics (included in "Other") has little appeal for girls in terms of an occupational future. Only 18 girls in the county indicated home economics as their program of study, apparently because they perceive home economics, as it is presently organized, as general rather than vocational education.

Interest in Vocational Programs.

Senior students were asked, "Would you have taken a vocational course of study if a wider choice of these programs had been available when you entered high school?" When grouped according to their own indication of academic placement in the top, middle, or bottom third of their class, students' responses indicate that:

1. The top third of the boys and girls are most satisfied with their present selection of program. Eighty percent of these students identify themselves as on a college preparatory program.

2. Sixty percent of all students expressed the opinion that they definitely, or probably, would have taken a vocational course of study if a wider choice of programs had been available when they entered high school. This group includes virtually all of those who actually did follow a vocational program and three-fourths of the students who consider themselves in the lowest third academically.

3. Of the 1,074 students on the general program, 813, or 75%, indicated they definitely or probably would have chosen an occupational course of study if the choice had been wider.

4. Private school boys indicated greater interest in vocational training than did public school boys.

Other factors besides the lack of variety of vocational programs undoubtedly contributed to this dissatisfaction. Other factors might be:

a) A lack of concern regarding employability until too late. Evidence of this is expressed in students' responses to the question "Why did you choose the course of study which you have followed in high school." Over one-fourth of the general program students answered "My friends were taking this program," or "This program seemed easiest to me."

b) A lack of information about labor market trends, what employers seek in the way of educational background, and an understanding of their own aptitudes and abilities.

c) The scarcity of vocational programs in which students of low academic ability can succeed.

Plans After Graduation.

The number of high school seniors who actually attend college is hard to determine without adequate follow-up studies of graduates. Much of the present school program is justified by identifying a large proportion of the high school population as college-bound. This identification is, in some degree, based upon students' expressed intent while still in high school.

1. In answer to the question "Do you plan to attend a college or university?," 2151 Macomb seniors responded "Yes, definitely," and 688 responded "Probably so." These two groups total 2839, or 49.7% of the seniors polled.

2. In answer to the question "What do you plan to do on a full-time basis the first year after high school graduation?," 2253 listed attendance at college or university, business college, or trade or technical school as their plans. Thus, 39.4% of the total group has immediate plans for some type of post-high school education. In the light of past evidence, it is unlikely that this proportion of Macomb seniors will enroll in post high school institutions within a year of completing high school. Reports filed with the State Department of Education indicate that 31.6% of Macomb public high school graduates for the past three years have enrolled in a junior college, college or university.

3. Of the seniors who plan to go to college, (including some who plan to attend college eventually, but not immediately), 40.3% expressed an intention of attending Macomb County Community College, 46.8% plan to attend other colleges or universities, and 12.9% intend to enter trade, technical, or business schools. The 46.8% planning to attend four year institutions include a sizeable, but undetermined, number of seniors who indicated that they plan to attend both Macomb Community College and a four year college.

4. While one-fourth of all seniors plan on attending Macomb County Community College, only 16% of the boys and 20% of the girls in the top third of their class expect to do so. In the middle and lowest thirds over 50% of those planning to attend college plan to enroll at Macomb County Community College. More than a fourth of all students identifying themselves in the bottom third and desiring further education, indicate that they plan to enroll in a technical, trade, or business school.

5. Almost half of all Macomb high school graduates expect to go directly to work. Fewer than one-fifth of the top third academically plan on seeking jobs; while two-thirds of all other students are included in the job seekers.

6. Full-time employment after graduation will be sought by 42.3% of the boys and 53% of the girls. Yet high school vocational programs enrolled only 22.9% of all boys and 43.8% of the girls.

Student Opinions.

In order to provide Macomb high school counselors and teachers some indication of students' relative assessment of the school curriculum and guidance services, nine areas were rated by students. Commercial and college preparatory students were generally satisfied that the school had adequately prepared them for their future careers. Fewer than half of the general students were in agreement.

SENIORS RATINGS OF HIGH SCHOOL PROGRAMS AND COUNSELING SERVICES

	% Excellent	% Good	% Poor
School Problems	16.4	57.9	25.7
Personal Problems	61.2	22.0	16.8
Vocational Choice	18.5	54.9	26.6
College Education	27.0	52.1	20.0
Library Materials	16.7	54.6	28.7
Courses Offered	9.4	65.3	25.3

1. Macomb high school seniors judged their counselors to be most successful in the area of personal problem assistance. The only exception is private school girls, 30% of whom felt this assistance was poor.

2. While over half of the students rated counseling on vocational choice as good, only 18.5% rated it excellent, and 26.6% rated the service as poor. Library materials and information on vocations received comparable ratings.

3. Private school boys were the least satisfied with counseling services.

4. "Courses offered" received an excellent rating from only 9.4% of the seniors. Only 2.7% of private school boys rated the courses as excellent.

Environmental Factors.

FATHERS' EDUCATION

	% College	% Commercial	% Shop	% General	% Other
Less than high school	36.8	55.2	64.7	54.4	49.2
High school	27.8	28.0	29.4	27.3	32.2
College graduate	12.8	3.7	----	3.9	6.5

1. 47.3% of the fathers are not high school graduates. Only 7.7% graduated from college. Of the college preparatory students, 13% of the fathers are college graduates. 3.7% of the general students' fathers are college graduates.

2. 70% of the boys and 50% of the girls had part-time jobs while in school; 78% of the boys in the bottom third and 72% of the boys in the middle third had part-time jobs.

Table 5-1

RESPONSES OF SENIOR STUDENTS IN PUBLIC AND PRIVATE HIGH SCHOOLS OF MACOMB COUNTY

TO QUESTIONS CONCERNING THEIR HIGH SCHOOL EXPERIENCES

AND THEIR FUTURE VOCATIONAL AND EDUCATIONAL PLANS

	TOTAL RESPONSES	ALL		PUBLIC SCHOOLS		PRIVATE SCHOOLS	
		BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
	5078	2512	2566	2358	2361	154	205
WHICH OF THE FOLLOWING BEST DESCRIBES YOUR HIGH SCHOOL PROGRAM OF STUDY?							
Commercial or business education.	1312	206	1106	195	1037	11	69
College or university preparatory.	2154	1197	957	1111	866	86	91
Shop or industrial arts.	364	350	14	346	13	4	1
Agriculture.	20	17	3	17	3	0	0
Homemaking or home economics.	22	4	18	4	17	0	1
General.	1074	673	401	624	362	49	39
Other.	116	55	61	53	57	2	4
WOULD YOU HAVE TAKEN A VOCATIONAL COURSE OF STUDY IF A WIDER CHOICE OF THESE PROGRAMS HAD BEEN AVAILABLE WHEN YOU ENTERED HIGH SCHOOL?							
Definitely yes.	949	536	413	495	375	41	38
Probably.	1981	1018	963	948	879	70	84
Probably not.	1471	642	829	611	766	31	63
Definitely not.	561	263	298	252	280	11	18
IF YOU ANSWERED "DEFINITELY YES" OR "PROBABLY" TO THE LAST QUESTION, WHICH VOCATIONAL PROGRAM WOULD YOU HAVE CHOSEN?							
Agriculture.	118	93	25	87	22	6	3
Business (Office).	1037	199	838	181	767	18	71
Commercial Art.	259	96	163	89	145	7	18
Distributive (Sales).	142	92	50	88	50	4	0
Metal Trades.	232	226	6	218	6	8	0
Electronics.	328	316	12	297	11	19	1
Auto Mechanics.	339	325	14	295	14	30	0
Advanced Drafting.	239	229	10	212	10	17	0
Clothing Construction.	108	5	103	5	97	0	6
Graphic Arts-Printing.	38	25	13	25	11	0	2
Food Preparation.	85	20	65	19	60	1	5
Other.	381	202	179	184	155	18	24
WHY DID YOU CHOOSE THE COURSE OF STUDY WHICH YOU HAVE FOLLOWED IN HIGH SCHOOL?							
My parents decided for me.	197	98	99	86	94	12	5
My friends were taking this program.	108	61	47	53	45	8	2
Counselor advised me into this program.	740	447	293	439	283	8	10
This program seemed easiest to me.	414	269	145	258	136	11	9
This program seemed to fit my own future goals.	3274	1430	1844	1344	1680	86	164
Other.	290	174	116	152	105	22	11
TO THE BEST OF YOUR KNOWLEDGE, WHERE DO YOU RANK IN YOUR GRADUATING CLASS?							
Top Third.	1475	630	845	587	757	43	88
Middle Third.	2684	1330	1354	1288	1286	81	104
Bottom Third.	844	513	331	483	318	30	13
WHAT DO YOU PLAN TO DO ON A FULL-TIME BASIS THE FIRST YEAR AFTER HIGH SCHOOL GRADUATION?							
Work.	2406	1053	1353	992	1261	61	92
Enter military service.	143	130	13	122	13	8	0
Become a full-time housewife.	100	21	79	21	75	0	4
Attend college or university.	2010	1114	896	1044	820	70	76
Attend business college.	95	18	77	16	65	2	12
Attend trade or technical school.	148	100	48	90	44	10	4
Other.	102	36	66	34	53	2	13
Don't know.	40	19	21	19	19	0	2

Table 5-1 continued

	TOTAL RESPONSES	ALL BOYS	ALL GIRLS	PUBLIC SCHOOLS BOYS	PUBLIC SCHOOLS GIRLS	PRIVATE SCHOOLS BOYS	PRIVATE SCHOOLS GIRLS
	5078	2512	2566	2358	2361	154	205
HOW WELL DO YOU THINK YOUR HIGH SCHOOL IS PREPARING YOU FOR WHAT YOU PLAN TO DO AFTER GRADUATION?							
Providing just what is needed.	797	318	479	301	441	17	38
Very well in some ways but in other ways preparation is not adequate.	2040	901	1139	838	1042	63	97
Fairly well but all the training could be improved.	1388	740	648	700	596	40	52
Poorly.	616	416	200	388	189	28	11
HOW MUCH HELP HAVE YOU RECEIVED IN HIGH SCHOOL IN DECIDING WHAT YOU PLAN TO DO AFTER GRADUATION?							
A lot of help, all you need.	704	321	383	305	346	16	37
Considerable help, but could have used more.	1145	533	612	505	569	28	43
Some help, but not very much.	1544	763	781	712	711	51	70
Little or no help.	1431	743	688	691	638	52	50
HOW WOULD YOU RATE THE FOLLOWING HIGH SCHOOL SERVICES, EXPERIENCES, OR FACILITIES?							
Counseling or guidance on school problems.							
Excellent	792	397	395	382	381	15	14
Good	2807	1357	1450	1300	1345	57	105
Poor	1245	619	626	540	542	79	84
Counseling or guidance on personal problems.							
Excellent	2831	1626	1205	1523	1126	103	79
Good	1020	389	631	372	580	17	51
Poor	780	293	487	267	435	26	52
Counseling or guidance on vocational choice.							
Excellent	880	443	437	414	393	29	44
Good	2619	1218	1401	1166	1298	52	103
Poor	1268	676	592	607	538	69	54
Counseling or guidance on college education.							
Excellent	1318	667	651	640	605	27	46
Good	2459	1168	1291	1090	1191	78	100
Poor	944	481	463	436	412	45	51
Library materials and information on vocations.							
Excellent	796	391	405	373	365	18	40
Good	2599	1221	1378	1133	1244	88	134
Poor	1362	715	647	672	620	43	27
Courses offered.							
Excellent	451	237	214	233	199	4	15
Good	3133	1453	1680	1370	1559	83	121
Poor	1213	654	559	592	492	62	67
Social activities.							
Excellent	791	405	386	378	341	27	45
Good	2751	1289	1462	1208	1340	81	122
Poor	1217	634	583	593	549	41	34
HOW MUCH EDUCATION HAS YOUR FATHER HAD?							
Eighth grade education or less.	1018	500	518	468	480	32	38
Some high school.	1261	617	644	591	596	26	48
Graduated from high school.	1318	643	675	591	619	52	56
Business or trade school.	270	126	144	116	133	10	11
Some college.	446	207	239	192	212	15	27
Graduated from college.	372	189	183	180	168	9	15
Don't know.	128	66	62	63	58	3	4
DO YOU HAVE A PART-TIME JOB DURING SCHOOL?							
Yes.	2831	1626	1205	1523	1126	103	79
No.	1953	703	1250	660	1131	43	119
DO YOU PLAN TO ATTEND COLLEGE OR UNIVERSITY?							
Yes, definitely.	2151	1159	992	1087	904	72	88
Probably so.	688	387	301	363	275	24	26
Probably not.	373	175	198	163	182	12	16
No.	1060	351	709	329	661	22	48
Don't Know.	528	274	254	263	245	11	9

Table 8-1 Continued

	TOTAL RESPONSES	ALL BOYS	ALL GIRLS	PUBLIC SCHOOLS BOYS	PUBLIC SCHOOLS GIRLS	PRIVATE SCHOOLS BOYS	PRIVATE SCHOOLS GIRLS
	5078	2512	2566	2358	2361	154	205
IF YOU PLAN TO GO TO COLLEGE, WHERE DO YOU PLAN TO ENROLL?							
Macomb County Community College.	1284	744	540	704	501	40	39
Other college or university.	1493	768	725	720	660	48	65
Technical, trade, or business school.	410	217	193	199	172	18	21
WHAT DO YOUR PARENTS FEEL ABOUT WHETHER OR NOT YOU ATTEND COLLEGE?							
Insist or expect you to go.	1047	681	366	636	342	45	24
Want you to go if you want to.	3023	1376	1647	1290	1495	86	152
Don't care one way or the other.	492	203	289	193	277	10	12
Don't want you to go.	67	17	50	16	48	1	2
Won't allow you to go.	20	8	12	8	11	0	1
Don't know what they think.	168	74	94	69	88	5	6
Answer the following questions ONLY if your future plans include "NOT" or "PROBABLY NOT" going to college as indicated in a previous question.							
WHICH OF THE FOLLOWING TYPES OF TRAINING OR EDUCATION INTEREST YOU MOST?							
Paid apprenticeship as a helper to learn a trade.	397	328	69	310	66	18	3
On-the-job training with a company or industrial firm.	643	222	421	210	387	12	34
Correspondence study.	37	13	24	12	22	1	2
Post-graduate high school work in high school at night.	47	20	27	20	25	0	2
Adult education classes.	59	9	50	7	45	2	5
Military service or training.	94	84	10	76	10	8	0
None of the above.	472	117	355	107	332	10	23
WHAT IS THE MOST IMPORTANT REASON WHY YOU DO NOT PLAN TO GO TO COLLEGE?							
Tired of school.	227	133	94	122	88	11	6
Want to work and make money.	350	117	233	109	215	8	18
Can't afford it.	240	101	139	96	131	5	8
Parents don't want me to.	15	6	9	5	9	1	0
Can be just as successful without going to college.	17	10	7	7	6	3	1
Couldn't make good enough grades.	349	183	166	169	155	14	11
Want to get married.	143	16	127	16	123	0	4
Other.	193	65	128	62	113	3	15
WOULD YOU GO TO COLLEGE IF YOU HAD ENOUGH MONEY?							
Yes.	338	188	150	183	138	5	12
No.	761	271	490	253	456	18	34
Maybe.	681	314	367	289	344	25	23
IF YOU ANSWERED "YES" OR "MAYBE" YOU WOULD GO TO COLLEGE IF YOU HAD ENOUGH MONEY, HOW MUCH WOULD YOU NEED?							
Enough to pay all expenses ($1,200 to $1,500 per year.)	488	254	234	239	214	15	20
Enough to pay half of the expenses ($600 to $750.)	414	198	216	186	206	12	10
Enough to pay some but less than half of the expenses.	111	54	57	49	53	5	4

Table S-2

RESPONSES OF SENIOR STUDENTS IN PUBLIC AND PRIVATE HIGH SCHOOLS OF MACOMB COUNTY

TO QUESTIONS CONCERNING THEIR HIGH SCHOOL EXPERIENCES

AND THEIR FUTURE VOCATIONAL AND EDUCATIONAL PLANS

	TOTAL	ALL		PUBLIC SCHOOLS		PRIVATE SCHOOLS	
	RESPONSES	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
	5078	2512	2566	2358	2361	154	205
Answers Recorded as a Percent of Each Group Responding	100%	100%	100%	100%	100%	100%	100%
WHICH OF THE FOLLOWING BEST DESCRIBES YOUR HIGH SCHOOL PROGRAM OF STUDY?							
Commercial or business education.	25.9	8.2	43.2	8.3	44.0	7.2	33.7
College or university preparatory.	42.6	47.8	37.4	47.2	36.8	56.6	44.3
Shop or industrial arts.	7.2	14.0	0.5	14.7	0.6	2.7	0.5
Agriculture.	0.4	0.7	0.1	0.7	0.1	0.0	0.0
Homemaking or home economics.	0.4	0.2	0.7	0.2	0.7	0.0	0.5
General.	21.2	26.9	15.7	26.6	15.4	32.2	19.0
Other	2.3	2.2	2.4	2.3	2.4	1.3	2.0
WOULD YOU HAVE TAKEN A VOCATIONAL COURSE OF STUDY IF A WIDER CHOICE OF THESE PROGRAMS HAD BEEN AVAILABLE WHEN YOU ENTERED HIGH SCHOOL?							
Definitely yes.	19.1	21.8	16.5	21.5	16.3	26.8	18.7
Probably.	40.0	41.4	38.4	41.1	38.2	45.7	41.4
Probably not.	29.6	26.1	33.2	26.5	33.3	20.3	31.0
Definitely not.	11.3	10.7	11.9	10.9	12.2	7.2	8.9
IF YOU ANSWERED "DEFINITELY YES" OR "PROBABLY" TO THE LAST QUESTION, WHICH VOCATIONAL PROGRAM WOULD YOU HAVE CHOSEN?							
Agriculture.	3.6	5.1	1.7	5.1	1.6	4.7	2.3
Business (Office).	31.4	10.9	56.7	10.6	56.9	14.1	54.6
Commercial Art.	7.8	5.3	11.1	5.2	10.8	5.5	3.8
Distributive (Sales).	4.3	5.0	3.4	5.2	3.7	3.1	0.0
Metal Trades.	7.0	12.4	0.4	12.8	0.4	6.3	0.0
Electronics.	9.9	17.2	0.8	17.5	0.8	14.8	0.8
Auto Mechanics.	10.3	17.8	0.9	17.4	1.0	23.4	0.0
Advanced Drafting.	7.2	12.5	0.7	12.5	0.7	13.2	0.0
Clothing Construction.	3.3	0.3	6.8	0.3	7.2	0.0	4.6
Graphic Arts-Printing.	1.1	1.3	0.9	1.5	0.8	0.0	1.5
Food Preparation.	2.6	1.1	4.4	1.1	4.6	0.8	3.9
Other.	11.5	11.1	12.2	10.8	11.5	14.1	18.5
WHY DID YOU CHOOSE THE COURSE OF STUDY WHICH YOU HAVE FOLLOWED IN HIGH SCHOOL?							
My parents decided for me.	3.9	4.0	3.9	3.7	4.0	8.2	2.4
My friends were taking this program.	2.2	2.5	1.8	2.3	1.9	5.4	1.0
Counselor advised me into this program.	14.7	18.0	11.5	18.8	12.2	5.4	5.0
This program seemed easiest to me.	8.2	10.8	5.7	11.1	5.8	7.5	4.5
This program seemed to fit my own future goals.	65.2	57.7	72.6	57.6	71.7	58.5	81.6
Other.	5.8	7.0	4.5	6.5	4.5	15.0	5.5
TO THE BEST OF YOUR KNOWLEDGE, WHERE DO YOU RANK IN YOUR GRADUATING CLASS?							
Top Third.	29.5	25.6	33.4	24.9	32.1	27.9	42.9
Middle Third.	53.6	53.8	53.5	54.6	54.5	52.6	50.7
Bottom Third.	16.9	20.6	13.1	20.5	13.4	19.5	6.4
WHAT DO YOU PLAN TO DO ON A FULL-TIME BASIS THE FIRST YEAR AFTER HIGH SCHOOL GRADUATION?							
Work.	47.7	42.3	53.0	42.4	53.7	39.9	45.3
Enter military service.	2.8	5.3	0.5	5.2	0.6	5.2	0.0
Become a full-time housewife.	2.0	0.8	3.1	0.9	3.2	0.0	2.0
Attend college or university.	39.9	44.7	35.1	44.7	34.8	45.8	37.4
Attend business college.	1.8	0.7	3.0	0.7	2.7	1.3	5.9
Attend trade or technical school.	2.9	4.0	1.9	3.8	1.9	6.5	2.0
Other.	2.0	1.4	2.6	1.5	2.3	1.3	6.4
Don't know.	0.9	0.8	0.8	0.8	0.8	0.0	1.0

Table 3-2 Continued

Answers Recorded as a Percent of Each Group Responding	TOTAL RESPONSES	ALL BOYS	ALL GIRLS	PUBLIC SCHOOLS BOYS	PUBLIC SCHOOLS GIRLS	PRIVATE SCHOOLS BOYS	PRIVATE SCHOOLS GIRLS
	5078	2512	2566	2358	2361	154	205
	100%	100%	100%	100%	100%	100%	100%
HOW WELL DO YOU THINK YOUR HIGH SCHOOL IS PREPARING YOU FOR WHAT YOU PLAN TO DO AFTER GRADUATION?							
Providing just what is needed.	16.5	13.4	19.4	13.5	19.4	11.5	19.2
Very well in some ways but in other ways preparation is not adequate.	42.1	37.9	46.2	37.6	45.9	42.6	49.0
Fairly well but all the training could be improved.	28.7	31.2	26.3	31.5	26.4	27.0	26.3
Poorly.	12.7	17.5	8.1	17.4	8.3	18.9	5.5
HOW MUCH HELP HAVE YOU RECEIVED IN HIGH SCHOOL IN DECIDING WHAT YOU PLAN TO DO AFTER GRADUATION?							
A lot of help, all you need.	14.6	13.6	15.6	13.8	15.3	10.9	18.5
Considerable help, but could have used more.	23.7	22.6	24.8	22.8	25.1	19.0	21.5
Some help, but not very much.	32.0	32.3	31.7	32.2	31.4	34.7	35.0
Little or no help.	29.7	31.5	27.9	31.2	28.2	35.4	25.0
HOW WOULD YOU RATE THE FOLLOWING HIGH SCHOOL SERVICES, EXPERIENCES, OR FACILITIES?							
Counseling or guidance on school problems.							
Excellent	16.4	16.7	16.0	17.2	16.8	9.9	6.9
Good	57.9	57.2	58.7	58.5	59.3	37.7	51.7
Poor	25.7	26.1	25.3	24.3	23.9	52.4	41.4
Counseling or guidance on personal problems.							
Excellent	61.2	70.4	51.8	70.4	52.6	70.5	43.4
Good	22.0	16.9	27.2	17.3	27.1	11.7	28.0
Poor	16.8	12.7	21.0	12.3	20.3	17.8	28.6
Counseling or guidance on vocational choice.							
Excellent	18.5	19.0	18.0	18.9	17.6	19.3	21.9
Good	54.9	52.1	57.6	53.3	58.2	34.7	51.2
Poor	26.6	28.9	24.4	27.8	24.2	46.0	26.9
Counseling or guidance on college education.							
Excellent	27.9	28.8	27.1	29.5	27.4	18.0	23.4
Good	52.1	50.4	53.7	50.3	53.9	52.0	50.8
Poor	20.0	20.8	19.2	20.2	18.7	30.0	25.8
Library materials and information on vocations.							
Excellent	16.7	16.8	16.7	17.1	16.4	12.1	19.9
Good	54.6	52.5	56.7	52.0	55.8	59.1	66.7
Poor	28.7	30.7	26.6	30.9	27.8	28.8	13.4
Courses offered.							
Excellent	9.4	10.1	8.7	10.6	8.8	2.7	7.4
Good	65.3	62.0	68.5	62.4	69.3	55.7	59.6
Poor	25.3	27.9	22.8	27.0	21.9	41.6	33.0
Social activities.							
Excellent	16.6	17.4	15.9	17.3	15.3	18.1	22.4
Good	57.8	55.4	60.1	55.4	60.1	54.4	60.7
Poor	25.6	27.2	24.0	27.3	24.6	27.5	16.9
HOW MUCH EDUCATION HAS YOUR FATHER HAD?							
Eighth grade education or less.	21.2	21.3	21.1	21.3	21.2	21.8	19.1
Some high school.	26.1	26.3	26.2	26.8	26.3	17.7	24.1
Graduated from high school.	27.4	27.4	27.4	26.8	27.3	35.4	28.2
Business or trade school.	5.6	5.4	5.8	5.3	5.9	6.8	5.5
Some college.	9.3	8.8	9.6	8.7	9.4	10.2	13.6
Graduated from college.	7.7	8.0	7.4	8.2	7.4	6.1	7.5
Don't know.	2.7	2.8	2.5	2.9	2.5	2.0	2.0
DO YOU HAVE A PART-TIME JOB DURING SCHOOL?							
Yes.	59.2	69.8	49.1	69.8	49.9	70.5	39.9
No.	40.8	30.2	50.9	30.2	50.1	29.5	60.1
DO YOU PLAN TO ATTEND COLLEGE OR UNIVERSITY?							
Yes, definitely.	44.8	49.4	40.3	49.3	39.9	51.1	47.0
Probably so.	14.3	16.5	12.3	16.5	12.1	17.0	13.9
Probably not.	7.8	7.4	8.1	7.4	8.0	8.5	8.6
No.	22.1	15.0	28.9	14.9	29.2	15.6	25.7
Don't know.	11.0	11.7	10.4	11.9	10.8	7.8	4.8

Table 5-2 Continued

Answers Recorded as a Percent of Each Group Responding	TOTAL RESPONSES	ALL BOYS	ALL GIRLS	PUBLIC SCHOOLS BOYS	PUBLIC SCHOOLS GIRLS	PRIVATE SCHOOLS BOYS	PRIVATE SCHOOLS GIRLS
	5078	2512	2566	2358	2361	154	205
	100%	100%	100%	100%	100%	100%	100%
IF YOU PLAN TO GO TO COLLEGE, WHERE DO YOU PLAN TO ENROLL?							
Macomb County Community College.	40.3	43.0	37.0	43.4	37.6	37.7	31.2
Other college or university.	46.8	44.4	49.7	44.3	49.5	45.3	52.0
Technical, trade, or business school.	12.9	12.6	13.3	12.3	12.9	17.0	16.8
WHAT DO YOUR PARENTS FEEL ABOUT WHETHER OR NOT YOU ATTEND COLLEGE?							
Insist or expect you to go.	21.7	28.9	15.0	28.6	15.1	30.6	12.2
Want you to go if you want to.	62.8	58.3	67.0	58.4	66.1	58.5	77.2
Don't care one way or the other.	10.2	8.6	11.8	8.7	12.3	6.8	6.1
Don't want you to go.	1.4	0.7	2.0	0.7	2.1	0.7	1.0
Won't allow you to go.	0.4	0.3	0.5	0.4	0.5	0.0	0.5
Don't know what they think.	3.5	3.2	3.7	3.2	3.9	3.4	3.0
Answer the following questions ONLY if your future plans include "NOT" or "PROBABLY NOT" going to college as indicated in a previous question.							
WHICH OF THE FOLLOWING TYPES OF TRAINING OR EDUCATION INTEREST YOU MOST?							
Paid apprenticeship as a helper to learn a trade.	22.7	41.4	7.2	41.8	7.4	35.3	4.3
On-the-job training with a company or industrial firm.	36.8	28.0	44.0	28.3	43.6	23.5	49.3
Correspondence study.	2.1	1.6	2.5	1.6	2.5	2.0	2.9
Post-graduate high school work in high school at night.	2.7	2.5	2.8	2.7	2.8	0.0	3.0
Adult education classes.	3.4	1.1	5.3	0.9	5.1	3.9	7.2
Military service or training.	5.3	10.6	1.1	10.3	1.2	15.7	0.0
None of the above.	27.0	14.8	37.1	14.4	37.4	19.6	33.3
WHAT IS THE MOST IMPORTANT REASON WHY YOU DO NOT PLAN TO GO TO COLLEGE?							
Tired of school.	14.8	21.1	10.4	20.8	10.5	24.4	9.5
Want to work and make money.	22.8	18.5	25.8	18.6	25.6	17.8	28.6
Can't afford it.	15.6	16.0	15.3	16.4	15.6	11.2	12.7
Parents don't want me to.	1.0	1.0	1.0	0.9	1.1	2.2	0.0
Can be just as successful without going to college.	1.1	1.6	0.8	1.2	0.7	6.7	1.6
Couldn't make good enough grades.	22.8	29.0	18.4	28.8	18.5	31.1	17.5
Want to get married.	9.3	2.5	14.1	2.7	14.6	0.0	6.3
Other.	12.6	10.3	14.2	10.6	13.4	6.6	23.8
WOULD YOU GO TO COLLEGE IF YOU HAD ENOUGH MONEY?							
Yes.	19.0	24.3	14.9	25.2	14.7	10.4	17.4
No.	42.8	35.1	48.7	34.9	48.6	37.5	49.3
Maybe.	38.2	40.6	36.4	39.9	36.7	52.1	33.3
IF YOU ANSWERED "YES" OR "MAYBE" YOU WOULD GO TO COLLEGE IF YOU HAD ENOUGH MONEY, HOW MUCH WOULD YOU NEED?							
Enough to pay all expenses ($1,200 to $1,500 per year.)	48.2	50.2	46.2	50.4	45.2	46.9	58.8
Enough to pay half of the expenses ($600 to $750.)	40.9	39.1	42.6	39.2	43.6	37.5	29.4
Enough to pay some but less than half of the expenses.	10.9	10.7	11.2	10.4	11.2	15.6	11.8

Table 5-3

RESPONSES OF SENIOR STUDENTS IN PUBLIC AND PRIVATE HIGH SCHOOLS OF MACOMB COUNTY

TO QUESTIONS CONCERNING THEIR HIGH SCHOOL EXPERIENCES

AND THEIR FUTURE VOCATIONAL AND EDUCATIONAL PLANS

Students Grouped According to Their Own Indication of Academic Placement in Top, Middle, or Bottom Third of Senior Class

	TOP THIRD OF CLASS		MIDDLE THIRD OF CLASS		BOTTOM THIRD OF CLASS	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
	630	845	1369	1390	513	331
WHICH OF THE FOLLOWING BEST DESCRIBES YOUR HIGH SCHOOL PROGRAM OF STUDY?						
Commercial or business education.	17	203	130	746	59	157
College or university preparatory.	551	597	559	327	87	33
Shop or industrial arts.	18	0	244	10	88	4
Agriculture.	3	2	9	1	5	0
Homemaking or home economics.	2	0	2	9	0	9
General.	33	24	379	256	261	121
Other.	6	17	38	38	11	6
WOULD YOU HAVE TAKEN A VOCATIONAL COURSE OF STUDY IF A WIDER CHOICE OF THESE PROGRAMS HAD BEEN AVAILABLE WHEN YOU ENTERED HIGH SCHOOL?						
Definitely yes.	64	108	338	257	134	48
Probably.	149	164	618	626	251	173
Probably not.	233	338	308	402	101	89
Definitely not.	168	206	77	76	18	16
IF YOU ANSWERED "DEFINITELY YES" OR "PROBABLY" TO THE LAST QUESTION, WHICH VOCATIONAL PROGRAM WOULD YOU HAVE CHOSEN?						
Agriculture.	13	7	52	13	28	5
Business (Office).	41	149	117	558	41	131
Commercial Art.	12	34	67	99	17	30
Distributive (Sales).	13	4	54	35	25	11
Metal Trades.	11	1	155	3	60	2
Electronics.	51	5	195	4	70	3
Auto Mechanics.	28	1	172	9	125	4
Advanced Drafting.	42	2	153	5	34	3
Clothing Construction.	0	19	4	62	1	22
Graphic Arts-Printing.	2	2	14	9	9	2
Food Preparation.	0	10	10	39	10	16
Other.	51	55	109	110	42	14
WHY DID YOU CHOOSE THE COURSE OF STUDY WHICH YOU HAVE FOLLOWED IN HIGH SCHOOL?						
My parents decided for me.	25	19	51	56	22	24
My friends were taking this program.	10	6	33	30	18	11
Counselor advised me into this program.	92	69	257	156	98	68
This program seemed easiest to me.	14	13	139	80	116	52
This program seemed to fit my own future goals.	454	712	777	982	199	150
Other.	27	23	91	73	56	20
WHAT DO YOU PLAN TO DO ON A FULL-TIME BASIS THE FIRST YEAR AFTER HIGH SCHOOL GRADUATION?						
Work.	69	221	642	893	342	239
Enter military service.	19	5	61	5	50	3
Become a full-time housewife.	7	15	8	46	6	18
Attend college or university.	514	547	527	315	73	34
Attend business college.	0	17	15	47	3	13
Attend trade or technical school.	8	11	68	28	24	9
Other.	7	24	20	34	9	8
Don't know.	2	4	13	12	4	5
HOW WELL DO YOU THINK YOUR HIGH SCHOOL IS PREPARING YOU FOR WHAT YOU PLAN TO DO AFTER GRADUATION?						
Providing just what is needed.	99	186	161	235	58	58
Very well in some ways but in other ways preparation is not adequate.	333	437	442	601	126	101
Fairly well but all the training could be improved.	142	167	438	379	160	102
Poorly.	38	31	242	114	136	55

Table 5-3 Continued

	TOP THIRD OF CLASS		MIDDLE THIRD OF CLASS		BOTTOM THIRD OF CLASS	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
	630	845	1369	1390	513	331
HOW MUCH HELP HAVE YOU RECEIVED IN HIGH SCHOOL IN DECIDING WHAT YOU PLAN TO DO AFTER GRADUATION?						
A lot of help, all you need.	135	182	153	172	33	29
Considerable help, but could have used more.	140	219	324	327	69	66
Some help, but not very much.	191	243	414	444	158	94
Little or no help.	138	177	392	386	213	125
HOW WOULD YOU RATE THE FOLLOWING HIGH SCHOOL SERVICES, EXPERIENCES, OR FACILITIES?						
Counseling or guidance on school problems.						
Excellent	120	158	213	195	64	42
Good	331	464	752	804	274	182
Poor	147	191	327	345	145	90
Counseling or guidance on personal problems.						
Excellent	352	399	908	669	366	137
Good	132	194	193	351	64	86
Poor	94	156	149	254	50	77
Counseling or guidance on vocational choice.						
Excellent	137	160	225	234	81	43
Good	305	436	682	780	231	185
Poor	150	202	367	314	159	76
Counseling or guidance on college education.						
Excellent	210	242	346	340	111	69
Good	282	424	643	702	243	165
Poor	113	143	259	263	109	57
Library materials and information on vocations.						
Excellent	89	141	225	204	77	60
Good	319	432	644	776	258	170
Poor	190	225	399	347	126	75
Courses offered						
Excellent	77	92	120	100	40	22
Good	423	589	783	894	247	197
Poor	104	136	376	334	174	89
Social activities						
Excellent	118	165	214	179	73	42
Good	347	491	698	808	244	163
Poor	135	150	350	340	149	93
HOW MUCH EDUCATION HAS YOUR FATHER HAD?						
Eighth grade education or less.	103	134	267	305	130	79
Some high school.	126	189	366	366	125	89
Graduated from high school.	179	229	345	375	119	71
Business or trade school.	39	55	70	70	17	19
Some college.	78	100	98	117	31	22
Graduated from college.	73	107	92	60	24	16
Don't know.	7	10	37	38	22	14
DO YOU HAVE A PART-TIME JOB DURING SCHOOL?						
Yes.	352	399	908	669	366	137
No.	269	424	354	652	100	174
DO YOU PLAN TO ATTEND COLLEGE OR UNIVERSITY?						
Yes, definitely.	534	573	557	381	68	38
Probably so.	32	72	265	194	90	35
Probably not.	8	39	105	125	62	34
No.	14	96	180	450	157	163
Don't know.	17	39	166	172	91	43

Table 5-3 Continued

	TOP THIRD OF CLASS		MIDDLE THIRD OF CLASS		BOTTOM THIRD OF CLASS	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
	630	845	1369	1390	513	331
IF YOU PLAN TO GO TO COLLEGE, WHERE DO YOU PLAN TO ENROLL?						
Macomb County Community College.	98	133	513	354	133	53
Other college or university.	454	492	285	211	29	22
Technical, trade, or business school.	26	39	138	117	53	37
WHAT DO YOUR PARENTS FEEL ABOUT WHETHER OR NOT YOU ATTEND COLLEGE?						
Insist or expect you to go.	285	201	330	144	66	21
Want you to go if you want to.	298	549	795	906	283	192
Don't care one way or the other.	16	47	104	182	83	60
Don't want you to go.	2	15	8	25	7	10
Won't allow you to go.	2	3	4	8	2	1
Don't know what they think.	3	8	42	60	29	26
Answer the following questions ONLY if your future plans include "NOT" or "PROBABLY NOT" going to college as indicated in a previous question.						
WHICH OF THE FOLLOWING TYPES OF TRAINING OR EDUCATION INTEREST YOU MOST?						
Paid apprenticeship as a helper to learn a trade.	16	5	188	46	124	18
On-the-job training with a company or industrial firm.	9	62	136	300	77	59
Correspondence study.	1	4	5	15	7	5
Post-graduate high school work in high school at night.	0	4	11	16	9	7
Adult education classes.	1	7	7	32	1	11
Military service or training.	11	0	31	5	42	5
None of the above.	20	59	55	211	42	85
WHAT IS THE MOST IMPORTANT REASON WHY YOU DO NOT PLAN TO GO TO COLLEGE?						
Tired of school.	11	18	60	57	62	19
Want to work and make money.	5	40	64	149	48	44
Can't afford it.	5	15	67	108	29	16
Parents don't want me to.	2	1	2	6	2	2
Can be just as successful without going to college.	0	2	7	5	3	0
Couldn't make good enough grades.	4	1	87	90	92	75
Want to get married.	1	21	8	78	7	28
Other.	4	27	42	84	19	17
WOULD YOU GO TO COLLEGE IF YOU HAD ENOUGH MONEY?						
Yes.	15	29	116	103	57	18
No.	16	70	128	304	127	116
Maybe.	19	50	181	241	114	76
IF YOU ANSWERED "YES" OR "MAYBE" YOU WOULD GO TO COLLEGE IF YOU HAD ENOUGH MONEY, HOW MUCH WOULD YOU NEED?						
Enough to pay all expenses ($1,200 to $1,500 per year.)	26	43	136	151	92	40
Enough to pay half of the expenses ($600 to $750.)	13	37	125	143	60	36
Enough to pay some but less than half of the expenses.	4	5	33	39	17	13

Table 5-4

RESPONSES OF SENIOR STUDENTS IN PUBLIC AND PRIVATE HIGH SCHOOLS OF MACOMB COUNTY

TO QUESTIONS CONCERNING THEIR HIGH SCHOOL EXPERIENCES

AND THEIR FUTURE VOCATIONAL AND EDUCATIONAL PLANS

Students Grouped According to Their Own Indication of Academic Placement in Top, Middle, or Bottom Third of Senior Class

	TOP THIRD OF CLASS		MIDDLE THIRD OF CLASS		BOTTOM THIRD OF CLASS	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
	630	845	1369	1390	513	331
Answers Recorded as a Percent of Each Group Responding	100%	100%	100%	100%	100%	100%
WHICH OF THE FOLLOWING BEST DESCRIBES YOUR HIGH SCHOOL PROGRAM OF STUDY?						
Commercial or business education.	2.7	24.1	9.6	53.7	11.5	47.6
College or university preparatory.	87.5	70.8	41.1	23.6	17.0	10.0
Shop or industrial arts.	2.8	0.0	17.9	0.7	17.2	1.2
Agriculture.	0.5	0.2	0.7	0.1	1.0	0.0
Homemaking or home economics.	0.3	0.0	0.1	0.6	0.0	2.7
General.	5.2	2.8	27.8	18.6	51.1	36.7
Other.	1.0	2.1	2.8	2.7	2.2	1.8
WOULD YOU HAVE TAKEN A VOCATIONAL COURSE OF STUDY IF A WIDER CHOICE OF THESE PROGRAMS HAD BEEN AVAILABLE WHEN YOU ENTERED HIGH SCHOOL?						
Definitely yes.	10.4	13.2	25.2	18.8	26.6	14.7
Probably.	24.3	20.0	46.1	46.0	49.8	53.0
Probably not.	37.9	41.4	23.0	29.6	20.0	27.4
Definitely not.	27.4	25.4	5.7	5.6	3.6	4.9
IF YOU ANSWERED "DEFINITELY YES" OR "PROBABLY" TO THE LAST QUESTION, WHICH VOCATIONAL PROGRAM WOULD YOU HAVE CHOSEN?						
Agriculture.	4.9	2.4	4.7	1.4	6.0	2.1
Business (Office).	15.5	51.8	10.6	59.0	8.9	53.6
Commercial Art.	4.5	11.7	6.1	10.5	3.7	12.5
Distributive (Sales).	4.9	1.4	4.8	3.8	5.4	4.5
Metal Trades.	4.3	0.3	14.1	0.3	13.0	0.8
Electronics.	19.3	1.6	17.7	0.4	15.2	1.2
Auto Mechanics.	10.6	0.3	15.6	0.9	27.1	1.6
Advanced Drafting.	15.9	0.7	13.9	0.5	7.4	1.2
Clothing Construction.	00.0	6.6	0.4	6.6	0.2	9.2
Graphic Arts-Printing.	0.8	0.7	1.3	0.9	1.9	0.8
Food Preparation.	00.0	3.5	0.9	4.1	2.2	6.6
Other.	19.3	19.0	9.9	11.6	9.0	5.9
WHY DID YOU CHOOSE THE COURSE OF STUDY WHICH YOU HAVE FOLLOWED IN HIGH SCHOOL?						
My parents decided for me.	4.0	2.3	3.8	4.0	4.3	7.3
My friends were taking this program.	1.6	0.7	2.4	2.2	3.5	3.4
Counselor advised me into this program.	14.8	8.3	19.1	11.5	19.3	20.9
This program seemed easiest to me.	2.3	1.5	10.3	5.8	22.8	16.0
This program seemed to fit my own future goals.	73.0	84.5	57.6	71.2	39.1	46.1
Other.	4.3	2.7	6.8	5.3	11.0	6.3
WHAT DO YOU PLAN TO DO ON A FULL-TIME BASIS THE FIRST YEAR AFTER HIGH SCHOOL GRADUATION?						
Work.	11.0	26.0	47.4	64.6	66.9	72.5
Enter military service.	3.0	.0.6	4.5	0.4	9.8	0.1
Become a full-time housewife.	1.1	1.8	0.6	3.3	1.2	5.5
Attend college or university.	82.1	65.0	38.9	22.8	14.3	10.3
Attend business college.	00.0	2.0	1.1	3.4	0.6	4.0
Attend trade or technical school.	1.3	1.3	5.0	2.0	4.7	2.8
Other.	1.2	2.8	1.5	2.6	1.7	2.4
Don't know.	0.3	0.5	1.0	0.9	0.8	1.5

Table 1-4 Continued

Answers Recorded as a Percent of Each Group Responding	TOP THIRD OF CLASS BOYS 630 100%	TOP THIRD OF CLASS GIRLS 845 100%	MIDDLE THIRD OF CLASS BOYS 1369 100%	MIDDLE THIRD OF CLASS GIRLS 1390 100%	BOTTOM THIRD OF CLASS BOYS 513 100%	BOTTOM THIRD OF CLASS GIRLS 331 100%
HOW WELL DO YOU THINK YOUR HIGH SCHOOL IS PREPARING YOU FOR WHAT YOU PLAN TO DO AFTER GRADUATION?						
Providing just what is needed.	16.2	22.6	12.5	17.7	12.1	18.4
Very well in some ways but in other ways preparation is not adequate.	54.4	53.1	34.5	45.5	26.3	32.0
Fairly well but all the training could be improved.	23.2	20.4	34.1	28.2	33.3	32.3
Poorly.	6.2	3.9	18.9	8.6	28.3	17.3
HOW MUCH HELP HAVE YOU RECEIVED IN HIGH SCHOOL IN DECIDING WHAT YOU PLAN TO DO AFTER GRADUATION?						
A lot of help, all you need.	22.4	22.2	11.9	12.9	7.0	9.3
Considerable help, but could have used more.	23.2	26.8	25.3	24.6	14.6	21.1
Some help, but not very much.	31.6	29.6	32.3	33.5	33.4	30.0
Little or no help.	22.8	21.4	30.5	29.0	45.0	39.1
HOW WOULD YOU RATE THE FOLLOWING HIGH SCHOOL SERVICES, EXPERIENCES, OR FACILITIES?						
Counseling or guidance on school problems.						
Excellent	20.0	19.4	16.5	14.5	13.3	13.4
Good	55.4	57.1	58.2	59.7	56.7	58.0
Poor	24.6	23.5	25.3	25.8	30.0	28.6
Counseling or guidance on personal problems.						
Excellent	60.9	53.3	72.6	52.5	76.3	45.7
Good	22.8	25.9	15.4	27.6	13.3	28.7
Poor	16.3	20.8	12.0	19.9	10.4	25.6
Counseling or guidance on vocational choice.						
Excellent	23.2	20.0	17.7	17.6	17.2	14.1
Good	51.5	54.5	53.5	58.8	49.0	60.9
Poor	25.3	25.5	28.8	23.6	33.8	25.0
Counseling or guidance on college education.						
Excellent	34.7	29.6	27.7	26.0	24.0	23.8
Good	46.6	52.6	51.5	53.9	52.5	56.7
Poor	18.7	17.8	20.8	20.1	23.5	19.5
Library materials and information on vocations.						
Excellent	14.8	17.6	17.7	15.1	16.7	19.7
Good	53.4	54.0	50.8	58.5	56.0	55.8
Poor	31.8	28.4	31.5	26.4	27.3	24.5
Courses offered						
Excellent	12.8	11.3	9.4	7.6	8.7	7.2
Good	70.0	72.1	61.2	67.4	53.6	64.0
Poor	17.2	16.6	29.4	25.0	37.7	28.8
Social activities						
Excellent	19.7	20.5	17.0	13.4	15.7	14.1
Good	57.8	61.0	55.3	61.0	52.4	54.7
Poor	22.5	18.5	27.7	25.6	31.9	31.2
HOW MUCH EDUCATION HAS YOUR FATHER HAD?						
Eighth grade education or less.	17.0	16.3	20.9	22.9	27.8	25.5
Some high school.	20.8	22.9	28.7	27.5	26.7	28.7
Graduated from high school.	29.6	27.8	27.1	28.2	25.4	22.9
Business or trade school.	6.4	6.7	5.5	5.3	3.6	6.1
Some college.	12.9	12.1	7.7	8.7	6.6	7.1
Graduated from college.	12.1	13.0	7.2	4.5	5.1	5.2
Don't know.	1.2	1.2	2.9	2.9	4.8	4.5
DO YOU HAVE A PART-TIME JOB DURING SCHOOL?						
Yes.	58.6	48.5	71.9	50.5	78.5	44.0
No.	41.4	51.5	28.1	49.5	21.5	56.0

Table 5-4 Continued

Answers Recorded as a Percent of Each Group Responding	TOP THIRD OF CLASS BOYS 630 100%	TOP THIRD OF CLASS GIRLS 845 100%	MIDDLE THIRD OF CLASS BOYS 1369 100%	MIDDLE THIRD OF CLASS GIRLS 1390 100%	BOTTOM THIRD OF CLASS BOYS 513 100%	BOTTOM THIRD OF CLASS GIRLS 331 100%
DO YOU PLAN TO ATTEND COLLEGE OR UNIVERSITY?						
Yes, definitely.	88.3	70.0	43.8	28.8	14.5	12.1
Probably so.	5.3	8.7	20.8	14.7	19.2	11.2
Probably not.	1.3	4.8	8.2	9.5	13.2	10.9
No.	2.3	11.7	14.1	34.0	33.5	52.1
Don't know.	2.8	4.8	13.1	13.0	19.4	13.7
IF YOU PLAN TO GO TO COLLEGE, WHERE DO YOU PLAN TO ENROLL?						
Macomb County Community College.	17.0	20.0	54.8	51.9	61.8	47.3
Other college or university.	78.5	74.1	30.4	30.9	13.5	19.6
Technical, trade, or business school.	4.5	5.9	14.8	17.2	24.7	33.1
WHAT DO YOUR PARENTS FEEL ABOUT WHETHER OR NOT YOU ATTEND COLLEGE?						
Insist or expect you to go.	47.0	24.4	25.7	10.9	14.0	6.8
Want you to go if you want to.	49.2	66.7	62.0	68.4	60.2	61.9
Don't care one way or the other.	2.6	5.7	8.1	13.7	17.7	19.4
Don't want you to go.	0.3	1.8	0.6	1.9	1.5	3.2
Won't allow you to go.	0.3	0.4	0.3	0.6	0.4	0.3
Don't know what they think.	0.6	1.0	3.3	4.5	6.2	8.4
Answer the following questions ONLY if your future plans include "NOT" or "PROBABLY NOT" going to college as indicated in a previous question.						
WHICH OF THE FOLLOWING TYPES OF TRAINING OR EDUCATION INTEREST YOU MOST?						
Paid apprenticeship as a helper to learn a trade.	27.6	3.6	43.4	7.4	41.1	9.6
On-the-job training with a company or industrial firm.	15.5	44.0	31.4	48.0	25.5	31.0
Correspondence study.	1.7	2.8	1.2	2.4	2.3	2.6
Post-graduate high school work in high school at night.	0.0	2.8	2.5	2.6	3.0	3.7
Adult education classes.	1.7	5.0	1.6	5.1	0.3	5.8
Military service or training.	19.0	0.0	7.2	.8	13.9	2.6
None of the above.	34.5	41.8	12.7	33.7	13.9	44.7
WHAT IS THE MOST IMPORTANT REASON WHY YOU DO NOT PLAN TO GO TO COLLEGE?						
Tired of school.	34.4	14.4	17.8	9.9	23.7	9.4
Want to work and make money.	15.6	32.0	19.0	25.8	18.3	21.8
Can't afford it.	15.6	12.0	19.9	18.7	11.1	8.0
Parents don't want me to.	6.3	0.8	0.6	1.0	0.8	1.0
Can be just as successful without going to college.	0.0	1.6	2.0	0.9	1.1	0.0
Couldn't make good enough grades.	12.5	0.8	25.8	15.6	35.0	37.4
Want to get married.	3.1	16.8	2.4	13.5	2.7	13.9
Other.	12.5	21.6	12.5	14.6	7.3	8.5
WOULD YOU GO TO COLLEGE IF YOU HAD ENOUGH MONEY?						
Yes.	30.0	19.5	27.3	15.9	19.1	8.6
No.	32.0	47.0	30.1	46.9	42.6	55.2
Maybe.	38.0	33.5	42.6	37.2	38.3	36.2
IF YOU ANSWERED "YES" OR "MAYBE" YOU WOULD GO TO COLLEGE IF YOU HAD ENOUGH MONEY, HOW MUCH WOULD YOU NEED?						
Enough to pay all expenses ($1,200 to $1,500 per year.)	60.5	50.5	46.3	45.4	54.4	45.0
Enough to pay half of the expenses ($600 to $750.)	30.2	43.5	42.5	42.9	35.5	40.5
Enough to pay some but less than half of the expenses.	9.3	6.0	11.2	11.7	10.1	14.5

Table 5-5

RESPONSES OF SENIOR STUDENTS IN PUBLIC AND PRIVATE HIGH SCHOOLS OF MACOMB COUNTY

TO QUESTIONS CONCERNING THEIR HIGH SCHOOL EXPERIENCES

AND THEIR FUTURE VOCATIONAL AND EDUCATIONAL PLANS

Students Grouped by High School Program of Study	COMMERCIAL/ BUSINESS EDUCATION	COLLEGE PREPARATORY	SHOP/INDUSTRIAL ARTS	AGRICULTURE	HOMEMAKING/ HOME ECONOMICS	GENERAL	OTHER
	1312	2154	364	20	22	1074	132
WOULD YOU HAVE TAKEN A VOCATIONAL COURSE OF STUDY IF A WIDER CHOICE OF THESE PROGRAMS HAD BEEN AVAILABLE WHEN YOU ENTERED HIGH SCHOOL?							
Definitely yes.	305	221	150	3	3	235	32
Probably.	615	564	147	6	12	578	59
Probably not.	305	866	44	6	4	218	28
Definitely not.	64	454	7	2	3	28	3
IF YOU ANSWERED "DEFINITELY YES" OR "PROBABLY" TO THE LAST QUESTION, WHICH VOCATIONAL PROGRAM WOULD YOU HAVE CHOSEN?							
Agriculture.	22	39	8	8	0	39	2
Business (Office).	686	153	4	0	4	168	22
Commercial Art.	69	75	24	0	6	75	10
Distributive (Sales).	52	30	4	1	1	47	7
Metal Trades.	12	37	97	1	1	81	3
Electronics.	21	163	47	0	0	89	8
Auto Mechanics.	31	69	89	0	2	140	8
Advanced Drafting.	13	73	70	1	0	69	13
Clothing Construction.	38	30	0	1	7	30	2
Graphic Arts-Printing.	6	5	8	0	0	18	1
Food Preparation.	23	16	5	0	6	34	1
Other.	52	175	13	0	1	117	23
WHY DID YOU CHOOSE THE COURSE OF STUDY WHICH YOU HAVE FOLLOWED IN HIGH SCHOOL?							
My parents decided for me.	56	91	8	0	3	33	6
My friends were taking this program.	31	25	9	3	0	39	1
Counselor advised me into this program.	138	276	50	1	1	255	19
This program seemed easiest to me.	86	37	35	2	8	236	10
This program seemed to fit my own future goals.	926	1631	242	14	8	376	77
Other.	62	73	17	0	2	119	17
TO THE BEST OF YOUR KNOWLEDGE, WHERE DO YOU RANK IN YOUR GRADUATING CLASS?							
Top Third.	220	1148	18	5	2	57	25
Middle Third.	876	886	254	10	11	635	87
Bottom Third.	216	120	92	5	9	382	20
WHAT DO YOU PLAN TO DO ON A FULL-TIME BASIS THE FIRST YEAR AFTER HIGH SCHOOL GRADUATION?							
Work.	992	361	251	9	10	710	73
Enter military service.	23	33	22	1	0	61	3
Become a full-time housewife.	40	18	3	3	8	25	3
Attend college or university.	144	1615	46	6	2	163	34
Attend business college.	64	15	0	0	0	16	0
Attend trade or technical school.	23	46	25	0	2	48	4
Other.	14	42	9	1	0	27	9
Don't know.	7	14	3	0	0	14	2

Table 1-9 Continued

	COMMERCIAL/ BUSINESS EDUCATION	COLLEGE PREPARATORY	SHOP/INDUSTRIAL ARTS	AGRICULTURE	HOMEMAKING/ HOME ECONOMICS	GENERAL	OTHER
	1312	2154	364	20	22	1074	132
HOW WELL DO YOU THINK YOUR HIGH SCHOOL IS PREPARING YOU FOR WHAT YOU PLAN TO DO AFTER GRADUATION?							
Providing just what is needed.	261	363	38	2	5	112	16
Very well in some ways but in other ways preparation is not adequate.	521	1048	105	6	6	311	43
Fairly well but all the training could be improved.	360	482	126	6	6	361	47
Poorly.	126	168	71	4	5	221	21
HOW MUCH HELP HAVE YOU RECEIVED IN HIGH SCHOOL IN DECIDING WHAT YOU PLAN TO DO AFTER GRADUATION?							
A lot of help, all you need.	167	416	39	2	1	64	15
Considerable help, but could have used more.	319	533	77	2	3	188	23
Some help, but not very much.	396	658	95	8	9	338	40
Little or no help.	381	449	120	5	7	419	50
HOW WOULD YOU RATE THE FOLLOWING HIGH SCHOOL SERVICES, EXPERIENCES, OR FACILITIES?							
Counseling or guidance on school problems.							
Excellent	181	407	47	2	3	134	18
Good	756	1168	190	10	10	602	71
Poor	324	492	90	4	6	293	36
Counseling or guidance on personal problems.							
Excellent	723	1102	252	14	12	640	88
Good	292	466	49	2	2	189	20
Poor	204	358	30	1	3	170	14
Counseling or guidance on vocational choice.							
Excellent	234	399	69	2	3	151	22
Good	733	1065	164	6	11	568	72
Poor	278	565	87	7	6	293	32
Counseling or guidance on college education.							
Excellent	330	642	83	4	5	227	27
Good	671	1019	146	6	9	546	62
Poor	213	401	77	5	5	213	30
Library materials and information on vocations.							
Excellent	201	332	62	2	4	172	23
Good	731	1049	168	8	13	556	74
Poor	303	663	84	6	3	274	29
Courses offered.							
Excellent	109	217	33	1	3	74	14
Good	861	1393	197	8	12	579	83
Poor	279	461	83	7	5	350	28
Social activities.							
Excellent	185	392	54	2	2	136	20
Good	707	1202	174	10	10	578	70
Poor	339	455	83	4	7	294	35
HOW MUCH EDUCATION HAS YOUR FATHER HAD?							
Eighth grade education or less.	313	321	97	7	9	248	23
Some high school.	383	436	91	4	7	302	38
Graduated from high school.	353	571	74	5	0	275	40
Business or trade school.	58	145	18	1	1	42	5
Some college.	69	291	16	0	0	61	9
Graduated from college.	48	262	13	0	2	39	8
Don't know.	38	32	15	0	1	41	1

Table 3-5 Continued

	COMMERCIAL/ BUSINESS EDUCATION	COLLEGE PREPARATORY	SHOP/INDUSTRIAL ARTS	AGRICULTURE	HOMEMAKING/ HOME ECONOMICS	GENERAL	OTHER
	1312	2154	364	20	22	1074	132
DO YOU HAVE A PART-TIME JOB DURING SCHOOL?							
Yes.	723	1102	252	14	12	640	88
No.	523	949	69	3	8	365	36
DO YOU PLAN TO ATTEND COLLEGE OR UNIVERSITY?							
Yes, definitely.	219	1634	58	4	3	183	50
Probably so.	182	216	78	2	0	186	24
Probably not.	147	46	49	1	1	114	15
No.	509	82	88	7	14	344	16
Don't know.	193	80	57	3	3	171	21
IF YOU PLAN TO GO TO COLLEGE, WHERE DO YOU PLAN TO ENROLL?							
Macomb County Community College.	304	543	116	3	2	264	52
Other college or university.	90	1266	15	3	3	96	20
Technical, trade, or business school.	127	91	53	1	0	124	14
WHAT DO YOUR PARENTS FEEL ABOUT WHETHER OR NOT YOU ATTEND COLLEGE?							
Insist or expect you to go.	107	773	40	1	3	106	17
Want you to go if you want to.	844	1196	222	9	12	647	93
Don't care one way or the other.	198	59	50	7	2	164	12
Don't want you to go.	27	9	5	0	0	25	1
Won't allow you to go.	8	3	1	0	1	6	1
Don't know what they think.	72	21	15	0	2	57	1
Answer the following questions ONLY if your future plans include "NOT" or "PROBABLY NOT" going to college as indicated in a previous question.							
WHICH OF THE FOLLOWING TYPES OF TRAINING OR EDUCATION INTEREST YOU MOST?							
Paid apprenticeship as a helper to learn a trade.	70	47	92	1	1	177	9
On-the-job training with a company or industrial firm.	350	63	50	3	5	160	12
Correspondence study.	13	5	0	1	0	17	1
Post-graduate high school work in high school at night.	21	6	4	3	0	12	1
Adult education classes.	29	7	3	0	2	15	3
Military service or training.	18	15	9	1	0	47	4
None of the above.	202	86	11	0	6	158	9
WHAT IS THE MOST IMPORTANT REASON WHY YOU DO NOT PLAN TO GO TO COLLEGE?							
Tired of school.	74	33	20	1	3	87	9
Want to work and make money.	193	24	21	1	1	101	9
Can't afford it.	105	29	20	3	0	78	5
Parents don't want me to.	7	0	1	1	0	6	0
Can be just as successful without going to college.	5	0	5	1	0	5	1
Couldn't make good enough grades.	119	21	45	0	3	157	4
Want to get married.	69	15	4	0	5	47	3
Other.	85	38	11	0	2	55	2
WOULD YOU GO TO COLLEGE IF YOU HAD ENOUGH MONEY?							
Yes.	103	80	33	1	1	109	11
No.	357	56	68	6	10	252	12
Maybe.	287	69	68	2	4	235	16
IF YOU ANSWERED "YES" OR "MAYBE" YOU WOULD GO TO COLLEGE IF YOU HAD ENOUGH MONEY, HOW MUCH WOULD YOU NEED?							
Enough to pay all expenses ($1,200 to $1,500 per year.)	186	78	48	3	2	158	13
Enough to pay half of the expenses ($600 to $750.)	152	79	38	1	4	127	13
Enough to pay some but less than half of the expenses.	41	11	12	2	0	42	3

Table 5-4

RESPONSES OF SENIOR STUDENTS IN PUBLIC AND PRIVATE HIGH SCHOOLS OF MACOMB COUNTY

TO QUESTIONS CONCERNING THEIR HIGH SCHOOL EXPERIENCES

AND THEIR FUTURE VOCATIONAL AND EDUCATIONAL PLANS

Students Grouped by High School Program of Study

	COMMERCIAL/ BUSINESS EDUCATION	COLLEGE PREPARATORY	SHOP/INDUSTRIAL ARTS	AGRICULTURE	HOMEMAKING/ HOME ECONOMICS	GENERAL	OTHER
	1312	2154	364	20	22	1074	132
Answers Recorded as a Percent of Each Group Responding	100%	100%	100%	100%	100%	100%	100%
WOULD YOU HAVE TAKEN A VOCATIONAL COURSE OF STUDY IF A WIDER CHOICE OF THESE PROGRAMS HAD BEEN AVAILABLE WHEN YOU ENTERED HIGH SCHOOL?							
Definitely yes.	23.7	10.5	43.0	17.6	13.6	22.2	26.2
Probably.	47.8	26.7	42.3	35.2	54.5	54.6	48.4
Probably not.	23.7	41.1	12.6	35.2	18.1	20.5	22.9
Definitely not.	4.8	21.7	2.1	12.0	13.6	2.7	2.5
IF YOU ANSWERED "DEFINITELY YES" OR "PROBABLY" TO THE LAST QUESTION, WHICH VOCATIONAL PROGRAM WOULD YOU HAVE CHOSEN?							
Agriculture.	2.1	4.5	2.2	66.8	0.0	4.3	2.0
Business (Office).	66.8	17.7	1.1	0.0	14.3	18.4	22.0
Commercial Art.	6.8	8.7	6.6	0.0	21.5	8.3	10.0
Distributive (Sales).	5.1	3.5	1.1	8.3	3.6	5.3	7.0
Metal Trades.	1.1	4.2	26.3	8.3	3.6	8.9	3.0
Electronics.	2.1	18.8	12.7	0.0	0.0	9.8	8.0
Auto Mechanics.	3.0	8.0	24.0	0.0	7.2	15.4	8.0
Advanced Drafting.	1.3	8.5	19.0	8.3	0.0	7.6	13.0
Clothing Construction.	3.6	3.5	0.0	8.3	24.8	3.3	2.0
Graphic Arts-Printing.	0.6	0.6	2.2	0.0	0.0	2.0	1.0
Food Preparation.	2.2	1.9	1.3	0.0	21.4	3.8	1.0
Other.	5.1	20.1	3.5	0.0	3.6	12.9	23.0
WHY DID YOU CHOOSE THE COURSE OF STUDY WHICH YOU HAVE FOLLOWED IN HIGH SCHOOL?							
My parents decided for me.	4.2	4.3	2.3	0.0	13.6	3.1	4.6
My friends were taking this program.	2.4	1.2	2.5	15.0	0.0	3.7	0.8
Counselor advised me into this program.	10.6	13.0	13.8	5.0	4.6	24.2	14.6
This program seemed easiest to me.	6.6	1.7	9.7	10.5	36.4	22.3	7.7
This program seemed to fit my own future goals.	71.4	76.6	67.0	70.0	36.4	35.4	59.2
Other.	4.8	3.2	4.7	0.0	9.0	11.3	13.1
TO THE BEST OF YOUR KNOWLEDGE, WHERE DO YOU RANK IN YOUR GRADUATING CLASS?							
Top Third.	16.8	53.3	4.9	25.0	9.1	5.4	18.9
Middle Third.	66.7	41.2	70.0	50.0	50.0	59.0	66.0
Bottom Third.	16.5	5.5	25.1	25.0	40.9	35.6	15.1
WHAT DO YOU PLAN TO DO ON A FULL-TIME BASIS THE FIRST YEAR AFTER HIGH SCHOOL GRADUATION?							
Work.	76.0	16.8	70.0	45.0	45.5	66.6	57.0
Enter military service.	1.7	1.5	6.1	5.0	0.0	5.7	2.3
Become a full-time housewife.	3.1	0.8	0.8	15.0	36.3	2.4	2.3
Attend college or university.	11.0	75.2	12.8	30.0	9.1	15.4	26.6
Attend business college.	4.9	0.7	0.0	0.0	0.0	1.5	0.0
Attend trade or technical school.	1.7	2.2	7.0	0.0	9.1	4.5	3.2
Other.	1.1	2.1	2.5	5.0	0.0	2.6	7.0
Don't know.	0.5	0.6	0.8	0.0	0.0	1.3	1.6

Table 1-4 Continued

Answers Recorded as a Percent of Each Group Responding	COMMERCIAL/ BUSINESS EDUCATION	COLLEGE PREPARATORY	SHOP/INDUSTRIAL ARTS	AGRICULTURE	HOMEMAKING/ HOME ECONOMICS	GENERAL	OTHER
	1312 100%	2154 100%	364 100%	20 100%	22 100%	1074 100%	132 100%
HOW WELL DO YOU THINK YOUR HIGH SCHOOL IS PREPARING YOU FOR WHAT YOU PLAN TO DO AFTER GRADUATION?							
Providing just what is needed.	20.6	17.6	11.2	11.1	22.7	11.0	12.6
Very well in some ways but in other ways preparation is not adequate.	41.5	50.8	30.9	33.4	27.3	31.0	33.8
Fairly well but all the training could be improved.	28.4	23.4	37.0	33.4	27.3	36.0	37.0
Poorly.	9.5	8.2	20.9	22.1	22.7	22.0	16.6
HOW MUCH HELP HAVE YOU RECEIVED IN HIGH SCHOOL IN DECIDING WHAT YOU PLAN TO DO AFTER GRADUATION?							
A lot of help, all you need.	13.2	20.3	11.8	11.8	5.0	6.4	11.7
Considerable help, but could have used more.	25.2	26.0	23.0	11.8	15.0	18.6	18.0
Some help, but not very much.	31.4	32.0	28.7	47.0	45.0	33.5	31.2
Little or no help.	30.2	21.7	36.5	29.4	35.0	41.5	39.1
HOW WOULD YOU RATE THE FOLLOWING HIGH SCHOOL SERVICES, EXPERIENCES, OR FACILITIES?							
Counseling or guidance on school problems.							
Excellent	14.4	19.7	14.4	12.5	15.8	13.0	14.4
Good	60.0	56.5	58.0	62.5	52.6	58.6	56.8
Poor	25.6	23.8	27.6	25.0	31.6	28.4	28.8
Counseling or guidance on personal problems.							
Excellent	59.4	57.2	76.1	82.5	70.6	64.0	72.0
Good	24.0	24.2	14.8	11.7	11.8	18.9	16.4
Poor	16.6	18.6	9.1	5.8	17.6	17.1	11.6
Counseling or guidance on vocational choice.							
Excellent	18.8	19.7	21.5	13.3	15.0	14.9	17.5
Good	58.9	52.5	51.3	40.0	55.0	56.1	57.1
Poor	22.3	27.8	27.2	46.7	30.0	29.0	25.4
Counseling or guidance on college education.							
Excellent	27.2	31.0	27.1	26.8	26.3	23.0	22.7
Good	55.3	49.3	47.8	40.0	47.4	55.5	52.1
Poor	17.5	19.7	25.1	33.2	26.3	21.5	25.2
Library materials and information on vocations.							
Excellent	16.3	16.3	19.8	12.5	20.0	17.1	18.3
Good	59.3	51.3	53.5	50.0	65.0	55.5	58.8
Poor	24.4	32.4	26.7	37.5	15.0	27.4	22.9
Courses offered.							
Excellent	8.7	10.5	10.6	6.3	15.0	7.3	11.2
Good	69.0	67.4	63.0	50.0	60.0	57.8	66.4
Poor	22.3	22.1	26.4	43.7	25.0	34.9	22.4
Social activities.							
Excellent	15.0	19.2	17.3	12.5	10.5	13.4	16.0
Good	57.4	58.6	56.0	62.5	52.6	57.5	56.0
Poor	27.6	22.2	26.7	25.0	36.9	29.1	28.0
HOW MUCH EDUCATION HAS YOUR FATHER HAD?							
Eighth grade education or less.	24.8	15.6	29.9	41.2	45.0	24.6	18.6
Some high school.	30.4	21.2	28.2	23.5	35.0	29.8	30.6
Graduated from high school.	28.0	27.8	22.8	29.4	0.0	27.3	32.2
Business or trade school.	4.6	7.1	5.6	5.9	5.0	4.2	4.0
Some college.	5.5	14.3	4.9	0.0	0.0	6.1	7.3
Graduated from college.	3.7	12.8	4.0	0.0	10.0	3.9	6.5
Don't know.	3.0	1.2	4.6	0.0	5.0	4.1	0.8

Table 3-4 Continued

	COMMERCIAL/ BUSINESS EDUCATION	COLLEGE PREPARATORY	SHOP/INDUSTRIAL ARTS	AGRICULTURE	HOMEMAKING/ HOME ECONOMICS	GENERAL	OTHER
Answers Recorded as a Percent of Each Group Responding	1312 100%	2154 100%	364 100%	20 100%	22 100%	1074 100%	132 100%
DO YOU HAVE A PART-TIME JOB DURING SCHOOL?							
Yes.	58.0	53.8	78.5	82.5	60.0	63.6	76.0
No.	42.0	46.2	21.5	17.5	40.0	36.4	29.0
DO YOU PLAN TO ATTEND COLLEGE OR UNIVERSITY?							
Yes, definitely.	17.5	79.5	17.6	23.6	14.3	18.4	39.7
Probably so.	14.6	10.5	23.6	11.7	0.0	18.6	19.0
Probably not.	11.7	2.2	14.8	5.8	4.8	11.4	11.9
No.	40.7	4.0	26.6	41.2	66.6	34.4	12.7
Don't know.	15.5	3.8	17.4	17.7	14.3	17.2	16.7
IF YOU PLAN TO GO TO COLLEGE, WHERE DO YOU PLAN TO ENROLL?							
Macomb County Community College.	58.5	28.6	63.0	43.0	40.0	54.5	60.5
Other college or university.	17.3	66.6	8.2	43.0	60.0	19.8	23.2
Technical, trade, or business school.	24.2	4.8	28.8	14.0	0.0	25.7	16.3
WHAT DO YOUR PARENTS FEEL ABOUT WHETHER OR NOT YOU ATTEND COLLEGE?							
Insist or expect you to go.	8.5	37.5	12.0	5.9	15.0	10.5	13.6
Want you to go if you want to.	67.2	58.1	66.7	52.9	60.0	64.3	74.5
Don't care one way or the other.	15.8	2.9	15.0	41.2	10.0	16.3	9.5
Don't want you to go.	2.1	0.4	1.5	0.0	0.0	2.5	0.8
Won't allow you to go.	0.6	0.1	0.3	0.0	5.0	0.6	0.8
Don't know what they think.	5.7	1.0	4.5	0.0	10.0	5.8	0.8
Answer the following questions ONLY if your future plans include "NOT" or "PROBABLY NOT" going to college as indicated in a previous question.							
WHICH OF THE FOLLOWING TYPES OF TRAINING OR EDUCATION INTEREST YOU MOST?							
Paid apprenticeship as a helper to learn a trade.	9.7	20.5	54.4	11.1	7.2	30.2	23.0
On-the-job training with a company or industrial firm.	49.8	27.5	29.6	33.3	35.6	27.3	30.8
Correspondence study.	1.9	2.2	0.0	11.1	0.0	2.7	2.6
Post-graduate high school work in high school at night.	3.0	2.6	2.4	33.3	0.0	2.2	2.6
Adult education classes.	4.2	3.1	1.8	0.0	14.5	2.6	7.6
Military service or training.	2.6	6.6	5.3	11.2	0.0	8.0	10.4
None of the above.	28.8	37.5	6.5	0.0	42.7	27.0	23.0
WHAT IS THE MOST IMPORTANT REASON WHY YOU DO NOT PLAN TO GO TO COLLEGE?							
Tired of school.	11.3	20.6	15.8	14.3	21.4	16.2	27.3
Want to work and make money.	29.4	15.0	16.5	14.3	7.1	18.8	27.3
Can't afford it.	16.0	18.1	15.8	42.8	0.0	14.6	15.2
Parents don't want me to.	1.1	0.0	0.8	14.3	0.0	1.1	0.0
Can be just as successful without going to college.	0.8	0.0	3.9	14.3	0.0	0.9	3.0
Couldn't make good enough grades.	18.1	13.1	35.4	0.0	21.4	29.3	12.0
Want to get married.	10.5	9.4	3.2	0.0	35.6	8.8	9.1
Other.	12.8	23.8	8.6	0.0	14.5	10.3	6.1
WOULD YOU GO TO COLLEGE IF YOU HAD ENOUGH MONEY?							
Yes.	13.8	39.0	19.4	11.1	6.7	18.3	28.2
No.	47.8	27.3	40.3	66.6	66.6	42.3	30.8
Maybe.	38.4	33.7	40.3	22.3	26.7	39.4	41.0
IF YOU ANSWERED "YES" OR "MAYBE" YOU WOULD GO TO COLLEGE IF YOU HAD ENOUGH MONEY, HOW MUCH WOULD YOU NEED?							
Enough to pay all expenses ($1,200 to $1,500 per year.)	49.0	46.4	49.0	50.0	33.3	48.4	44.8
Enough to pay half of the expenses ($600 to $750.)	40.2	47.0	38.8	16.7	66.7	38.8	44.8
Enough to pay some but less than half of the expenses.	10.8	6.6	12.2	33.3	0.0	12.8	10.4

INTEREST IN FURTHER EDUCATION EXPRESSED BY PARENTS OF EIGHTH GRADERS

Parents of eighth graders in Macomb County public and parochial schools were asked about their educational attainment and their interest in further education for themselves. The following table compares the educational level reported by 6171 fathers and 6232 mothers and the educational level of all Macomb County males and females, aged 25 and over, in 1960.

FORMAL EDUCATION OF PARENTS OF MACOMB COUNTY EIGHTH GRADERS IN 1965 AND EDUCATION OF TOTAL COUNTY POPULATION, AGED 25 AND OVER, IN 1960

(percents)

EDUCATIONAL LEVEL	1960 Males	1965 Fathers	Difference	1960 Females	1965 Mothers	Difference
8th grade or less	34.3	15.7	-18.6	31.2	10.4	-20.8
Some high school	25.4	27.6	+ 2.2	25/4	27.5	+ 2.1
High school grad	25/2	32.9	+ 7.7	34/3	48.4	+14.1
Some college	8.2	14.9	+ 6.7	5.8	9.4	+ 3.6
College graduate	7.0	8.7	+ 1.7	3.3	4.3	+ 1.0

The parents reporting in 1965 are a younger population than the 1960 over-25 population, and this is evident in the sharp decrease in the number of parents reporting eight years or less of education in 1965 compared to the 1960 figure. The parent group reflects the continuing trend toward longer participation in school. The proportion of fathers reporting in 1965 who terminated upon high school graduation was 30% greater than for all males over 25 in 1960, and for mothers the increase was 41%.

Of the parents participating in the 1965 Survey, 43.3% of the fathers and 37.9% of the mothers did not complete high school. The comparable figures for the 1960 adults were 59.7% males and 56.6% females. The proportion of mothers who completed high school but did not continue their education exceeded the proportion of such fathers by 50%. Participation in college by fathers was almost double the participation of mothers. Of fathers who attended college, 37.3% graduated, while only 31.2% of mothers who entered college completed four or more years. College participation among the 1965 parent group is significantly higher that that of the total over-25 population in 1960, 55% greater for fathers and 50% greater for mothers. College graduates comprised 6.6% of the reporting parents compared to 5.1% of the total adult population in 1960. Only 35% of the 1965 parent group who entered college graduated, compared to a college completion of 42% of the total over-25 population in 1960 who had attended college.

The parent group was asked to indicate their interest in further education. The responses are tabulated as percents in the following table.

PARENTS' INTEREST IN FURTHER EDUCATION

TYPE OF EDUCATION	Fathers	Mothers	Combined
Work on college degree	10.8	11.0	10.9
Job improvement courses	34.4	18.4	26.4
Self improvement courses	15.1	30.1	22.6
No present interest	39.7	40.5	40.1

Twice as many mothers are interested in education for self improvement and almost twice as many fathers as mothers are concerned about further education for improving job skills.

When projected to include the needs and interests of the total adult population in Macomb County, these responses indicate very large potential enrollments in the Community College academic, occupational, and continuing education programs as well as opportunities for expanding adult education programs in the local school districts.

FOLLOW-UP PRACTICES IN MACOMB COUNTY HIGH SCHOOLS

Principals of Macomb County public and parochial high schools were asked to provide information concerning their efforts to identify the present status of former graduates. All schools contacted, nineteen public and eight parochial, responded to the survey. Three public high schools were not surveyed because they had no 196. graduating classes.

Thirteen of the public high schools had conducted follow-up studies of a former graduating class. None of the parochial schools had attempted follow-up studies. Only five high schools had surveyed their 1964 graduates, and in five cases the most recent study was done for a class graduating prior to 1960.

The following table shows the extent of follow-up efforts in the high schools of Macomb County:

FOLLOW-UP STUDIES IN MACOMB COUNTY HIGH SCHOOLS

Graduating Class Studied	No. of Schools Reporting Studies	Was Information Put Into Report Form?	
		Yes	No
1964	5	4	1
1963	2	1	1
1962	0	-	-
1961	1	1	0
1960	0	-	-
1959	1	0	1
1958	2	2	0
Year Unknown	2	1	1

Schools were asked which of their staff made regular use of information gathered through follow-up studies. Principals were the most frequent users of the information, and in only five schools were classroom teachers regular users, although such information could have considerable significance for evaluation of course content and instructional methods.

PERSONNEL USING FOLLOW-UP STUDY INFORMATION

Personnel	Frequency Reported
Principals	15
Assistant Principals	9
Counselors	13
Vocational Coordinators	9
Classroom Teachers	5
Others	4

All schools surveyed reported the numbers of students graduated in 1964. Twenty-three of the 27 schools reported the numbers of 1964 graduates in attendance at two or four-year colleges and universities. Three schools made percentage estimates of graduates in college and one school did not answer. The numbers of 1964 graduates in attendance at four-year colleges and universities were derived from various sources as follows:

Source	No. of Schools Using Source
Reports from college registrars	14
Student indications of intent while still enrolled in high school	12
Follow-up study made of graduates of 1964	9
Other	2

Twenty-three schools reported that 1,445 of 3,840 graduates of the 1964 class had enrolled in four-year colleges and universities. This proportion of college-goers, 37.6%, contrasts with the county-wide totals compiled from the Annual Fall Statistical Reports submitted to the State Department of Education. These reports indicate that 31.3% of all 1964 Macomb County public high graduates were enrolled in four-year colleges and universities or junior colleges in October of 1964. It is apparent that high schools do not have sufficient information concerning the status of their graduates and the 37.63 percent determined to be in attendance at four-year colleges and universities is probably an unrealistically high estimate.

While there is great variation among high schools in their efforts to accomplish follow-up studies, the high school principals supported overwhelmingly the suggestion of cooperating with the other schools in Macomb County to prepare standardized forms and procedures (such as data processing) for follow-up studies of high school graduates and drop-outs.

Recommendations

1. A coordinated follow-up study of high school graduates and drop-outs should be conducted annually by Macomb County high schools and Macomb County Community College. Such studies should include all students, rather than only those students in reimburseable vocational programs as presently required by the Department of Vocational Education.

2. The coordinated follow-up study should employ standardized procedures and survey instruments to facilitate tabulation by data processing and to yield information on which County-wide evaluations can be based.

3. Information regarding the employment and educational status of graduates and drop-outs should be obtained as a function of the Annual Expanded School Census, which is conducted by all school districts.

4. Greater emphasis should be put on follow-up of students who leave high school prior to graduation. These persons should be encouraged to continue their educations, either in regular school, adult evening classes, or in special programs developed for their needs.

OCCUPATIONAL TRAINING THROUGH EXISTING ADULT EDUCATION PROGRAMS IN MACOMB COUNTY

Fifteen of the twenty-one public school districts in Macomb County offered adult education programs during 1964-65 that included occupational training classes. It is expected that additional districts will offer adult education under the newly liberalized reimbursement policies of the State. Macomb County Community College is offering a program of adult education for September, 1965.

ADULT VOCATIONAL PROGRAMS IN MACOMB COUNTY 1964-65.

OCCUPATIONAL AREA	COURSES OFFERED	ENROLLMENT
Agriculture	None	---
Business	11	1,868
Distributive	4	308
Home Economics	7	2,291
Trade & Industry	14	1,048

Occupational classes offered through adult education have several unique values.

1. Classes typically are offered to meet specific community interest.

2. Programs are offered with a maximum freedom from administrative procedures which discourage many persons from participating in regular 'credit' programs.

3. School facilities are available during evening hours when adult education has been most popular.

4. Decentralization into small units in many schools brings education opportunities closer to the people and minimizes problems such as parking.

5. Instruction may be informal and experimental.

Offsetting these are certain problems peculiar to adult education.

1. Narrowness and sterility of occupational offerings may result from the small drawing power of single-district programs.

2. The general practice of cancelling classes when minimum enrollments do not materialize discourages participation.

3. Expenses of administering adult education program and adequately publicizing available courses.

4. Confusion in purpose, methodology, and level of instruction which is caused by attempting to serve many purposes in a single course:

   a) high school completion credit
   b) occupational training, retraining, or upgrading
   c) hobby, recreational, or leisure goals
   d) community service.

5. Difficulties in recruitment, evaluation, compensation, and retention of a competent teaching staff.

Recommendations to make adult education more effective as an agency for occupational training.

1. All adult education programs and classes should be evaluated for purpose(s) and should be structured and taught toward those purposes.

2. Sequences of classes in occupational areas should be developed and presented in consecutive terms.

3. The adult education directors (or vocational directors) of Macomb County public school districts should function as an Adult Education Committee to recommend the development of programs and the scheduling of specific portions of occupationally oriented programs in adult education. The committee should undertake the evaluation of adult education offerings to insure their quality.

4. The Adult Education Committee should assist in the preparation of a master list of available qualified persons interested in teaching in their area of occupational proficiency.

5. The Committee should prepare a master schedule publicizing all adult education courses offered in the County. The master schedule should be mailed to every residence in the County. The schedule should identify adult education courses by purpose(s), i.e., high school completion, occupational training, or recreational and cultural development. The selection of courses to be offered should consider these factors:

   Indicated public interest in courses or programs

   Local employment opportunities

   Availability of specialized teaching facilities and qualified instructors

   Geographic factors of distance and main roads.

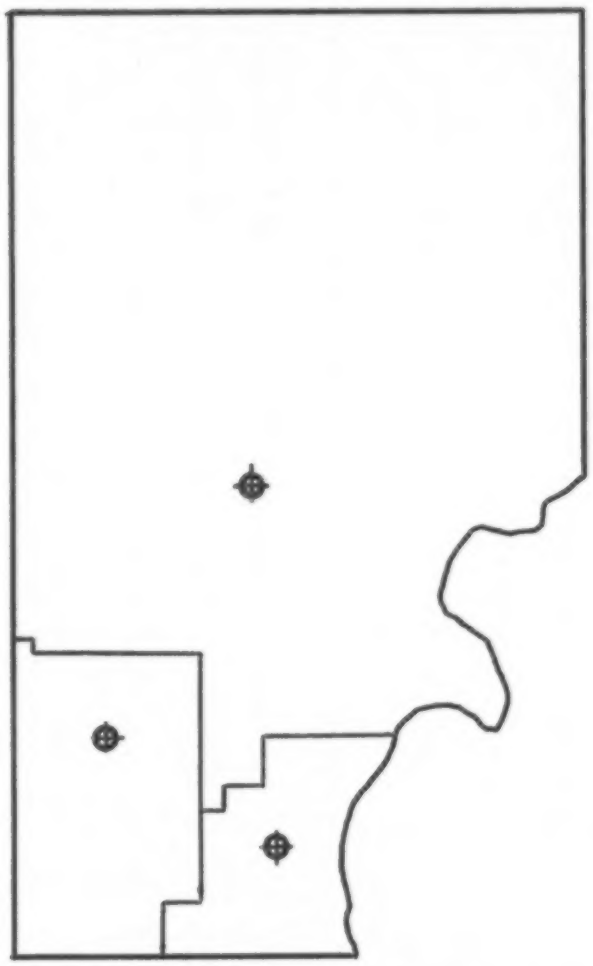
   Sequences of courses in occupational families

   Avoidance of wasteful competition from duplicated classes.

   It may be found more practical to use a smaller area than the entire County for coordination of adult vocational education programming. In this case, the areas proposed as service areas for Area Occupational Education Centers may be more suitable.

6. Fees should be established which will yield an income sufficient to guarantee the quality and continuation of adult education programs. It is suggested that determining costs by an entire program rather than by individual classes may reduce the number of classes cancelled because of low enrollments.

PLAN FOR OCCUPATIONAL EDUCATION CENTER DEVELOPMENT IN MACOMB COUNTY



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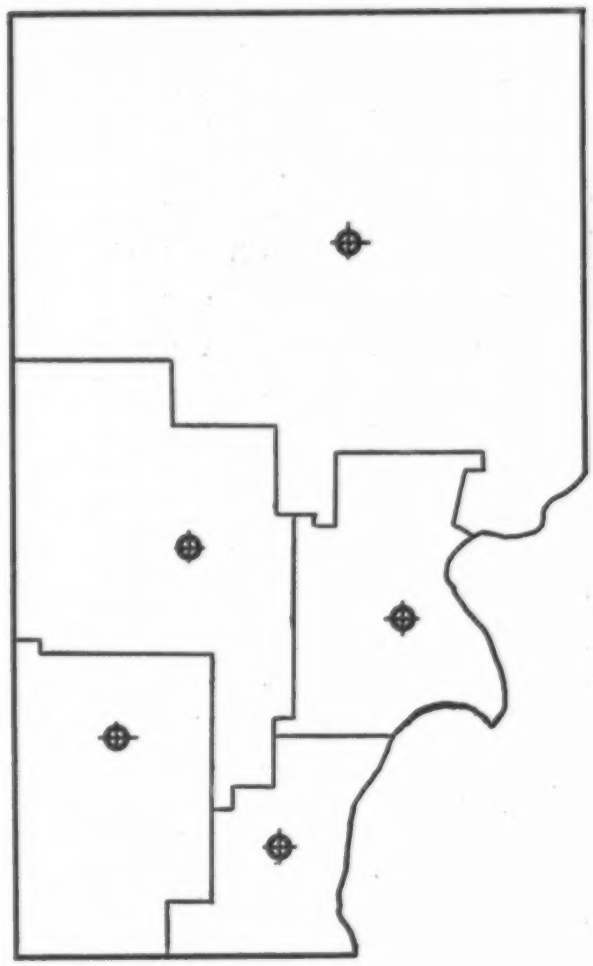

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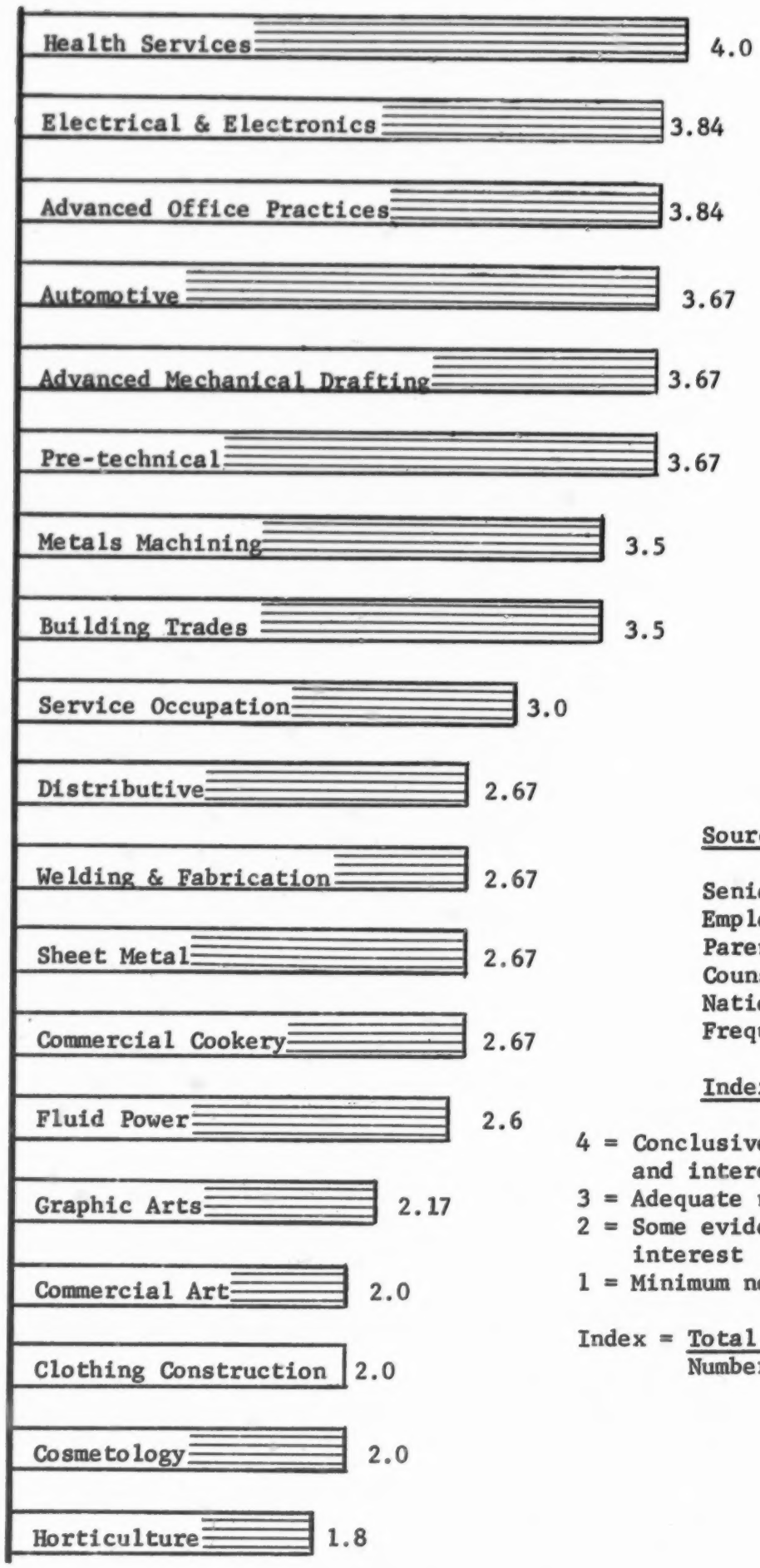
INDEX OF INTEREST OR NEED FOR SELECTED
VOCATIONAL-TECHNICAL PROGRAMS IN MACOMB COUNTY



Sources of Index

Seniors
Employers
Parents
Counselors
National Outlook
Frequency Scale

Index

4 = Conclusive evidence of need and interest
3 = Adequate need and interest
2 = Some evidence of need and interest
1 = Minimum need or interest

$$\text{Index} = \frac{\text{Total all Ratings}}{\text{Number of Ratings}}$$

RECOMMENDATION I

The Citizens Advisory Committee recommends that greatly increased efforts be made to upgrade the quality and expand the types of occupational education opportunities offered by Macomb County secondary schools. The Committee offers the following information gathered by this study to support its recommendation:

Education and Employability.

* There exists an alarming gap between the competence required for entry employment at a significant level in the local work force and the ability of the existing school programs to provide persons with that level of competence.

* This skills gap will continue to widen as technological changes create demands for highly skilled workers and eliminate employment opportunities for unskilled workers. Employment opportunities for professional, technical and kindred workers in 1975 will be 85% greater than in 1960, while the numbers of persons employed as operatives and laborers may actually decrease in spite of population and labor force growth.

* Each year record numbers of eighteen year olds are seeking entry into a work force with fewer opportunities for the unskilled. The number of Macomb County residents attaining age 18 in 1975 will be more than double the 1965 figure of 8,152.

Inadequacy of Present Programs.

* Despite the widespread publicity being given to the importance of education for gaining employment, more than one of every four persons terminates formal education before high school graduation. The Committee believes that this is sufficient evidence that the educational needs of these persons are not being served by present secondary school programs.

* One-fourth of all Macomb County high school graduates were not enrolled in either a college preparatory or a vocational program of studies while in high school.

* Only three of every four students who prepare in high school for college entry actually enroll in college and, according to national studies, only half of these will graduate.

* The existing vocational programs in Macomb County high schools are extremely limited, especially programs for occupations which offer the greatest employment opportunities for boys. Table A-1 indicates that of 2512 senior boys responding to a Survey questionnaire in May, 1965, 195 were enrolled in a commercial program, and 346 boys were enrolled in a vocational shop program. In addition, 17 boys

Table A-1

SENIORS INDICATION OF THEIR HIGH SCHOOL COURSE OF STUDY

MACOMB COUNTY PUBLIC SCHOOLS - MAY 1965

	Commercial		College Prep		Shop		General	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Anchor Bay	3	17	22	21	1	-	8	2
Armada	3	10	24	18	4	1	10	4
New Haven	2	14	11	7	1	-	10	7
Richmond	6	12	18	16	3	-	13	2
Romeo	3	22	46	32	1	-	16	13
Total North Area	17	75	121	94	10	1	57	28
Chippewa Valley	1	14	38	24	6	-	14	9
Clintondale	8	24	30	14	6	-	7	9
Fraser	4	34	33	23	12	-	30	23
L'Anse Creuse	6	41	35	34	20	-	28	22
Mt. Clemens	7	56	79	69	26	2	53	18
Utica	17	82	128	85	32	2	43	36
Total Central Area	43	251	343	249	102	4	175	117
East Detroit	33	174	123	98	40	-	89	29
Lakeview	5	63	77	84	16	-	48	19
Roseville	38	147	116	72	61	-	95	46
St. Clair Shores	6	46	56	67	17	2	43	27
South Lake	8	54	66	44	15	-	24	19
Total Southeast Area	90	484	438	365	149	2	299	140
Center Line	5	51	42	29	31	3	44	45
Fitzgerald	4	14	24	17	3	-	2	14
Van Dyke	11	77	56	42	26	1	75	43
Warren-Cousino	14	34	24	17	8	-	25	26
Warren-Senior High	11	51	63	53	17	2	23	26
Total Southwest Area	45	227	209	158	85	6	166	154
County Totals	195	1,037	1,111	866	346	13	697	439

reported that they were following an agricultural program in high school. The combined total of 558 boys on vocational programs is only 22.2% of the total boys responding. The lack of variety in vocational programs results in unrealistically large enrollments in college preparatory and general programs, and contributes to the decision of many youngsters to terminate school before high school completion.

RECOMMENDATION II

The Citizens' Advisory Committee recommends that a system of area occupational education centers be established to provide adequate occupational education opportunities for public and parochial high school students in all districts of Macomb County.

It is further proposed that these centers be fully utilized, during the daily time periods when not in use for high school programs, for Community College occupational, adult remedial, worker retraining and upgrading, apprenticeship, and continuing education programs as the needs for these are identified. All such programs should be coordinated with other public educational efforts in Macomb County. The Committee offers the following information as evidence of the need for a County-based approach to providing adequate occupational education opportunities in Macomb County.

Local District Financial Ability.

* Few, if any, Macomb County school districts have both the enrollment and tax base sufficient to provide adequate programs in vocational education. Such programs are among the most costly activities of the public schools, yet they are not provided with substantial state financial support as are programs for the physically and mentally handicapped. The dispersion of effort and the fragmentation of resources among 21 school districts makes adequate occupational education opportunities for all County citizens an unattainable goal.

* The tax resources of the 21 school districts vary so widely that equal educational opportunities are not available to all Macomb residents. Operating costs for the 1964-65 school year ranged from a low of $304.70 per pupil to a high of $553.40 among the 21 public school districts. The accompanying map illustrates that a significant proportion of the families in many school districts had a family income of less than $4,000 in 1960. It is doubtful that such families can afford the increased local school taxes which would be required if each district is to provide adequate occupational programs alone.

* The ability of the County districts to support adequate educational programs is decreasing rapidly as school enrollments increase and statutory requirements tend to reduce assessable property valuations. From 1959 to 1964, 19 of the 21 County school districts experienced a depreciation in state equalized valuation per membership child, and for five districts this loss exceeded 30%.

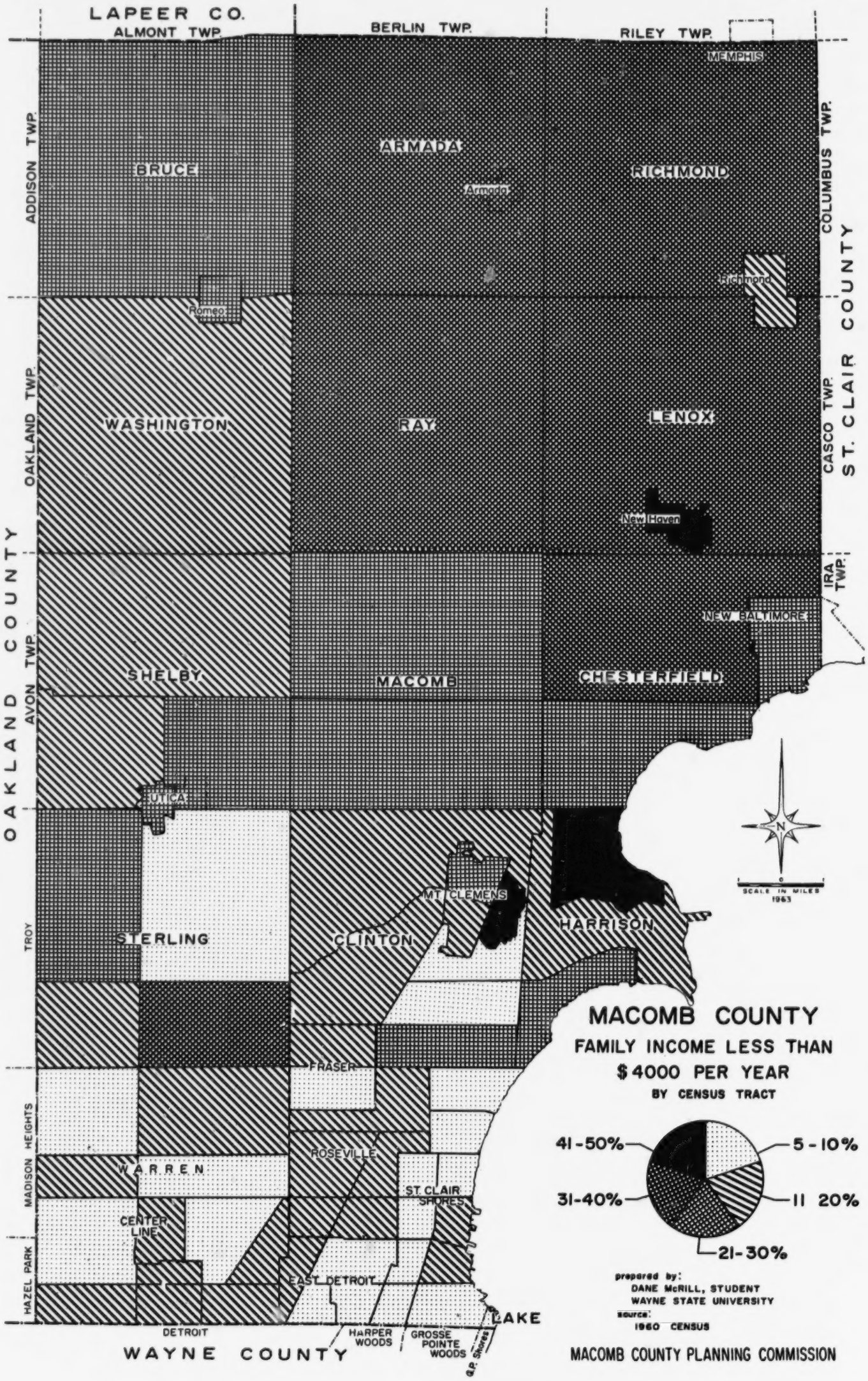

LAPEER CO.
ALMONT TWP.
BERLIN TWP.
RILEY TWP.
MEMPHIS
ADDISON TWP.
BRUCE
ARMADA
Armada
RICHMOND
COLUMBUS TWP.
Richmond
Romeo
OAKLAND TWP.
WASHINGTON
RAY
LENOX
CASCO TWP.
ST. CLAIR COUNTY
New Haven
IRA TWP.
NEW BALTIMORE
OAKLAND COUNTY
AVON TWP.
SHELBY
MACOMB
CHESTERFIELD
UTICA
N
SCALE IN MILES
1963
MT. CLEMENS
HARRISON
TROY
STERLING
CLINTON
MACOMB COUNTY
FAMILY INCOME LESS THAN
$4000 PER YEAR
BY CENSUS TRACT
FRASER
MADISON HEIGHTS
ROSEVILLE
WARREN
ST. CLAIR SHORES
41-50%
5-10%
31-40%
11 20%
21-30%
CENTER LINE
HAZEL PARK
EAST DETROIT
prepared by:
DANE McRILL, STUDENT
WAYNE STATE UNIVERSITY
source:
1960 CENSUS
LAKE
DETROIT
HARPER WOODS
GROSSE POINTE WOODS
G.P. Shores
WAYNE COUNTY
MACOMB COUNTY PLANNING COMMISSION

Table A-2

School District	Depreciation of tax base per membership child 1959-64
Warren Consolidated	51.5%
South Lake	39.2
Utica	37.
Fraser	33.
Warren Woods	31.5

State Support.

* State-derived financial support for all public school needs decreased from a state-wide average of 57.7% in 1954 to 46.4% in 1964. When viewing vocational education only, state support for local programs accounted for 11.5% of the total cost for the biennium, 1962-64, compared to 19.2% derived from federal sources, and 69.3% provided by the local school districts.

* Only one of every eight 11th and 12th grade students in Macomb County public high schools is enrolled in a vocational program which meets state standards for reimbursement. Total state and federal vocational reimbursements average only $4.50 a year for each 11th and 12th grade student. (Enrollments and reimbursement for homemaking are not included).

* Macomb County enrolls 6.62% of the state public school population yet receives only 3.83% of the state-distributed reimbursement for vocational education. This is evidence of insufficient vocational programs and the inadequacy of some programs when measured by reimbursement standards.

Population Growth.

* The inadequacy of Macomb County schools to provide realistic occupational programs will become even more serious during the next decade. Enrollments in grades 11 and 12 will double from today's 15,000 students to 30,000 in 1975. Table A-3 indicates the size of the 16-17 age group population by school districts in 1970 and 1975. These populations are based upon the 1965 annual school census, and no adjustment has been made for in-migration or out-migration. Projecting the same net growth in the age group from in-migration for the 1965-70 and 1970-75 periods as occurred in 1960-65, Macomb County will have 25,120 persons in the 16-17 age group in 1970, and 33,256 in 1975. A 5% increase in the rate of school participation for the group is projected for each five year period. This is not an unrealistic goal. The 1960 school enrollment of 16-17 year olds in Macomb County was 84.1% of the age group. The continuing trend toward higher retention in school of the school age population, the increasing demands for higher levels of employment skills, intensive efforts to curb school dropouts, and the enrichment of educational programs, especially in occupational areas, should expand markedly the school participation of 16-17 year olds. The projected participation rate, (94.1%), is below rates already being achieved in a number of Michigan counties. On this basis, 1970 enrollments in grades 11 and 12 are projected as 22,859, and 1975

Table A-3

1970 and 1975 ENROLLMENTS IN GRADES 11 and 12 BASED UPON PRESENT POPULATION PROJECTED TO AGES 16-17 and CONTINUING IN-MIGRATION

SCHOOL DISTRICT	1965	1970	1975
Anchor Bay	318	396	460
Armada	209	209	214
New Haven	233	237	320
Richmond	257	231	319
Romeo	438	475	534
Total North Area	1,455	1,548	1,847
Chippewa Valley	278	382	390
Clintondale	427	615	945
Fraser	476	755	1,142
L'Anse Creuse	775	1,013	1,068
Mt. Clemens	948	1,145	1,288
Utica	1,483	2,083	2,828
Total Central Area	4,387	5,993	7,661
East Detroit	2,192	2,664	3,021
Lakeview	1,105	1,598	1,682
Roseville	2,060	2,729	2,938
St. Clair Shores	906	1,511	2,282
South Lake	1,009	1,277	1,342
Total Southeast Area	7,272	9,779	11,265
Center Line	879	1,102	1,390
Fitzgerald	778	889	1,101
Van Dyke	946	1,145	1,448
Warren	1,720	2,639	4,001
Warren Woods	475	768	1,333
Total Southwest Area	4,798	6,543	9,273
County Totals	17,912	23,863	30,046
In-migration based upon 1960-65 experience rates		+ 1,257	+ 3,210
Projected population in 16-17 age group		25,120	33,256
11th and 12th grade enrollments at 1965 participation rate		21,603	28,600
11th and 12th grade enrollments at 1965 participation rate + additional 5% of 16-17 age group		22,859	
11th and 12th grade enrollments at 1965 participation rate + additional 10% of 16-17 age group			31,926

enrollments will total 31,926 for the same grades. While these techniques for projecting enrollments are imprecise, the three major factors of existing population, continuing significant in-migration, and increasing school participation of the age group are consistent with previous experience.

* Population increases will not occur uniformly throughout the County. Increases will be concentrated in the central region of the County and the northern area of the city of Warren. 1960 populations and 1980 population projections prepared by the Macomb County Planning Commission for selected central Macomb County communities illustrates this concentration.

Table A-4

Community	Population 1960	Projected 1980	Percent Increase
Chesterfield Twp.	5,880	33,500	472%
Clinton Twp.	25,688	67,700	164%
Fraser	7,027	21,200	202%
Harrison Twp.	12,910	30,000	132%
Macomb Twp.	4,807	9,900	106%
New Baltimore	2,375	6,450	172%
Shelby Twp.	17,114	69,300	304%
Sterling Twp.	14,622	150,700	931%

* Enrollment increases are overtaxing school capacities in many County districts. County-wide, school enrollments increased by 48.9% from 1959 to 1964. Enrollments for four districts more than doubled in this five year period.

Table A-5

School District	1959-64 Increase
Warren Woods	324.2%
Warren Consolidated	264.5%
Utica	141.6%
Fraser	115.1%

Student Reactions.

* Only one of every six seniors in Macomb County high school believes that his high school is preparing him adequately for what he plans to do after high school.

* 81.5% of the seniors not on a vocational or college preparatory program stated that they definitely, or probably, would have enrolled in a vocational course of study if a wider choice had been available when they entered high school.

* Only one of seven seniors reported that he had received all the help he needed in making plans for his future.

* Less than 10% of the seniors rated the choice of high school courses available as excellent. Only 2.7% of the parochial school boys considered their choice of courses as excellent.

* The non-college bound students, the vocational and general students, and students ranking in the lowest third of their class academically were least satisfied with the high school programs and services. One notable exception was the reaction of girls on a business program, who were satisfied generally with the opportunities the high school has to offer.

Employer Reactions.

* A representative group of Macomb County employers stated by a five to three margin that most high school graduates are not ready for employment because they lack occupational skills.

* Two of every five responding employers were critical of the new employee's attitudes toward work and his responsibilities to his employer.

* Employers reported by a four to one margin that employees who have had occupational training in high school are better prepared for entry jobs in their firms.

* Most employers who responded to our questionnaire indicated that they would support improved high school occupational programs, and strong support was expressed for area vocational high schools.

Educators' Reactions.

* Macomb County counselors indicated that student interests and talents can be served only by a wide range of vocational programs and services. Many counselors stated that adequate programs are beyond the capacity of their high school to provide.

* Macomb County high school principals reported that many needed services such as job information, job placement, follow-up of graduates, and assistance to school dropouts are not being adequately provided.

* Fifteen of the twenty-two public high school principals selected the area vocational school as the most practical means of providing adequate occupational programs in Macomb County.

PHILOSOPHY OF THE AREA OCCUPATIONAL EDUCATION CENTERS (AOEC)

Public education has a responsibility for assisting each person in the attainment of self-realization, whether his goals consist of further education or direct employment. Public education must assist the individual in assessing his own potential and must provide reasonably adequate opportunities for exploration and self-development in a wide variety of areas.

In recognition of the vertical mobility of American society, each student should have access to programs which are structured to permit and encourage a broad education and the maximum development of his intellectual capacity.

While the AOEC programs aim to equip students with skills and attitudes adequate to obtaining entry employment, it should be the purpose of the AOEC to encourage each student to continue his education to the maximum of his capacity.

The AOEC will be complementary to the students' home high school. The AOEC should not undertake any social or extra-curricular activities which might tend to weaken the student's participation in his home high school. A student choosing to terminate his attendance in the home high school before graduation should be removed from the AOEC program. However, such students, and other dropouts not enrolled in an AOEC program, should be encouraged to enroll in a suitable evening program of the AOEC. The potential school-leaver and his parents should be interviewed to ascertain the student's needs and to persuade him to continue his education, preferably as a full-time high school student.

The AOEC staff should provide the leadership in the development of secondary occupational curriculum. All Macomb County high school students should have access to the following types of occupational programs:

Pre-technical programs which are part of a well-defined sequential transfer program established with the Community College technical programs.

Vocational programs which provide entry employment skills in a definable occupation for which a demand usually exists. These programs are designed to serve the needs of persons who intend to enter the labor force directly upon high school completion.

Opportunity programs which are designed to provide employable skills for persons of limited ability and/or limiting handicaps.

The needs for occupational competence of persons enrolled in non-public schools must be met, for their skills contribute, or their lack of skills burden the community, in the same measure as persons attending public institutions.

SPECIAL ADVANTAGES OF THE AOEC

The activation of the area occupational education centers offers the greatest potential for the development of realistic programs of occupational education equally available to all residents of Macomb County.

a. The resources, human and material, of the entire County can be concentrated to implement realistic occupational programs as rapidly as possible.

b. Coordinating the efforts of the present vocational staffs will effect prompt program expansion and improvement.

c. Existing and proposed facilities can be better utilized and serve more persons.

d. Services of recognized value, not now being provided adequately, can be made available to the community. These include:

   vocational counseling
   aptitude testing
   cooperative work experience
   job placement service
   follow-up studies
   job information service
   qualified, specialized instruction
   realistic learning laboratories
   wide choice of programs designed to develop entry competence in a cluster of occupations.

e. Reimbursement of programs can be achieved at rates significantly more realistic to the costs of occupational education.

f. Economies in purchasing, planning, and instruction can be effected by the elimination of duplicated and overlapping activities.

g. A learning environment will be provided wherein the development of wholseome attitudes toward work and the employer are integral aspects.

h. Adoption of the area concept through the AOEC will result in eligibility for federal grants for construction of vocational facilities under the provisions of the Vocational Education Act of 1963 (PL 88-210).

i. The need for additional secondary facilities of the comprehensive type will be diminished and postponed by the development of the AOEC. This savings will be shared by all school districts, but will be especially advantageous to districts confronted with the greatest population growth and lowest tax bases.

j. The success of area vocational centers in other states indicates that the AOEC can be expected to attract between 20% and 30% of the 11th and 12th grade students in Macomb County high schools.

PROBLEMS ARISING FROM THE ACTIVATION AND OPERATION OF THE AOEC

Changes in the internal organization of institutions can be expected to cause dislocations. These dislocations must be weighed against the expected benefits resulting from such changes. The Committee has attempted to identify the problems and inconveniences which will result from the creation of the AOEC program, and while it does not attempt to minimize the problems involved, the Committee believes that the values of the proposal far outweigh the inherent disadvantages.

A. Deviation from Approved Organizational Patterns

The pattern for control of the AOEC's which is proposed in this recommendation does not conform to any of the organizational patterns which are identified in the State school codes. A ruling from the State Attorney General should be sought promptly to ascertain the legality of the proposed pattern, and if necessary, enabling legislation for its acceptability should be requested from the Legislature. The proposed pattern reflects the Committee s strong conviction that any additional public educational services provided in Macomb County should be coordinated with the existing educational agencies; however, another pattern of control should be adopted if necessary to the achievement of the objective of this Survey - adequate opportunities for realistic occupational education equally available to all citizens of Macomb County.

B. Need for Additional Financial Support

The high costs of providing adequate occupational programs necessitates additional financial support from the admittedly already over-burdened general property tax. The Committee strongly urges more realistic State support for occupational education as a more equitable solution, but recognizes that this is not likely to materialize rapidly enough to meet our pressing needs for the immediate future. The least costly means of providing the minimum necessary programs is a county-wide approach, rather than the continuation of 21 inadequate local district efforts. Federal and State funds are obtainable for partial support of construction of facilities and reimbursement of operating costs, but these resources are supplemental to local financing, and usually only available on the basis of the quality and extent of present on-going vocational programs.

C. State Aid

Steps must be taken to acquire state aid for that portion of a parochial student's education which is provided in the AOEC. Diversion of some portion of the state aid provided for the public school student, or a nominal tuition charge to the district of residence, may be required to finance the AOEC programs and to comply with legal requirements.

D. Transportation Requirements

The commuting of students to the AOEC will add both to the student's time involvement and to the expense of transportation services. In the Southwest Area, the distance from the high schools within the service area to the AOEC will not exceed five miles, nor four miles in the Southeast Area. A single AOEC to serve the immediate needs of both the Central and North Area will require the transporting of small numbers of students for distances not exceeding twenty miles, and with the activation of additional AOEC's to serve the eventual needs for separate East Central and North Areas, the distances involved should not exceed ten miles. Because of the small potential enrollments in the north-County districts, a sharing of transportation services appears to be practical. If the expense of transportation is a prohibitive factor, other schedules, such as week-in and week-out, or two weeks in and two weeks out, should be considered.

E. Coordination of School Schedules

The coordination of daily schedules and yearly calendars between home high schools and the AOEC will require some surrender of autonomy by the home high schools. The Committee believes that this is a minor problem.

ADMINISTRATION AND CONTROL OF THE AOEC's

The accompanying organizational chart details a suggested pattern for control and administration of the area occupational education centers. Significant features are:

1. Control of all AOEC's should be vested in a Board of Control for Area Occupational Education Centers composed of:

   a) one member of an existing K-12 school district board of education within each AOEC service area*, elected by the school boards of all K-12 districts comprising the AOEC service area.

b) one superintendent of an existing K-12 school district within each AOEC service area, elected by the superintendents of all K-12 districts comprising the AOEC service area.

c) one member of the school board of the Intermediate School District, elected by that body.

d) the superintendent of the Intermediate School District, or his appointed representative.

e) the Superintendent of the Intermediate School District shall take the necessary steps to activate the Board of Control.

* the service area of each AOEC is composed of the school districts which are served by that AOEC

2. The Board of Control shall exercise control and supervision of all area occupational education activities carried on under the authority vested in them.

3. The Board of Control for AOEC's shall appoint a director to administer and operate all AOEC's established under their jurisdiction, and a principal, administrative and instructional staff, and supportive personnel for each AOEC. These personnel shall meet the educational and occupational experience requirements outlined in the Michigan State Plan for Vocational Education (Section 1.5), and such additional qualifications as may be specified by the Board of Control for AOEC's.

4. The Board of Control shall apportion to the various AOEC's all monies that are appropriated, levied, or granted for such purposes, according to the needs of each AOEC.

5. Determination and revision of AOEC service areas should be based upon the following factors:

   Existing school district boundaries,

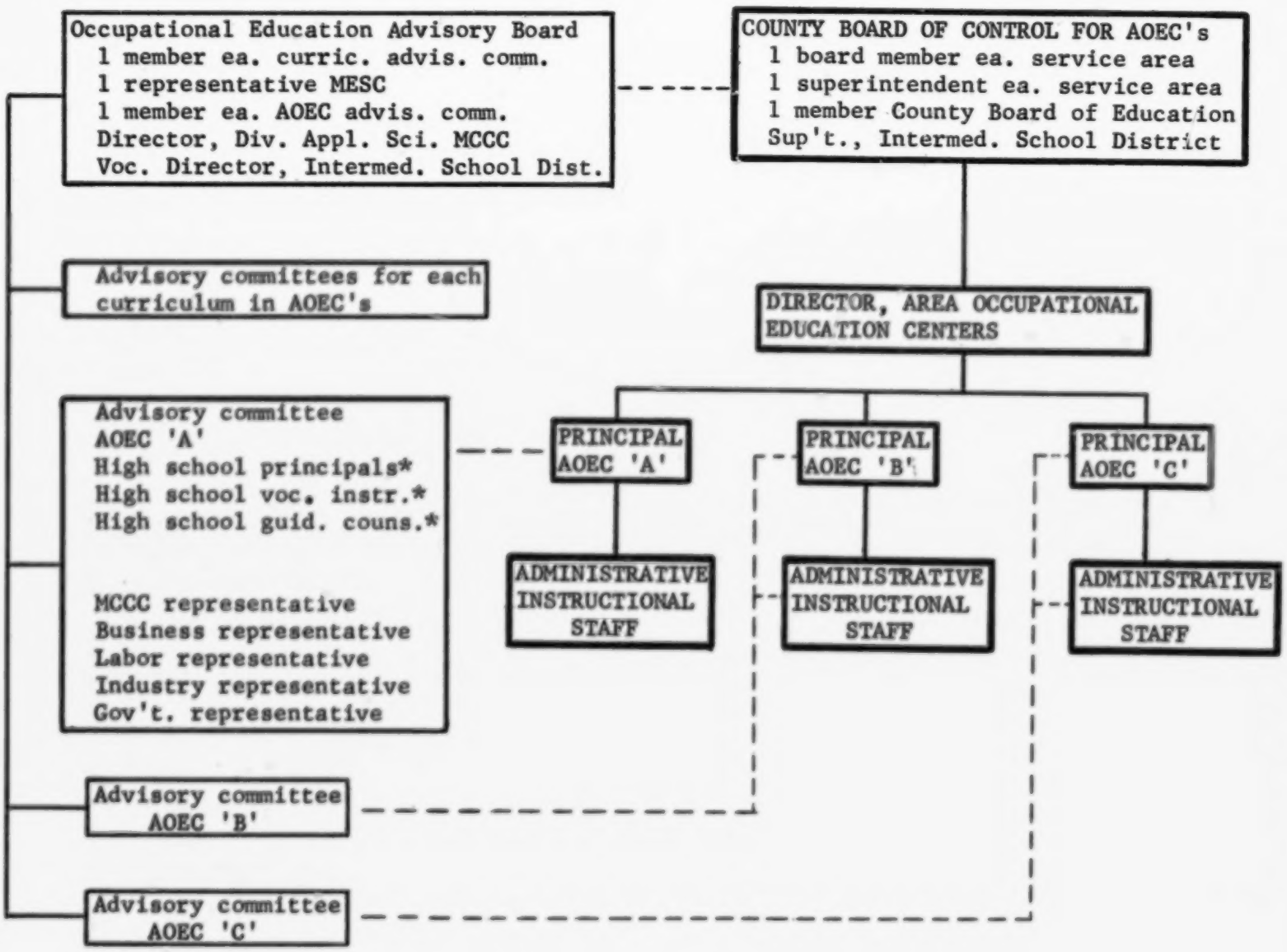
   Present high school enrollments and projections to 1970 and 1975.

   Geographic areas, distances, and the adequacy of roads.

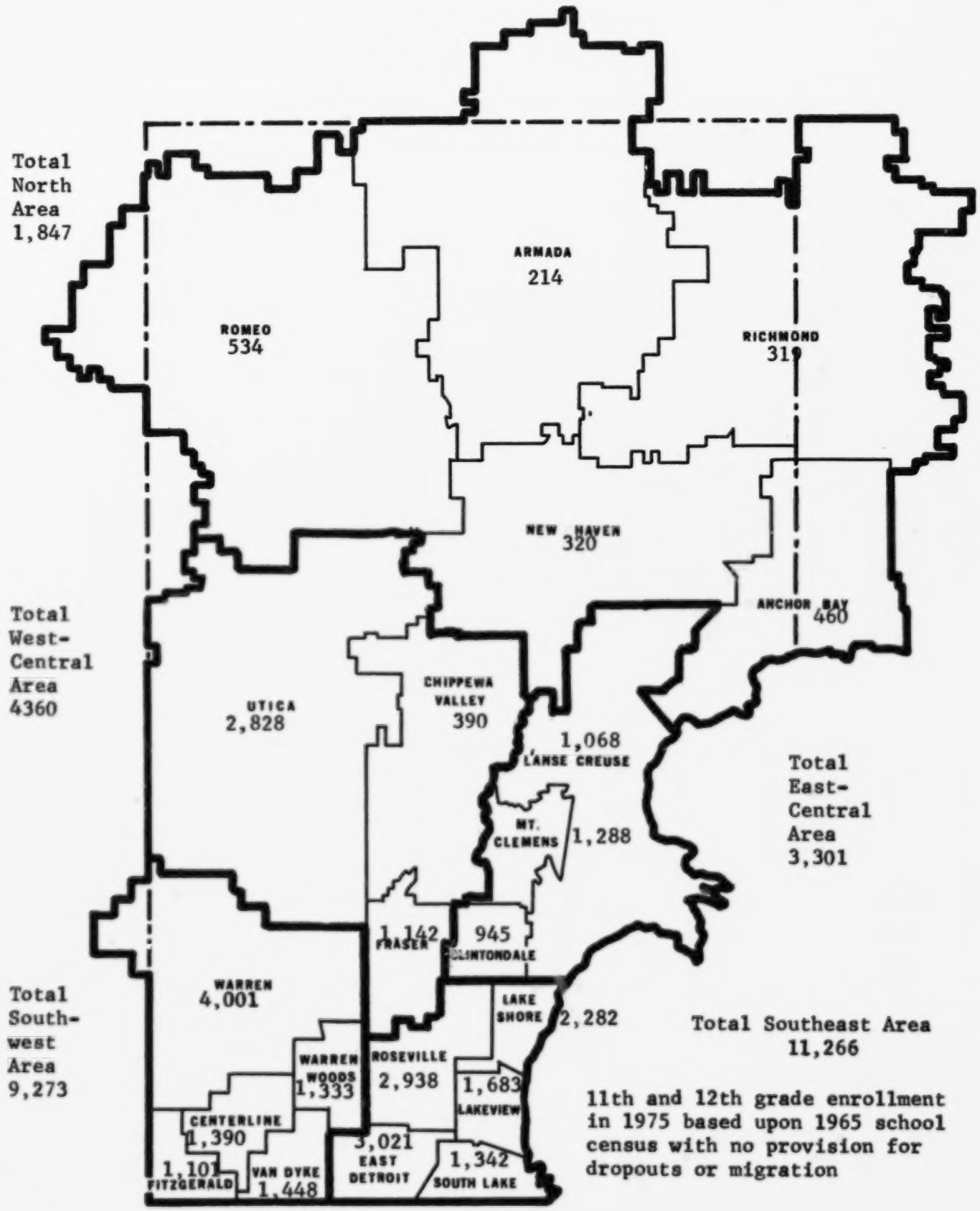
The Citizens' Committee has proposed four AOEC service areas to include the following K-12 school districts:

North Area:	Anchor Bay, Armada, New Haven, Richmond, Romeo.
Central Area:	Chippewa Valley, Clintondale, Fraser, L'Anse Creuse, Mt. Clemens, Utica.
Southeast Area:	East Detroit, Lakeview, Roseville, St. Clair Shores South Lake.
Southwest Area:	Center Line, Fitzgerald, Van Dyke, Warren, Warren Woods.

ORGANIZATION OF A SYSTEM OF AREA OCCUPATIONAL EDUCATION CENTERS IN MACOMB COUNTY



* at least one representative from each high school within the AOEC service area will be a member of the AOEC Advisory Committee.



MACOMB COUNTY

—·— COMMUNITY COLLEGE DISTRICT

—— INTERMEDIATE SCHOOL DISTRICT

MACOMB OCCUPATIONAL EDUCATION SURVEY - 1965

The Committee recommends that, initially, AOEC's be established in the Central Area, the Southeast Area, and the Southwest Area. The Central Area AOEC should serve the needs of all students in the North Area until increased enrollments warrant the construction of separate facilities for the North Area. The facilities provided for the Central Area should be located centrally to the Utica and Chippewa Valley districts in anticipation of a future need for the creation of a separate East Central service area. An accompanying map identifies the service areas and the projected 11th and 12th grade enrollments in 1975 for each service area.

6. The Vocational-Technical Director of the Intermediate School District shall

   a. advise the Intermediate School District Board of Education and the County Board of Control for AOEC's periodically of his evaluation of the functioning of each AOEC.

   b. meet with the director of the AOEC regularly to assist in coordinating programs.

   c. represent the county board of education and/or the county superintendent, at their request, in any dealings with the AOEC's.

OPERATION OF AREA OCCUPATIONAL EDUCATION CENTERS

Instructional Staff

Recognizing that superior instruction is essential to successful accomplishment in occupational education, each AOEC program should be placed under the supervision of a Chairman who is vocationally certified under the Michigan State Plan for Vocational Education and possesses exceptional teaching proficiency and demonstrated skills competence in the curriculum area under his supervision. Business or industrial experience of a significant level should be evaluated highly in the selection of these persons. It shall be the responsibility of the chairman to plan and develop a program which will lead to trade competence, and to coordinate all instruction within that program offered in each of the AOEC's. The chairman shall make full use of a curriculum advisory committee in carrying on these functions.

The AOEC instructor must possess trade competence, demonstrated ability as a teacher, and the personal qualities required for success in working with adolescents. Instructors should be vocationally certified excepting that persons exceptionally qualified in their occupational skills who do not meet full academic requirements may be employed if certifiable under the State Plan (Section 1.53-13).

The salary schedule for instructors should be sufficiently high to attract and hold the truly exceptional vocational teacher.

Guidance counselors in the AOEC shall be vocationally certified under the State Plan, possess occupational experience of significant depth and duration, and demonstrate the capacity to deal effectively with the secondary school occupational students. The guidance functions of the AOEC will be closely coordinated with the home high school and the progress of each student should be evaluated frequently by the AOEC staff and the home high school counselor.

Students to be Served

Entry to AOEC programs will be open to all public and parochial students in grades 11 and 12 who demonstrate the capacity to profit from a program in the AOEC. If a program suitable to his needs is not available in the AOEC within his own service area, the student may be admitted to such a program offered elsewhere in the County. Not all programs will be of two years duration. Some students' needs may be served adequately with a single year or a single semester of attendance in the AOEC.

The normal procedure for admitting students to a program in the AOEC should be as follows:

1. Student makes application for a program, usually in the tenth grade and after consultation with a guidance counselor.

2. The approval of the student's parents is obtained.

3. The AOEC approves or rejects the student's application solely on the predictable ability of the student to succeed in the program he has chosen as measured by aptitude tests and the judgment of his instructors. If rejected, the student is advised of other AOEC programs for which he meets entry standards.

4. The student is free to change goals and programs after consultation with a counselor, and every effort should be made to enable him to do so without loss of scholastic standing.

Curriculum Development in the AOEC

Curriculum should be developed, insofar as possible, in anticipation of changing occupational patterns and skills requirements. Thus an essential function of the AOEC staff is the continuing exploration of occupational changes, and experimentation and innovation in instructional technology. Emphasis should be given to interdisciplinary instruction as promising more effective results than the traditional unrelated courses approach to occupational education.

Table A-6

INDEX OF INTEREST AND NEED FOR SELECTED VOCATIONAL-TECHNICAL PROGRAMS IN MACOMB COUNTY

	LOCAL SURVEY FINDINGS				OTHER INDICATORS		
Program	Seniors	Employers	Parents	Counselors	National Outlook	Frequency in Other Areas	Index
Health Services	N/M	4	4	4	4	4	4.0
Electrical & Electronics	4	4	4	4	3	4	3.84
Advanced Office	4	3	4	4	4	4	3.84
Automotive	4	4	4	4	3	3	3.67
Advanced Mechanical Drafting	3	4	4	4	3	4	3.67
Pre-technical	3	4	4	3	4	4	3.67
Metals Machining	3	4	3	4	4	3	3.5
Building Trades	N/M	4	N/M	3	4	3	3.5
Service Occupations	N/M	3	N/M	3	3	3	3.0
Distributive	2	4	1	2	4	3	2.67
Welding & Fabrication	3	3	1	2	3	4	2.67
Sheet Metal	N/M	3	N/M	N/M	2	3	2.67
Commercial Cookery	1	4	2	3	3	3	2.67
Fluid Power	N/M	4	2	2	3	2	2.6
Graphic Arts	1	3	1	2	2	4	2.17
Commercial Arts	3	1	N/M	2	1	3	2.0
Clothing Construction	2	1	2	1	3	3	2.0
Cosmetology	N/M	1	2	2	2	3	2.0
Horticulture	2	1	N/M	1	2	3	1.8

Scale: 4 - conclusive evidence of need and interest
3 - adequate need and interest
2 - some evidence of need and interest
1 - minimum need or interest
N/M- not measured

Index: $\frac{\text{Totals all scales}}{\text{Number of Measurements}}$

Table A-7

SENIORS' INDICATED INTEREST IN VOCATIONAL PROGRAMS
IF A WIDER CHOICE HAD BEEN AVAILABLE WHEN THEY ENTERED HIGH SCHOOL

PROGRAM	PERCENT OF TOP THIRD	PERCENT OF MIDDLE THIRD	PERCENT OF BOTTOM THIRD
Boys Grouped by Their Own Indication of Academic Placement			
Auto Mechanics	10.6	15.6	27.1
Electronics	19.3	17.6	15.1
Other	19.3	9.9	9.1
Advanced Drafting	16.0	13.9	7.4
Business	15.5	10.5	8.9
Metal Trades	4.2	14.1	13.0
Agriculture	4.9	4.7	6.1
Distributive	4.9	5.0	5.4
Commercial Art	4.5	6.1	3.6
Graphic Arts	.8	1.3	1.9
Food Preparation	---	.9	2.2
Clothing Construction	---	.4	.2
Girls Grouped by Their Own Indication of Academic Placement			
Business	51.8	59.0	53.6
Other	19.0	11.6	5.9
Commercial Art	11.7	10.5	12.5
Clothing Construction	6.6	6.6	9.2
Food Preparation	3.5	4.1	6.6
Distributive	1.4	3.8	4.5
Agriculture	2.4	1.4	2.1
Electronics	1.6	.4	1.2
Auto Mechanics	.3	.9	1.6
Advanced Drafting	.7	.5	1.2
Graphic Arts	.7	.9	.8
Metal Trades	.3	.3	.8

Table A-7 indicates the interest in selected occupational programs expressed by Macomb County high school seniors, grouped by sex, and by academic placement.

Two types of learnings will comprise the AOEC offerings:

1. Experiences that provide the student with specific skills related to the occupation, or cluster of occupations, for which he is preparing.

2. Work-orientation experiences which provide the environment in which a particular occupation can be pursued most effectively.

Work-orientation includes:

employer-employee relations
techniques of applying for a job
development of good work habits
personal appearance and grooming
assuming responsibility
occupational information
value and use of money
laws and regulations affecting the worker, such as social security and income tax requirements.

A major advantage of the AOEC program will be the pooling of instructional resources which are now dispersed among the 21 K-12 districts. The concentration of effort through the AOEC should result in:

the maximum use of specialized teaching skills,
individualized instruction,
experimentation and innovation in teaching techniques,
realistic curriculum development based upon the continuing exploration of occupational shifts and changes in occupational skills requirements.

Content of vocational programs and courses which are offered in the home high school should be determined by the home high school, except for that which is preparatory to the area program (mathematics, science, graphic communications). Courses which are designed as preparatory to an AOEC program should be cooperatively developed by the home high school and the AOEC staffs.

Area Programs

Occupational programs should be explored, developed, and conducted with the full involvement of advisory committees composed of persons knowledgeable and skilled in the occupations for which programs are aimed. The determination of the specific area programs, or portions of programs, which are appropriate for development at the secondary level, should be made by the AOEC staff and the advisory committee selected for each curriculum area. Preferably, such decisions should involve the staff of the Community College in order to achieve these results:

1. the maximum articulation between the secondary and post-secondary occupational programs;

2. the appropriate grade placement of specific learnings;

3. the avoidance of undesirable duplication of offerings.

Full use should be made of occupational needs surveys, both on the local and national level, student interest measurements, and the continuing follow-up of former students in program development.

Table A-5 indicates the relative interest and need for occupational programs in Macomb County as measured by various activities undertaken in connection with this study. This index indicates that programs in health, electrical and electronics, advanced office practices, pre-technical, automotive, mechanical drafting, metals machining, and building trades can be advantageously developed in Macomb County. More extensive measurements to determine the specific nature and level of area programs should be undertaken in the period during which the necessary legal steps are being taken to implement a County-wide system of area occupational education centers. Programs should be developed in a wide range of occupational areas, including appropriate secondary programs in the occupational areas indexed in Table A-6.

It is the Committee's belief that the selection, location, priority, content, and methodology of specific occupational education programs should be determined by the professional staff charged with providing such programs, and the advisory committees selected to assist in these activities. However, the following general criteria are offered for guidance in the determination of the priority of establishment, and the placement of programs in the AOEC's or the home high schools.

a. The priority of programs to be developed and offered in the AOEC's should include consideration of:

   The extent of student interest in a program,

   The immediate entry employment outlook for a specific occupation, or a cluster of occupations,

   the long-range entry employment and advancement opportunities,

   the lack or inadequacy of existing County high school programs in the field.

b. The decision to offer a particular program in the AOEC or in the home high school should include consideration of:

the costs of program development and equipment,

the potential student enrollments,

the availability of qualified instructors,

the special values of cooperative work experiences, and

the location of suitable work stations.

Coordination Between the AOEC and the Home High School

A close cooperation between these two units is essential if the needs of the student are to be served adequately. Time schedules of all high schools within the service area will necessarily be arranged so that the student can be accommodated in both institutions. Students would be served in the AOEC for the equivalent of one-half of each school day and would attend the home high school for the balance of their instruction. The home high school would provide:

1. Instruction in general education, fine arts, sciences, mathematics, and those occupational courses or programs which can be offered more practically in the home high school.

2. Opportunities to participate in activities of a social or extra-curricular nature.

3. Determination of requirements for graduation.

4. All pupil personnel services.

5. Maintenance of all necessary student records.

6. Any necessary transportation between schools and between home and school.

In order to implement this close cooperation, it is recommended that home high school administrators, guidance personnel, and vocational instructors be represented on the Advisory Committee of each AOEC.

The AOEC should undertake only those activities which are essential to the successful operation of its occupational education function.

Financing the Area Program

Occupational education doesn't cost, it pays. However, an initial investment is required to guarantee the long-range dividends. In-school occupational training is more practical and far less costly than programs to retrain the unemployed. The average cost per trainee under the MDTA program is about $1500, and about $700 per trainee under ARA. In contrast to the costs of these short-term programs, available evidence indicates that AOEC operational costs will be approximately $350 a year for each student served. All amounts are based upon 1965 cost figures.

Table A-8

SENIORS' INDICATED PREFERENCE OF VOCATIONAL PROGRAM
IF WIDER CHOICE HAD BEEN AVAILABLE WHEN THEY ENTERED HIGH SCHOOL

PROGRAM	NORTH AREA		CENTRAL AREA		SOUTH EAST AREA		SOUTH WEST AREA		COUNTY TOTALS
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
Advanced Drafting	13	-	63	3	97	1	56	6	239
Agriculture	18	2	32	7	29	12	19	4	123
Auto Mechanic	42	1	107	6	100	5	76	2	339
Business	17	66	40	251	90	308	47	208	1027
Clothing Construction	-	8	1	32	3	42	1	21	108
Commercial Art	5	12	29	48	39	62	23	45	263
Distributive	5	1	23	15	40	22	24	13	143
Electronics	1	36	91	5	127	3	62	3	328
Food Preparation	2	3	8	15	5	30	5	17	85
Graphic Arts	1	-	5	3	15	6	4	4	38
Metal Trades	13	1	62	-	105	3	46	2	232
All Others	11	11	61	61	83	74	47	33	381

North Area: Anchor Bay, Armada, New Haven, Richmond, Romeo, St. Augustine
Central Area: Chippewa Valley, Clintondale, Fraser, L'Anse Creuse, Mt. Clemens, St. Lawrence, St. Louis, St. Mary-Anchor Bay, St. Mary's-Mt. Clemens, Utica
South East Area: East Detroit, Lakeview, Roseville, St. Clair Shores, St. Gertrude, South Lake
South West Area: Center Line, Fitzgerald, St. Clement, Van Dyke, Warren, Warren Woods

Additional financing will be required to construct and operate the area occupational education centers. Justification for increased support is based upon the premise that it will be more economical to provide programs to develop occupational competence than it will be to meet the consequences of the failure to provide such programs. These sources will need to be utilized to provide sufficient funds for the establishment of the area occupational education program:

1. A general property tax millage levy should be sought through the existing power of the Intermediate School District to request voter approval for this measure. This obligation should be sought for the maximum number of years, and a sufficient portion of the proceeds should be reserved for the retirement of bonds issued to finance the local share of construction and capital outlay requirements.

2. Every effort should be made, individually, and in cooperation with other counties, to persuade the legislature to consider the needs of vocational education in a manner similar to the consideration being given to special education. This additional state financial support should be realistic and continuing, and should be for the construction and operation of area occupational education centers, on a formula which recognizes the high costs of these programs.

3. Every effort should be made to obtain the maximum state and federal reimbursement which is compatible with sound program development and the welfare of the student. Application should be made for other appropriate state and federal subsidies as these become available.

4. Equalization of educational opportunities for all citizens of Macomb County indicates that the burden of financing the AOEC program should be borne by a County-wide millage, plus the available state and federal reimbursements and grants. However, practical limitations upon the size of the County-wide millage may require local K-12 district participation in the financing of the AOEC's. Preferably, such support, if necessary, should be in the form of pre-determined tuition charges to the district of pupil residence. A less desirable procedure could be the apportionment of budget deficits in the operation of the AOEC's to the K-12 districts on a ratio determined by pupil attendance in the AOEC's.

Table A-9

ESTIMATED CAPITAL OUTLAY REQUIREMENTS FOR VOCATIONAL-TECHNICAL LABORATORY FACILITIES

Occupational Program	Sq. ft. Lab.	Constr. Cost $20 ft.	Equip. Cost	Total Columns 2 & 3	Cost per Stud. sta. 25 stud. per lab.	Cost per daily student in attendance 50 stud. 2 sections	75 stud. 3 sections	100 stud. 4 sections
Automotive	4000	80,000	80,000	160,000	6,400	3,200	2,133	1,600
Distributive	1200	24,000	4,000	28,000	1,120	560	373	280
Electronics	1800	36,000	20,000	56,000	2,240	1,120	741	560
Fluid Power	1500	30,000	15,000	45,000	1,800	900	600	450
Graphic Arts	2600	52,000	50,000	102,000	4,080	2,040	1,360	1,020
Advanced Mech. Drafting	2000	40,000	10,000	50,000	2,000	1,000	666	500
Metals Machining	3000	60,000	100,000	160,000	6,400	3,200	2,133	1,600
Welding and Fabrication	1600	32,000	20,000	52,000	2,080	1,040	693	520
Sheet Metal	1400	28,000	10,000	38,000	1,600	800	533	400
Horticulture	1000	20,000	15,000	35,000	1,400	700	467	350
(Greenhouse)	1600	16,000	6,000	22,000	880	440	293	220
Advanced Office	1200	24,000	20,000	44,000	1,760	880	587	440
Health Services	2000	40,000	12,000	52,000	2,080	1,040	693	520
Commercial Cookery	2400	48,000	50,000	98,000	3,920	1,960	1,307	980
Commercial Art	2000	40,000	10,000	50,000	2,000	1,000	666	500
Totals	29,300	570,000	422,000	992,000	39,760	19,880	13,253	9,940
Average	1,953	38,000	28,180	66,200	2,644	1,325	883	663

Costs of Constructing and Operating the AOEC Program

An estimate of the costs of providing area occupational education in Macomb County through the AOEC program previously outlined can be made upon the following assumptions:

Assumption #1 - 11th and 12th grade pupil participation will be between 5,000 (20% of enrollments in grades 11 and 12), and 8,000 (30%), in 1970. Participation in 1975 will be between 7,500 and 10,500 pupils in grades 11 and 12. (Table A-3).

Assumption #2 - A one-mill general property tax levied on the real and personal property of the Intermediate School District will yield an amount averaging $1,750,000 annually for the next ten years, and at least $2,000,000 each year for the succeeding ten-year period.

Assumption #3 - Three area occupational education centers, each with a half-day capacity of 1,000 students, would require a capital outlay of $12,000,000. (Based in part upon laboratory facilities costs projected in Table A-9). With intensive utilization as skills centers for adult vocational, apprentice, Community College technical, rehabilitation, or other special programs, each of these centers could serve 3,000 persons daily. The needs of both the central area and the north area can be met by a single area occupational education center for the next five years.

Assumption #4 - State and federal grants could provide $4,000,000 of the required capital funds. Applications would be prepared each year for funding of construction projects to be undertaken during the succeeding fiscal year.

Assumption #5 - $750,000 of the local property tax levy would be required annually to retire bonds sold to finance $8,000,000 of capital outlay in 20 years, ($600,000 would be required annually to retire the same capital borrowing in 30 years).

Assumption #6 - Realistic programs designed to achieve occupational competence in a field of identified need can be provided at an average per half-day pupil cost of $350, based upon 1965 costs.

Assumption #7 - Federal and state reimbursement for eligible programs will average at least $75 for each half-day pupil enrolled in an area occupational education center.

Based on these assumptions, the following conclusions can be drawn from Table A-10.

Conclusion A: A one-mill County-wide general property tax could provide financial support for serving 3700 students enrolled in AOEC programs. Larger enrollments would require significantly higher state and/or local district support. (Table A-10, Column 1).

Conclusion B: A one and one-half mills County-wide general property tax could provide financial support for AOEC enrollments of 7,000 students. (Column 2).

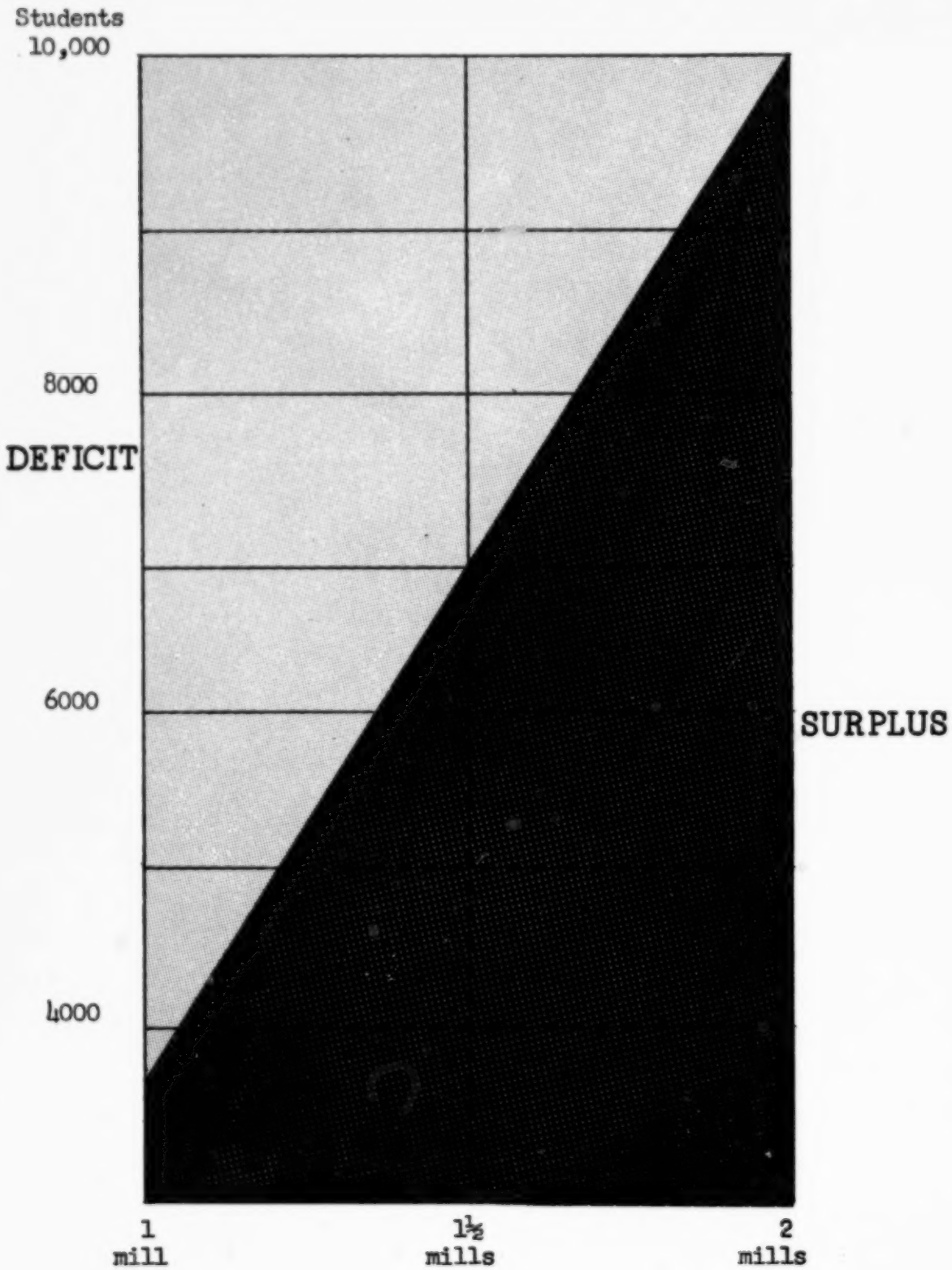
Conclusion C: A two-mills County-wide general property tax could provide financial support for AOEC enrollments of 10,000 students. (Column 3).

Table A-10

INCOME AND COST PROJECTIONS FOR A SYSTEM OF AREA VOCATIONAL-TECHNICAL CENTERS

	(1)		(2)		(3)	
Local Property Tax Yield	1 mill = $1,750,000		1½ mill = $2,625,000		2 mills = $3,500,000	
Reserve for Debt Service	750,000		750,000		750,000	
Net Proceeds for Operating	$1,000,000		$1,875,000		$2,750,000	
	COST	INCOME	COST	INCOME	COST	INCOME
4,000 students on area program						
$350 per capita operating cost	1,400,000		1,400,000		1,400,000	
$ 75 per capita reimbursement		300,000		300,000		300,000
Proceeds of County millage		1,000,000		1,875,000		2,750,000
Totals	1,400,000	1,300,000	1,400,000	2,175,000	1,400,000	3,050,000
Surplus or deficit	deficit	100,000	775,000	Surplus	1,650,000	Surplus
5,000 students on area program						
$350 per capita operating cost	1,750,000		1,750,000		1,750,000	
$ 75 per capita reimbursement		375,000		375,000		375,000
Proceeds of County millage		1,000,000		1,875,000		2,750,000
Totals	1,750,000	1,375,000	1,750,000	2,250,000	1,750,000	3,125,000
Surplus or deficit	deficit	375,000	500,000	Surplus	1,375,000	Surplus
6,000 students on area program						
$350 per capita operating cost	2,100,000		2,100,000		2,100,000	
$ 75 per capita reimbursement		450,000		450,000		450,000
Proceeds of County millage		1,000,000		1,875,000		2,750,000
Totals	2,100,000	1,450,000	2,100,000	2,325,000	2,100,000	3,200,000
Surplus or deficit	deficit	650,000	225,000	Surplus	1,100,000	Surplus
8,000 students on area program						
$350 per capita operating cost	2,800,000		2,800,000		2,800,000	
$ 75 per capita reimbursement		600,000		600,000		600,000
Proceeds of County millage		1,000,000		1,875,000		2,750,000
Totals	2,800,000	1,600,000	2,800,000	2,475,000	2,800,000	3,350,000
Surplus or deficit	deficit	1,200,000	deficit	325,000	550,000	Surplus
10,000 students on area program						
$350 per capita operating cost	3,500,000		3,500,000		3,500,000	
$ 75 per capita reimbursement		750,000		750,000		750,000
Proceeds of County millage		1,000,000		1,875,000		2,750,000
Totals	3,500,000	1,750,000	3,500,000	2,625,000	3,500,000	3,500,000
Surplus or deficit	deficit	1,750,000	deficit	875,000	----	----

A PROJECTION OF AREA OCCUPATIONAL-EDUCATION-CENTER ENROLLMENTS AS DETERMINED BY THE LEVEL OF LOCAL TAX SUPPORT



3700 students can be served through the proceeds of 1 mill general property tax.
7000 students can be served through the proceeds of 1½ mills general property tax.
10,000 students can be served through the proceeds of 2 mills general property tax.

RECOMMENDATION III

The Committee recommends that intensive study of the most appropriate means of providing opportunities to develop occupational and social proficiency should be a continuing responsibioity of all public education authorities in Macomb County. One purpose of such study should be to effect the optimum continuing utilization of County-supported facilities, such as the AOEC's, whether such use is of a secondary or a post-secondary level. The Committee's concern is prompted by the recognition that there exists a definite lengthening of the years spent in educational preparation for entry into employment and acceptance of adult responsibilities. High school in the future will become pre-vocational for an increasing proportion of our population, especially if college programs which are realistic to the interests of young people and the skills needs of the economy are made available. This is a welcome development, and if it is accompanied by a numerical decrease of high school students who need and desire secondary level occupational training, the AOEC's should be made available for Community College programs to the extent that secondary programs are reduced in size and number, or phased out. At the present time, however, three of every four persons in the high school age group will not be served best by the pre-college programs which are being offered in our high schools. National studies predict that in 1975, only 16.3% of the 25 to 29 age group will have acquired the four year college degree. It is for these reasons that the Committee has based its recommendation for the creation of the AOEC program on the documented needs of our secondary school population only.

RECOMMENDATION IV

The Citizens' Committee recognizes that the implementation of the AOEC program in Macomb County cannot be effected in time to improve occupational education opportunities for the students presently enrolled in high school. The Committee recommends that each school district make the maximum possible effort to expand and upgrade its vocational offerings for the pressing needs of these students, and that informal inter-district programs be implemented where these can be utilized advantageously.

The Committee urges that local boards of education make every effort to meet the occupational education needs of students enrolled in non-public high schools during the period in which the AOEC program is being activated.

COOPERATIVE OCCUPATIONAL TRAINING IN MACOMB COUNTY.

Cooperative Occupational Training--What it Is.

Cooperative occupational training programs may be employed in the training of students sixteen years of age and over who are juniors or seniors in high school or enrolled at the community college level. Such programs are based on the premise that learning takes place more rapidly, and is more permanent, in an experience environment. Cooperative programs integrate school and work by combining classroom instruction with supervised part-time employment which meets and expands the student's abilities, aptitudes, and interests.

The "training station," which is the employing firm, provides a laboratory in which the student tests, observes, and applies concepts and skills presented in the job-related class in school, thereby assuring transfer of learning to the employment situation. Job performance and progress toward development of skills, attitudes, and knowledge required for full-time employment are provided by the employer and are supervised in cooperation with a coordinator representing the school. The student learner is paid a wage by the employer. On a reduced-time program in school the student receives instruction related to the occupation and participates in regular course work required for graduation.

The coordinator is a certified teacher who also has two or more years of employment experience in the occupational field which he supervises. In most instances the coordinator is the teacher of the job-related classes, working with employers, visiting training stations, finding employment opportunities, meeting with advisory groups, and consulting with cooperative training students and their parents. The coordinator should possess special talent as a counselor and advisor to the students, parents, and employers.

Cooperative training students are not denied the normal academic offerings of the school. Job-related instruction is only one part of a student's load. A cooperative training student qualifies for a regular graduation diploma, but adds to his qualifications specific training for specialized work.

The Status of Cooperative Occupational Training in Macomb County.

Fourteen of the thirty-one high schools in Macomb County offered cooperative training in office occupations, twelve schools conducted programs in distributive education, and ten schools conducted programs in trade and industrial occupations during the 1964-65 school year. While the larger high schools are generally more active in cooperative training, one of the largest schools had no cooperative training program and several other schools with enrollments of 800 or more offered less than all three programs.

The number of students enrolled in the various cooperative training programs are, in a few instances, too small to permit economical operation. While the survey does not clearly indicate which programs are "diversified," it is known that several programs are of this type. A diversified program is one in which all cooperative training students, whether office, distributive, or trade and industrial, are supervised by one coordinator. The

related instruction is either handled by "farming out" the Co-op students to other classes, or by grouping them in one class. In the first instance, the students are in classes with non-Co-op students and are observed by the program coordinator only occasionally. In the latter case the students, while grouped in a class conducted by the coordinator, have a wide range of objectives and instruction must be highly individualized. This is not an easy task, and seldom does a coordinator have experience in all three areas. While diversified programs are successfully aiding students in their career objectives, separate programs are preferable whenever the school enrollment is large enough to justify them.

Cooperative occupational training has been offered by several Macomb County high schools for over twelve years. One of every ten public twelfth grade students in the county is currently enrolled in a cooperative training program.

About one-third of the respondents to the employer opinion poll of the Macomb Occupational Education Survey indicated they would support occupational training for high school students.

Over 60 percent of the employers responding to the survey were of the opinion that employees who have had occupational training in high school are better prepared for entry jobs in their firms.

Evidence of the Need for Cooperative Occupational Training in Macomb County.

While 48 percent of the high school seniors responding to a questionnaire circulated by the Survey indicated they planned to work on a full-time basis after graduation, only 783, or about 10 percent, participated in a cooperative work-study program.[1]

COOPERATIVE EDUCATION PROGRAMS - MACOMB COUNTY.

Type of Program	No. of Schools Conducting Programs	No. of Students Enrolled
Distributive	12	247
Office	14	362
Trade & Industry	10	174
Total Students		783

Employment trends place special urgency upon specialized training that cooperative programs provide. Persons employed in clerical, sales and kindred occupations in Macomb County increased from 12.3 to 17.0 percent between 1940 and 1950, and from 17.0 to 22.7 percent from 1950 to 1960.[2]

[1]Existing Programs and Facilities Survey, Macomb County Occupational Survey.

[2]Vocational Curricula in Michigan (Office of Research and Publications, College of Education, Michigan State University: Educational Research Series No. 17; East Lansing, September, 1963), Appendix A. Table 1.

Nationally, office work is the second largest employment classification today. About 15 percent of the civilian labor force is engaged in office work, and it is predicted that between 1960 and 1975 office employment will climb by approximately 45 percent.

Retailing in Macomb County is increasing rapidly as it follows the population to the suburbs. Over 3,000 retail establishments and sales in excess of $537 million in 1963, with a payroll of almost $52 million.[3] Since 1963 two regional shopping centers have opened, with over 100 additional establishments employing about 4,000 more full-time people. Nationally, total employment in wholesale and retail trade increased six percent from 1956 to 1960. In finance, insurance, real estate and the service trades, employment increased over twelve percent.[4]

While the demand for workers in the trade and industrial occupations will not increase in the manner of the sales and clerical occupations, the march of technology has brought a new complexity to trade and industrial occupations. Schools cannot adequately simulate industrial processes; the cost is simply too great. Students need the laboratory experiences that only on-the-job training can provide. In discussing criteria for evaluating programs of vocational education, Byram and Wenrich state, "The environment in which the instruction is given is, or simulates, the working environment to the maximum possible degree."[5]

A follow-up study of Michigan high school cooperative trainees offers evidence that cooperative training promotes rapid transition from school to work. Only one percent of the cooperative trainee graduates were unemployed ten months after graduation, and five out of ten of those available for work had obtained their current full-time employment within one month after graduation.[6]

Suggestions and Recommendations.

High schools with enrollments of 800 or more should survey the interest of the students and the opportunities for part-time employment in all three areas of cooperative training. Smaller high schools should investigate, in addition to student interest, the availability of training stations, as well as staff and facilities available within the high school. Some of the cooperative training needs, especially of the smaller high schools, may be provided in the proposed Area Occupational Education Centers.

[3]Bureau of the Census, Retail Trade-Area Statistics.

[4]Chamber of Commerce of the United States, "Distributive Education: An Answer to Training Needs of Business," A Special Supplement to Washington Report (Washington: February 21, 1964).

[5]H. M. Byram and R. C. Wenrich, Vocational Education and Practical Arts in the Community School. (New York: The MacMillan Company 1956), p.201.

[6]How High School Cooperative Trainees Fare in the Labor Market: Phase B (Office of Research and Publications, College of Education, Michigan State University: Educational Research Series No.23; East Lansing, June, 1965.)

Preparatory programs should be offered to those students who, while not interested in a cooperative training program at the high school level, may be planning to pursue a vocational program at the community college. Cooperative training in office occupations is currently offered at Macomb County Community College, and a cooperative program in sales and marketing will begin in the near future. A cooperative program in trade and industry is also being developed.

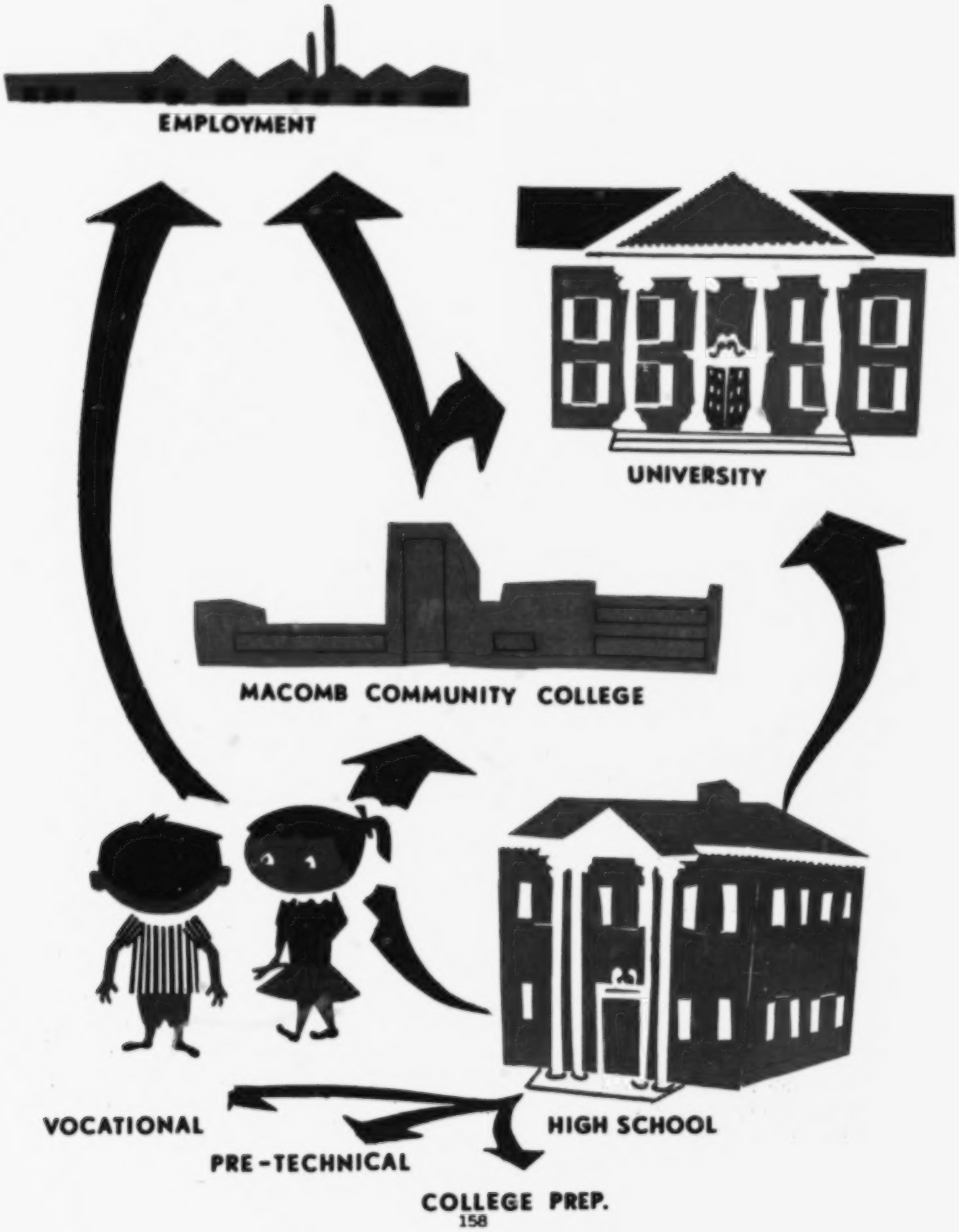
Traditionally, laboratory facilities and equipment for distributive and office occupations programs have been minimal, in contrast to home economics classrooms, for example, which invariably house a rather complete array of household equipment. Instruction is more meaningful and interesting when it simulates actual work situations. Typing and shorthand alone are not adequate preparation for office trainees: students need simulated office practice classrooms, with the machines commonly in use in business. Distributive education classrooms should include electric cash registers, show cases, and display windows. With the financial assistance provided by the Vocational Act of 1963, schools should give immediate attention to providing adequate laboratory-classrooms for cooperative programs.

A successful cooperative training program is dependent upon a coordinator with enthusiasm, up-to-date trade or business experience, and the ability to relate well to students, faculty, and the business community. Persons should be carefully chosen for such positions and encouraged to maintain their occupational skills through summer and/or part-time employment in their trade or business specialty.

Smaller high schools within ten or fifteen miles of one another might consider sharing the services of one teacher-coordinator. By scheduling cooperative training students into two-hour periods twice a week, a coordinator could teach two days in one school, two days in the other, and still have one full day plus half-time the remaining days for coordination. An example follows.

Period	Mon.	Tues.	Wed.	Thur.	Fri.
1	Preparation	Co-op Class	Preparation	Co-op Class	
2	Co-op Class	School B	Co-op Class	School B	
3	School A	Preparation	School A	Preparation	
4	COORDINATION				
5					
6					

The coordinator would be under contract to one school for salary and tenure purposes, with the second school reimbursing the first for half of the coordinator's salary (less the amount reimbursed from federal funds).


EMPLOYMENT
UNIVERSITY
MACOMB COMMUNITY COLLEGE
VOCATIONAL
PRE-TECHNICAL
HIGH SCHOOL
COLLEGE PREP.

THE PRE-TECHNICAL PROGRAM IN MACOMB COUNTY HIGH SCHOOLS.

The development of pre-technical programs at the senior high school level is one of the major changes which must occur if educational practice is to be brought into balance with technological change. The primary purpose of the pre-technical programs is the early identification and nurture of the high school student who can successfully prepare, by additional education, for highly skilled, technical, and semi-professional occupations. Although employment opportunities, in the mid-manpower range of the occupational spectrum are improving and expanding rapidly, the lack of specialized training closes these opportunities to the majority of new job-seekers today. Unsuccessful job seekers include the school drop-out and the non-specialized high school graduate, and may also include persons who have acquired college training of a general nature and are attempting to enter the work force at levels where specific job skills are required for employment.

The needs for skills in the economy and the earning needs of labor force entrants cannot be brought into balance by the continuation of the present haphazard mating of pupil aptitudes, school programs, and job opportunities. Tomorrow's high school student will need to be viewed much as a medical clinic staff might view a patient who has put the care of his health into their hands. The first step in this direction should be the development of programs of a depth and variety to accommodate the wide ranges of interest and ability which exist in every high school's student population. Improvement of vocational guidance services alone without the development of meaningful programs is comparable to improving medical diagnosis without corresponding advances in medical treatment. Two obvious and over-due activities are the upgrading of vocational education for the student seeking immediate job entry, and the development of pre-technical programs. The problems of vocational education and a recommended approach to their solution are detailed in other sections of this report.

The name "pre-technical" has been employed in other studies to define the high school programs which can offer adequate entry preparation for Community College technician training programs. The term is used in this report to describe all high school programs which have been designed to provide entry into a specific area of specialization in the Community College.

The six suggested high school-community college sequences which have been prepared for this report are not intended to be prescriptive, but rather to provide guidelines along which high school staffs and the Macomb County Community College staff can establish dialogs which will develop such programs tailored to the Associate Degree or certificate occupational programs of the Community College. Such program planning should involve the contributions of persons experienced in the appropriate occupational skills areas.

The units to be covered in the high school portions of the suggested Retailing and Marketing sequence and Food Service Supervision sequence have been identified because the course titles "Retailing" and "Foods" leave the purposes of the programs undefined. On the other hand, drafting, office occupations, electricity-electronics, and art are subject areas wherein existing programs provide a basis of general understanding.

The sample pre-technical high school programs have been written broadly enough to permit at least the more capable students these choices upon high school completion:

immediate job entry with some skills development,

further specialization in the Community College,

entry into a four-year college program.

Not all pre-technical programs will need to provide this flexibility. The accompanying samples have been so structured to demonstrate that the pre-technical, and even the vocational program, need not be closed-end programs, shutting off the student from moving upward or outward from his early career goals. The significant step of electing cooperative work-study experience or additional academic course work as preparation for more effective work in the Community College can be delayed until the 12th grade for undecided students.

The success of the pre-technical programs will be largely dependent upon the offering of alternate courses at various levels of rigor in mathematics, science, and communications. Students should be offered instruction at levels which are challenging, yet appropriate to their learning ability. Students should not be identified with a level or track, but rather placed in courses on their predictable ability to master separate subjects.

Most of the content of the pre-technical programs, as these are now perceived, can be provided by the staffs and the facilities of the truly comprehensive high school. Very small high schools, and some parochial high schools regardless of size, probably will lack the depth of staff and adequate facilities to provide instruction in all of the pre-technical programs. Considering that some portion of these programs will be the responsibility of each department within every high school, and that there will probably be about 36 public and 12 parochial high schools in Macomb County in the 1970's, rapid and adequate development of pre-technical programs will require some centralization. The proposed area Occupational Education Centers could provide instruction for some portions of the pre-technical programs, instruction in all of some pre-technical programs for small high schools, and the necessary coordination to effect pre-technical program development in each area of the County.

The development of the pre-technical high school programs is anticipated to yield these dividends:

FOR THE HIGH SCHOOL STUDENT.

* Opportunity to explore a career field early in the high school experience.

* Development of occupational skills through realistic learning experiences.

* Identification with a specific Community College program as an educational goal.

* Flexibility within programs which permits the student to change his goals without loss of time or academic standing.

* Instruction in academic subjects at levels which accommodate to the wide range of abilities which exists among students.

* Promotes the concept that education should continue beyond high school completion.

FOR THE COMMUNITY COLLEGE.

* Early identification and direction of students capable of success in the Community College occupational programs.

* The development of uniform acceptable standards in the high school pre-technical programs which will reduce the necessity of offering Community College instruction at many levels to accommodate to the varying preparations of the students.

A SUGGESTED HIGH SCHOOL - COMMUNITY COLLEGE SEQUENCE IN COMMERCIAL ART AND TECHNICAL ILLUSTRATING

	HIGH SCHOOL			COMMUNITY COLLEGE	
	9th or 10th grade	11th grade	12th grade	1st year	2nd year
SPECIALTY COURSES	"Vocations" or "Occupational Orientation" Industrial Arts (boys) Homemaking (girls) Drafting Art	Art (2 hrs) Applied Physics* Drafting	Art (2 hrs)	Descriptive Geometry Perspective Art Media and other art and design courses to further develop practical skills for 2nd year specialization in -	Commercial Art or Technical Illustrating Cooperative Internship
RELATED or SUPPORTING COURSES	Algebra* Geometry*		Chemistry*	Hydraulics - Pneumatics** Physics Metals Processing** Electricity - Electronics** Psychology	Automation Data Processing Technical Report Writing Industrial Organizations Economics
GENERAL EDUCATION COURSES	Courses in the following areas as recommended or required by the high school Composition, literature, and speech (3), social studies (2), mathematics (2), science (2), fine arts, foreign language, physical education () Number of years recommended for students desiring to continue in the Community College.			Sequences of courses in the following areas as required by the Community College Composition, literature, and speech social studies, science, mathematics foreign language, fine arts, physical education	
ALTERNATE 12th GRADE PATHS	PREPARATION FOR EMPLOYMENT		Additional course work Cooperative work-study experience	FOR CONTINUATION IN THE COMMUNITY COLLEGE	
ENTRY EMPLOYMENT OPPORTUNITIES			Tracer Key-line and paste-up ass't.		Commercial Artist Product Designer Industrial Illustrator Display Designer Catalog Illustrator

* or other mathematics and science courses appropriate to the student's ability.

** Courses required for Technical Illustrating and elective for Commercial Art.

A SUGGESTED HIGH SCHOOL - COMMUNITY COLLEGE SEQUENCE IN DRAFTING-DESIGN TECHNOLOGY

	HIGH SCHOOL			COMMUNITY COLLEGE	
	9th or 10th grade	11th grade	12th grade	1st year	2nd year
SPECIALTY COURSES	"Vocations" or "Occupational Orientation Industrial Arts (boys) Homemaking (girls) Drafting	Drafting (2 hrs) Applied Physics*	Drafting-Design (2 hrs)	Descriptive Geometry Advanced drafting & design courses to further develop practical skills for 2nd year specialization in	Tool, Die, Fixture Design or Auto Body Design or Special Machine Design Cooperative Internship
RELATED or SUPPORTING COURSES	Algebra* Geometry*	Trigonometry* Machine Shop	Chemistry* Art	Hydraulics-Pneumatics Physics Metal Processing Electricity-Electronics Psychology	Automation Data Processing Technical Report Writing Industrial Organizations Economics
GENERAL EDUCATION COURSES	Courses in the following areas as recommended or required by the high school Composition, literature, and speech (3), social studies (2), mathematics (2), science (2), fine arts, foreign language, physical education () Number of years recommended for students desiring to continue in the Community College.			Sequences of courses in the following areas as required by the Community College Composition, literature, and speech social studies, science, mathematics foreign language, fine arts, physical education	
ALTERNATE 12th GRADE PATHS	PREPARATION FOR EMPLOYMENT		Additional course work Cooperative work-study experience	FOR CONTINUATION IN THE COMMUNITY COLLEGE	
ENTRY EMPLOYMENT OPPORTUNITIES			Junior Draftsman Detailer Blue Print Librarian		Senior Draftsman Tool Designer Die Designer Jig & Fixture Designer Body Designer Special Machine Designer Body Detailer Layout Man

* or other mathematics and science courses appropriate to the student's ability.

A SUGGESTED HIGH SCHOOL - COMMUNITY COLLEGE SEQUENCE IN ELECTRICAL-ELECTRONICS TECHNOLOGY

	HIGH SCHOOL			COMMUNITY COLLEGE	
	9th or 10th grade	11th grade	12th grade	1st year	2nd year
SPECIALTY COURSES	"Vocations" or "Occupational Orientation" Industrial Arts (boys) Homemaking (girls) Drafting	Applied Physics* Electrical Drafting Electricity (2 hrs)	Electronics (2 hrs)	Advanced Electricity and electronics courses to further develop understandings and practical skills for 2nd year specialization in ---------	Industrial Electronics or Computer Electronics or Communications Electronics Cooperative Internship
RELATED or SUPPORTING COURSES	Algebra* Geometry*	Trigonometry* Machine Shop	Chemistry*	Technical Report Writing Electrical Math Hydraulics - Pneumatics Physics Metals Processing	Computer Math Psychology Economics Electrical Drafting
GENERAL EDUCATION COURSES	Courses in the following areas as recommended or required by the high school Composition, literature, and speech (3) social studies (2), mathematics (2), science (2), fine arts, foreign language, physical education () Number of years recommended for students desiring to continue in the Community College.			Sequences of courses in the following areas as required by the Community College Composition, literature, and speech social studies, science, mathematics foreign language, fine arts, physical education	
ALTERNATE 12th GRADE PATHS	PREPARATION FOR EMPLOYMENT		Additional course work Cooperative work-study experience	FOR CONTINUATION IN THE COMMUNITY COLLEGE	
ENTRY EMPLOYMENT OPPORTUNITIES			Electrician helper Electrician apprentice Radio service assistant TV service assistant Electric motor repair assistant Radio - TV store counterman		Electrical-electronic technician Instrument repairman Institutional electronics maintenance

* or other mathematics and science courses appropriate to the student's ability.

A SUGGESTED HIGH SCHOOL - COMMUNITY COLLEGE SEQUENCE IN FOOD SERVICE SUPERVISION

	HIGH SCHOOL			COMMUNITY COLLEGE	
	9th or 10th grade	11th grade	12th grade	1st year	2nd year
	"Vocations" or "Occupational Orientation"	FOODS I (2 hrs) (Nutrition)	FOODS II (2 hrs) (Food Service)		
		Course Content	Course Content	Curriculum	Curriculum
SPECIALTY COURSES	Industrial Arts (boys) Homemaking (girls)	Basic Foods Foods & Health Balanced & Special Diets Menu Planning Food Costs & Purchasing Storage & Refrigeration Food Preparation	Table Service Cafeteria Service Specialty Foods Preparation Sanitation Records Keeping Food Preparation	Nutrition Menu Planning Food Purchasing, Preservation & Storage Public Health Dietetics	Institutional Foods Catering & Restaurant operation Foods Cost Estimating Foods Service Records Management Cooperative Internship
RELATED or SUPPORTING COURSES	Typing Bookkeeping Algebra* Geometry*	Consumer Mathematics Art Health-Hygiene	Chemistry*	Marketing Business Communications Art	Economics Accounting Business Law Psychology
GENERAL EDUCATION COURSES	Courses in the following areas as recommended or required by the high school: Composition, literature, and speech (3) social studies (2), mathematics (2), science (2), fine arts, foreign language, physical education			Sequence of courses in the following areas as required by the Community College: Composition, literature, and speech social studies, science, mathematics foreign language, fine arts, physical education	
	() Number of years recommended for students desiring to continue in the Community College.				
ALTERNATE" 12th GRADE PATHS	PREPARATION FOR EMPLOYMENT		Additional course work Cooperative work-study experience	FOR CONTINUATION IN THE COMMUNITY COLLEGE	
ENTRY EMPLOYMENT OPPORTUNITIES			Short order cook Salad chef Second cook Waiter, waitress Hostess Pantryman Food checker		Chef Specialty chef Institutional foods manager Food sales representative Caterer Dining Room manager

* or other mathematics and science courses appropriate to the student's ability.

A SUGGESTED HIGH SCHOOL - COMMUNITY COLLEGE SEQUENCE IN RETAILING AND MARKETING

	HIGH SCHOOL			COMMUNITY COLLEGE	
	9th or 10th grade	11th grade	12th grade	1st year	2nd year
SPECIALTY COURSES	"Vocations" or "Occupational Orientation" Industrial Arts (boys) Homemaking (girls)	RETAILING I (Preparatory-elective) Course Content Importance of distrib. in the economy Marketing functions Store Organization Channels of distribution Retail math Oral expression Business behavior and dress Job interview Entry skills Register Operation Stockkeeping Service selling	RETAILING II (Cooperative training related instruction) Course Content Creative selling Merchandise information Sales Promotion Merchandise planning Stock control Consumer credit Store policy Trends in distribution Gov't. regulation and legal aspects Indiv. & group projects Case studies Sales Demonstrations Merchandise manuals	Introduction to Business Principles of Marketing Retailing Accounting	Salesmanship Sales Promotion Business Law Cooperative Internship
RELATED or SUPPORTING COURSES	Algebra* Geometry* Typing	Business Communication Business Machines Art Speech	Business Math Business Law Economics	Business Math Speech Psychology	Economics Data Processing Algebra
GENERAL EDUCATION COURSES	Courses in the following areas as recommended or required by the high school Composition, literature, and speech (3), social studies (2), mathematics (2), science (2), fine arts, foreign language, physical education () Number of years recommended for students desiring to continue in the Community College.			Sequences of courses in the following areas as required by the Community College Composition, literature, and speech social studies, science, mathematics foreign language, fine arts, physical education	
ALTERNATE 12th GRADE PATHS	PREPARATION FOR EMPLOYMENT		Additional course work Cooperative work-study experience	FOR CONTINUATION IN THE COMMUNITY COLLEGE	
ENTRY EMPLOYMENT OPPORTUNITIES			Salesman (retail) Stock clerk Receiving clerk Cashier Dept. Mgr. trainee Display assistant Credit clerk		Salesman (retail) Salesman (direct) Dept. Manager Ass't. Buyer Ass't. Store Mgr. Ass't. Credit Mgr. Ass't. Personnel Manager Trainee-Sales Promotion Traffic Management Trainee Fashion Coordinator Trainee

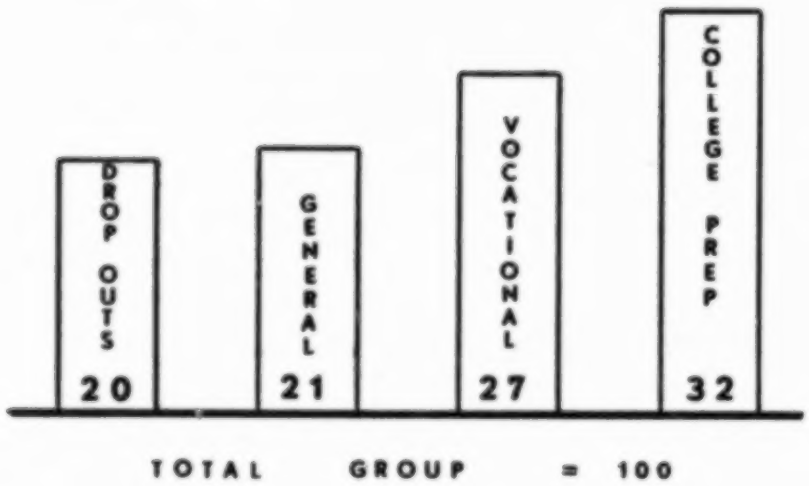
* or other mathematics and science courses appropriate to the student's ability.

A SUGGESTED HIGH SCHOOL - COMMUNITY COLLEGE SEQUENCE IN STENOGRAPHIC-SECRETARIAL PRACTICE

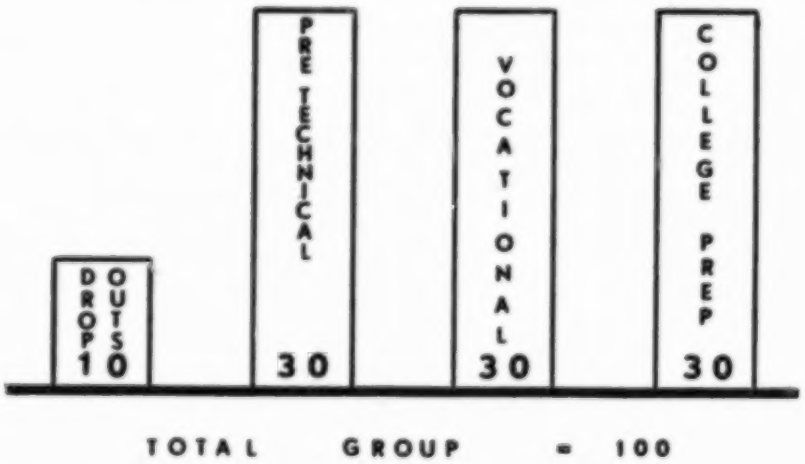
	HIGH SCHOOL			COMMUNITY COLLEGE	
	9th or 10th grade	11th grade	12th grade	1st year	2nd year
SPECIALTY COURSES	"Vocations" or "Occupational Orientation" Industrial Arts (boys) Homemaking (girls) Typing I	Typing II Shorthand I Bookkeeping	Shorthand II Office Practices	Typing* Shorthand* Accounting Business Correspondence Office Machines Business Law	Specialized** Office Practice Records Management Data Processing Office Supervision Cooperative Internship
RELATED or SUPPORTING COURSES	Business Math	Business Communication	Business Law Economics	Personality Development Psychology	Economics Business Math*
GENERAL EDUCATION COURSES	Courses in the following areas as recommended or required by the high school Composition, literature, and speech (3), social studies (2), mathematics (2), science (2), fine arts, foreign language, physical education () Number of years recommended for students desiring to continue in the Community College.			Sequence of courses in the following areas as required by the Community College Composition, literature, and speech social studies, science, mathematics, foreign language, fine arts, physical education	
ALTERNATE 12th GRADE PATHS	PREPARATION FOR EMPLOYMENT		Additional course work Cooperative work-study experience	FOR CONTINUATION IN THE COMMUNITY COLLEGE	
ENTRY EMPLOYMENT OPPORTUNITIES			Clerk-typist Receptionist Cashier Office machines operator File & records clerk Key punch operator Stenographer, junior		Administrative Assistant Stenographer Clerk, senior Statistical typist Educational) Legal) Executive) Secre- Medical) tary Technical)

* certain courses may be waived on the basis of student proficiency.

** additional courses should be provided for occupational specialization.



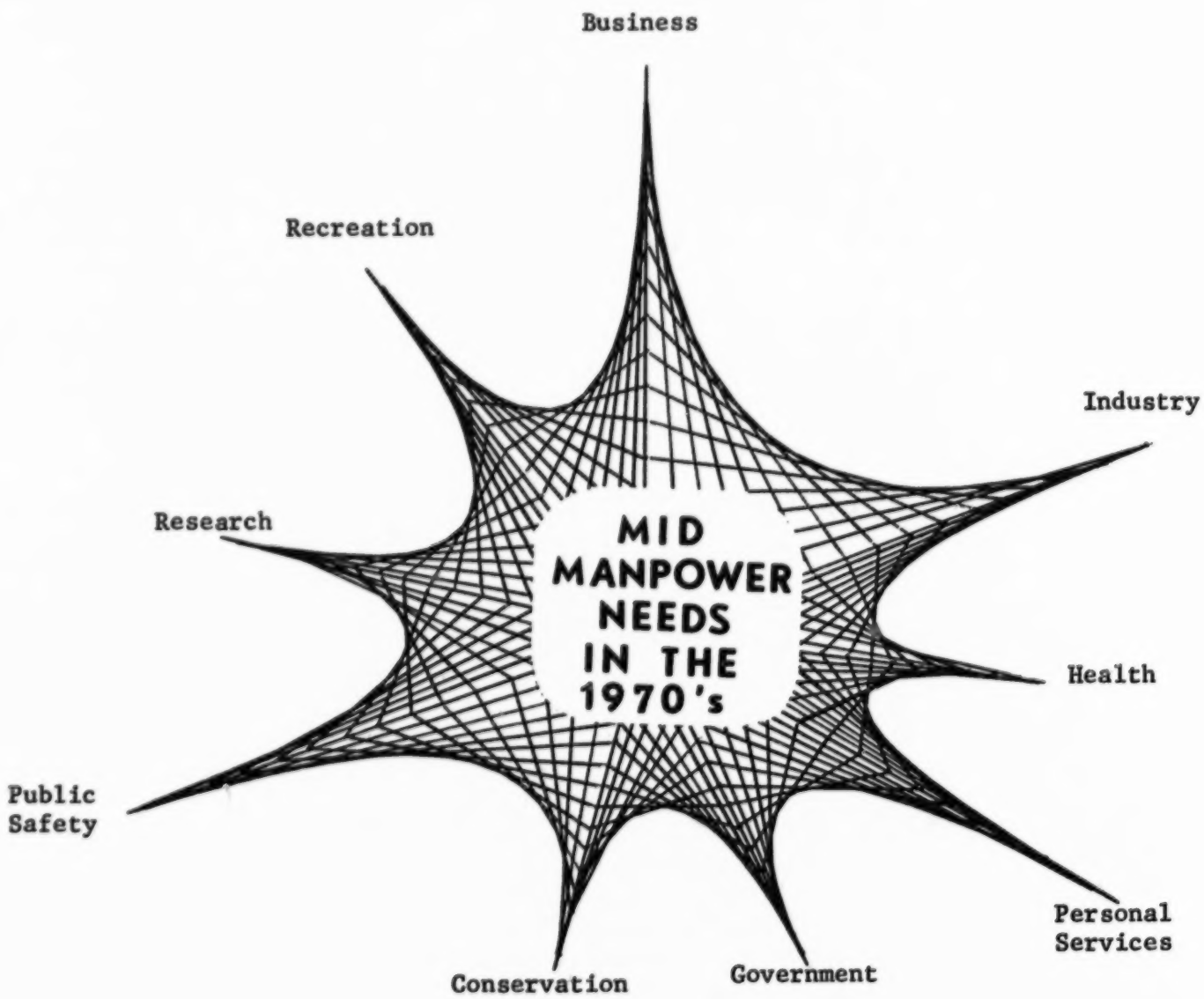
The 1965 high school age group in Macomb County is distributed as illustrated in the above graph. Combining the drop-outs and the general program students reveals that 41 of every 100 persons in the age group do not have goals for which school programs are available.



The development of high school pre-technical programs to identify and direct potential students toward Community College occupational programs will be the most significant curriculum change in the immediate future. The creation or expansion of meaningful high school vocational programs should reduce the proportion of drop-outs by half. The proportion of students preparing for a four year college is not expected to increase as the values of the Community College occupational programs become more generally evident. The second graph illustrates a practical distribution of the high school age population in 1975. More or fewer students may be following each of the high school programs than are indicated on the graph. This will be determined by the efforts which are made to improve educational opportunities. It is imperative that every effort be made to retain persons in school until high school graduation, that every student have a commitment to a career goal, and that the schools offer programs which can assist the student in achieving his goal.

CHALLENGE TO THE COMMUNITY COLLEGE

The community junior college is in a very real sense society's answer to the need for expanded educational opportunity. Millions of high school graduates of "middle level" ability need further education and training to fit them for careers within the spectrum of "middle level Manpower" -- in semi-professional and technical jobs. By 1970, one fourth of the nation's labor force will be employed in semi-professional and technical jobs which did not even exist in 1930.[1]



[1]Norman C. Harris, Technical Education in the Junior College, New Programs For New Jobs, (American Association of Junior Colleges, Washington D.C., 1964), p.19.

OCCUPATIONAL EDUCATION AT THE POST-HIGH SCHOOL LEVEL

Technological Change and Post-High School Education.

Technological innovations in industry since World War II have resulted in the development of new products, new materials, new processes, and new equipment. New businesses have been created out of these innovations and old businesses have reorganized to meet the competition and opportunities arising from these changes. Greater emphasis upon research and development has spread these technological changes into commercial, government, and institutional applications.

Technological innovations are stimulating a relentless demand for workers possessing highly-developed technical skills to service, operate, and adapt the mechanisms and processes of these changes. Further technological advances are dependent upon an available supply of technically competent persons to perform these functions. As indicated in the Labor Market Needs section of this report, an available supply of highly-skilled manpower stimulates capital investment in business enterprises. Job opportunities at all skill levels are created by an adequate supply of technical, semi-professional, and other mid-manpower workers.

The changing employment needs of the new technology have been stated by Professor Norman C. Harris of the University of Michigan:

> "Professional jobs, making up six percent of the labor force in 1930, will probably constitute 12 percent by 1970. At the other extreme, unskilled, semi-skilled, and service jobs, which together accounted for 56 percent of the labor force in the 1930's will by 1970 decrease to only 26 percent of the labor force. But the really significant changes in our labor force, and in society in general, have occurred at the level of the semi-professional and technical; the managerial, business, and sales; and the highly skilled jobs. These jobs taken together, will account for over 50 percent of the labor force by 1970."[1]

Community colleges are developing specialized curriculums to meet this need and to provide employability in an economy characterized by technical skills. The current unemployment rate for 16-24 year old high school graduates is over twice the rate experienced by the total work force. Although the rate of unemployment is high among all young people, it is far higher for the high school dropout than for the high school graduate. The waste incident to our failure to provide education for occupational entry is exorbitantly expensive, socially and individually.

[1]Harris, "The Community Junior College--A Solution to the Skilled Manpower Problem," in Higher Education in an Age of Revolution, ed. G. Kerry Smith (Washington: Association for Higher Education, 1962), p. 111.

The dependence of an area economy upon an adequate pool of skilled manpower has been pin-pointed by Dr. M. D. Mobley, Executive Secretary of the American Vocational Association:

> "If you want to determine the status of any state in the nation during the '70's, look at their activities in the field of vocational and technical education in the '60's. The states that lag behind in vocational education in the '60's will lag behind in economic growth in the '70's."

The extent of the need for post-high school occupational education programs can be seen from an examination of the anticipated change in the nature of the national economic activities from 1960 to 1975.

Economic Activity	1960-1975 Increase
Professional and related services	53.4%
Public administration	53.6
Finance, insurance, real estate	46.7
Construction	45.9
Business and repair services	41.4

State-wide, community colleges are expanding to meet the increasing needs for post-high school education. For the ten years from 1955 to 1965, state community college enrollments increased from 13,652 to 61,275.

Local Need.

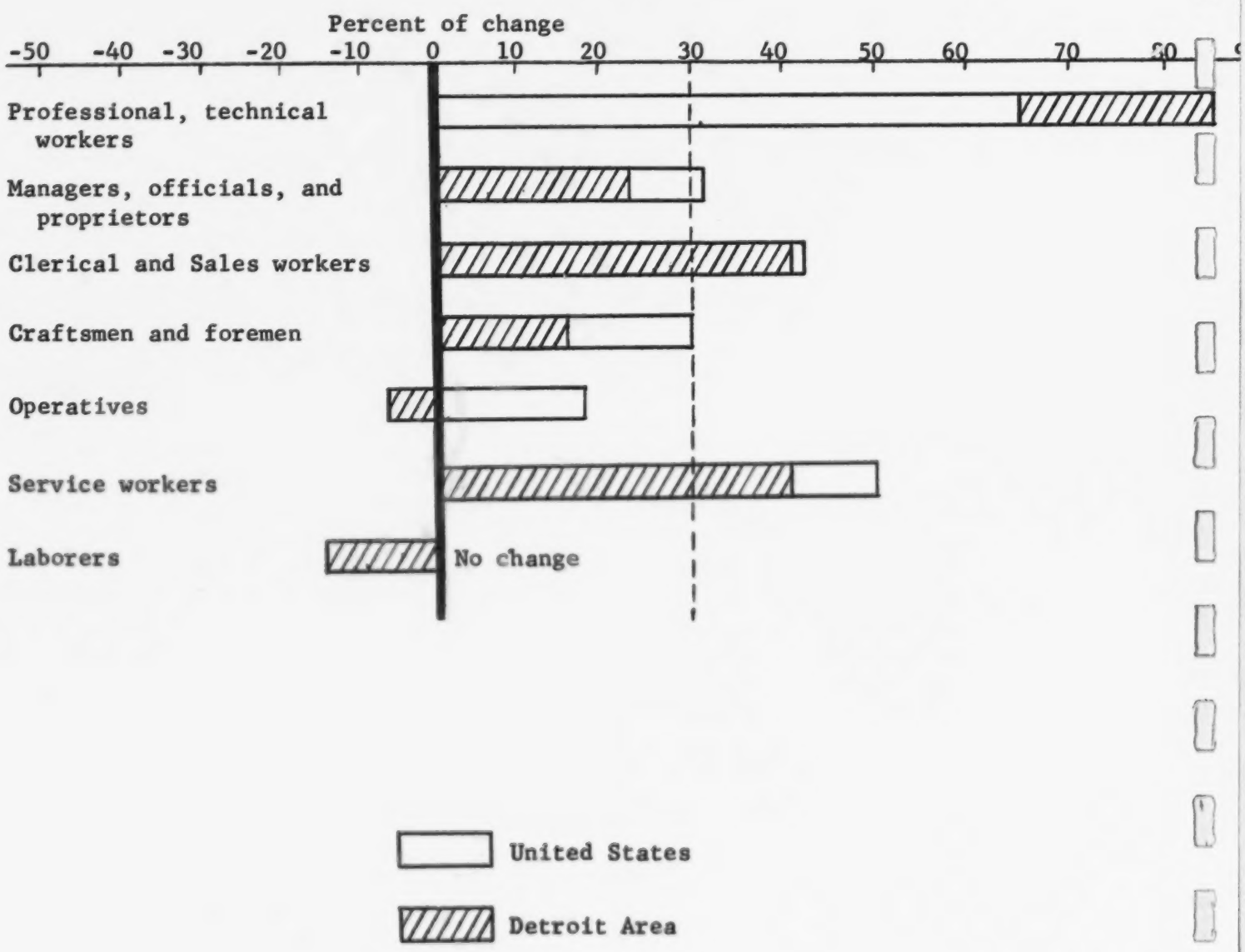
The need for community college occupational training in Macomb County has been measured by a number of activities of this Survey. Based upon these investigations, the demand for occupational preparation in the next decade will challenge the planning resourcefulness and tax the financial resources available to Macomb County Community College. By 1975, the number of 18 and 19 year olds in Macomb County will be approximately 30,000. Table C-1 indicates the County population in the 18-19 age group at five year intervals.

Table C-1

MACOMB COUNTY POPULATIONS IN THE 18-19 AGE GROUP
1965-80

Year	Population
1965	15,332
1970	20,412
1975	29,677
1980	33,621

PROJECTED PERCENT OF CHANGE IN EMPLOYMENT OF
WORKERS IN MAJOR OCCUPATIONAL GROUPS
UNITED STATES AND DETROIT AREA



Provided with educational opportunities realistic to their capacities and needs at costs within reach of most of the population, Community College occupational programs could attract between 10,000 and 20,000 of these 18 and 19 year olds. Additional thousands of older persons will look to the Community College for opportunities to upgrade their employment skills as industry becomes increasingly reluctant to invest the capital required to provide this training. The accompanying graph compares the anticipated local and national change in the nature of the work force. This training must be provided if the local economy is to expand sufficiently to offer employment to the record number of young persons who will enter the work force during the 1965-1980 period.

The existence of 68 privately operated trade, technical, and business schools in the Detroit area is evidence of the pressing demand for post-high school occupational education. These private schools enroll more students than all public post-high occupational programs in the three County area. Private occupational training charges range as high as $2,000 a year. Equity indicates that a person desiring training in a socially-useful occupation for which definite employment opportunities exist should have access to a publicly-supported training program.

In response to a Survey questionnaire, one of every three parents of eighth grade students in Macomb County definitely plans upon an occupational curriculum in the Community College for his child. The actual demand may be greater for parental hopes become increasingly realistic as the child's progress in school gives further evidence of his true potential. Seniors in Macomb County high schools indicate a very strong desire for continuing their education. Macomb County Community College, or a technical, trade, or business school, is the first choice of four of every five seniors not in a college preparatory program. When student academic ability is considered, boys and girls placing in the middle and bottom thirds of their graduating class chose the Community College, or other occupational training, over the four year college by a three to one margin.

Table C-2

SENIORS' PLANS TO ATTEND COLLEGE

	Yes	Probably	Probably Not	No	Don't Know
Boys - Total	49.4	16.5	7.4	15.0	11.7
Public	49.3	16.5	7.4	14.1	11.9
Private	51.1	17.0	8.5	15.6	7.8
Top 1/3	88.3	5.3	1.3	2.3	2.8
Middle 1/3	43.8	20.8	8.2	14.1	13.1
Bottom 1/3	14.5	19.2	13.2	33.5	19.4
Girls -Total	40.3	12.3	8.1	28.9	10.4
Public	39.9	12.1	8.0	29.2	10.8
Private	47.0	13.9	8.6	25.7	4.8
Top 1/3	70.0	8.7	4.8	11.7	4.8
Middle 1/3	43.8	20.8	8.2	14.1	13.1
Bottom 1/3	12.1	11.2	10.9	52.1	13.7

Table C-3

PREFERENCE OF SENIORS PLANNING TO GO TO COLLEGE

	MCCC	Other	Technical Trade or Business
Boys - Total	40.3	44.4	12.6
Public	43.4	44.3	12.3
Private	37.7	45.3	17.0
Top 1/3	17.0	78.5	4.5
Middle 1/3	54.8	30.4	14.8
Bottom 1/3	61.8	13.5	24.7
Girls- Total	37.0	49.7	13.3
Public	37.6	49.5	12.9
Private	31.2	52.0	16.8
Top 1/3	20.0	74.1	5.9
Middle 1/3	51.9	30.9	17.2
Bottom 1/3	47.3	19.6	33.3

When asked about their own interest in further education, three of five parents of eighth graders indicated interest, with more than twice as many desiring job improvement education as are interested in working for a college degree.

Three of every five Macomb County employers who responded to a questionnaire seeking their opinions of educational preparation for employment believe that high school graduates are not adequately prepared for entry employment. More than half of the employers who indicated a willingness to support improved occupational education programs recommended more and stronger community college programs. Employer interest in school programs for upgrading the occupational proficiency of their present employees is strong. Table L-22 indicates this interest by types of training programs.

The suitability of the community college to meet the increasing needs for occupational education is evidenced by the rapid growth of such programs in community colleges in Michigan and throughout the nation.

Mr. John W. Lehman, Regional Director, Bureau of Labor Statistics, was requested by our Survey to comment on the future employment outlook for the Detroit area. The following statement is taken from Mr. Lehman's reply:

> "At the junior college level there should be considerable demand for engineering and science technicians to go into research and development, to become factory foremen, and for highly sophisticated repair and maintenance work.....Health service occupations will offer many good job opportunities, particularly for women. There is no end in sight to the shortage of registered professional nurses and licensed practical nurses. About 80 percent of the professional nurses are currently being trained in diploma schools

operated by hospitals, but an increasing number of junior colleges are entering this field. Dental hygienists and dental laboratory technicians are also expected to be in demand. Business graduates of two-year college programs should continue to be sought. Women graduating from executive secretarial programs should readily find jobs. The tremendous demand for accountants of all types is expanding job opportunities for two-year accountants. The electronic data processing field will offer many opportunities. More and more junior colleges and technical institutes are offering computer programming and console operation in their curriculum. Occupations in the expanding public sector should not be overlooked."

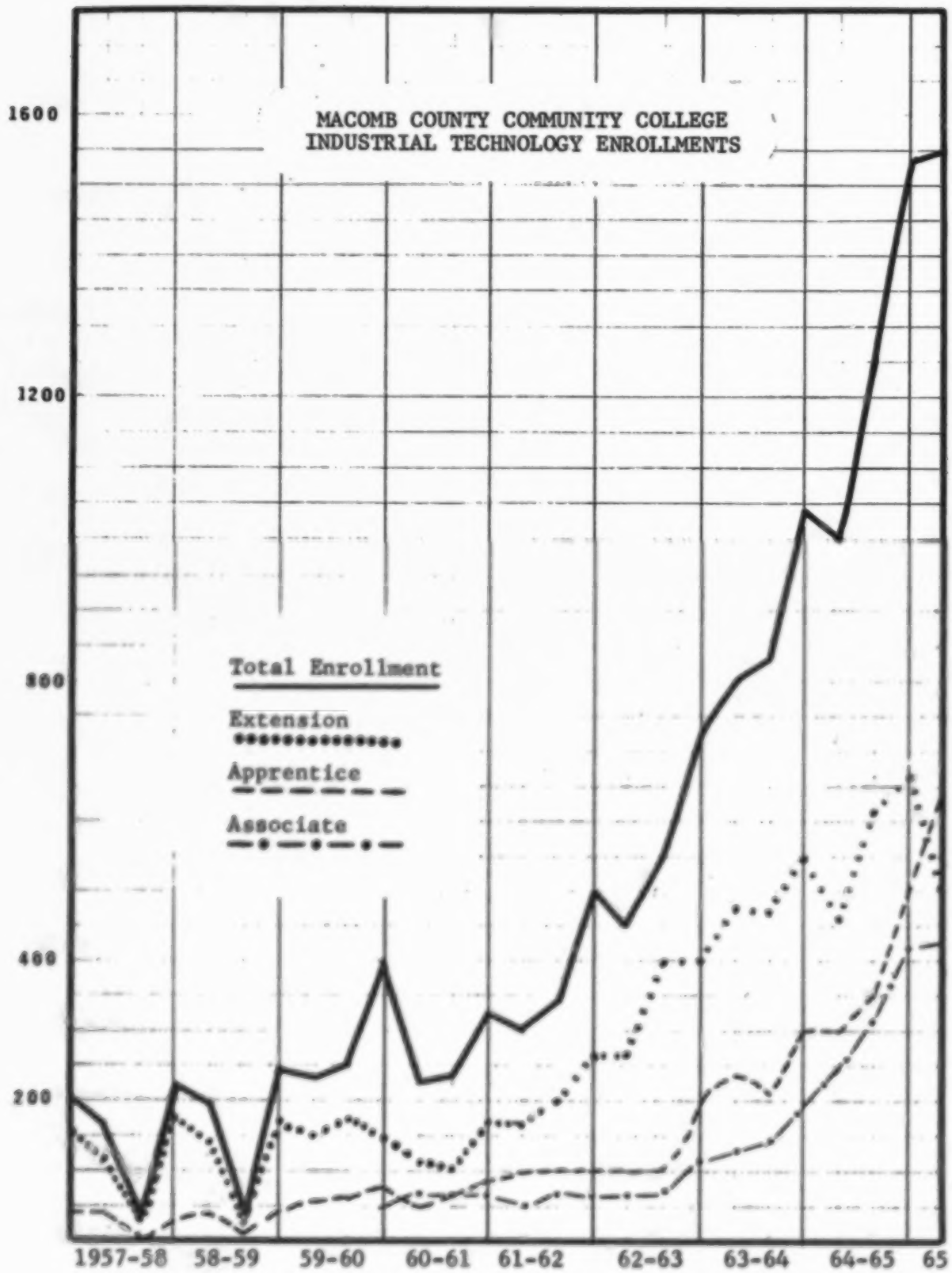
Occupational Enrollments at Macomb County Community College.

Terminal occupational programs enroll approximately 22% of the 7183 students enrolled in Macomb County Community College. Enrollments in industrial technology courses offered by the College have increased from 300 to 1440 in the four years from 1961 to 1965. Table C-4 indicates enrollments by occupational programs in September, 1965.

Table C-4
OCCUPATIONAL PROGRAM ENROLLMENTS MACOMB COUNTY COMMUNITY COLLEGE
FALL 1965

Program	Program Students	Non-Program Students	Total Enrolled
Industrial Technology			1440
Apprentices	624		
Technicians	368		
Other Students		448	
Office Occupations			410
Secretarial	182		
Stenographic-clerical	20		
Other Students		208	
Health Occupations			30
Nursing	30		
Business			1214
Business administration	562*		
Accounting	47		
General business	35		
Marketing	17		
Other Students		553	
	661		3094
Program Students	1885		
Non-program		1209	
Total Enrolled			3094

* Not identified whether terminal or transfer
Half are assumed to be terminal students


MACOMB COUNTY COMMUNITY COLLEGE
INDUSTRIAL TECHNOLOGY ENROLLMENTS
1600
1200
800
400
200
Total Enrollment
Extension
Apprentice
Associate
1957-58
58-59
59-60
60-61
61-62
62-63
63-64
64-65
65

Although 40% of all Macomb County Community College students take some course work in the occupational curriculum areas, only one of every five full-time students is following an occupational program. Almost half of all part-time students are enrolled in occupational programs.

Apprentice programs serve apprentices in 18 manufacturing trades and one construction trade, bricklaying.

Associate in technology degree students (identified as technicians in Table C-4) who have accumulated 15 or more credit hours are distributed by programs as follows:

Auto Body Design	29%
Tool, Die and Fixture Design	27%
Special Machine Design	12%
Fluid Power	10%
Technical Illustrating	10%
Metal Processing	8%
Electrical	4%

This Committee recommends that, excepting for adult education programs offered by the K-12 school districts, all public vocational-technical education of a post-high school level in Macomb County be provided by Macomb County Community College. The following reasons are the basis for the committee's recommendation:

1. Macomb County Community College is already established and financed by the taxpayers of the County, and its programs and facilities are available to all residents.

2. Macomb County Community College has demonstrated a willingness and ability to develop meaningful occupational programs in a limited number of occupational areas.

3. Macomb County Community College is recognized by the State Department of Vocational Education as an area skills center and is eligible to secure federal and state grants on that basis.

4. Macomb County Community College is accredited by the Michigan Commission on College Accreditation and is eligible on that basis to secure federal and state grants.

5. Macomb County Community College has achieved recognition by senior institutions for the quality of its programs and the performance of its graduates.

6. Studies of the local, regional, and national labor outlook indicate that the greatest employment opportunities for our citizens will occur at those occupational levels for which the community college occupational programs are specifically aimed.

Occupational Curriculums.

Occupational programs are designed for the development of competence to perform adequately in a skills area which can be utilized for employment at a significant level, and thus curriculum content is derived from the skills and knowledge required for employment. The present trade and technical, business, and office occupations programs of Macomb County Community College have been derived in this manner and should be strengthened and expanded as evidence of local need and pupil interest warrants. The College should investigate the suitability of a wide range of additional offerings to the needs of our local economy and of our citizens who desire occupational competence. The study of the area economy and its anticipated development, and an analysis of the several interest measurements taken by the Survey indicate that the following occupational programs warrant investigation by the College. The inclusion of these programs is not an indication that the Survey has identified a local demand sufficient to justify the offering of each of these programs, nor that other areas are not suitable for investigation. The number of programs under development should not exceed the College's capacity to do so in an orderly manner and to insure the quality of each. Each of the following programs offers opportunities for entry employment in a number of trades or occupations and at different levels of competence.

Agriculture and Horticulture
- Agri-business
- Agronomy
- Farm Management
- Floristry
- Landscaping & Ornamental Horticulture

Business and Commerce
- Accounting
- Advertising
- Business Management
- Data Processing
- Insurance
- Office Management
- Purchasing
- Real Estate
- Retail Sales & Merchandising
- Secretarial
- Stenographic & Clerical

Graphic Arts
- Commercial Art
- Forms & Records Reproduction and Management
- Photography
- Printing
- Technical Illustrating

Communications
- Journalism
- Radio & Television Broadcasting
- Technical Writing

Manufacturing and Industrial Technologies
- Architectural Drafting
- Auto Body Design
- Automotive Service & Repair
- Building Trades Apprentice Training
- Business Machine Service & Repair
- Climate Control
- Communications Electronics
- Data Processing Electronics
- Engineering Drafting
- Fluid Power
- Industrial Chemistry & Plastics
- Industrial Electronics
- Industrial Maintenance
- Industrial Management
- Industrial Supervision
- Instrumentation
- Manufacturing Trades Apprentice Training
- Metallurgy
- Metals Processing - Machining, Welding Foundry Work
- Packaging & Transportation
- Plumbing & Pipefitting

Printing Trades Apprentice Training
Quality Control
Radio & Television Service and Repair
Sheet Metal Fabrication
Special Machines Design
Time and Motion Study
Tool and Die Design
Warehousing and Storage

Health Services
Dental Assisting & Technology
Laboratory Assisting & Technology
Medical Assisting & Technology
Medical Records Library Maintenance
Nursing
Nutrition & Dietetics
Practical Nursing
Sanitation Technology

Public Services
Custodial Engineering
Fire Fighting
Highway Technology & Surveying
Law Enforcement & Protection
Playground & Recreation Supervision

Service Occupations
Barbering
Clothing Construction
Cosmetology
Hotel & Motel Management
Industrial Housekeeping
Service Station Management

Food Services
Baking & Commercial Cooking
Restaurant Management & Catering

Development of Curriculum.

Occupational curriculum should be envisioned as fluid and exploratory, limited only by

the employability of graduates,
the interests of potential students,
the financial capacity of the College,
and the social usefulness of each program.

Curriculum should be developed with the maximum participation of advisory committees of persons knowledgeable in the skills requirements of occupations, and preferably, active in the exercise of those skills.

Curriculum revision must be continuous, not periodic. A vigorous curriculum is characterized by courses and programs under constant upgrading, with new programs being developed, programs of diminishing need being phased out, and many new programs being investigated. To promote this vitality, membership on advisory committees should be on a short-term basis.

Occupational curriculum should be under continuing evaluation. The primary evaluation is the employability of the student trained in a program. The College should seek the evaluation of programs by former students as an integral aim of follow-up studies of these persons. Evaluation should also be sought periodically by outside experts, and by professional accrediting associations.

Levels of Instruction.

Students vary in their capacity to perform in different curriculum areas. When courses of varying rigor might satisfy a requirement of the student's program, the student should be encouraged to select that course which is most challenging to his own aptitude so that his preparation will be as broad as possible. Presumably, this choice of courses will be available in communications, mathematics, science, social studies, and in technical curriculum areas.

Suggested Division of Credit for

TWO-YEAR POST HIGH SCHOOL TECHNICAL CURRICULUMS

Identification of Programs.

Occupational programs should be flexible and broad enough to achieve competence in a broad area of skills rather than in a single trade. Programs vary in content, length, and rigor according to the knowledge and skills requirements of the occupational area.

a. Programs designed to prepare the individual for engineering technician occupations are characterized by intensive mathematics and science requirements. Mastery of these programs will culminate in the Associate in Technology degrees. Students enrolled in these programs will have given evidence of adequate performance in college preparatory or pre-technical curriculums in high school.

b. Other occupational programs in the Community College which lead to the Associate degree may not require the engineering technician's proficiency in mathematics and science, but will be characterized by similar depth in other curriculum areas.

c. Trades preparation programs are designed to achieve employability in occupations which require a high degree of manipulative skills development and less academic preparation than that required for the Associate Degree.

d. Apprentice related training programs should be developed with the participation of the employer and, if applicable, the Federal Bureau of Apprenticeship and Training and the trade unions concerned.

e. Preparatory programs should be offered to remedy academic deficiencies which would prevent success in the regular programs. These would serve, among other persons, school graduates lacking necessary preparatory courses and older persons whose basic educational skills have deteriorated through disuse.

f. Special programs of varying length designed to meet the immediate and special needs of particular groups. Examples would include upgrading courses offered on an employer's premises for his own workers or a special class to clarify the applications of a new law for persons needing this information.

g. Continuing education courses and programs in occupational areas should be offered when there is evidence of a need for programs of a post-high school level.

Relationship to the Secondary Schools.

Occupational programs developed to levels which can achieve employment competence and taught by dedicated teachers possessing practical experience and teaching proficiency can only succeed if student enrollments are sufficiently high to maintain these programs.

The number of persons graduating from Macomb County high schools, 6,500 in 1965, will increase annually to more than 16,000 by 1975. At least half of these persons could be enrolled in Community College occupational programs at great profit to themselves and the community. However, potential students must be identified early in their high school careers, and counseled into courses which will prepare them for success in a community college program. Although specific data is not available, an examination of fall enrollments in occupational programs in the Community College indicates that less than one tenth of the 1965 Macomb County seniors are enrolled in such programs in the College. If the occupational programs of the Community College are to be of maximum service to the community, a great deal of effort will be required to convince high school students, their parents, teachers, and counselors of the value of these Community College programs. This can be accomplished by cooperative effort between the Community College and the secondary school.

Curriculum Coordination.

The Community College should cooperate with the secondary school staffs to determine the content and level of pre-technical programs. These pre-technical programs will consist of courses in mathematics, science, language and graphic communications, and basic courses in an occupational area. The pre-technical programs would be offered in grades 11 and 12 with the specific purpose of preparing high school students for success in the Community College occupational programs. Pre-technical programs which are part of a well-defined sequential program terminating in the Community College may be eligible for vocational reimbursement within the State Plan.

A close relationship should be effected between the Community College occupational programs staff and the counselors in the secondary schools so that the latter group can be most effective in counseling students concerning the opportunities and program entry requirements in the Community College.

The staff and more comprehensive facilities of the Community College should be made available to the secondary vocational staffs in the form of assistance in the preparation of instructional materials and the development of secondary vocational curriculum.

The Community College should undertake active programs to publicize the opportunities of its occupational programs directly to secondary school students and their parents.

High school students who can profit from instruction in Community College courses should be admitted for advanced work for College credit upon request of the appropriate secondary authority.

The Community College should initiate such reports to the secondary schools on the performance of their graduates as will be of assistance to the secondary schools in assessing and upgrading their services.

Adult vocational courses and programs of the Community College should be coordinated with the secondary school adult education programs to provide the maximum service to the public and to avoid harmful overlapping of programs.

Recognizing the limited facilities for the preparation of industrial arts and technical teachers in the teacher training institutions, the College should make available its specialized laboratories for County-wide in-service teacher training, preferably in degree-credit courses arranged in conjunction with one of the state universities.

The College should study the advisibility of maintaining and expanding arrangements for the use of secondary vocational-technical laboratories both in the existing high schools and in the proposed area occupational education centers for those portions of the Community College programs for which secondary facilities are adequate and available.

Coordination With Other Post-secondary Institutions.

Macomb County Community College should undertake cooperative study and planning with other Community Colleges in the Detroit metropolitan area to coordinate calendars and schedules and to avoid duplication of technical programs wherein high instructional costs and low potential enrollments would make such duplication unwise.

Macomb County Community College should give every assistance to four year institutions which seek to evaluate the credits which have been earned at the Community College. However, the occupational programs of the Community College should be designed for employability only; to attempt to achieve transfer of credits as a major goal weakens the flexibility, the local orientation, and the job relatedness of the occupational programs.

Student Services.

Counseling of students in occupational programs or seeking admission to these programs should be entrusted to persons possessing occupational experience as well as adequate preparation and proficiency in counseling techniques. Extensive aptitude testing services should be available for the student seeking program guidance.

Cooperative work-study experiences should be an integral segment of the occupational program of all full-time students. The work experience should be directly related to the occupational nature of the student's program and fully supervised to assure maximum educational values and to safeguard the welfare of the student. Cooperative work-study experiences should be formalized by written contracts among the student, the employer-trainer, and the College.

Terminal job-placement in his field of preparation should be sought for every student on an occupational program. This will require the commitment of College personnel on a full-time basis. Part-time job referrals for in-school students should be a College activity in order to help students maintain themselves while enrolled in school. Former students should have access to the College placement services.

Follow-up studies of occupational program graduates should be a continuing activity. The College should attempt to determine job placement, job retention, job satisfaction, advancement, and the relatedness of instruction to job requirements as one basis of curriculum evaluation.

Faculty.

The Community College should recognize that superior instruction is indispensable to adequate occupational preparation. The successful occupational teacher possesses significant depth and breadth in practical occupational experience in addition to teaching proficiency. Salaries will need to be relatively high to attract and hold such teachers against the competition of other educational institutions and private industry.

The practice of employing expert persons from business and industry to teach within their respective skills areas has been an outstanding feature of the Macomb County Community College occupational programs, and should be continued.

Instructional Facilities and Equipment.

Realistic occupational programs require a realistic learning environment. Some occupational programs are specifically designed to meet the needs of students who are object-oriented or spatially-oriented, rather than abstraction-oriented. Learning laboratories must include equipment which is as nearly comparable to that employed in industrial and commercial practice as budget limitations will permit. However, the cost of some highly-sophisticated equipment is prohibitive, and, in such cases, simulative or miniaturized equipment may be advantageously employed. Rapid obsolescence of certain types of instructional equipment may preclude its acquisition by the College. Programs which require student experience in the manipulation of such equipment should be developed so that this phase of the program can be accommodated in a cooperative work-study plan utilizing the equipment available in the industrial or commercial training station.

Financing Occupational Programs.

Macomb County Community College, in cooperation with the other community colleges in Michigan, should endeavor to persuade the Legislature to recognize the unique needs and contributions of occupational programs and the high costs of maintaining quality in these programs by more adequate state-derived financial support.

This increased support should be based upon a consideration of the varying costs of different programs and should provide incentives for the exploration of new curriculum areas.

The Community College should seek the maximum reimbursement of occupational programs under existing state and federal statutes where such reimbursement can be obtained without sacrificing desirable program goals. No fewer than thirteen federal acts provide support for vocational-technical education; of these, the following appear to have provisions applicable to the community college:

PL 347 (Smith-Hughes Act, 1917)
PL 586 (George-Barden Act, 1946)
PL 85-864 (National Defense Education Act, 1958)
PL 87-27 (Area Redevelopment Act, 1961)
PL 87-415 (Manpower Development and Training Act, 1962)
PL 88-204 (Higher Education Facilities Act, 1963)
PL 88-210 (Vocational Education Act, 1963)
PL 88-452 (Economic Opportunity Act, 1964)

Private sources of financial assistance and instructional equipment should be explored fully as a means of enriching the occupational programs.

PARENTS' INTEREST IN THE FUTURE EDUCATION AND THE OCCUPATIONAL CHOICE OF THEIR EIGHTH GRADE CHILDREN

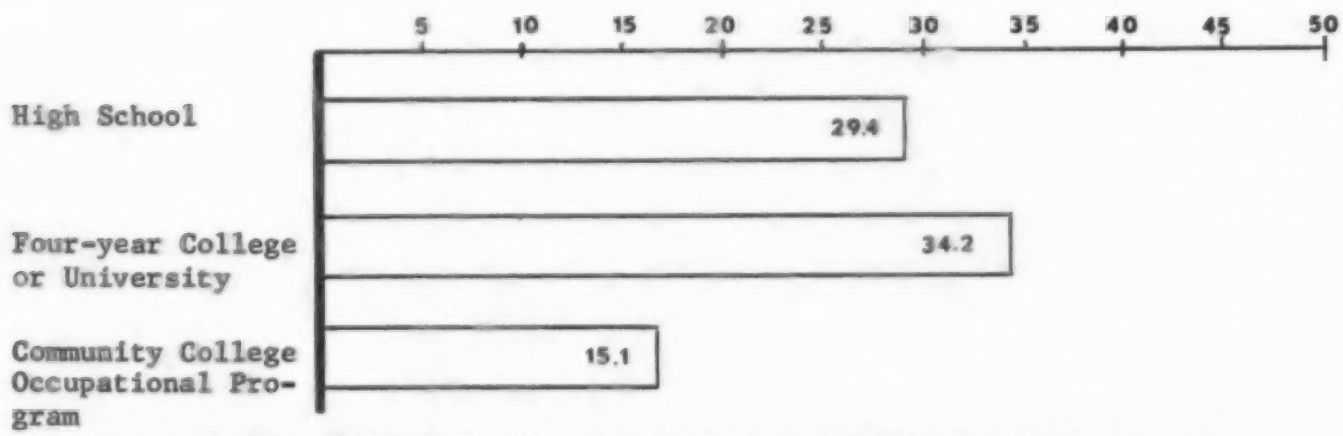
Parents of eighth grade students in both public and private schools in Macomb County were asked to indicate their plans for further education of their youngsters. Over 38 percent of the parents, when asked how certain they were that their youngsters would attend college, indicated that their child would not attend college, or were at least uncertain. The remainder, 61.6 percent, said their eighth graders would "definitely" or "probably" attend college. Only one in three, however, expects his child to graduate from a four-year college or university.

When presented with the information that by the time their children graduate from high school Macomb County Community College will have classes, both occupational and pre-professional, within easy driving distance, parents were considerably more inclined to consider post-high school education than when simply asked to choose between their youngsters attending college and not attending college.

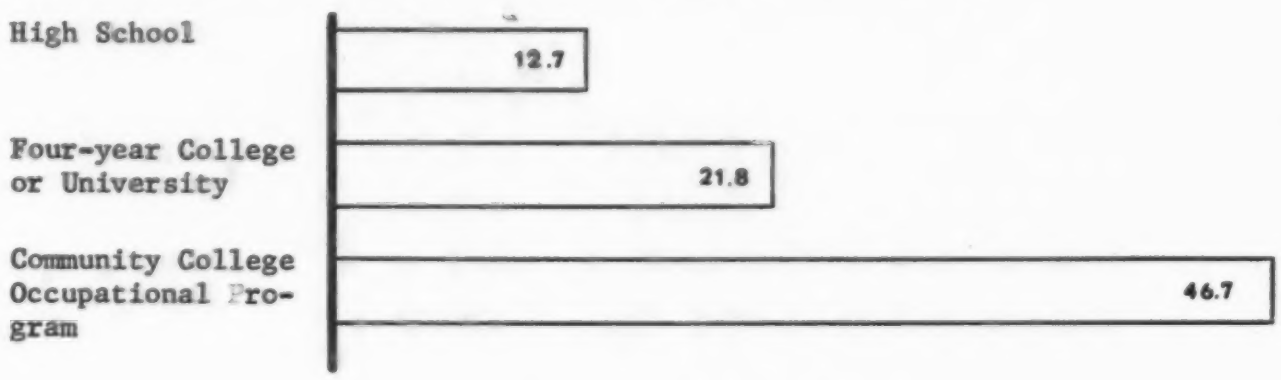
When occupational programs of the college were named, only 12.7 percent of the parents said their children probably would not go beyond high school.

An interesting comparison of responses follows:

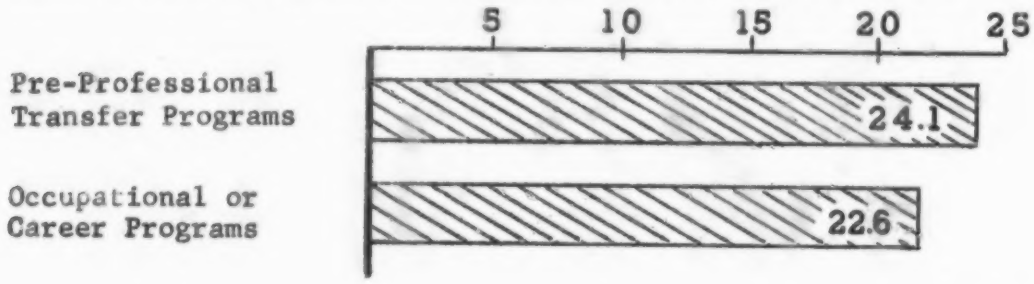
When asked, "In view of your child's scholarship record so far, how much further education do you plan for him (her) to complete," parents responded in the following manner.



But --- when advised that by the time their child graduates from high school, Macomb County Community College will offer both pre-professional and occupational programs within easy driving distance, parent's attitudes concerning post-high school education changed considerably.



When informed about educational opportunities offered in the community college, parents not only identified more strongly with the community college, but indicated as much interest in career programs as they did in pre-professional transfer programs. A breakdown of the 46.7 percent response favoring community college education in the chart above shows a slightly stronger interest in occupational programs.



The variation in responses, depending upon the parent's definition of "college", is evidence that many persons are unaware of the various educational objectives of the community college. Such evidence points to the importance of an intensive public information program concerning the educational opportunities available.

Parent responses also reinforce evidence gathered elsewhere that availability of college is the strongest determinant of college attendance. College attendance among residents of Macomb County has been lower than in other urban areas because it was less accessible.

One of four families who expect their children to attend college has a definite savings program to finance the college education. More than half (56.6 percent) say they will help their children work their way through college.

Only 13.5 percent of the parents who expect their children to go to college said that they regard a low cost community college program as an important factor in the attainment of this goal.

Occupational Interest.

Parents reported that 53.5 percent of their eighth grade children, (60.3 percent of the girls), have started making occupational plans. Two of three parents concur with the choices of their children.

Of the skilled trades, auto mechanic, electrician, and machinist occupations were of greatest interest among the parents of boys, while girls' parents expressed the greatest interest in practical nursing and cosmetology careers.

Plumbing, printing, and welding are trades which find least favor with parents, and scarcely more popular are radio and television repair, air-conditioning and refrigeration, and commercial cooking.

Among the semi-professional or technical occupations, parents of boys expressed preference for drafting, mechanical technology, electronics, and data processing. Among parents of girls, careers most popular are secretarial (44.1 percent) and nursing (30.2 percent). Little enthusiasm is shown for the occupations of surveying, banking and retail sales by parents of either boys or girls.

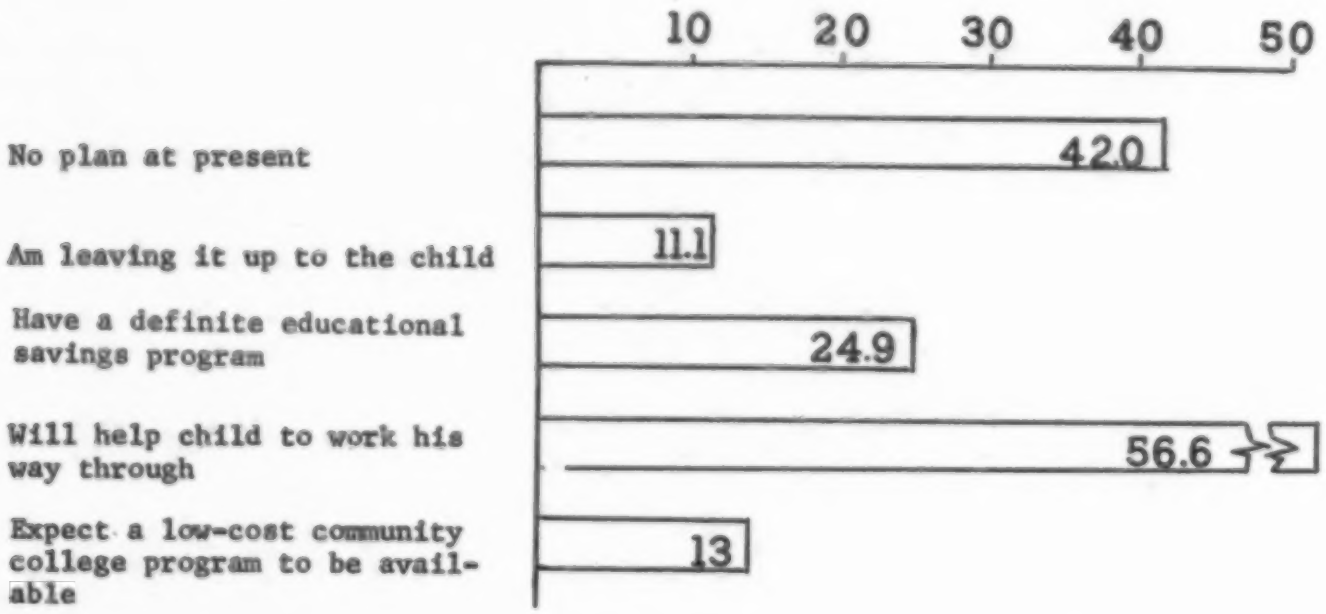
If these preferences reflect parents' opinions concerning job opportunities of the future, they suggest that parents, as well as students, need considerably more information about present and projected labor market needs. Some occupations in which parents indicate the least interest will have increasing need for trained workers.

The second largest industry group in 1962 was retail and wholesale trade, and it continues to be a "growth" industry, but only 2.2 percent of the parents indicated an interest in their youngster preparing for a career in retail sales.

According to the United States Chamber of Commerce, office occupations provide 11 percent of male high school graduates with their first jobs, and it is predicted that between 1960 and 1975 office employment will climb by approximately 45 percent, yet only 2.1 percent of parents indicated an interest in their eighth grade boys preparing for such an occupation.

Financing College Education.

Few parents are planning now to meet the costs of their children's college education. Three of every four responding parents are not considering this problem now. This may reflect optimism about future economic conditions, or unawareness of the costs of maintaining a student in college which may prevent some youngsters from attending college.



PARENTS' RESPONSES TO QUESTIONNAIRE TO DETERMINE THEIR PLANS

FOR FURTHER EDUCATION OF PRESENT EIGHTH GRADE STUDENTS IN MACOMB COUNTY SCHOOLS

	TOTAL RESPONSES	ALL BOYS	ALL GIRLS	PUBLIC SCHOOLS BOYS	PUBLIC SCHOOLS GIRLS	PRIVATE SCHOOLS BOYS	PRIVATE SCHOOLS GIRLS
	6306	3025	3281	2240	2344	785	937
HOW MUCH FORMAL (in school) EDUCATION DID YOU HAVE?							
FATHER							
Eighth grade education or less.	967	441	526	332	388	109	138
Some high school	1705	830	875	633	637	197	238
Graduated from high school.	2029	984	1045	688	726	296	319
Some college.	922	454	468	341	325	113	143
Graduated from college.	548	249	299	194	214	55	85
MOTHER							
Eighth grade education or less.	647	308	339	228	233	80	106
Some high school	1715	812	903	662	691	150	212
Graduated from high school.	3015	1434	1581	993	1072	441	509
Some college	588	296	292	225	221	71	71
Graduated from college	267	133	134	101	100	32	34
IN VIEW OF YOUR CHILD'S SCHOLARSHIP RECORD SO FAR, HOW MUCH FURTHER EDUCATION DO YOU PLAN FOR HIM (HER) TO COMPLETE?							
High school, with college preparatory major.	881	383	498	250	317	133	181
High school, with a vocational emphasis.	972	407	565	306	415	101	150
Community college, technical, or occupational program.	955	496	459	385	344	111	115
Four-year college or university.	2158	1166	992	861	703	305	289
Undecided	1218	521	697	402	506	119	191
ARE YOU INTERESTED IN YOUR CHILD'S PREPARING FOR ENTRY INTO A SKILLED TRADE?							
Yes	3169	1575	1594	1185	1157	390	437
No	2485	1120	1365	801	959	319	406
IF YOU CHECKED YES, INDICATE THOSE FIELDS OF WORK WHICH ARE IN ACCORD WITH YOUR PRESENT THINKING.							
Air conditioning and refrigeration.	80	75	5	58	4	17	1
Auto mechanic	348	338	10	263	7	75	3
Cook, commercial	92	24	68	20	50	4	18
Cosmetology	250	12	238	11	178	1	60
Dressmaker, tailor	102	5	97	4	74	1	23
Electrician	274	262	12	203	7	59	5
Plumber	45	41	4	30	3	11	1
Practical nurse	401	17	384	15	270	2	114
Printer	31	29	2	19	2	10	0
Radio & TV repairman	87	83	4	57	3	26	1
Welder	51	48	3	37	3	11	0
Other	975	364	611	273	441	91	170
Undecided	936	553	383	401	277	152	106
Machinist	194	191	3	146	3	45	0
HOW CERTAIN ARE YOU THAT YOUR EIGHTH GRADE CHILD WILL ATTEND COLLEGE?							
Definitely plan on his (her) attending.	2274	1265	1009	919	722	346	287
Probably attend	1608	733	875	527	622	206	253
Uncertain	1541	679	862	512	589	167	273
Probably not attend	314	117	197	86	131	31	66
ARE YOU INTERESTED IN YOUR CHILD'S PREPARING FOR ENTRY INTO SEMI-PROFESSIONAL, TECHNICAL, OR BUSINESS OCCUPATIONS?							
Yes	3245	1469	1776	1088	1254	381	522
No	2288	1115	1173	819	852	296	321

PARENTS' RESPONSES TO QUESTIONNAIRE TO DETERMINE THEIR PLANS

FOR FURTHER EDUCATION OF PRESENT EIGHTH GRADE STUDENTS IN MACOMB COUNTY SCHOOLS

	TOTAL RESPONSES	ALL BOYS	ALL GIRLS	PUBLIC SCHOOLS BOYS	PUBLIC SCHOOLS GIRLS	PRIVATE SCHOOLS BOYS	PRIVATE SCHOOLS GIRLS
	6306	3025	3281	2240	2344	785	937
IF YOU CHECKED YES, INDICATE THOSE WHICH ARE IN ACCORD WITH YOUR PRESENT THINKING.							
Accounting	164	84	80	65	59	19	21
Architectural drafting	232	217	15	164	9	53	6
Banking	86	33	53	24	34	9	19
Chemical technology	103	67	36	50	27	17	9
Dental assisting	160	22	138	17	98	5	40
Drafting	381	364	17	283	12	81	5
Electronic data processing	149	124	25	100	16	24	9
Electronics technology	220	207	13	157	7	50	6
Laboratory technology	184	74	110	47	77	27	33
Medical technology	135	42	93	24	62	18	31
Mechanical technology	250	226	14	169	11	57	3
Nursing	559	22	537	16	366	6	171
Radio-television technology	69	64	5	47	5	17	0
Refrigeration & air conditioning technology	34	33	1	22	1	11	0
Retail selling	72	36	36	24	28	12	8
Secretarial	815	31	784	24	565	7	219
Surveying	23	22	1	12	1	10	0
Undecided	624	366	258	259	175	107	83
Other	354	134	220	97	142	37	78
ARE YOU INTERESTED IN YOUR CHILD'S PREPARING FOR A PROFESSIONAL CAREER?							
Yes	3292	1663	1629	1206	1157	457	472
No	3014	1362	1652	1034	1187	328	465
IF YOU ARE INTERESTED IN YOUR CHILD'S ATTENDING COLLEGE, CHECK THE ITEMS WHICH DESCRIBE YOUR PLAN TO FINANCE HIS (HER) COLLEGE EDUCATION.							
No plan at present.	1384	613	771	438	541	175	230
Am leaving it up to the child.	366	174	192	129	142	45	50
Have a definite educational savings program.	820	426	394	332	311	94	83
Will help child to work his way through.	1863	997	866	717	580	280	286
Expect child to win scholarship.	119	63	56	53	44	10	12
Expect child to get training at government expense (Armed Service Schools).	36	28	8	22	7	6	1
Expect a low-cost community college program to be available.	443	196	247	145	181	51	66
Other	118	63	55	50	44	13	11
BY THE TIME YOUR PRESENT EIGHTH GRADE CHILD GRADUATES FROM HIGH SCHOOL, MACOMB COUNTY COMMUNITY COLLEGE WILL HAVE CLASSES WITHIN DRIVING DISTANCE OF THE RESIDENTS OF THE COUNTY. A WIDE VARIETY OF OCCUPATIONAL PROGRAMS AND THE FIRST TWO YEARS OF FOUR-YEAR COLLEGE PROGRAMS WILL BE OFFERED. PLEASE ANSWER THE FOLLOWING QUESTIONS:							
I definitely would plan to send my child to a community college for one of the occupational programs checked above in items 7 & 10.	1517	723	794	537	594	186	200
I definitely would plan to send my child to the community college for a two-year college program so he (she) could then transfer to a university or four-year college.	1426	720	706	540	507	180	199
I plan to send my children directly to a university or four-year college.	1373	710	663	493	446	217	217
My children will probably not go beyond high school.	804	306	498	251	371	55	127
DOES YOUR EIGHTH GRADE CHILD HAVE FAIRLY DEFINITE PLANS FOR HIS FUTURE OCCUPATION?							
Yes	3374	1396	1978	1033	1413	363	565
No	2683	1483	1200	1100	861	383	339
DO YOU AGREE THAT THIS IS A WISE CHOICE FROM WHAT YOU KNOW OF YOUR CHILD'S ABILITIES AND SCHOOL PERFORMANCE SO FAR?							
Yes	4271	1918	2353	1424	1675	494	678
No	475	245	230	198	191	47	39

PARENTS' RESPONSES TO QUESTIONNAIRE TO DETERMINE FUTURE PLANS

FOR FURTHER EDUCATION OF PRESENT EIGHTH GRADE STUDENTS IN NACOGDOCHES COUNTY SCHOOLS
(Percent of Parents Responding by Groups)

	TOTAL RESPONSES	ALL		PUBLIC SCHOOLS		PRIVATE SCHOOLS	
		BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
NUMBER OF PARENTS SURVEYED	6306	3025	3281	2240	2344	785	937
	100%	100%	100%	100%	100%	100%	100%
HOW MUCH FORMAL (in school) EDUCATION DID YOU HAVE?							
FATHER							
Eighth grade education or less.	15.3	14.6	16.0	14.8	16.6	13.9	14.7
Some high school.	27.0	27.4	26.7	28.3	27.2	25.1	25.4
Graduated from high school.	32.2	32.5	31.9	30.7	31.0	37.7	34.0
Some college.	14.6	15.0	14.3	15.2	13.9	11.4	15.3
Graduated from college.	8.7	8.2	9.1	8.7	9.1	7.0	9.1
No response	2.2	2.3	2.0	2.3	2.2	1.9	1.5
MOTHER							
Eighth grade education or less.	10.3	10.2	10.3	10.2	9.9	10.2	11.3
Some high school.	27.2	26.8	27.5	29.6	29.5	19.1	22.6
Graduated from high school.	47.8	47.4	48.2	44.3	45.7	56.2	54.3
Some college.	9.3	9.8	8.9	10.0	9.4	9.0	7.6
Graduated from college.	4.2	4.4	4.1	4.5	4.3	4.1	3.6
No response.	1.2	1.4	1.0	1.4	1.2	1.4	.6
IN VIEW OF YOUR CHILD'S SCHOLARSHIP RECORD SO FAR, HOW MUCH FURTHER EDUCATION DO YOU PLAN FOR HIM (HER) TO COMPLETE?							
High school, with college preparatory major.	14.0	12.7	15.2	11.2	13.5	16.9	19.3
High school, with a vocational emphasis.	15.4	13.5	17.2	13.7	17.7	12.8	16.0
Community college, technical, or occupational program.	15.1	16.4	14.0	17.2	14.7	14.1	12.3
Four-year college or university.	34.2	38.5	30.2	38.4	30.0	38.9	30.8
Undecided	19.3	17.2	21.2	17.9	21.6	15.2	20.4
No response	2.0	1.7	2.2	1.6	2.5	2.1	1.2
ARE YOU INTERESTED IN YOUR CHILD'S PREPARING FOR ENTRY INTO A SKILLED TRADE?							
Yes	50.3	52.1	48.6	52.9	49.4	49.7	46.6
No	39.4	37.0	41.6	35.8	40.9	40.6	43.3
No response	10.3	10.9	9.8	11.3	9.7	9.7	10.1
IF YOU CHECKED YES, INDICATE THOSE FIELDS OF WORK WHICH ARE IN ACCORD WITH YOUR PRESENT THINKING.	Percent of YES responses to previous question						
Air conditioning and refrigeration.	2.5	4.8	.3	5.0	.3	4.4	.2
Auto mechanic	11.0	21.5	.6	22.2	.6	19.2	.7
Cook, commercial	2.9	1.5	4.3	1.7	4.3	1.0	4.1
Cosmetology	2.9	.8	14.9	.9	15.4	.3	13.7
Dressmaker, tailor	3.2	.3	6.1	.3	6.4	.3	5.3
Electrician	8.6	16.6	.8	17.1	.6	15.1	1.1
Plumber	1.4	2.6	.3	2.5	.3	2.8	.2
Practical nurse	12.7	1.1	24.1	1.3	23.3	.5	26.1
Printer	1.0	1.8	.1	1.6	.2	2.6	--
Radio & TV repairman	2.7	5.3	.3	4.8	.3	6.7	.2
Welder	1.6	3.0	.2	3.1	.3	2.8	--
Other	30.8	23.1	38.3	23.0	38.1	23.3	38.9
Undecided	29.5	35.1	24.0	33.8	23.9	39.0	24.3
Machinist	6.1	12.1	.2	12.3	.3	11.5	--
HOW CERTAIN ARE YOU THAT YOUR EIGHTH GRADE CHILD WILL ATTEND COLLEGE?							
Definitely plan on his (her) attending.	36.1	41.8	30.8	41.0	30.8	44.1	30.6
Probably attend	25.5	24.2	26.7	23.5	26.5	26.2	27.0
Uncertain	24.4	22.4	26.3	22.9	25.1	21.3	29.1
Probably not attend	5.0	3.9	6.0	3.8	5.8	3.9	7.0
No response	9.0	7.7	10.2	8.8	12.0	4.5	6.3
ARE YOU INTERESTED IN YOUR CHILD'S PREPARING FOR ENTRY INTO SEMI-PROFESSIONAL, TECHNICAL, OR BUSINESS OCCUPATIONS?							
Yes	51.5	48.6	54.1	48.6	53.5	48.5	55.7
No	36.3	36.9	35.8	36.6	36.3	37.7	34.3
No response	12.2	14.5	10.1	14.8	10.2	13.8	10.0

PARENTS' RESPONSES TO QUESTIONNAIRE TO DETERMINE THEIR PLANS

FOR FURTHER EDUCATION OF PRESENT EIGHTH GRADE STUDENTS IN MACOMB COUNTY SCHOOLS
(Percent of Parents Responding by Groups)

	TOTAL RESPONSES	ALL		PUBLIC SCHOOLS		PRIVATE SCHOOLS	
		BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
NUMBER OF PARENTS SURVEYED	6306	3025	3281	2240	2344	785	937
	100%	100%	100%	100%	100%	100%	100%
IF YOU CHECKED YES, INDICATE THOSE WHICH ARE IN ACCORD WITH YOUR PRESENT THINKING.	Percent of YES responses to previous question						
Accounting	5.1	5.7	4.5	6.0	4.7	5.0	4.0
Architectural drafting	7.1	14.8	.8	15.1	.7	13.9	1.1
Banking	2.7	2.2	3.0	2.2	2.7	2.4	3.6
Chemical technology	3.2	4.6	2.0	4.6	2.2	4.5	1.7
Dental assisting	4.9	1.5	7.8	1.6	7.8	1.3	7.7
Drafting	11.7	24.8	1.0	26.0	1.0	21.3	1.0
Electronic data processing	4.6	8.4	1.4	9.2	1.3	6.3	1.7
Electronics technology	6.8	14.1	.7	14.4	.6	13.1	1.1
Laboratory technology	5.7	5.0	6.2	4.3	6.1	7.1	6.3
Medical technology	4.2	2.9	5.2	2.2	4.9	4.7	5.9
Mechanical technology	7.7	15.4	.8	15.5	.9	15.0	.6
Nursing	17.2	1.5	30.2	1.5	29.2	1.6	32.8
Radio-television technology	2.1	4.4	.3	4.3	.4	4.5	—
Refrigeration & air conditioning technology	1.0	2.2	.1	2.0	.1	2.9	—
Retail selling	2.2	2.4	2.0	2.2	2.2	3.1	1.5
Secretarial	25.1	2.1	44.1	2.2	45.1	1.8	42.0
Surveying	.7	1.5	.1	1.1	.1	2.6	—
Undecided	19.2	24.9	14.5	23.8	14.0	28.1	15.9
Other	10.9	9.1	12.4	8.9	11.3	9.7	14.9
ARE YOU INTERESTED IN YOUR CHILD'S PREPARING FOR A PROFESSIONAL CAREER?							
Yes	52.2	55.0	49.6	53.8	49.4	58.2	50.4
No	47.8	45.0	50.4	46.2	50.6	41.8	49.6
IF YOU ARE INTERESTED IN YOUR CHILD'S ATTENDING COLLEGE, CHECK THE ITEMS WHICH DESCRIBE YOUR PLAN TO FINANCE HIS (HER) COLLEGE EDUCATION.	Percent of YES responses to previous question						
No plan at present	42.0	36.9	47.3	36.3	46.8	38.2	48.7
Am leaving it up to the child	11.1	10.5	11.8	10.7	12.3	9.8	10.6
Have a definite educational savings program	24.9	25.6	24.2	27.5	26.9	20.6	17.6
Will help child to work his way through	56.6	60.0	53.2	59.5	50.1	61.3	60.6
Expect child to win scholarship	3.6	3.8	3.4	4.4	3.8	2.2	2.5
Expect child to get training at government expense (Armed Service Schools).	1.1	1.7	.5	1.8	.6	1.3	.2
Expect a low-cost community college program to be available	13.5	11.8	15.2	12.0	15.6	11.2	14.0
Other	3.6	3.8	3.4	4.1	3.8	2.8	2.3
BY THE TIME YOUR PRESENT EIGHTH GRADE CHILD GRADUATES FROM HIGH SCHOOL, MACOMB COUNTY COMMUNITY COLLEGE WILL HAVE CLASSES WITHIN DRIVING DISTANCE OF THE RESIDENTS OF THE COUNTY. A WIDE VARIETY OF OCCUPATIONAL PROGRAMS AND THE FIRST TWO YEARS OF FOUR-YEAR COLLEGE PROGRAMS WILL BE OFFERED. PLEASE ANSWER THE FOLLOWING QUESTIONS:							
I definitely would plan to send my child to a community college for one of the occupational programs checked above.	24.1	23.9	24.2	24.0	25.3	23.7	21.3
I definitely would plan to send my child to the community college for a two-year college program so he (she) could then transfer to a university or four-year college.	22.6	23.8	21.5	24.1	21.6	22.9	21.2
I plan to send my children directly to a university or four-year college.	21.8	23.5	20.2	22.0	19.0	27.6	23.2
My children will probably not go beyond high school.	12.7	10.1	15.2	11.2	15.8	7.0	13.6
No response	18.8	18.7	18.9	18.7	18.3	18.8	20.7
DOES YOUR EIGHTH GRADE CHILD HAVE FAIRLY DEFINITE PLANS FOR HIS FUTURE OCCUPATION?							
Yes	53.5	46.1	60.3	46.1	60.3	46.2	60.3
No	42.5	49.0	36.6	49.1	36.7	48.8	36.2
No Response	4.0	4.9	3.1	4.8	3.0	5.0	3.5
DO YOU AGREE THAT THIS IS A WISE CHOICE FROM WHAT YOU KNOW OF YOUR CHILD'S ABILITIES AND SCHOOL PERFORMANCE SO FAR?							
Yes	67.7	63.4	71.7	63.6	71.5	62.9	72.4
No	7.5	8.1	7.0	8.8	8.1	6.0	4.2
No response	24.8	28.5	21.3	27.6	20.4	31.1	23.4

S U M M A R Y

I. Macomb County is unique in its agricultural specialization, rapid urbanization, manufacturing productivity, and leadership in automotive styling and engineering. Until recently, County residents turned to the city of Detroit for much of their needs in banking, retail sales, hospital care, professional services, college education, press and radio, entertainment, and recreation. Today, a fast-diversifying local economy makes these services available within the County.

These exceptional and rapid developments are overshadowed by another characteristic which has drawn nation-wide notice to Macomb County - the phenomenal growth in population which has occurred during the past thirty years and which will continue into the foreseeable future. An exceptionally young and fertile population will contribute to the continuation of this growth, but the present resident population and continued in-migration by themselves will double the 15 to 19 age group in the County by 1975. High school capacity will need to be more than doubled, for a greater proportion of the population will continue in school, at least until high school completion. County population growth will overtax the resources of those school districts which will experience the bulk of the future increases. The predictable result will be curtailed and starved school programs. Yet this need not and should not occur, for the valuation of Macomb County's property makes it one of the wealthiest counties in the nation.

The demands upon the Community College are not so readily predictable. These will be measured by the resourcefulness of the college staff to develop realistic occupational programs and the willingness of the public to provide the needed financial support. The latter is less a problem than the former, for the Community College is an area school with the needs and resources of the entire County available for Community College development.

II. The most important local influence upon the Detroit area economy may be the determination and ability of public education to provide training in the advanced skills which are required in the increasingly complex local economy. The mobility of ideas and people creates regional competition for the emerging industrial, commercial, and government investments and installations. An educational system which can supply the area needs for semi-professional, technical, and mid-management skills will also insure job opportunities at all skill levels.

III. The problem of vocational education in Macomb County high schools is more critical. One of every five persons who enters high school terminates his education before graduation. One of every four in-school persons is not identified with a career goal for which a school program is available to him. While one of every three high school students is following a plan designed to prepare him for entry employment, only one-third of these vocational students are enrolled in a program which meets the state minimum for reimbursement. Evidence gathered by this Survey indicates that the local school district cannot, on present resources, provide true vocational education which will meet the skills needs of the emerging technology.

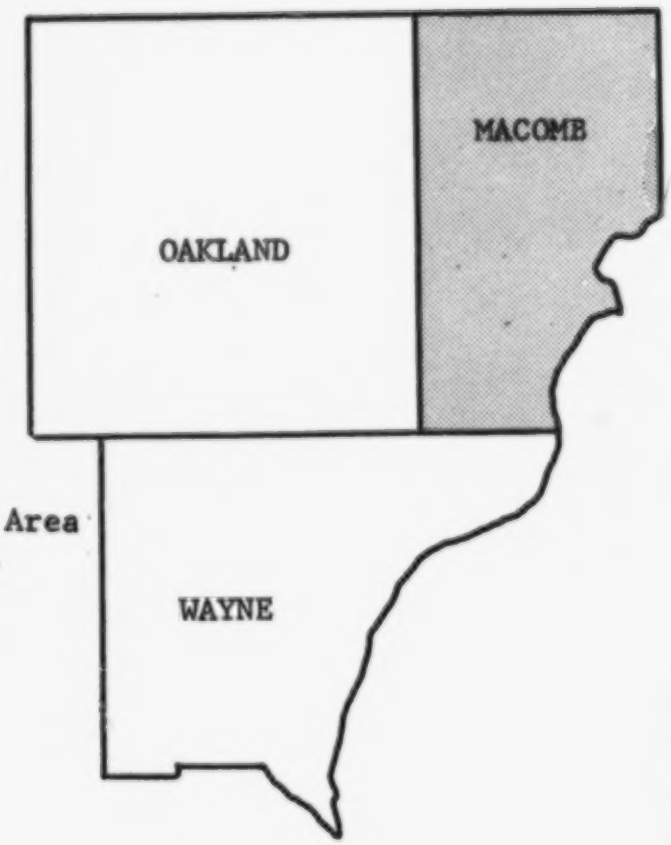
Of the possible alternatives, a continuation of the presently inadequate services is unthinkable, for this policy ignores the accepted principle that the public school has an obligation to assist each person to attain his socially acceptable career goals. A sharing of resources, leadership, and staffs to serve vocational education needs on an area basis is the legitimate and logical alternative, and one which has found wide acceptance in other states. Offering at least the more complex and expensive vocational programs on an area basis will insure the quality of such programs and give equal educational opportunities to all residents of the County.

High school students capable of success in the advanced occupational programs in the Community College will need to be identified and counselled into high school programs which are preparatory to the Community College programs.

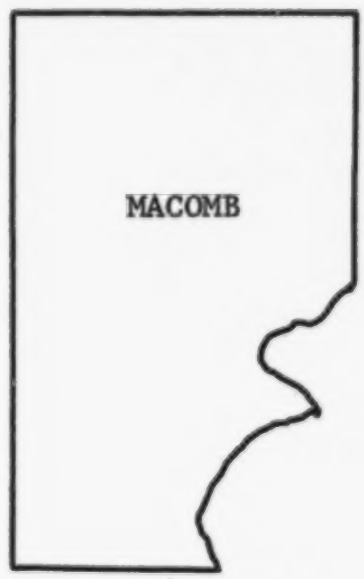
IV. Local education must accept quality control as an integral function. Students must be provided with objective information about their own aptitudes and how these can be matched with opportunities within the occupational spectrum. Follow-up studies of graduates and early school leavers, the assessments of employers, and the active participation of occupationally-qualified persons must be incorporated into program development and evaluation.

V. The occupational education needs of the entire County must be the concern of all local education institutions. Early school leavers must be identified and brought back into the educational stream at levels appropriate to their abilities. Opportunities must be created for the mentally and physically handicapped, and displaced workers to acquire occupational competence. Schools must cooperate with other government agencies to serve the occupational training needs of all persons for whom the schools' services are appropriate.

The State provides leadership
and financial assistance.



The Detroit Metropolitan Area
offers job opportunities.



Macomb County has the responsibility
for providing educational opportunities.

VT 001 110
Steel, David T.; Hayes, Robert E.
Area Vocational-Technical Study.

Hillsdale County Intermediate School District, Mich.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Aug66 129p.

*VOCATIONAL EDUCATION; *SURVEYS; *EDUCATIONAL NEEDS; STUDENT ATTITUDES; HIGH SCHOOL STUDENTS; PARENT ATTITUDES; EMPLOYER ATTITUDES; EMPLOYEE ATTITUDES; PROGRAM IMPROVEMENT; EDUCATIONAL INTEREST; QUESTIONNAIRES
HILLSDALE COUNTY, MICHIGAN

Questionnaires were used to collect information from 11th grade students, parents of 4th and 11th grade students, non-management and management personnel in industry, and county school administrators to assist in improving existing programs, and determining future needs in vocational-technical education. Responses from 488 high school juniors indicated that (1) 30.3 percent will seek a college degree, and (2) 74 percent plan post-secondary education. Responses from 226 parents of high school juniors indicated that (1) 60 percent favored college training for their children, and (2) 71 percent will leave the choice of post secondary education up to the children. Responses from 398 parents of 4th grade students relating to the educational desires for their children were similar to the responses of the parents of 11th grade students. Responses from 543 non-management personnel indicated that (1) 62 percent felt no additional occupational training was necessary for their present work, and (2) 70 percent would like additional training if it were available locally. Responses from 73 employers indicated that (1) 39 percent felt there should be an expansion of vocational programs in the high schools, (2) 25 percent favored creating an area vocational technical school, and (3) 18 percent preferred establishing programs in a post secondary institution. Some of the 10 recommendations are: (1) Secondary schools should strengthen their vocational programs, (2) Adult vocational education should be expanded, and (3) Cooperative education should be emphasized. (EM)

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HILLSDALE
COUNTY

AREA VOCATIONAL STUDY

VT 01110

HILLSDALE COUNTY
INTERMEDIATE SCHOOL DISTRICT

HILLSDALE COUNTY INTERMEDIATE

SCHOOL DISTRICT

AREA VOCATIONAL-TECHNICAL STUDY

347 Beck Road
Hillsdale, Michigan

Lee B. Lonsberry
Superintendent

August, 1966

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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ACKNOWLEDGEMENTS

The Hillsdale County Intermediate Board of Education is deeply indebted to the members of the Hillsdale County Area Vocational Study Committee who spent many hours in collecting and interpreting data, in interviewing numerous representatives in business and industry, and in writing a comprehensive and readable report.

The Board is especially grateful for the contribution made to this study by the local school districts of the county. (Camden-Frontier, Hillsdale, Jonesville, Litchfield, North Adams, Pittsford, Reading and Waldron.) Without their financial support and general cooperation, this study would not have become a reality.

The Board wishes to express special appreciation to David T. Steel, Chairman of the Study Committee, and to Robert E. Hayes, Secretary of the Study Committee, for assuming the responsibility for the preparation of this document.

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(In cooperation with Western Michigan University Division of Field Services.)

Figure 1

VOCATIONAL - TECHNICAL STUDY CONSULTANTS

Mrs. Alice Bauer, Michigan Employment Security Commission

Mrs. Bethel Schmidt, Hillsdale County Home Extension Agent, Home Economics

Mrs. Carolyn Walldorff, Former Home Economics Teacher, and Now Housewife, Home Economics

Mrs. Elizabeth Russell, Home Economics Teacher, Hillsdale High School, Home Economics

Mr. Percy Stough, Commercial Teacher, Jonesville High School, Business Education

Mr. Harold Zorman, Hillsdale County Farm Bureau, Agriculture

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Mr. Blair Miller, Gar Wood Management, Industrial Education

Mr. Roland Behling, Albion Malleable Management, Industrial Education

Mr. Wendell Bohner, Daisy Products Management, Industrial Education (By Letter)

Mr. Ernest Ingles, Cooperative Coordinator, Hillsdale-Jonesville High Schools, Distributive Education

Mr. Arvid Erholtz, Cooperative Coordinator, Hillsdale High School, Distributive Education

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INTRODUCTION

It has been said that the chief purpose of education in the United States should be to preserve, promote, and refine the way of life in which we as a people believe. In order to realize this purpose, then, education must be tailored to meet the needs of the people.

It is realized that a substantial percentage of the high school and adult population has occupational needs that more realistically could be met by other than formal college training. It is for this approximately sixty-five percent of local high school graduates who do not continue their education in formal institutions that technical and vocational education must be provided. Significant, too, is the fact that during the last four years nearly 400 local youth between the ages of 16 and 19 have terminated their contact with school prior to graduation from high school, contributing to a major social and economic problem - the school drop-out. Finally, our urban, industrial society is continually confronted with the problems created by automation. Regular retraining and job skill upgrading will be necessary if an economically healthy and progressive society is to be maintained. It is to these major concerns that consideration is given.

Historically, the importance of strong technical-vocational programs has

been recognized. Because of the shortage of agricultural workers and skilled craftsmen prior to World War I, Congress passed the Smith-Hughes Act (1917) to stimulate the teaching of certain vocational subjects. More recently, the George Reed Act (1929), the George-Ellsey Act (1934), the George-Dean Act (1936), and the George-Barden Act (1946) (all supplemental to the Smith-Hughes Act), point to the concern that Congress has experienced relative to vocational programs. The passage of the Practical Nursing Act (1956), the National Defense Education Act (1958) and the Vocational Education Act of 1963, are the latest indication of congressional concern.

The definition of purposes for vocational education as first set forth by the United States Office of Education in 1949, can well serve as a guideline, namely:

> "To provide training, to develop skills, abilities, and understandings, attitudes, working habits, and appreciations, and to impart knowledge and information needed by workers to enter and make progress in employment on a useful and productive basis."

While it is apparent that public schools are discharging their responsibility within the limits of their present ability, it can be demonstrated that the purposes outlined above are not being fully realized. Local vocational education programs are limited and in need of improvement and expansion if schools are to provide worthwhile technical-vocational programs. The question then becomes, wherein lie the weaknesses? How is it possible to

best take advantage of strengths? What are local vocational needs? What types of programs may best meet these needs? What type of structure should these vocational programs take?

Hillsdale County Intermediate School District recognizes these concerns and addresses itself to the problem. It is believed that any solution begins with a careful study of the problem.

Purposes

This technical-vocational cinnuttee was formed both in conjunction with the Hillsdale County Community College Feasibility Study and with the Hillsdale Area Vocational-Technical Study. It's responsibilities were two-fold:

1. To assist the community college study groups in the determination of the kinds of vocational programs a community college might provide.
2. To conduct an area study of vocational-technical programs (emphasizing grades 11-14) in Hillsdale County with the hope that from this study the purpose of PL 88-210 (Vocational Education Act of 1963) could be realized. Specifically, the purpose of this act appears to be (Section 1):

" . . . to authorize Federal grants to states to assist them to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, to provide part-time employment for youths who need the earnings from such employment

> for continuing their vocational training on a full-time basis, so that persons of all ages in all communities of the State - those in high school, those who have completed or discontinued their formal education and are preparing to enter the labor market but need to upgrade their skills or learn new ones, and those with special educational handicaps - will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training."

Attention was particularly focused upon grades 11-14. The essence of the committee's obligation, then, was to examine the vocational programs and vocational needs in Hillsdale County and to suggest ways to meet the needs. The committee was formed with the intention that its members would represent a cross section of geographical areas, interests, abilities, and backgrounds.

Realizing that if the purposes of the study were to be met, the vocational technical committee must attend to such necessary arrangements as statement of objectives, an organizational pattern and a division of responsibility. Such a list of objectives follows:

(a) Provide a written report based on an extensive study of vocational programs and needs to serve as a guideline in improving vocational education in Hillsdale County.

(b) Provide an abstract of this report for use by the Hillsdale County Community College Feasibility Study Committee.

It was further decided that in order to carefully study the Hillsdale County

Vocational-Technical area, various aspects of this area would first need to be delineated and then focused upon. These aspects appeared to be:

1. Present public and private school practical arts and vocational programs (curriculum, facilities, equipment).
2. Business and industrial interests and concerns regarding vocational-technical programs in Hillsdale County.
3. Parents' vocational interests and aspirations for their children and for themselves.
4. High school students' interests and aspirations.
5. Employed labor-oriented persons' interests and opinions relative to vocational programs in Hillsdale County.

Methodology

Circulation of questionnaires was deemed to be most efficient in examining programs, in ascertaining interests and opinions, and in detecting parental aspirations for children. Questionnaires were then designed and circulated to the following groups: (See appendix for questionnaires)

(a) Parents of all 4th grade students in Hillsdale County

(b) Parents of all 11th grade students in Hillsdale County

(c) All 11th grade students in Hillsdale County

(d) Non-management personnel in industry (where such was permitted by management)

(e) Management in industry, retailing and professions

(f) School administrators in Hillsdale County

Following this distribution, consultants in the several vocational areas were contacted and asked to appear before the committee to discuss their field. It was hoped that information not readily available through questionnaires could be assembled for committee use. Again, the committee expresses its appreciation to these consultants for their time and effort in sharing their concerns and experiences. Valuable information was collected.

Following the discussion sessions and the tabulation of questionnaire results, each of the vocational areas: 1. Agriculture, 2. Business Education, 3. Home Economics, 4. Distributive Education, and 5. Industrial Education, were carefully analyzed in regards to: (a) Present and existing programs, (b) Future needs, (c) Recommendations for improvement, and (d) Suggestions for implementing the recommendations.

These final recommendations were compiled into a summary and to these recommendations were added an introduction and relevant background information. Here, then, are the results of nearly six months' study.

GEOGRAPHY AND GENERAL ECONOMY OF HILLSDALE COUNTY

Location

Hillsdale County is one of the southernmost counties in Michigan. It has 601 square miles of area, with 384,640 acres. It is bordered on the south by Williams County, Ohio; on the west by Steuben County, Indiana, and Branch County, Michigan; on the north by Calhoun County and Jackson County; and on the east by Lenawee County. Hillsdale is located within favorable driving distance to several larger population and business centers, as indicated below:

Distance from Hillsdale to:

Jackson, Michigan	39 miles
Battle Creek, Michigan	54 miles
Lansing, Michigan	68 miles
Toledo, Ohio	69 miles
Kalamazoo, Michigan	77 miles
Detroit, Michigan	95 miles
South Bend, Indiana	95 miles
Chicago, Illinois	183 miles

Topography

The county as a whole has gently rolling or moderately hilly topography with elevations ranging from 900 to 1300 feet, with the greater part varying from 1000 to 1200 feet above sea level.

Roads

Hillsdale County is served by U.S. Route 12 traversing east and west through the north-central part, and U.S. 127 running north and south on the eastern edge of the county. It is also served by State Routes M-34 from Hillsdale City, through Osseo and Pittsford to the east; M-49 from Litchfield south to Camden and the southern border of the county; and M-99 from the northwest edge of the county through Litchfield, Jonesville, Hillsdale and to the south-central border of the county with direct access to the Ohio Turnpike. M-99 is in the process of redevelopment to a Class A highway and is scheduled for completion in 1966. There are 1269 miles of roads in the county of which 130 miles are State Trunk Line.

Transportation

Although no longer a center of rail transportation as it once was, Hillsdale City still has railroad service on a daily basis, with other areas in the county being served intermittantly. A few communities are now without rail service. Passenger services have been discontinued. Most towns in the county are served by truck lines, with terminals in Hillsdale and Jonesville. The Detroit-Chicago Greyhound Bus Line operates on U.S. 12 with a terminal in Jonesville and service in both directions daily.

The largest airfield in the county, with a capacity to serve multi-engine aircraft, is located in Hillsdale. This municipal airport, while serving local

RURAL HOUSE NUMBERING

NUMBERS AROUND COUNTY LINE INDICATE HOUSE NUMBERING SYSTEM.

HILLSDALE ROAD SOUTH, BECK ROAD, AND CONCORD ROAD FORM THE NORTH AND SOUTH BASE LINE.

A STRAIGHT LINE ACROSS THE COUNTY, ON THE LINE OF HALLETT ROAD AND BACON ROAD EAST FORMS THE EAST AND WEST BASE LINE.

NUMBERS START WITH 100 AT THE BASE LINES, AND RUN 100 TO THE MILE. EVEN NUMBERS ARE ON THE NORTH AND WEST SIDE OF ROAD.

ROAD MAP
HILLSDALE COUNTY
MICHIGAN

Figure 2

COUNTY ROAD SYSTEM

THE HILLSDALE COUNTY ROAD COMMISSION MAINTAIN 1269.48 MILES OF ROAD.

110.90 MILES ARE STATE TRUNK LINE ROADS MAINTAINED UNDER CONTRACT WITH THE STATE HIGHWAY DEPARTMENT AND UNDER THEIR SUPERVISION.

343.68 MILES ARE MAINTAINED UNDER THE COUNTY PRIMARY SYSTEM.

814.90 MILES ARE MAINTAINED UNDER THE COUNTY LOCAL SYSTEM.

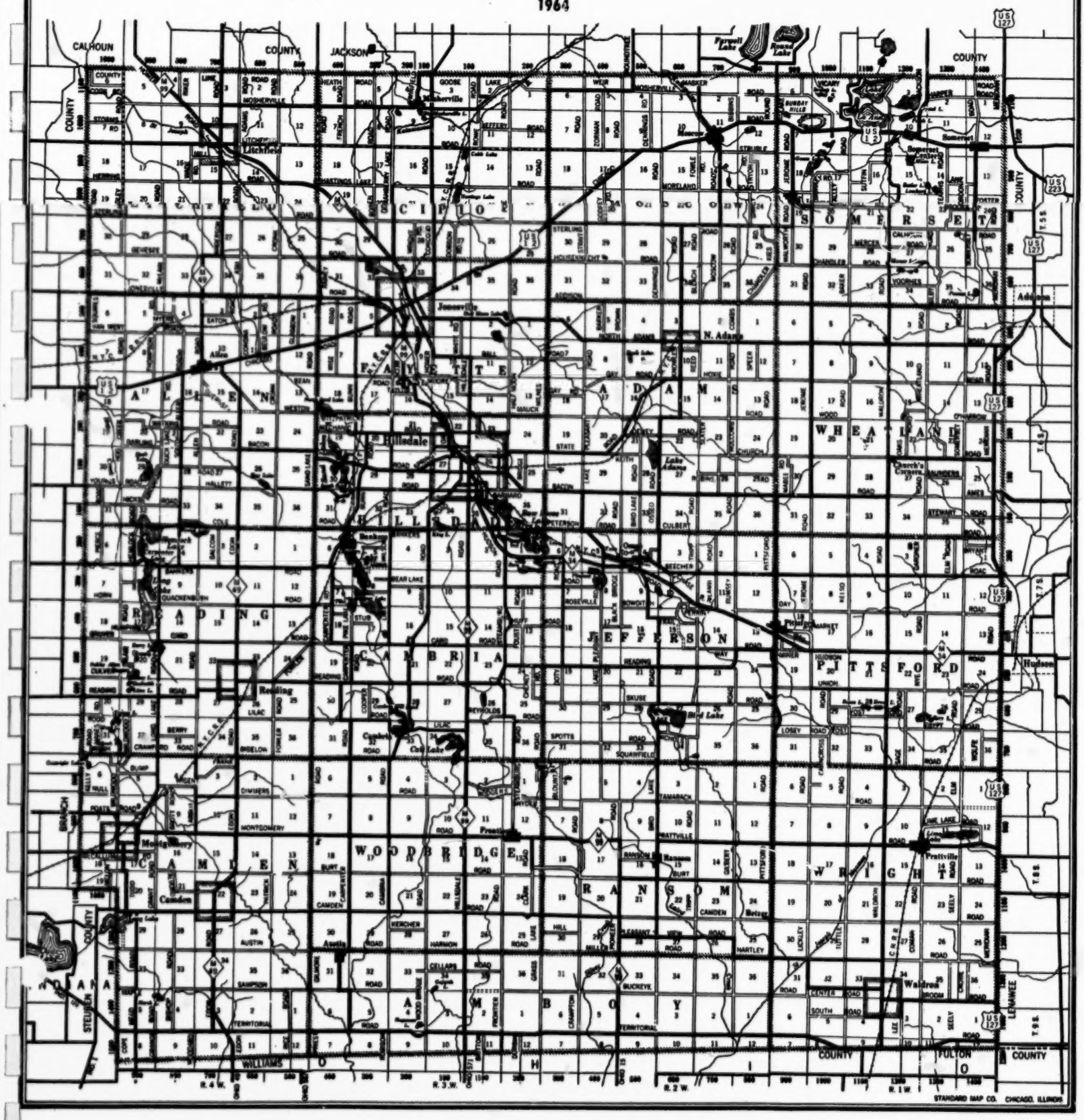
MILEAGES UNDER THESE SYSTEMS ARE CERTIFIED UNDER ACT 51 OF THE PUBLIC ACTS OF 1951.

FUNDS FOR MAINTENANCE OF ALL ROADS ON THE SYSTEM COME FROM THE MOTOR VEHICLE HIGHWAY FUND.

HARD SURFACE ROAD
PRIMARY GRAVEL ROAD
LOCAL ROAD
TOWNSHIP BOUNDARY
ROUTE MARKERS

SCALE OF MILES

1964



fliers, also offers air taxi service and is used for delivery of light shipments for industry.

Political Subdivisions

Hillsdale County contains eighteen townships. The county seat is Hillsdale, the largest city, with a population of 7,629 at the time of the 1960 census. Reading is also incorporated as a city. Incorporated villages are: Allen, Camden, Jonesville, Litchfield, Montgomery, North Adams, and Waldron. (See population charts on the following pages.) Dividing the county in quarters, the population for the northwest quarter is 15,664, northeast quarter 5,854, southwest quarter 7,473, and the southeast quarter 6,235. Total population for townships, villages, and cities is 34,786.

Natural Resources

Hillsdale County is rich in many resources. The county has reasonably good soil, ample water supply at present, mixed hardwood woodlands, oil, gas, and other natural resources. Most of the available surface water has its origin within the county, and present lakes, ponds, and impoundments total approximately 4300 acres or a little over one percent of the total land area of the county.

There are some 44,000 acres of commercial forest land in the county (11.4% of the total land area) comprised primarily of hard maple, beech, cherry, ash, red oak, soft maple, hickory and other trees in lesser amounts. At the

present, there are approximately 200 producing oil wells located essentially in the north-central portion of the county.

Education

Hillsdale County has at present eight K-12 school districts. In addition, there is St. Anthony Catholic Elementary School, Hillsdale; a small Seventh-Day Adventist elementary school; an Amish school; the Manor Foundation, a private school for mentally handicapped boys in Jonesville; and Hillsdale College, a four year liberal arts college.

In addition to facilitating cooperation between the local public schools and the State Board of Education, the Intermediate School District, in cooperation with local school systems, operates the Special Education Programs. These programs include special services in the areas of Visiting Teachers for emotionally or socially disturbed students, speech and hearing services, diagnostic and psychological services, a program for trainable mentally handicapped children, and programs for educable mentally handicapped students administered by the local school districts.

Population

The largest population recorded in the county was 34,742 in 1960. This is a continuation of a 30 year growth period which has finally recouped and surpassed the losses of the preceeding 50 years. Compared with neighboring

counties, Hillsdale County's growth has been slow, but relatively consistent. In general, the areas near the city of Hillsdale have increased more than the more rural areas. The number of farms have decreased and in 1960, there were 2,526 farms in the county, the average acreage being 127 acres per farm. 83.5% of the land area is comprised of farmland compared to the state average of 40.5%. The county is primarily rural with 21.9% urban, 29.4% rural farm, and 48% rural non-farm residents.

The census of population indicates that Hillsdale County is high in number of school years completed as the median is 11.4 years of education as compared to the state median of 10.8 years. However, the school drop-out rate is 17.9% of 16 and 17 year olds, while the average for the entire state is only 15.3%.

Tables on the following pages reflect the type of employment of the population divided by male and female. Hillsdale County has 21.1% of its total employed working force working outside the county.

HILLSDALE COUNTY AND SCHOOL DISTRICTS

There are eight school districts which presently comprise the Hillsdale County Intermediate District. They appear on the map below.

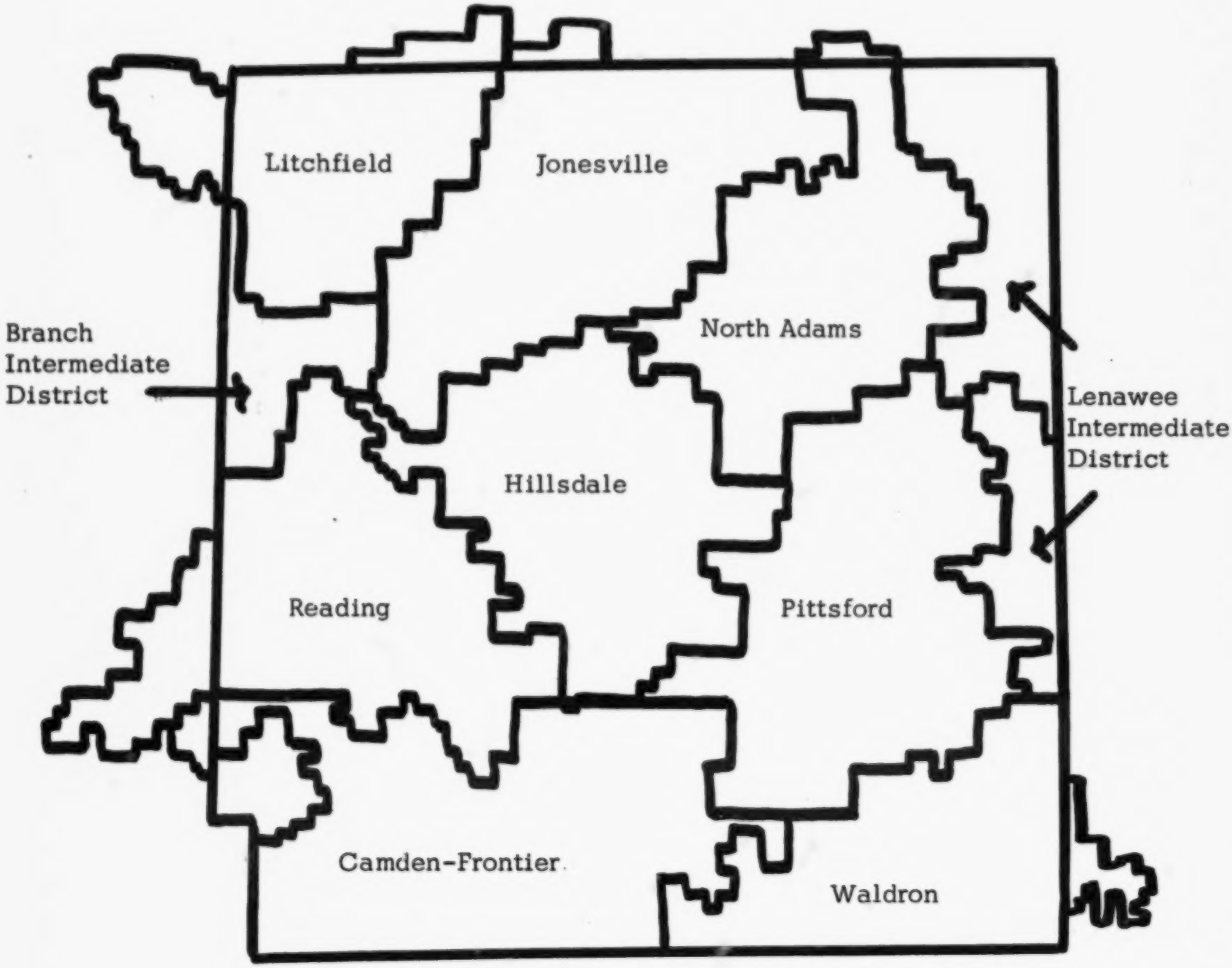


Figure 3

Grade Enrollment of Pupils and Information on Graduates
of Each High School in Hillsdale County
For 1964-1965 School Year

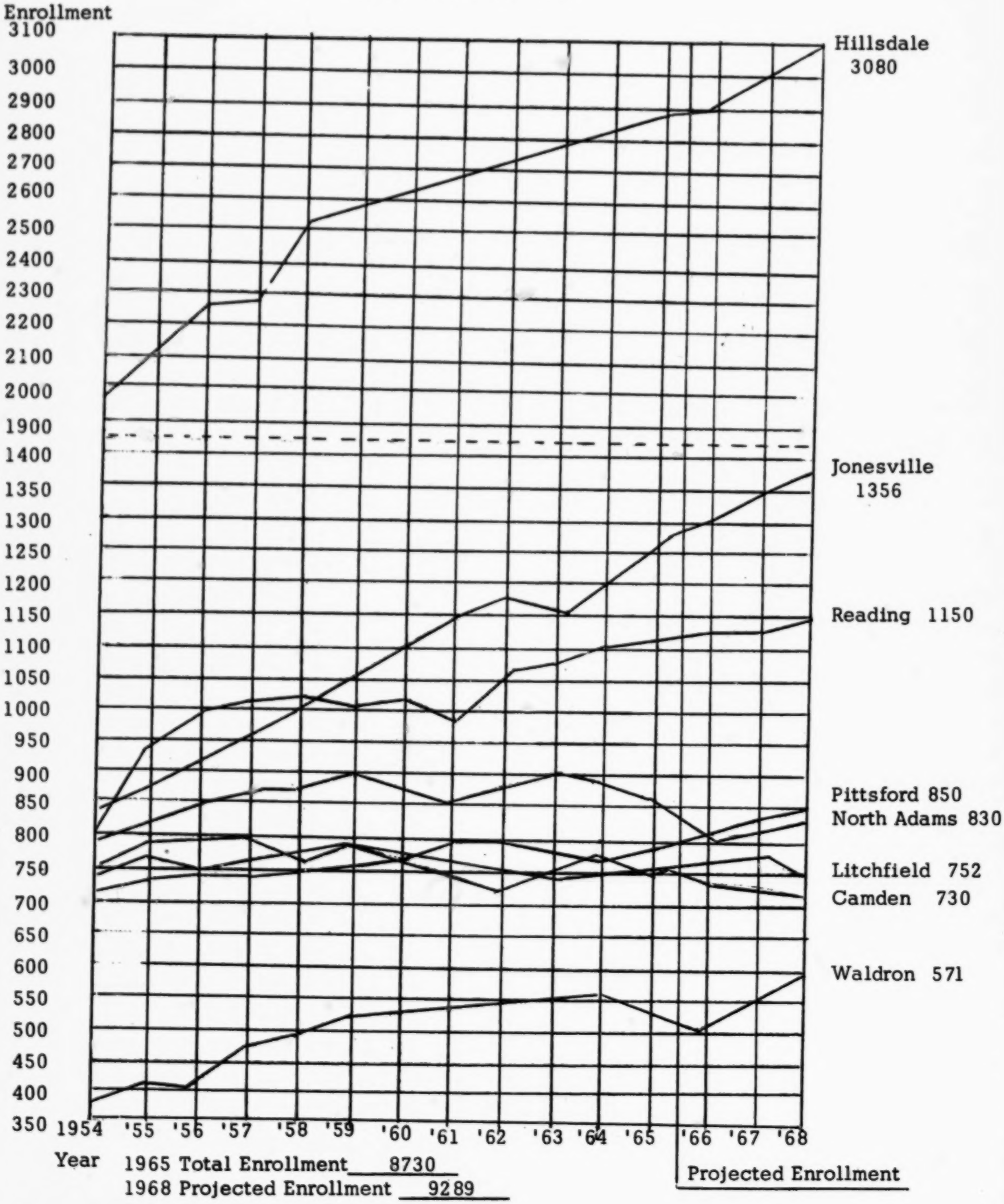
	Camden-Frontier			Hillsdale			Jonesville		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Enrollment By Grade:									
Kindergarten	23	29	52	126	114	240	50	53	103
First	27	27	54	121	98	219	47	52	99
Second	30	33	63	93	113	206	61	58	119
Third	31	23	54	102	107	209	50	53	103
Fourth	35	30	65	94	98	192	46	45	91
Fifth	28	34	62	84	94	179	58	45	103
Sixth	31	24	55	92	98	190	58	45	103
Seventh	28	29	57	102	91	194	36	42	78
Eighth	33	34	67	98	94	192	45	44	89
Ninth	39	32	71	92	97	189	51	46	97
Tenth	28	22	50	102	94	196	37	53	90
Eleventh	21	23	44	98	102	200	37	42	79
Twelfth	22	25	47	98	94	192	32	56	88
Post-Graduates & Specials				29	28	57			
TOTALS	376	365	741	1332	1322	2654	608	634	1242
Graduates: No. pupils to Graduate during year	17	25	42	93	91	184	31	27	58
No. graduates to continue education in institutions of higher learning	9	7	16	49	43	92			28
No. graduates to enter other types of school: Nursing, Aviation, etc.	1	1	2		2	2			

Source: Hillsdale County Intermediate School Office

Table 1

Litchfield			North Adams			Pittsford			Reading			Waldron		
Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
37	32	69	37	45	82	41	35	76	53	43	96	29	27	56
38	29	67	27	21	48	34	42	76	41	44	85	22	21	43
35	26	61	33	35	68	30	27	57	45	46	91	20	23	43
32	26	58	37	21	58	28	31	59	43	40	83	27	19	46
28	29	57	30	29	59	31	41	72	37	49	86	17	27	44
24	26	50	31	29	60	34	33	67	44	33	77	21	18	39
22	27	49	29	31	60	48	43	91	36	46	82	22	19	41
22	22	44	33	26	59	28	32	60	42	42	84	20	22	42
28	30	58	27	31	58	37	29	66	36	39	75	23	12	35
41	27	68	22	31	53	28	35	63	29	28	57	12	19	31
37	21	58	31	38	69	37	28	65	30	45	75	28	17	45
22	24	46	26	30	56	30	33	63	35	31	66	16	11	27
25	28	55	15	32	47	32	33	65	34	29	63	14	16	30
16	13	29							29	17	46			
407	360	767	378	399	777	438	442	880	534	542	1076	271	251	522
25	27	52	15	32	47	31	33	64	33	26	59			30
		17	3	8	11			17	11	7	18			5
		9	2	1	3			11	3	5	8			6

HILLSDALE COUNTY ENROLLMENT TRENDS
BY SCHOOL DISTRICT



1965 Total Enrollment 8730
1968 Projected Enrollment 9289

Source: Hillsdale County Intermediate School Office

Figure 4

Implications

The largest occupational group consists of operators and kindred workers with 3,036, while craftsmen, foremen, and kindred workers are second with 1,741. The third major group is farmers and farm managers with 1,371. With the rural farm residents mentioned earlier, it is only natural to find agricultural employment quite high in the county.

Overall economic information reveals 28.4% of Hillsdale County's females are in the labor force. This is lower than the 32.7% average for the state. The county is higher in non-worker ratio in comparison to the state with 1.71% for Hillsdale and 1.66% for the state. The very high proportion of 21.1% of its total employed working force working outside the county is indicative of the lack of employment opportunities within the county.

A very critical point is the large percentage (26.6%) of families with incomes under $3,000. The state as a whole has only 15.7% of the population in this category. This high figure could possibly be a reflection of the large number of aged persons in the community and the types of employment opportunities available.

The population of Hillsdale County was 34,742 in 1960. According to projections the population may increase at a rate of 300 per year. This would result in a population of 37,742 in 1970.

In 1960, the labor force included 36.9% of the total population or 12,823 persons. If the labor force consists of 36.9% in 1970, and if the population

increases at the rate projected, then there will be 13,965 persons in the labor force in 1970 in Hillsdale County. This will represent an increase of 1103 persons in the labor force in the 1960 decade.

Stated another way, 110 persons would enter the labor force each year. Therefore, it would be reasonable to assume that 100 new jobs would be required each year to keep up with the population growth in Hillsdale County.

Occupational Groups
In Hillsdale County

	Male	Female	Total
Number Employed	8,782	3,494	12,276
Professional, Technical & Kindred (Engineers, Teachers, Medical)	550	493	1,043
Farmers and Farm Managers	1,323	48	1,371
Managers, Officials & Kindred Workers (Retail Trade People)	624	110	734
Clerical and Kindred Workers	282	673	955
Sales Workers	379	302	681
Craftsmen, Foremen, & Kindred Workers (Construction & Metal People)	1,696	45	1,741
Operators & Kindred Workers (Drivers & Delivery Men)	2,429	607	3,036
Private Household Workers	5	315	320
Service Workers (Waiters, Bartenders, etc.)	330	678	1,008
Farm Laborers & Foremen	349	60	409
Laborers (Construction, Manufacturing, etc.)	459	8	467
Occupation not Reported	356	155	511

Source: U.S. Census

Table 2

Number of Employed Persons in Hillsdale County by Major Industry Groups

Total Employed	12,276
Agriculture, Forestry & Fisheries	1,850
Mining	144
Construction	600
Manufacturing	3,908
Utilities	515
Trade	2,100
Finance, Insurance & Real Estate	169
Business Repair & Personal Service	791
Other Services	1,408
Public Administration	331
Not Reported	460

Source: U.S. Census

Table 3

HILLSDALE COUNTY INDUSTRIES EMPLOYING
MORE THAN TWENTY-FIVE PERSONS

Name of Industry	Type of Industry	Approximate No. of Employees
Wagner Mfg., Inc., Reading	Automotive Wiring	500
Addison Products Co., Jonesville	Air Conditioning	498
Allied Products Corp., Hillsdale	Steel & Plastic Dies	300
Simpson Mfg. Co., Litchfield	Auto Parts	215
Essex Wire Corporation, Hillsdale	Wire Drawing & Enameling	211
Albion Malleable Iron Co., Hillsdale	Munition Shells	200
Hillsdale Tool & Mfg. Co., Hillsdale	Automobile & Appliance Parts	155
Gar Wood Industries, Hillsdale	Hydraulic Pumps	142
F. W. Stock & Sons, Hillsdale	Flour & Prepared Baking Mixes	131
Kiddie Brush & Toy, Jonesville	Toys	125
Hillsdale Foundry Co., Hillsdale	Gray Iron Casting	100
Plymouth Flush Door Co., Hillsdale	Wooden Flush Doors	80
Game Time, Inc., Litchfield	Playground & Park Equip.	79
Rankin Mfg., Co., Hillsdale	Plexiglass Products	77
Vaco Products, Jonesville	Hand Tools	76
Simpson Stamping Division, Game Time Inc., Litchfield	Stampings	60
Waldron Industries Inc., Waldron	Fabricated Weather Louvers (shutters & ventilators)	53
Northwest Materials, Inc.Hillsdale	Ready-Mix Concrete	53
Daisy Parts, Hillsdale	Automotive Parts	50
Harvard of Hillsdale, Inc., Hillsdale	Isulated Clothing	50
Jonesville Products Inc., Jonesville	Auto Parts, Tubing & Fabricators	45
Consumers Power Co., Jonesville	Electric Utility	38
Reading Brass Co., Hillsdale	Brass Products	35
Jonesville Paper Tube Inc., Jonesville	Paper Tubes	34
Triple A Tube, Inc., Jonesville	Tube Fabrication	30
Bob Evans Farms, Hillsdale	Sausage	30
Slessman & Sons Co., Jonesville	Sauerkraut & Pickles	28
Robinson Directory Service, Hillsdale	County & City Directories	26

Source: Hillsdale Industrial Development Commission

Table 4

Some Overall Economic Information for 1960

	Hillsdale County	Michigan
Non-Worker Ratio	1.71%	1.66%
Females in Labor Force	28.4 %	32.7 %
% Unemployed	4.2 %	6.9 %
% Employed Outside County of Residence	21.1 %	
% With Incomes Under $ 3,000	26.6%	15.7 %
% With Incomes $10,000 and Over	9.8%	17.4 %

Source: U.S. Census

Table 5

Population by Townships in Hillsdale County Exclusive of Incorporated Villages

Adams	1,179
Allen	959
Amboy	728
Cambria	1,793
Camden	940
Fayette	750
Hillsdale	1,051
Jefferson	2,143
Litchfield	1,002
Moscow	1,094
Pittsford	1,486
Ransom	853
Reading	1,047
Scipio	1,069
Somerset	1,504
Wheatland	1,089
Woodbridge	1,041
Wright	1,299

Source: U.S. Census

Table 6

Population by Cities and Villages in Hillsdale County

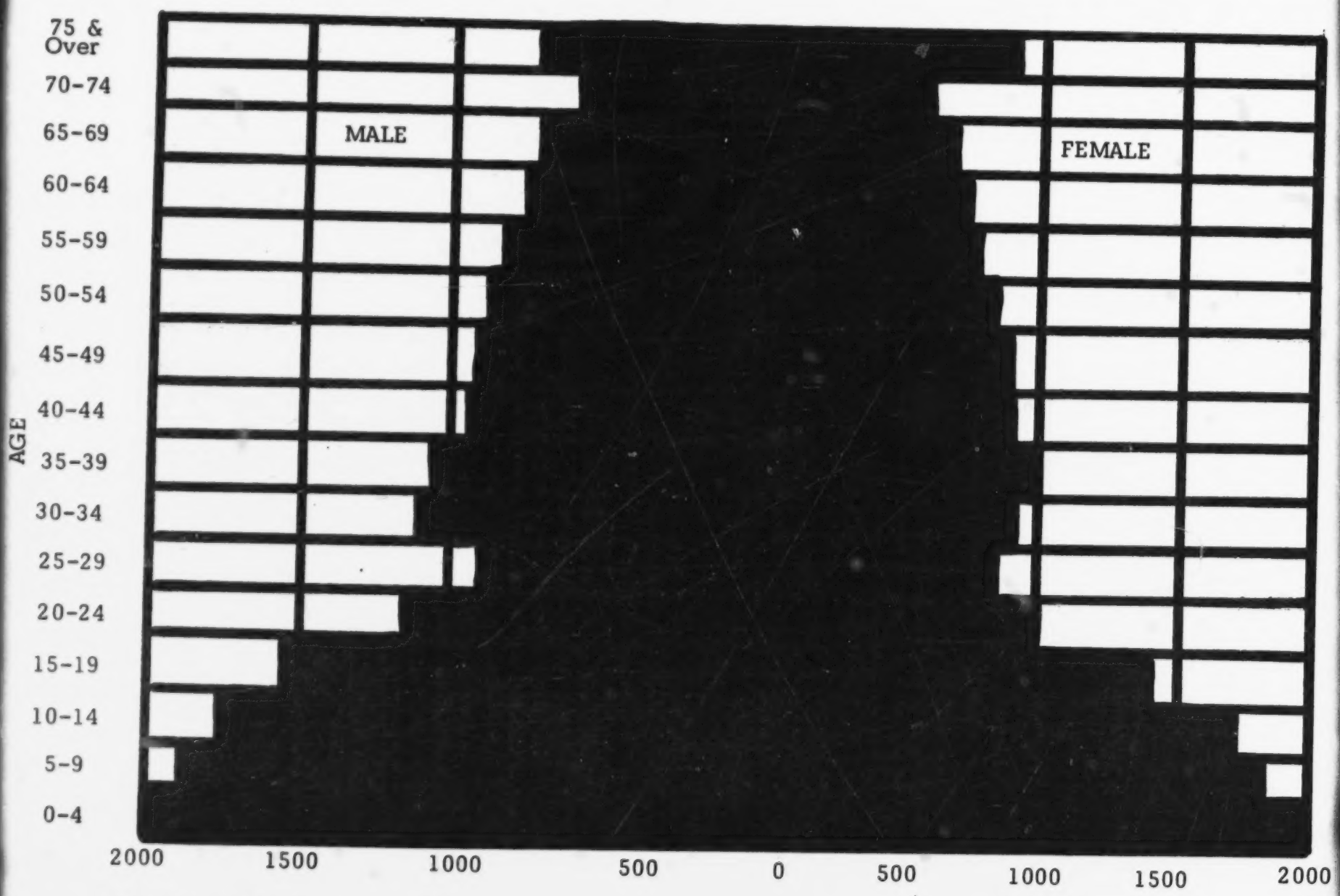
Allen	325
Camden	434
Hillsdale	7,629
Jonesville	1,896
Litchfield	993
Montgomery	362
North Adams	494
Reading	1,128
Waldron	454

Source: U.S. Census

Table 7

Number of People

AGE - SEX PYRAMID



Source: U.S. Census - 1960

Figure 5

AGRICULTURE EDUCATION

Hillsdale County has 384,640 acres of land, 312,586 of which were in farm in 1964, according to the 1964 U.S. Agricultural Census.

The figures below will give an overall picture of some of the types of farms, number of farms and trends in farming by comparing 1954 and 1964 figures.

	1954	1964	Change
Acres in Farms	327,122	312,586	- 14,536
Crop Land Harvested	177,458	168,901	- 8,557
Number of Farms	2,907	2,307	- 600
Size of Farms in Acres	112.5	135.5	+ 32
Value of Land Per Acre $	126.00	$ 190.00	+ 64.00
Major Types of Farms & Income			
Grain	680	465	- 215
Dairy	725	517	- 208
Poultry	130	53	- 77
Livestock	340	303	- 37
General & Unclassified	1105	906	- 145
Total Farm Product Sales $	11,387,772	16,137,541	+ 3,243,089
Tenure			
Full and Part-Time Operators	2558	2117	- 441
Tenants	334	118	- 156
Working 100 or more days off farm	1095	1015	- 80

As the above figures show, Hillsdale County is an agricultural county in

which livestock and general farming predominate. About 50% of the farm operators work 100 or more days at off-farm jobs. In the last ten years values of agriculture land have increased by one half and size of farms has increased by 32 acres, while the number of farms has decreased by 600. Total farm sales have likewise increased by three and one-third million dollars.

Nationally, 8% of the total population live on farms, but more than 30% of the total working force is engaged in the producing, processing, and distributing of farm products and servicing farm operators.

Present Agricultural Program in Hillsdale County High Schools

All eight schools in the county last year offered vocational agriculture to 382 students. Eight fully certified teachers were employed, but none of these teachers spent full-time teaching agriculture. 131 other students were enrolled in general agriculture.

In adult education in agriculture, all eight vocational agriculture departments in cooperation with the Cooperative Extension Agent and the Soil Conservation Service held classes in Soils and Farm Management last year (1965-66). Enrollment was over 100. Classes met as one group one week, divided and met in eight local groups the next week. This is the second year for this type of adult education course.

Vocational-Technical Study Questionnaire

Results from the labor questionnaire showed that 76% of those answering (543) would avail themselves of additional training if offered locally. Of this number, 30 indicated an interest in agriculture and 45 in the related area of conservation for a total of 75 or 18.2% of the total sampled group. This indicates a sizeable group with interest in adult education in the agricultural field.

Education Aspirations of Junior Survey

In this survey, 21 or 4.3% checked agriculture, 7 or 1.4% checked conservation and 7 or 1.5% checked veterinary medicine - for a total of 35 (7.1%) who were interested in the area where agricultural training is necessary.

Projections for the Future

Even though the number of farms in the county is decreasing while their size and value of products sold is increasing, farming will remain an important segment of the county economic picture in the forseeable future. In addition, many agriculture related occupations (agri-business) supply and servicing the farmer will offer job opportunities for persons with an agricultural background and training.

Recommendations

Local high schools should continue to offer basic courses in:

1. Basic plant science, including conservation, forestry, landscaping, gardening, and basic crops.
2. Basic animal science, including nutrition and feeding inheritance and production, parasites and diseases, marketing and processing practices as they relate to the major animal enterprise groups.
3. Soil science including fertilizers, water conservation, and tillage practices and new soil technologies.

A vocational-technical center should offer courses at a high school level in:

1. Specialized Plant Science
2. Specialized Animal Science
3. Farm Power Mechanics and Farm Machinery
4. Farm Management Practices
5. Related Agricultural Occupations

Post-high school courses should be offered in:

1. Farm Management
2. Farm Power Machines and Machinery
3. Horticultural Practice in Landscaping, Gardening, Floriculture, etc.
4. Agri-business Technology (agriculture related occupations)

Suggestions for Implementing Recommendations

Schools should continue to offer courses in agriculture of a basic and general nature at the present high schools. Specialized training for the 11th and 12th grades and those out of high school should be offered at a vocational-technical center.

Post high school facilities at a vocational-technical center should be made available to advanced students on a block time basis for specialized training in areas not offered in local schools. Students should remain in local high schools for their general education courses.

BUSINESS - DISTRIBUTIVE EDUCATION

Reports were received from all eight schools in the county. All have courses in typing with enrollments ranging from 36 to 130. There are bookkeeping courses offered in all eight with enrollments from 11 to 76. All schools have shorthand courses, six teach office practice, and four teach general business.

Total enrollments for the county are as follows:

General Business	110
Bookkeeping	277
Typing	614
Office Practice	76
Shorthand	132
Office Machines	10
Stenography	10
Business Law	60

This makes a cumulative total of 1289, but some students are counted more than once, since they are taking more than one of the courses included in the survey.

All eight schools have at least one commercial teacher (two schools have two) meeting the standards required for approval by the University of Michigan and each has at least one room devoted to commercial subjects.

Inventory listings indicated an adequate supply of typewriters for the classes in each of the schools. Some schools, however, do not have or

failed to list such machines as calaculators, adding machines, and duplicators. Total value of the equipment is $ 28,480.

All schools have shorthand classes, but only one offers beginning and advance shorthand concurrently. Drop-out rate after the first year of shorthand is reported to be very high.

A weak spot in the business field training appears to be in the cooperative occupational education program. Only two schools carry on such an effort. During the year just ended these two had reported a total of 116 students in the program, most of them working in the retail field. Coordinators help place students in interest-related courses and work. There appears to be definite need for expansion of this program.

Business and Distributive Education

There were 543 returns out of 3,000 questionnaires distributed to workers in the county, and 44% of those answering felt that additional occupational training was necessary for their work. A solid 76% said they would avail themselves of additional training if it were available locally. This would indicate an interest among these 76% in upgrading themselves, either to do a better job where they are, or to find a better position.

Of the 412 interested in more training, 96 (or 23%) were most interested in business management studies. This number was topped only by those interested in the metal trades.

Sixty two (or 15%) wanted accounting studies; 37 (or 9%) wanted finance; 21 secretarial studies; 24 courses in selling, and nine were interested in the retailing field.

Eighteen percent of the responses received in the survey of business, industry and agriculture came from retailers.

Employers in this field listed the greatest number of workers to be in the general office category, with clerk typists next, then bookkeepers, bank clerks or tellers, and stenographers. Over two thirds of the employees are female. Some scarcity in the supply of stenographers is predicted. Employers indicate a relatively adequate supply of general office workers, bookkeepers and clerk typists with little expectation of a big increase in the need for these workers.

Greatest number of employees in business jobs for people with formal education beyond high school but less than a four-year college degree were outside salesmen. They were followed closely by female secretaries and male business management personnel, then accountants, those engaged in merchandising, and sales managers, in that order. Males predominated this category except for merchandising and secretaries.

Employers see no decrease in this type of employment and according to a publication by the U.S. Department of Labor entitled Manpower-Challenge of the 1960's, the need for clerical and sales workers will increase 27% between 1960 and 1970.

Recommendations and Suggestions for Implementing Recommendations

Based on the above findings, the following recommendations are proposed for the area of Business and Distributive Education in Hillsdale County.

1. Each county school district should become aware of the ever increasing need for Vocational Business Education in the curriculum and make available to its high school students as many vocational business offerings as possible. This curriculum should be geared to the student who will terminate his education at the time of high school graduation.
2. County Businesses and Industries should inform the schools as to their present and future needs for high school graduates who have had business education courses. Also, it would be helpful to the schools if county businesses and industries would inform the schools of deficiencies in the Vocational Business Education of employees who were graduates of county schools.
3. The schools in the county which do not have Cooperative Education Programs should consider the feasibility of organizing this type of program cooperatively with other schools in the county.
4. A community college or a vocational-technical center for Hillsdale County residents should be established. This college or center should offer a vocational business curriculum which would serve the needs of the following three groups:

   A. Students who wish to enter office and distributive areas of work.

B. High school drop-outs and high school graduates who did not complete any or all of the vocational business education offered by their school.

C. High school graduates who completed all of the vocational business education courses offered by their school and wish to complete more advanced courses which were not offered by their high school.

VOCATIONAL - INDUSTRIAL EDUCATION

Industries and Employment in Hillsdale County

There are approximately 65 industries in Hillsdale County operating in over 23 different fields. The largest number (30) are concerned with metal by machining, stamping, forming, grinding, fabricating, or drawing. Five are engaged in woodworking, four in food processing, three each in concrete products, brooms and/or brushes, and utilities. Two each are engaged in grinding, dry goods, paper products, advertising, and wire drawing. Other singular industries include abrasives, air conditioning manufacture, mobile homes, marine equipment, and leather goods.

Total labor force for Hillsdale County (Michigan Employment Security Commission) is as follows:

		May 1966
Total Labor Force	10,150	
Agriculture Employment		1,100
Non-Farm Labor Force		9,050
Unemployed		375
Workers Involved in Labor-Management Disputes		50
Total Non-Farm Employment		8,625
A. Self Employment, Including Domestic		1,425
B. Wage and Salary Workers	7,200	
1. Manufacturing Industries		3,350
2. Non-Manufacturing Ind.		2,725
3. Government Employees-Federal-State-Local		1,125

Current Programs - Vocational-Technical Education

All eight schools in Hillsdale County offer some form of industrial training but appear to vary widely in curriculum offerings. Some courses are offered in alternate years in some schools, and some not at all. Two schools share a common instructor.

Courses offered, for the most part, seem to be more of an introductory nature and are not intended to actually prepare the student for any particular vocation.

Currently there are 956 engaged in industrial arts exploratory courses as follows:

Field	Number	Percent
Automotive	74	7.7
Drafting	237	24.8
Metal	166	17.4
Woods	334	34.9
General Industrial Shop	145	15.2

Shop mathematics classes per se are limited to Hillsdale only. Beginning welding (arc and acetylene) is offered in all schools. Only one school offered a course in spot welding.

Equipment inventory included a generally adequate supply of woodworking tools and equipment, including power tools and various other equipment suitable for introductory and beginning shop. Included were three milling machines, two shapers, and six metal lathes of various sizes. Total equipment

value was estimated at $ 24,011.00. Much of this inventory is also used in the Farm-Shop program.

There are two schools currently offering adult vocational-technical courses through the media of night school. Subjects offered are machine shop, drafting, woodworking, and shop math, but not all in both schools. Shop math will not be offered in the 1966-67 school year due to lack of an instructor. (It is understood that Jackson County may take Hillsdale County residents who wish to participate in this course.)

Some industries are taking advantage of the co-op program offered in vocational-technical fields by enrolling employees in several of the courses offered. The employers pay all tuition and supply expenses for participating employees.

Projections

County-wide surveys were directed to parents and students (4th and 11th grades), labor and industry. A synopsis of these follows:

Aspirations of Juniors (488 returns)

74% plan to obtain additional education beyond high school, with 30.3% seeking a college degree. 38% expressed interest in attending a community college serving Hillsdale County and offering two-year programs of a technical nature. Significantly, 45% suggested a local technical-vocational

center if a community college were not feasible. Occupationally, 75 or 17.4% chose industrial jobs, with the largest group, 38, aspiring to be mechanics, followed by draftsmen 15, industrial workers 14, metal trades 7, building trades 4, and laboratory technicians 3.

Parent Responses (226 returns)

60% of 11th grade parents favored some type of college training for their children. 20% desired some specialized training other than college. 55% say their children will attend or quite certainly will attend college. Please note 11th grade student responses in this area. 71% of the parents say they will leave post-high school education up to the students, and 70% of the students say they plan to continue their education beyond twelve grades.

Fourth grade parent responses (398) indicated educational desires for their children to about the same degree as parents of 11th graders. Current planning for the child's post-high school education was again very close to that projected by 11th grade parents.

Most significant was the response to the question concerning preference of a community college versus a community college offering vocational-technical programs, assuming both were as advantageously located. Parents favored the latter by 1.5 to 1 in the case of 11th graders, and 4th grade parents expressed preference by 5 to 1.

Labor Responses (543 returns)

34% indicated they were adequately prepared locally in school for their present job, and 62% indicated no additional occupational training was necessary for their present work.

70% indicated they would like to obtain additional training locally, if available. Laborers seem to be most interested in the following areas: metal trades (35%), building trades (23%), mathematics (23%), business management (21%), electronics and engineering (16%) each.

52% felt additional night courses at high school would be the best way to provide additional training, 28% felt a community college best provided this need, while another 28% preferred a vocational-technical center.

Industry Survey (73 returns)

Most responses (26%) were received from industry in the combined Business, Industry and Agriculture survey. Listed are some salient excerps.

Industrial Jobs (not requiring more than 12 grades). Most were employed in the capacity of machine operators, assembly line workers, sheet metal workers, unskilled laborers, and electricians in that order.

Greatest increases in employment, 1966-70, will be in the areas of machine operator, truck driver, general mechanics, and unskilled laborers.

Employers envision no decrease in industrial jobs listed in the survey.

A scarcity in the local supply of qualified employees is projected as being the greatest in the area of machine operators, auto mechanics, and general mechanics, and, although the needs do not reflect great increases, the local supply of appliance repairmen, electricians, millwrights, machinists, welders, and carpenters is not adequate.

Industrial Jobs (More than high school but degree not required.) Almost all employees are male workers. The greatest increase, 1966-70 period, appears in the area of quality control technicians and, close behind, drafting and design technicians, and foremen. No decreases in employment are projected in this area.

Employer Opinion and Practice. Twenty percent of the employers responding to the question regarding employment of high school drop-outs indicated a common practice is to place these drop-outs in the unskilled labor category. Thirteen percent are initially placed in semi-skilled jobs, 13% almost never in business office jobs, 10% almost never in sales jobs and apprenticeships. Employers allow drop-outs in apprentice programs only infrequently. Fifty percent of the drop-outs employed are unsatisfactory as employees, say employers, though many could be retrained in laboring jobs. Twelve percent of respondents indicated that drop-outs needed a considerable amount of additional occupational education or training to become satisfactory employees.

The high school graduate fared only slightly better than drop-outs in the overall view of employers. It is a fact that the graduate has a better

than three to one chance of entering an apprentice program than the drop-out. Twenty two percent of employers felt that the graduates needed additional occupational education or training.

In response to the question, "To what extent do existing educational facilities in Hillsdale County area meet the occupational and training needs of your company or firm?", 40% selected "fairly well", 25% "poorly", and only 10% "very well".

Thirty nine percent of the employers felt there should be substantial expansion of vocational programs in existing high schools, 25% favored creation of an area vocational-technical school, and 18% preferred establishing a strong occupational program in a post-secondary institution. Thirty two percent of the respondents were undecided as to the individual's or their company's continued participation in further study toward improving occupational training in the Hillsdale County area. Twenty six percent answered "yes" to the question, 19% "no".

Formally organized training programs for employees are offered in only 25% of the industries responding to the question. Fifty two percent indicated there was no organized company training program available. Of those offering a "yes" response, the majority indicated that same was implemented through the apprenticeship program. A few offer supervisory or technician training. There are only two industrial organizations currently using the adult education program as a means of furthering the vocational-technical skills of their employees via a night school training program.

The fugure population and economic growth of Hillsdale County depends largely on employment opportunities in the manufacturing concerns located therein. Here are some industrial employment comparisons of interest:

	Oct. 1961	June 1966	Est.* 1970
Manufacturing Industries	2,485	3,425	4,288
Non-Manufacturing Industries	3,945	2,850	2,314
Government-Federal-Local-State	300	1,125	3,183
Total Wage & Salary Workers	6,730	7,400	9,785

Source: Michigan Employment Security Commission
* Estimate based on trends derived from first two columns.

According to estimates by the Hillsdale County Planning Commission, the Hillsdale County total labor force (agricultural and self-employed persons included) should equal 13,965 persons by 1970. The U.S. Chamber of Commerce states that each 100 new factory workers means 296 more people in the community, 112 more households, 51 more children, $ 590,000 added personal income per year, 167 more car registrations, 174 more workers employed, 4 new retail establishments, $ 360,000 more retail sales annually, and $ 677,000 state equalized valuation added to our tax base.

Recommendations

The industrial programs do not appear to be adequate nor very well equipped. The committee would recommend:

1. The secondary schools strengthen their industrial arts programs and offer exploratory training in a wide range of industrial areas.

2. High schools up-grade and expand vocational-technical programs generally, and provide specialized courses for interested and able students on an area basis. It is suggested this type program be particularly oriented to the 11th and 12th grades.

3. Specialization should continue at a post-high school level.

4. More technical areas such as auto mechanics, metal area, drafting, electronics and woodworking be offered.

5. Basic understanding of the relationship among industrial areas be stressed.

6. Positive work attitudes need to be continually promoted in high schools.

7. Guidance counselors should become better informed and secure information regarding vocational opportunities.

8. Vocational-technical programs should be oriented toward helping drop-outs and/or adults enter or re-enter the labor market.

9. An expanded adult vocational-education program.

10. More emphasis be accorded industrial cooperative training programs.

Implementation

1. Schools should up-grade existing industrial arts programs and provide vocational-technical programs emphasizing industrial needs.

2. All schools should provide a basic inventory of machines, tools, and equipment for each course offered.

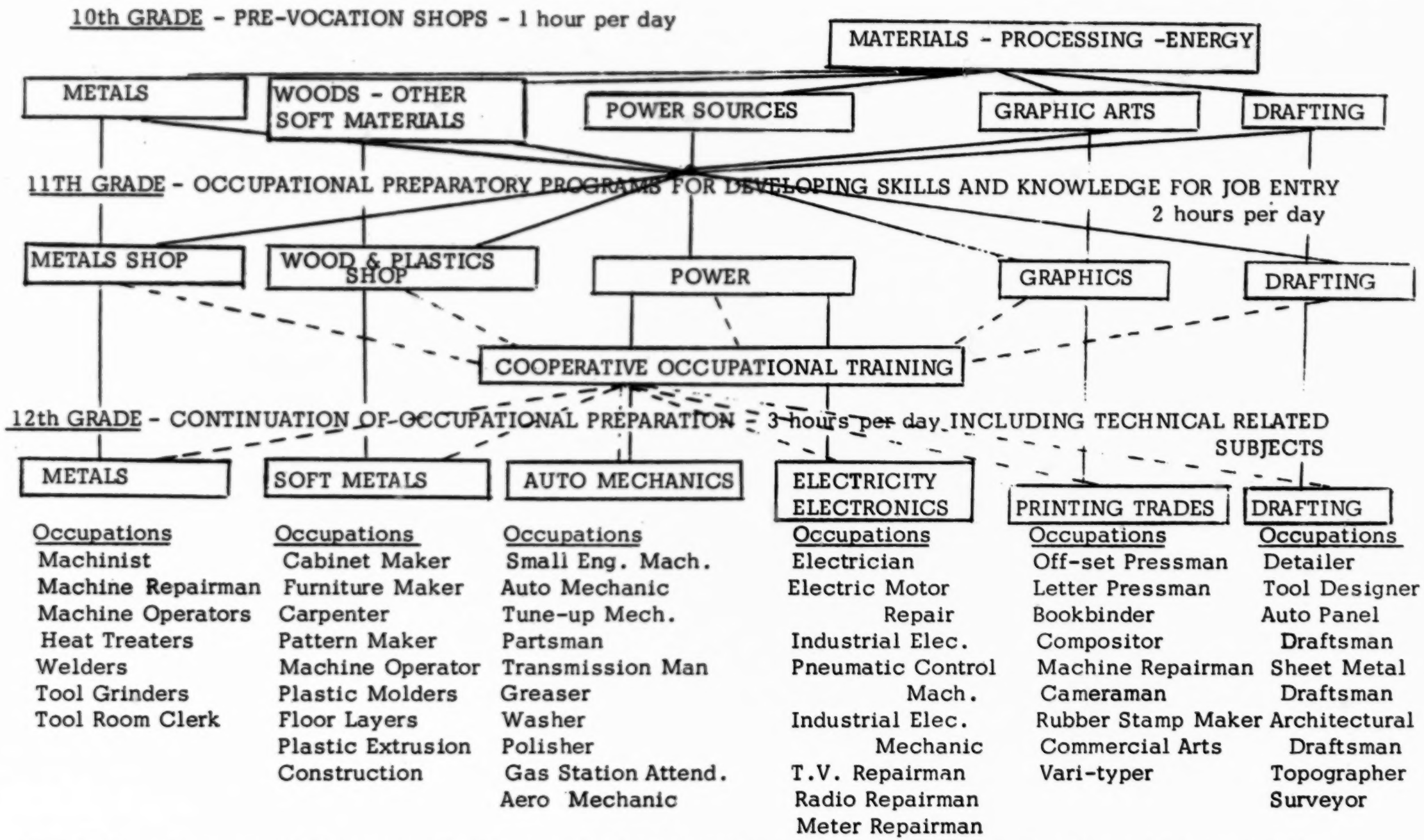
3. Consideration should be given to a vocational-technical education center for the county which would provide advanced courses, and equipment to implement same, for high school and post-high school students, and adults.

4. If a single county facility is not feasible, then consideration be given a multi-county center.

5. Any plans for a vocational-technical center should give consideration to a tuition system for post-graduates. This should not deter use of the facility but instill a sense of responsibility and determination in the student to the benefit of both the student and the program.

6. Suggested curriculum for occupational preparation is attached.

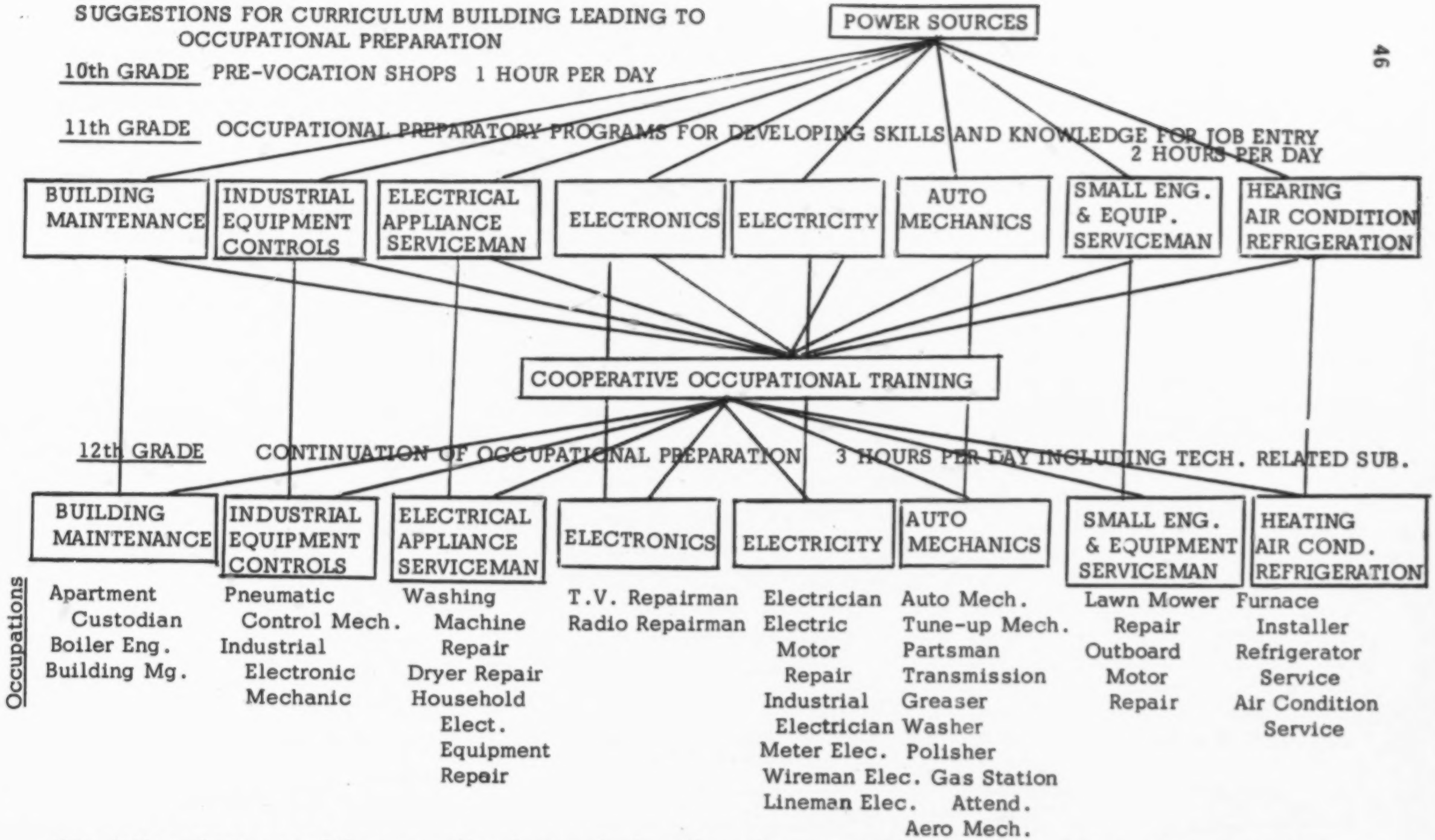
SUGGESTIONS FOR CURRICULUM BUILDING LEADING TO OCCUPATIONAL PREPARATION



Completion of any one of the occupational areas in the 11th grade may provide adequate background for cooperative occupational training during the 12th grade. Completion of any one of the occupational areas designated will provide a minimum of 900 hours of occupation preparation exclusive of other essential related subjects. The program will provide opportunity for trainees to complete training for lesser job priorities during the 2-year period.

Figure 6

SUGGESTIONS FOR CURRICULUM BUILDING LEADING TO OCCUPATIONAL PREPARATION



Completion of any one of the occupational areas in the 11th grade may provide adequate background for cooperative occupational training during the 12th grade. Completion of any one of the occupational areas designated will provide a minimum of 900 hours of occupational preparation exclusive of other essential related subjects. The program outlined will also provide opportunity for individuals to complete training for jobs requiring lesser proficiencies.

Figure 7

HOME ECONOMICS EDUCATION

Types of Programs Locally

At the present time, each of the schools of the county is offering a program in Home Economics. The primary purpose of these programs is preparation for home making rather than occupational employment in the world of work outside the home. The areas covered are sewing, cooking, family relations and general living. No vocational training for employment is now being offered.

Because of the changing role of future housewives and mothers, the home economics curriculum should be re-evaluated to better prepare students for their places in society. Also, more experiences should be provided for girls which will prepare them for entry into occupations.

Projections for Future

Surveys were made by parent and student questionnaires (4th and 11th grades), labor questionnaire, business and industry questionnaire, and facilities, curriculum, equipment questionnaire.

On the survey, "Parents' Expectations of Post-High School Programs to be Entered by their Children", 3.1% of the 11th grade parents indicated occupation of homemaking as the future occupation of their child. The percentage of the 4th grade parents indicating same was 1.5%. Also, the response to questionnaire, "Occupational Aspirations of Juniors," indicated 2.3% were

interested in homemaking as their occupation.

Of those who completed the Labor Questionnaire, 2.9% listed homemaking as the area of study in which they would like additional occupational training.

The committee received an over-view of the home economics programs in the schools and critiques by individuals actually implementing these practices in everyday living by inviting two home economics teachers and the Hillsdale County Extension Home Economist for consultation.

It was pointed out that the average high school student in this area is college oriented because this is the accepted status among them. Guidance counselors, it was felt, should be better oriented in the vocational areas, as they seem generally to foster the college/university approach in their dealing with the students.

The committee discussed the idea of centralization of resources. With this possibility, perhaps several kinds of programs could be offered. A vocational center may attract junior and senior high school students, both male and female and also serve drop-outs and older persons who might otherwise not wish to return to a high school setting. If employers were aware that home economics vocational training was available, the committee and guests felt the employers would begin requesting trainees from these programs.

Much time was devoted to the kinds of training that might develop if a home economics vocational program could be established. Some of the areas

mentioned were food (commercial food handling, preparation of chefs, male and female), dietician, waitress, sanitation, business management (economics), child care, general assistance in homes where families need extra help, care of elderly persons, post-hospital convalescents, practical nursing (one year training for licensure in Michigan), distributive education, and mathematics. The committee noted that the advent of Medicare will bring more requests for home nursing. A cooperative program seems to be quite appropriate for some of these offerings and perhaps team teaching. Again the recommendation that high school counselors should let students know about the opportunities in non-college academic training was made by the guests.

Recommendations

In a recent report, a summarizing of possible needs for Vocational-Technical Education in Home Economics related areas was listed as follows:

1. Health and Welfare

   A. Housing Agencies, Senior Citizens Centers
   B. Homemaker Services - also sometimes called Family Aide, Mother's Aide, Home Helper

2. Home Makers

   A. Management of own home
   B. Volunteer Service
   C. Family Finance and Money Management

3. Community Programs for Special Groups

   A. Child Care Center Assistants
   B. Nursery School

4. Institution Administration (Quantity Food Preparation)

   A. Cafeterias and Restaurants - Waitresses - Cooks
   B. Hospitals, Hotels, Clubs
   C. School Lunch Programs
   D. Housing for Senior Citizens

5. Service to Consumers in Foods and Equipment

   A. Food Producers and Processors
   B. Equipment Manufacturers (Demonstrators)

6. Merchandising of Clothing, Textiles and Home Furnishings

   A. Department Store Sales and Alteration Department
   B. Home Furnishings Studios
   C. Specialty Shops

The committee feels there is a need to train young women in home economics oriented vocational training, for personal advancement as well as being able to do higher calibre work for employers.

Women will return to full or part-time employment after their children are in school and can secure higher paying employment with additional training.

Possible classes could include meal planning and marketing within the family's food budget, child care and development, laundering, and purchase and care of clothing.

Suggestions for Recommendations

1. Continue and improve present junior high and early secondary programs to provide exploratory experiences so students may discover vocational objectives in the world of work.

2. Provide a program which will enhance appreciation of the vital importance of excellence in home making skills.

3. Add programs at the 11th and 12th grade levels to produce skills necessary to deal with needs listed in this report.

4. Provide programs for improvement of adults operating in the field of Home Economics.

5. Advanced technical skills can probably be best provided for in a vocational-technical center rather than in the individual school districts as presently constituted.

GENERAL RECOMMENDATIONS

1. Vocational-technical education should be a vital aspect of the curriculum from early elementary through senior high. At the elementary level, students should be introduced to the world of work by examining occupational areas (i.e. the world of the policeman, fireman, factory worker, etc.). While providing this introductory material, emphasis on the dignity of vocational-technical employment should be maintained. This basic introduction to the vocational-technical area should be integrated into the existing elementary curriculum and should not be taught as a special adjunct.

2. At the junior high level, the basic introduction to the field should continue but should be augmented with basic skill courses in general areas (agriculture, home economics, business education, industrial education). These courses should remain general in nature with the emphasis on introductory and exploratory experiences which would point out to the student broad occupational areas and introduce him to the skills that will be necessary for employment in these areas.

3. During the early years in high school, students should continue with the exploratory experiences begun previously, but may also begin to familiarize themselves in some depth with a sequence of vocational-technical courses in the student's area of interest and ability. Vocational counseling may be helpful here to assist students in differentiating and sharpening their vocational interests.

4. The later years in high school should offer students an opportunity to specialize in vocational-technical areas of their choice. It is expected that these students will have had an opportunity to "sample" many technical-vocational areas through earlier educational experiences.

5. Specialization needs to be continued beyond high school and a comprehensive facility should be provided for this purpose.

6. This facility should be available for high school students in certain vocational areas since most high schools cannot economically provide the degree of specialization and training necessary for job preparation.

7. Finally, this new facility should also be available for persons other than high school students and recent high school graduates who wish to upgrade present job skills or to undergo training or retraining.

8. Appropriate vocational counseling is important from elementary school through high school to job placement in reinforcing positive attitudes toward technical-vocational employment, in familiarizing students with local market conditions and occupational needs.

9. Cooperative on-the-job training between school and industry should be encouraged as a method of providing vocational-technical education in occupational areas where it is not feasible to provide organized preparatory classes in the secondary school or in a vocational-technical center.

SPECIFIC RECOMMENDATIONS

1. The eight local school districts should continue to provide introductory and exploratory experiences for boys and girls in the study area. Opportunities for specialization should increase with the age and grade level of the student. Local schools need to evaluate and improve the scope and content of vocational-technical offerings.

2. Existing local school districts might consider these basic introductory areas:

<u>Agriculture</u>
a. Basic plant science
b. Basic animal science
c. Basic soil science

<u>Business and Distributive Education</u>
a. General business practices
b. Bookkeeping and office practice
c. Shorthand, typewriting, basic office machines
d. Introduction to retailing practices

<u>Industrial Education</u>
a. Introduction to metal working, power and auto mechanics
b. Introduction to woodworking
c. Basic concepts in drafting and design
d. Basic concepts in electricity and electronics
e. Introduction to graphic arts

<u>Home Economics</u>
a. General homemaking skills
b. Home and family living
c. Introduction to and familiarization with principles of home economics as a vocation (practical nursing, textiles, child care, institutional administration)

3. A comprehensive vocational-technical center should be provided to facilitate specialization at the high school level and to make possible more varied and comprehensive programs. This center should also be available for use by other than high school students, namely those who wish to enter the job market or to re-enter. (High school drop-outs, temporarily displaced workers, anyone who wishes to upgrade his job skills or to learn a different trade.)

4. Possible areas of study in a vocational center:

Agriculture

a. Specialized plant science
b. Specialized animal science
c. Farm power mechanics and farm machinery
d. Farm management practices
e. Related agriculture occupations
f. Horticulture practices
g. Agriculture business

Business and Distributive Education

a. Accounting
b. Finances
c. Salesmanship
d. Retailing practices
e. IBM computer (office machines)
f. Advanced stenography
g. Business English and letter writing
h. Business law
i. Small business management

Industrial Education

a. Auto and power mechanics, metal working
b. Woodworking
c. Drafting and design
d. Graphic arts
e. Electricity and electronics

Home Economics

a. Practical nursing
b. Homemaking service and child care
c. Dietetics
d. Textiles

The center should also provide on-the-job training experiences in all appropriate areas described above. Counseling and guidance, job placement and evening programs are considered a vital function.

5. Advantages of such a center are considered to be:

a. Broad tax base
b. Opportunities for all in the study area
c. Comprehensive curriculum with minimal duplication
d. Administrative efficiency
e. Greater flexibility
f. Reflects local needs and market conditions

6. It is possible that this center might be provided in conjunction with an area community college.

7. High school counselors can contribute greatly to the unification of the practical arts and vocational-technical programs in the high school and can contribute greatly to assisting students in selecting occupational areas in keeping with their interests, aptitudes and abilities.

8. Local school districts should continue to investigate the possibility of sharing existing facilities, staff and students in extending and improving local programs.

9. Provisions should be made for continuous evaluation of vocationally oriented programs.

APPENDICES

APPENDIX A

Parent and Student Questionnaires

1. Questionnaire Submitted to 11th Grade Students

2. Questionnaire Submitted to Parents of 4th Grade Students

3. Questionnaire Submitted to Parents of 11th Grade Students

4. Tabulation of Results of the Above Questionnaires

COMMUNITY COLLEGE STUDY
STUDENT QUESTIONNAIRE - GRADE 11

Check the most appropriate answer for you for each item.

1. What high school do you attend?

(1)_____ Camden-Frontier
(2)_____ Hillsdale
(3)_____ Jonesville
(4)_____ Litchfield
(5)_____ North Adams
(6)_____ Pittsford
(7)_____ Reading
(8)_____ Waldron

2. What is your sex?

(1)_____ Female
(2)_____ Male

3. What is your present course of study?

(1)_____ College Preparatory
(2)_____ General
(3)_____ Commercial, business
(4)_____ Vocational
(5)_____ Other (specify)_____

4. What do you estimate your high school grade average to be?

(1)_____ A
(2)_____ B
(3)_____ C
(4)_____ D
(5)_____ E

5. How far in school do you want to go?

(1)_____ Through high school
(2)_____ High school and specialized training other than college
(3)_____ One or two years of college
(4)_____ College degree
(5)_____ Other (specify)_____

6. How definite are your plans to go to college or some other form of specialized training after high school graduation?

(1)_____ Definitely plan to go
(2)_____ Probably will go
(3)_____ Uncertain
(4)_____ Probably will not go
(5)_____ No intention of going

Answer Question 7 ONLY if you indicated in Question 6 that you "Probably will not go" or "Have no intention of going".

7. Why did you reach the decision in Question 6 above?

(1)_____ Not interested in further education
(2)_____ Want to go to work
(3)_____ Want to get married
(4)_____ Will enter military service
(5)_____ Parents not in favor of my receiving additional education
(6)_____ Grades not good enough
(7)_____ Lack of finances
(8)_____ Undecided

8. Check the vocation you hope to enter when you complete your education.

(1)_____ Accounting
(2)_____ Advertising
(3)_____ Agriculture
(4)_____ Architecture
(5)_____ Art
(6)_____ Athletics
(7)_____ Beautician or Barber
(8)_____ Building trades

(9)_____ Business Management
(10)_____ Chemist
(11)_____ Conservation
(12)_____ Dental Hygiene
(13)_____ Dentistry
(14)_____ Drafting
(15)_____ Dramatics
(16)_____ Electronics
(17)_____ Engineering
(18)_____ Finance
(19)_____ Government Service
(20)_____ Homemaking
(21)_____ Hotel Management
(22)_____ Industrial Worker
(23)_____ Journalism
(24)_____ Laboratory Technician
(25)_____ Law
(26)_____ Law Enforcement
(27)_____ Mathematics
(28)_____ Mechanics
(29)_____ Medical Technician
(30)_____ Medicine
(31)_____ Metal Trades
(32)_____ Mortuary Science
(33)_____ Music
(34)_____ Nursing
(35)_____ Occupational Therapy
(36)_____ Pharmacy
(37)_____ Photography
(38)_____ Psychology
(39)_____ Religion
(40)_____ Retailing
(41)_____ Salesman
(42)_____ Secretary or Stenographer
(43)_____ Social Work
(44)_____ Teaching
(45)_____ Veterinary Medicine
(46)_____ Other (specify)
_____

9. If Hillsdale County is served by a community college offering one and two year programs in such areas as agriculture, business, nursing, secretarial, and technical courses, would any of these programs interest you in attending the college?

(1)_____ Yes
(2)_____ No
(3)_____ Uncertain

10. Where do you plan to go for your professional training?

(1)_____ Central Michigan University
(2)_____ Eastern Michigan University
(3)_____ Ferris State College
(4)_____ Hillsdale College
(5)_____ Michigan State University
(6)_____ University of Michigan
(7)_____ Western Michigan University
(8)_____ Other (specify)_____
(9)_____ Uncertain

11. With a community college within driving distance providing the first two years of college work, would you plan to take your first two years there and then transfer to a four-year college for the third and fourth year work?

(1)_____ Yes
(2)_____ No
(3)_____ Uncertain

12. If it were necessary to join with another county to establish a community college that would service Hillsdale County, which county would you prefer to join with? (Place a 1 before your first choice, a 2 before your second choice, and a 3 before your third choice).

(a)_____ Branch
(b)_____ Jackson
(c)_____ Lenawee

13. If a community college were not feasible locally, how would you suggest that advanced technical/vocational training be provided?

(1)_____ More use of high schools (night courses, etc.)
(2)_____ A technical/vocational center locally.
(3)_____ Other (describe)

14. Do you have one or more older brothers or sisters who are now attending or have attended college? If so, where?

(1)_____ Yes (which schools) _____
(2)_____ No

15. How far did your father go in school?

(1)_____ Did not complete the 8th grade
(2)_____ Completed the 8th grade
(3)_____ Some high school
(4)_____ Completed high school
(5)_____ Some college
(6)_____ Completed college degree
(7)_____ Some graduate school
(8)_____ Completed graduate degree
(9)_____ Other

16. How far did your mother go in school?

(1)_____ Did not complete the 8th grade
(2)_____ Completed the 8th grade
(3)_____ Some high school
(4)_____ Completed high school
(5)_____ Some college
(6)_____ Completed college degree
(7)_____ Some graduate school
(8)_____ Completed graduate degree
(9)_____ Other

17. What is the occupation of the head of your home (father if living).

(Be specific)_____

Dear Parent:

The Hillsdale County Intermediate School District, in cooperation with the eight county local school districts, is conducting a survey to determine possible community college needs, as well as advanced vocational-technical needs of students in the area.

A substantial part of the study is concerned with parents' opinions regarding the educational future of their children. We would very much appreciate your completing the attached questionnaire and returning them to the school by Friday, April 29. You need not sign the questionnaire.

On behalf of the Intermediate School District, thank you for your help.

Sincerely,

Community College Pre-Professional and
Vocational Technical Committees

PARENT QUESTIONNAIRE

For Parents of 4th Grade Students

Directions: Please do not write your name on this sheet. All answers are strictly confidential. Please check the one answer most appropriate for you for each question.

1. What is the name of the county in which you live?

_____ Branch
_____ Hillsdale
_____ Jackson
_____ Lenawee
_____ Other

2. What school does your 4th grade child attend?_____
(name)

3. How many children do you have in each of the following groups? (Indicate number of children in each age group.)

_____ Pre-school
_____ Kindergarten
_____ Grades 1-6
_____ Grades 7-12
_____ Beyond grades 12 or out of school
_____ Total number (exclude those no longer dependent on you)

4. How far in school do you want your 4th grade child to go?

_____ Through high school
_____ High school plus specialized technical or business training
_____ Nurses Training
_____ Through college
_____ College plus advanced degree work
_____ Other (specify)_____

5. In general, who do you feel should be permitted to go to college?

_____ Those with superior ability only
_____ Those with ability who have the financial means
_____ All who have ability to profit from college work regardless of financial means
_____ Other (specify)_____

6. What plans do you now have for your 4th grade child to continue his or her education beyond high school?

_____ None at the present
_____ Am leaving it up to the child
_____ Have a definite education savings program
_____ Will help child work his way through school
_____ Expect child to win scholarship
_____ Expect child to be trained at government expense (e.g., Armed Service)
_____ Other (specify)_____

7. How certain are you that your 4th grade child will attend college or some form of specialized training?

_____ Quite certain to attend
_____ Probably attend
_____ Uncertain
_____ Probably not attend
_____ Certain not to attend

8. If you feel that your 4th grade child will attend some form of post high school education or college, what type of program would you expect him or her to take?

_____ Undecided
_____ Accounting
_____ Agriculture
_____ Architecture
_____ Mathematics-Statistics
_____ Art or Arts and Crafts
_____ Auto and Airplane Mechanics
_____ Banking and Finance
_____ Beautician or Barber
_____ Building Trade (mason, electrician, carpenter, etc.)
_____ Business Administration

_____ Chemist (Industrial, research)
_____ Conservation (forestry)
_____ Dental Technology
_____ Dentistry
_____ Drafting
_____ Electronics
_____ Engineering
_____ Government Service
_____ Homemaking
_____ Industrial Management
_____ Journalism (reporting, editing, writing)
_____ Laboratory Technician (industrial, medical, etc.)
_____ Law
_____ Medical Technology
_____ Medicine
_____ Metal trades and Machine shop
_____ Ministry or Religious Education
_____ Music
_____ Nursing
_____ Psychology-Psychiatry
_____ Radio - T.V.
_____ Retailing or wholesale trades
_____ Salesmanship (retail, wholesale, representative)
_____ Science research
_____ Secretarial
_____ Social Work
_____ Teaching
_____ Veterinary Medicine
_____ Other (specify)_____

9. If a fully accredited community college is established in this area offering the first two years of college work and specialized training programs (technical, business, vocational, etc.) would your 4th grader be likely to attend this institution?

_____ Yes
_____ Probably Attend
_____ Uncertain
_____ Probably not attend college
_____ Certain not to attend college
_____ Will attend school elsewhere

10. If a community college is established in the area, would your other children be likely to attend?

_____ Yes
_____ Probably
_____ Uncertain
_____ Probably not go to college
_____ Will not attend college
_____ Will attend school elsewhere
_____ We have no other college-age or younger children

11. What is the occupation of the head of the household? (i.e. bookkeeper, banker, carpenter, chemist, engineer, police officer, truck driver, social worker, assembly line worker, and so on). Please be as specific as you can.

_____

12. If the wife is employed outside the home, please indicate type of employment as above.

_____

13. What formal training have the heads of the household had?

	Husband	Wife
Did not complete 8th grade	_____	_____
Completed 8th grade	_____	_____
Some high school	_____	_____
Completed high school	_____	_____
Some college	_____	_____
Completed college	_____	_____
Graduate School	_____	_____

Other (specify) Husband_____

Wife_____

14. In what additional education, if any, would the heads of the household be interested?

_____ None
_____ Work on college degree
_____ Courses to help in my job or help to get a better job
_____ Courses to broaden myself
_____ Courses to help me improve my home
_____ Other (specify)_____

Dear Parent:

The Hillsdale County Intermediate School District, in cooperation with the eight county local school districts, is conducting a survey to determine possible community college needs, as well as advanced vocational technical needs of students in the area.

A substantial part of the study is concerned with parents' opinions regarding the educational future of their children. We would very much appreciate your completing the attached questionnaires and returning them to the school by Friday, April 29. You need not sign the questionnaire.

On behalf of the Intermediate School District, thank you for your help.

Sincerely,

Community College Pre-Professional and
Vocational Technical Committees

COMMUNITY COLLEGE STUDY

Questionnaire for Parents of 11th Grade Students

Please check one answer most appropriate for you for each item.

1. In what school district do you reside?

(1)_____ Camden-Frontier
(2)_____ Hillsdale
(3)_____ Jonesville
(4)_____ Litchfield
(5)_____ North Adams
(6)_____ Pittsford
(7)_____ Reading
(8)_____ Waldron

2. How far in school do you want your 11th grade child to go?

(1)_____ Through high school
(2)_____ High school and specialized training other than college
(3)_____ One or two years of college
(4)_____ College degree
(5)_____ Other (specify)_____

3. What plans do you now have for your 11th grade child to continue his or her education beyond high school?

(1)_____ None at present
(2)_____ Am leaving it up to the child
(3)_____ Have definite education savings program
(4)_____ Will help child work his way through school
(5)_____ Expect child to earn scholarship
(6)_____ Expect child to be trained at government expense (e.g., military)
(7)_____ Other (specify)_____

4. How certain are you that your 11th grade child will attend college or some form of specialized training?

(1)_____ Quite certain to attend
(2)_____ Probably attend
(3)_____ Uncertain
(4)_____ Probably not attend
(5)_____ Certain not to attend

5. Why did you reach the decision above?

(1)_____ Child is not interested in further education
(2)_____ Child's grades are not good enough
(3)_____ Child's vocational choice doesn't require past high school training
(4)_____ Colleges don't offer appropriate training for child's vocational choice
(5)_____ Lack of finances (just can't afford it)
(6)_____ Other (specify)_____

6. If a community college were available in the area so that your child could live at home and commute to school, would this change the probability that he or she would go on to school?

(1)_____ Yes
(2)_____ Probably
(3)_____ Not likely
(4)_____ No

7. If you feel that your 11th grade child will attend some form of education after high school, what type of program would you expect him or her to take?

(1)_____ Accounting
(2)_____ Advertising
(3)_____ Agriculture
(4)_____ Architecture
(5)_____ Art
(6)_____ Athletics
(7)_____ Beautician or Barber
(8)_____ Building Trades
(9)_____ Business Management
(10)_____ Chemist
(11)_____ Conservation
(12)_____ Dental Hygiene
(13)_____ Dentistry
(14)_____ Drafting
(15)_____ Dramatics
(16)_____ Electronics
(17)_____ Engineering
(18)_____ Finance
(19)_____ Government Service
(20)_____ Homemaking

(21)_____ Hotel Management
(22)_____ Industrial Worker
(23)_____ Journalism
(24)_____ Laboratory Technician
(25)_____ Law
(26)_____ Law Enforcement
(27)_____ Mathematics
(28)_____ Mechanics
(29)_____ Medical Technician
(30)_____ Medicine
(31)_____ Metal Trades
(32)_____ Mortuary Science
(33)_____ Music
(34)_____ Nursing
(35)_____ Occupational Therapy
(36)_____ Pharmacy
(37)_____ Photography
(38)_____ Psychology
(39)_____ Religion
(40)_____ Retailing
(41)_____ Salesman
(42)_____ Secretary or Stenographer
(43)_____ Social Work
(44)_____ Teaching
(45)_____ Veterinary Medicine
(46)_____ Other (specify)_____

8. If Hillsdale County is served by a community college offering the first two years of college work as well as specialized training programs (technical, business, vocational), would your 11th grade child be likely to attend this institution after high school?

(1)_____ Yes
(2)_____ No
(3)_____ Uncertain

9. If Hillsdale County is served by a community college, in what additional education, if any, would you yourself be interested?

(1)_____ None
(2)_____ Work on high school diploma
(3)_____ Work on college degree
(4)_____ Courses to help in my job or help to get a better job
(5)_____ Courses to help me improve my home
(6)_____ Courses to broaden myself
(7)_____ Other (specify)_____

10. If it were necessary to join with another county to establish a community college that would service Hillsdale County, which county would you prefer to join with? (Place a 1 before your first choice, a 2 before your second choice, and a 3 before your third choice.)

(a)_____ Branch
(b)_____ Jackson
(c)_____ Lenawee

11. If a community college were not feasible at this time, how would you suggest that additional training/education be provided?

(1)_____ Technical-Vocational center
(2)_____ Additional night courses at high school
(3)_____ Other (describe)

12. If a community college is established in this area, would your other children be likely to attend?

(1)_____ Yes
(2)_____ No
(3)_____ Uncertain
(4)_____ Will not attend college
(5)_____ Will attend college or school elsewhere
(6)_____ No other children

Curriculum Distribution of Juniors

Curriculum	Number	PerCent
College Preparatory	171	35.0
General	197	40.4
Commercial/Business	75	15.4
Vocational	27	5.5
Other	9	1.8
No Response	9	1.8
	488	99.9

Juniors' Estimates of Grade Averages

Average	Number	PerCent
A	26	5.3
B	168	34.4
C	251	51.4
D	35	7.2
E	1	0.2
No Response	7	1.4
	488	99.9

Aspirations of Juniors for Education

Highest level of Education Aspired	Number	PerCent
College Degree	148	30.3
One or two years of college	97	19.9
High school plus specialized training	117	24.0
Through high school	99	20.3
Other	22	4.5
No Response	5	1.0
	488	100.00

Certainty of Juniors' Plans for Post-High School Education

Certainty of Further Education	Number	PerCent
Definitely plan to go on	174	35.7
Probably will go	120	24.6
Uncertain	101	20.7
Probably will not go	36	7.4
No intention of going	52	10.7
No response	5	1.0
	488	100.1

Reasons Given by Juniors Who Responded
"Probably will not go" or "Have no intention of going"

Reason	Number	PerCent
Not interested in further education	9	1.8
Want to go to work	20	4.1
Want to get married	12	2.5
Will enter military service	21	4.3
Grades not good enough	26	5.3
Lack of finances	10	2.0
Undecided	11	2.3
	109*	22.3

NOTE: A few juniors checked more than one reason, and a few who answered "Uncertain" to Question 6 also answered Question 7.

Interest expressed in attending a community college serving Hillsdale County offering one - and two - year programs in such areas as agriculture, business, nursing, secretarial, and technical courses

Response	Number	PerCent
Yes	185	37.9
No	146	29.9
Uncertain	146	29.9
No Response	11	2.3
	488	100.0

Occupational Aspirations of Juniors

Occupation	Number	PerCent
Accounting	16	3.3
Advertising	2	0.4
Agriculture	21	4.3
Architecture	7	1.4
Art	12	2.5
Athletics	10	2.0
Beautician or Barber	39	8.0
Building Trades	4	0.8
Business Management	19	3.9
Chemist	5	1.0
Conservation	7	1.4
Dental Hygiene	3	0.6
Dentistry	2	0.4
Drafting	15	3.1
Dramatics	0	0.0
Electronics	9	1.8
Engineering	21	4.3
Finance	2	0.4
Government Service	6	1.2
Homemaking	11	2.3
Hotel Management	0	0.0
Industrial Worker	14	2.9
Journalism	6	1.2
Laboratory Technician	3	0.6
Law	7	1.4
Law Enforcement	11	2.3
Mathematics	11	2.3
Mechanics	38	7.8
Medical Technician	2	0.4
Medicine	7	1.4
Metal Trades	7	1.4
Mortuary Science	0	0.0
Music	14	2.9
Nursing	22	4.5
Occupational Therapy	5	1.0
Pharmacy	4	0.8
Photography	5	1.0
Psychology	5	1.0
Religion	3	0.6
Retailing	6	1.2

Occupational Aspirations of Juniors (continued)

Salesman	2	0.4
Secretary or Stenographer	51	10.5
Social Work	13	2.7
Teaching	68	13.9
Veterinary Medicine	7	1.4
Other	58	11.9
	580*	118.6

NOTE: Nearly twenty percent of the juniors checked more than one possible occupation which they hoped to enter.

Where Juniors Plan to Go for Professional Training

School	Number	PerCent
Central Michigan University	9	1.8
Eastern Michigan University	9	1.8
Ferris State College	20	4.1
Hillsdale College	7	1.4
Michigan State University	48	9.8
University of Michigan	6	1.2
Western Michigan University	16	3.3
Other	92	18.9
Uncertain	204	41.8
No Response	77	15.8
	488	99.9

Expression of interest in attending a community college within driving distance for the first two years of college work and then transferring to a four-year college.

Degree of Interest	Number	PerCent
Yes	81	16.6
No	168	34.4
Uncertain	200	41.0
No Response	39	8.0
	488	100.0

Suggestions of juniors for providing technical/vocational training if a local community college were not feasible.

Suggestions	Number	PerCent
More use of high schools (night courses, etc.)	164	33.6
A local technical/vocation center	219	44.9
Other	14	2.9
No Response	91	18.6
	488	100.0

Education of Juniors' Parents

Schooling	Fathers Number	Fathers PerCent	Mothers Number	Mothers PerCent
Completed graduate school	14	2.9	9	1.8
Some graduate school	4	0.8	4	0.8
Completed college degree	22	4.5	31	6.4
Some college	36	7.4	52	10.7
Completed high school	187	38.3	213	43.6
Some high school	85	17.4	76	15.6
Completed the 8th grade	77	15.8	43	8.8
Less than the 8th grade	13	2.7	11	2.3
Other	17	3.5	18	3.7
No Response	33	6.8	31	6.4
	488	100.1	488	100.1

Juniors Who Have One or More Older Brothers or Sisters Now Attending or Who Have Attended College

Response	Number	PerCent
Yes	146	29.9
No	301	61.7
No Response	41	8.4
	488	100.0

Responses to the question, "If it were necessary to join with another county to establish a community college that would service Hillsdale County, which county would you prefer to join with?"

	BRANCH		JACKSON		LENAWEE	
	Number	PerCent	Number	PerCent	Number	PerCent
Camden-Frontier High School (39 juniors - 8.0% of total)						
First choice	13	2.7	13	2.7	7	1.4
Second choice	15	3.1	8	1.6	8	1.6
Third choice	5	1.0	10	2.0	16	3.6
Hillsdale High School (51 juniors - 30.9% of total)						
First choice	35	7.2	53	10.9	34	7.0
Second choice	76	15.6	28	5.7	18	3.7
Third choice	21	4.3	35	7.2	64	13.1
Jonesville High School (66 juniors - 13.5% of total)						
First choice	16	3.3	29	5.9	6	1.2
Second choice	37	7.6	6	1.2	9	1.8
Third choice	2	0.4	13	2.7	33	6.8
Litchfield High School (53 juniors - 10.9% of total)						
First choice	30	6.1	15	3.1	4	0.8
Second choice	17	3.5	19	3.9	8	1.6
Third choice	3	0.6	9	1.8	31	6.4
North Adams High School (40 juniors - 8.2% of total)						
First choice	4	0.8	13	2.7	19	3.3
Second choice	25	5.1	4	0.8	9	1.8
Third choice	9	1.8	16	3.3	8	1.6
Pittsford High School (54 juniors - 11.1% of total)						
First choice	4	0.8	19	3.9	28	5.7
Second choice	15	3.1	17	3.5	18	3.7
Third choice	35	7.1	13	2.7	3	0.6

	BRANCH		JACKSON		LENAWEE	
	Number	PerCent	Number	PerCent	Number	PerCent
Reading High School (57 juniors - 11.7% of total)						
First choice	41	8.4	8	1.6	1	0.2
Second choice	10	2.0	21	4.3	18	3.7
Third choice	1	0.2	19	3.9	29	5.9
Waldron High School (27 juniors - 5.5% of total)						
First choice	2	0.4	10	2.0	13	2.7
Second choice	7	1.4	10	2.0	8	1.6
Third choice	16	3.3	6	1.2	4	0.8
Totals - All Schools (488 juniors)						
First choice	145	29.7	160	32.8	109	22.3
Second choice	202	41.4	113	23.1	96	19.6
Third choice	92	18.8	121	24.8	188	38.5
No Response	49	10.0	94	19.3	95	19.7
	488	99.9	488	100.0	488	100.1

Parents' Responses to Questionnaires
Amount of Education Desired for Children

Responses	11th Grade Parents Number	11th Grade Parents PerCent	4th Grade Parents Number	4th Grade Parents PerCent
College degree or beyond	94	41.6	193	48.5
One or two years of college	38	16.8	46	11.6
High school and specialized training other than college	47	20.8	46	11.6
Through high school	43	19.0	85	21.4
Other	2	0.9	14	3.5
No Response	2	0.9	14	3.5
	226	100.0	398	100.1

Parents' Plans for Children's Post-High School Education

Responses	11th Grade Parents Number	11th Grade Parents PerCent	4th Grade Parents Number	4th Grade Parents PerCent
None at present	32	14.2	106	26.6
Leaving it up to child	71	31.4	73	18.3
Have definite education savings program	31	13.7	53	13.3
Will help child work his way through school	74	32.7	127	31.9
Expect child to earn scholarship	3	1.3	5	1.3
Expect child to be trained at government expense	9	4.0	2	0.5
Other	6	2.7	5	1.3
No Response	0	0.0	27	6.8
	226	100.0	398	100.0

Parents Certainty That Children Will Attend College
or Take Some Form of Specialized Training

Reason	11th Grade Parents Number	11th Grade Parents PerCent	4th Grade Parents Number	4th Grade Parents PerCent
Quite certain to attend	90	39.8	115	28.9
Probably attend	54	23.9	103	25.9
Uncertain	50	22.1	137	34.4
Probably will not attend	16	7.1	15	3.8
Certain not to attend	12	5.3	4	1.0
No Response	4	1.8	24	6.0
	226	100.0	398	100.0

Reasons Cited by Parents for Stating that Their Children Probably Will Not Attend or Are Certain Not to Attend College or Take Some Form of Specialized Training

Reasons	11th Grade Parents Number	11th Grade Parents PerCent	4th Grade Parents Number	4th Grade Parents PerCent
Child is not interested in further education	19	8.4	5	1.3
Child's grades are not good enough	22	9.7	11	2.8
Child's vocational choice doesn't require post-high school training	3	1.3	0	0.0
Colleges don't offer appropriate training for child's vocational choice	2	0.9	3	0.8
Lack of finances	13	5.8	14	3.5
Other	7	3.1	4	1.0
No Response	160	70.8	361	90.6
	226	100.0	398	100.0

Parents' Responses to the Question, "If a community college were available in the area so that your child could live at home and commute to school, would this change the probability that he or she would go on to school?"

Reason	11th Grade Parents Number	11th Grade Parents PerCent	4th Grade Parents Number	4th Grade Parents PerCent
Yes	23	10.2	8	2.0
Probably	25	11.1	25	6.3
Not Likely	30	13.3	27	6.8
No	33	14.6	19	4.8
No Response	115	50.8	319	80.2
	226	100.0	398	100.1

Parents' Responses to the Question, "If Hillsdale County is served by a community college offering the first two years of college work as well as specialized training programs (technical, business, vocational), would your child be likely to attend this institution after high school?"

Reason	11th Grade Parents Number	11th Grade Parents PerCent	4th Grade Parents Number	4th Grade Parents PerCent
Yes	73	32.3	177	44.5
No	55	24.3	48	12.0
Uncertain	90	39.8	156	39.2
No Response	8	3.5	17	4.3
	226	99.9	398	100.0

Parents' Expectations of Post-High School Programs
to be Entered by Their Children

Occupation	11th Grade Parents Number	11th Grade Parents PerCent	4th Grade Parents Number	4th Grade Parents PerCent
Accounting	1	0.4	4	1.0
Advertising	2	0.9	0	0.0
Agriculture	0	0.0	9	2.3
Architecture	1	0.4	3	0.8
Art	1	0.4	10	2.5
Athletics	1	0.4	0	0.0
Beautician or Barber	0	0.0	10	2.5
Building Trades	0	0.0	16	4.0
Business Management	1	0.4	6	1.5
Chemist	3	1.3	5	1.3
Conservation	2	0.9	5	1.3
Dental Hygiene	1	0.4	0	0.0
Dentistry	0	0.0	0	0.0
Drafting	6	2.7	1	0.3
Dramatics	0	0.0	0	0.0
Electronics	2	0.9	4	1.0
Engineering	7	3.1	9	2.3
Finance	2	0.9	0	0.0
Government Service	5	2.2	2	0.5
Homemaking	7	3.1	6	1.5
Hotel Management	2	0.9	0	0.0
Industrial Worker	4	1.8	2	0.5
Journalism	2	0.9	2	0.5
Laboratory Technician	5	2.2	1	0.3
Law	3	1.3	4	1.0
Law Enforcement	4	1.8	0	0.0
Mathematics	4	1.8	5	1.3
Mechanics	11	4.9	8	2.0
Medical Technician	1	0.4	2	0.5
Medicine	6	2.7	6	1.5
Metal Trades	5	2.2	3	0.8
Mortuary Science	1	0.4	0	0.0
Music	2	0.9	8	2.0
Nursing	7	3.1	35	8.8
Occupational Therapy	3	1.3	0	0.0
Pharmacy	0	0.0	0	0.0
Photography	0	0.0	0	0.0
Psychology	2	0.9	0	0.0
Religion	1	0.4	11	2.8
Retailing	9	4.0	0	0.0
Salesman	1	0.4	3	0.8
Secretary or Stenographer	26	11.5	9	2.3
Social Work	6	2.7	3	0.8
Teaching	30	13.3	39	9.8
Veterinary Medicine	3	1.3	8	2.0
Other or Undecided	18	8.0	214	19.5

Parents' Expressions of Interest in Additional Education for Themselves if Hillsdale County is served by a Community College.

Responses	11th Grade Parents Number	11th Grade Parents PerCent	4th Grade Parents Number	4th Grade Parents PerCent
None	82	36.3	116	29.1
Work on college degree	17	7.5	30	7.5
Courses to help in present job or to get a better job	36	15.9	95	23.9
Courses to help improve home	13	5.8	10	2.5
Courses to broaden oneself	29	12.8	53	13.3
Other	25	11.1	16	4.0
No Response	24	10.6	78	19.6
	226	100.0	398	99.9

Parents' Suggestions for Providing Additional Training or Education if a Community College is not Feasible at This Time

Responses	11th Grade Parents Number	11th Grade Parents PerCent
Technical-Vocational Center	110	48.7
Additional night courses at high school	71	31.4
Other	4	1.8
No Response	41	18.1
	226	100.0

Parents' Opinions as to Whether Their Other Children Would be Likely to Attend a Community College Established in This Area

Responses	11th Grade Parents Number	11th Grade Parents PerCent	4th Grade Parents Number	4th Grade Parents PerCent
Likely to attend	58	25.7	170	42.7
Uncertain	89	39.4	148	37.2
Not likely to attend	26	11.5	16	4.0
Will attend elsewhere	5	2.2	21	5.3
No other children	40	17.7	23	5.8
No Response	8	3.5	20	5.0
	226	100.0	398	100.0

Formal Education of 4th Grade Parents

Responses	Fathers Number	Fathers PerCent	Mothers Number	Mothers PerCent
Graduate school	6	1.5	5	1.3
Completed college	21	5.3	8	2.0
Some college	44	11.1	40	10.1
Completed high school	163	41.0	190	47.7
Some high school	80	40.1	88	22.1
Completed 8th Grade	30	7.5	21	5.3
Less than 8th grade	17	4.3	8	2.0
Other	3	0.8	2	0.5
No Response	34	8.5	36	9.0
	398	100.1	398	100.0

Length of Time 4th Grade Parents Have Lived in Their Present Homes

Responses	Number	PerCent
Less than one year	45	11.3
1 - 2 1/2 years	61	15.3
3 - 5 1/2 years	69	17.3
6 - 10 1/2 years	108	27.1
11 - 20 years	78	19.6
More than 20 years	15	3.8
No Response	22	5.5
	398	99.9

Elementary Schools Represented by 4th Grade Parents

Schools	Number	PerCent
Bailey	64	16.1
Camden-Frontier	29	7.3
Gier	40	10.1
Litchfield	11	2.8
Mauck	23	5.8
North Adams or Jerome	29	7.3
Osseo	10	2.5
Pittsford	29	7.3
Reading or Reynolds	54	13.6
St. Anthony's	26	6.5
Waldron or Prattville	30	7.5
Williams or Mosherville	51	12.8
No Response	2	0.5
	398	100.1

Reasons of 4th Grade Parents to Question, "Who do you feel should be permitted to go to college?"

Responses	Number	PerCent
Those with superior ability only	115	28.9
Those with ability who have the financial means	162	40.7
All who have ability to profit from college work regardless of financial means	80	20.1
Other	21	5.3
No Response	20	5.0
	398	100.0

Responses of 11th Grade Parents to the Question, "If it were necessary to join with another county to establish a community college that would service Hillsdale County, which county would you prefer to join with?"

High Schools	Branch Number	Branch PerCent	Jackson Number	Jackson PerCent	Lenawee Number	Lenawee PerCent
Camden-Frontier (19 parents - 8.4% of total)						
First choice	12	5.3	2	0.9	2	0.9
Second choice	2	0.9	10	4.4	4	1.8
Third Choice	2	0.9	4	1.8	10	4.4
Hillsdale (42 parents - 18.6% of total)						
First choice	9	4.0	12	5.3	8	3.5
Second choice	17	7.5	4	1.8	8	3.5
Third choice	3	1.3	13	5.8	13	5.8
Jonesville (18 parents - 8.0% of total)						
First choice	10	4.4	2	0.9	1	0.4
Second choice	3	1.3	7	3.1	4	1.8
Third choice	0	0.0	5	2.2	7	3.1
Litchfield (28 parents - 12.4% of total)						
First choice	18	8.0	7	3.1	1	0.4
Second choice	6	2.7	14	6.2	5	2.2
Third choice	1	0.4	5	2.2	19	8.4
North Adams (24 parents - 10.6% of total)						
First choice	1	0.4	8	3.5	13	5.8
Second choice	18	8.0	2	0.9	3	1.3
Third choice	3	1.3	13	5.8	5	2.2

Pittsford
(40 parents - 17.7% of total)

First choice	2	0.9	10	4.4	24	10.6
Second choice	12	5.3	18	8.0	6	2.7
Third choice	22	9.7	8	3.5	8	3.5

Reading
(37 parents - 16.4% of total)

First choice	30	13.3	4	1.8	1	0.4
Second choice	3	1.3	8	3.5	17	7.5
Third choice	2	0.9	15	6.6	10	4.4

Waldron
(18 parents - 8.0% of total)

First choice	0	0.0	6	2.7	10	4.4
Second choice	1	0.4	9	4.0	6	2.7
Third choice	14	6.2	2	0.9	0	0.0

Totals - All Schools
(226 parents)

First choice	82	36.3	51	22.5	60	26.5
Second choice	62	27.4	72	31.8	53	23.4
Third choice	47	20.8	65	28.7	72	31.8
No Response	35	15.5	38	17.0	41	18.3
	226	100.0	226	100.0	226	100.0

APPENDIX B

Questionnaire Submitted to Labor Employees
(Results Included)

(543 Returns)

HILLSDALE COUNTY INTERMEDIATE VOCATIONAL TECHNICAL STUDY

LABOR QUESTIONNAIRE

1. What is your occupation now? Try to be specific. (Machine operator, custodial, maintenance, etc.)

2. How well do you feel you were prepared in school for this occupation?

Very Well	66	12.15%
Acceptably	193	35.5%
Inadequately	124	22.8%
No preparation necessary	148	27.25%

3. Do you feel that additional occupational training is necessary for your work?

Yes	239	44%
No	297	54.7%

4. If it were possible to obtain additional training locally, would you avail yourself of it?

Yes	412	75%
No	117	21.5%

5. If your answer to question 4 is yes, check the areas of study, listed below, that you would be most interested in pursuing.

62	Accounting (15%)
30	Agriculture (7.28%)
12	Architecture (2.9%)
24	Art (5.8%)
19	Athletics (4.6%)
24	Beautician or Barber (5.8%)
86	Building Trades (Mason, Carpenter, Electrician) (20.8%)
96	Business Management (23.3%)
12	Chemist (2.9%)
45	Conservation (10.9%)
5	Dentistry (1.2%)
78	Drafting (18.9%)
5	Dramatics (1.2%)

63	Electronics	(15.3%)
82	Engineering	(19.9%)
37	Finance	(8.98%)
23	Government Service (Post Office, Library)	(5.6%)
12	Homemaking	(2.9%)
53	Industrial Worker	(12.9%)
6	Journalism	(1.45%)
14	Laboratory Technician	(3.4%)
24	Law Enforcement	(5.8%)
92	Mathematics	(22.33%)
80	Mechanic	(19.4%)
9	Medicine	(2.2%)
156	Metal Trades (Tool and die, Machinist, Welding)	(37.9%)
13	Music	(3.2%)
2	Pharmacy	(0.5%)
9	Photography	(2.2%)
32	Psychology	(7.8%)
13	Religion	(3.2%)
9	Retailing	(2.2%)
24	Salesman	(5.8%)
21	Secretary	(5.1%)
15	Social Work	(3.6%)
0	Other (specify)_____	

6. How could this additional training best be provided?

a.	199	Additional night courses at high school	(48.3%)
b.	121	Community college	(29.4%)
c.	115	Vocational center	(27.9%)
d.	43	Other (specify)_____	(10.4%)

As you may know, a citizen's study group has been set up under the direction of Hillsdale County Intermediate School District. A part of the study is concerned with the vocational needs in the community, particularly as it relates to additional training in the technical vocational area. Thank you for your help in completing this questionnaire.

APPENDIX C

Questionnaire Submitted to Management and Professionals (Results Included)

April 28, 1966

Dear Sir:

The Hillsdale Vocational Educational sub-committee is conducting a survey in conjunction with the community college study to determine the amounts and types of vocational-technical education needed in this area.

Enclosed is a questionnaire in an attempt to seek information from industry, business and agriculture relative to the type of education and training you require for initial employment in your establishment.

Will you please fill out the form and check only those areas that pertain to your business or industry. We particularly call your attention to the last page of this form.

Information furnished by you will be most important for the training of your future employees and very necessary in planning for adequate vocational-technical training for all youth of the Hillsdale Area Vocational Educational study.

Your cooperation will be greatly appreciated and all information will be treated as strictly confidential. In the interest of time, we would appreciate the return of the questionnaire by Friday, May 6th. Thank you.

Sincerely,

Frank Leutheuser
Bruce Sutherland
Business Industry Representatives

HILLSDALE AREA VOCATIONAL-TECHNICAL STUDY

Business, Industry and Agriculture Survey

Introduction: The purpose of this questionnaire is to gather information and opinions from business and industrial employers to use in improving educational programs for employment-bound youth in the Hillsdale County area. You can help by completing the questionnaire as completely as possible. The results will be used for statistical analysis and your firm will not be identified in any published reports.

Special Note: Except for large firms, the completion of the questionnaire will require only a few minutes. Study the heading of each section. If it is applicable to your firm, please check or fill in the information; if not, proceed to the next section.

General Information

1. Firm Name _____

2. Mailing Address _____

3. Name of Person Reporting _____

4. Your Job Title _____

5. Telephone Number _____

(73 Returns)

6. Please check the space opposite the description which best identifies the activities of your firm. Check more than one if needed.

(73 Returns)

	Number	PerCent
1. Agricultural Servic	4	5.47
2. Advertising	2	2.73
3. Banking and Finance	3	4.10
4. Communications	0	0.0
5. Construction	6	8.21
6. Education	0	0.0
7. Entertainment & Recreation	0	0.0
8. Food, Dairy and Drink	4	5.47
9. Government - Federal - State - Local	1	1.36
10. Health, Hospital, Medical, Dental	7	9.58
11. Hotel and Motel	0	0.0
12. Industrial or Manufacturing	21	28.76
13. Insurance	4	5.47
14. Marine Services	0	0.0
15. Printing & Publishing	1	1.36
16. Professional - Other than medical & dental	1	1.36
17. Real Estate	4	5.47
18. Retailing - Other than food, dairy & drink	13	17.80
19. Service Establishment	6	8.21
20. Transportation	4	5.47
21. Utilities	0	0.0
22. Wholesaling	3	4.10
Other - Write in Below		
23. _____	4	5.47
24. _____	0	0.0
25. _____	1	1.36

Part II - Jobs That Do Not Require Formal, In-School Education Beyond High School

Please supply the information requested, relative to your establishment, for the skilled, semi-skilled, and unskilled jobs listed below, for which high school level education and training (plus work experience) are considered sufficient and desirable. If formal education and training beyond high school is essential or desired, do not make entries here, but see Part III, following. Be sure to consider all of the sections - A, B, C, D, E.

Type of Job (1) (Percentages are in parenthesis)	Average # on payroll 1965 (2) F	M	Expected Annual Rate of Employment 66-70 (Check one) Increase (3)	Same (4)	Decrease (5)	Local supply of Qualified Employees (Check one) Scarce (6)	Adeq. (7)	Surplus (8)
A. INDUSTRIAL JOBS								
1. Air cond., refrig.	0	6	1(1.36)	3 (4.1)	0	3 (4.10)	0	0
2. Appliance repair	1	6	1(1.36)	4 (5.47)	0	4(5.47)	0	0
3. Auto mechanic	1	16	3(4.10)	5(6.84)	0	7(9.58)	1(1.36)	0
4. Assembly line work	97	244	4(5.47)	2(2.73)	0	3(4.10)	3(4.10)	0
5. Aviation mechanic	68	10	1(1.36)	0	0	0	0	0
6. Boat builder	0	0						
7. Cabinet maker	0	0						
8. Carpenter	0	34	1(1.36)	3(4.10)	0	3(4.10)	0	0
9. Chemical worker	0	9	0	1(1.36)	0	1(1.36)	0	0
10. Electrician (wireman)	30	107	3(4.10)	3(4.10)	0	4(5.47)	0	0
11. Electrician (lineman)	0	2	0	1(1.36)	0	1(1.36)	0	0
12. Electronics repairman	2	3	2(2.73)	1(1.36)	0	3(4.10)	0	0
13. Explosives worker								
14. Foundry worker	0	5	0	1(1.36)	0	0	1(1.36)	0
15. Machine operator	71	688	12(16.43)	4(5.47)	0	12(16.43)	3(4.10)	0
16. Machinist	0	42	3(4.10)	1(1.36)	0	3(4.10)	0	0
17. Mechanic-general	1	20	5(6.84)	5(6.84)	0	7(9.58)	2(2.73)	0
18. Meat cutter	6	16	1(1.36)	3(4.10)	0	3(4.10)	1(1.36)	0
19. Millwright	0	29	3(4.10)	1(1.36)	0	4(5.47)	1(1.36)	0
20. Miner								
21. Painter	0	4	3(4.10)	0	0	2(2.73)	1(1.36)	0
22. Photographer								
23. Plasterer								
24. Plastics worker								
25. Plumber	0	14	2(2.73)	3(4.10)	0	2(2.73)	2(2.73)	0
26. Printer								
27. Railway worker								
28. Roofer								
29. Sheet metal worker	0	164	2(2.73)	3(4.10)	0	2(2.73)	3(4.10)	0
30. Stationary operator								
31. Steel worker								
32. Truck driver	3	63	6(8.21)	6(8.21)	0	4(5.47)	9(12.32)	1(1.36)
33. Welder & flame cutter		56	2(2.73)	1(1.36)	0	3(4.10)	0	0

Type of Job (1)	Average # on payroll 1965		Expected Annual Rate of Employment 66-70 (Check one)			Local Supply of Qualified Employees (Check one)		
	F (2)	M (2)	Increase (3)	Same (4)	Decrease (5)	Scarce (6)	Adeq. (7)	Surplus (8)
A. INDUSTRIAL JOBS (con't)								
34. Heavy equip. operator	0	5	0	2(2.73)	0	2(2.73)	0	0
35. Unskilled laborer	0	127	5(6.84)	4(5.47)	0	4(5.47)	4(5.47)	0
Other (write in)								
36. _____	4	50	1(1.36)	2(2.73)	0	2(2.73)	1(1.36)	0
37. _____	11	1	0	1(1.36)	1(1.36)	2(2.73)	0	0
B. SALES & SERVICE JOBS								
1. Bartender								
2. Barber	0	1	0	1(1.36)	0	0	1(1.36)	0
3. Beautician								
4. Bus boy								
5. Bus driver								
6. Cashier (retail store)	17	1	2(2.73)	2(2.73)	0	1(1.36)	2(2.73)	1(1.36)
7. Cook or chef	7	0	0	2(2.73)	0	0	2(2.73)	0
8. Fireman	1	0	0	1(1.36)	0	0	1(1.36)	0
9. Florist								
10. Gardener - yard care	1	2	0	2(2.73)	0	0	2(2.73)	0
11. Hospital attendant	4	0	0	1(1.36)	0	3(4.10)	7(9.58)	0
12. Janitor	7	17	3(4.10)	8(10.95)	0	3(4.10)	7(9.58)	0
13. Laborer	0	2	0	1(1.36)	0	0	1(1.36)	0
14. Laundry & dry cleaning	10	3	0	2(2.73)	0	0	2(2.73)	0
15. Law enforce. officer								
16. Marine service worker								
17. Meter reader								
18. Nurses aid	92	4	0	1(1.36)	0	0	2(2.73)	0
19. Plant security guard	0	10	1(1.36)	2(2.73)	0	0	1(1.36)	0
20. Postal worker								
21. Route salesman	3	2	1(1.36)	0	1(1.36)	2(2.73)	0	0
22. Salesperson (retail)	20	30	5(6.84)	4(5.47)	0	5(6.84)	4(5.47)	0
23. Seamstress	5	0	0	3(4.10)	0	2(2.73)	2(2.73)	0
24. Service station atten.	0	1	0	1(1.36)	0	1(1.36)	0	0
25. Shoe repairman								
26. Stock boy	11	7	2(2.73)	2(2.73)	0	3(4.10)	0	1(1.36)
27. Tailor								
28. Waiter or waitress								
29. Water treatment or sanitation worker								
Other (write in)								
30. _____	0	41	2(2.73)	1(1.36)	0	2(2.73)	0	0
31. _____	8	5	0	1(1.36)	0	0	0	0

Type of Job (1)	Average # on payroll 1965 F (2)	M	Expected Annual Rate of Employment 66-70 (Check one) Increase (3)	Same (4)	Decrease (5)	Local Supply of Qualified Employees (Check one) Scarce (6)	Adeq. (7)	Surplus (8)
C. BUSINESS OFFICE JOBS								
1. Bank clerk or teller	19	6	1(1.36)	2(2.73)	0	1(1.36)	1(1.36)	0
2. Bookkeeper	21	6	0	15(20.54)	0	6(8.21)	9(12.32)	0
3. Clerk-typist	46	5	6(8.21)	11(15.06)	0	6(8.21)	10(13.64)	0
4. Dispatcher	0	3	1(1.36)	2(2.73)	0	0	3(4.10)	0
5. General office worker	69	11	6(8.21)	13(17.80)	0	6(8.21)	11(15.06)	0
6. Office machine oper.	10	0	1(1.36)	3(4.10)	0	3(4.10)	2(2.73)	0
7. Stenographer	15	6	3(4.10)	9(12.32)	0	6(8.21)	4(5.47)	0
8. Other (write in)	1	26	1(1.36)	1(1.36)	0	0	2(2.73)	0
9.								
D. AGRICULTURAL JOBS								
1. Farm worker								
2. Nursery worker								
3. Packer or shipper								
Other (write in)								
4.	2	0	1(1.36)	0	0	1(1.36)	0	0
5.								
E. MISCELLANEOUS JOBS								
Not requiring post-high school education (Write in below)								
1.	9	43	0	6(8.21)	0	4(5.47)	1(1.36)	1(1.36)
2.	0	53	2(2.73)	2(2.73)	0	4(5.47)	0	0
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								

PART III - Jobs For People With Formal Education Beyond High School, But Less Than 4-Year College Degree

Please supply the information requested from your establishment or firm for the kinds of semi-professional and technical jobs listed below for which one or two years of post-high school education are ordinarily considered desirable or essential. Be sure to consider all the sections - A, B, C, D, E.

Type of Job (1)	Average # on payroll 1965		Expected Annual Rate of Employment 66-70 (Check one)			Local Supply of Qualified Employees (Check one)		
	F (2)	M	Increase (3)	Same (4)	Decrease (5)	Scarce (6)	Adeq. (7)	Surplus (8)
A. INDUSTRIAL JOBS								
1. Air cond., refrig., and/or heating technician	0	15	1(1.36)	0	0	1(1.36)	0	0
2. Architectural drafsman	0	2	1(1.36)	0	0	1(1.36)	0	0
3. Automotive tech.	0	1	1(1.36)	0	0	1(1.36)	0	0
4. Chemical tech.	0	5	0	1(1.36)	0	1(1.36)	0	0
5. Civil & highway tech. surveyor	0	2	1(1.36)	0	0	1(1.36)	0	0
6. Drafting & design tech.	1	21	4(5.47)	2(2.73)	0	8(10.45)	0	0
7. Electrical technician	0	3	0	2(2.73)	0	2(2.73)	0	0
8. Electronics technician								
9. Foreman - first-line supervisor	0	84	4(5.47)	6(8.21)	0	9(12.32)	1(1.36)	0
10. Industrial technician	0	2	1(1.36)	1(1.36)	0	2(2.73)	0	0
11. Instrumentation tech.								
12. Mechanical technician	0	11	0	2(2.73)	0	2(2.73)	0	0
13. Metallurgical tech.								
14. Quality control tech.	0	58	5(6.84)	3(4.10)	0	7(9.58)	0	0
Other (Write in)								
15.	0	19	2(2.73)	0	0	2(2.73)	0	0
16.	0	18	0	1(1.36)	0	1(1.36)	0	0
B. BUSINESS JOBS								
1. Accountant	1	19	1(1.36)	8(10.95)	0	5(6.84)	3(4.10)	0
2. Advertising and/or commercial art								
3. Business data process.	1	3	2(2.73)	0	0	2(2.73)	0	0
4. Business machine oper.	4	1	0	3(4.10)	0	2(2.73)	1(1.36)	0
5. Business management	0	22	1(1.36)	6(8.21)	0	5(6.84)	1(1.36)	0
6. Merchandising	10	5	1(1.36)	0	0	1(1.36)	0	0

Type of Job (1)	Average # on payroll 1965		Expected Annual Rate of Employment 66-70 (Check one)			Local Supply of Qualified Employees (Check one)		
	F (2)	M	Increase (3)	Same (4)	Decrease (5)	Scarce (6)	Adeq. (7)	Surplus (8)
B. BUSINESS JOBS (con't)								
7. Outside Salesmen	2	21	2(2.73)	3(4.10)	1(1.36)	5(6.84)	2(2.73)	0
8. Real estate, insurance, and/or finance	4	4	0	2(2.73)	0	0	1(1.36)	0
9. Retail management and buying	1	2	0	3(4.10)	0	2(2.73)	1(1.36)	0
10. Sales manager	0	11	0	4(5.47)	0	4(5.47)	0	0
11. Secretary	22	0	3(4.10)	8(10.95)	0	5(6.84)	3(4.10)	0
12. Other (Write in)	1	4	1(1.36)	2(2.73)	0	3(4.10)	0	0
13.	0	3	1(1.36)	0	0	1(1.36)	0	0
C. HEALTH, HOSPITAL & MEDICAL JOBS								
1. Dental office asst.	1	0	0	1(1.36)	0	1(1.36)	0	0
2. Dental hygienist	0	0	1(1.36)	0	0	1(1.36)	0	0
3. Medical office asst.								
4. Medical lab. tech.	4	1	0	1(1.36)	0	0	1(1.36)	0
5. Nurse (Practical)	28	0	1(1.36)	2(2.73)	0	2(2.73)	1(1.36)	0
6. Nurse (Registered)	31	0	1(1.36)	4(5.47)	0	4(5.47)	0	0
7. Psychiatric tech.								
8. X-Ray technician								
Other (Write in)								
9.								
10.								
D. AGRICULTURE JOBS Write in Below								
1.								
2.								
3.								
4.								
E. PUBLIC SERVICE JOBS Write in Below								
1.	0	1	0	1(1.36)	0	1(1.36)	0	0
2.								
3.								
4.								

PART IV - Employer Opinion and Practice

A. With respect to the requirements of your firm for entry employment, in what job categories do you employ young persons who have "dropped out" without finishing high school? Please put check marks under the headings which best describe your firms operating policies.

Entry Job Category (Percentages are in parenthesis)	Frequency of Employment		
	Common Practice (1)	Infrequently (2)	Almost Never (3)
1. Highly-skilled jobs	1 (1.36)	0	6 (8.21)
2. Business Office jobs	1 (1.36)	3 (4.10)	10 (13.69)
3. Sales jobs	1 (1.36)	2 (2.73)	7 (9.58)
4. Apprenticeship for the highly-skilled trades and crafts	3 (4.10)	6 (8.21)	7 (9.58)
5. Semi-skilled jobs (assembly line and production workers, machine operators)	10 (13.69)	6 (8.21)	3 (4.10)
6. Service jobs	6 (8.21)	8 (10.95)	4 (5.47)
7. Unskilled labor	15 (20.54)	8 (10.95)	3 (4.10)

B. With respect to the requirements of your firm for entry employment, in what job categories do you employ young persons who have graduated from high school? Please put check marks under the headings which best describe your firm's operating policy.

Entry Job Category	Frequency of Employment		
	Common Practice	Infrequently	Almost Never
1. Technician jobs	5 (6.84)	4 (5.47)	1 (1.36)
2. Highly-skilled jobs	5 (6.84)	2 (2.73)	2 (2.73)
3. Business office jobs	18 (24.65)	4 (5.47)	1 (1.36)
4. Sales jobs	10 (13.69)	0	1 (1.36)
5. Apprenticeship for the highly-skilled trades and crafts	11 (15.06)	5 (6.84)	1 (1.36)
6. Semi-skilled jobs (assembly line and production workers, machine op)	18 (24.65)	2 (2.73)	0
7. Service jobs	12 (16.43)	4 (5.47)	0
8. Unskilled labor	15 (20.54)	3 (4.10)	0

C. Recalling the employing practices of your firm for the past five-year period, which one of the following statements best describes your evaluation of young persons who have applied for entry jobs with your organization? Please check one in each category.

1. DROP OUT

12 (16.43%) (a) We have employed a number of young non-high-school graduates; and we have found they can perform satisfactorily in the following jobs: (specify)

_____

_____

9 (12.32%) (b) We have employed a number of young non-high-school graduates; but find they need a considerable amount of additional education and/or training before they can perform satisfactorily.

11 (15.06%) (c) We have found young non-high-school graduates unsatisfactory for the following reasons:

_____

_____

2. HIGH SCHOOL GRADUATES

27 (36.98%) (a) Most young high school graduates who apply seem reasonably well prepared for entry employment, and we have employed them as openings have occurred.

16 (21.91%) (b) We have employed a number of young high school graduates, but find they need a considerable amount of additional education and/or training before they can perform satisfactorily.

0 (c) We have found it inadvisable to employ young high school graduates, except for unskilled jobs.

5 (6.84%) (d) The nature of most of the entry jobs in our firm is such that young high school graduates are virtually unemployable because of a lack of occupational education and training.

D. To what extent do existing educational facilities in the Hillsdale County area meet the occupational and training needs of your company or firm?

7 (9.58%) (1) Very Well 29 (39.72 %) (2) Fairly Well 18 (24.65%) (3) Poorly

E. If you think occupational education and training in the area need improvement, which of the following developments would you support? (Please check, more than one if you like)

28 (38.35%) (1) Substantial expansion of vocational education programs in the existing high schools.

18 (24.65%) (2) Creation of an area vocational school(s) for secondary (high school) occupational training.

13 (17.80%) (3) Establishment of a strong program of occupational education in a post-secondary institution.

F. Would you and your firm be interested in participating in discussions or further study of plans for improving occupational education and training at high school and post-high school levels in Hillsdale County area?

19 (26.02%) (1) Yes 14 (19.17%) (2) No 23 (31.50%) (3) Undecided

G. Is there a formally organized training program in your company or firm?

18 (24.65%) (1) Yes 38 (52.05%) (2) No

H. If "Yes", please check each type of program you now operate on a formal basis.

25 (1) Apprenticeship (138.88%)
9 (2) Supervisory training (50.00%)
6 (3) Technician training (33.33%)
1 (4) Plant management (5.55%)
4 (5) Job upgrading (22.22%)
2 (6) Executive development (11.11%)
2 Other (write in below) (11.11%)
____ (7) ____
____ (8) ____
____ (9) ____

I. General Comments: (Add any comments which you, or other officials of your firm, may wish to make about the improvement of education and training opportunities in the Hillsdale County area. Include in your suggestions the kind and level of educational programs which should be provided.)

_____

_____

_____

_____

Please return this questionnaire at once in the envelope provided. Thank you for your interest and cooperation.

Hillsdale Area Vocational-Technical Committee

APPENDIX D

Questionnaire Submitted to High School Principals

HILLSDALE AREA VOCATIONAL-TECHNICAL STUDY

FACILITY USAGE

Please list the rooms used for vocational or pre-vocational classes in your junior and senior high school. This would include vocational shops, industrial arts, business, home economics and agriculture, or any room which may be serving a dual purpose.

List the name of the prime use of the room on the left and the maximum number of students that it will accomodate on the right. Place the number of students enrolled in each period of the day in the appropriate column.

Name of Room	Period of Day 1	2	3	4	5	6	7	Adult	Summer	Maximum No. Facility Accomodates
Drafting										
Woodworking										
Typing										
Home Economics										
Agriculture										
Shorthand										
Bookkeeping										

Name of Room	Period of Day 1	2	3	4	5	6	7	Adult	Summer	Max. Number Facility can Accomodate
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										
15.										
16.										
17.										
18.										
19.										
20.										

ROOM: (Use one sheet for each room)

Please list all rooms used for vocational or pre-vocational classes. This would include vocational shops, industrial arts shops, business, home economic rooms, or any room which may be serving a dual purpose.

Room Name:_____

Size (Estimated):_____

Age, Condition:_____

Special Features:_____

Use:_____

Total Value: Estimated value of Equipment, Tools, and Special Features.

$ _____

EQUIPMENT:

List all major pieces of equipment and sets of tools valued at $100 or more in each room. List year purchased, original cost, and current value (approx.).

Quantity	Description	Year	Cost Per Unit	Total Est. Value

ROOM: (Use one sheet for each room)

Please list all rooms used for vocational or pre-vocational classes. This would include vocational shops, industrial arts shops, business, home economic rooms, or any room which may be serving a dual purpose.

Room Name:_____

Size (Estimated):_____

Age, Condition:_____

Special Features:_____

Use:_____

Total Value: Estimated value of Equipment, Tools, and Special Features.

$ _____

EQUIPMENT:

List all major pieces of equipment and sets of tools valued at $100 or more in each room. List year purchased, original cost, and current value (approx.).

Quantity	Description	Year	Cost Per Unit	Total Est. Value

ROOM: (Use one sheet for each room)

Please list all rooms used for vocational or pre-vocational classes. This would include vocational shops, industrial arts shops, business, home economic rooms, or any room which may be serving a dual purpose.

Room Name:_____

Size (Estimated):_____

Age, Condition: _____

Special Features:_____

Use:_____

Total Value: Estimated value of Equipment, Tools, and Special Features.

$_____

EQUIPMENT:

List all major pieces of equipment and sets of tools valued at $100 or more in each room. List year purchased, original cost, and current value (approx.).

Quantity	Description	Year	Cost Per Unit	Total Est. Value

ROOM: (Use one sheet for each room)

Please list all rooms used for vocational or pre-vocational classes. This would include vocational shops, industrial arts shops, business, home economic rooms, or any room which may be serving a dual purpose.

Room Name:_____

Size (Estimated):_____

Age, Condition:_____

Special Features:_____

Use:_____

Total Value: Estimated value of Equipment, Tools, and Special Features.

$ _____

EQUIPMENT:

List all major pieces of equipment and sets of tools valued at $100 or more in each room. List year purchased, original cost, and current value (approx.).

Quantity	Description	Year	Cost Per Unit	Total Est. value

Quantity	Description	Year	Cost Per Unit	Total Est. Value

CURRICULUM

Please place an "X" under the appropriate grade level or levels if your school offers these subjects listed at the left of the page.

Also, please give the total number of students enrolled in each subject. Check only those subjects offered one semester or more. If classes are not listed, write them in.

Area	7	8	9	10	11	12	Adult	Summer	Total Enrolled
Home Economics:									
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									
11.									
12.									
13.									
14.									
15.									

CURRICULUM

Please place an "X" under the appropriate grade level or levels if your school offers these subjects listed at the left of the page.

Also, please give the total number of students enrolled in each subject. Check only those subjects offered one semester or more. If classes are not listed, write them in.

Area	7	8	9	10	11	12		Adult	Summer	Total Enrolled
Auto:										
1.										
2.										
3.										
Drafting:										
1.										
2.										
3.										
4.										
Electricity:										
1.										
2.										
Metal:										
1.										
2.										
3.										
4.										
Printing:										
1.										
2.										
Woods:										
1.										
2.										
3.										
Other:										
1.										
2.										

CURRICULUM

Please place an "X" under the appropriate grade level or levels if your school offers these subjects listed at the left of the page.

Also, please give the total number of students enrolled in each subject. Check only those subjects offered one semester or more. If classes are not listed, write them in.

Area	7	8	9	10	11	12	Adult	Summer	Total Enrolled
Business:									
1.									
2.									
3.									
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CURRICULUM

Please place an "X" under the appropriate grade level or levels if your school offers these subjects listed at the left of the page.

Also, please give the total number of students enrolled in each subject. Check only those subjects offered one semester or more. If classes are not listed, write them in.

Area	7	8	9	10	11	12	Adult	Summer	Total Enrolled
General Agriculture:									
1.									
2.									
3.									
Vocational Agriculture:									
1.									
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List cooperative occupational education programs for the following areas:

Area	11	12	Total Enrolled
Distributive Education:			
Office Occupations:			
T. & I.:			

VT 001 124
Fulmer, John L.
Analysis of Occupational Trends in Kentucky From 1950 to 1960 with Projections to 1975.

Kentucky Univ., Lexington. Bureau of Business Research
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 65 67p.

*EMPLOYMENT TRENDS; EMPLOYMENT LEVEL; *EMPLOYMENT STATISTICS; *LABOR FORCE; *EMPLOYMENT PROJECTIONS; OCCUPATIONAL CLUSTERS
KENTUCKY

Objectives included the (1) determination of occupational trends for Kentucky for 1950-60 and a comparison of them to the U.S. trends, and (2) preparations of projections of probable yearly demands for different types of skilled, clerical, and technical workers. Only the main occupational categories in the 1950-60 Census of the Population were studied. A basic assumption was that the state's current rate of growth in employment and output of goods and services would not only be sustained but accelerated in the 1970's. The 1965-75 projections indicate an increase of 111,300 (30 percent) white collar jobs and an increase of 76,600 (13 percent) blue collar jobs. An increase of 38,900 (38 percent) in professional and technical jobs, and an increase of 36,600 (31 percent in clerical occupations account for the largest increase in specific white collar groups. The only projected decrease was 18,300 (15 percent) in farm jobs. Trends indicated (1) Occupations in Kentucky had lower percentage increases or higher percentage declines than the national average and (2) Employment shifts from 1950-60 resulted in a net loss of 87,000 jobs for men and a gain of 69,000 jobs for women. (SR)

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BUREAU OF BUSINESS RESEARCH
COLLEGE OF COMMERCE
UNIVERSITY OF KENTUCKY

Kentucky Occupational Trends From 1950 to 1960 With Projections to 1975

FULMER

VT001124

LEXINGTON, KENTUCKY
1965

ANALYSIS OF OCCUPATIONAL TRENDS IN KENTUCKY FROM 1950 TO 1960 WITH PROJECTIONS TO 1975

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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ACKNOWLEDGEMENTS

This report was prepared on a short time schedule in order to meet urgent pressures for a generalized outlook on occupations in Kentucky. It, therefore, could not have been possible without the highest form of cooperation from many persons on the Bureau of Business Research Staff. The author wishes to acknowledge especially the assistance of the following persons: Messrs. William D. Bishop and Jack M. Davis who prepared the numerous calculations, and Davis, the charts also; Mrs. Marie J. Lankford and Mrs. Gloria J. Carter, who patiently typed the numerous drafts of the manuscript; and Miss Utha Conrad, who edited the manuscript in final form. And finally, a special word of appreciation is extended to the University Press, and especially Mr. William D. Grote, Manager of the Printing Department, for consultation and other invaluable aid in getting the report in final form. While this report is in a technical sense the result of the cooperative efforts of many, the author assumes the responsibility for the conclusions.

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HIGHLIGHTS OF THE STUDY

Summary of Findings

1. White collar occupations increased 56,000 jobs or 21 percent from 1950 to 1960. In the white collar categories largest gains occurred in the professional and technical occupations and clerical jobs.

2. Blue collar occupations declined 102,800 or 15 percent. Among the blue collar occupations only service occupations, including private household, had a significant increase of 14,900 jobs. But farmers and farm workers lost nearly 115,000 jobs during the period 1950-60.

3. Analysis of job shifts by industries shows that during the ten-year period there was heavy shrinkage of employment in agriculture and mining and a large increase of employment in manufacturing, with a somewhat slower rate of gain in trade and services.

4. In the broad trade and services category, professional services (mainly teachers) had by far the largest growth (53 percent) followed by somewhat lesser rates of gain for finance, insurance and real estate, and public administration.

5. Compared to the United States, occupations in Kentucky had lower percentage increases or higher percentage declines. Basing the comparisons on industry of employment, manufacturing exceeded the percentage increase of the nation while agriculture and mining exceeded the percentage decline for the United States.

6. Comparing the United States in terms of the occupational structure, Kentucky had in 1960 relatively less white collar jobs than the nation despite a 10 percent closure of the gap.

7. In terms of industrial structure Kentucky rose relative to the nation in manufacturing but had in 1960 still only one job in five compared to over one in four for the United States. Kentucky improved its industrial structure by 10 percent in trade and services but lost ground slightly in agriculture.

8. The shifts of employment in Kentucky from 1950 to 1960 resulted in a net loss of 87,000 jobs for men and a gain of 69,000 jobs for women. Elimination of the negative effects of agriculture and mining from employment of men shows that the gain would have been 55,800 jobs in all other industries.

9. Women in 1960 had more than their share of white collar occupations and substantially less than their share of blue collar jobs

except services in which they held two-thirds of all the employment. Women controlled two-thirds of the jobs among clerical workers.

10. For the industrial classes of jobs, women had largest gains both in durables and nondurables manufacturing and in all types of services but particularly in professional services (teachers). Employment of women is of practically no significance in agriculture, mining and construction. They have a relatively high percentage of employment in nondurables manufacturing (37 percent) and in most of the trade and services industries, controlling over two-thirds of the jobs in personal and professional services.

11. Important changes expected in the U.S. economy from 1960 to 1975 which will influence Kentucky occupations are: (a) the shift to relatively more white collar workers--to almost one in two jobs with an increase of about 46 percent in total employment; (b) further rise in the ratio of female workers but at a slower rate than from 1950-60; and (c) further rise in the emphasis on service-producing industries at the expense of goods-producing industries. In the period the former will gain three jobs to each job gain for the latter.

12. Trends in the occupational and industrial structure of Kentucky, strongly influenced by changes in the U.S. economy, will reflect certain conditions which are peculiar to the state's economy. These are: (a) stabilization of employment in mining and near stabilization in agriculture; (b) enlarged tendency for Kentucky to catch up on the nation in the ratio of employment in manufacturing; and (c) stepped up rate of growth in population, employment and income in line with projection II potentials, which still falls short of U.S. growth rates.

13. Projections of the state's economy from 1965 to 1975 indicate that Kentucky may probably add 111,300 white collar jobs and 76,600 blue collar jobs representing percentage increases of 30 percent and 13 percent respectively.

14. Among white collar workers largest gains in jobs are expected in the professional and technical occupations and in the clerical worker classes; among blue collar occupations biggest increases will be in the service type jobs. Significant gains are expected also in the skilled and semiskilled occupations due to the larger relative growth expected from manufacturing.

15. Annual rates of increase yearly for some of the major occupational classes are as follows: professional and technical workers, 3,890 jobs; clerical and kindred workers, 3,660; service workers, 3,280; and skilled craftsmen, 2,860 jobs.

16. The job types likely to be in greatest demand, based on yearly growth rates during 1950-60, will be teachers, production line

assemblers, mechanics and repairmen, linemen and servicemen, professional nurses, cashiers, sewers and stitchers, auto service and parking lot attendants, truck and tractor drivers, welders and flame cutters, and many others.

17. Job openings from replacement demands to meet deaths and retirements of older workers are estimated to amount to about 9,300 yearly in the white collar occupations and 11,700 jobs yearly in the blue collar occupations.

Conclusions

1. A surprising number of job openings, 30,000 to 41,000 yearly, will be available, considering the effects of growth in the economy plus deaths and retirements of older workers. The problem is not opportunity for employment but the supply of properly trained workers to fill the vacancies that will occur, involving training levels all the way from high school education with vocational training to a Ph.D. from a college in some highly specialized field. Training an adequate number of workers with specialized skills and proper attitudes is only one aspect of the problem; keeping them up to date with rapid changes in science and technology is far more difficult, constituting the basic obstacle to progressively higher levels of employment in the state and national economies.

2. From the standpoint of the worker there is the problem of developing sufficient intellectual capacity and flexibility to permit the process of continuous education and training. The challenge to the dispensers of education and training is that the new demands for skilled training and the updating of skills and technical know-how on such an enlarged scale threaten to overwhelm the public educational system at every level of learning.

3. Approximately one-fourth of the U.S. population is constantly occupied in formal programs of education, another 5 to 10 percent in other programs, at an expenditure rate equal to about 5 percent of GNP--about half the rate of expenditure on national defense and one-third the rate of gross private domestic investment in plants and production equipment. Perhaps the public will be slow to accept the idea, but it should not, that education, reeducation, training and retraining may need to involve continuously one-half the U.S. population and require perhaps 15 percent of GNP, same as the ratio of investment in plants and production equipment.

4. Continuation of the high rate of technological progress in agriculture coupled with an expected practically complete commercialization of the production processes forecast the need for an increasing number of skilled and technical workers in agriculture. This prediction is reinforced by the beginning need for large scale replacement of older workers in agriculture from deaths and retirements.

5. An adequate supply of highly trained workers with capacity for future training is being increasingly recognized as a basic limitation of an area or even a state to secure and hold industry. Brainpower and skillpower limit the ability of companies to solve technological problems, meet competition and survive in the rapidly changing, complex world.

6. The increasing number yearly of vacancies in middle management and top executives from deaths and retirements of older workers will affect the future progress and survival of company enterprises of every size, having significance also for economic growth and job creation for the state and for the nation. The limited number of potential executives from age class 25 to 40 to fill these vacancies provides large potentials for institutions of higher learning to offer executive training programs sufficiently broad and extensive to train numerous company junior executives for these openings.

7. The modern day worker, living in a complex, rapidly changing world of work, can expect continuous employment with progressive growth in responsibility and earnings only as a result of continuous reeducation and/or retraining to keep up-to-date a skill or technical know-how or both.

8. A great new frontier in training is opening in service jobs. These require unique abilities to dispense an intangible service, which when successful obtains instantaneous, enthusiastic and complete acceptance by the customer. The potential number of workers to fill the expanding demands for such jobs is large, being formed by that fairly large group in society who is incapable of acquiring and keeping up-to-date an intellectual specialty or technical skill but who could acquire necessary service skills through proper instruction. Educational and training organizations are challenged to open the barriers to employment of those groups by providing adequate training in the composite of factors that constitute service skills.

INTRODUCTION

Rapid complex change is what makes the modern world volatile and difficult. Change is best typified by what is happening to two major phases in our national life: urbanization and technological change. Technological change affects the environment and its relationship to man, whereas urbanization is a force in our economic and political life which reflects the adjustment of mankind to job opportunities and living conditions, brought about mainly by technological change.

Advance in science and technology is accelerating so rapidly scientists have estimated that the scope of human knowledge will double in the next decade... During 1950-60 urban population in the United States increased over twenty-eight million; the increase during the next decade will be larger. In 1960 about two persons in three lived in urban centers, while by 1970 it is expected about three persons in four will be living in urban centers.

Both types of accelerating change impose a challenge to the individual to find and hold a job, to move where jobs are located and to adjust to the new conditions of life, primarily in urban centers. Current data indicate that the young man of age 20 in his first job will probably have from six to seven entirely new jobs during the course of a working life estimated at 43 years. The chances are that at least half of these jobs will be in entirely new urban centers and perhaps in a different state. The job change will represent not only a new type of work but will also require a different skill, certainly a skill that has been updated.

The worker can expect to survive and capitalize on an increasingly complex and rapidly changing job world in an urban environment only by a constant process of training to: (a) hold more effectively the current job and (b) prepare for an entirely new job that might be only slightly related to the current job. All of this means that

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only the worker with the ability and the flexibility to keep up with technological change in a specialized field and to broaden to related fields through acquisition of new technical skills will have the best chance not only for continuous employment but also to reap fully the rewards from a rapidly changing world.

The significance of this conclusion is shown by the fact that in the decade 1950-60, 7 million new jobs were created in the United States, of which 90 percent were in the white collar category. Among the total of 7 million new jobs, 3 million were classified as professional and technical; 2.7 million, clerical and sales; 0.9 million, skilled; and 1.8 million, service and private household; but farmers and farm workers declined by 2.0 million jobs. Job opportunities tended to decline both in the semiskilled and the unskilled categories.[1] The salary and wage rewards for those with technical competence or a craft skill are indicative also of the market demands for these characteristics of workers. According to the studies of the U.S. Department of Labor based on data for 1959, the skilled craftsman 25 to 34 years of age with a high school education was making about $1,600 annually more than the unskilled laborer; the technician in the same age category and with the same educational characteristics was making $600 more yearly than the skilled craftsmen and about $2,200 more than the unskilled worker.[2] Studies indicate that the earnings gap between workers is tending to increase because of the increasingly complex technology.

Objectives of Study

The objectives of this study are (a) to determine the trends in the occupational pattern of Kentucky for 1950-60 and compare to the U.S. economy; (b) to analyze the factors contributing to the shifts in the occupational structure during the period 1950-60 and determine the significance of these changes for the potential demand for

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[1] Manpower Report of the President, March 1964, p. 199.

[2] Ibid, p. 266.

trained workers during the period 1965-75; (c) to prepare projections of probable demand yearly for different types of skilled, clerical and technical workers based on the underlying technological developments, market demand for skills and technical competence which dominate both the national and the Kentucky economies; and (d) to interpret the significance of the prospective trends in demand for technical and skilled workers to training programs in the state of Kentucky and also to show how all of this relates to the economic development of the state.

Scope and Method

The scope of this study is limited to the main occupational categories set forth in the 1950-60 Census of Population. The analysis is in terms of statewide trends and does not try to break down the overall changes for the state to the different economic areas. Area measurements of demand for technical and skilled workers can be determined only after a detailed analysis of the current use and future requirements of skilled and technical workers by the individual companies in different areas of the state.

The method of analysis is based on trend-line studies of changes in the state's employment pattern from 1950 to 1960, ratio of these relationships, comparison of trends and occupational patterns between Kentucky and the United States, analysis of the relationships between ratio of employment in the different categories in Kentucky with those of the nation and reconciliation of changes in the occupational pattern of the state with prospects for growth in Kentucky's economy to 1975.

The assumptions governing the study are as follows. (1) Kentucky's current rate of growth in employment and output of goods and services will not only be sustained but accelerated as the 1970's are approached. (2) Both nationally and locally scientific advance and technological change will continue to accelerate. (3) The state's business, political and educational leaders will maintain a very high interest in

development of human resources for employment and will work more intensively for expanded employment opportunities in Kentucky.
(4) International relationships will not worsen into a worldwide armed conflict nor will other cataclysmic events occur, such as the earthquake in Alaska or heavy floods in Oregon and Northern California, to set back the growth of the state of Kentucky.

The major limitation on this study is that the occupational categories given in the census are broadly defined and are not very helpful in terms of jobs. However, specific jobs from the major occupational categories can be roughly deduced. Precise estimates for such jobs as auto mechanics, electronic technicians, practical nurses, etc., will require detailed surveys of the current use and future requirements by companies in Kentucky for specific jobs.

EMPLOYMENT TRENDS IN THE KENTUCKY LABOR FORCE, 1950-60

Occupational Change[3]

The underlying factors dominating recent employment changes in the state of Kentucky have been (a) slow growth in population from 1950 to 1960, approximately 93,000; (b) continued concentration of population in a few areas in Kentucky--mainly around Cincinnati, Louisville, Lexington, Evansville, Paducah, and Ashland; (c) the declining employment in agriculture and mining, directly and indirectly related to changing technology; and (d) the rise of unemployment from 36,000 in 1950 to approximately 60,000 in 1960.

Table 1 presents a comparison of trends in employment from 1950 to 1960 of nine occupational categories with a further subdivision according to whether they occurred in the white collar or the blue collar categories.[4] Certain defects exist in the data which affect not only the strength of the trends but also interpretations of them. The most glaring defect, of course, is the relatively large size of the "not classified category," which increased from 14.9 thousand in 1950 to 42.9 thousand in 1960. This type of employment information developed probably because many respondents failed to give sufficient information to the census enumerators to permit classification to the nine categories given. It is strongly suspected however that most of these "not classified" occupations occurred in connection with the unskilled, semiskilled and probably managerial classes. The fact that the omissions seem to be most heavily concentrated in the blue

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[3]Note: The analysis relative to occupations and industrial types of jobs is based on civilian employment. The armed forces, 38,295 in 1960, are of necessity excluded from the analysis.

[4]Blue collar types of jobs have been broadly defined for the purposes of this study to include craftsmen, semiskilled assembly line workers, unskilled workers, all types of service workers, and farmers and farm workers.

TABLE 1

MAJOR OCCUPATIONAL TRENDS IN KENTUCKY FROM 1950 TO 1960

Occupational Category	1950 (In thousands)	1960 (In thousands)	Change 1950-60 Total (In thousands)	Change 1950-60 Percentage change
WHITE COLLAR				
Professional, technical and kindred	59.8	83.3	23.5	39.3
Managers, officials, and proprietors	67.1	68.7	1.6	2.4
Clerical and kindred workers	81.2	102.1	20.9	25.7
Sales workers	55.2	65.1	9.9	17.9
Subtotal	263.3	319.2	55.9	21.2
BLUE COLLAR				
Skilled craftsmen, foremen and kindred workers	110.3	116.8	6.5	5.9
Semiskilled operatives and kindred workers	189.9	185.5	-4.4	-2.3
Service workers including private household	81.4	96.3	14.9	18.3
Farmers, farm managers and farm workers	243.8	129.2	-114.6	-47.0
Unskilled laborers except farm and mine	51.1	45.9	-5.2	-10.2
Subtotal	676.5	573.7	-102.8	-15.2
Not classified	14.9	42.9	28.0	187.9
TOTAL	954.5	935.9	-18.6	--

SOURCE: U.S. Bureau of the Census. U.S. Census of Population: 1960. Vol. I, Characteristics of the Population. Part 19, Kentucky. U.S. Government Printing Office, Washington, D.C., 1963, p. 160.

collar classification should be taken into account in analyzing the trends of this class compared to white collar workers.

Another defect of the data is that the total reported for 1960 appears too low in view of a 93,000 population increase. Seasonal factors in employment, especially important in agriculture and some manufacturing, are responsible.[5]

The data in Table 1 show very clearly that the largest employment gains have occurred in four of the nine occupational categories given. In order of importance the gains are:

Professional, technical and kindred workers...39.3 percent
Clerical and kindred workers.....25.7 percent
Service workers including private household...18.3 percent
Sales workers.....17.9 percent

The largest decline was in the farmer and farm worker category which lost 114,600 jobs in the ten-year period, or a decline of 47 percent. Although the semiskilled operatives and unskilled laborers also had declines, they are not significant as compared to the farm worker category. The heavy weight of the decline in farm jobs was so great that it caused the entire blue collar category to show a loss of 102,800 jobs during the period, or at the rate of 10,300 jobs yearly. A more complete allocation of the unclassified category at the bottom of the table would undoubtedly improve the situation of the semiskilled and unskilled workers.

The significance of the data given in Table 1 is that it reflects a movement of the state's economy towards white collar jobs which require a moderate to a large amount of education supplemented by a vocational skill. The data also reflect the fact that the state's economy is becoming better balanced while higher earnings of white collar jobs will raise per capita income of the state over a period.

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[5]Corrections for this underenumeration have been reported in Essays in Southern Economic Development. (Chapel Hill, N.C.: University of North Carolina Press, 1964), pp. 195-238. It has not been possible to reflect the larger totals in the nine major occupations, however.

Industrial Trends in Employment

Breakdown of employment by industry is helpful in determining the types of production activities which are increasing and also declining. This information is useful relative to policy on economic development, both by business leaders and by state agencies.

Table 2 provides a detailed comparison of changes in employment in the state of Kentucky from 1950 to 1960 according to major industrial categories. Analysis of the information in the table indicates that very heavy job losses occurred in the agricultural and mining industries from 1950 to 1960. In fact, loss of employment in these two industrial categories was close to 50 percent in the period. Offsets against these losses occurred at the greatest rate in manufacturing with about equal emphasis on durable goods manufacturing and nondurable goods manufacturing. Relatively large gains of 14 percent occurred in the nonagricultural-nonmanufacturing segment which includes retail and wholesale trade; real estate, finance and insurance; transportation, communication and other utilities; government and public administration, and several other minor categories. The total gain of employment of 56,800 was about 20 percent larger than the 47,300 job gain in manufacturing. Construction expanded employment only 10 percent. The shift from agriculture and mining to manufacturing and nonmanufacturing activities, resulting in relatively less emphasis on the former as an employment outlet and relatively more on the latter, has provided a better balanced industrial structure for the state.

In the future, employment gains by industry are expected to continue in manufacturing. Employment increases in nonagricultural-nonmanufacturing industries will probably accelerate in the period ahead because of rising demand for services in the national economy. Not so large a decline in agriculture is expected because the impact of technological revolution is declining in severity. Some further decline of employment in agriculture is expected but at a far less rapid rate than occurred between 1950-60. In the case of mining which

TABLE 2

TRENDS IN EMPLOYMENT BY INDUSTRIES IN KENTUCKY, 1950 TO 1960

Industrial Category	1950 (In thousands)	1960 (In thousands)	Change 1950-60 Number (In thousands)	Change 1950-60 Percentage change
Agriculture, forestry or fisheries	246.1	133.1	-113.0	-45.9
Mining	69.7	37.5	-32.2	-46.2
Construction	54.0	59.4	5.4	10.0
Manufacturing:				
Durables	74.4	99.3	24.9	33.5
Nondurables	74.4	98.9	24.5	32.9
Subtotal	150.9[a]	198.2	47.3[a]	31.3
Trade and Services:				
Wholesale and retail trade	147.6	162.7	15.1	10.2
Finance, insurance, and real estate.	20.5	28.1	7.6	37.1
Business and repair services	21.7	19.1	-2.6	-12.0
Personal and related services	60.8	61.5	0.7	1.2
Professional services	65.1	99.8	34.7	53.3
Public administration	29.1	36.8	7.7	26.5
Transportation, communication and other utilities	72.9	66.5	-6.4	-8.8
Subtotal	417.7	474.5	56.8	13.6
Not classified	16.5	33.2	16.9	101.2
TOTAL	954.8	935.9	-18.9	-2.0

[a]The total is greater than the parts because of a "not classified" category.

SOURCE: 1960 Census of Population, ibid, pp. 19-164.

has been greatly influenced both within and outside the mining industry by technological change providing substitutes for coal, it is probable that employment is close to a point of stabilization. In fact we may perhaps have some small increase over a period in employment in mining in Kentucky because of the enlarged population growth of the United States and continued growth in gross national output. Construction may be expected to expand more rapidly than during the past decade because the growth prospects of the state's economy in population, income and trade, and manufacturing are distinctly improved. These expected growth rates will require greater capacity for industry and also more residential homes and related facilities.

Changes in Kentucky and the United States Compared

Analysis of the relationship between changes in Kentucky and the United States considers both occupational trends and industrial trends.

Comparisons of occupational change are given in the tabulation below:

Occupational Category	Percentage Change from 1950 to 1960	
	United States	Kentucky
WHITE COLLAR		
Professional, technical and kindred	49	39
Managers, officials, and proprietors[a]	8	2
Clerical and kindred workers	35	26
Sales	21	18
Subtotal	31	21
BLUE COLLAR		
Skilled craftsmen, etc.	13	6
Semiskilled operatives and kindred workers	7	-2
Service[b]	25	18
Farmers and farm workers	-33	-47

[a]Excludes farm salaried.
[b]Includes private household.

Occupational Category	Percentage Change from 1950 to 1960 United States	Kentucky
BLUE COLLAR (cont.)		
Unskilled workers	-9	-10
Subtotal	3	-15
TOTAL	13	c

[c]Not applicable.

SOURCE: 1950: U.S. Bureau of the Census. U.S. Census of Population: 1950. Vol. II, Characteristics of the Population. Part 1, United States Summary. U.S. Government Printing Office, Washington, D.C., 1953, pp. 1-128.

1960: U.S. Bureau of the Census. U.S. Census of Population: 1960. Vol. I, Characteristics of the Population. Part 1, United States Summary, U.S. Government Printing Office, Washington, D.C., 1964, pp. 1-272 to 276.

The data show that employment gains of the rapid growth occupations were greater in the United States than in Kentucky. On the other hand the declining occupations in the United States, which were the same roughly as in Kentucky, declined substantially less. Similarly, Kentucky had largest gains in the occupations in which the U.S. had largest gains. These occupations are professional, technical and kindred; clerical and kindred; sales and service workers. Kentucky had almost one-fifth greater percentage decline in farm jobs than the United States. The larger decline of farm occupations in Kentucky occurred because the state had during 1950-60 over twice as much agriculture relatively as the United States.

Summary of the comparison between the United States and Kentucky according to industrial category is given in the following tablulation:

Industrial Category	Percentage Change from 1950 to 1960	
	United States	Kentucky
Agriculture, forestry or fisheries	-39	-46
Mining	-30	-46
Construction	11	10
Manufacturing		
Durables	27	33
Nondurables	15	28
Subtotal	20	30
Trade, service, transportation, communication, etc.	21	14
Not classified	210	101
TOTAL	15	a

[a]Not applicable

SOURCE: See preceding tabulation, ibid, 1950, pp. 1-132 and 1960, pp. 1-280.

The data show that the trends by industries were relatively stronger in Kentucky than the United States except in the case of construction and nonagricultural-nonmanufacturing industries. The loss of jobs in agriculture and in mining was 46 percent in Kentucky compared to 39 percent and 30 percent respectively for the United States. It is interesting to note that the loss of employment from mining was 50 percent greater relatively in Kentucky. The reason for the greater loss in Kentucky is due to the greater concentration of coal mining in the state. Coal mining has had a comparatively higher rate of technological change both in production techniques and market substitutes than other types of mining. Employment gains in manufacturing were relatively larger in Kentucky because the base from which the percentage is computed is substantially smaller than the United States.

The state still has relatively less manufacturing than does the nation as a whole. In the case of trade, services, transportation, communication and similar industries a smaller gain in Kentucky is explained by the fact that the state's economic structure is in an

earlier stage of development than that of the nation. Kentucky does not have as high a percentage of urban population. On the other hand it is a relatively more important agricultural state than the United States as a whole.

SHIFTS IN THE DISTRIBUTION OF OCCUPATIONS, 1950-60

Change in Occupational Structure of Employment

Data on the percentage distribution of occupations in Kentucky compared to the United States are provided in Table 3. Analysis of these ratios indicates that during the period 1950 to 1960 Kentucky acquired relatively more white collar workers and relatively less blue collar workers. At the beginning of the period approximately one worker in four in the state was white collar whereas by 1960 somewhat more than one worker in three was white collar. In comparison over four workers in ten were white collar in the United States. All four of the white collar classes in Kentucky gained during the period but larger relative gains in the occupational structure were made by the professional and technical classes and clerical workers. Among the blue collar workers the most characteristic factor is the relative decline which occurred during the ten-year period. In these occupations, the decrease was led by farmers and farm workers which declined by almost half in relative importance during the period. The biggest gain relatively was by service workers; skilled craftsmen had a comparatively smaller increase. The semiskilled category held its own, while the unskilled classification lost position.

Compared to the distribution of occupations for the United States as a whole, Kentucky had the sharpest relative gain in white collar jobs with all four classes compositely increasing about one-tenth. The most significant change in the blue collar occupations compared to the United States was a relatively smaller decline in semiskilled, farm workers and unskilled workers than in the United States because these occupations decreased more in the U.S. than in Kentucky. But Kentucky did make substantial gains on the U.S. in two blue collar occupations--skilled craftsmen and service workers.

Overall, Kentucky lost a little ground compared to the United States in blue collar occupations and, contrariwise, registered some

TABLE 3

COMPARISON OF PERCENTAGE DISTRIBUTION OF EMPLOYMENT TO MAJOR OCCUPATIONS OF KENTUCKY AND UNITED STATES, 1950 TO 1960

Year and Category	Percentage of Total		Ratio of Kentucky to United States
	United States	Kentucky	
1950			
WHITE COLLAR			
Professional, technical and kindred	8.7	6.3	0.72
Managers, officials, and proprietors[a]	8.9	7.0	.80
Clerical and kindred workers	12.3	8.5	.69
Sales workers	7.0	5.8	.83
Subtotal	36.9	27.6	.75
BLUE COLLAR			
Skilled craftsmen, etc.	13.8	11.6	.84
Semiskilled operatives and kindred workers	19.8	19.9	1.01
Service workers[b]	10.1	8.5	.84
Farmers and farm workers	11.8	25.5	2.16
Unskilled laborers[c]	6.1	5.4	.89
Subtotal	61.6	70.9	1.15
Not classified	1.3	1.5	1.15
TOTAL	100.0	100.0	-
1960			
WHITE COLLAR			
Professional, technical and kindred	11.2	8.9	.79
Managers, officials, and proprietors[a]	8.4	7.3	.87
Clerical and kindred workers	14.4	10.9	.76
Sales workers	7.2	7.0	.97
Subtotal	41.2	34.1	.83
BLUE COLLAR			
Skilled craftsmen, etc.	13.5	12.5	.93
Semiskilled operatives and kindred workers	18.4	19.8	1.08
Service workers[b]	11.1	10.3	.93
Farmers and farm workers	6.1	13.8	2.26
Unskilled laborers[c]	4.8	4.9	1.02
Subtotal	53.9	61.3	1.14

TABLE 3 (continued)

COMPARISON OF PERCENTAGE DISTRIBUTION OF EMPLOYMENT TO MAJOR OCCUPATIONS OF KENTUCKY AND UNITED STATES, 1950 TO 1960

Year and Category	Percentage of Total		Ratio of Kentucky to United States
	United States	Kentucky	
Not classified	4.9	4.6	.94
TOTAL	100.0	100.0	-

[a]Excludes farm salaried workers.
[b]Includes private household workers.
[c]Excludes farm and mine.

SOURCE: 1950: U.S. Bureau of the Census. U.S. Census of Population: 1950. Vol. II, Characteristics of the Population. Part 1, United States Summary. U.S. Government Printing Office, Washington, D.C., 1953, pp. 1-131.

1960: U.S. Bureau of the Census. U.S. Census of Population: 1960. Vol. I, Characteristics of the Population. Part 1, United States Summary. U.S. Government Printing Office, Washington, D.C., 1964, pp. 1-277.

relative gain in the proportion of white collar workers. Consequently the state's occupational pattern became more like the occupational structure for the United States and therefore better balanced not only between white collar and blue collar occupations but also within each major category. This is particularly true of farm occupations which declined from roughly one job in four in the state in 1950 to approximately one job in eight by 1960. The figures on farm employment published by the U.S. Department of Agriculture indicate that this trend is continuing. Currently, the state is probably down to about one job in ten in agriculture, which reflects continued progress from technological change.

Change in the Industrial Structure of Employment

The industrial structure of employment refers to the distribution of jobs to categories or groups such as manufacturing, agriculture, wholesale and retail trade, and services. Table 4 presents data on the percentage distribution of employment in the major industrial job outlets in Kentucky compared to the United States, both in 1950 and 1960. The analysis in terms of industrial structure not only confirms but further fortifies the conclusions relative to occupations given above. During the period 1950-60 the agricultural industry as a source of employment declined 45 percent, and mining which is relatively over four times more important than in the United States was almost one-third less. Among all the main industrial categories given in the table the biggest relative gain occurred in manufacturing which rose in relative importance about 34 percent. This is shown by the fact that in 1950 approximately one job in six was in manufacturing whereas in 1960 over one job in five was in manufacturing which compares to somewhat more than one job in four in the United States. Durables and nondurables manufacturing industries were almost equally important in the employment structure of the state, and both show the same relative gains from 1950 to 1960.

Trade and services as a broad category had a relative gain of about 16 percent, less than one-half that for manufacturing. Of the seven categories given for trade and services, the largest relative gain in employment structure was shown by professional services, followed in order by finance, insurance, and real estate (43 percent), public administration (26 percent), and wholesale and retail trade (12 percent).

The decline of the agricultural and mining industries, both heavily affected by technology and reflecting problems of adjustment and low per capita income, not only was to the advantage of the state during the decade 1950-60 but will continue to its benefit. Replacement of these job losses occurred from relatively large job gains in manufacturing, followed by somewhat more modest gains in trade and services which improved the state's industrial balance.

TABLE 4

COMPARISON OF PERCENTAGE DISTRIBUTION OF EMPLOYMENT TO INDUSTRIAL CATEGORIES OF KENTUCKY AND THE UNITED STATES, 1950 TO 1960

Year and Category	Percentage of Total		Ratio of Kentucky to United States
	United States	Kentucky	
1950			
Agriculture, forestry or fisheries	12.5	25.8	2.06
Mining	1.7	7.3	4.29
Construction	6.1	5.7	.93
Manufacturing:			
Durables	13.8	7.8	.57
Nondurables	11.9	7.8	.66
Subtotal	25.9[a]	15.8[a]	.61
Trade and Services:			
Wholesale and retail trade	18.8	15.5	.82
Finance, insurance, and real estate	3.4	2.1	.62
Business and repair services	2.5	2.3	.92
Personal and related services	7.2	6.4	.89
Professional services	8.3	6.8	.82
Public administration	4.4	3.1	.70
Transportation, communication and other utilities	7.8	7.6	.97
Subtotal	52.4	43.8	.84
Not classified	1.5	1.7	1.13
TOTAL	100.0	100.0	-
1960			
Agriculture, forestry or fisheries	6.7	14.2	2.12
Mining	1.0	4.0	4.00
Construction	5.9	6.3	1.07
Manufacturing:			
Durables	15.2	10.6	.70
Nondurables	11.9	10.6	.89
Subtotal	27.1	21.2	.78
Trade and Services:			
Wholesale and retail trade	18.2	17.4	.96
Finance, insurance, and real estate	4.2	3.0	.71

TABLE 4 (continued)

COMPARISON OF PERCENTAGE DISTRIBUTION OF EMPLOYMENT TO INDUSTRIAL CATEGORIES OF KENTUCKY AND THE UNITED STATES 1950 TO 1960

Year and Category	Percentage of Total		Ratio of Kentucky to United States
	United States	Kentucky	
Business and repair services	2.5	2.0	.80
Personal and related services	6.8	6.6	.97
Professional services	11.7	10.7	.91
Public administration	5.0	3.9	.78
Transportation, communication and other utilities	6.9	7.1	1.03
Subtotal	55.3	50.7	.92
Not classified	4.0	3.5	.88
TOTAL	100.0	99.9	-

[a]The total is larger than the total of the parts because of the "not classified" category.

SOURCE: Table 3, ibid, 1950, pp. 1-135 and 1960, pp. 1-181.

The fact that during the decade 1950-60 Kentucky's industrial balance became more like that of the nation's is the basis for further improvements in the future. It is expected that in the next decade further relative losses of jobs from agriculture will occur but at a greatly reduced rate. The ratio of employment in manufacturing in Kentucky may be expected to rise to 25 and possibly 27 percent which is the nation's ratio. At the same time further gains in relative employment in trade and services may be expected to follow the rise in demand for services. Specifically, further large gains can be predicted for professional services, public administration, finance, insurance, and real estate, and wholesale and retail trade, while business and repair services may be expected to reverse from a 1950-60 declining ratio to a rising ratio. This latter prediction is supported by growing demands for complex maintenance and repair services on mounting quantities of sophisticated durable goods in the hands of the consuming public.

HOW SHIFTS IN EMPLOYMENT HAVE AFFECTED MEN AND WOMEN

It is common knowledge of course that women are increasingly finding a place in the modern economy. A number of conditions have favored the emancipation of women to the world of work. The biggest factor has been the rapid increase in urbanization and the accessibility to clerical and service types of jobs which this affords. At the same time urban living has increased the pressure on living costs which provides strong incentives for women to seek employment in service occupations and clerical and sales types of jobs. Secondly, the trend towards higher and more sophisticated education among all classes of our population and especially women has made them more valuable workers and at the same time more capable of adapting to modern demands in the labor market. In the third place rapid changes in technology which have provided an accelerating number of jobs for engineers and scientists have opened support positions for women in the technician and clerical categories which often are filled by men but primarily by women where they have had proper educational and vocational training.

Occupational Comparisons

Data for Kentucky for the census period 1950-60, as shown in Table 5, indicate that women workers in Kentucky fared quite well in the limited economic expansion which the state experienced. In the total of all the occupations women gained 69,100 jobs compared to a loss of 87,300 jobs for men. This loss on the part of men is startling in view of the fact that they are more than two and one-half times more numerous in the labor force than are women.

The heaviest losses of jobs were suffered by men in the blue collar category among farmers and farm workers which accounted for about a 112,700 job decline during the ten-year period. In three out of the other four categories men also gave ground in jobs and had

TABLE 5

COMPARISON OF CHANGES IN EMPLOYMENT OF MEN AND WOMEN IN KENTUCKY BY OCCUPATIONAL CATEGORIES, 1950-1960

Occupational Category	Change from 1950-1960 Men (In thousands)	Women (In thousands)
WHITE COLLAR		
Professional, technical and kindred	12.1	11.4
Managers, officials, and proprietors[a]	1.1	0.5
Clerical and kindred	2.0	18.8
Sales workers	5.1	4.8
Subtotal	20.3	35.5
BLUE COLLAR		
Skilled craftsmen	6.8	-0.2
Semiskilled operatives and kindred workers	-12.1	7.7
Service workers[b]	-1.1	16.0
Farmers and farm workers	-112.7	-2.0
Unskilled laborers[c]	-5.0	-0.1
Subtotal	-124.1	21.4
Not classified	16.5	12.2
TOTAL EMPLOYMENT CHANGE	-87.3	69.1

[a]Excludes farm salaried workers.
[b]Includes private household workers.
[c]Except farm and mine.

SOURCE: U.S. Bureau of Census. U.S. Census of Population: 1960. Vol. I, Characteristics of the Population. Part 19, Kentucky. U.S. Government Printing Office, Washington, D.C., 1963, pp. 386-91.

especially heavy losses among semiskilled workers where 5,000 jobs were lost. In contrast, women gained more than 21,000 blue collar jobs, primarily in the service occupations which accounted for 16,000 of these jobs. In the semiskilled category, mainly for production and assembly line work in factories, an additional 7,700 jobs were added.

In the white collar grouping of occupations both men and women gained significant numbers of jobs during 1950-60 but the rate of job growth for women was almost twice as large as for men. Of the 20,300 white collar job expansion for men, over 12,000 jobs occurred in professional, technical and kindred types of occupations, with smaller gains in the three remaining classes. In the case of women workers largest job gains developed in clerical and kindred occupations with a total expansion of 18,800 jobs. Another 11,400 job pickup by women occurred in the professional, technical and kindred group, almost as large as the gain for men.

Table 6 shows a comparison between total jobs in the nine occupational categories with the corresponding number held by women workers in Kentucky. Comparing these figures it should be borne in mind that women occupy only 28.2 percent of the labor force in Kentucky. Therefore in any occupational category where women exceeded 28.2 percent they were doing relatively better than men in 1960. Accordingly it may be noted women exceeded the standard rather substantially in all of the white collar classes, except managerial, officials, and proprietors. For the clerical and kindred types of workers, the ratio was nearly two-thirds. Overall the white collar composite was 43.5 percent.

For the broad category of blue collar workers, as expected, women do not stand as high in the ratio as do men. In fact, only 20.8 percent of the blue collar workers were women compared to their proportion in the labor force of 28.2 percent. However, in the service occupations women occupied 67.8 percent indicating the great dominance in this one category of blue collar occupations. They were also relatively high in the semiskilled occupations although substantially below 28.2 percent.

Comparison by Industrial Types of Employment

Analysis of jobs by broad industrial categories, Table 7, shows very clearly the points in the state's economy where the important

TABLE 6

RELATIVE IMPORTANCE OF EMPLOYMENT OF WOMEN IN DIFFERENT OCCUPATIONAL CATEGORIES IN KENTUCKY IN 1960

Occupational Category	Total (In thousands)	Women (In thousands)	Percent of Total Employment by Women
WHITE COLLAR			
Professional, technical and kindred	83.3	36.9	44.3
Managers, officials, and proprietors[a]	68.7	10.2	14.8
Clerical and kindred workers	102.1	66.3	64.9
Sales workers	65.1	25.3	38.9
Subtotal	319.2	138.7	43.5
BLUE COLLAR			
Skilled craftsmen, etc.	116.8	2.8	2.4
Semiskilled operatives and kindred workers	185.5	45.3	24.4
Service workers[b]	96.3	65.3	67.8
Farmers and farm workers	129.1	4.3	3.3
Unskilled laborers[c]	45.9	1.7	3.7
Subtotal	573.6	119.4	20.8
Not classified	43.0	17.0	39.5
TOTAL	935.8	275.1	29.4

[a]Excludes farm salaried.
[b]Includes private household.
[c]Except farm and mine.

SOURCE: Table 5.

TABLE 7

COMPARISON OF CHANGES IN MEN AND WOMEN EMPLOYMENT IN KENTUCKY BY INDUSTRIAL CATEGORIES, 1950 TO 1960

Industrial	Change from 1950 to 1960	
	Men (In thousands)	Women (In thousands)
Agriculture, forestry or fisheries	-111.3	-1.7
Mining	-32.0	-0.1
Construction	4.7	.7
Manufacturing:		
Durables	18.9	5.9
Nondurables	16.5	8.0
Subtotal	34.4	13.9
Trade and Services:		
Wholesale and retail trade	5.0	10.1
Finance, insurance, and real estate	3.2	4.4
Business and repair services	-3.6	.9
Personal and related services	-3.2	4.0
Professional services	9.7	25.0
Public administration	4.5	3.2
Transportation, communication and other activities	-7.1	0.6
Subtotal	8.5	48.2
Not classified	8.2	8.4
TOTAL	-87.5	69.4
Total less agriculture and mining	55.8	71.2

SOURCE: U.S. Bureau of the Census. U.S. Census of Population: 1950. Vol. II, Characteristics of the Population. Part 17, Kentucky, p. 39. _____. U.S. Census of Population: 1960. Vol. I, Characteristics of the Population. Part 19, Kentucky, p. 164.

_____. _____. _____. Part 1. U.S. Summary, pp. 280-283.

shifts between men and women workers occurred. As suspected, the big decline of jobs by men occurred in agriculture and in mining which accounted for over 143,000 job losses during 1950-60. There were some minor losses of jobs by men also in trade and services. But the employment gains for men were more favorable in two broad industries. Manufacturing provided 34,400 additional jobs for men; and trade and services, another 8,500 jobs. Men also gained 4,700 jobs in construction.

The comparison of job losses and gains for women indicates only minor losses in agriculture and mining where women do not loom large in the first place as employees. While men dominated the gain in manufacturing, women dominated the job gain in trade and services. Men gained three jobs in manufacturing for each job gained by women; in services, women gained six jobs approximately for each job gained by men during 1950-60. Women had job expansions in all seven service types of jobs itemized in Table 7 but the most important job area was professional services where the job expansion was 25,000.

Omission of agriculture and mining gives a picture of how male employment performed in the rest of the Kentucky economy. The results show that instead of a loss (so great was the influence of agriculture and mining) a net gain of 55,800 jobs occurred in the balance of Kentucky's industries. Even with this assumption the job comparison was to the disadvantage of men since they occupy 2.5 jobs to 1 for women in the employed labor force. Based on these adjusted figures there was 0.8 job gain for men to each job increase by women. Overall with agriculture and mining included men lost 1.26 jobs for each job gained by women during the period 1950-60.

Measures of the relative importance of women in the different industries in Kentucky are shown in Table 8. The standard of comparison is 28.2 percent for women. On this basis it is noted that women were of little or no real importance in agriculture, mining, and construction in 1960. They were relatively low in durables manufacturing, business and repair services, and transportation, communication and other utilities. Women were substantially above the standard of

28.2 percent in nondurables manufacturing, wholesale and retail trade, and finance, insurance, and real estate. They occupied almost two-thirds of the jobs in personal and related services and also in professional services.

TABLE 8

RELATIVE IMPORTANCE OF EMPLOYMENT OF WOMEN IN DIFFERENT INDUSTRIAL CATEGORIES IN KENTUCKY, 1960

Industrial Category	Total (In thousands)	Women (In thousands)	Percent of Total Employment by Women
Agriculture, forestry or fisheries	133.1	4.9	3.7
Mining	37.5	0.5	1.3
Construction	59.4	2.0	3.4
Manufacturing:			
Durables	99.3	16.6	16.7
Nondurables	98.9	36.9	37.3
Subtotal	198.2	53.5	27.0
Trade and Services:			
Wholesale and retail trade	162.7	60.9	37.4
Finance, insurance, and real estate	28.1	12.7	45.2
Business and repair service	19.1	2.8	14.7
Personal and related services	61.5	42.2	68.6
Professional services	99.5	62.1	62.4
Public administration	36.8	10.6	28.8
Transportation, communication and other utilities	66.5	9.1	13.7
Subtotal	474.5	200.4	42.2
Not classified	33.2	13.8	41.6
TOTAL	935.9	275.1	29.4
Total less agriculture and mining	765.3	269.7	35.2

SOURCE: Table 7.

AGE DISTRIBUTION OF LABOR FORCE RELATED TO THE FUTURE

It is common knowledge of course that there has been a great boom in the birth rate since about 1946. This reversal of the low birth rate from 1930 to about 1945 is responsible for the relative scarcity of persons in the broad age class 20 to about 40.[6] There are comparatively more persons over 40 years old; the age classes under 20 are the largest of all. This distortion in the age classes of the population is reflected in the employed labor force both in Kentucky and the United States as shown by Table 9. The data show that both in Kentucky and the United States there is a comparatively large number of the working force in age classes 14 to 34. While the 35 to 49 age class is somewhat more numerous than the 50 and over age class, it is substantially less compared to the normal distribution to be expected for this age class. Comparing Kentucky to the United States it is noted that the state is slightly higher in the younger age group than the nation and slightly higher in the older age group, reflecting the fact that Kentucky has had a heavy out-migration for a number of years which tends to drain off the people from age 18 to 35.

A measure of the age distortion of the employed labor force in the United States can be deduced by some rough comparisons of the distributions of 1950 and 1960. In 1950 the relative number of workers in age class 14 to 34 was 12 percent higher than in 1960, 7 percent lower in age class 35 to 49, and 10 percent lower in age class 50 and older. In the period 1960-75 it is expected that the age class 14 to 34 will move back towards the relative number shown in 1950 with 5 percent more workers comparatively in this age class than in 1950. In fact by 1975 almost 46 percent of the working force will be in age class 14 to 34.

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[6]This age class is most significantly affected in the age range between 20 and 35.

TABLE 9

COMPARISON OF THE AGE DISTRIBUTION OF THE EMPLOYED CIVILIAN LABOR FORCE OF KENTUCKY AND UNITED STATES, 1960

Age Class	Kentucky		United States	
	Number Employed (In thousands)	Percent of total	Number Employed (In millions)	Percent of Total
14-34	348.6	37.2	23.6	36.7
35-49	322.9	34.5	22.8	35.4
50 and over	264.5	28.3	18.0	27.9
TOTAL	936.0	100.0	64.4	100.0

SOURCE: U.S. Bureau of the Census. U.S. Census of Population: 1960. Vol. I, Characteristics of the Population, pp. 1-499 and pp. 19-361.

National projections of the number of the working force from 1960 to 1975 indicate a 49 percent increase in the age class 14 to 34; a very small increase for age class 35 to 49; and a 20 percent increase for age class 50 and over. The conclusion therefore both for Kentucky and the United States is that a problem is developing in industry, government, and public administration relative to the supply of potential executives below age 40 to fill the large number of positions expected to develop in middle management and top executive positions in companies during the next decade.

Table 10 contains a comparison of the distribution of white collar and blue collar workers by age classes according to sex in 1960. In the white collar class female workers were relatively more important in the younger age group, 14 to 34 years old, and tended to decline with each older age class. In the blue collar category female workers tended to become slightly more important with age. Men were somewhat higher in age class 35 to 49. In the period ahead, 1965 to 1975, it is apparent that more numerous job opportunities will

TABLE 10

COMPARISON OF DISTRIBUTION OF THE EMPLOYED LABOR FORCE IN KENTUCKY ACCORDING TO SEX AND BROAD OCCUPATIONAL TYPE, 1960

Occupation and Sex of Worker	Age Class 14-34 Number of Employed (In thousands)	14-34 Percent of Total	35-49 Number of Employed (In thousands)	35-49 Percent of Total	50 and Over Number of Employed (In thousands)	50 and Over Percent of Total
WHITE COLLAR						
Men	67.4	19.3	62.1	19.2	58.4	22.1
Women	59.5	17.1	49.3	15.3	39.0	14.7
Subtotal	126.9	36.4	111.4	34.5	97.4	36.8
BLUE COLLAR						
Men	176.8	50.7	165.5	51.3	130.6	49.4
Women	44.9	12.9	45.9	14.2	36.5	13.8
Subtotal	221.7	63.6	211.4	65.5	167.1	63.2
TOTAL	348.6	100.0	322.8	100.0	264.5	100.0

SOURCE: Table 9, ibid, pp. 19-410 to 412.

be available in the white collar classes which is consistent with the growing number of workers in age class 14 to 34.

The greater demands for white collar workers who have a better educational level, coupled with the large numbers of young people entering the labor force, forecast a rising emphasis on more years of schooling followed either by vocational or technical training. Older workers may be expected to continue to fall heir to the comparatively smaller number of blue collar jobs left to them by default because of poorer levels of education and training and the tendency of companies to discriminate against older workers. Lacking good basic education and flexibility in adapting to change, older workers may not expect to turn out in force for retraining programs nor participate very readily in adult education. Therefore the declining opportunities for older workers may not be overcome to any great extent by their training for employment in white collar occupations where the job openings will be much larger.

PROJECTIONS OF MAJOR OCCUPATIONS TO 1975

Important Changes in United States Economy

The shift from white collar to blue collar jobs is expected to accelerate during the period from 1960 to 1975. In 1960 about four jobs in ten were white collar. This ratio is expected to almost equal one job in two by 1975. The total increase in white collar jobs during this period will be 46 percent while blue collar jobs will expand approximately one-fifth during the period. In actual jobs, about 1.7 white collar jobs will be created for each blue collar job. See Appendix Table A.

The second important development anticipated in the national labor force is that the ratio of women workers will continue to rise but at a somewhat slower rate than occurred during 1950-60 when the overall increase in the ratio was 3.4 points. While the ratio of women in the labor force was slightly over 32 percent in 1960, the ratio is expected to rise to 34.5 percent by 1975. Overall growth in labor force of the two sexes is expected to be 27.4 percent or an estimated increase of 20 million workers in the fifteen-year period. The percentage growth of the women labor force of around 37 percent will be approximately 1.5 times larger than for men. However the job gain ratio of the two sexes will be reversed. In the period 1950-60 women gained 2.0 jobs to each job for men; in the period 1960 to 1975 the job gain ratio will favor men, when they are expected to gain 1.3 jobs to each job for women. This reversal over 1950-60 is due to the fact that participation of women in the labor force is expected to rise only slightly toward the end of the period. See Appendix Table B.

A further important tendency in the national economy which must be taken into account in projecting Kentucky's employment pattern in the next decade is the growing trend toward service-producing industries at the expense of goods-producing industries. In 1960

approximately 38 percent of total employment was in goods industries and 62 percent in service industries which represents a shift away from goods industries from 1950. This tendency will continue, and by 1975 the ratio of employment in service industries is projected at 66 percent. The percentage gain of employment in goods industries during the fifteen-year period 1960-75 is forecast at 25 percent in contrast with a 44 percent gain in service industries, or a growth of 1.8 times that of the service industries.

In terms of number of jobs created, the forecast is that three jobs will be created in the service industries to each job in the goods industries. Part of the difference in the ratio is due to the more rapid yearly percentage rate of growth in the service industries but is also due partly to the fact that service industries already account for more than six-tenths of total employment in the United States. Consequently, some of the more rapid growth of jobs in the service industries will be associated with the larger employment base. See Appendix Table C.

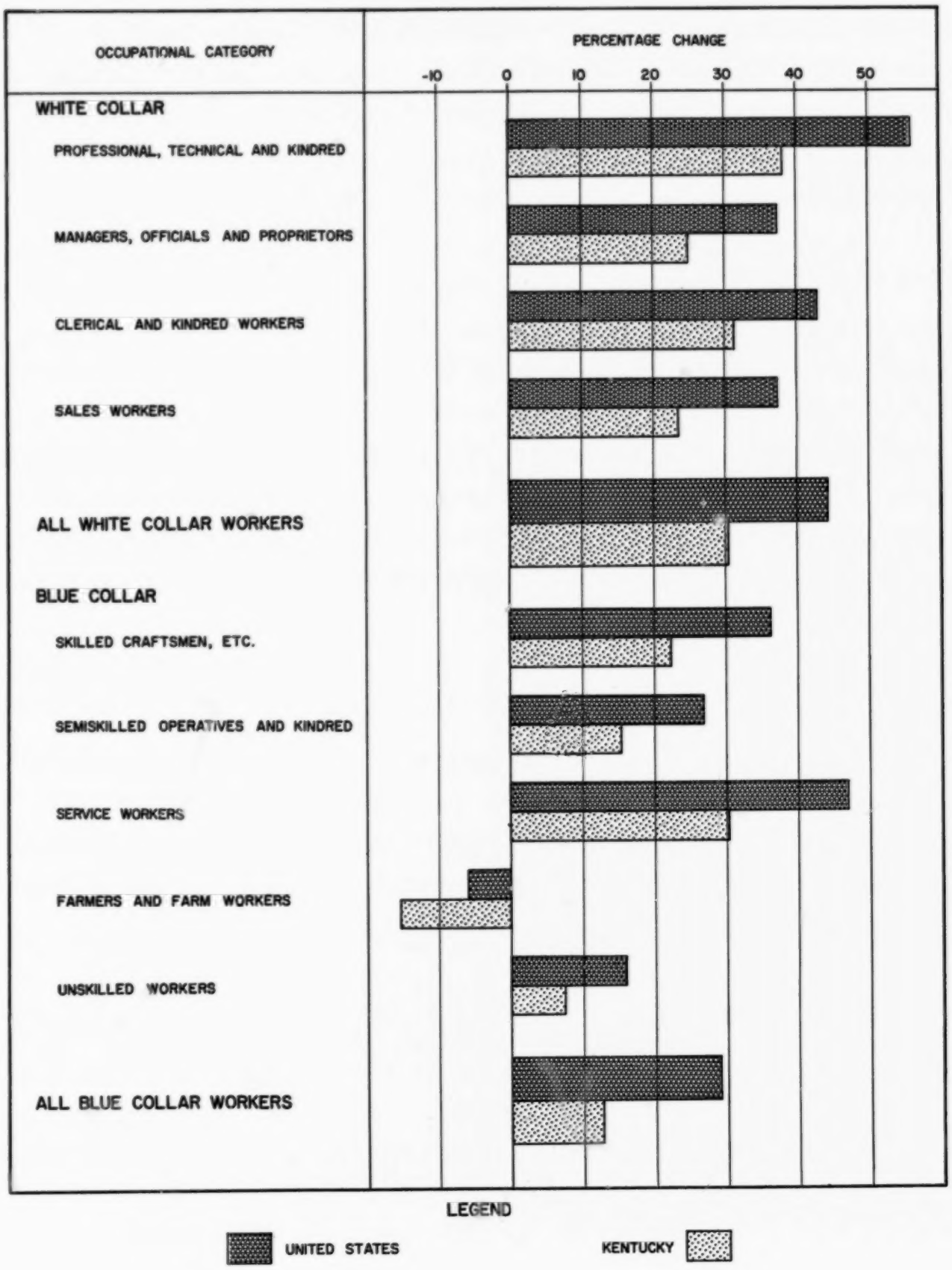
Projected Percentage Growth in Major Occupations for United States and Kentucky Compared

Projected growth percentages in occupations for the United States have been taken directly from page 244 of the March 1964 Manpower Report of the President. Comparable percentage changes for Kentucky have been developed by analytical relationships growing out of this section and details in preceding sections.

It is observed from Chart 1 that in every category of major occupations which reported an increase for the United States a comparatively less percentage increase is shown for Kentucky. On the other hand farm workers show a relatively sharper drop in Kentucky. While white collar workers are expected to have eight-tenths as large relative gain as the United States, blue collar workers in Kentucky will fare relatively less well, or roughly half the percentage increase of the United States. The unfavorable showing of blue collar workers in Kentucky is largely due to the comparatively large decline expected

CHART 1

Comparison of Expected Percentage Changes in Occupational Groups for United States and Kentucky 1965 to 1975



for farm workers and to some extent to the small increase anticipated for unskilled workers.

The basic factors which must be considered in analyzing the prospects for occupations in Kentucky relate to the comparatively slow growth of the state's economy. In the decade 1950 to 1960, Kentucky added only 93,000 population, and even after taking into account the adjustments for seasonal factors in agriculture and manufacturing, the total job gain viewed optimistically was probably only 35,000.[7] Population growth during 1950-60 was only 0.3 percent per year and has averaged 0.9 percent yearly since 1960, compared to an annual rate of growth for U.S. population of approximately 1.7 percent. Even if an optimistic growth is assumed for Kentucky during the period 1965-75 and a modest inflow of migration of people is assumed, the yearly population growth of the state can barely reach 1.6 percent during 1970-75. Consequently, taking all these factors into consideration, the absolute percentage change in the occupations that might be anticipated for Kentucky during the period 1965-75 must of necessity fall below rates of change anticipated for corresponding occupations at the national level.

Kentucky Projections

The projections of major occupations in Kentucky for 1965-75 are based on the highest potential population projection (II) to 1975 and corresponding gains in employment, income and retail sales which have been given in an earlier publication.[8] The percentage changes given in Chart 1 are assumed.

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[7] John L. Fulmer. "Trends in Population and Employment in the South from 1930 to 1960 and their Economic Significance." Essays in Southern Economic Development (Chapel Hill: University of North Carolina Press, 1964), pp. 195-238.

[8] John L. Fulmer. "Economic Development Potentials in Kentucky, 1963-1975." Research Briefs. Bureau of Business Research, January 1965, pp. 11-12.

Table 11 provides a comparison of employment in Kentucky by occupations for 1960, 1965 and 1975. The expected changes are given in absolute numbers and percentages. It should be noted that the projections are based on the projection II increases in the state's population, employment and income[9] which will require some strong pushing by all of Kentucky's leaders to achieve these goals.

The projections indicate an increase of 111,300 white collar jobs from 1965 to 1975, an increase of 30 percent. The corresponding change expected in blue collar jobs is 76,600, a gain of 13 percent. In the white collar groups of occupations largest increases in jobs are projected for professional and technical and for the clerical occupations, with growth of 38,900 and 36,600 jobs respectively in the ten-year period. Among blue collar jobs the biggest increases are forecast for service workers, semiskilled factory workers and skilled craftsmen, which together show over 90,000 expected increase. Only farm workers are expected to lose jobs, 18,300 or 15 percent but only a fraction of the large declines which occurred from 1950 to 1960. The impact of rapid technological change in agriculture is being offset by growth in the national market. One should be cautioned against application of these figures unreservedly to present conditions since Kentucky does not yet have the rate of growth assumed by these projections. The projections are, however, within the limits of the resources and leadership of the state and are reasonably achievable.

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[9] Loc. cit.

TABLE 11

PROJECTED EMPLOYMENT FOR MAJOR OCCUPATIONAL CATEGORIES FOR KENTUCKY, 1960 AND 1975

Occupational Category	1960 (In thousands)	1965 (In thousands)	1975 (In thousands)	Change 1965-1975 Number of jobs (In thousands)	Change 1965-1975 Percent
WHITE COLLAR					
Professional, technical and kindred	83.3	102.2	141.1	38.9	38.1
Managers, officials, and proprietors[a]	68.7	75.8	94.7	18.9	25.0
Clerical and kindred workers	102.1	117.4	154.0	36.6	31.2
Sales workers	65.1	72.2	89.1	16.9	23.4
Subtotal	319.2	367.6	478.9	111.3	30.3
BLUE COLLAR					
Skilled craftsmen, etc.	116.8	127.6	156.2	28.6	22.4
Semiskilled operatives and kindred workers	185.5	196.9	226.9	30.0	15.2
Service workers[b]	96.3	108.8	141.6	32.8	30.1
Farmers and farm workers	129.2	120.1	101.8	-18.3	-15.2
Unskilled workers	45.9	46.5	50.0	3.5	7.5
Subtotal	573.7	599.9	676.5	76.6	12.8
Not classified	42.9	46.5	58.6	12.1	26.0
TOTAL	935.9[c]	1,014.0	1,214.0	200.0	19.7

[a]Excludes farm salaried workers.
[b]Includes private household.
[c]Unadjusted for seasonal and other factors.

SOURCE: 1960 from Table 1; other data, computed by Bureau of Business Research.

YEARLY CHANGES IN MAJOR OCCUPATIONS AND SELECTED JOBS

1950-60 and 1960-75 Growth Rates Compared

The most significant factor about the 1950-60 growth rate was the mixed character of the state's economy, reflecting strong tendencies both to grow and to decline. By industries, agriculture and mining fell off in employment, manufacturing expanded rapidly and most trade and service industries except transportation and communications increased moderately. In the occupations, the blue collar group fell off sharply while the white collar group increased strongly. The shift in importance between these two broad categories of occupations was due to the new emphasis on service-producing industries.

In comparing employment growth rates of industries for the two periods, it must be borne in mind that the sharp employment adjustments from technology in agriculture and mining may be close to stabilization. Agriculture is expected to show some shrinkage in jobs during 1965-75. Growth of jobs in the surging areas of the state's economy probably will not to any significant extent be offset as during 1950-60 by losses from agriculture and mining. Therefore gains in the other major segments of the state's economy will be reflected almost completely and directly into a broad based expansion, not being obscured by shrinkages elsewhere in the economy as occurred from 1950-60.

Specific comparisons of job growth by occupations are given in Table 12. It is noted that the yearly rates of growth which are compared for the nine broad occupations indicate that during 1965-75 the expansion in jobs will be about double the rate for 1950-60 for most of the occupations. Very sharp increases in the skilled and semiskilled workers may be associated with further large expansion of manufacturing in the state, which currently has a ratio of manufacturing employment substantially less than the nation (21 percent compared to 27 percent).

TABLE 12

COMPARISON OF YEARLY GROWTH OF JOBS BY OCCUPATIONS IN KENTUCKY DURING 1950-1960 WITH PROJECTED GROWTH TO 1965-1975

Occupational Category	Net Growth Yearly in Number of Jobs 1950-60 Actual	1965-75 Projected	Ratio of 1965-75 to 1950-60
WHITE COLLAR			
Professional, technical and kindred	2,350	3,890	1.66
Managers, officials, and proprietors[a]	160	1,890	--
Clerical and kindred workers	2,090	3,660	1.75
Sales workers	990	1,690	1.71
Subtotal	5,590	11,130	1.99
BLUE COLLAR			
Skilled craftsmen, etc.	650	2,860	4.40
Semiskilled operatives and kindred workers	-440	3,000	--
Service workers[b]	1,490	3,280	2.20
Farmers and farm workers	-11,460	-1,830	--
Unskilled workers	-520	350	--
Subtotal	-10,280	7,660	--
Not classified	2,800	1,230	--
TOTAL	--	20,000	--

[a]Excludes farm salaried workers.
[b]Includes private household workers.

SOURCE: Tables 1 and 11.

The overall total employment change for 1950-60 due to heavy blue collar losses was a slight negative, ignoring seasonal adjustment. Whereas, the total job gains for 1965-75 could average 20,000 jobs yearly of which 56 percent will be from growth in white collar jobs, ignoring the "not classified" category. The expectation therefore is for the creation of 1.5 white collar jobs for each new blue collar job.

Chart 2 depicts the expected growth in new jobs by occupations for Kentucky from 1965-75 and indicates how these yearly gains compare to those which were achieved in the period 1950 to 1960. The main conclusion is that for most categories yearly job gains in 1965-75 will be about double the yearly job gains during 1950-60. The slight 1950-60 yearly loss in semiskilled operatives is offset by good yearly gains during 1965-75 because of continued rapid expansion in manufacturing, with perhaps more emphasis on nondurables manufacturing than durables which are more subject to automation. Farmers and farm workers continue the decline but at less than one-fifth of the rate during 1950-60.

Worker Replacement Requirements for Different Occupational Categories 1965 to 1975

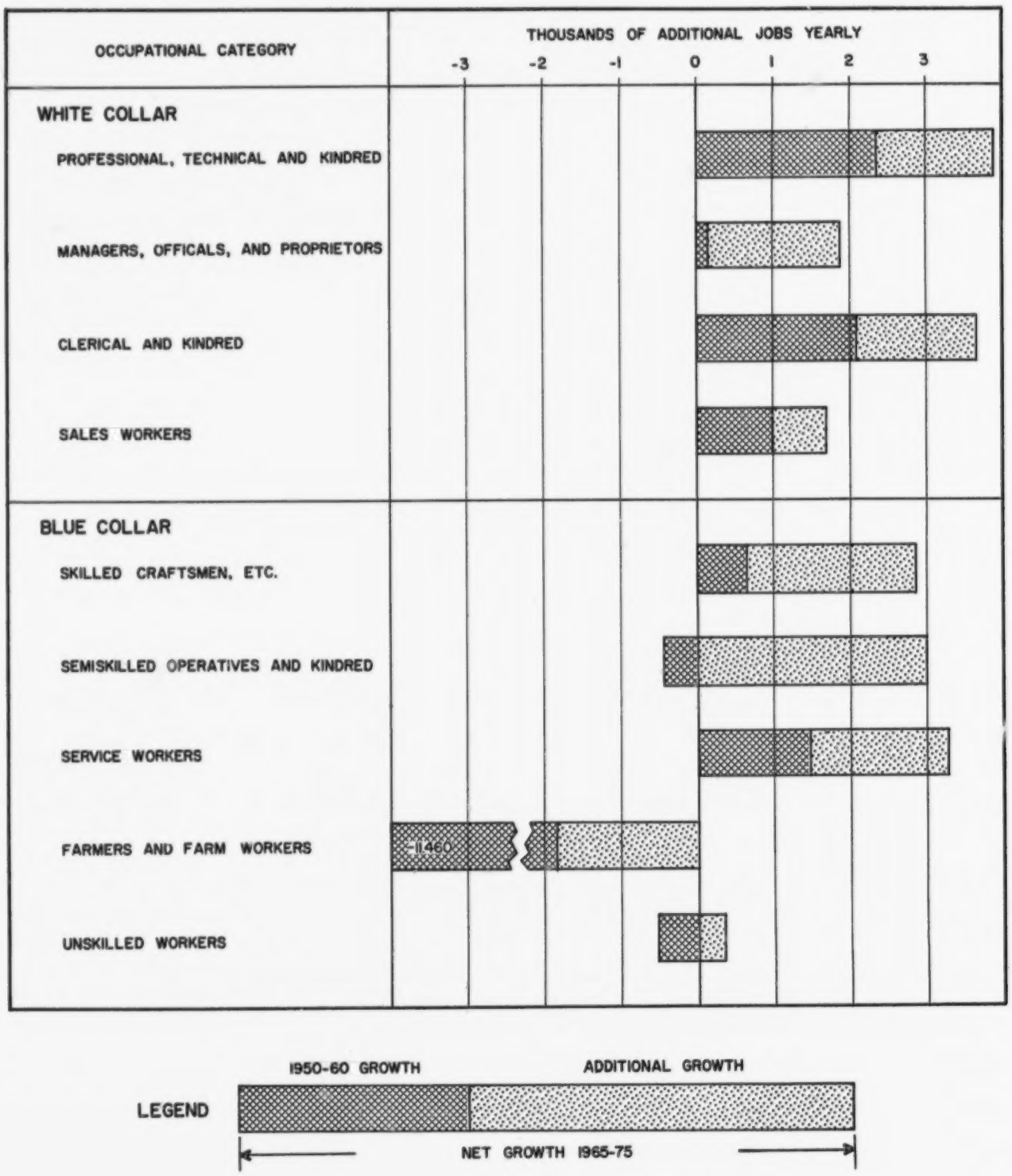
To this point new job openings have been the major point of emphasis. The number of net new job openings is tied directly to growth in the state's economy, which is close to 12,000 jobs currently, and is expected to rise to 20,000 yearly or more by 1970-75. Another source of job openings which should be considered by those training workers for the labor market in Kentucky is the replacement requirements of workers from death, retirement and quits.

In view of the distortion of the age distribution of workers in Kentucky towards the older classes of workers, mainly age 50 and over, the demand for trained workers simply for replacement is already a major consideration and will be a factor of increasing importance in the decade ahead. Deaths and quits occur at every age but increasingly so as the age of the working population advances. However, if the analysis is confined only to the age class 50 and over and is based only on the maximum total[10] effects known for retirements, 6.7 percent of the working population in age class 50 and over would be expected to cease employment each year. Based on the 1960 total employment in Kentucky in age class 50 and over, an estimated 17,700

[10] All retire at age 65.

CHART 2

Projected Additional Jobs by Occupational Categories from Growth in the Kentucky Economy from 1965 to 1975



job openings would occur annually. Adjustments to these figures should take into account the rather substantial death rate among men and the factor of quits to a minor extent for men but to a major extent for women. A counteracting factor is the tendency for many to work beyond age 65, especially where a formal retirement program is nonexistent. Balancing out the plus and minus factors creating job openings aside from growth in the economy and lowering the age limit to 45, it is estimated, based on normal labor attrition tables[11] that approximately 21,000 job openings yearly will be needed for worker replacements. This coupled with the 20,000 jobs[12] that may possibly be achieved from growth of the economy indicates that a substantial potential exists for the employment of young people entering the labor force, provided they are trained and have attitudes to make good workers. The fact that the number is unexpectedly sizable indicates the training problem facing the state of Kentucky.

A complete summary of the estimated job replacement requirements by occupational categories for age class 45 and over is given in Table 13. More than 1,000 job openings and in most cases approximately 2,000 job openings will be available in each occupational category except for unskilled workers during the period 1965 to 1975, based only on the number of workers in age class 45 and over in 1960. Since the relative number of older persons in the labor force will tend to increase all through the period 1965-75, these estimates are conservative.

The largest number of job openings is seen to be in the clerical and kindred workers class. The second largest number, and surprisingly, is the farm workers class with 3,278. Here of course the period of retirement of farmers is somewhat indefinite but the age factor of farmers and farm workers must be recognized as an increasing factor in the farm labor supply. Note should be made especially of

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[11] Provided by U.S. Department of Labor.

[12] In the period 1960-63 the yearly expansion in jobs was 11,800 without an all out effort to push the state's economic growth.

TABLE 13

ESTIMATED JOB REPLACEMENT REQUIREMENTS YEARLY FOR KENTUCKY LABOR FORCE BY OCCUPATIONS

Occupational Category	Number of Job Openings Yearly from Replacement Demands[c]
WHITE COLLAR	
Professional, technical and kindred	1,768
Managers, officials, and proprietors[a]	1,828
Clerical and kindred workers	4,328[d]
Sales workers	1,425
Subtotal	9,349
BLUE COLLAR	
Skilled craftsmen, etc.	2,256
Semiskilled operatives and kindred workers	2,858
Service workers[b]	2,578
Farmers and farm workers	3,278
Unskilled workers	753
Subtotal	11,723
TOTAL	21,072

[a]Excludes farm salaried workers.
[b]Includes private household.
[c]Based on age class 45 years old and over.
[d]Includes an adjustment for high rate of female clerical workers in age class 18-25.

SOURCE: Computed by Bureau of Business Research, based on labor attrition factors from the U.S. Department of Labor.

the skilled worker and the semiskilled worker categories which from the replacement factor alone will have available around 5,000 jobs yearly. This coupled with the growth factor expected in manufacturing and related areas where skilled and semiskilled workers will be employed show a prospect for an additional 5,900 workers, giving a total from both considerations of 11,000 workers during the period 1965-75 for these two types of occupations in the blue collar category group.

Indications of Specific Jobs Yearly

The type of analysis heretofore does not identify to any extent the specific jobs which will be available, such as mechanics, electricians, electronic technicians, medical technicians, etc. Based on data from the census it is impossible to spot these specific jobs precisely. This can be done only by detailed investigations of the companies employing them. This would require another type of study which is now in the planning stage.

Some indication of the possible strength of the demand for specific jobs can be gained from the data in Table 14 based on the rate of net job creation for the period 1950-60. The data show the actual net new job openings from growth in the state's economy during 1950 to 1960. For a number of these specific types of jobs, several hundred openings occurred yearly. Most notably these were and are listed in order of importance:[13] teachers, elementary and secondary schools, 854; salesmen and sales clerks (n.e.c.), 830; clerical and kindred workers (n.e.c.), 650; mechanics and repairmen, 633; linemen and servicemen, 299; nurses, professional, 274; cashiers, 273; and waiters, 201. These figures indicate the number of new job openings yearly in Kentucky during 1950-60 for the special job types indicated. Numerous additional jobs are given in the table.

In making interpretations of these data for the period 1965-75, it should be considered first of all that a substantially more rapid rate of growth is expected for the period 1965-70 as compared to 1950-60. In addition, there must be taken into account the job replacements which may equal the number from growth in the state's economy.

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[13] All data are for the net growth in jobs and do not take into account the very large number of openings from worker replacements.

TABLE 14

NET JOB INCREASE YEARLY OF SPECIFIC JOBS IN KENTUCKY ACCORDING TO OCCUPATIONAL CATEGORY, 1950 TO 1960

Occupational Category and Job Class	Net Job Increase Yearly in Period
WHITE COLLAR	
Professional, technical and kindred	
Accountants and auditors	123
Designers	31
Draftsmen	63
Engineers, technical	223
Librarians	42
Natural scientists	32
Nurses, professional	274
Personnel and labor relations workers	53
Physicians and surgeons	24
Radio operators	13
Recreation and group workers	21
Social and welfare workers, except group	28
Social scientists	14
Teachers-elementary and secondary	854
Technicians-medical, dental, electrical, etc.	204
Managers, officials, and proprietors	
Purchasing agents and buyers	39
Clerical and kindred workers	
Bookkeepers	216
Cashiers	273
Office machine operators	108
Receptionists	98
Secretaries	64
Stenographers	144
Typists	101
Stock clerks and storekeepers	79
Clerical and kindred workers (n.e.c.)	650
Sales workers	
Salesmen and sales clerks (n.e.c.)	830
BLUE COLLAR	
Craftsmen, foremen and kindred workers	
Brickmasons, stonemasons and tile setters	50
Excavating, grading and road machine operators	239
Linemen and servicemen--telephone, telegraph and power	299
Mechanics and repairmen	633
Plumbers and pipe-fitters	100
Stationary engineers	64

TABLE 14 (continued)

NET JOB INCREASE YEARLY OF SPECIFIC JOBS IN KENTUCKY ACCORDING TO OCCUPATIONAL CATEGORY, 1950 TO 1960

Occupational Category and Job Class	Net Job Increase Yearly in Period
Toolmakers, die-makers and setters	64
Operatives and kindred workers	
Assemblers	575
Attendants, auto service and parking	252
Bus drivers	38
Deliverymen and routemen	285
Sewers and stitchers mfgr.	368
Truck and tractor drivers	316
Welders and flame-cutters	224
Operatives and kindred workers (n.e.c.)	720
Service workers excluding private household	
Attendants--hospital and other institutions; and personnel service; recreation and amusement	281
Barbers	24
Cooks, excluding private household	183
Hairdressers and cosmetologists	102
Practical nurses	230
Private household workers	332
Protective service workers	55
Waiters	201

SOURCE: U.S. Census of Population for 1960. Vol. 1, Characteristics of the Population. Part 19, Kentucky, pp. 386-391.

SUMMARY AND CONCLUSIONS

1. The results of the analysis indicate a rising demand for white collar workers related to a significantly high rate of growth of the service industries. The entire group of white collar occupations depends upon a high level of education and skill-training for employment. The professional group requires advanced graduate training; technicians require at least two years beyond high school in a technical institute or equivalent work; and clerical workers must have a high school education in general plus vocational training. The other two categories, managers and sales workers, have mixed requirements of education and training. The conclusion, however, is that the high significance of education and training for the white collar jobs, with rising demand in the future, places an increasing emphasis on education and training for workers. Statistics indicate fewer jobs each year will be available for those with poor education and little training.

2. The relative importance of blue collar workers has been declining and will continue to do so because of the shift in the economy from goods-producing industries to service-producing industries. The second important influence here is the displacement of workers by automatically controlled equipment which is able to increase the output year by year with declining input of labor. Within the blue collar category however there will be a continued good demand for skilled craftsmen in manufacturing, in repair services, in transportation and communications and elsewhere in the economy. Since Kentucky lags the national ratio in the relative importance of manufacturing, the expected more rapid growth of manufacturing employment, catching up with the rest of the nation, will provide a stronger demand for semi-skilled operatives in production and assembly line work. In the skilled occupations it is highly important that workers have a high school education although some are getting by with less, fortified

by a remarkable aptitude for a skill. Possession of a marketable skill is difficult to acquire without good basic education and even more difficult to keep up to changing technology because of great need for intellectual capacity and flexibility. Programs of public education reinforced by company training should make it easier for adult workers to acquire skills and keep them updated.

3. The strongest demand of all is shown for service workers because of the shift of the economy towards an urban culture which places major emphasis on services and related activities in the city. Ability to meet the public, good appearance, neatness, and proper job attitudes are highly important to acquiring and keeping a job in one of these occupations. In the past a high school education has not generally been required but here as elsewhere the premium is to those who perform well on the job, and the background of a high school education is most helpful in achieving a high performance. In the past schools and training agencies have not recognized properly the importance of job attitudes in training for service. But the market demands of the future will require that they do so. Such a reorientation of education and training will probably be one of the most important developments in the years ahead in the training and development of manpower resources.

4. Farm workers will continue to decline but at a much lesser rate than during 1950-60. Significantly, the replacement figures for the older farmers and workers show opportunities for trained farmers and farm workers which are not now fully appreciated. The importance of skilled workers in agriculture will shortly be recognized and new fields of training opened up to meet these demands. Some new thinking may be required on the status and pay scales for such workers.

5. The near stabilization of employment in mining and the staailization of agricultural employment in a decade or so indicate that the impact of a fast changing technology on output of these two industries may be approaching a balance with strong market factors.

6. The distortion of the age structure towards the older workers in Kentucky, as well as in the United States, will make available a significant number of job opportunities aside from those tied directly to economic growth during the period 1965 to 1975. In Kentucky the number of jobs opening each year from retirements and deaths of older workers, age class 45 and over, will equal and probably exceed the number of new jobs developing from expansion in the state's economy, even if Kentucky's growth prospects are assumed on the optimistic side from the standpoint of population, employment, and income. Obviously the job openings and opportunities will be there but in order to obtain and retain them, workers must have good basic education, fortified by a skill acquired through trade school, apprenticeship, or otherwise, and have proper job attitudes on how to find a job, satisfy the employer and keep the employer's customers satisfied.

7. Another factor in the state's future associated with the age distortion of the working force towards the older workers is the impact this will have on middle management and top level executives in industry, trade and government in Kentucky. Since the relatively large number of executives from the older age classes greatly outnumber the potential middle management and top executives in the line of succession from age class 35 to 45, a problem may be developing relative to filling the vacancies. Opportunities are developing, therefore, for institutions of higher learning, and particularly departments of business administration and economics, to offer executive training programs which will enlarge the number of potential executives in the younger age classes of companies.

8. In order to find and hold a job in the future and progress to higher responsibilities and pay, workers at every level of skill and technical competence, including professional engineers and scientists, must keep their marketable skills and technical know-how up to date. This means a broad and expanding program of adult education, first in the high schools and community colleges and secondly in institutions of higher education. Company programs of classroom instruction and on-the-job training are of significance but are perhaps

not of sufficient scope and size to meet anticipated demands in the future.

9. An adequate supply of trained workers and the ability of the state to keep them properly trained and up to date may be the most critical factor determining the rate of industrialization and economic development not only in the immediate future but also in the years ahead. The limitation of sufficient supply of skilled workers and brainpower to company success in solving highly complex, technical and scientific problems, so necessary to company success and survival, is coming to be recognized by some of the leading companies. In a short time it will be recognized by most.

10. Recent data[14] on attendance in elementary and secondary schools and institutions of higher learning, both public and private, indicate that about one-fourth of the entire U.S. population is engaged in formal programs of education. Currently, probably an additional five to six million are participating in public type vocational and technical training programs. Many more are in company training programs or other types of training. All of these perhaps constitute another 5 to 10 percent of the population. Total expenditures on education, both private and public, represent about 5 percent of GNP. Defense expenditures not including foreign aid are about twice as great. Undoubtedly defense expenditures of this size are justified in a world which is under threat of the atomic bomb. And they are not necessarily connected, but surely a rate of expenditure on the development of human resources only one-half as large as for national defense and one-third as large as gross private domestic investment[15] raises questions of perspective.

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[14] U.S. Bureau of the Census. Statistical Abstract of the United States: 1963. (Eighty-fourth edition). Washington, D.C., 1963, pp. 113, 144-148.

[15] Gross private domestic investment in plant and production equipment is about 15 percent of GNP. Surely investments in human resources deserves equal attention.

APPENDIX

DEFINITIONS AND DESCRIPTIONS OF OCCUPATIONAL CATEGORIES

The occupational classification of the population census is in general comparable with the system used in the Dictionary of Occupational Titles prepared by the U.S. Bureau of Employment Security. There are differences, however. The DOT System is designed primarily for employment service work, such as placement and counseling, and is ordinarily used to clarify any detailed occupational information obtained in an interview with the worker himself. The Census System, on the other hand, is designed for statistical purposes and is ordinarily used in the classification of limited occupational descriptions obtained in a self-enumeration questionnaire or in an interview with a member of the worker's family. Therefore, the DOT System is more detailed and technical than the Census System which is generalized from broad categories of information, often from self-enumeration.

White Collar Occupations

The white collar occupations include: (a) professional, technical and kindred occupations; (b) managers, officials, and proprietors, excluding farm; and (c) clerical and sales workers. These are the occupations which require a minimum of physical work but varying degrees of learning and training, from business school to a Ph.D. from a graduate school.

The professional, technical and kindred occupations include the highly trained scientists, engineers, college presidents and professors. This category also includes the intensively trained and highly specialized technicians who have had in general two years beyond high school in a technical institute. The creative occupations, such as actors, artists and editors, fall in this class. The emphasis here is less on education than creative talent.

Managers, officials, and proprietors, excluding salaried farm managers, include the managers and owners of private business enterprise. The educational background is mixed from less than high school to graduate degrees in business administration or some other management sciences. The important point is that these persons be not only enterprisers but individuals with the capacity to organize, operate and take risk from business enterprises.

People in administrative and managerial work range from proprietors of small businesses to corporate executives. About one-half of all persons in this field are self-employed--most often in retail stores. Salaried officials of business firms make up the second largest group. Several thousand administrative workers are also in federal, state and local government agencies and in nonprofit organizations of many kinds. In addition, buyers, purchasing agents, credit men and many others hold jobs closely related to administrative and managerial work.

The clerical and sales occupations represent a catchall of white collar occupations which are highly essential to the modern economy because of the way they fit into administrative staff in research development, business enterprises, and almost everywhere that records are kept, transactions carried out and sales made. The clerical occupations are the backup for accountants and administrators while the sales workers represent the cutting edge of business enterprise in carrying goods and services to the buying or consuming public. In general a high school education is essential with vocational or business training past high school. A chief characteristic of clerical workers is patience and accuracy with detail, while sales workers must have the ability to promote products or services and deal effectively with the public.

Stenographers, typists and secretaries are the largest specialized group of clerical workers. Bookkeepers are the second largest group. Other large clerical occupations include those of telephone operator, shipping and receiving clerk, cashier, mail carrier and office machine operator.

Sales workers in retail trade are the largest group. Retail trade is an important source of employment for women. Men are employed, almost exclusively, in other types of selling jobs. Other sales personnel include: salesmen employed by wholesalers and manufacturers, insurance agents and real estate salesmen.

Blue Collar Occupations

The blue collar occupations comprise: (a) craftsmen, foremen and kindred workers; (b) operatives and kindred workers; (c) service workers including private household employees; (d) unskilled laborers except farm and mine; and (e) farmers, farm managers and farm workers. Application of skill is characteristic, but this varies from a high degree of skill in the case of craftsmen to practically none for unskilled workers. Major emphasis is placed on physical work in all these occupations.

Craftsmen, foremen and kindred workers represent the occupations which place major emphasis on skills ability, or facility and dexterity to carry out special operations which are not generally routine. They receive training on the job, in trade schools and in apprenticeship programs. Some of the major skilled crafts are bookbinders, brickmasons, carpenters and cabinetmakers, electricians, electrotypers, glaziers, loom fixers, machinists, mechanics and repairmen, millwrights, painters, plasterers, plumbers and pipe fitters, stone cutters, toolmakers and upholsterers. Skilled workers find employment in three broad occupational groups of building trades, metal working, and maintenance work in all operations involving machinery or electricity.

Operatives and kindred workers constitute the semiskilled occupations and are largely associated with production line work. The worker must learn well, a few routine steps, usually on the job. This category also includes apprentices who are in process of being trained as craftsmen. In addition to apprentices some of the most common jobs are assemblers, auto service station attendants, brakemen, bus and truck drivers, chainmen, checkers, conductors,

dressmakers, dyers, graders, knitters, meat cutters, street motormen, power station operators, sawyers, sewers, railroad switchmen, taxicab drivers, weavers, and welders and flame cutters. Job openings occur to a major extent in all types of manufacturing, construction, transportation, wholesale and retail trade, and business and repair services.

Service workers, including domestics, comprise those workers which deal in a service either in public business or private homes. A certain degree of skill is required to dispense service from business establishments but greatest emphasis is placed on ability to deal with the public. Domestic service in homes requires very little facility to deal with the public but great emphasis is placed on dependability and honesty. Skill in using home appliances and a certain knack in cleaning work and in keeping household arrangements are required. Special aptitudes to care for small children and prepare household meals are required in some service type jobs in homes. Typical types of service jobs are: attendants in hospitals, barbers, charwomen and cleaners, cooks, elevator operators, hairdressers and cosmetologists, janitors, practical nurses, ushers and waiters. Domestic service or private household workers include babysitters, housekeepers, laundresses, and charwomen and cleaners.

Unskilled workers except farm and mine include that great mass of workers who have neither training nor skill. Most school dropouts, especially before the tenth grade, can expect only unskilled, low paying jobs, which are becoming relatively fewer in number in the modern economy. A strong back, willingness to put in a full day's work, dependability, reliability, cooperativeness and honesty are the important qualities required to be a success as an unskilled worker.

Farmers, farm managers and farm laborers comprise the entire range of skills and training from the unskilled worker to the college graduate, generally from an agricultural college, operating his own farm or acting as a hired professional on a large commercial farm. Research shows that success in farming is directly related to

application of new discoveries of science and the modern techniques of management to the farm enterprise as a business. The rising capital investments, the need for a broad range of machinery, and the widespread use of fertilizers and insecticides in agriculture are placing an increasing emphasis on trained craftsmen and technicians, such as tractor and truck mechanics, electricians, etc.

APPENDIX TABLE A

PROJECTED SHIFT FROM BLUE COLLAR TO WHITE COLLAR EMPLOYMENT IN THE UNITED STATES, 1960 TO 1975

Category and Year	Occupational Category		
	White Collar	Blue Collar	Total
RATIO			
1960	43.1	56.7	100.0
1970	46.6	53.4	100.0
1975	47.9	52.1	100.0
PROJECTED PERCENTAGE CHANGE IN EMPLOYMENT			
1960-70	30.2	12.9	20.4
1970-75	11.7	6.1	8.8
1960-75	45.5	19.7	30.8

SOURCE: Manpower Report of the President. March 4, 1964, p. 244.

APPENDIX TABLE B

RELATIVE SHIFT OF LABOR FORCE BETWEEN SEXES IN UNITED STATES, 1950 TO 1975

Category and Year or Period	Labor Force Distribution Between		
	Men	Women	Total
RATIO			
1950	71.2	28.8	100.0
1960	67.8	32.2	100.0
1965	66.5	33.5	100.0
1970	65.7	34.3	100.0
1975	65.5	34.5	100.0
EXPECTED PERCENTAGE CHANGE IN EMPLOYMENT			
1950-60	7.6	25.9	12.9
1960-70	13.6	25.0	17.3
1970-75	8.2	9.2	8.6
1960-75	22.9	36.6	27.4

SOURCE: Manpower Report of the President. March 4, 1964, p. 243.

APPENDIX TABLE C

PROJECTED SHIFT OF NONAGRICULTURAL EMPLOYMENT FROM GOODS-PRODUCING TO SERVICE-PRODUCING INDUSTRIES IN UNITED STATES, 1960 TO 1975

Category and Year	Production Category: Goods-Producing Industries	Production Category: Service-Producing Industries	Production Category: Total
RATIO			
1960	37.6	62.4	100.0
1970	35.5	64.5	100.0
1975	34.2	65.8	100.0
EXPECTED PERCENTAGE CHANGE IN EMPLOYMENT			
1960-70	18.0	29.0	25.0
1970-75	6.0	12.0	10.0
1960-75	25.0	44.0	37.0

SOURCE: Manpower Report of the President. March 4, 1964, p. 244.

VT 001 130
What About Data Processing in South Central Wisconsin? Occupational Research Series No. 1.

Wisconsin State Employment Service, Madison
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Mar65 36p.

*DATA PROCESSING OCCUPATIONS; ELECTRONIC DATA PROCESSING; *OCCUPATIONAL SURVEYS; EDUCATIONAL NEEDS; MANPOWER NEEDS; *EMPLOYMENT TRENDS; *OCCUPATIONAL INFORMATION; *EMPLOYMENT QUALIFICATIONS; SALARIES; BIBLIOGRAPHIES WISCONSIN

The effects of electronic data processing on employment were studied in March 1965, when 101 South Central Wisconsin government and private establishments were surveyed by mail. Of the 89 percent who responded, 58 percent had data processing occupations and provided usable information. According to the survey, there were 50 electronic data processing systems in operation. Establishments surveyed had ordered 16 more systems to be installed in the next 3 years. The activities, education required, training, monthly earnings, and estimated needs of employers in specific data processing occupations are included for the occupational titles listed in the United States Department of Labor's publication "Occupations in Electronic Data Processing Systems." Findings imply that the supply of qualified workers is increasing, and the opportunities for employment may not be as plentiful as in the past. The few opportunities which will occur will be of the type where advanced level (college or university) training will be a virtual necessity. (PS)

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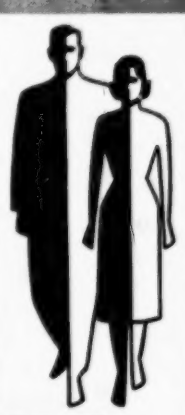

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WHAT ABOUT... data processing IN

SOUTH CENTRAL WISCONSIN

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WHAT ABOUT DATA PROCESSING?

Considerable attention has been paid recently to the field of data processing. Because of the relatively recent introduction of electronic equipment, the field has had an aura of glamour surrounding it; similarly, it would appear that thus far many economists have tended to over-emphasize the impact positive or negative which this innovation may have on employment trends. The implications suggested by this study, therefore, should prove of interest both as to the outlook for southern Wisconsin and, by projection, for the nation as a whole. It should be of special interest to those contemplating a career in this field and also to anyone concerned with the overall effects of electronic data processing automation on employment.

Generally speaking the outlook, as expressed by the employers responding to this survey, indicates neither cause for extreme concern nor justification for complacency. If employer estimates are correct, great numbers of workers will <u>not</u> be laid off within the next five years; the advent of electronic data processing equipment will not immediately displace a large number of office workers.

There will be exceptions of course. One records-processing branch of the state government ultimately expects to reduce employment by almost 400 clerical workers and a number of employers expect a moderate decline in employment.*

*See Graph on page 7 regarding employers' evaluations of the long-term effects of the introduction of (EDP) equipment.

By and large, though, most employers anticipate a moderate increase in employment in Electronic Data Processing occupations during the next five-year period.

Since the supply of qualified workers is also increasing, anyone comtemplating a future in this field can reasonably expect to find that the opportunities for employment in this type of work may not be as plentiful as in the past, and the few opportunities which will occur will be of the type where advanced level (college or university) training will be a virtual necessity. Employers, in their manpower requirements, seem to be looking for candidates with high degree of potential or competency. It is obvious that this is not the appropriate field for someone with only average or below average ability.

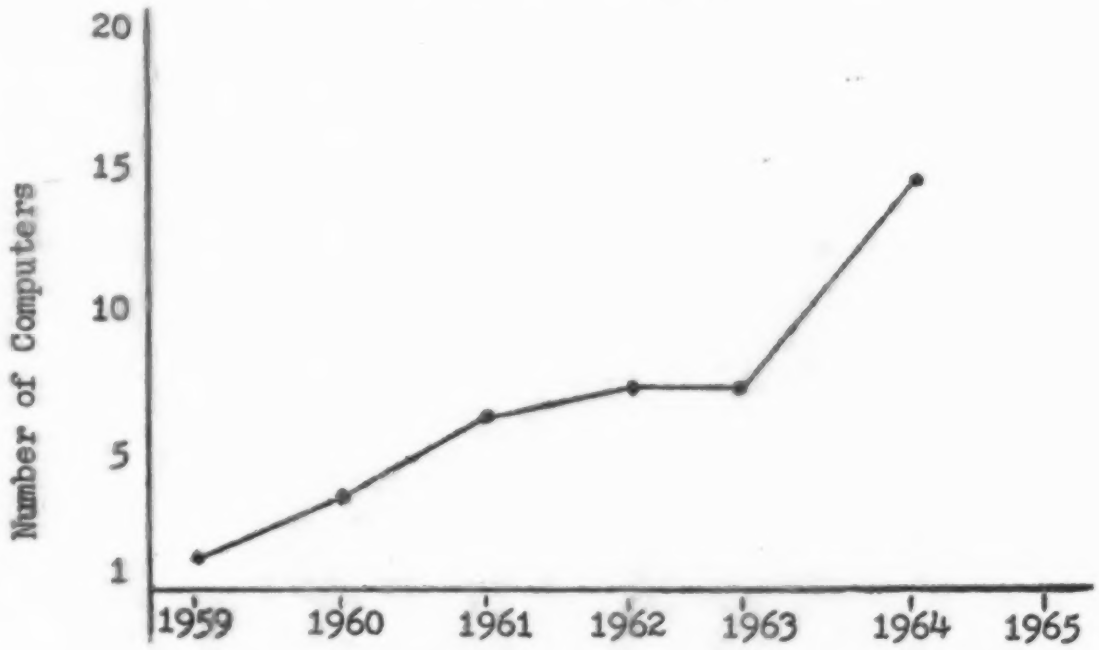
DATA PROCESSING INSTALLATIONS

Rate of Expansion

According to the April 1965 survey there are 50 Electronic Data Processing Systems in operation in Southcentral Wisconsin. Not included in this figure is the unit record equipment used by many firms. Figure I shows the rapid expansion of EDP systems in the last few years. In fact, twice as many computers were installed in 1964 as in any previous year. Naturally, this has meant an expanded opportunity for employment.

FIGURE I

NUMBER OF COMPUTERS INSTALLED BY YEAR



*Two establishments reported computer installations prior to 1959.

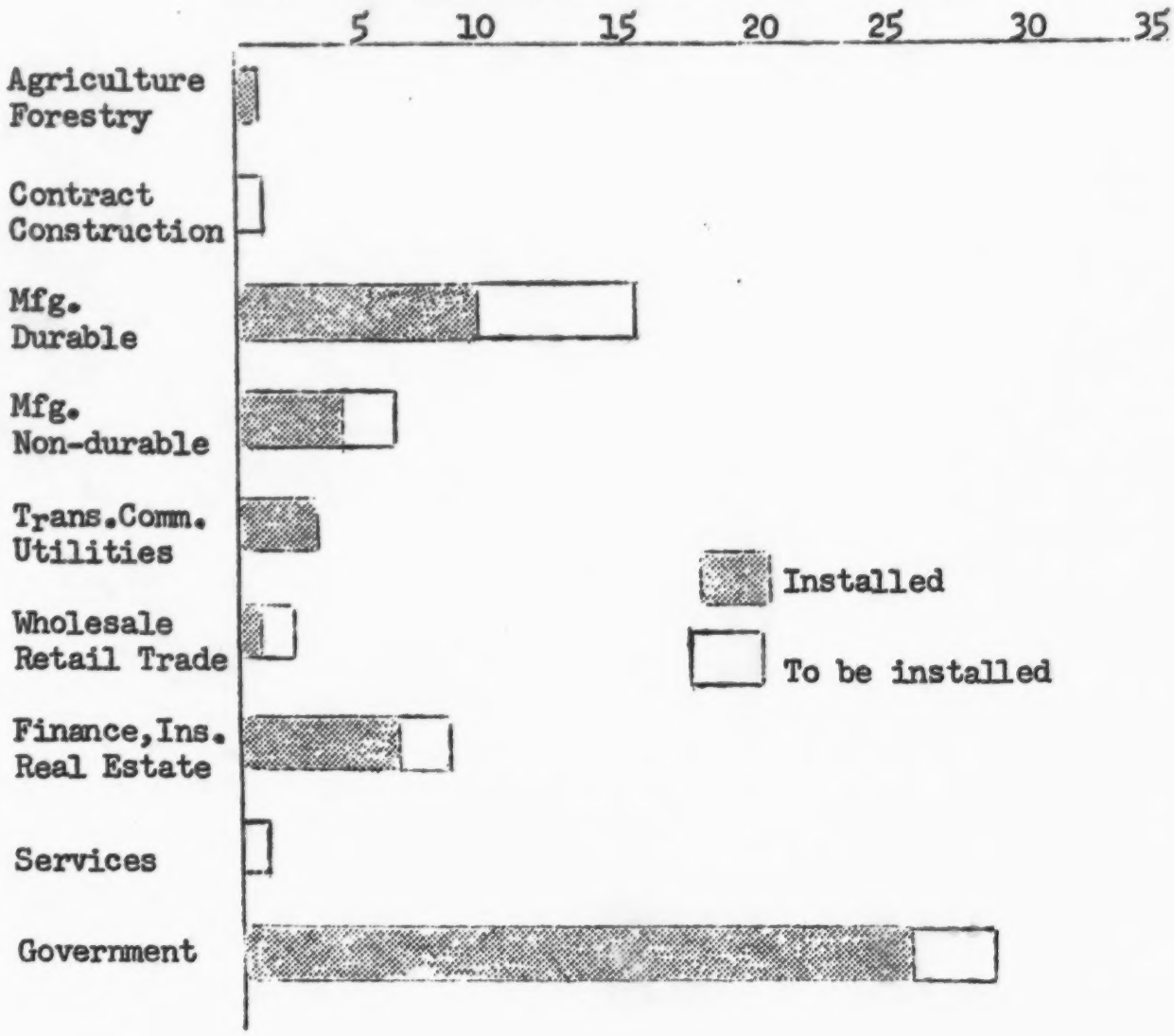
This expansion is not at an end. Establishments surveyed presently have on order 16 more systems (EDP's) to be installed in the next three years. Ten establishments are converting from unit record equipment to EDP systems and three establishments are installing data processing equipment for the first time. This should mean opportunities for employment will continue for the next few years.

The Industries

As elsewhere in the nation, "paperwork" industries, i. e., government, finance and insurance, have made the most extensive use of Electronic Data Processing systems. For them, the computer is the answer to the growing mass of paperwork. Therefore, it is not unusual that Madison, with its many government, finance and insurance establishments, would be the location of 43 out of 50 computers counted. As noted in figure II, government predominates with 26 EDP installations, but manufacturing firms have installed six computers in the last two years and eight more are on order.

FIGURE II

NUMBER OF (EDP) SYSTEMS BY INDUSTRIAL GROUP

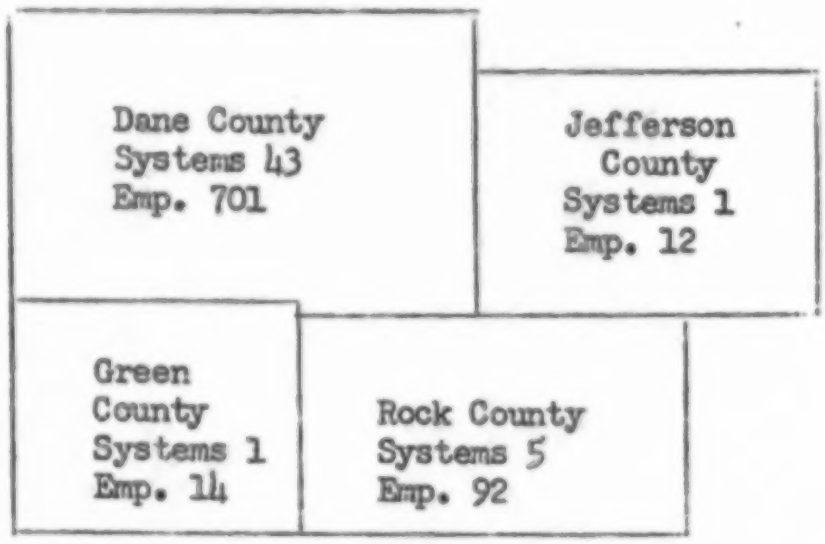


Location

Government will continue to dominate in the Data Processing picture. Few large manufacturing firms are located in the area and government's need for additional EDP equipment continues. In fact, three computers are now on order by government agencies. As seen in Figure III, opportunities for employment in data processing occupations are predominantly in the Madison area of Dane County.

FIGURE III

LOCATION OF (EDP) SYSTEMS AND DATA PROCESSING OCCUPATIONS



USE OF ELECTRONIC DATA PROCESSING SYSTEMS

A computer is used, for example, to plot cross-sections for future highways, figure the profit on a new line of meat products, and keep track of agricultural records. However, normal business applications (payroll, inventory control and accounting) seem to be the most important application. Eleven companies list Process Control as an application while seven companies service other firms with their computers. Many firms and government agencies (excluding purely research establishments) use their computers over 75 percent of the time for business applications.

Shifts Used

Of the government agencies and departments having computers, our survey shows 68 percent of them operating a second shift and 25 percent of them operating around the clock. On the other hand, only 55 percent of the private establishments having computers use them for two shifts, and only one private establishment reported a third shift operation.

Implications

A computer affects the way work is done throughout a company or government agency. It affects every level of work including management. It may eliminate low skill occupations and perform routine tasks in engineering, accounting, etc., with speed and accuracy--eliminating jobs. On the other hand, the computer allows a a concern to do many things that would be impossible without a computer.

Effect on Employment

The graphs on the following page indicate the relative number of employers who feel that the installation of EDP equipment will have the effect of increasing, stabilizing, or decreasing total employment within their respective organizations, both from a short-term and a long range standpoint. It should be emphasized that the totals represent only percentages of employers, and does not consider the size of the affected work forces. That is to say, the increase or decrease in the number of positions may not bear a direct relationship to these percentages.

Figure IV

SHORT RUN EFFECT OF THE COMPUTER ON OVERALL EMPLOYMENT
Percent of Employers Reporting

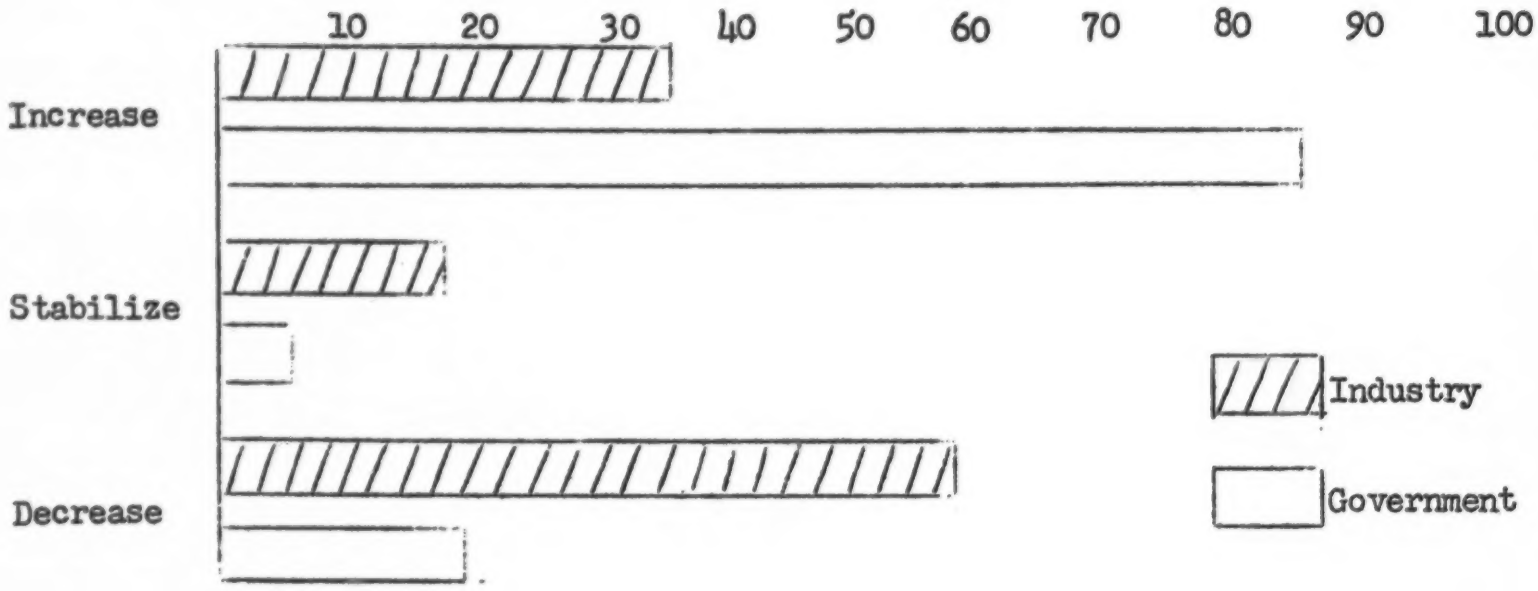
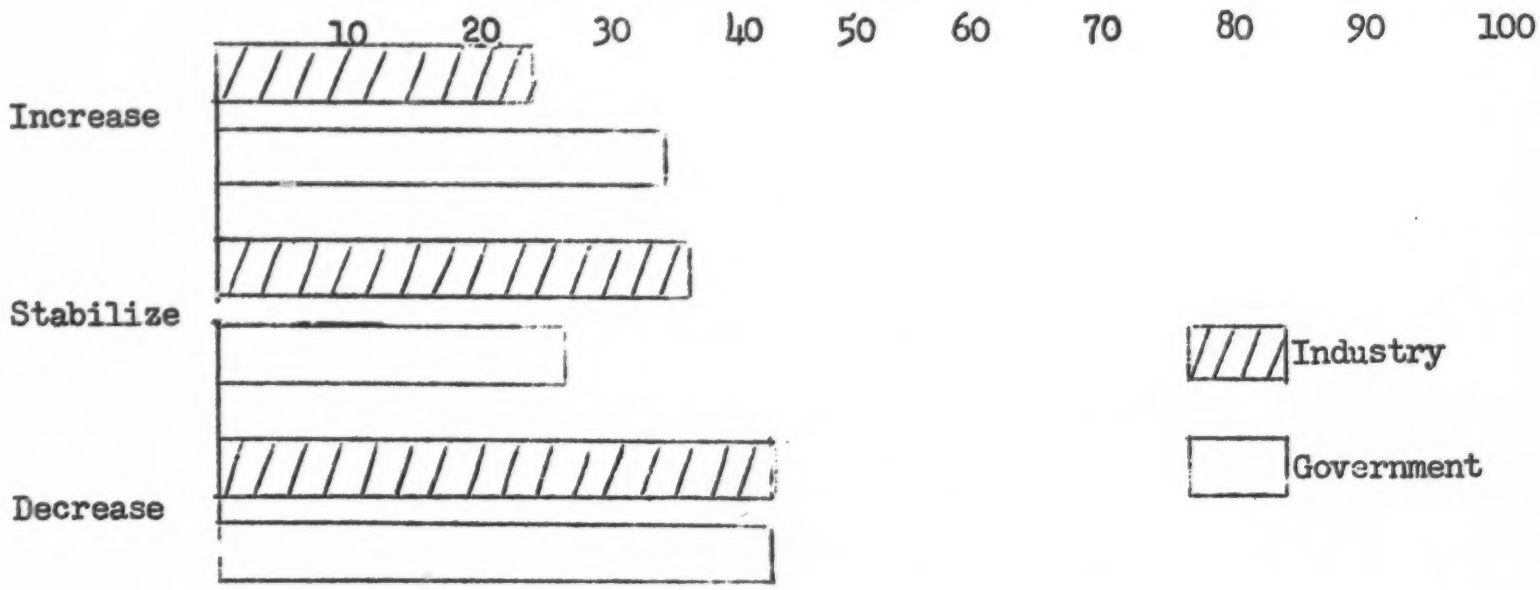


FIGURE V

LONG RUN EFFECT OF THE COMPUTER ON OVERALL EMPLOYMENT
Percent of Employers Reporting



A WORD OF CAUTION

Many factors, which at this time appear to be of little significance, may possibly emerge later to have considerable influence. However, at this time, it would appear unlikely that these factors will have any major effect within the next five years.

Chief among these factors would be the invention and introduction of new types of equipment. Optical character recognition devices, for example, may ultimately replace significant numbers of keypunch operators. A substantial time lag will be involved, however, before this equipment is manufactured, installed, and in such general use as to affect large numbers of employees.

With more companies planning data processing installations, the existing shortage of experienced personnel will be intensified for a time. "Pirating" of employees from one firm to another may increase. Employers may be forced to relax hiring restrictions, institute their own training programs, accept partially-trained personnel, or import qualified personnel from other areas. While this situation may exist for a time, it is felt that eventually the picture will stabilize, most probably before 1970, barring the advent of radically different equipment.

This report is also subject to the limitations of the information supplied by its participating employers (to say nothing of those who interpret their data...). Many people involved in the personnel

or data processing area do not as yet have a clear idea of what to expect in the near future. Several employers in fact, mentioned this in connection with their projections; they simply haven't had their equipment in operation long enough to be able to predict long-term effects.

Finally, many employers who have installed modern equipment with the idea of reducing manpower have discovered ways of utilizing this equipment in ways they originally didn't intend, and thus a slight increase rather than a decrease in employment has eventually resulted in certain industries.

The Difficulty in Prediction

Mr. John Diebold, in testimony before the House Subcommittee on Unemployment and the Impact of Automation, said in 1961:

> "In the late 1940's, serious statements were made by very knowledgeable men in this country that all of the computing in the country could be handled by 12 large-scale computers. This was right after the machines had first been built.
> By the end of the fifties the statement that all the computing in the country could be handled by 50 large computers was made, again by a very knowledgeable authority.
> Today, we have 5,000 computers. We will have 10,000 by the end of the decade.*(1)
> The crux of the problem of prediction in this field is that you have a very rapidly moving technology with important

*(1) A February 1965 computer census by Business Automation, a monthly trade publication, revealed 17,457 computer installations in the U. S.

innovations made every few years. Because the development of applications follows the technology, use of the conventional means of prediction is very, very difficult."*(2)

*(2) U. S. Congress, House of Representatives, Committee on Education and Labor. Impact of Automation on Employment; Hearings, 87th Congress; (Washington, U. S. Government Printing Office, 1961), page 72.

MANPOWER REQUIREMENTS FOR UNIT RECORD AND ELECTRONIC DATA PROCESSING SYSTEMS

Eighty-nine employers, including private establishments and government agencies, cooperated with the WSES in determining present employment and future needs in specific Data Processing occupations. The occupational titles included here are those used in the United States Department of Labor's publication Occupations in Electronic Data Processing Systems.

Two exceptions are the titles of Applications Engineer which will appear in the forthcoming publication entitled Occupations in Electronic Computer Systems, and the use of the title Auxiliary Equipment Operator to encompass Dictionary of Occupational Titles -- Card-Tape-Converter Operator, High Speed Printer Operator and the operation of other peripheral equipment.

The occupations listed are grouped into three functional areas of work: Project Planning, Programming, and Operations. Included after each grouping is a section on Education, Training and Experience also taken from the revision of the publication Occupations in Electronic Data Processing Systems prepared primarily by the staff of the WSES Occupational Analysis Field Center.

PHASE I - PROJECT PLANNING

PHASE I is concerned with the overall planning, scheduling, and coordination of activities to process data efficiently. By analyzing the data and the problem, a determination can be made of the cost, manhours, and machines necessary to do the job.

PHASE I OCCUPATIONS AND ACTIVITIES:

Manager, Electronic Data Processing directs and coordinates planning and production activities. He confers with department heads involved in projects to insure cooperation and assigns, schedules and reviews work by the (EDP) department. In general, he assumes overall responsibility for activities of the data processing department.

Project Director, Business Data Processing plans and directs electronic data processing projects. He coordinates planning, testing, and operating phases for each project to assure best use of equipment and manhours. To do this, he must be well informed about all phases of processing data.

Systems Analyst, Business (EDP) analyzes business problems such as inventory control, production control and cost analysis systems to refine the problem and convert it to a machine language. He develops process flow charts or diagrams for the processing of data and may recommend new equipment and methods for efficient processing of data.

Computing Analyst formulates mathematical statement of engineering or scientific problems and devises procedures for solution by data processing.

Applications Engineer analyzes physical systems, formulates mathematical models of systems, and sets up and controls analog computer to solve scientific and engineering problems.

Operations Research Analyst formulates mathematical model of management problems by application of advanced mathematics and research methods to provide quantitative basis for planning, forecasting, and making decisions.

TABLE I
EMPLOYMENT 1965 AND ESTIMATED NEEDS OF EMPLOYERS
BY OCCUPATION

Occupation	Total 1965	Change Between 1965-1967	Change Between 1965-1970
Total	90	+ 24	+ 42
Manager, Data Proc. Systems	35	+ 4	+ 4
Project Dir., Business Data Pro.	6	+ 2	+ 4
Computing Analyst	7	+ 3	+ 9
Applications Engineer	0	0	0
Systems Analyst	36	+ 14	+ 22
Operations Research Analyst	6	+ 1	+ 3

NOTE: Estimated needs, 1970 is a comparison between 1965 and 1970 and includes 1965-1967 estimates.

OUTLOOK: The WSES survey shows a continued, competitive demand for a limited number of these highly skilled people. No data was received on Applications Engineers, probably because of the few analog computers used in the area. Altogether, employers reported 90 people working in those occupations in 1965. The occupations of Systems Analyst seems to have the greatest potential for growth. According to employer comments there is great competition for the services of experienced people. Companies with new installations need experienced men. This provides the greatest opportunity for employment. "Pirating" valuable personnel may increase. To a great extent this depends on the number of new (EDP) systems installed in the near future. The outlook then is good but for a limited number of highly trained people.

EDUCATION, TRAINING AND EXPERIENCE

For the Manager, Electronic Data Processing and the Project Director, depending on the complexities of the applications, courses in Business Administration, Accounting, Engineering or Mathematics with other courses in Electronic Data Processing and extensive experience in data processing work are required. For Project Director, a BBA or MBA in accounting, mathematics and statistics may be required.

For Systems Analysts, Business Data Processing, a college degree with courses in business administration or accounting is usually required without prior experience in Electronic Data Processing. Many employers waive formal educational requirements for workers currently employed in their establishment who have had several years' manual and machine systems experience prior to computer conversion. Currently the trend is to require a knowledge of advanced mathematics because of the increasing sophistication of business systems.

For the Specialist, Computing Analyst, Applications Engineer and Operations Research Analyst, college graduation with a major in mathematics, engineering or the physical sciences are required with advanced degrees desired.

PHASE II - PROGRAMMING

Programming includes an analysis of the detailed process flow as developed in Phase I in order to convert the work or process flow to more refined statements of required machine actions necessary to solve the problem.

PHASE II OCCUPATIONS AND ACTIVITIES:

Programmer, Chief, plans, schedules and supervises preparation of programs. Assigns, outlines and coordinates work of programmers.

Computer Programmer writes the detailed instruction or program for the computer and electronic data processing.

Programmer, Engineering and Scientific converts scientific, engineering and other technical problem formulations to format processable by computer.

Coding Clerk assists programmers in developing application for conversion to machine processing. Converts instructions into special machine "language" or code.

TABLE II

EMPLOYMENT 1965 AND ESTIMATED NEEDS OF EMPLOYERS BY OCCUPATION

Occupation	Total 1965	Change Between 1965-1967	Change Between 1965-1970
Total	135	+ 43	+ 72
Programmer, Chief	18	+ 8	+ 8
Programmer, Business	75	+ 25	+ 39
Programmer, Scientific	13	+ 6	+ 13
Coding Clerk	29	+ 4	+ 12

OUTLOOK: Programmer, Business is and will be by far the employment leader among these occupations, with 75 people employed in 1965 and with an estimated need of +25 people in 1967 and +39 in 1970.

Employment for Scientific Programmers is small, 13 people in 1965. Presently 12 are employed in government research and one is in private industry. Only five employers reported employment of this specialty. Because many scientists write their own programs, little growth in this occupation is expected.

Only two employers showed any expected increase in employment for the occupation of Coding Clerk and currently 29 are employed.

Because of their special skills and aptitudes, both Chief Programmer and Programmer, Business were rated as difficult to fill by seven employers. Some employers commented on the competition between companies for good Business Programmers.

EDUCATION, TRAINING AND EXPERIENCE

Graduation from a technical school with training in business or Electronic Data Processing is the usual requirement for Chief Programmer. A minimum of two years' experience is also required.

Programmer, Business requires a high school education with six months to two years of technical school training in computer operations and in the general principles of programming or the equivalent experience. The current trend is to hire college

graduates with majors in business administration, accounting or mathematics. For computer installations concerned with complex problems such as market research and statistical forecasting, a degree in mathematics is preferred.

For Scientific Programmer a degree in mathematics or engineering is usually required with an M.S. or Phd. necessary for some highly complex work.

PHASE III - OPERATIONS

Operations: "The operating phase is concerned with the actual data processing machine operations that are involved in solving a problem and in obtaining the solution. In many installations all necessary data are transferred directly onto magnetic tape from punch cards or paper tape, and the various data tapes and program instructions are mounted in the pertinent tape units. The system is then put into operation and carefully controlled during each step of the total process. Final results are recorded on printout forms, tapes, cards, or microfilm depending on the needs of the organization." [3]

PHASE III OCCUPATIONS AND ACTIVITIES

Supervisor, Data Processing System supervises and coordinates activities of workers who operate electronic data processing machines.

Console or Computer Operator operates the central control or console of the electronic computer; completes processing of "debugged" applications.

Auxiliary Equipment Operator operates converters, printers and other machines which are a part of the electronic data processing system.

Data Typist operates an electric typewriter equipped with a special keyboard to transcribe coded program instructions or data on paper or magnetic tape.

Tape Librarian maintains files of tapes, classifies, catalogs and cross-indexes reels of tapes.

[3]Wisconsin State Employment Service, Occupations in Electronic Data Processing, (1959 Revised June 1964) P.13

Supervisor, Machine Records Unit plans, coordinates and supervises Electric Accounting Machine data processing unit. Assignes personnel and schedules workflow.

Tabulating Machine Supervisor supervises operators of various punched card data processing equipment.

Tabulating Machine Operator operates various punched card machines--tabulators, sorter, printers, and collators. Interprets written procedures and diagrams. Wires panel boards.

Keypunch Supervisor supervises, trains, directs keypunch operators. Maintains flow and volume of work.

Keypunch Operator performs usual operations of keypunching and verifying data into punched cards.

TABLE III

EMPLOYMENT 1965 AND ESTIMATED NEEDS OF EMPLOYERS BY OCCUPATION

Occupation	Total	Change Between 1965-1967	Change Between 1965-1970
Total	494	+ 67	+ 98
Super., Data Proc. System	22	+ 6	+ 6
Console or Computer Operator	67	+ 16	+ 23
Auxiliary Equipment Operator	16	+ 6	+ 10
Data Typist	7	-	-
Tape Librarian	2	+ 2	+ 2
Supervisor, Machine Records Unit	13	+ 1	+ 1
Tabulating Machine Supervisor*	11	- 1	-
Tabulating Machine Operator*	71	- 4	- 3
Keypunch Supervisor	34	+ 4	+ 12
Keypunch Operator	251	+ 32	+ 47

*Only occupations showing a decrease in number from 1965

OUTLOOK: For many of the above occupations, employers on our survey showed a reluctance to estimate growth. However, from the comments

of many employers, there will be continued growth for all occupations with the exception of Tabulating Machine Supervisor, and Tabulating Machine Operator. The reason for this decline is that many firms are converting from unit record equipment (using tabulating operators) to EDP systems (not requiring tabulating operators), and with the new lower cost Electronic Data Processing equipment being produced, many small firms can now afford a computer.

Only seven people are employed as Data Typists and no employer gave data on projected growth. Only two Tape Librarians are employed but some employers commented that as installations become larger and more complex there will be a continued need for a small number of Tape Librarians.

Keypunch operators are, by far, the largest number employed. A total of 251 people are employed as Keypunch Operators and, of this number, practically all are women. An increase of 39% in employment in the next two years was predicted by those employers giving data on growth.

Turnover: Each year a sizable turnover of keypunch operators occurs as young women leave their jobs for marriage to be replaced by recent High School graduates. As a result this occupation provides work opportunities for many young women.

Women: It should be noted at this time that women are employed almost exclusively in the lower skilled data processing occupations that do not require long, continued experience. Five women are employed in government as Systems Analysts and 16 are employed as Programmers in both industry and Government. While 11 women are

employed as Supervisors of Data Processing Systems, 13 as Console operators, 13 as Auxiliary Equipment Operators and 20 as Tabulating Machine Operators, the major employment area for women is the Keypunch operation which shows a total of over 200 women employed.

EDUCATION, TRAINING AND EXPERIENCE

Occupation	Education	Training
Supervisor, Data Processing System	High School Required	2 years experience or 2 years Technical School
Console Operator	High School Required	Several months to 2 years Technical School 2-4 weeks instructions by equipment manufacturer
Auxiliary Equipment Operator	High School Required	Post High School desirable. May understudy Console Operator
Tape Librarian	High School Required	3-6 months experience as catalog clerk, file clerk, mail clerk or messenger with company is desirable.
Data Typist	High School Preferred Demonstrated Proficiency in typing	1 week training on job
Key Punch Operator	High School Preferred Demonstrated Proficiency in typing	1 week training on job

TABLE IV

ESTIMATED NEEDS OF EMPLOYERS BY OCCUPATION

	Government			Private Industry		
	Employment 1965	Change Between 1965-1967	Change Between 1965-1970	Employment 1965	Change Between 1965-1967	Change Between 1965-1970
Total	390	+74	+134	429	+60	+87
1. Manager, Electronic Data Processing	15	+ 1	-	20	+ 5	+ 5
2. Proj. Director, Business Data Processing	4	+ 1	+ 3	2	+ 1	+ 1
3. Computing Analyst	7	+ 2	+ 8	8	+ 1	+ 1
4. Applications Engineer	0	-	-	0	-	-
5. Systems Analyst	16	+ 9	+ 16	20	+ 4	+ 5
6. Operations Research Analyst	1	+ 1	+ 3	5	-	-
7. Programmer, Chief	7	+ 6	+ 6	11	+ 2	+ 2
8. Computer Programmer	36	+10	+ 15	39	+15	+23
9. Programmer, Engineering & Scientific	12	+ 5	+ 12	1	+ 1	+ 1
10. Coding Clerk	11	+ 4	+ 12	18	+ 3	+ 3
11. Supervisor, Data Processing System	8	+ 3	+ 3	14	+ 3	+ 3
12. Console or Computer Operator	29	+ 6	+ 7	38	+10	+15
13. Auxiliary Equipment Operator	3	+ 2	+ 3	13	+ 4	+ 6
14. Data Typist	3	-	-	4	-	-
15. Tape Librarian	2	+ 2	+ 2	0	-	-
16. Supervisor, Machine Records Unit	5	+ 1	+ 1	8	+ 1	+ 1
17. Tabulating Machine Supervisor	3	-	-	8	- 1	0
18. Tabulating Machine Operator	17	+ 2	+ 2	54	- 6	- 5
19. Keypunch Supervisor	20	+ 4	+ 12	14	-	-
20. Keypunch Operator	191	+15	+ 29	160	+17	+18

TABLE V
RANGE OF BEGINNING AND MAXIMUM MONTHLY EARNINGS
MARCH 1965

Occupation	Number of Employers Giving Wage Information	Beginning Earnings Range (Dollars)	Maximum Earnings Range (Dollars)
Manager, Electronic Data Processing	27	533-1139	650-1660
Project Director, Business Data Processing	4	649-1025	839-1350
Computing Analyst	8	=	=
Applications Engineer	8	=	=
Systems Analyst	9	509-1015	710-1625
Operations Research Analyst	0	-	-
Programmer, Chief	18	500-824	750-1200
Computer, Programmer	18	300-550	614-1000
Programmer, Engineering and Scientific	4	500-600	737-909
Coding Clerk	7	250-416	368-540
Supervisor, Data Processing System	18	439-739	600-1100
Console or Computer Operator	22	275-583	444-664
Auxiliary Equipment Operator	9	275-375	410-525
Data Typist	2	249-400	319-460
Tape Librarian	0	-	-
Supervisor, Machine Records Unit	7	344-666	444-875
Tabulating Machine Supervisor	8	373-650	460-900
Tabulating Machine Operator	16	240-425	380-600
Keypunch Supervisor	19	250-439	325-600
Keypunch Operator	33	200-313	280-463

SELECTION AND TRAINING

Prerequisites To Selection and Hiring: As is typical in many new fields, there are not as yet clearly defined requirements for entry into data processing occupations. Obviously the less complex categories, such as key-punch operators or tabulating machine operators, require much less formal education and more in the way of on-the-job training. For these and similar clerical positions a high school diploma is normally sufficient. As the level of complexity increases however, (such as for programmers), there is a certain confusion of qualifications deemed necessary until in the top level occupations it is again generally agreed that a college degree is a virtual necessity, while an advanced degree is often preferred. Nevertheless, it is important that alternative entry channels be maintained for the exceptional individual who would otherwise be excluded.

In the programmer category people are found to have varying educational backgrounds. When converting to EDP, many employers prefer to train their present employees whenever possible, and this is an excellent approach if they are fortunate enough to have well-qualified employees. One employer, in fact, stated that he has filled all of his new openings by upgrading and training present personnel. For entry into programming, however, a year or more of education beyond high school is generally desirable, and a college degree even more so. As one data processing manager has expressed it, "A good, sharp, high school graduate could learn it (programming)." However, it is generally the case that the "good, sharp" high school graduate capable of learning

programming usually has attended college for at least a year or so, if not for all four years.

The test norms set up both by the business machine manufacturers and the WSES in selecting potential employees appear to be highly selective. For those familiar with the GATB norms, a person with a fairly high level of general learning ability is employed. An employer in industry will also frequently prefer to hire a college graduate who has been trained in some specific area such as accounting, engineering, or math and train him in the fundamentals of programming. This appears more reasonable than training a programmer in the fundamentals of accounting, math, or engineering. Some employers favor college graduates because of their promotional potential since such persons can later be advanced to more responsible positions. While it has been possible in the past for high school graduates to enter the field of programming it would appear that in the future some college training, if not a degree, will be a necessary prerequisite. With the increasing enrollments in colleges and the resultant increase in the number of graduates available, employers may tend to upgrade their hiring requirements.

Mentioned most frequently by employers as a "desirable" background for a programmer is some aspect of working with numbers, such as mathematics, statistics, or accounting. Logic was also considered a valuable background, as was engineering.

Interestingly enough, in the EDP world of numbers, there is a surprising emphasis on communication skills. Report writing, English,

and the ability to communicate were frequently mentioned by employers as being necessary attributes for programmers and higher-level personnel. Among other responses were such diverse subjects as history, music, physics, and languages. "Desirable" traits included analytical ability, the ability to analyze problems, logical thought, love of problem-solving, the ability to envision a yet-unfinished process as it will be in a finished state, attention to detail, and patience. Inventiveness was also considered helpful. "Undesirable" personal traits included carelessness or a lack of interest in detail. Personnel workers, social workers, and sales, marketing, and advertising people were felt to be poor candidates for data processing occupations.

There seems to be very little attention paid to the many small private schools which offer six and twelve week courses in the basics of tabulating machine and peripheral equipment operation. It is generally felt that the employers' on-the-job training programs teach these skills more effectively as they pertain to a particular employer's operations. There is no longer a short-cut to an education in this field; graduates of these short courses can no longer expect to step into programming occupations on a level equal to that of a college or two-year technical graduate.

Aspects of Training: As previously noted, there is a growing tendency to hire college graduates for entry into programming. As a continuation of this education, employers placed heavy emphasis on the equipment manufacturers' schools to teach such

courses as basic computer concepts, programming, and data processing for management. Fully one-third of all responses mentioned this type of education as being necessary to their operations. Almost equal emphasis was placed on formal in-plant training programs, but few employers taught much more than key-punch or tabulating machine operation.

Twenty two percent of the private employers responding mentioned the vocational school as a training institution, but only 12% of governmental responses referred to it. Significant emphasis was placed on the University of Wisconsin for extension courses and management seminars on such subjects as systems applications, programming, numerical methods, and computer operations.

* * *

If conclusions are to be drawn from this part of the survey, it would appear that employers in this field, like those in so many other fields today, are seeking highly intelligent and versatile personnel, generally with an educational background that enhances not only their ability to learn but also their ability to readily adapt to new procedures and situations.

BIBLIOGRAPHY

A considerable amount of literature is available regarding automation and its effect on the economy. However, comparatively few actual studies have been made concerning the employment implications resulting from the introduction of (EDP) equipment. As an adjunct to this report we should like to call attention to certain other reports which might prove interesting to anyone concerned with this subject.

Employment Implications of: (EDP)

1. Indiana Employment Security Division, Data Processing Systems and Employment Expectations: Indianapolis, January 1964.
2. Indiana Employment Security Division, Data Processing - Occupational Facts, June 1964.
3. Wisconsin State Employment Service, Occupation in Electronic Data Processing, 1959 Revised June 1964. This report studies individual jobs within the field and analyzes the qualifications necessary for each of them.
4. The Automation Program Reports of the Automation Manpower Services Program are interesting studies of how automation affects employment within particular companies. Perhaps the most pertinent study would be: United States Employment Service and the Wisconsin State Employment Service, A Large Life Insurance Company Automates, April 1964.

5. United States Employment Service and the Wisconsin State Employment Service, Computers on the Factory Floor, July 1963.

Automation in General:

1. Buckingham, Walter, Automation, New York, Harper & Row, 1961.
2. Dunlop, John T., Automation and Technological Change, The American Assembly, Columbia University, Englewood Cliffs, Prentice-Hall, 1962.
3. Killingsworth, Charles, "Automation", The Annals of the American Academy of Political and Social Science, Vol. 340, March 1962, Philadelphia, The American Academy of Political and Social Science.
4. Somers, Gerald G., Edward L. Cushman and Nat Weinberg, Adjusting to Technological Change, New York, Harper and Row, 1963.
5. United States Congress, House of Representatives, Committee on Education and Labor, Impact of Automation on Employment; Hearings, 87th Congress, Washington, U. S. Government Printing Office, 1961.
6. U. S. Department of Labor, Office of Manpower, Automation and Training, Manpower Report of the President and a Report on Management Requirements, Resources, Utilization and Training, Washington, U. S. Government Printing Office, 1964.

SURVEY PROCEDURE

In March 1965 the Wisconsin State Employment Service surveyed over one hundred Southcentral Wisconsin government and private establishments by mail.

Establishments for the survey were chosen from two lists: one compiled by the help of people working in the field of data processing and the other composed of employers in the area having 100 or more employees. Usable information was provided by 64% of the establishments from the first list and 50% of employers chosen from the second list.

Eighty-nine percent of the employers responded. Fifty-eight percent having data processing occupations provided usable information. Thirty percent had no electronic or electromechanical data processing equipment and eleven percent failed to respond. Follow-up letters, phone calls, and visits were used to obtain this response rate.

The fast pace at which the field is moving, the confidential nature of technological change in the field, the difficulty of projecting needs meaningfully and the problem of identifying the prime source of information within an establishment necessitated recontacts with sixty percent of the employers.

TABLE VI

CONTACTED ESTABLISHMENTS GIVING

USABLE INFORMATION

Industrial Group	Contacted	Establishments Having Data Processing Equipment	Percent of Establishments Having Data Processing Equipment
Total	101	59	58%
Agri. Forestry Fisheries	1	1	100%
Contract Const.	3	1	33%
Manufacturing Durable Goods	27	14	52%
Manufacturing Non-durable	15	5	33%
Trans. Comm. Utilities	6	3	50%
Whole. Retail Trade	8	2	25%
Finance, Ins. Real Estate	14	9	64%
Services	4	3	75%
Government	23	21	91%

VT 001 163

A Partial List of Competencies in the Areas of the Communication Arts, Mathematics and the Physical Sciences Required of Students Enrolled in Vocational Education Programs at the Secondary School Level.

Dade County Public Schools, Miami, Fla. Vocational, Technical and Adult Education Div.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Dec64 33p.

*SKILLS; COMMUNICATION SKILLS; *VOCATIONAL EDUCATION; *ADMISSION CRITERIA; MATHEMATICS; *HIGH SCHOOL STUDENTS; CHEMISTRY; PHYSICS

This booklet was prepared to aid school personnel in the selection and enrollment of students in vocational education. Competencies in communication arts, mathematics, and the physical sciences, necessary for successful vocational graduates, were identified by teachers and consultants. If testing and interviews indicate that the student is capable of mastering these competencies, he should be admitted to the program. Fundamental communication arts competencies used in all vocational programs are given. Also included are competency lists for (1) Air Conditioning, Refrigeration, and Heating Mechanics, (2) Architectural Drafting, (3) Automotive Mechanics, (4) Aviation Mechanics, (5) Diesel Engines, (6) Electronics, (7) Industrial Electricity, and (8) Machine Shop. (EM)

VT 001 163

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31p*

Dade County Public Schools

1410 Northeast Second Avenue
Miami 32, Florida

A Partial List of
Competencies in the Areas of the Communication Arts, Mathematics and the Physical Sciences Required of Students Enrolled in Vocational Education Programs at the Secondary School Level.

December 1964

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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the division of

VOCATIONAL, TECHNICAL AND ADULT EDUCATION

VT 01163

To the Reader:

On the pages which follow will be found those competencies in the areas of communication arts, mathematics, and the physical sciences which must be mastered by students enrolled in vocational education programs at the secondary school level if they are to be successful in their chosen occupations.

The attention of the reader is called to the sheet dealing with competencies in the communication arts which all students in all programs of vocational education should have mastered.

Following this sheet will be found a listing of the fundamental mathematical competencies which likewise must be mastered by all students in all vocational programs. Those mathematical competencies required of students enrolled in a specific program will be found listed separately.

The competencies listed for each of the programs presented in the booklet were prepared by a committee or team of instructional and administrative personnel who have had many years both of teaching and of working experience in the occupations presented. The programs analyzed represent a very small percentage of those offered in the Division of Vocational, Technical, and Adult Education in the Dade County Public Schools.

The competencies listed by the team members were determined by analyzing the type jobs, operations, and the trade technology appearing in the course outlines used by the instructors in their day-to-day instructional procedures. A list of the team membership appears on the last page of the booklet.

The information set forth in the booklet was prepared to aid school personnel in the proper selection and enrollment of students in programs of vocational education. After the usual psychological tests have been administered and the results noted as to the student's general intelligence, aptitudes, achievements, interests, personal traits, and occupational preferences, the

competencies of the student should be compared with those listed in the booklet for the particular occupational preference of the student.

If (1) the over-all results of the tests indicate that the student does have the mental ability, desire, and drive to master the competencies listed, and if (2) the results of personal interviews are also satisfactory, the student should be admitted to the program of his choice.

However, if the student is not accepted, further study should be made of his case, and measures should be taken to channel him into remedial classes if it appears that such classes will be sufficient to overcome his deficiencies.

The items of information appearing in the booklet can also be used as a guide to determine the course content for classes in mathematics, physical sciences, and English in which students from the vocational courses are assigned.

The booklet also serves to acquaint the administrative, supervisory, and instructional personnel of the Dade County secondary school system with the manner, and especially the extent, to which the skills and techniques of mathematics, science, and communication arts taught at the secondary level are utilized by the student learner in the vocational program and ultimately as a member of the nation's labor force.

As pointed out in a preceding paragraph, the "team approach" was utilized in preparing the material presented in the booklet and it represents hours of work on the part of each member. Thanks and acknowledgment are therefore extended to each member for his cooperation and contribution in the preparation of the booklet.

Lowell B Selby

Lowell B Selby
Assistant Superintendent
Vocational, Technical and
Adult Education

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FUNDAMENTAL COMMUNICATION ARTS COMPETENCIES USED IN ALL VOCATIONAL PROGRAMS*

I. How To Study

1. Orientation to the study process
2. Improved techniques in the use of study aids
3. Advancing toward maturity in correct study habits
4. Pride in achievement
5. Use of library
6. Use of dictionary

II. Mechanics of English

1. Develop a basic vocabulary as a foundation for future growth
2. Develop spelling ability
3. Construct clear and complete sentences using effective modification and subordination
4. Construct clear and unified paragraphs

III. Reading To Solve Problems

1. To interpret written directions
2. To increase trade knowledge
3. To compare methods within the trade
4. To analyze trade practice

IV. Interpretative Reading

1. To recognize the issues in controversial writing
2. To form critical judgment in controversial writing

V. Reading for Research

1. To make selections of details for report
2. To survey the field of technical authorities
3. To recognize trends
4. To complete research projects

VI. Reading for Pleasure

1. To experience samples of literary types
2. To recognize character delineation, plot development, and emotional content
3. To evaluate literature critically

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*Taken in part from Resource Units for Teacher of English in Vocational Schools, 4th Year. The University of the State of New York, The State Education Department, Albany, New York.

FUNDAMENTAL COMMUNICATION ARTS COMPETENCIES USED IN ALL VOCATIONAL PROGRAMS (Contd.)

VII. Occupational Oral Expression

1. Simple oral explanations and business telephoning
2. Oral reporting and analyzing
3. Patterns of behavior in public contact
4. Business etiquette

VIII. Social Oral Expression

1. Social conversation and telephoning; good listening habits
2. Discussion and cooperative planning
3. Patterns of social behavior
4. Poise in common social situations

IX. Communicative Writing

1. Writing social and business correspondence to meet uncomplicated situations
2. Writing communications appropriate to a set of given conditions
3. Correct handling of business forms
4. Facility in knowledge and skills of modern social and business communication

X. Narrative Writing

1. Recording personal experiences and observations
2. Writing summaries of narrative action
3. Writing extended accounts of sequential events

XI. Expository and Descriptive Writing

1. Planning and writing brief but clear explanations and descriptions
2. Writing directions, hints, cautions, mechanical functions, etc.
3. Writing reports of technical reading
4. Extended reports on technical subjects

XII. Persuasive Writing

1. Writing opinions clearly and courteously
2. Gathering, judging, and selecting material to support opinion
3. Organizing material for writing to persuade others to action

FUNDAMENTAL MATHEMATICAL COMPETENCIES USED IN ALL VOCATIONAL PROGRAMS

Students in all vocational programs must have a conceptual understanding and the ability to apply the fundamentals listed below to a working situation:

1. Fundamental operation of addition, subtraction, multiplication, and division with:
   a. Whole numbers (integers)
   b. Integral fractions
   c. Decimal fractions
2. Ratio and proportion
3. Treatment of measured data:
   a. Scalar measurement
   b. Angular measurement
4. Simple mensuration:
   a. Linear
   b. Area
   c. Volumetric
   d. Weight
5. Percentage
6. Symbolism - reading, writing, and understanding the language of mathematical expressions

Additional mathematical competencies appear in the column carrying the heading Mathematics on the pages which follow.

AIR CONDITIONING, REFRIGERATION, AND HEATING MECHANICS

Partial Listing of the Mathematical, Chemical, and Physical Science Principles, Laws, and Theories Used by Workers in the Occupation

Mathematics

1. Literal numbers
2. Using formulas
3. Solving linear equations in one variable
4. Fundamental operations on algebraic expressions
5. Quadratic equations in one variable

Chemistry

1. Science of matter:
   a. Structure of matter
   b. Physical properties of matter
2. Basic properties of solids:
   a. Hardness
   b. Conductivity
3. Basic properties of liquids:
   a. Cohesion, adhesion, and surface tension
   b. Capillary action
   c. Viscosity
   d. Buoyancy and specific gravity
4. Basic properties of gases:
   a. Molecular motion in gases
   b. Compressibility and pressure of gases
   c. Atmospheric pressure
   d. Density of gases
5. Industrial application of gases
6. Change of state - gas to liquid or solid
7. Systems of measure (metric - English):
   a. Units of measure
   b. Measurement of length,

Physics

1. Forces and their effects:
   a. Kinds of force
   b. Effort forces and resistance forces
   c. Mechanical advantage of force and speed
   d. Work, power, and efficiency
2. Static electricity and the electron theory:
   a. Electron theory
   b. Positive and negative charges
   c. Producing and transferring static electricity charges
   d. Electrons in motion
   e. Conductors and insulators
   f. Detecting and using electrical charges
3. Magnetism:
   a. Laws of magnets - polarity
   b. Magnetic field
   c. Shielding
   d. Magnetic and nonmagnetic substances
4. Electromagnetism:
   a. Magnetic fields around current carrying wires
   b. Characteristics of electromagnetic fields
   c. Current flow and flux
   d. Function and use of "right-hand rule"

Mathematics

Chemistry

area, volume, time

c. Changing units of measure from one system to another

d. Precision measuring tools and techniques

8. Types, properties, and function of refrigerants

Physics

e. Electromagnetic coils and electromagnets

f. Practical application in air conditioning and refrigeration

5. Electricity in motion (direct current):
   a. Meaning of current flow and its measurement
   b. Electromotive force and its measurement
   c. Controlling current flow (resistance)
   d. Determining values for current, voltage, and resistance (Ohm's law)
   e. Electrical energy at work
   f. Types of circuits

6. Generation, transmission, and distribution of electricity:
   a. Converting different forms of energy to mechanical energy
   b. Principles of generating electricity mechanically
   c. Types of generators and theory of operation

7. Transformer types and their function

8. Three wire system of distribution

AIR CONDITIONING, REFRIGERATION, AND HEATING MECHANICS (Contd.)

Mathematics	Chemistry	Physics
		9. The watt-hour meter
		10. Application of electricity to machines and lighting: a. Motor types, uses, and principles of operation b. Lighting systems, equipment required, and principles of operation
		11. Heat energy - its effect and measurement: a. Sources and nature of heat energy b. Temperature and its measurement c. Systems of temperature measurement d. Techniques of measuring heat energy: (1) Caloric (2) B.T.U. (3) Specific heat values e. Calorimeter, types, function, and principles of use
		12. Expansion, transfer of heat, and change of state: a. Expansion by heat of liquids and gases: (1) Dalton's law (2) Boyle's law (3) Charles's law b. Transfer of heat c. Change of physical state d. Cooling effects of vaporization

ARCHITECTURAL DRAFTING

Partial Listing of the Mathematical, Chemical, and Physical Science Principles, Laws, and Theories Used by Workers in the Occupation

Mathematics

1. Plane geometry - properties of triangles, circles, polygons, parallel lines, right triangle, congruency, and loci
2. Tables and interpolation
3. Graphs
4. Literal numbers
5. Formulas
6. Simple linear equations
7. Trigonometry of the right triangle
8. Simple surveying

Chemistry

1. Structure of matter
2. Physical properties of matter
3. Basic properties of solids
4. Basic properties of liquids
5. Basic properties of gases
6. Theory and application of changes in matter
7. Systems and application of measurement
8. Types, composition, physical and chemical properties, and application of materials used in the construction field
9. Study of bearing values of soils and its relationship to:
   a. Footing sign
   b. Piling requirements

Physics

1. Theory and application of forces and their effects:
   a. Kinds of forces
   b. Effort forces and resistance forces
   c. Mechanical advantage of force and speed
   d. Work, power, and efficiency
2. Theory and application of dynamic and static balance and equilibrium
3. Techniques of determining the center of gravity and its relationship to stability
4. Theory of balancing parallel and angular forces
5. Theory, laws, and application of gravitation, motion, and mechanical movements
6. Types and application of the use of simple and compound machines:
   a. Levers
   b. Inclined plane and wedge
   c. Wheel and axle
   d. Screw thread
   e. Compound gear trains
   f. Pulleys

ARCHITECTURAL DRAFTING (Contd.)

Mathematics

Chemistry

Physics

7. Mechanics of fluids at rest and in motion

8. Principles and application of atmospheric pressure

9. Theory and application of:
   a. Static electricity
   b. The electron theory
   c. Magnetism
   d. Electromagnetism
   e. Electricity in motion (direct current)
   f. Electrochemical sources of electrical energy
   g. Generation, transmission, and distribution of A.C. electricity
   h. Application of A.C. electricity to machines and lighting used in construction

10. Light sources, application, control, and measurement

11. Sound properties, production, and acoustics

12. Application and uses of electronic equipment in construction projects

13. Principles, control, and application of color

AUTOMOTIVE MECHANICS

Partial Listing of the Mathematical, Chemical, and Physical Science Principles, Laws, and Theories Used by Workers in the Occupation

Mathematics

1. Plane geometry - properties of triangles, parallel lines, circles, and right triangle
2. Accuracy of measurement
3. Tables and interpolation
4. Graphs
5. Literal numbers
6. Formulas
7. Simple linear equations

Chemistry

1. Science of matter:
   a. Structure of matter
   b. Physical properties of matter
2. Basic properties of solids:
   a. Hardness
   b. Conductivity
3. Systems of measure (metric - English):
   a. Units of measure
   b. Measurement of length, area, volume, time
   c. Changing units of measure from one system to another
   d. Precision measuring tools and techniques
4. Theory, purpose, equipment, and uses in automotive work for the heat treatment of metals
5. Theory, purpose, equipment, and uses of electric and gas welding in automotive work
6. Sources, types, and uses

Physics

1. Forces and their effects in machines or mechanisms:
   a. Kinds of forces
   b. Effect of forces and resistance forces
   c. Mechanical advantage of force and speed
   d. Work, power, and efficiency
2. Theory of dynamic and static balance in moving and stationary parts
3. The center of gravity
4. Stability
5. Theory of balancing parallel and angular forces
6. Theory of equilibrium
7. Theory of gravitation, motion, and mechanical movements
8. The types of simple machines and their application in automotive work:
   a. Levers
   b. Inclined plane and wedge
   c. Wheel and axle
   d. Screw threads

Mathematics

Chemistry

of lubricants and fuels in automotive work

7. Sources, physical and chemical properties, types, and uses of plastics used in automotive work

8. Composition, chemical and physical properties of "coatings" used in automotive work

9. Composition, properties, types, and function of coolants used in automotive equipment

10. Laws governing the preparation of solutions and mixtures

Physics

e. Gears and gear trains
f. Pulleys

9. Theory of mechanical power, transmission, friction, and lubricants

10. Mechanics of fluids at rest and in motion

11. Principles, application, and measurement of atmospheric pressure

12. Electron theory

13. Types and properties of materials used as conductors and insulators

14. Theory and application of magnetism

15. Theory and application of electromagnetism

16. Sources, uses, and measurement of direct current

17. Effects and measurement of resistance in circuits

18. Types, construction, function, and principles of operation of

AUTOMOTIVE MECHANICS (Conid.)

Mathematics	Chemistry	Physics
		starters and generators used as automotive equipment
		19. Sources and nature of heat energy
		20. Temperature scales, measurement, and conversion
		21. Theory and applications of expansion, transfer of heat, and changes in state of matter
		22. Types, theory of operation, and application of lighting and sound equipment used in automobiles
		23. Types and theory of operation of storage batteries
		24. Types, function, and theory of operation of electronic tubes and diodes used in automotive equipment
		25. Principles and application of the conversion of the chemical energy of fuel into mechanical energy as it applies to automotive equipment

AVIATION MECHANICS

Partial Listing of the Mathematical, Chemical, and Physical Science Principles, Laws, and Theories Used by Workers in the Occupation

Mathematics

1. Graphs
2. Simple applications in plane geometry as triangles, circles, parallel lines, and the right triangle
3. Accuracy of measurement
4. Tables and interpolation
5. Literal numbers
6. Formulas
7. Simple linear equations
8. Mensuration - conversion of units - English to metric
9. Layout reading and cost estimation
10. Variation - direct and inverse
11. Simple vector analysis
12. Quadratic equations in one unknown

Chemistry

1. Science of matter:
   a. Structure of matter
   b. Physical properties of matter
2. Basic properties of solids:
   a. Hardness
   b. Conductivity
3. Basic properties of liquids:
   a. Cohesion, adhesion, and surface tension
   b. Capillary action
   c. Viscosity
   d. Buoyancy and specific gravity
4. Basic properties of gases:
   a. Molecular motion in gases
   b. Compressibility and pressure of gases
   c. Atmospheric pressure
   d. Density of gases
5. Industrial application of gases
6. Change of state - gas to liquid or solid

Physics

1. Theory of forces and their effects:
   a. Kinds of forces
   b. Effort forces and resistance forces
   c. Mechanical advantage of force and speed
2. Theory of work, power, and efficiency
3. Theory of dynamic and static balance and equilibrium
4. Relationship of the center of gravity and stability
5. Theory of balancing parallel and angular forces
6. Theory of gravitation, motion, and mechanical movements
7. Laws of simple machines:
   a. Levers
   b. Inclined plane and wedge
   c. Wheel and axle
   d. Screw threads
   e. Gear trains

AVIATION MECHANICS (Contd.)

Mathematics

13. Powers and roots

14. Scientific notation - powers of 10

Chemistry

7. Systems of measure (metric - English):
   a. Units of measure
   b. Measurement of length, area, volume, time
   c. Changing units of measure from one system to another
   d. Precision measuring tools and techniques

8. Physical and chemical characteristics of:
   a. Elements
   b. Compounds
   c. Mixtures

9. Theory of chemical changes and reactions

10. Theory of the heat treatment of metals

11. Theory of fractional distillation or refining petroleum products used in aircraft

12. Types and purposes of anti-knock additives used in fuels

13. Types, composition, and uses of dopes, solvents, enamels, glues, and varnishes used in aircraft work

Physics

8. Theory of mechanical power transmission, friction, and lubricants

9. Mechanics of fluids at rest and in motion

10. Principles and application of atmospheric pressure

11. Light and color principles applied to precision measurement

12. The electron theory

13. Theory and application of magnetism

14. Theory and application of electromagnetism in coils and electromagnets

15. Meaning of current flow and its measurement

16. Generation, flow, and measurement of D.C. current

17. Generation, flow, and measurement of A.C. current

18. Principles of converting various forms of energy to mechanical energy

19. Electrochemical sources of

AVIATION MECHANICS (Contd.)

Mathematics	Chemistry	Physics
	14. Theory of corrosion and rust prevention	electrical energy
		20. Transformer types and theory of operation
		21. Motor types, uses, and principles of operation
		22. Systems of temperature measurement
		23. Theory of heat energy, its effect, and measurement
		24. Theory of expansion and the change of state of matter
		25. Sound properties, production, and acoustics in aircraft
		26. Principles of transmitting, recording, and reproducing sound
		27. Basic principles of electronics and electronic tubes used in aircraft
		28. Principles of the operation and uses of the magnaflux
		29. Types and theory of operation of internal combustion engines when converting chemical energy of fuel into mechanical energy

DIESEL ENGINES

Partial Listing of the Mathematical, Chemical, and Physical Science Principles, Laws, and Theories Used by Workers in the Occupation

Mathematics

1. Accuracy of measurement
2. Tables and interpolation
3. Literal numbers
4. Formulas
5. Solving simple linear equations
6. Elementary business arithmetic as discount and interest
7. Plane geometry - properties of triangles, circles, parallel lines, right triangles, similar polygons
8. Mensuration - conversion of units - English to metric
9. Tables and interpolation
10. Graphs
11. Graphics - simple geometric constructions

Chemistry

1. Structure of matter
2. Physical properties of matter
3. Basic properties and laws dealing with liquids
4. Basic properties and laws dealing with solids
5. Basic properties and laws dealing with gases
6. Systems of measure:
   a. Units of measure
   b. Measurement of length, area, volume, and time
   c. Changing units of measure
7. Precision measuring tools and techniques
8. Theory, purpose, and equipment used in heat treatment of materials in diesel work
9. Sources, composition, physical and chemical properties, types, and uses of fuels, lubricants, and coolants in diesel equipment

Physics

1. Forces and their effects in machines or mechanisms:
   a. Kinds of forces
   b. Effects of forces and resistance forces
   c. Mechanical advantage of force and speed
   d. Work, power, and efficiency
2. Theory of dynamics and static balance in moving and stationary parts
3. The center of gravity
4. Stability
5. Theory of balancing parallel and angular forces
6. Theory of equilibrium
7. Theory of gravitation, motion, and mechanical movements
8. The types of simple machines and their application:
   a. Levers
   b. Inclined plane and wedge
   c. Wheel and axle
   d. Screw threads

Mathematics

Chemistry

10. Laws governing the preparation of mixtures and solutions

Physics

e. Gear and gear trains
f. Pulleys

9. Theory of mechanical power transmission, friction, and lubricants

10. Mechanics of fluids at rest and in motion

11. Principles, application, and measurement of atmospheric pressure

12. Study of electron theory

13. Types and properties of materials used as conductors and insulators

14. Theory and application of magnetism:
    a. Laws of magnets and polarity
    b. Magnetic fields
    c. Shielding
    d. Magnetic and nonmagnetic substances

15. Theory and application of electromagnetism:
    a. Magnetic field around current carrying wire
    b. Characteristics of electromagnetic field
    c. Current flow and flux
    d. Function and use of right-hand rule
    e. Electromagnetic coils and electromagnets

DIESEL ENGINES (Contd.)

Mathematics	Chemistry	Physics
		16. Sources, uses, and measurement of direct current
		17. Effects and measurement of resistance in circuits
		18. Types, construction, function, and principles of operation of starters and generators used on diesel equipment
		19. Sources and nature of heat energy
		20. Temperature scales, measurement, and conversion
		21. Theory and applications of expansion, transfer of heat, and changes in states of matter
		22. Types, theory of operation, and application of lighting and sound equipment used on diesel equipment
		23. Types and theory of operation of storage batteries
		24. Types, function, and theory of operation of electronic tubes used on diesel equipment
		25. Principals and application of the conversion of the chemical energy of fuel into mechanical energy as it applies to diesel equipment

ELECTRONICS

Partial Listing of the Mathematical, Chemical, and Physical Science Principles, Laws, and Theories Used by Workers in the Occupation

Mathematics

1. Accuracy of measurement
2. Plane geometry - properties of triangles, circles, parallel lines, polygons, and loci
3. Tables and interpolation
4. Graphs, their construction and analysis
5. Literal numbers
6. Formulas
7. Linear equations
8. Quadratic equations
9. Simultaneous solution of linear and quadratic equations
10. Special products and factoring
11. Algebraic fractions
12. Scientific notation - powers of 10
13. Powers and roots - radicals

Chemistry

1. Science of matter:
   a. Structure of matter
   b. Physical properties of matter
2. Systems of measure:
   a. Units of measure
   b. Measurement of length, area, volume, and time
   c. Changing units of measure from one system to another
   d. Precision measuring tools and techniques of using
3. Periodic law dealing with the elements
4. Physical and chemical properties of alloys used in electronics

Physics

1. Static electricity and the electron theory:
   a. Electron theory
   b. Positive and negative charges
   c. Producing and transferring static electricity charges
   d. Electrons in motion
   e. Conductors and insulators
   f. Detecting and using electrical charges
2. Magnetism:
   a. Laws of magnets - polarity
   b. Magnetic field
   c. Shielding
   d. Magnetic and nonmagnetic substances
3. Electromagnetism:
   a. Magnetic fields around current carrying wires
   b. Characteristics of electromagnetic fields
   c. Current flow and flux
   d. Electromagnetic coils and electromagnets
   e. Practical application in air conditioning and refrigeration
4. Electricity in motion (direct current):

ELECTRONICS (Contd.)

Mathematics

14. Mensuration - conversion of units - metric to English

15. Logarithms - common and natural

16. Trigonometry of the right triangle

17. Trigonometric and periodic functions

18. Vector rotation and analysis

Chemistry

Physics

a. Meaning of current flow and its measurement
b. Electromotive force and its measurement
c. Controlling current flow (resistance)
d. Determining values for current, voltage, and resistance (Ohm's law)
e. Electrical energy at work
f. Types of circuits

5. Generation, transmission, and distribution of electricity:
   a. Converting different forms of energy to mechanical energy
   b. Principles of generating electricity mechanically
   c. Types of generators and theory of operation

6. Transformer types and their function

7. Principles, techniques, and equipment used for transmitting, recording, and reproducing sound

8. Basic principles of electronics and electronic tubes:
   a. Edison effects
   b. Electron flow
   c. Nomenclature of basic electronic tubes

Mathematics	Chemistry	Physics
		d. Classification and types of electronic tubes
		9. Function of electronic tubes circuits
		10. Electronics applied to the field of communication: a. Principles of radar b. Principles of television c. Equipment and principles of operation used in radar and television d. Theory of wave propogation
		11. Electrochemical sources of electrical energy as found in: a. Primary cells b. Dry cells c. Secondary cells d. Storage batteries
		12. Techniques of testing and charging batteries
		13. Uses of batteries in electronics

INDUSTRIAL ELECTRICITY

Partial Listing of the Mathematical, Chemical, and Physical Science Principles, Laws, and Theories Used by Workers in the Occupation

Mathematics

1. Plane geometry - properties of triangles, circles, and parallel lines
2. Accuracy of measurement
3. Literal numbers
4. Formulas
5. Simple linear equations
6. Tables and interpolation
7. Graphs
8. Powers and roots
9. Scientific notation - powers of 10
10. Simple vector analysis

Chemistry

1. Science of matter:
   a. Structure of matter
   b. Physical properties of matter
2. Basic properties of solids:
   a. Hardness
   b. Conductivity
3. Basic properties of liquids:
   a. Cohesion, adhesion, and surface tension
   b. Capillary action
   c. Viscosity
   d. Buoyancy and specific gravity
4. Basic properties of gases:
   a. Molecular motion in gases
   b. Compressibility and pressure of gases
   c. Atmospheric pressure
   d. Density of gases
5. Industrial application of gases
6. Change of state - gas to liquid or solid
7. Systems of measure (metric - English):

Physics

1. Theory of forces and their effects:
   a. Kinds of forces
   b. Effort forces and resistance forces
   c. Mechanical advantage of force and speed
2. Theory of work, power, and efficiency
3. Theory of dynamic and static balance and equilibrium
4. Relationship of the center of gravity and stability
5. Theory of balancing parallel and angular forces
6. Theory of gravitation, motion, and mechanical movements
7. Laws of simple machines:
   a. Levers
   b. Inclined plane and wedge
   c. Wheel and axle
   d. Screw threads
   e. Gear trains
8. Theory of mechanical power transmission, friction, and lubricants

INDUSTRIAL ELECTRICITY (Contd.)

Mathematics

Chemistry

a. Units of measure
b. Measurement of length, area, volume, time
c. Changing units of measure from one system to another
d. Precision measuring tools and techniques

8. Physical and chemical characteristics of:
   a. Elements
   b. Compounds
   c. Mixtures

9. Theory of chemical changes and reactions

10. Theory of the heat treatment of metals

11. Sources and properties of:
    a. Lubricating oils
    b. Creases
    c. Solvents
    d. Coolants
    e. Cutting fluids

12. Sources and properties of plastics

Physics

9. Mechanics of fluids at rest and in motion

10. Principles and application of atmospheric pressure

11. Light and color principles applied to precision measurement

12. The electron theory

13. Theory and application of magnetism

14. Theory and application of electromagnetism in coils and electromagnets

15. Meaning of current flow and its measurement

16. Generation, flow, and measurement of D.C. current

17. Generation, flow, and measurement of A.C. current

18. Principles of converting various forms of energy to mechanical energy

19. Electrochemical sources of electrical energy

20. Transformer types and theory of operation

INDUSTRIAL ELECTRICITY (Contd.)

Mathematics	Chemistry	Physics
		21. Motor types, uses, and principles of operation
		22. Light sources, application, control, and measurement
		23. Principles, control, and application of color
		24. Principles of transmitting, recording, and reproducing sound
		25. Basic principles of electronics and electronic tubes

MACHINE SHOP

Partial Listing of the Mathematical, Chemical, and Physical Science Principles, Laws, and Theories Used by Workers in the Occupation

Mathematics

1. Accuracy of measurement
2. Mensuration - conversion of units - English to metric
3. Plane geometry - properties of triangles, circles, parallel lines, right triangle, polygons, and ellipses
4. Solid geometry - properties of cones, pyramids, prisms, spheres, and frustums of solids
5. Tables and interpolation
6. Graphs
7. Literal numbers
8. Formulas
9. Linear equations
10. Powers and roots
11. Signed numbers
12. Trigonometry - the right triangle, oblique triangle, law of sines and cosines

Chemistry

1. Science of matter:
   a. Structure of matter
   b. Physical properties of matter
2. Basic properties of solids:
   a. Hardness
   b. Conductivity
3. Basic properties of liquids:
   a. Cohesion, adhesion, and surface tension
   b. Capillary action
   c. Viscosity
   d. Buoyancy and specific gravity
4. Basic properties of gases:
   a. Molecular motion in gases
   b. Compressibility and pressure of gases
   c. Atmospheric pressure
   d. Density of gases
5. Industrial application of gases
6. Change of state - gas to liquid or solid

Physics

1. Theory of forces and their effects:
   a. Kinds of forces
   b. Effort forces and resistance forces
   c. Mechanical advantage of force and speed
2. Theory of work, power, and efficiency
3. Theory of dynamic and static balance and equilibrium
4. Relationship of the center of gravity and stability
5. Theory of balancing parallel and angular forces
6. Theory of gravitation, motion, and mechanical movements
7. Laws of simple machines:
   a. Levers
   b. Inclined plane and wedge
   c. Wheel and axle
   d. Screw threads
   e. Gear trains
8. Theory of mechanical power transmission, friction, and lubricants

MACHINE SHOP (Contd.)

Mathematics

Chemistry

7. Systems of measure (metric - English):
   a. Units of measure
   b. Measurement of length, area, volume, time
   c. Changing units of measure from one system to another
   d. Precision measuring tools and techniques

8. Physical and chemical characteristics of:
   a. Elements
   b. Compounds
   c. Mixtures

9. Theory of chemical changes and reactions

10. Theory of the heat treatment of metals

11. Sources and properties of:
    a. Lubricating oils
    b. Greases
    c. Solvents
    d. Coolants
    e. Cutting fluids

12. Sources and properties of plastics

13. Theory of corrosion and rust prevention

Physics

9. Mechanics of fluids at rest and in motion

10. Principles and application of atmospheric pressure

11. Light and color principles applied to precision measurement

12. The electron theory

13. Theory and application of magnetism

14. Theory and application of electromagnetism in coils and electromagnets

15. Meaning of current flow and its measurement

16. Generation, flow, and measurement of D.C. current

17. Generation, flow, and measurement of A.C. current

18. Principles of converting various forms of energy to mechanical energy

19. Electrochemical sources of electrical energy

20. Transformer types and theory of operation

MACHINE SHOP (Contd.)

Mathematics	Chemistry	Physics
		21. Motor types, uses, and principles of operation
		22. Lighting system equipment and principles of operation
		23. Systems of temperature measurement

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Suggestions for Developing a Comprehensive Awards Program for the Business Department.

New York State Education Dept., Albany. Bureau of Business and Distributive Education

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Publications Distribution Unit, State Education Department, Room 169, Education Building, Albany, New York 12224 ($.25).

Pub Date - 64 36p.

*PROGRAM DEVELOPMENT; *BUSINESS EDUCATION; *REWARDS; *STUDENT MOTIVATION; HIGH SCHOOLS; *ACHIEVEMENT; BUSINESS SKILLS; STANDARDS

A student may be motivated and stimulated by external objects or situations which give him recognition or status among his peers. One such object is a certificate for proficiency or achievement to provide recognition for a job well done or for evidence of definite improvement. An effective awards program must be based on definite goals for each subject, and these must relate to desirable student characteristics. This brochure describes many characteristics which might be incorporated into a comprehensive awards program. Definite certificate goals are identified for shorthand, office and clerical skills, bookkeeping, record keeping, business arithmetic, social-business subjects, and cooperative work experience. Recognition is provided for accuracy, speed, and office citizenship. Suggested proficiency standards are included for (1) typewriting, (2) dictation and transcription, (3) filing activities, (4) record-keeping, and (5) adding, calculating, and bookkeeping machine activities. The appendix includes a listing of commercial and professional contests and achievement awards. (PS)

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Suggestions For Developing A Comprehensive Awards Program For The Business Department

VT 01205

The University of the State of New York/The State Education Department/Bureau of Business and Distributive Education/Albany/1964

Suggestions For Developing A Comprehensive Awards Program For The Business Department

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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(Address) State Education Department, Albany, New York 12224

DATE: April 1, 1968

RE: (Author, Title, Publisher, Date) Suggestions for Developing a Comprehensive Awards Program for the Business Department, Business and Distributive Education Bureau, 1964

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(1) Source of Available Copies:
Agency Publications Distribution Unit, Finance Section
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(2) Means Used to Develop Material:
Development Group Compilation of materials by highschool business dept head
Level of Group state teachers, state supervisors of business education
Method of Design, Testing, and Trial materials provided by Mrs. Gladys V. Hosey of Bethlehem Central School. Editorial, technical assistance by Bureau of Bus. and Distr Education and by Bureaus of Vocational Curric Develorment and Industrial Teacher Training.

(3) Utilization of Material:
Appropriate School Setting high school, area vocational center
Type of Program high school classes in business and distributive education
Occupational Focus general business occupations. Class achievement awards.
Geographic Adaptability No limitation
Uses of Material High school business tchrs. Suggestive for other areas
Users of Material High school teachers in all areas

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Foreword

Good motivation serves as a strong stimulus to learning. Without adequate and appropriate goals and incentives, many students will fail to put forth their best efforts.

A student may be motivated by a variety of factors. He may be stimulated by conditions within himself which cause him to seek a particular goal. Through self-analysis, he will often seek improvement in characteristics which he considers important and which he believes need some change for the better. He may also be stimulated by external objects or situations which give him recognition or status among his peers. In this instance, a certificate for proficiency or achievement should be used to provide the student with recognition for a job well done or for evidence of definite improvement.

This brochure describes many characteristics which might be incorporated in a comprehensive awards program. This Bureau is indebted to Mrs. Gladys Vadney Hosey, Bethlehem Central School, for bringing together these worthwhile suggestions. Certainly, many teachers will be inspired to initiate or expand an awards program after having read this stimulating presentation by Mrs. Hosey.

Acknowledgment is given to Hobart H. Conover, Co-ordinator of Bureau Publications, for his editorial assistance and to the staff of the Bureau of Publications and the Bureau of Vocational Curriculum Development and Industrial Teacher Training for technical and other assistance in preparing this brochure for publication.

JOHN E. WHITCRAFT
Chief, Bureau of Business and Distributive Education

JOSEPH R. STROBEL
Assistant Commissioner for Instructional Services (Vocational Education)

Motivation Through Recognition of Achievement

For business education students, the greatest transition is from school to the initial job. One method of preparing students for this transition is to establish awards which can be linked to the awards to be won on an actual job. On-the-job awards may be verbal approbation, time off, fringe benefits, increased status, or higher salary.

At school, teachers can parallel such recognition by a system of achievement awards. Such awards can be in at least four major categories:

1. Verbal commendation.
2. Favorable written comments on papers, favorable scholarship reports, and report card marks.
3. Job assignments which require additional responsibility, thus giving the student prestige and an opportunity for using his own initiative.
4. Awards or certificates which give the student acclaim among his peers, parents and the general public. The certificate is similar to the practical recognition given by an employer in the form of bonuses, promotions, and better salaries.

Definite Goals Must Be Set

In order to carry out a totally effective awards program on a classroom level, definite certificate goals must be identified for each subject. These goals may relate to a variety of desirable characteristics. Since surveys of businessmen find accuracy near the top of the list of desired employee characteristics, let us begin there.

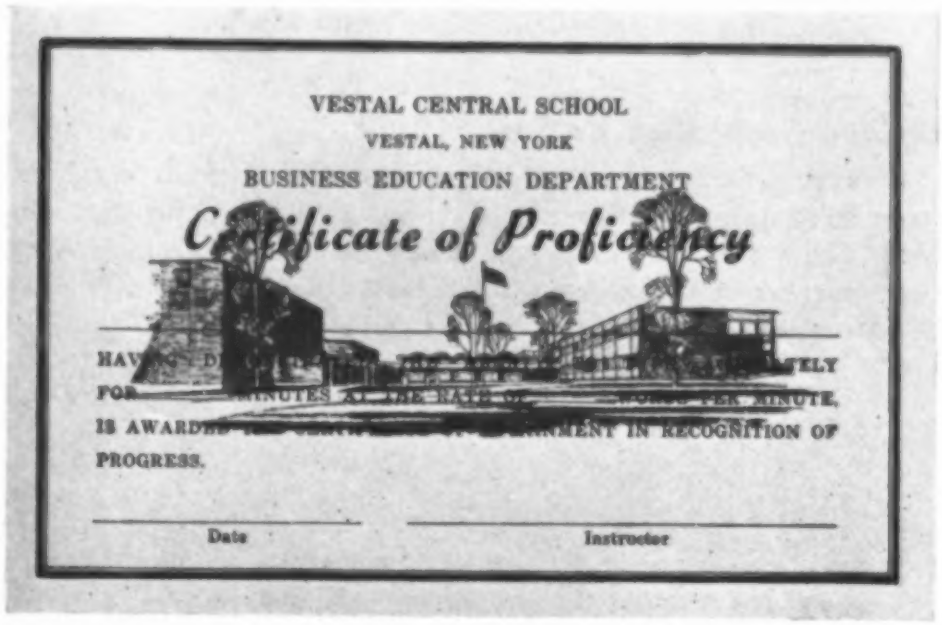
Recognition for Accuracy

Shorthand I

The skill subjects easily lend themselves to accuracy goals. Beginning with shorthand I, recognition can be given in the early weeks for following instructions in preparing homework and for carrying out classroom procedures. Later, recognition may be based on shorthand penmanship, accuracy with word meanings, spelling, and punctuation based on textbook copy. As students progress to unfamiliar material, vocabulary and spelling words can be added from the dictation copy.

In shorthand I, the time of presentation and the type of certificate will vary with the use of the reading or the writing approach. To be definitive, possible certificates for achievement or improvement might be based upon such factors as the following:

1. Precision in following classroom routine
2. Proficiency in preparing homework
3. Proficiency in spelling and word meanings
4. Facility in penmanship
5. Memorization of word signs
6. Facility with easy phrasing
7. Knowledge of shorthand theory


VESTAL CENTRAL SCHOOL
VESTAL, NEW YORK
BUSINESS EDUCATION DEPARTMENT
Certificate of Proficiency
HAV[illegible]ELY
FOR [illegible] MINUTES [illegible] PER MINUTE,
IS AWARDE[illegible]NMENT IN RECOGNITION OF
PROGRESS.
Date
Instructor

An award for accuracy

8. Accuracy in transcription of textbook notes
9. Accuracy in transcription of practiced material
10. Accuracy in transcription of unfamiliar material
11. Definite improvement in any of the above categories

A certificate for following classroom routine might be based upon the student's compliance with certain prescribed procedures. For example, prescribed classroom routine might include having two notebooks, one for homework, one for class use; having a pen or several well-sharpened pencils; homework papers dated and identified by name, period, and assignment number; homework papers folded through the center and passed forward each day without request from the teacher.

The award for proficiency in the preparation of homework would be based upon a notebook that is properly dated, separated with an elastic band or clip, and ready on a desk cleared of extraneous material. In classrooms equipped with tapes and records, students might be expected to utilize the record or tape for practice while the teacher is completing routine details.

Shorthand II and Transcription

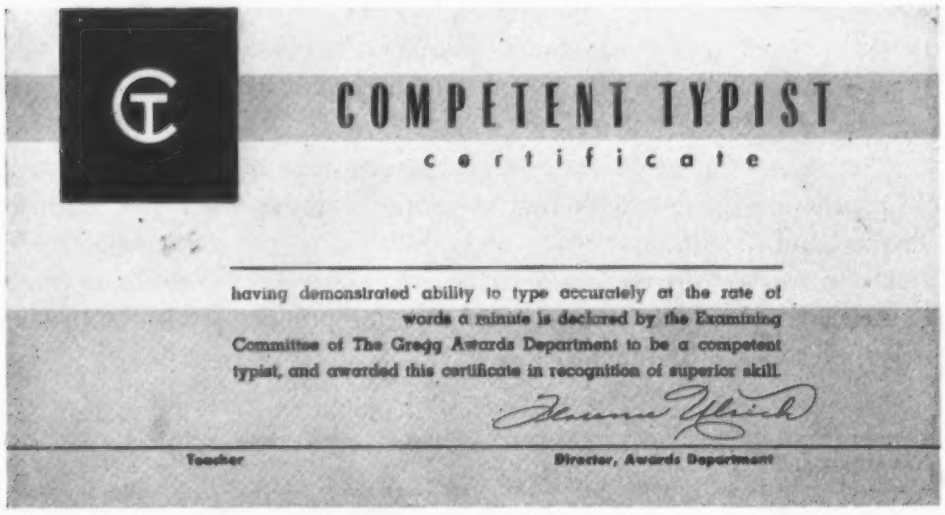
In shorthand II and transcription the measurement of accuracy can be based on all the skills of transcription, either individually, such as spelling, word meaning, grammar, punctuation, and capitalization, or on accuracy as a whole, as judged by transcription of mailable copy. Other proficiencies which can be measured for accuracy in shorthand II are typewriting, proofreading, and techniques for correcting typewritten work. This latter recognition of proficiency would be based upon the ability to read accurately for context, make corrections by squeezing or spreading letters, make permissible strikeovers, make neat erasures, etc.

A variety of suggested goals for shorthand II follows:

1. Proficiency in the fundamentals of English
2. Accuracy in typewriting
3. Proficiency in correcting typographical errors
4. Proficiency in proofreading
5. Proficiency in transcribing mailable letters from previewed material
6. Proficiency in transcribing articles
7. Proficiency in transcribing mailable letters from unfamiliar material
8. Proficiency in transcribing office-style dictation
9. Proficiency in supplying omitted words by context

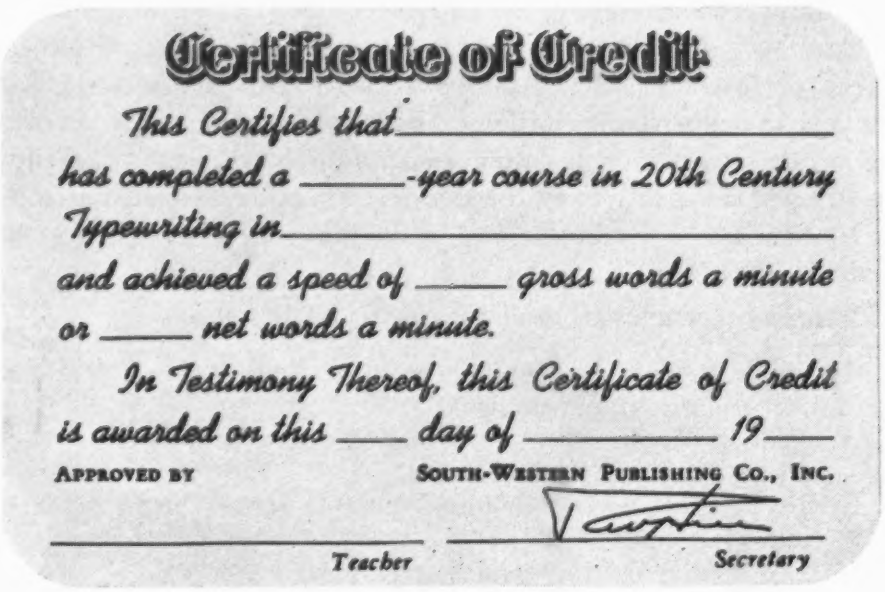
10. Proficiency in specialized shorthand dictation (law, medicine, banking, etc.)
11. Definite improvement in any of the above categories

All certificates at this level should be based on completing the required work on a standard which a future employer would expect and demand. A simple mailable-letter standard, for example, would avoid the errors listed on the next page.


COMPETENT TYPIST
certificate

_____
having demonstrated ability to type accurately at the rate of words a minute is declared by the Examining Committee of The Gregg Awards Department to be a competent typist, and awarded this certificate in recognition of superior skill.

Teacher — Director, Awards Department


Certificate of Credit

This Certifies that _____
has completed a _____-year course in 20th Century Typewriting in _____
and achieved a speed of _____ gross words a minute or _____ net words a minute.

In Testimony Thereof, this Certificate of Credit is awarded on this ____ day of _____ 19____

APPROVED BY — SOUTH-WESTERN PUBLISHING CO., INC.

Teacher — Secretary

Commercially developed certificates

Mailable-Letter Standard

Any one of the following errors will make a letter unmailable.

1. Spelling error, including incorrect syllabication
2. Uncorrected typographical error, including errors marked but not corrected, strikeovers, and errors corrected with pen or pencil
3. Error in grammar
4. Serious punctuation error, including failure to paragraph correctly
5. Sentence error, including incomplete sentences and terminal punctuation in wrong places
6. Serious deviation in wording, altering the original meaning
7. Untidy erasures
8. Poor placement, including uneven right margins
9. Omission of initials and enclosures when required

Office and Clerical Skills

There are myriad possibilities for accuracy awards in office practice and clerical practice classes. Units in filing, mechanics of letter writing, mail routines, interoffice communications, and arithmetical computations have innumerable opportunities for awarding certificates based on accuracy. In the area of typewriting alone, the writing of symbols, figures, and the division of words can be added to the basic skill requirements for typing ABC's.

In a study completed by James L. Clark, Los Angeles State College, on the skill needed in typewriting by prospective secretarial and clerical personnel, 92 per cent of the companies reporting indicated the use of straight-copy timed writings rather than production-type preemployment tests.

> Most of the testing (92 percent) was done on straight-copy timed writings. Sixty-seven percent used five-minute timed writings, while 25 percent used either 10- or 15-minute timed writings. . . . For positions in 75 percent of the companies, prospective employees could make only .4 of an error a minute. An accuracy standard of .7 of an error a minute qualified applicants for positions in only 25 percent of the companies.[1]

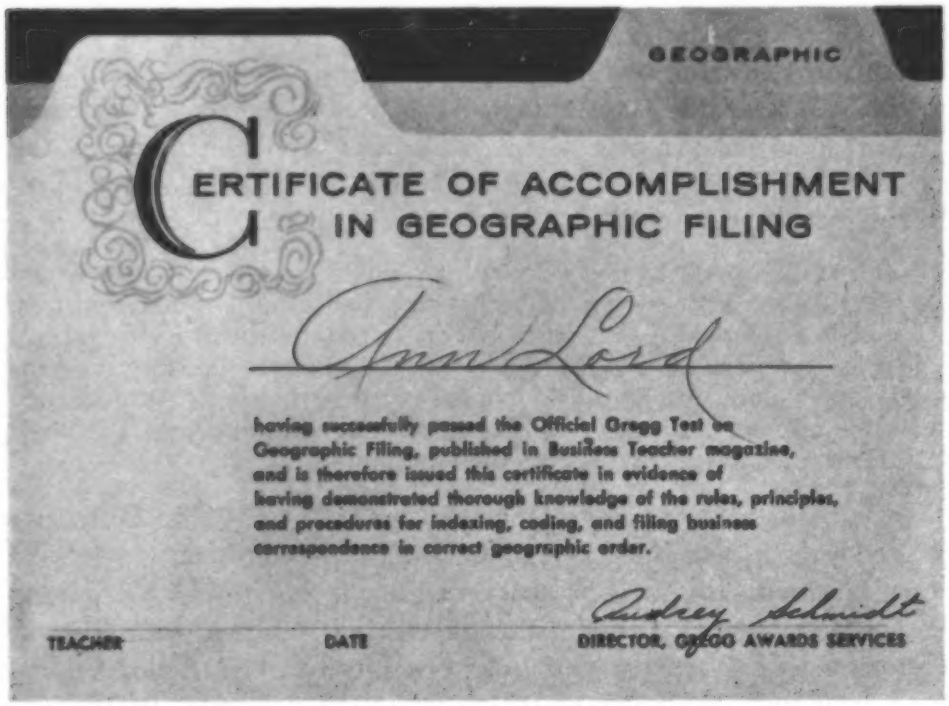
In view of these findings, it would seem that the first certificate for students in the office skills area should be based on a series of certificates with emphasis on strict accuracy, beginning with 1-minute and continuing with 3- and 5-minute writings. Later, with 10- and 15-minute timings, 95 per cent accuracy might be considered an appropriate accuracy standard.

---

[1] James L. Clark. "Are Classroom Typewriting Standards Compatable With Office Standards?" *Business Education Forum.* December. 1962. p. 23.

Use of Prepared Materials. A variety of free materials which may be used effectively in connection with the awards program is available to the business teacher. The magazine *The Business Teacher,* for example, publishes exercises in filing which can readily become the basis for an award for accuracy in filing or for an award based on both speed and accuracy.

The *FBE Bulletin* lists sources of free material for drills in speed typewriting, proofreading, and office-style typewriting. The office-style exercises, " A Typist's Day in the Office," are supplied free in folder form for each student. Six varieties of office typing are covered: Form letters, addressing, centering, tabulation, telegrams, and rough drafts. These exercises may be used as the basis for awards in each category, or they may be used in total as the basis for an award in office production typewriting. The packet, " A Secretary's Day in the Office," covers the six previously listed varieties of office typewriting, plus an exercise in following directions and a computation project. Since these eight jobs are integrated into one project, the total project is well suited as the basis for an award in office production or for eight separate awards in the areas represented.


GEOGRAPHIC

CERTIFICATE OF ACCOMPLISHMENT IN GEOGRAPHIC FILING

Ann Lord

having successfully passed the Official Gregg Test on Geographic Filing, published in Business Teacher magazine, and is therefore issued this certificate in evidence of having demonstrated thorough knowledge of the rules, principles, and procedures for indexing, coding, and filing business correspondence in correct geographic order.

Audrey Schmidt

TEACHER DATE DIRECTOR, GREGG AWARDS SERVICES

Gregg Award Certificates are nationally recognized.

Problem-Solving Subjects

In the problem-solving subjects of bookkeeping, record keeping, business arithmetic, and business law, accuracy may be the basis for several types of awards. In these subjects, it is important that students be able to read or listen to a posed problem and then be able to analyze its content, breaking it into its component parts for ultimate solution. The fundamentals of arithmetic, spelling, and word meanings are also logical bases for accuracy certificates. As a class progresses to a specific unit involving business papers, types of business organization, taxes, insurance, payroll procedures, buying and selling, and financial reports, award certificates may be provided to suit the emphasis of the particular project. Schools which make use of various basic office machines in certain of these subjects may also set goals for the proficient operation of these machines.

Awards in the problem-solving subjects might, therefore, be based on any one of the following types of achievement:

1. Knowledge of specialized terminology
2. Accuracy in mental arithmetic
3. Accuracy in problem solving
4. Knowledge of modern payroll procedures
5. Preparation of income tax forms
6. Proficiency in interpreting financial reports
7. Knowledge of banking services and procedures
8. Proficiency in the preparation of financial reports
9. Accuracy in handling cash and cash records
10. Skill in preparing a budget
11. Definite improvement in any of the above categories

Item 9 above might well serve as the basis of an award for handling the money of an actual school function, such as a magazine drive, a school dance, a charity drive, or a club activity. For schools that have a store, awards might be made for the most efficient cashier, inventory clerk, bookkeeper, or salesman. There are also unlimited opportunities for awards for originality in merchandise display. A contest might be arranged based on a specific theme — Father's Day, graduation, Valentine's Day — or, perhaps, a regularly recurring award might be made for the " Best Display of the Month."

Social-Business Subjects

The social-business subjects — introduction to business, consumer education, business management, salesmanship, and business law, for example — emphasize at least four fundamentals: Listening, reading, writing, and speaking. Awards may, therefore, be logically based

on proficiency in word usage, the ability to listen and read critically, to take notes accurately, to locate desired facts, and to draw logical conclusions.

The following is a limited list of bases for possible awards:

1. Penmanship
2. Ability to follow instructions
3. Clarity and originality in writing
4. Proficiency in spelling
5. Proficiency in note taking
6. Skill in oral presentation
7. Improvement in reading rate
8. Improvement in reading comprehension
9. Proficiency in drawing conclusions
10. Improvement in critical listening
11. Notebook organization and design
12. Sales demonstration or sales manual
13. Report writing
14. Definite improvement in any of the above categories

Co-operative Work Experience

Awards for students who participate in co-operative work-experience programs may become a joint effort of employer and teacher. Awards may be based on the informal student evaluation made with the usual job observation sheet, plus discussion with the employer. Awards may be based on 100 per cent attendance on the job, punctuality, co-operation with employer, superior on-the-job production, superior attitudes toward job and fellow workers, excellence of appearance and personality, growth in poise and maturity, etc. In the areas of skill, awards might be made for speed and accuracy in typewriting and shorthand, efficiency in the operation of office equipment, and facility with clerical details.

Recognition for Speed

Business education has long had speed goals in the various skill subjects. Many schools have provided certificate awards based upon speed achievement in typewriting and shorthand, for example, for many years.

Shorthand

In the early stages of shorthand writing skill, student achievement frequently involves the appraisal of speed in reading, followed by speed in writing, and finally transcription. The teacher's manual for Gregg shorthand has suggested goals for reading speed liberally interspersed throughout the text. Teacher's handbooks also suggest specific speed goals for reading, writing, and transcribing.

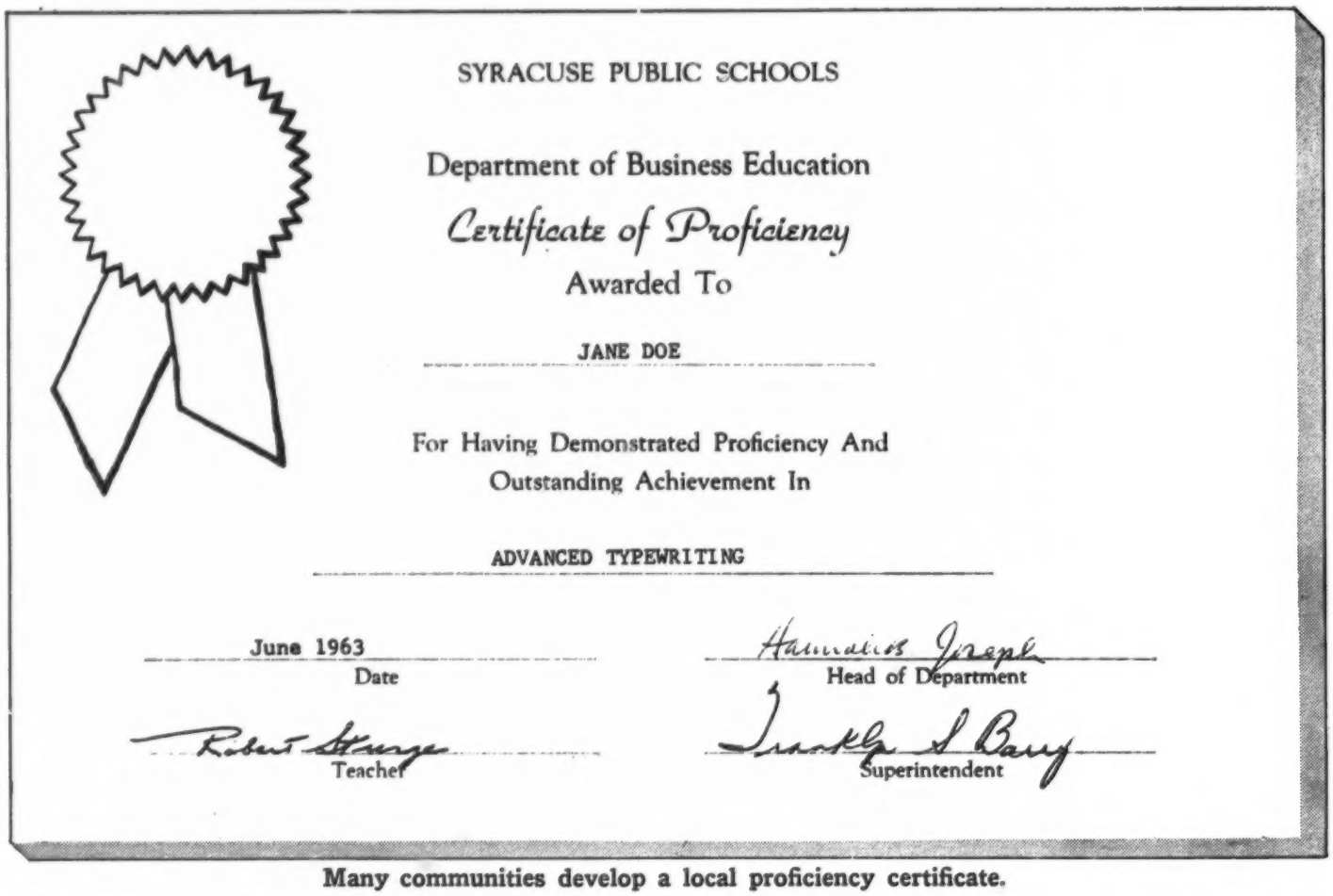
Initially, awards in shorthand might be based on the student's *reading rate* from textbook copy or prepared work, of brief forms, and of common phrases. As the semester progresses, she can also be judged on her ability to read from unprepared work. Certificates might be awarded for reading rates, beginning at 20 words per minute and continuing for rates of 150 or more words per minute.

Soon after students begin taking dictation, a similar series of certificates may be established for *speed in writing*. This series would probably begin with certificates for writing 60 words per minute.

During the second semester, certificates for *dictation and transcription* may be introduced. These awards will probably follow the usual pattern of dictation — first from prepared material, then from previewed copy, and ultimately from unfamiliar copy. A base speed of 60 words per minute is recommended, with the top certificate award limited only by the ambition and ability of students.

Typewriting and Office Skills

In the broader-based subjects, such as typewriting, office practice, and secretarial practice, speed recognition may begin with timings on straight paragraph copy and progress to simulated on-the-job production measurement. Intermediate speed goals may also be established for such activities as addressing envelopes, typing duplicator masters, typing tabulated material, proofreading, and the like. On subsequent pages, a description of standards on various activities is provided. Of course, speed goals are usually set by manu-



SYRACUSE PUBLIC SCHOOLS

Department of Business Education

Certificate of Proficiency

Awarded To

JANE DOE

For Having Demonstrated Proficiency And
Outstanding Achievement In

ADVANCED TYPEWRITING

June 1963
Date

Hammatos Joseph
Head of Department

Robert Sturge
Teacher

Frank S. Barry
Superintendent

Many communities develop a local proficiency certificate.

facturers for the use of adding-calculating, bookkeeping, voicewriting, and other machines. A simple solution is to write to manufacturers for a prescribed program of instruction and tests designed to measure proficiency on the particular machine.

Free materials, previously mentioned as obtainable from the Foundation for Business Education, are well-suited for speed as well as accuracy awards.

Bookkeeping, Record Keeping, and Business Arithmetic

In subjects such as bookkeeping, record keeping, and business arithmetic, awards can be initiated for speed in the fundamentals of arithmetic, in mental computation, and in the skillful use of arithmetic short cuts. In problem solving, goals may be set for speed in reading and analyzing problems, for outlining the steps preparatory to solving a problem, and for the actual solution.

Some specific speed goals in this area might include:

1. Mental calculations
2. Facility with arithmetic short cuts
3. Fundamental computations
4. Preparation of financial statements
5. Preparation of a work sheet
6. Analysis of financial statements
7. Handling and recording business papers
8. Use of computational machines
9. Problem solving
10. Definite improvement in any of the above categories

Many of the exercises and tests provided for the skill subjects by publishers may be used as the basis for speed awards. Probably the best known of these tests are those available from the Gregg Publishing Division of McGraw-Hill Book Company, Inc., in the monthly magazines *Today's Secretary* and *Business Teacher*.

The bulletin *The Importance of Business Information to People in All Occupations*[2] will also be of assistance in planning awards for students in the nonskill or basic business subjects.

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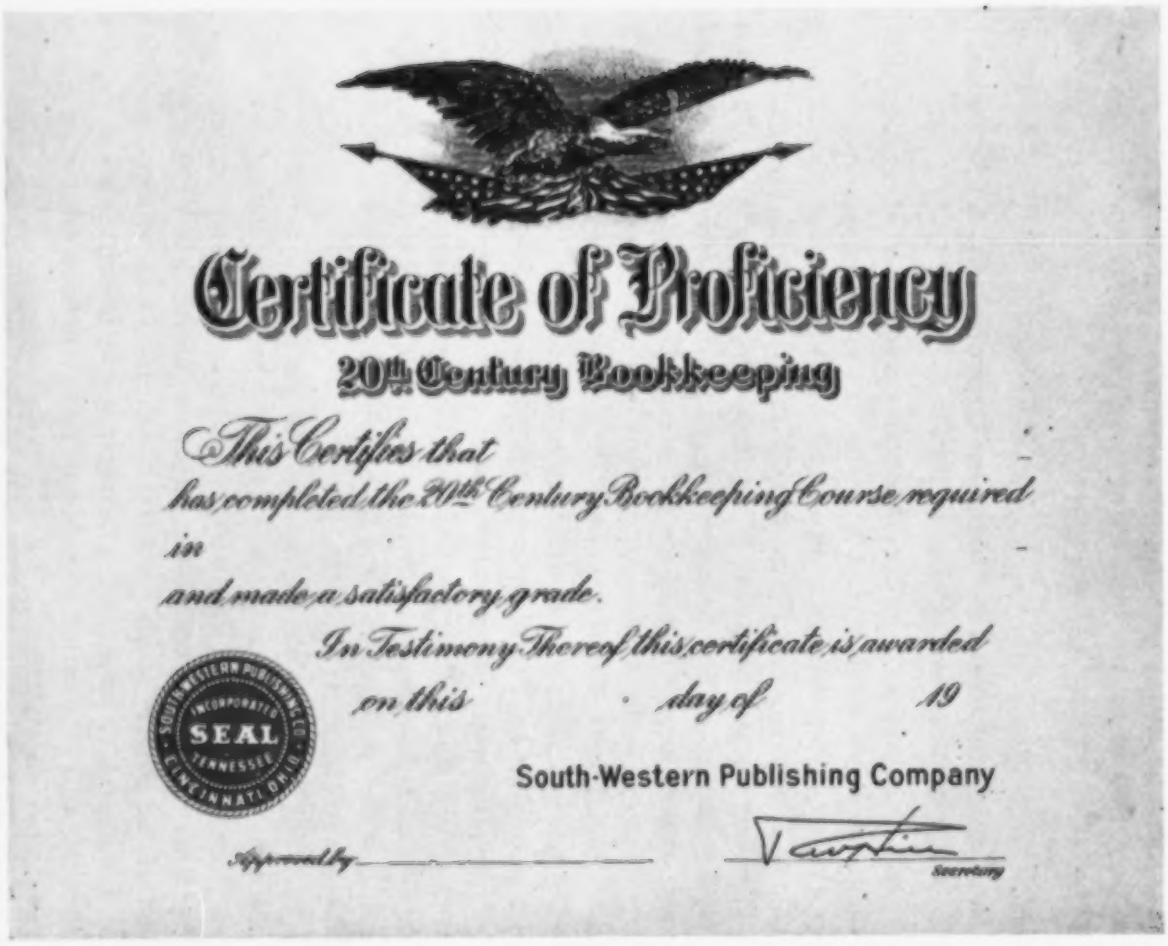
[2] E. C. McGill. "The Importance of Business Information to People in All Occupations." *Business Education Service Bulletin No. 5.* 1956. Emporia, Kans. Department of Business and Business Education. Kansas State Teachers College. 53 pp.



Certificate of Proficiency

20th Century Bookkeeping

This Certifies that

has completed the 20th Century Bookkeeping Course required

in

and made a satisfactory grade.

In Testimony Thereof this certificate is awarded

on this day of 19

SOUTH-WESTERN PUBLISHING CO. INCORPORATED SEAL TENNESSEE CINCINNATI, OHIO

South-Western Publishing Company

Approved by

Secretary

Publishers frequently provide certificates to schools that use their texts.

Recognition for Office Citizenship

From time to time, surveys tell us that more people are discharged because of poor personality traits than for lack of skills. It behooves us then to establish attainable goals for our students in the areas of personality traits and physical appearance.

Probably all awards, including those pertaining to appearance and personality, should be based on *individual improvement.* This criterion eliminates competition by natural endowment, thus making recognition possible for all students, regardless of material possessions or inherited physical characteristics. Selection and care of clothing, grooming, and manner of speech should be included in one's appraisal of personality and appearance.

Use Rating Scales To Motivate Improvement in Personal Appearance and Personality

Scarcely a textbook or workbook is published in the office skills which does not include rating scales on many phases of personal appearance and personality improvement. Why not use such a rating scale as a starting point for an awards program in this area?

Another immediate source of rating scales of this type will probably be your teacher of homemaking, physical education, or hygiene; your school nurse or your guidance counselor.

In many schools, a composite personality record may already be in use. Such charts, when completed for a student by each of his teachers, often are made a part of his permanent record folder. A trend in a particular trait thus becomes readily discernable.

Many cosmetics manufacturers and publishers of teen-age magazines also supply free rating scales and tips on grooming and personality to each member of a class. Of course, commercially published rating scales and personality inventories are available from many research institutes.

In using such a scale as the basis of an award, it is advisable to motivate the student toward self-improvement by having him first rate himself. Follow this step by a rating by fellow students and teachers. From this composite rating, a student will have a graphic analysis of aspects of his personal appearance and personality which he should seek to improve. A rerating might be scheduled at regular intervals, and certificates awarded to those students who have shown appreciable improvement.

Health Habits

Certificates for improvement may be made for a variety of other aspects of good office citizenship. The role which health habits play, therefore, should not be overlooked. Would it not be worthwhile to give recognition to those students who observe good health habits, including such items as good dental care, balanced diet, adequate rest, sufficient exercise, and good personal hygiene. A wealth of free material can be obtained from product manufacturers and insurance companies to assist the teacher. Again, self-evaluation should be the initial step.

Work Habits

The transition from the importance of health habits to the study of work habits is an easy one, for often good health is the cornerstone of good work habits. The first and foremost award might be based on the student's record of attendance and punctuality.

Now that the student is present and on time, is he well organized and businesslike? Does he follow directions and work well with others, or does he become discouraged easily? Does he seek assistance or waste time floundering? Does he accept criticism well? Does he profit by his experience? Does he accept responsibility for his job? Does he help others when his work is done? Does he take care of equipment? Is he careless with supplies? Is he careless of time? These are some of the factors that should be considered by the teacher in this evaluation.

Stress Improvement

Mauree Applegate, in his book *Everybody's Business — Our Children,* states: "It is a parent's and a teacher's business to accept children's endowments, which they cannot do much about, and to work on children's habits, about which they can do a great deal."[3] By breaking down the final goal of "ideal businessman or woman" into attainable steps, can we do a great deal? Perhaps certificate awards made for improvement in specific work habits and personality traits will help students to move forward.

Awards might be made for definite improvement in:

1. Grooming and appearance
2. Physical alertness and health habits
3. Social responsibility
4. Poise and confidence

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[3] Mauree Applegate. *Everybody's Business — Our Children.* White Plains. Row, Peterson & Company. 1952. p. 247.

PERSONALITY RECORD

Name

BETHLEHEM CENTRAL SENIOR H.S.
Delmar, N. Y.

Reporting Teacher(s) .....

1. SERIOUSNESS OF PURPOSE	Purposeless	Vacillating	Potential	Self-Directed	Purposeful
2. INDUSTRY	Seldom works even under pressure	Needs constant pressure	Needs occasional prodding	Prepares assigned work	Seeks additional work
3. INITIATIVE	Seldom initiates	Conforms	Varies with conditions	Self-reliant	Actively creative
4. INFLUENCE	Passive	Retiring but cooperative	Varying	Contributing	Strongly controlling
5. CONCERN FOR OTHERS	Antisocial	Indifferent	Self-centered	Somewhat socially concerned	Deeply and generally concerned
6. RESPONSIBILITY	Unreliable	Somewhat dependable	Usually dependable	Conscientious	Assumes much responsibility
7. EMOTIONAL STABILITY	Hyperemotional	Excitable	Usually well-balanced	Exceptionally well-balanced	
	Apathetic	Unresponsive			

Special abilities and aptitudes:

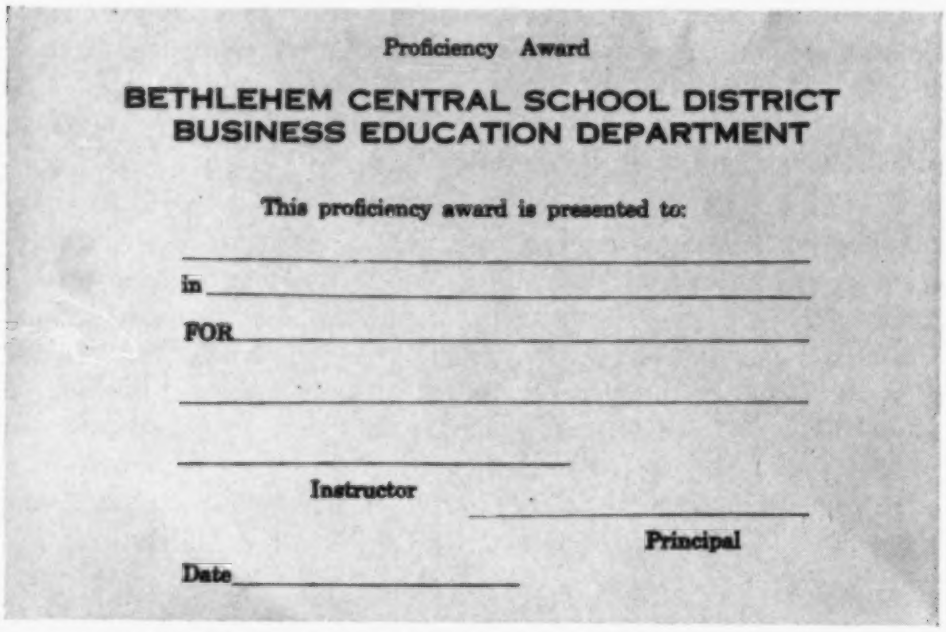
Special interests:

A pupil personality record of this type may be used to indicate improvement in selected characteristics.

5. Self-control
6. Courtesy and manners
7. Initiative and originality
8. Leadership and loyalty
9. Attendance and punctuality
10. Tact and toleration

The preceding list gives only a small number of possibilities for certificate awards. The alertness of the instructor in identifying other traits amenable to extrinsic motivation can add to the list of awards.

A simple certificate form, such as the one illustrated below, can be produced by the local school at a nominal cost. This particular form has the advantage of being readily adaptable to a variety of characteristics that have been discussed in this brochure.



Proficiency Award

BETHLEHEM CENTRAL SCHOOL DISTRICT
BUSINESS EDUCATION DEPARTMENT

This proficiency award is presented to:

_____

in _____

FOR _____

_____

_____
Instructor

_____
Principal

Date _____

This locally developed certificate is adaptable to many uses.

Maintain an Achievement Record

Students should be encouraged to keep an achievement album or file. The art department of the school will undoubtedly assist with the design of a sample album. With this album as a model, each student should create an individual folder that includes the various certificates that have been earned. If the teacher desires, the album may be divided into sections for (1) local school awards, and (2) area, State, and national forms of recognition.

In-school certificates will usually reflect the wider range of proficiencies that have been discussed earlier. A variety of forms of achievement is also recognized by the certificate awards issued by such organizations as FBLA (Future Business Leaders of America), DECA (Distributive Education Clubs of America), NOMA (National Office Management Association), and textbook publishers.

EBTA Certificates of Proficiency

The EBTA (Eastern Business Teachers Association) is planning to make available certificates of proficiency to be awarded for achievement in the various store and office skills. The vocational standards upon which these certificates are awarded are set up by each local school and checked with businessmen in the community. By the use of tests, school grades, teacher judgment, and any other means the school feels is expedient, students may be "certified" and awarded the EBTA Certificate of Proficiency.

In order to help local schools arrive at reasonable standards, the following standards are indicated by EBTA for consideration:

Typist: 40–80 minute test, consisting of a 5-minute timed writing and typical typewriting tasks. Certification is to be determined by a standard set by the teachers and/or local employers.

Stenographer: 10 minutes or more dictation of letters, at 80 words per minute. Transcription time should be determined by the local school and computed at a minimum of 15 words per minute. The control of the transcription time can be achieved by selecting certain letters, such as 1, 4, 6; 2, 3, 7; to be transcribed.

Bookkeeper: 40–80 minute test, involving the ability to record in original books of entry and use these data to make statements and interpret the results

Machine Operator, Retail Salesperson, etc. 40–80 minute tests which sample typical on-the-job activities

The Eastern Business Teachers Association will provide a supply of pocket-size accredited certificates as a service to its members upon application and affirmation of intention to develop fair standards and administer this program judiciously. Announcement concerning this program will be made by EBTA in the near future.

Federal Civil Service Certificates

Under certain circumstances, arrangements may be made for teachers to issue to students a certificate of proficiency (on a special Civil Service Commission Form) attesting to the ability of a student to type or take dictation at a speed required of applicants to the Federal civil service position of stenographer or typist.

The certificate must show that the student, not more than 6 months previous to the filing of the certificate, demonstrated the required proficiency to a teacher of typewriting or stenography in a public, parochial, or private 4-year high school, or an accredited institution such as a business school, junior college, or college. The typewriting or stenography portion of the written tests will not be required of applicants who are able to present such a certificate.

Business teachers should inquire of local offices of the United States Civil Service Commission for more detailed information on minimum requirements of the shorthand and typewriting tests used in issuing these certificates.

PEEKSKILL HIGH SCHOOL
Peekskill, New York

BUSINESS DEPARTMENT

Proficiency Certificate

Proficiency Certificate

BUSINESS DEPARTMENT

PEEKSKILL HIGH SCHOOL
Peekskill, New York

Class of 19 ..... has satisfactorily completed all courses required in

the .....

curriculum of the Business Department of the Peekskill High School.

Principal

SPECIAL SKILLS and ACHIEVEMENT

Arithmetic Computation . . . ———
Language Skill . . . . . ———
General Clerical Ability . . . ———
Calculating Machines Skill . . ———
Typing Speed . . . . . — wpm
Shorthand Dictation Speed . . — wpm
Handwriting . . . . . ———
Scholastic Rank . . . . . ———

For special skills or abilities not listed above or for a statement of personal qualifications, prospective employers should contact high school authorities.

Chairman, Business Dept.

This pocket-sized proficiency certificate may be used by the student to present his qualifications to a prospective employer.

Appendix 1

Suggested Proficiency Standards

Typewriting

DESCRIPTION	MEASUREMENT UNIT	PER HOUR	PER MINUTE
Straight Typewriting			
From typewritten copy	5-stroke words	2,000	40
From handwritten copy	5-stroke words	1,500	30
Form Letters			
Without carbons	lines	200	5
With carbons	lines	150	4
Addressing Envelopes			
Business size (No. 6¾)	envelope	100	2
Legal size (No. 10)	envelope	100	2
Large mailing envelopes	envelope	60	1½
Package labels (gummed)	labels	100	2
Fill-in Letters			
One line fill-in	lines	50	1
Four line fill-in	lines	25	½
Manuscript Typing			
Without carbons or footnotes	words	2,500	50
With carbons and footnotes	words	1,250	25
Tabulations			
Simple, 3 or 4 columns	lines	120	3
Difficult, 4 or more columns	lines	80	2
Long, full-page tabulations	lines	80	2
Stencil Cutting			
Paragraph style, double space	lines	150	4
Paragraph style, single space	lines	125	3
Statistical or report style	lines	120	2
Telegrams			
Average of 10 words with carbons	telegram	25	½
Average of 25 words with carbons	telegram	25	½
Average of 50 words with carbons	telegram	12	¼

Dictation, Transcription, and Related Activities

DESCRIPTION	MEASUREMENT UNIT	PER HOUR	PER MINUTE
Take Dictation			
Letters	words	4,000	100
Articles	words	4,000	80
Memorandums	words	4,000	80
Transcription			
Letters	words	1,150	23
Articles	words	1,150	23
Memorandums	words	1,150	23
Related Activities			
Sign mail for employer	signatures	600	12
Fold letters	letters	300	6
Proofread letters for outgoing mail	page	20	¼
Proofread articles and copy	page	10	⅓

Filing Activities

File letters	1 letter	100	2
Get materials from files	1 item	50	1

Record-Keeping Activities

Prepare deposit slips	12 items	5	1/10
Compute interest or discount on notes	1 note	25	½
Write checks, notes, or drafts:			
By hand	1 check	20	⅓
Using typewriter	1 check	15	¼
Using checkwriter	1 check	40	1
General journal entries	1 entry	200	4
Posting individual entries to general ledger	1 entry	200	4
Figure payrolls	10 names	1	1/100

Adding, Calculating, and Bookkeeping Machine Activities

Adding-Listing Machines

Addition			
2-digit units	2 columns of 10	150	3
3-digit units	3 columns of 10	100	2
4-digit units	4 columns of 10	100	2
5-digit units	5 columns of 10	50	1

Adding, Calculating, and Bookkeeping Machine Activities (Concluded)

Subtraction			
3-digit units	1 problem	500	10
4-digit units	1 problem	500	10
5-digit units	1 problem	400	8
Key-Driven Calculators			
Addition			
3-digit units	3 columns of 10	100	2
4-digit units	4 columns of 10	100	2
5-digit units	5 columns of 10	75	1½
Multiplication			
3- to 5-digit units by 3- to 5-digit units	1 problem	150	3
Division			
3- to 5-digit units by 2- to 4-digit units	1 problem	50	1
Subtraction			
3- to 5-digit units	1 problem	100	2

Appendix 2

Summary of Contests and Achievement Awards

- Administrative Management Society (formerly National Office Management Association) (Local Chapter)

  Spelling Program. The program includes two lists of 600 frequently misspelled words. Tests are administered by the teacher. Students are awarded attractive certificates. Multiple copies of spelling lists are furnished for students, as well as the tests and certificates. The program is made available in the fall.

  Arithmetic Program. The program consists of typical problems encountered in business. Students who complete tests with 100 per cent accuracy are awarded certificates. This program is made available in the early spring.

  Outstanding Business Students of the Year. Procedure is determined by each local chapter. Teachers of the local school choose the senior to be designated as the outstanding business student of the year. Presentation of appropriate certificates is made to each student.

- American Book Company
  Attention: S. S. Stalter
  55 Fifth Ave., New York 3

  For students using *Typing Simplified,* this company will send information on procedures for the National Typing Contest.

- Dictation Disc Company
  170 Broadway
  New York 38, N.Y.

  Information on contests is given in the regularly published pamphlet *DDC Record.*
  The DDC Shorthand Improvement Award consists of an emblem pin given to one student in each shorthand class who, in the teacher's judgment, has made the greatest improvement during the school year.

- EBTA Certificate of Proficiency
  William M. Polishook, Chairman
  Assistant Dean, College of Education
  Temple University
  Philadelphia, Pa.

  Standards for making this certificate award are established by the local school. EBTA will supply a pocket-sized accredited certificate for each student. These certificates of proficiency are supplied as a service to EBTA members upon application and

affirmation of intention to develop fair standards and administer the program judiciously.

- Facit National Contest Committee
  235 East 42d St.
  New York 17, N.Y.

  A medal is awarded to the writer of the best errorless paper in each typewriting class entered in the Facit Accuracy Contest in Typewriting. Several hundred typists participate in regional contests held throughout the United States. The 10 best typists are invited to New York City for the final competition. Contestants and their teachers are the guests of Facit for this trip. An all-expense-paid trip to Sweden is awarded as a grand prize to the winner of the national competition.

- Gregg Awards Program
  Gregg Awards Department
  330 West 42d St.
  New York 36, N.Y.

Contest	*Described In**
OGA International Shorthand Exhibit	Today's Secretary
Shorthand Penmanship Awards	Today's Secretary
Shorthand Speed Awards	Business Teacher
Shorthand Theory Awards	Business Teacher
Transcription Production Awards	Business Teacher
Typing Production Awards	Today's Secretary and Secretarial and Typing Production Test Booklet
Typing Speed Awards (5 and 10 minutes)	Secretarial and Typing Production Test Booklet
Bookkeeping Awards	Business Teacher
Filing Awards	Business Teacher

- National Business Entrance Tests
  Joint Committee on Tests
  Box 47, NEA Center
  1201 16th St. NW
  Washington 6, D.C.

  Six tests are available in each of three series.
  General Testing Series (50¢ each)
  Business Fundamentals and General Information Test
  Bookkeeping and Accounting Test
  General Office Clerical (including Filing) Test

* A complete summarization of the Gregg Awards Program is also given in *Your Gregg Awards Program* booklet.

Machine Calculation Test
Stenography Test
Typewriting Test
Specimen sets (one each of six tests, plus manuals) $3

- Pitman Publishing Corporation
  2 West 45th St.
  New York 19, N.Y.

  Shorthand Theory and Transcription Tests and Awards
  National Typing Contest

- Prentice-Hall, Inc.
  Attention: Mr. Leonard J. Porter
  Educational Book Division
  Englewood Cliffs, N.J.

  Shorthand Contest Copy. Three-minute dictation at 60, 80, 100, and 120 words a minute. For regional or school contests only. Not for regular class use.

  Typewriting Contest Copy. For regional or school contests. Not for regular class use.

  Contest Copy No. 1 — 700 standard typing words
  Contest Copy No. 2 — 641 standard typing words
  Contest Copy No. 3 — 636 standard typing words

- H. M. Rowe Company
  624 North Gilmor St.
  Baltimore, Md.

  Typing and filing awards

- Sears, Roebuck and Company

  This award is made by the Sears, Roebuck Foundation through the State Education Department. One $50 U.S. Savings Bond is available to each New York State high school conducting an approved, reimbursable, co-operative, part-time distributive education program. The following factors are considered in selecting the award winner: Scholarship, leadership, job performance, good citizenship. Local teachers and schools select the recipient.

- South-Western Publishing Company
  512 North Ave.
  New Rochelle, N.Y.

  Bookkeeping Awards. These awards are made to students using the *20th Century Bookkeeping and Accounting* text. This company will send a booklet describing procedures for obtaining: (1) pins, (2) certificates of credit (free), (3) certificates of proficiency (free), (4) roll of honor (free), and (5) chart.

Typewriting Awards. For students using *20th Century Typewriting,* this company will send a booklet describing procedures for obtaining: (1) pins, (2) certificates of credit (free), (3) certificates of proficiency (free), (4) roll of honor (free), and (5) speed chart (free).

Filing Awards. For students using *Business Filing,* there are free certificates of proficiency.

- Underwood Corporation or Local Dealer
  Education Department
  1 Park Ave.
  New York 16, N.Y.

  The Underwood School Awards Program consists of awards of merit in the following classifications: Best Typist of the Year; Outstanding Underwood Calculating Machine Operator; Outstanding Business Education Student. Local teachers and the school select the recipients. Each winner receives a certificate and a medallion.

- Foundation for Business Education, Inc.
  P.O. Box 7, Lenox Hill Station
  New York 21, N.Y.

  This organization publishes the *FBE Bulletin,* edited by Louis A. Leslie. Some member-clients of the Foundation for Business Education offer prizes for letters written about their products. The teacher decides which is the best letter and sends it to the appropriate company. Examples of companies providing prizes for business correspondence in 1962–63 are:

  National School Service Bureau
  National Blank Book Company
  Holyoke, Mass.

  W. A. Sheaffer Pen Company
  Fort Madison, Iowa

  Dictation Disc Company
  Department F16
  170 Broadway
  New York 38, N.Y.

  Faber-Castell Pencil Co., Inc.
  41 Dickerson St.
  Newark 3, N.J.

  Miss Jane Creel
  Department 16–511 FBE
  Lever House
  390 Park Ave.
  New York 22, N.Y.

- Future Business Leaders of America
  1201 16th St. NW
  Washington 6, D.C.

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  See also *DECA Contests and Award Manual,* High School Division, Distributive Education Clubs of America, 1010 Vermont Ave. NW, Washington 5, D.C. This manual, available at $1 per copy, describes in detail the purposes, specifications, and judging standards for each of the sanctioned contests. It also provides illustrations of the various awards available to DECA members.

Bibliography

Books

Applegate, M. Everybody's business—our children. White Plains. Row. 1952. 310 pp.

Douglas, L. V., Blanford, J. T. & Anderson, R. L. Teaching business subjects. Englewood Cliffs, N.J. Prentice-Hall. 1958. 538 pp.

Fisher, J. T. & Lowell, S. H. A few buttons missing. New York. Lippincott. 1951. 282 pp.

Monographs and Pamphlets

American Council of Education, Washington, D.C.
Wanted: a job! 16 pp.

Bristol-Myers Company, Educational Service Department, Bristol-Myers Products Division, 45 Rockefeller Plaza, New York 20.
Guide for a good-grooming program. 1961

General Motors Corporation, Educational Relations Section, Public Relations Staff, Detroit, Mich.
Can I get a job? 30 pp.

Iowa State Teachers College, Curriculum laboratory, Cedar Falls, Iowa
Sources of business education materials; by E. Merritt. 1952. 21 pp.

National Dairy Council, Chicago, Ill.
My reflections. 1954. 20 pp.

Scott Paper Company, Home Service Center, Brunswick, N.J.
Off to a beautiful start. 1959. 19 pp.

South-Western Publishing Company, New Rochelle, N.Y.
The effect of emphasizing production typewriting contrasted with speed typewriting in developing production typewriting ability; by T. J. Crawford. Monograph 97. 1960. 31 pp.
Suggestions for programs of office practice and procedures; by T. J. Crawford. 16 pp.

The Regal Shoe Company, Whitman, Mass.
What makes a man well dressed? By A. Menjou. 9 pp.

Periodicals and Periodical References

Clark, J. L. Are classroom typewriting standards compatible with office standards? Business Education Forum. v. 16. No. 3. December 1962. p. 23

Cole, L. The work of future business leaders of America. Future Business Leader. v. 16. No. 4. Washington, D.C. National Business Education Association. Fall 1962. 11 pp.

Dictation Disc Company. DDC Record. v. 1. No. 2. New York. February 1960. 8 pp.

Hinkel, C. H. Suggestions for scoring typewriting production jobs. The Balance Sheet. v. 44. No. 5. January 1963. pp. 207–209

Jones, E. J. This grading plan for speed motivates shorthand students. Business Education World. v. 42. No. 10. June 1962. pp. 16–18

Liles, P. Gregg awards program — highlights and changes. Business Teacher. v. 40. No. 1. September-October 1962. p. 19

——— We should increase transcription speed. Business Education World. v. 42. No. 10. June 1962. pp. 12–14

McGill, E. C. The importance of business information to people in all occupations. Business Education Service Bulletin No. 5. Emporia, Kansas. Department of Business and Business Education, Kansas State Teachers College. 52 pp.

Newton, L. Developing personality traits in business classes. Forum Reprint Series. Washington, D.C. United Business Education Association. 1958. pp. 10–14

Place, I. Who sets office standards? Business Education Forum. v. 17. No. 2. November 1962. p. 26

Prentice-Hall Publishing Company. Business Education in Action. No. 1. Englewood Cliffs, N.J. Fall 1962

——— What's New in Business Education. 5th Annual Issue. Englewood Cliffs, N.J. 1962–63

Robek, M. F. Secretarial performance with implications for the curriculum. The Balance Sheet. v. 44. No. 4. December 1962. pp. 152–153

Selden, W. Employers have told me. Business Education Newsletter. No. 13. Englewood Cliffs, N.J. Prentice-Hall. Spring 1963. 4 pp.

VT 001 253

North Carolina Study of Manpower Needs in Selected Trade, Finance, Insurance, and Service Industries, 1963-1966.

North Carolina Employment Security Commission, Raleigh. Bureau of Employment Security Research
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jun64 78p.

*OCCUPATIONAL SURVEYS; STATE SURVEYS; *LABOR FORCE; *MANPOWER NEEDS; EMPLOYMENT OPPORTUNITIES; EMPLOYMENT TRENDS; OCCUPATIONAL CLUSTERS; GEOGRAPHIC REGIONS; ECONOMIC FACTORS
NORTH CAROLINA

A stratified random sampling technique was used to select 2,000 establishments from 17 industrial segments. The 1,442 usable returns accounted for employers of 40 percent of the state employees covered by workman's compensation. The data were inflated to represent 8,476 establishments, employing more than 125,000 people and then was adjusted to September 1963. Findings by geographic area were: (1) Area 1 ranks highest in manufacturing, tourist trade, and auto dealer-service industries, third in unemployment rate, and has an estimated 14 percent increase in occupational employment by 1966, and the most need for auto mechanics, (2) area 2 has one-fifth of state's employment, highest weekly wages, heavy employment in insurance companies and clothing stores, an estimated 20 percent employment gain by 1966, and a strong demand for sales workers, (3) Area 3 has lowest unemployment rate, second highest weekly wages, and highest projected employment gain by 1966, (4) Area 4 has an estimated 15 percent employment gain by 1966, need for sales and clerical workers, (5) Area 5 has fewest insured workers, lowest weekly wages, second highest unemployment rate, estimated employment gain of 10 percent by 1966, and need for general salesmen and auto mechanics, (6) Area 6 has highest unemployment rate, estimated employment gain of 12.6 percent by 1966, and need for sales workers and mechanics. Estimated employment growth in surveyed industries, 1963-1966, was: (1) all industries, 16.2 percent, (2) trades, 16.4 percent, (3) finance, 12.4 percent, (4) insurance, 23.3 percent, and (5) service, 11.8 percent. This amounts to a 3-year increase of 21,000 new jobs. (EM)

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EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA
HENRY E. KENDALL, CHAIRMAN

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North Carolina Study Of

MANPOWER NEEDS

in

Selected

Trade
Finance
Insurance
and Service

Industries

1963-1966

BUREAU OF EMPLOYMENT SECURITY RESEARCH
HUGH M. RAPER, DIRECTOR

P. O. BOX 589, RALEIGH, N. C.

VT 01253

JUNE 1964

VT 01253

ACKNOWLEDGMENTS

The development of this Study of future job opportunities and training needs for 54 selected occupations in 17 nonmanufacturing industry segments results from the contribution of time and composite thinking of more than 1,400 employers and their staffs, who responded to mail questionnaires. To each of these contributors, representative of many types of businesses, we are most grateful. Special thanks go to the following employers, who were personally interviewed by Labor Market Analysts, and who provided information and suggestions regarding Study design and methods for collecting the major portion of survey data by mail questionnaire.

Asheville

Asheville Federal Savings and Loan
Bank of Asheville
Battery Park Hotel
Beverly Apartments, Incorporated
Booth-Barfield, Incorporated
Bowers Stores, Incorporated
Carroll and Company
Deal Buick, Incorporated
Dunham's Music House
Field Clothes, Incorporated
Free Service Tire and Applicance Co.
Harry's Body and Fender Service
Ideal T. V., Incorporated
Ivey's, Incorporated
Life Ins. Company of Virginia
McCarley and Company, Incorporated
S. and W. Cafeteria
Sronce Automotive Supply
Webb, R. Stanford Company

Charlotte

Allstate Insurance Company
Anchor Mills
Authorized Appliance
Best Shops
Brodt Music Company
Commercial Automotive Corporation
Dickson, R. S. Company
Ford Motor Company
Franklin-Simon Company
Home Finance Company
Jones, J. O. Company
Jones and Presnell Company
North Carolina National Bank
S. and W. Cafeteria
Sears Roebuck and Company
Selwyn Hotel
Singer Sewing Machine Company
Thomas Cadillac-Oldsmobile
Vinson Realty Company
Westbrook-Norton Insurance Company

Greensboro

B. B. S. Studio (High Point)
Banks Clothing Company-H. & H. Clothing
Bessemer Improvement Company
Brown Realty Company
City Electric Machine Company
Davidson Supply Company
Ford Body Company
Home Federal Savings and Loan
Jones Fur Service
McDaniel Lewis Company
Montaldos
Moore Music Company
Myers Company
North Carolina National Bank
North State Chevrolet Company
O'Henry Hotel
Pilot Life Insurance Company
S. and W. Cafeteria
Schenck, Paul W. Agency
Southern Sales Incorporated
Vanstory Clothing Company

Winston-Salem

Ardmore Terrace, Incorporated
Cahill and Swain, Incorporated
Carolina Garage, Incorporated
Clinard Electric Company
Gay and Taylor, Incorporated
General Motors Acceptance Corporation
Hine-Bagby Company, Incorporated
Jones T.V. and Radio Sales and Service
Knight, Pete T.V. and Appliances, Inc.
Mann Film Laboratories, Incorporated
Modern Automotive Service, Incorporated
Modern Chevrolet Company
Mother & Daughter Stores, Incorporated
Nissen Building Corporation
Reynolds and Company
Sears Roebuck and Company
Security Life and Trust Company
Town Steak House #2
Wachovia Bank and Trust Company
White, Mrs. Viola Sewing Shop
Winston-Salem Hotel

Acknowledgment is also made to the Bureau of Employment Security of the United States Department of Labor for the funds necessary for completing this Study.

The Study was conducted by the Bureau of Employment Security Research under the direction of David A. Garrison, Assistant Director; and under the general supervision of James C. French, Supervisor of Research. Immediate responsibility for planning and supervising the Study and for drafting this report rested on James G. Mills, Jr., Labor Market Analyst II, assisted by Mrs. Natalie Crawford, Labor Market Analyst I.

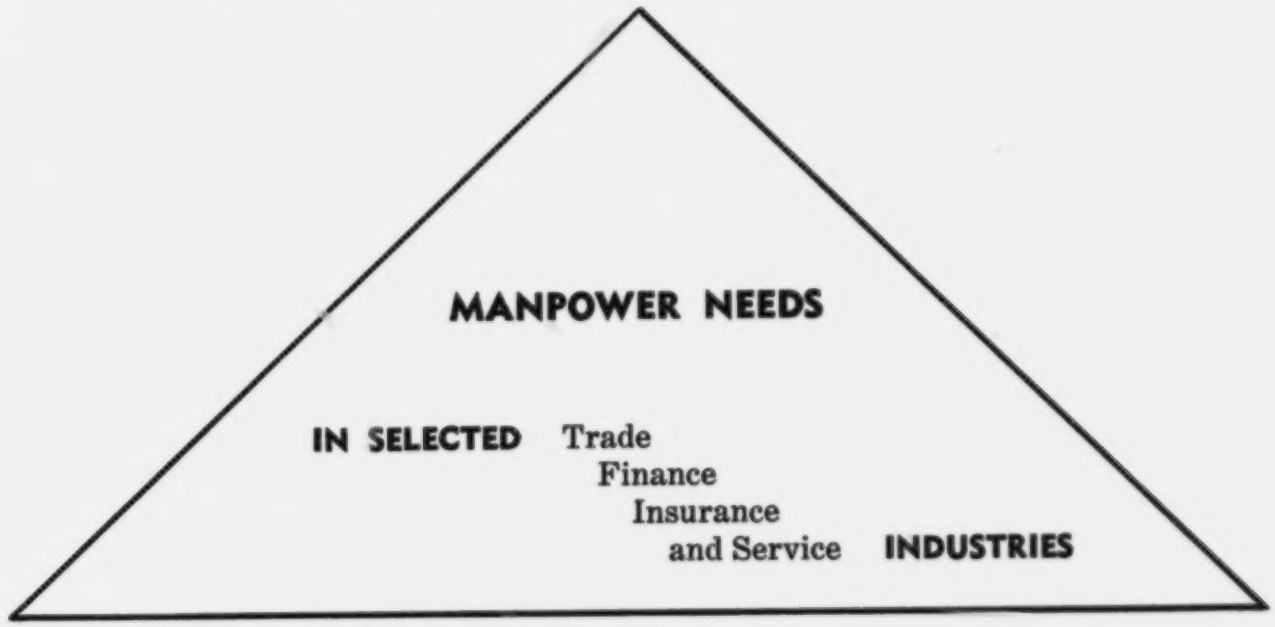
Within the Agency, we acknowledge the cooperation of the Employment Service Division, Department of Data Processing, and the Local Employment Security office staff members, especially the following Area Labor Market Analysts who contacted the above named employers, and assisted other employers in completing survey questionnaires.

John M. Bennett, Asheville
James R. Gardner, Winston-Salem
Anne B. Knowles, Charlotte
Charles O. Forbis, Greensboro

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA

Henry E. Kendall, Chairman

Spotlight On Job Opportunities



1963 - 1966

BUREAU OF EMPLOYMENT SECURITY RESEARCH
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June, 1964

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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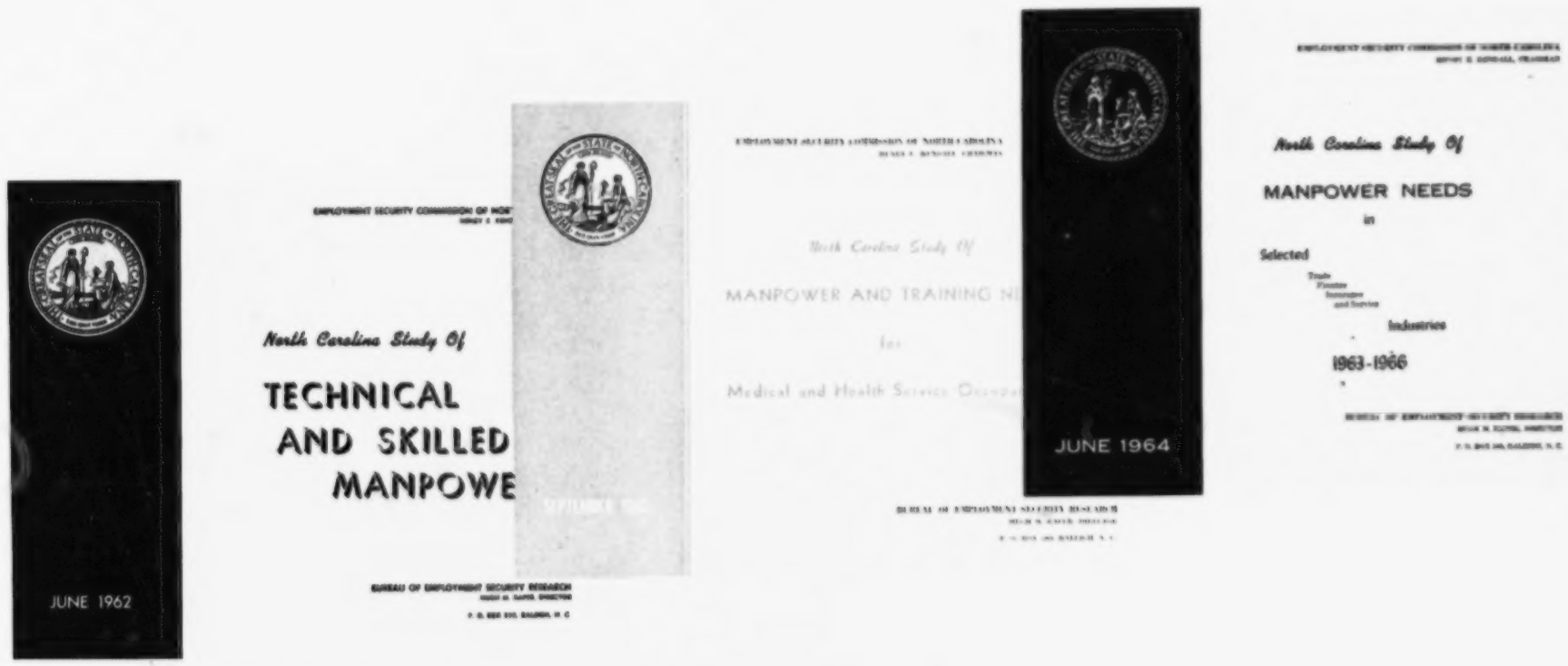
FOREWORD

This Study was directed toward obtaining a measure of job opportunities in a cross-section of North Carolina's service and other nonmanufacturing industries. It complements the "North Carolina Study of Technical and Skilled Manpower" of June, 1962, and the "North Carolina Study of Manpower and Training Needs for Medical and Health Occupations" of September, 1963. These three combined studies present labor supply and demand information representing more than 19,000 North Carolina firms which employ about 755,000 persons. These three studies cover 170 different occupations. By 1966, employers in surveyed industries covered by the three studies estimate they will require about 45,000 additional workers for expansion and replacement needs for these 170 occupations—needs over and above the workers employers expect to train on the job.

Merely establishing the fact that job opportunities and training needs exist will not solve the problem of labor supply and demand imbalances. Future planning and cooperative action will be required of employers, staffs of training facilities, educational administrators and personnel of agencies concerned with manpower development and utilization. In this way, a more ample supply of qualified workers can be provided for shortage occupations.

This Study includes an economic synopsis of North Carolina, highlights of survey results, and features a Statewide and area view of industrial and occupational employment findings. The Appendix contains information on methodology and scope, definitions, and additional tables.



STUDY HIGHLIGHTS

- During a three-year period ending in the fall of 1966, total employment in all surveyed industries is expected to increase by about 16 per cent, from 132,200 in 1963 to 153,650 in 1966. This anticipated growth is at a rate slightly greater than the growth rate experienced from September of 1960 to September of 1963 in the group of surveyed industries.

- The following industries are expected to grow at rates greater than 16 per cent by the end of 1966.

Industry	Anticipated Per Cent Growth, 1963-1966
Automobile Dealers & Gas Service Stations	21.3
Women's Ready to Wear Stores	17.2
Eating & Drinking Places	16.4
Credit Agencies Other Than Banking	17.4
Security Brokers & Dealers	20.6
Insurance Carriers	24.4
Insurance Agents, Brokers & Service	18.2
Automobile Repair Shops	18.1
Electrical Repair Shops	42.0

- Twelve of the seventeen industry groups expect greater percentage increases in employment during the 1963-1966 period than they experienced during the period from 1960 to 1963.

- The projected rate of employment growth in surveyed occupations, during the forecast period to 1966, is expected to be slightly higher than the total increase in employment in the industries studied. An expansion rate of nearly 18 per cent is indicated, as employment is expected to increase from 96,900 at survey time to about 114,300 by 1966.

- Employers estimate that by the fall of 1966 about 28,000 new job opportunities will develop in the occupations surveyed. More than 60 per cent of these new jobs will develop because of business expansion.

- On-the-job training programs are expected to provide less than 40 per cent of all workers needed in the occupations studied.

- By the fall of 1964, 7,700 more workers will be needed in the selected occupations for expansion and replacement, than are expected to be trained on-the-job. In the occupations studied, on-the-job training is expected to fall 17,000 workers short of the total demand by the fall of 1966.

- The greatest rate of growth among major occupations studied was found in skilled occupations. By late 1966, employment is expected to increase by about 28 per cent in the skilled category, compared to expected gains of less than 14 per cent in semiskilled jobs.

- Net additional-worker shortages of more than 500 are anticipated in each of 13 of the 54 surveyed occupations by the fall of 1966.

- Eleven other occupations will require more than 200 workers in addition to those trained by employers on-the-job by the 1966 forecast date.

- Employers in surveyed industries expect a surplus of more than 60 bookkeeping machine operators by the fall of 1966.

CONCLUSIONS AND RECOMMENDATIONS

The results of this study emphasize the increasing importance of nonmanufacturing industries in North Carolina's economy. The number of jobs available in these businesses will continue to increase with the over-all economic development of the State. The development of training programs for jobs found in nonmanufacturing industries should keep pace with vocational training which is provided for production workers. In so doing, a wider range of job opportunities will be made available to those individuals in need of work, and employers can be furnished with the types of trained workers which are needed to insure a prosperous economy.

Of equal importance is the fact that the trade, finance, insurance and service industries provide a variety of types of work for individuals having varying levels of ability and education. These businesses are sources of job opportunities for many workers who may lack either the suitability or desire for production-type work. Greater emphasis on the enlargement of the scope of training programs in North Carolina should enhance the chances of finding jobs for many unemployed workers.

Training programs geared specifically to the problem of reducing unemployment continue to be planned and carried out under such Federal legislation as the Manpower Development and Training Act, the Area Redevelopment Act, and the Vocational Education Act. The use of this Study as a guide in determining worker requirements in selected nonmanufacturing industries, will point up needs for additional training programs in various areas of the State, and will help identify shortage occupations for which training would be feasible. This Study was limited in scope, however, and it does not attempt to provide a full measure of all occupational training needs in all nonmanufacturing industries. In addition to an analysis of present and future employment situations, continued constructive action must be taken by those whose responsibility it is to train and utilize manpower.

The North Carolina Employment Security Commission recognizes its established basic responsibilities of job placement and worker recruitment. In recent years, with the passage of ARA and MDTA, these obligations have been deepened to reach into the area of efficient planning for job training programs that can best serve both workers and employers. The Economic Opportunity Act of 1964, if enacted, places still greater responsibility on the Commission to take the lead in planning comprehensive programs, which will put more and more people to work, following basic education programs as well as job training. Through the study of various types of occupations in diverse industries, careful planning can result in vocational training courses which will benefit workers, and at the same time bring about more efficient utilization of manpower.

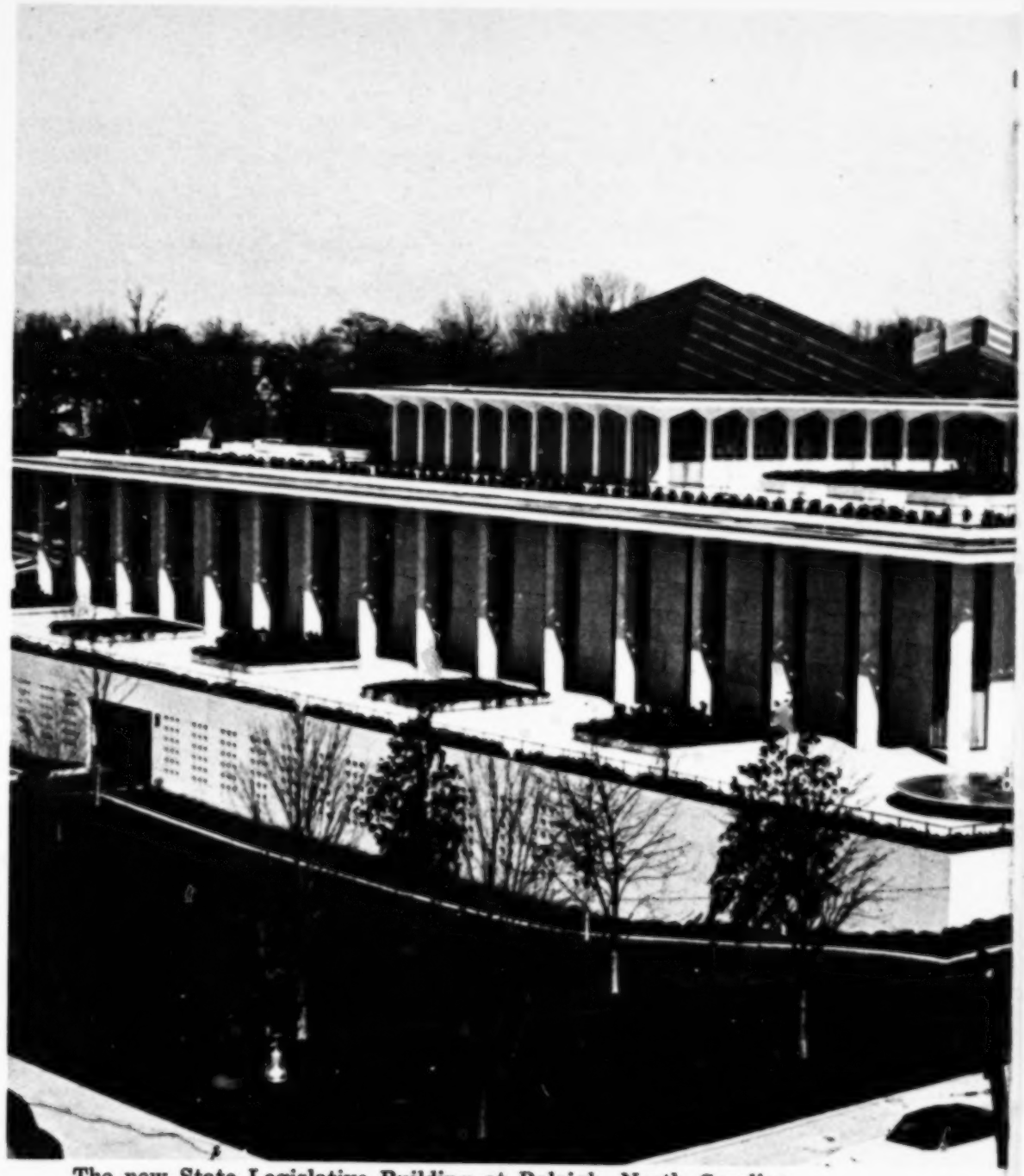
The State should continue to exercise diligent efforts to promote and support expansion of programs which provide vocational training facilities, and emphasize vocational guidance programs. Training programs must be up-dated whenever necessary to keep pace with changing occupational requirements, and individual employers should have an important part in planning special occupational training. Private industry should be encouraged to help conceive plans for the retraining of those employees whose jobs will be eliminated through automation or improved technology.

An important responsibility for reaching manpower goals rests upon the local community where specific employment problems are recognized and necessary action is planned and carried out. A major goal for each community should be a plan to encourage each individual to take advantage of every opportunity to develop and use his capabilities to the fullest extent possible. It is in a community that comprehensive programs on a person-to-person

basis may be carried out, and it is through this method that more people can be motivated to plan for improving their life's work.

The imbalance between labor supply and demand threatens to become more pronounced in the future, unless remedial actions are accelerated. The prime middle-age segment of the population will comprise a diminishing portion of the work force, with increasing numbers of both older and younger workers.

In order to approach the goal of full employment, the individual must be informed about the increasing demand for trained and educated workers so that he will be concerned with acquiring proper and sufficient training. Equally as important, community groups and government planners must continue to examine all possible sources of work for which training would provide suitable employment for many jobseekers. Fields of work which may supply jobs, both now and in the future, are presented within the scope of this survey. Constructive action continues to be initiated; and, in many areas, training programs have been completed which resulted in job placements of unemployed people completing such training. The unemployment problem, however, has by no means been solved. Further study, planning, and cooperative action by all concerned will be necessary to achieve the desired employment goals.



The new State Legislative Building at Raleigh, North Carolina

PART I

NORTH CAROLINA

An Economic Profile

- State's Population ..... 5.5 million by 1980
- Rural Population ..... shifting
- Work Force ..... around 2 million
- Employment ..... averaged more than 1.8 million in 1963
- Nonmanufacturing Employment ..... accelerated growth
- Female Employment ..... increasing
- Unemployment ..... one out of 25 in 1963
- Laboring Jobs ..... diminishing
- Trained Workers ..... strong demand

NORTH CAROLINA—AN ECONOMIC PROFILE

A more meaningful interpretation of survey findings may result after a brief look at North Carolina, its population, employment and industrial composition.

The industries included in this survey are primarily engaged in trade, service and financial activities. The growth rate of these industries is influenced by population distribution in the State and is also partially dependent upon the predominant type of employment in various areas.

Population

- In 1960, the total population of North Carolina stood at 4.5 million people.

- It has been estimated that the State's population will increase to 5.0 million individuals by 1970 and to 5.5 million by 1980.[1]

- Although predominantly rural, the population of North Carolina has followed the national trend toward urbanization. In 1950, about one-third of all residents lived in urban areas, but by 1960, the proportion had risen to almost 40 per cent of the State's total population. Nevertheless, the proportion of urban population in North Carolina is substantially lower than that for the United States as a whole, which had a 70 per cent urban population in 1960.

[1] North Carolina Department of Conservation and Development, Division of Community Planning

Labor Force

- By 1960, according to U. S. Census data, the total civilian labor force had increased to 1,680,442 in North Carolina, an 11 per cent gain over 1950.

- Despite the rising number of individuals in the work force, the increase in North Carolina has not kept pace with the Nation's growth. During the 1950-1960 period the Nation experienced a 15.4 per cent gain. The outmigration of farm workers from North Carolina has largely accounted for the disparity in growth rates.

- The total civilian labor force included more than 375,000 nonwhite workers in 1960, which represented 22 per cent of the total. The decline in this portion of the work force is shown by the fact that in 1950, a total of almost 387,000 nonwhite workers comprised more than one-fourth of the total civilian labor force in North Carolina.

- Women comprised 37.5 per cent of the labor force in 1960, and the number of females in the labor force has increased at a rate ten times greater than men during the 1950-1960 decade.

- Although rural population has shown declining trends, North Carolina has the largest farm population in the Nation and ranks second in the number of farms. The farm

labor force is also inflated each year by 10,000-12,000 migrant workers who enter the State for temporary work in farm jobs.

- In March, 1963, North Carolina's civilian labor force had risen to approximately 1.8 million workers. The large majority of workers were found in the Central Piedmont areas which experienced the lowest rate of unemployment in the State. The higher rate of joblessness in the Eastern and Western areas is partially due to fluctuations in seasonal job opportunities in those regions.

- North Carolina's labor force has continued to expand, reaching two million during the summer of 1963, with an average of 1.9 million workers for the year.

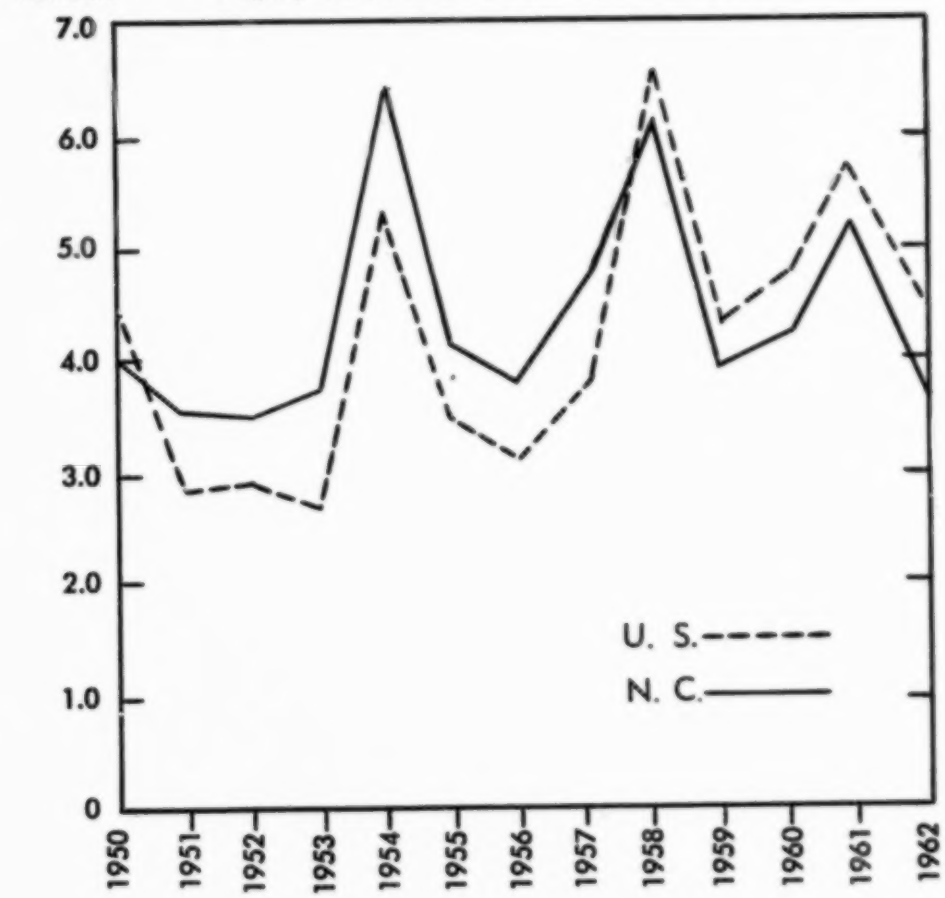
Employment and Trends in Unemployment

- According to census data, during the 1950-1960 period, total employment in North Carolina rose to 1.6 million workers, a gain of 9.8 per cent over 1950. This rate of increase, however, was not as great as the growth of the labor force.

- During 1963, an average of 1.8 million workers were employed in North Carolina, out of a total work force that had increased to approximately 1.9 million individuals. During the year an average of 44 workers out of every thousand were unemployed.

- Although North Carolina's rate of insured unemployment was consistently above that for the Nation from 1951-1957, it dropped below the national rate the following year; and from 1958-1962, continued to register a lower trend than that for the United States. These trends are illustrated below.

Chart A: Insured unemployment as per cent of insured employment, U. S. and N. C., years 1950-1962



- More than 1.7 million workers were employed in North Carolina in December, 1963. The unemployment rate had moved seasonally upward to 4.3 per cent of the labor force. Nevertheless, the proportion of jobless workers was lower than during the same month in 1960-1962.

- Employment in farm activities has declined sharply in North Carolina, as mechanization has replaced unskilled labor in many areas. In 1950, approximately 25 per cent of all workers were employed in farm jobs, but by 1960 only about 13 per cent of all workers were employed in agriculture.

- An average of 953,873 workers were covered by the North Carolina Employment Security Law during 1962. The following table shows distribution of insured employment by selected broad industry group for years 1950 and 1962.

DISTRIBUTION OF INSURED EMPLOYMENT—1950 AND 1962

	Per Cent 1962	Per Cent 1950
All Industries	100.0	100.0
Total Manufacturing	55.5	61.0
Total Nonmanufacturing	44.5	39.0
Trade, Whsle. and Retail	21.4	19.1
Fin., Ins., and R. Est.	4.2	2.5
Service	5.9	5.3
All Other	13.0	12.1

- An increasing proportion of workers covered by the North Carolina Employment Security Law are working in nonmanufacturing jobs.

- Rising family incomes have contributed to this uptrend, as service and sales activities increase with higher living standards.

- The proportion of workers in nonmanufacturing jobs in North Carolina is substantially lower than in the United States as a whole. In 1960, nonmanufacturing jobs comprised more than 60 per cent of the Nation's insured employment, compared with about 44 per cent in North Carolina. The lower rate in North Carolina is in line with the State's smaller family income compared with that for the Nation. In 1959, according to 1960 Census data, median family income in North Carolina was $3,956, significantly below median family income of $5,660 for the Nation.

- Occupational trends in North Carolina have shown a shifting pattern during the 1950-1960 period. Over the decade, the largest per cent increase in a single group occurred in clerical and kindred occupations. By 1960, the number of employed persons in this occupational group had increased 54.5 per cent over 1950. Workers in sales and service (excluding private household) also registered substantial gains over 1950.

- In 1960 the number of workers employed as laborers in nonfarm occupations had declined 4.4 per cent from 1950. Farm managers, foremen and laborers registered a significant 44.4 per cent drop. These decreases are in line with the current demand for trained workers as automation and mechanization continue to reduce the need for unskilled labor.

INTRODUCTION TO SURVEY FINDINGS

Economic trends of the recent past indicate increased growth for North Carolina; growth in population, in production, and in the consumption of goods and services. The increasing importance of nonmanufacturing industries is evident. This stimulated economy promotes a rising standard of living, with more people availing themselves of more services. The following presentation of survey findings attempts to point up the role that a significant portion of the North Carolina nonmanufacturing complex may play in future manpower utilization.

The Employment Security Commission engaged in this Study to develop additional factual data on present and future job opportunities in North Carolina—job opportunities which may provide work for the many youth entering the labor market and for unemployed persons seeking new jobs. It is hoped that the following immediate objectives set forth for this survey have been accomplished, at least in part:

- To determine a current estimate of the number of workers employed in the industries and occupations selected.
- To obtain a measure of future labor requirements for business expansion in the industries and occupations within the scope of the Study.
- To obtain estimates of future replacement needs by occupation—from death, retirement, promotion, and other withdrawals from the labor force.
- To ascertain the number of persons expected to be trained on-the-job for each of the 54 occupations studied, and to obtain employers' reaction to institutional training for these occupations.
- To determine the number of workers needed, in addition to those trained on-the-job, by late 1964 and by late 1966.

These survey findings provide a basis for the evaluation of training needs. If they help to make possible the development of additional vocational programs which will benefit both employers and jobseekers in North Carolina, the objective of the Employment Security Commission for this Study will be realized.

In addition to providing a foundation for planning vocational education programs, this report may serve as a useful guide for:

- Community groups in planning for manpower utilization, especially through the Manpower Development and Training Act, and the Area Redevelopment Act.
- Counseling youth in making informed career choices.
- Advising other unemployed persons in search of new job opportunities.
- Employers in planning to meet their own occupational training needs.
- Employment service personnel and others concerned with matching people and jobs more efficiently.

All nonmanufacturing industries and all occupations found in these industries could not be included in the survey. Although job needs studied represent only a portion of the needs in the State, it is believed that this report does provide a realistic measure of minimal job opportunities and worker requirements for 54 major occupations in 17 selected industry segments. Findings for this substantial cross-section of nonmanufacturing may well be representative of the growth which can be expected in all nonmanufacturing industries by late 1966.

Events may occur during the forecast periods which may affect the plans of employers. Forecasts have been made on the assumption that the economic and international situation will follow trends of the recent past through the fall of 1966. Forecasts have, of necessity, included only changes which could reasonably be planned or contemplated.

PART II

Employment Outlook, By Industry

- Surveyed Employment ..... up 16 per cent by 1966
- Growth Rate ..... faster than from 1960 to 1963
- Business Expansion ..... 21,000 new jobs in three years
  - — Trade 14,000
  - — Insurance 4,000
  - — Service and Finance 3,000
- Employment ..... major gains expected by:
  - — Automobile Dealers
  - — Credit Agencies and Banks
  - — Restaurants
  - — Insurance Companies
  - — Department Stores
- Outlook in Hiring ..... growing demand, short supply of trained workers

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TABLE I: INDUSTRIAL SCOPE OF STUDY AND PER CENT COVERED BY SAMPLE—MARCH, 1963

Statewide Totals—March, 1963		Standard Industrial Classification		Statewide Sample Coverage—March, 1963		
Number of Establishments	Number of Workers Employed [1]	Code	Title	Sampled Establishments	Sampled Employment	Per Cent of Total Employment Sampled
8,476	125,003	—	All Surveyed Industries[2]	1,442	48,593	38.9
5,743	79,550	—	Surveyed Trade Industries	962	29,480	37.1
384	6,210	501	Motor Vehicles and Auto Equipment	62	2,378	38.3
192	15,577	531	Department Stores	32	5,947	38.2
2,210	26,533	55	Auto Dealers & Gas Service Stations	350	9,904	37.3
175	1,549	561	Men's & Boys' Clothing & Furnishings	50	719	46.4
388	4,656	562	Women's Ready To Wear Stores	57	1,674	36.0
178	1,892	565	Family Clothing Stores	34	693	36.6
178	1,345	572	Household Appliance Stores	49	606	45.1
84	638	573	Radio, TV, & Music Stores	35	380	59.6
1,954	21,150	581	Eating and Drinking Places	293	7,179	33.9
792	16,177	—	Surveyed Insurance Industries	116	6,724	41.6
472	13,274	63	Insurance Carriers	55	5,645	42.5
320	2,903	64	Insurance Agents, Brokers and Service	61	1,079	37.2
1,114	19,357	—	Surveyed Finance Industries	210	8,696	44.9
289	11,964	60	Banking	51	5,629	47.0
775	6,585	61	Credit Agencies Other Than Banking	144	2,705	41.1
50	808	62	Security Brokers, Dealers	15	362	44.8
827	9,919	—	Surveyed Service Industries	154	3,693	37.2
373	6,693	701	Hotels, Motels, Tourist Courts	46	2,559	38.2
402	2,900	753	Auto Repair Shops	86	967	33.3
52	326	762	Electrical Repair Shops	22	167	51.2

[1] Workers covered by the North Carolina Employment Security Law.

[2] Definitions of these industries found in Appendix A.

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA

INDUSTRIAL SCOPE OF SURVEY

Survey findings presented in this report do not represent estimates of total manpower requirements in the State for the occupations surveyed because not all industries could be included in the coverage. Survey findings apply only to the selected industries listed in Table I. Projected occupational needs are based on employment demands of employers active in the fall of 1963, and do not measure growth which will result from new firms being established in the State during the next three years.

Time and cost were factors which made it necessary to limit the industry coverage to a cross-section of nonmanufacturing and to use the mail-type survey approach. A discussion of this approach, along with information with respect to sample-firm selection, data collection and processing are included in the section on methodology found in the Appendix.

Table I shows a comparison of total employment and sampled employment. Actual employment in the 1,442 responding firms accounted for about 39 per cent of the total employment in surveyed industries in March of 1963. The data collected from the 1,442 responding firms were inflated to represent 8,476 establishments, employing more than 125,000 people in March of 1963.

The March, 1963 data, from which the survey sample was selected, were adjusted to September, 1963. Subsequent data in this Study show employment as of September, 1963, and is termed the survey period employment.

FIGURE 1: DISTRIBUTION OF SURVEY COVERAGE BY BROAD INDUSTRY GROUP[1]

Fall 1963 Employment: 132,191 = 100%

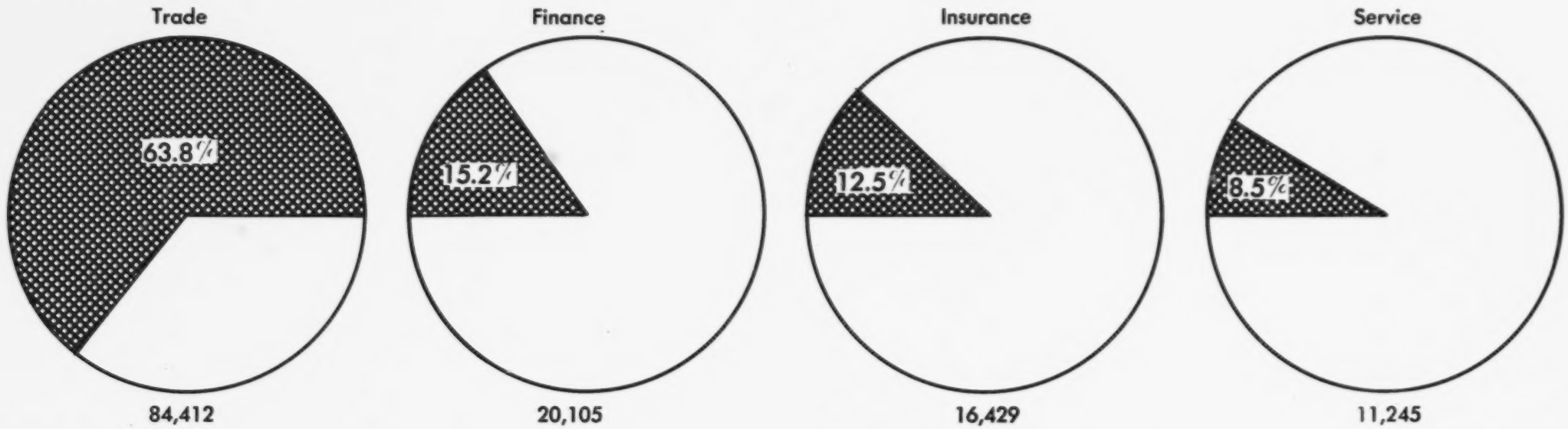
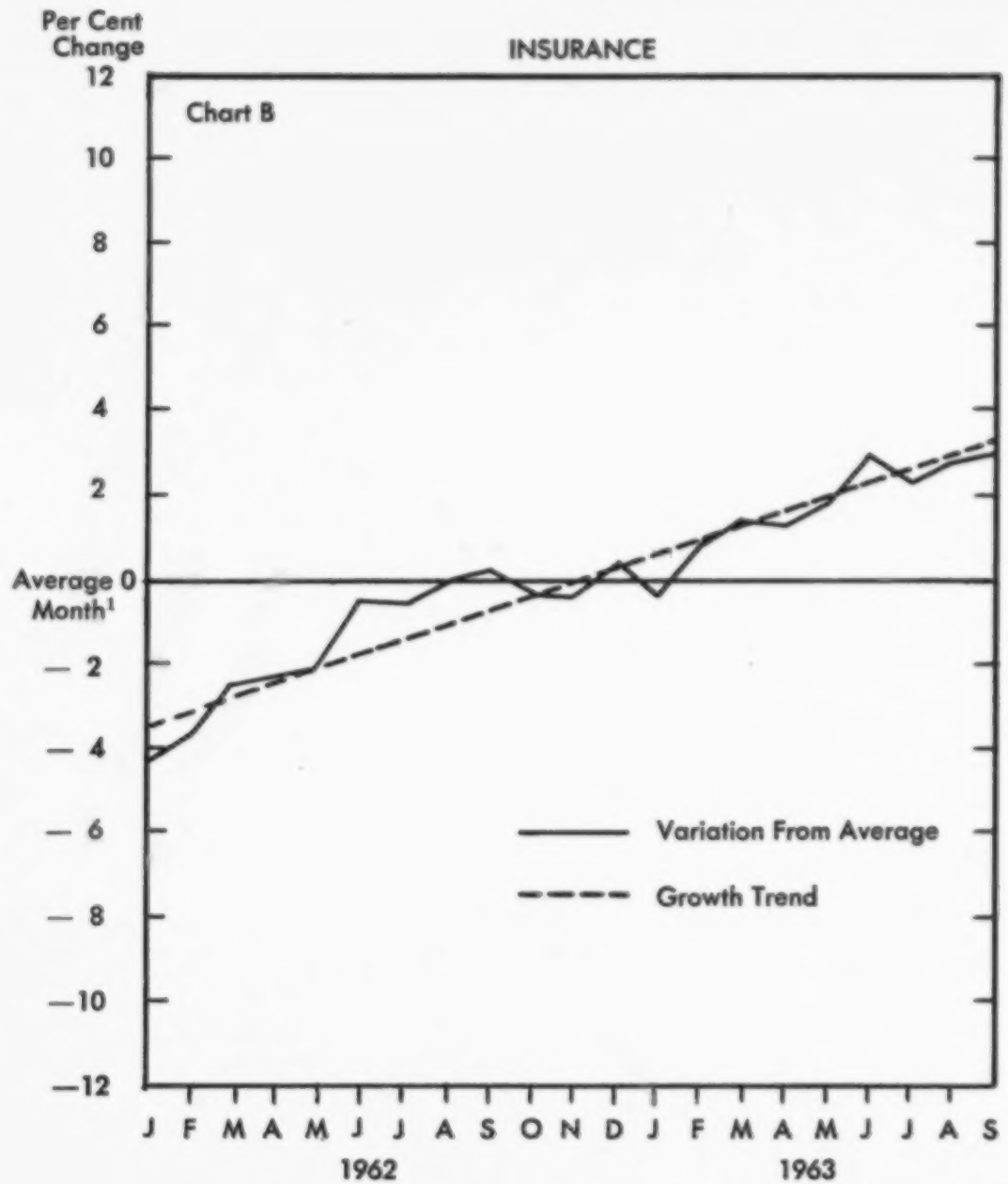


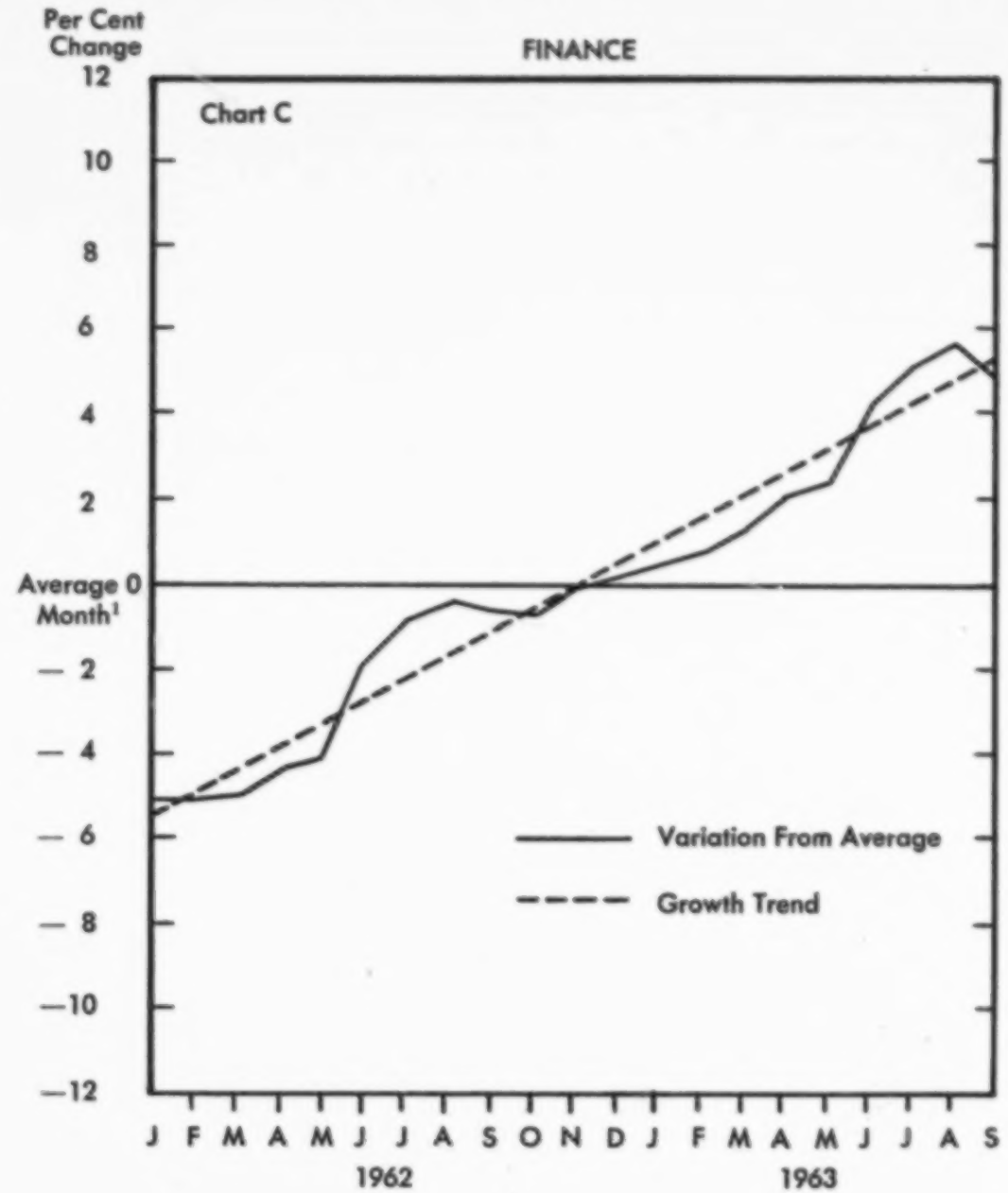
Figure 1 shows the distribution of employment in all surveyed groups in September, 1963.

A total of 132,191 workers were employed, with the largest percentage in the trade category. Workers in the service group comprised the smallest proportion of surveyed employment.

[1] Definitions of these groups are found in Appendix A.

SEASONALITY OF EMPLOYMENT IN SURVEYED INDUSTRIES



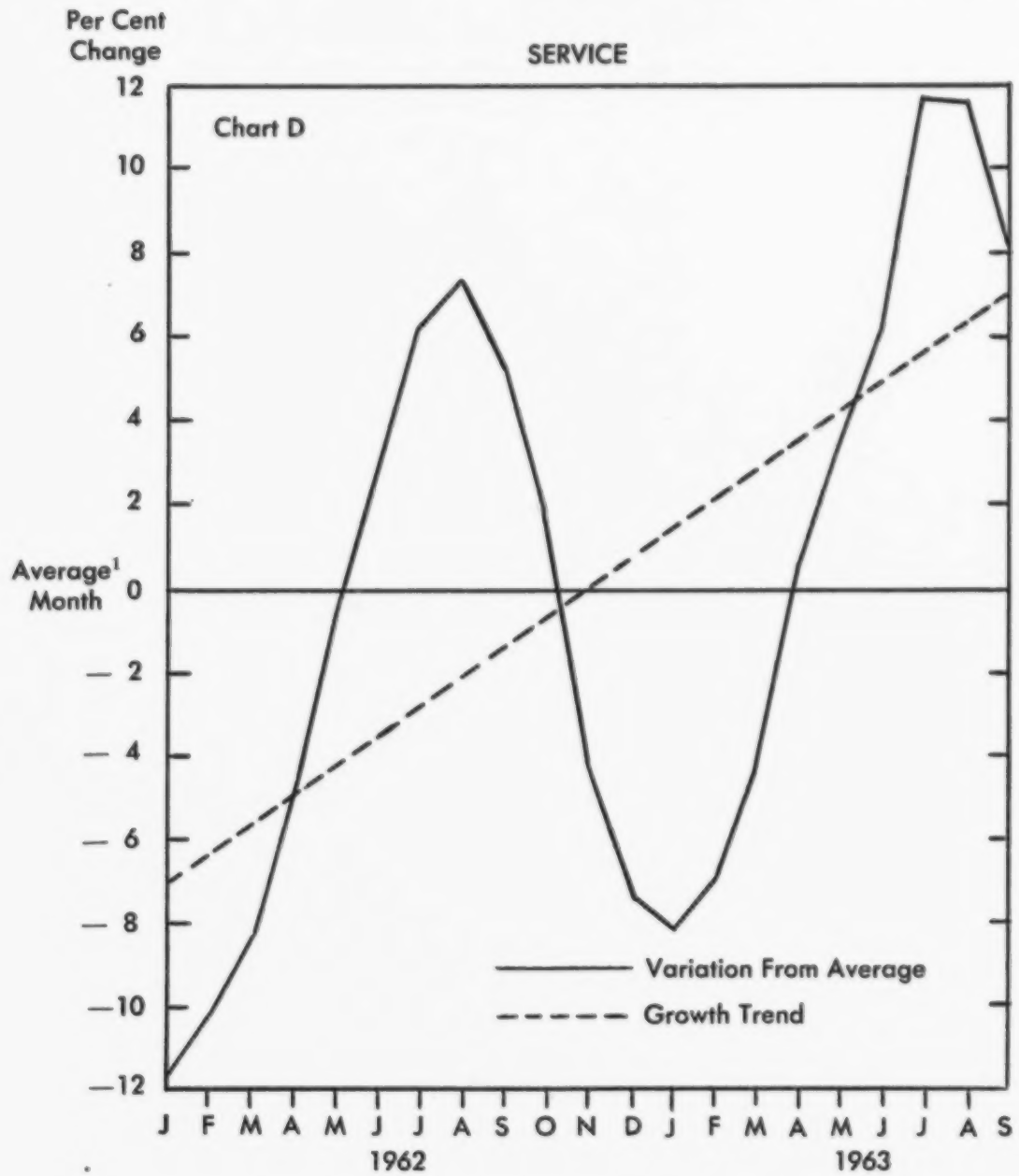


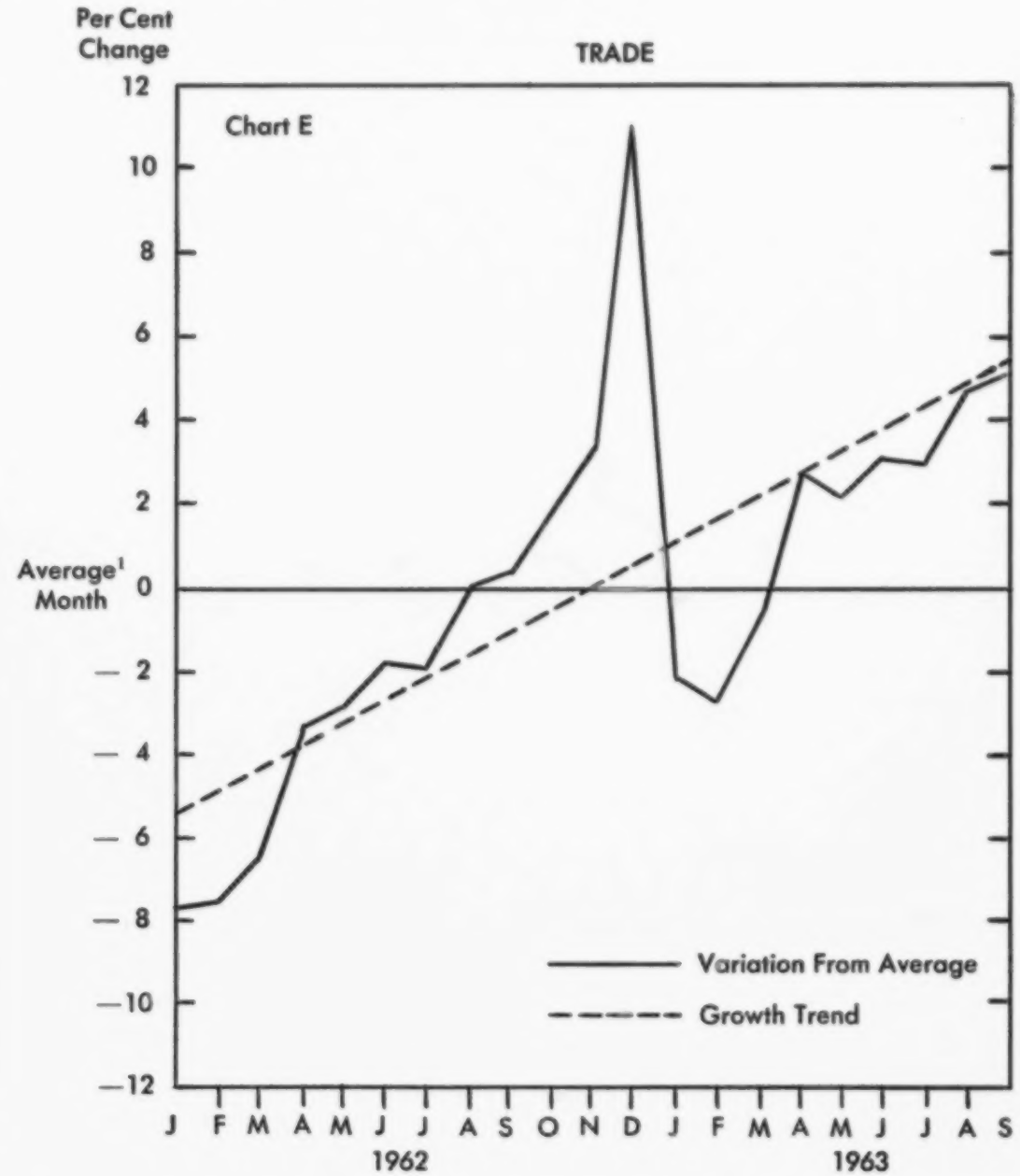
The accompanying charts depict the varying range of seasonal influence on employment in each surveyed industry group, from January 1962-September 1963. The actual employment for each month of the period is shown as a deviation from an average of employment over the 21-month period. The growth rate was also plotted to show the employment trend for each industry group, as unaffected by seasonal variations.

Employment growth in the insurance and finance industries shows little dependence on seasonal influences. As seen in Charts B and C, actual employment increases and declines in these industries closely parallel the indicated trends.

[1] Average based on period from January, 1962 through September, 1963.

SEASONALITY OF EMPLOYMENT IN SURVEYED INDUSTRIES





In the trade and service industries employment follows distinct seasonal patterns.

Employment in the surveyed service industries, heavily dependent on tourist business in the eastern and western sections of the State, rises to a seasonally high point during the summer months, and drops substantially below peak levels in the winter. This trend is heavily affected by hiring for the hotel, motel and tourist court industries in the resort areas. Chart D indicates the sharp seasonal increases and declines in employment in the surveyed service categories, compared with the normal growth rate.

As seen in Chart E, seasonal deviations also occur in the trade industries. The peak employment period is reversed, however, from the summertime high of the service businesses. Wholesale and retail trade activities climb to a seasonal peak in December, followed by steep declines during January and February.

[1] Average based on period from January, 1962 through September, 1963.

TABLE II: INSURED EMPLOYMENT GROWTH TRENDS IN SURVEYED INDUSTRIES

Surveyed Industry	Average Monthly Insured Employment 1960	Average Monthly Insured Employment 1961	September Employment 1963	Per Cent[1] Change 1960-1963	Level of Employment Fall of 1964	Level of Employment Fall of 1966	Per Cent[2] Change 1963-1966
All Surveyed Industries	115,906	118,300	132,191	14.1	141,847	153,657	16.2
Surveyed Trade Industries	75,916	75,989	84,412	11.2	90,682	98,251	16.4
Motor Vehicles and Auto Equipment	5,696	6,125	6,761	18.7	6,977	7,725	14.3
Department Stores	15,476	15,356	16,763	8.3	17,884	18,615	11.0
Auto Dealers and Gas Service Stations	25,869	25,036	26,748	3.4	29,445	32,452	21.3
Men's & Boys' Clothing & Furnishings	1,449	1,442	1,601	10.5	1,706	1,783	11.4
Women's Ready to Wear Stores	4,819	4,643	5,054	4.9	5,572	5,924	17.2
Family Clothing Stores	1,864	1,971	2,220	19.1	2,360	2,414	8.7
Household Appliance Stores	1,480	1,359	1,392	—5.9	1,435	1,565	12.4
Radio, T.V. and Music Stores	606	597	650	7.3	689	739	13.7
Eating and Drinking Places	18,657	19,460	23,223	24.5	24,614	27,034	16.4
Surveyed Finance Industries	15,795	17,337	20,105	27.3	20,842	22,589	12.4
Banking	9,987	10,721	12,612	26.3	12,904	13,765	9.1
Credit Agencies Other Than Banking	5,136	5,856	6,734	31.1	7,099	7,909	17.4
Security Brokers and Dealers, etc.	672	760	759	12.9	839	915	20.6
Surveyed Insurance Industries	14,364	15,076	16,429	14.4	18,174	20,249	23.3
Insurance Carriers	11,884	12,418	13,510	13.7	15,011	16,800	24.4
Insurance Agents, Brokers and Service	2,480	2,658	2,919	17.7	3,163	3,449	18.2
Surveyed Service Industries	9,831	9,898	11,245	14.4	12,149	12,568	11.8
Hotels, Motels, Tourist Courts	6,607	6,699	7,958	20.4	8,522	8,612	8.2
Auto Repair Shops	2,943	2,916	2,982	1.3	3,251	3,523	18.1
Electrical Repair Shops	281	283	305	8.5	376	433	42.0

[1] Includes new firms established during the period.

[2] Includes only establishments active during the fall of 1963.

EMPLOYMENT TRENDS IN SURVEYED INDUSTRIES

Projections to late 1966 indicate that about 16 per cent more workers will be on the payrolls of the 8,476 firms within the scope of the Study than were employed in the fall of 1963.

The nonmanufacturing industry categories studied collectively employed more than 132,000 workers during late 1963. More than 84,000 of these workers were engaged in trade industries. Trade industries are expected to require the highest number of additional workers by the end of the 1966 forecast period. If trade employers' expectations are realized, almost 14,000 additional workers will be needed for expansion alone.

Chart F shows anticipated employment growth rates in surveyed broad industry groups, from late 1963 to late 1966.

Table II compares the rates of employment expansion in surveyed industries for the three-year period to 1963, and the projected three-year period to 1966. The growth rate for the earlier period was somewhat stymied by the 1961 recession, which saw seven surveyed industry segments slump to employment levels below 1960 averages. All industries recovered sharply in 1962 and 1963, and by late 1963 had gained an additional 16,000 workers, registering a significant 14 per cent increase for the three-year period. Employment growth rate during this period was led by credit agencies and banking, which showed decisive gains of 31 and 26 per cent, respectively. A slowing trend is indicated for these two industries from 1963 to 1966, as less marked employment gains of 17 and nine per cent are indicated. Employment in credit agencies, however, will continue to grow at a faster rate than the anticipated 16 per cent Statewide overall employment gain in surveyed industries by the fall of 1966.

Automobile dealers and gasoline service stations, which were hard-hit by the 1961 recession when employment decreased by more than 800 persons from 1960 and showed only a meager three per cent gain to 1963, are expected to forge ahead by late 1966, with a pointed 21 per cent increase, which is in line with automobile manufacturers' apparent optimism.

Electrical repair shops are expected to utilize an additional 130 workers by 1966, which is a noticeable 42 per cent increase over 1963. Household appliance stores, which did not fully recover from 1961, and which showed a six per cent decrease in employment from 1960 to 1963, are expected to grow employment-wise by more than 12 per cent by the end of 1966.

Even though employment in security brokerage firms declined from 1962 to 1963, an increase of more than 20 per cent is expected by late 1966.

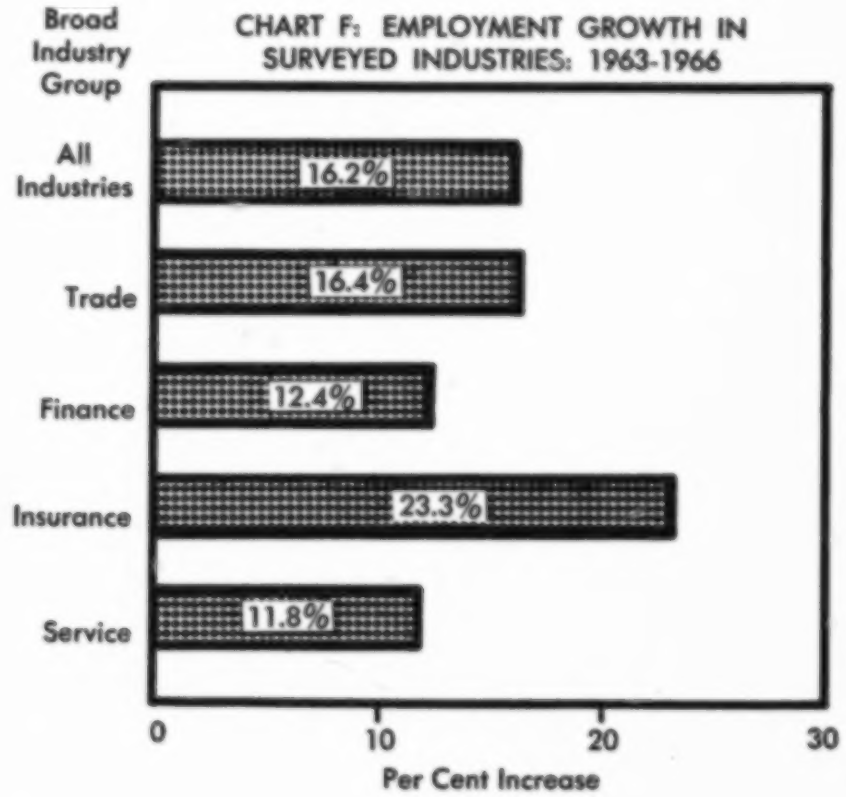


TABLE III: BROAD INDUSTRY EMPLOYMENT BY MAJOR OCCUPATIONAL GROUP, FALL 1963

Broad Industry Group	Total Employment	Employment In		Clerical Occupations	Sales Occupations	Service Occupations	Skilled Occupations	Semiskilled Occupations
		Nonsurveyed [1] Occupations	Surveyed Occupations					
All Industries Surveyed	132,191	35,269	96,922	27,230	31,382	21,515	12,449	4,346
Trade	84,412	19,119	65,293	9,352	24,883	16,429	10,474	4,155
Finance	20,105	8,206	11,899	10,449	374	1,076	0	0
Insurance	16,429	4,336	12,093	6,021	5,799	250	23	0
Service	11,245	3,608	7,637	1,408	326	3,760	1,952	191

EMPLOYMENT DISTRIBUTION

In September 1963, employment in surveyed industries totaled 132,191 workers. Surveyed occupations comprised 73 per cent of all employment in the industries studied, with occupational coverage ranging from a high of 77 per cent in the trade industries, to a low of 59 per cent in the finance category.

Table III shows the broad industry distribution at survey time of all surveyed employment, surveyed occupational employment by major occupational group, and nonsurveyed employment. The trade industries, comprising almost two-thirds of all surveyed employment, used workers in all occupational categories. Workers in sales and service occupations, however, predominated in this group. The trade industries also employed large numbers of clerical workers such as bookkeepers, cashiers, clerk-typists and stock clerks, along with many skilled workers in such varied occupations as automobile mechanics and seamstresses.

More than eight out of ten workers in finance businesses were engaged in clerical occupations. These jobs included bank tellers, bookkeeping machine operators, secretaries, cashiers, and clerk-typists. The only sales job represented in finance was that of securities salesman.

In the insurance industry, jobs were almost equally divided between clerical workers and insurance salesmen. More than half of the clerical workers were employed as secretary-stenographers and general clerk-typists.

Workers in the service category showed a wider variety of occupations than those in finance and insurance, with the heaviest proportions in service and skilled jobs.

[1] Professional and managerial occupations, and unskilled occupations were not surveyed.

TABLE IV: EMPLOYMENT BY BROAD INDUSTRY GROUP IN SURVEYED OCCUPATIONS IN FALL 1963, AND JOB OPPORTUNITIES BY 1966

Industry	Employment During Fall of 1963	Anticipated Employment By Fall of 1966		Worker Demand By Fall of 1966			Worker Supply By Fall of 1966	Net Additional Requirements By Fall of 1966
		Employment	Per Cent Increase	Expansion	Replacement	Total New Job Opportunities	From On-The-Job Training	
All Surveyed Industries	96,922	114,293	17.9	17,371	10,538	27,909	10,239	17,670
Trade	65,293	76,693	17.5	11,400	6,009	17,409	4,357	13,052
Finance	11,899	13,987	17.5	2,088	1,796	3,884	2,360	1,524
Insurance	12,093	14,978	23.9	2,885	1,635	4,520	2,990	1,530
Service	7,637	8,635	13.1	998	1,098	2,096	532	1,564

Almost 28,000 new workers will be required in all surveyed industries by late 1966. Approximately 38 per cent of the total will be needed for replacement, and about 37 per cent of all new workers will be trained by employers. This close parallel indicates that employer training will supply only replacement needs in most surveyed business categories.

A variation from this trend is seen in the insurance industry. In this category, replacement need is low—about 1,600 out of 4,500 new jobs—and company training is comparatively high. More than two-thirds of all new workers will receive on-the-job training. This high proportion is partially due to the fact that many employers in this business prefer to train employees according to individual company methods.

The greatest proportion of replacement, 52.4 per cent of all new jobs, will be required in the service industries. The trade industries will experience the lowest replacement rate over the three-year survey period and will provide on-the-job training for the smallest proportion of new workers. The large volume of more than 13,000 workers needed by 1966, over and above those who will receive company training, far outweighs worker requirements for all other surveyed business categories.

FIGURE 2: INDUSTRY EMPLOYMENT OF WOMEN

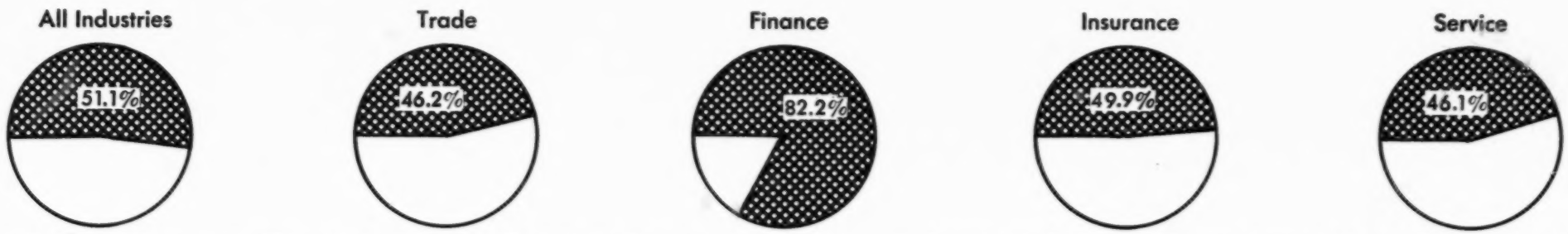


Figure 2 shows the proportion of women, in all surveyed occupations, employed in each industry category. The high proportion of female employment in the finance business raises the overall employment of women to more than half of all surveyed occupational employment. More than eight out of ten workers in this category, employing large numbers of clerical workers, are women. In each of the other groups, however, jobs are almost equally divided between men and women.

Part III

Employment Outlook, By Occupation

- Expansion in Studied Occupations .... up 17,400 by late 1966
- Growth in Major Groups ..... skilled jobs up 28 per cent
  ..... sales jobs up 18 per cent
- Net Additional Workers Needed ..... by 1966
  - — Sales 5,000
  - — Service 4,000
  - — Skilled 3,900
  - — Clerical 3,900
  - — Semiskilled 800
- Growth in Selected Occupations ..... by 1966
  Largest Numerical Increases Expected for:
  - — Automobile Mechanic
  - — Insurance Salesman
  - — Waitress
  - — General Salesman
  - — General Clerk-Typist
- Replacement Needs ..... 10,500 by 1966
- Women Workers ..... predominant in clerical and service occupations
- Institutional Training Needed? .... more than 63 per cent of employers say, "yes"

TABLE V: EMPLOYMENT IN 54 SELECTED OCCUPATIONS BY BROAD INDUSTRY GROUP

FALL OF 1963

Occupation	All Surveyed Industries	Industry Distribution							
		Trade		Finance		Insurance		Service	
		Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
ALL OCCUPATIONS	132,191	84,412	63.8	20,105	15.2	16,429	12.5	11,245	8.5
ALL OCCUPATIONS SURVEYED	96,922	65,293	67.4	11,899	12.3	12,093	12.5	7,637	7.8
CLERICAL—TOTAL	27,230	9,352	34.3	10,449	38.4	6,021	22.1	1,408	5.2
Accounting Clerk	1,524	573	37.6	637	41.8	264	17.3	50	3.3
Bank Teller	3,855	0	—	3,855	100.0	0	—	0	—
Bookkeeper	4,091	2,842	69.5	683	16.7	283	6.9	283	6.9
Bookkeeping Machine Operator	1,804	484	26.8	1,203	66.7	89	4.9	28	1.6
Calculating Machine Operator	133	20	15.0	35	26.3	78	58.7	0	—
Cashier	3,239	1,956	60.4	865	26.7	337	10.4	81	2.5
Desk-Room Clerk	788	0	—	0	—	0	—	788	100.0
Duplicating Machine Operator	100	0	—	36	36.0	64	64.0	0	—
General Clerk Typist	4,161	1,089	26.2	771	18.5	2,269	54.5	32	0.8
Key-Punch Operator	342	28	8.2	112	32.7	202	59.1	0	—
Policy Writer—Rater	918	0	—	0	—	918	100.0	0	—
Proof-Machine Operator	711	0	—	711	100.0	0	—	0	—
Secretary-Stenographer	3,607	844	23.4	1,446	40.1	1,194	33.1	123	3.4
Stock Clerk	1,521	1,498	98.5	0	—	0	—	23	1.5
Tabulating Machine Operator	183	13	7.1	63	34.4	107	58.5	0	—
Transcribing Machine Operator	253	5	2.0	32	12.6	216	85.4	0	—
SALES—TOTAL	31,382	24,883	79.3	374	1.2	5,799	18.5	326	1.0
Auto Parts Man	3,153	3,051	96.8	0	—	0	—	102	3.2
Salesman, General	6,476	6,252	96.5	0	—	0	—	224	3.5
Salesman, Insurance	5,799	0	—	0	—	5,799	100.0	0	—
Salesman, Motor Vehicles	1,082	1,082	100.0	0	—	0	—	0	—
Salesman, Securities	374	0	—	374	100.0	0	—	0	—
Salesperson and Sales Clerk	9,393	9,393	100.0	0	—	0	—	0	—
Salesperson, Clothing	5,105	5,105	100.0	0	—	0	—	0	—
SERVICE—TOTAL	21,515	16,429	76.4	1,076	5.0	250	1.2	3,760	17.4
Chambermaid	1,467	0	—	0	—	0	—	1,467	100.0
Chef	591	549	92.9	0	—	0	—	42	7.1
Cook	2,867	2,533	88.4	0	—	0	—	334	11.6

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA

SEE NEXT PAGE

TABLE V: EMPLOYMENT IN 54 SELECTED OCCUPATIONS BY BROAD INDUSTRY GROUP—Continued

FALL OF 1963

Occupation	All Surveyed Industries	Industry Distribution							
		Trade		Finance		Insurance		Service	
		Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
SERVICE—Continued									
Cook—Short Order	2,076	2,005	96.6	0	—	0	—	71	3.4
Hostess	327	260	79.5	0	—	0	—	67	20.5
Hotel Houseboy	274	0	—	0	—	0	—	274	100.0
Hotel Housekeeper	294	0	—	0	—	0	—	294	100.0
Janitor—Porter	2,838	1,478	52.1	873	30.8	192	6.8	295	3.3
Kitchen Steward	591	541	91.5	0	—	0	—	50	8.5
Maid	733	472	64.4	203	27.7	58	7.9	0	—
Waitress-Waiter	9,457	8,591	90.8	0	—	0	—	866	9.2
SKILLED—TOTAL	12,449	10,474	84.1	0	—	23	0.2	1,952	15.7
Appliance Service & Repairman	474	399	84.2	0	—	0	—	75	15.8
Auto Body Man	1,635	1,281	78.3	0	—	0	—	354	21.7
Auto Truck Mechanic	5,639	5,052	89.6	0	—	0	—	587	10.4
Baker	307	282	91.9	0	—	0	—	25	8.1
Brakeman	334	267	79.9	0	—	0	—	67	20.1
Diesel Mechanic	166	109	65.7	0	—	0	—	57	34.3
Front-End Man	850	614	72.2	0	—	0	—	236	27.8
Machinist, Automobile	426	395	92.7	0	—	0	—	31	7.3
Maintenance Man, Building	294	0	—	0	—	23	7.8	271	92.2
Painter, Auto-Truck	378	292	77.2	0	—	0	—	86	22.8
Piano Tuner	31	31	100.0	0	—	0	—	0	—
Radio Repairman	59	37	62.7	0	—	0	—	22	37.3
Radio/TV Service & Repairman	267	200	74.9	0	—	0	—	67	25.1
Seamstress	1,299	1,299	100.0	0	—	0	—	0	—
Sewing Machine Repairman	68	68	100.0	0	—	0	—	0	—
TV Service and Repairman	84	46	54.8	0	—	0	—	38	45.2
Upholsterer—Trimmer	138	102	73.9	0	—	0	—	36	26.1
SEMISKILLED—TOTAL	4,346	4,155	95.6	0	—	0	—	191	4.4
Auto-Truck Mechanic Helper	1,333	1,145	85.9	0	—	0	—	188	14.1
Diesel Mechanic Helper	15	12	80.0	0	—	0	—	3	20.0
Service Station Attendant	2,998	2,998	100.0	0	—	0	—	0	—

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA

DISTRIBUTION OF SURVEYED EMPLOYMENT

Table V on the two preceding pages indicates broad industry employment at survey time. At that time 67 per cent of employment in all surveyed occupations was found in the trade group, compared to 7.8 per cent in service.

Clerical jobs were most prevalent in the finance business, but large numbers of clerical workers were also employed in the insurance and trade categories.

More than 4,100 general clerk-typists were employed in establishments in the survey scope during late 1963. Insurance companies employed 54 per cent of these.

Employment in the sales occupations studied was centered in trade and insurance. These two groups combined, employed 97 per cent of the surveyed sales employment in late 1963.

More than 14,000 salespersons and sales clerks, all in the trade industry, were included in the survey.

More than three-fourths of all service workers were employed in the trade category while about 17 per cent were working in jobs in the service industries. Janitor-porter and maid were the only service occupations in the finance and insurance businesses. More than 9,450 waitresses and waiters were included in the scope of the Study. Ninety per cent of these were found in trade. Eighty-four per cent of the skilled workers surveyed were employed in the trade industries, while 15.7 per cent were in service industry jobs.

Of the 5,600 automobile mechanics surveyed, nearly 90 per cent were employed in trade.

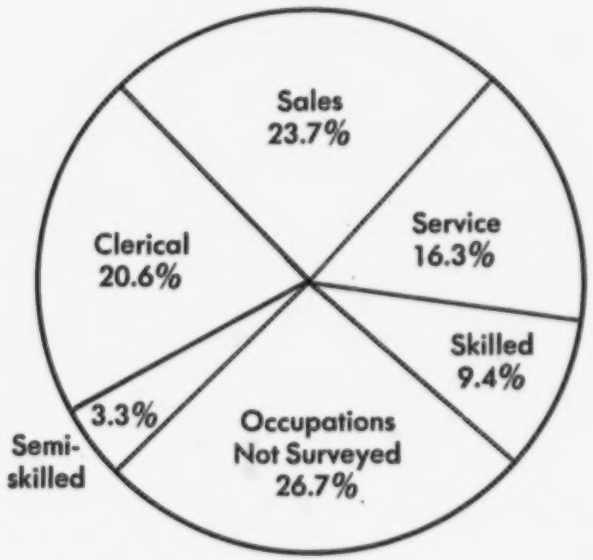
Surveyed semiskilled workers again were found predominantly in the trade industries which employed 95 per cent of all semiskilled workers.

The nearly 3,000 automobile service station attendants in surveyed establishments were employed in trade.

The accompanying chart shows the employment distribution in all surveyed establishments by major occupational group.

Clerical and sales workers made up more than 44 per cent of the employment in all industries surveyed in late 1963, while semiskilled workers comprised slightly more than three per cent of the workers within the scope of the study.

CHART G: DISTRIBUTION OF SURVEYED EMPLOYMENT
FALL 1963[1]



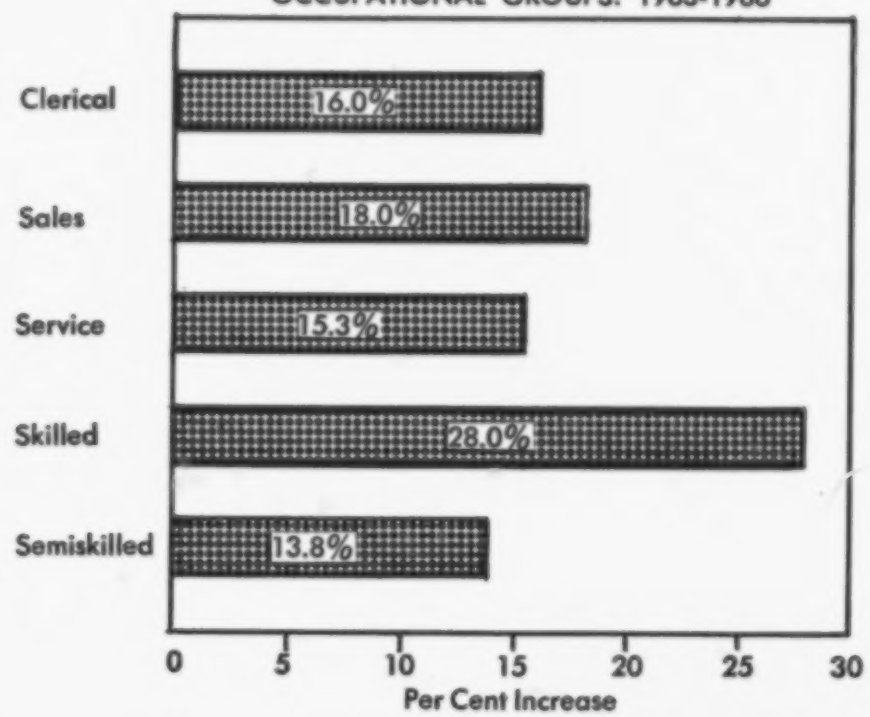
[1] Definitions of Occupational Groups are found in Appendix A.

EMPLOYMENT GROWTH

The accompanying charts H and I show anticipated employment growth for major occupational groups and selected occupations during the 1963-1966 period. Growth rates for all occupations are shown in Table VI.

Employment in all occupations will increase a substantial 18 per cent over the next three years. Skilled occupations, as shown in Chart H, have the fastest anticipated growth rate and will offer nearly 3,500 new jobs because of expansion by the fall of 1966. More than half of these new jobs will be for automobile-truck mechanics, as employers anticipate a strong demand for this type of worker, due to business expansion. Although sales jobs will not increase as rapidly, percentage-wise, the largest numerical increase by the fall of 1966 occurs in this occupational category. The bulk of the 5,600 new jobs for expansion in this group will be for insurance and general salesmen, along with sales clerks and sales persons. Semiskilled jobs are expected to increase more slowly than all others although a definite trend is difficult to establish, since only three occupations were studied in this category.

CHART H: EMPLOYMENT GROWTH IN MAJOR OCCUPATIONAL GROUPS: 1963-1966



Also, the growth rate in one semiskilled job is atypical: e.g., the number of workers employed as diesel mechanic helpers is expected to be more than four times greater in 1966 than in 1963, but total volume is expected to increase by only 54 workers.

Service occupations will grow at a rate of more than 15 per cent during the three-year period and will require almost 3,300 workers for expansion. More than half of these workers, 1,676, will be employed as waitresses and waiters. By late 1966, employment of short order cooks is expected to be one-fourth greater than during the fall of 1963.

A total of more than 4,300 additional workers will be required for expansion in the clerical occupations by late 1966, a growth rate of 16 per cent. Key-punch operators are expected to have the greatest rate of gain in employment, increasing by nearly 50 per cent over 1963, but the largest numerical increase is anticipated for general clerk-typists, with a demand for 882 workers by the fall of 1966.

CHART I: EMPLOYMENT GROWTH IN SELECTED OCCUPATIONS: 1963-1966

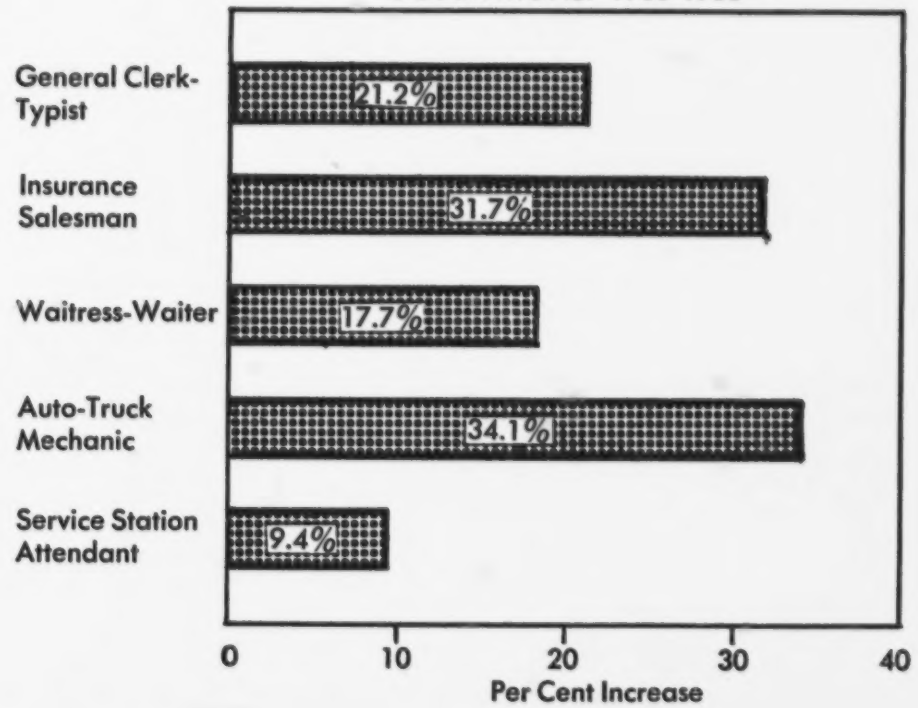


TABLE VI: JOB OPPORTUNITIES ANTICIPATED BY THE FALL OF 1966

Occupational Title	Employment During Fall of 1963	Anticipated By Fall of 1966		Worker Demand By Fall of 1966			Worker Supply By Fall, 1966 From On-The-Job Training	Net Additional Requirements By Fall of 1966
		Employment	Per Cent Increase	Expansion	Replacement	Total New Job Opportunities		
ALL OCCUPATIONS	96,922	114,293	17.9	17,371	10,538	27,909	10,239	17,670
CLERICAL—TOTAL	27,230	31,583	16.0	4,353	3,270	7,623	3,691	3,932
Accounting Clerk	1,524	1,877	23.2	353	182	535	240	295
Bank Teller	3,855	4,561	18.3	706	805	1,511	901	610
Bookkeeper	4,091	4,450	8.8	359	342	701	182	519
Bookkeeping Machine Operator	1,804	1,876	4.0	72	198	270	338	—68
Calculating Machine Operator	133	157	18.0	24	30	54	37	17
Cashier	3,239	3,748	15.7	509	262	771	225	546
Desk-Room Clerk	788	828	5.1	40	118	158	64	94
Duplicating Machine Operator	100	120	20.0	20	12	32	22	10
General Clerk-Typist	4,161	5,043	21.2	882	475	1,357	708	649
Key-Punch Operator	342	512	49.7	170	62	232	116	116
Policy Writer—Rater	918	1,103	20.2	185	80	265	152	113
Proof-Machine Operator	711	807	13.5	96	90	186	165	21
Secretary—Stenographer	3,607	4,231	17.3	624	338	962	363	599
Stock Clerk	1,521	1,725	13.4	204	170	374	76	298
Tabulating Machine Operator	183	224	22.4	41	48	89	40	49
Transcribing Machine Operator	253	321	26.9	68	58	126	62	64
SALES—TOTAL	31,382	37,017	18.0	5,635	2,744	8,379	3,367	5,012
Auto Parts Man	3,153	3,779	19.9	626	230	856	160	696
Salesman, General	6,476	8,046	24.2	1,570	518	2,088	396	1.692
Salesman, Insurance	5,799	7,638	31.7	1,839	898	2,737	1,988	749
Salesman, Motor Vehicles	1,082	1,344	24.2	262	88	350	30	320
Salesman, Securities	374	461	23.3	87	50	137	51	86
Salesperson and Sales Clerk	9,393	10,055	7.0	662	580	1,242	484	758
Salesperson, Clothing	5,105	5,694	11.5	589	380	969	258	711
SERVICE—TOTAL	21,515	24,812	15.3	3,297	2,677	5,974	1,926	4,048
Chambermaid	1,467	1,599	9.0	132	200	332	97	235
Chef	591	647	9.5	56	65	121	33	88
Cook	2,867	3,315	15.6	448	302	750	130	620

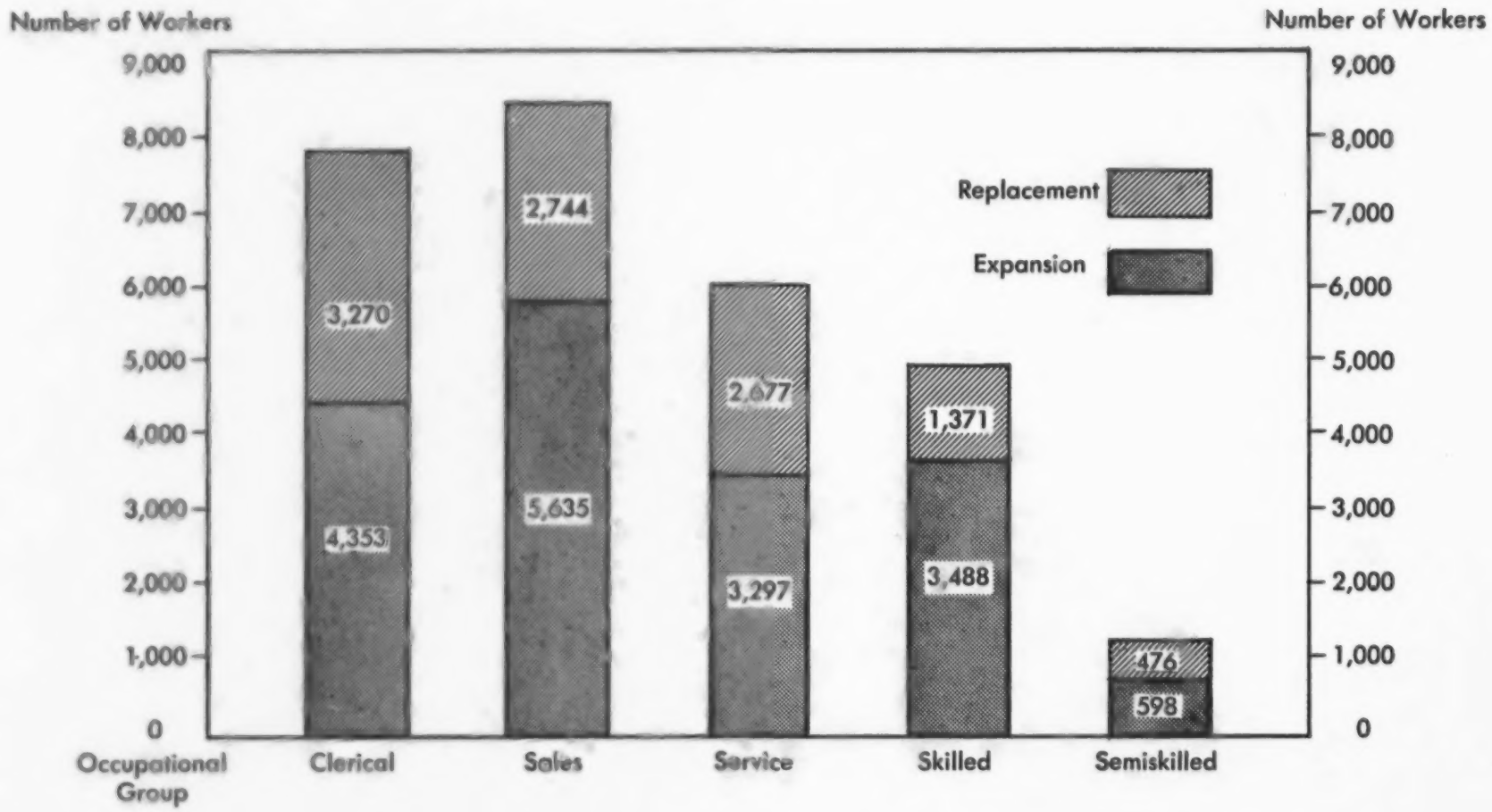
SEE NEXT PAGE

TABLE VI: JOB OPPORTUNITIES ANTICIPATED BY THE FALL OF 1966—Continued

Occupational Title	Employment During Fall of 1962	Anticipated By Fall of 1966		Worker Demand By Fall of 1966			Worker Supply By Fall, 1966	Net Additional Requirements
		Employment	Per Cent Increase	Expansion	Replacement	Total New Job Opportunities	From On-The-Job Training	By Fall of 1966
SERVICE—Continued								
Cook—Short Order	2,076	2,584	24.5	508	260	768	291	477
Hostess	327	393	20.2	66	70	136	27	109
Hotel Houseboy	274	289	5.5	15	62	77	0	77
Hotel Housekeeper	294	328	11.6	34	8	42	25	17
Janitor-Porter	2,838	3,054	7.6	216	392	608	171	437
Kitchen Steward	591	671	13.5	80	58	138	22	116
Maid	733	799	9.0	66	30	96	14	82
Waitress-Waiter	9,457	11,133	17.7	1,676	1,230	2,906	1,116	1,790
SKILLED—TOTAL	12,449	15,937	28.0	3,488	1,371	4,859	959	3,900
Appliance Service & Repairman	474	548	15.6	74	48	122	61	61
Auto Body Man	1,635	2,112	29.2	477	130	607	145	462
Auto-Truck Mechanic	5,639	7,561	34.1	1,922	728	2,650	457	2.193
Baker	307	345	12.4	38	42	80	40	40
Brakeman	334	428	28.1	94	3	97	32	65
Diesel Mechanic	166	276	66.3	110	15	125	15	110
Front-End Man	850	1,038	22.1	188	58	246	23	223
Machinist, Automobile	426	545	27.9	119	30	149	48	101
Maintenance Man, Building	294	316	7.5	22	70	92	4	88
Painter, Automobile	378	485	28.3	107	18	125	28	97
Piano Tuner	31	44	41.9	13	5	18	0	18
Radio Repairman	59	86	45.8	27	15	42	10	32
Radio/TV Service & Repairman	267	344	28.8	77	18	95	36	59
Seamstress, Alteration Woman	1,299	1,451	11.7	152	188	340	44	296
Sewing Machine Repairman	68	82	20.6	14	0	14	0	14
TV Service and Repairman	84	126	50.0	42	0	42	12	30
Upholsterer—Trimmer	138	150	8.7	12	3	15	4	11
SEMISKILLED—TOTAL	4,346	4,944	13.8	598	476	1,074	296	778
Auto-Truck Mechanic Helper	1,333	1,596	19.7	263	143	406	118	288
Diesel Mechanic Helper	15	69	360.0	54	0	54	0	54
Service Station Attendant	2,998	3,279	9.4	281	333	614	178	436

CHART J: THREE-YEAR EXPANSION AND REPLACEMENT NEEDS, BY MAJOR OCCUPATIONAL GROUP

1963 TO 1966



The major source of job openings in surveyed occupations by the fall of 1966 will result from growth in expanding industries. The other source of job openings, often overlooked, but fully as important, will result from deaths, retirements, or other withdrawals from the labor force, excluding job shifting. Chart J compares projected expansion and replacement needs in major occupational groups by 1966.

Job opportunities resulting from expansion are expected to make up about 62 per cent of all additional workers who will be needed by 1966, in surveyed occupations.

Replacement needs for the clerical and service occupational groups, which are 75 per cent female, are expected to make up an impressive 43 per cent of the total job opportunities forecast for these two groups by 1966. By contrast, replacement needs for the skilled and sales occupational groups, which are 70 per cent male workers, will make up only 31 per cent of the total job openings in these groups by the 1966 forecast date.

EMPLOYMENT NEEDS IN SURVEYED OCCUPATIONS

By the fall of 1966, almost 28,000 new job opportunities will be available in the selected occupations. Expansion will account for 17,370 new jobs, resulting in an 18 per cent increase in employment over the fall of 1963. Replacement needs will compromise about 38 per cent of worker demand during the next three-year period, with high attrition rates in service and clerical jobs. These two occupational categories have the highest proportion of female workers. Although employers expect to train more than 10,000 workers by 1966, this training will fulfill replacement needs, for the most part. More than 63 per cent of surveyed employers think institutional training would be helpful to them in meeting employment needs.[1]

Table VI shows anticipated job opportunities and net worker requirements by the fall of 1966. The charts to the right show employment distribution of women workers in surveyed occupational groups. Charts K and L compare one-year and three-year net additional worker needs for major occupational groups, and for five selected occupations.

Clerical Occupations

Employment in the 16 selected clerical occupations totaled 27,230 workers, comprising about 28 per cent of all surveyed occupational employment in the fall of 1963. Business expansion is expected to add 4,350 workers in clerical jobs by late 1966, and an additional 3,270 workers will be needed for replacement.

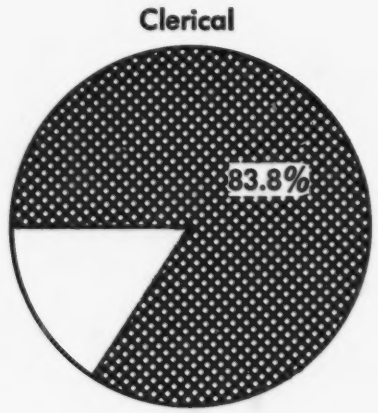
Worker demands for clerk-typist, cashier, secretary-stenographer, bank teller, and bookkeeper are expected to comprise three-fourths of all clerical net additional needs, by late 1966. The need for 649 trained clerks and typists represents the heaviest future demand, since few businesses today can operate without the services of these basic clerical workers. Ninety-seven out of one hundred workers in this type of job are women, while about 84 per cent of all clerical workers studied are female. Bookkeeping machine operator is the only clerical occupation in which the supply of workers is expected to exceed the demand by the end of the three-year period. Technological development resulting in increased use of computer equipment is continually reducing the need for workers in this occupation.

Sales Occupations

The need for salesmen will out-strip all other occupational shortages by the fall of 1966. The largest number of new job opportunities in this category will stem from the insurance industry as more than 2,700 openings are expected for salesmen over the next three years. At survey time employers

[1] Employers' reaction to the need for institutional training for specific occupations is shown in Appendix B.
[2] The proportion of women in each surveyed occupation is found in Appendix B.

FIGURE 3: PROPORTION OF WOMEN IN MAJOR OCCUPATIONAL GROUPS[2] FALL, 1963

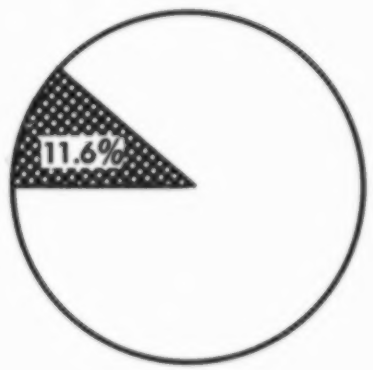


Continued

listed 417 current vacancies for this job. Although employers expect to train almost three-fourths of the new workers required during the next three years, a net requirement for 749 workers is anticipated by the fall of 1966. A low proportion of on-the-job training is expected for other sales jobs. Less than one-fifth of the 2,000 general salesmen needed by late 1966 will receive job training by employers, leaving a significant need for almost 1,700 workers.

In the sales group as a whole, which comprised one-third of all employment in surveyed occupations, almost two out of three workers were men. Nevertheless, in the salesperson and sales clerk category, three-fourths of the workers were women. About 60 per cent of the contacted employers favored institutional sales training.

FIGURE 3: PROPORTION OF WOMEN IN MAJOR OCCUPATIONAL GROUPS FALL, 1963



Service Occupations

Additional needs in service jobs run second only to those for sales occupations. The replacement rate, however, is much higher in service work. About 45 out of every 100 new service job opportunities will be for replacement purposes by the end of the three-year period.

More than six out of every ten workers in service jobs are women. In the waitress-waiter category eight out of ten employees are female, and this group of workers registered the greatest net additional needs in service work, with an occupational shortage of almost 1,800 workers by the fall of 1966. Replacement needs will account for about four out of every ten new job openings in this occupation and in some service occupations, replacement needs outweigh expansion needs. Employers listed vacancies for 343 waitress-waiter jobs at survey time, accounting for more than one-half of the 631 vacancies listed in service occupations. In late 1963, chefs, cooks and short-order cooks comprised more than one-fourth of surveyed occupational employment in service jobs. They will comprise almost 30 per cent of the net additional workers needed for all service occupations, by 1966. Fifty-one per cent of employers recommended training through Industrial Education Centers for service occupations. More than 60 per cent thought IEC training for cooks, hostesses, kitchen stewards and waitresses would be helpful.

Skilled Occupations

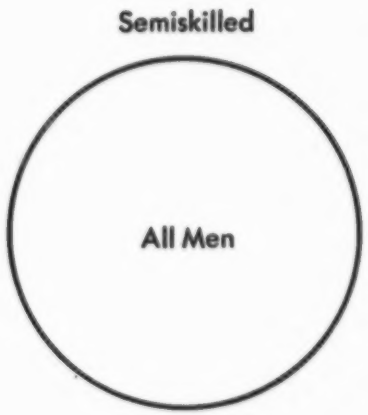
Employment in skilled jobs made up only 13 per cent of all occupational employment but is expected to experience the fastest growth rate, 28 per cent, over the three-year period.

Except for seamstresses and bakers, jobs in the surveyed skilled occupations were filled exclusively by men. The replacement need in the skilled category is the lowest of all occupational groups. Employers expect to train less than one-fifth of the workers needed to fill about 5,000 new jobs by 1966.

Continued

At survey time, employers listed 505 vacancies for automobile-truck mechanics and it is anticipated that workers in this occupation will continue to be in short supply, increasing to a net need for almost 2,200 workers by the fall of 1966. Only a small proportion of mechanics are expected to receive on-the-job training since many small businesses cannot afford the time and personnel necessary for formal job training programs. More than four out of five employers recommended vocational training for skilled occupations.

FIGURE 3: PROPORTION OF WOMEN IN MAJOR OCCUPATIONAL GROUPS FALL, 1963



Semiskilled Occupations

In semiskilled occupations studied, with 100 per cent male employment, a need for almost 800 trained workers is anticipated by 1966.

The demand for service station attendants will outweigh the available supply of trained workers, partially due to lack of advancement opportunities and long hours of work. Seventy-three per cent of the contacted employers expressed interest in institutional training for semiskilled jobs.

CHART K: NET WORKER REQUIREMENTS: 1964[1] AND 1966
COMPARISON OF MAJOR OCCUPATIONAL GROUPS

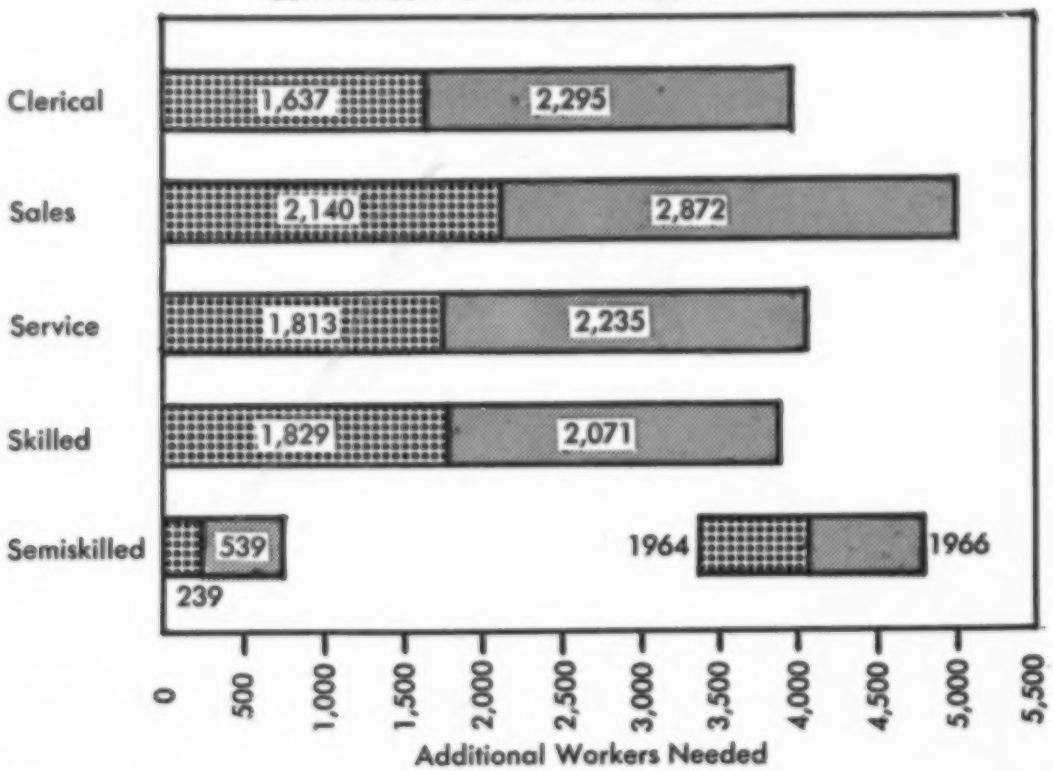
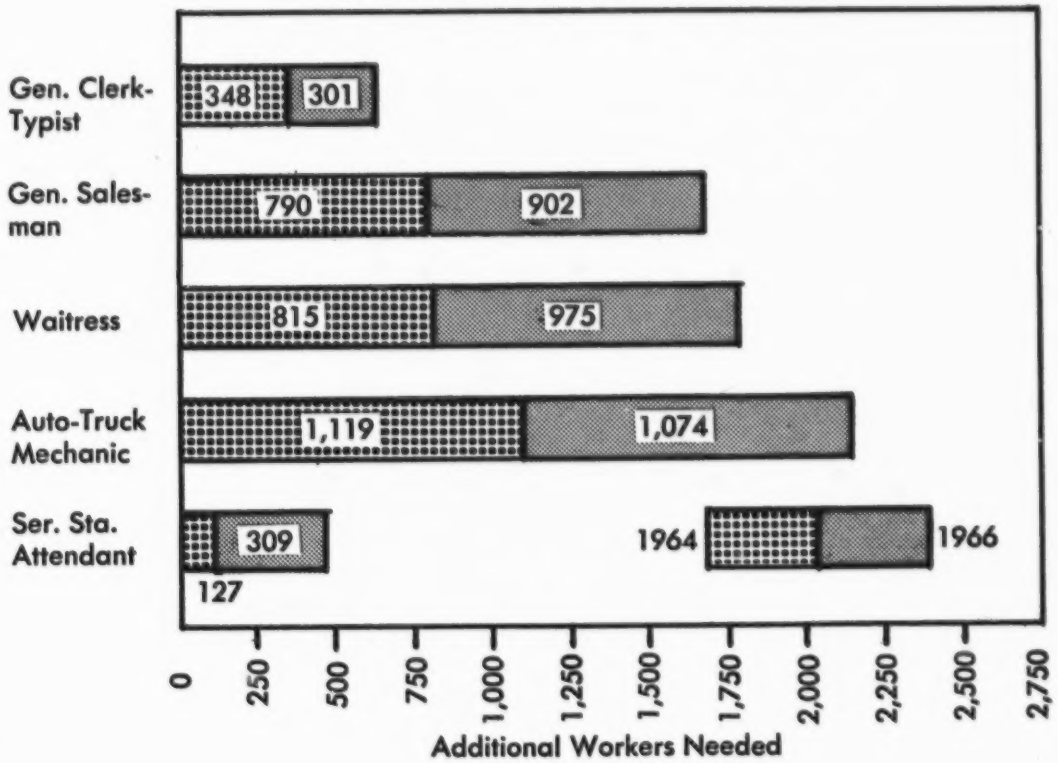


CHART L: NET WORKER REQUIREMENTS: 1964[1] AND 1966
COMPARISON OF SELECTED OCCUPATIONS



[1] Net worker needs, by occupation, by the fall of 1964 are found in Appendix B.

PART IV

Area Survey Findings

AREA 1
Manufacturing Employment Ranks High
- Ranks Third in Unemployment Rate
Leads all Areas in Need for Automobile Mechanics by 1966

AREA 2
Most Thickly Populated Area
- Highest Weekly Wage
Strong Demand for Sales Workers

AREA 3
Lowest Unemployment Rate
- Ranks Second in Average Weekly Wages
Tops all Areas in Net Additional Needs by 1966

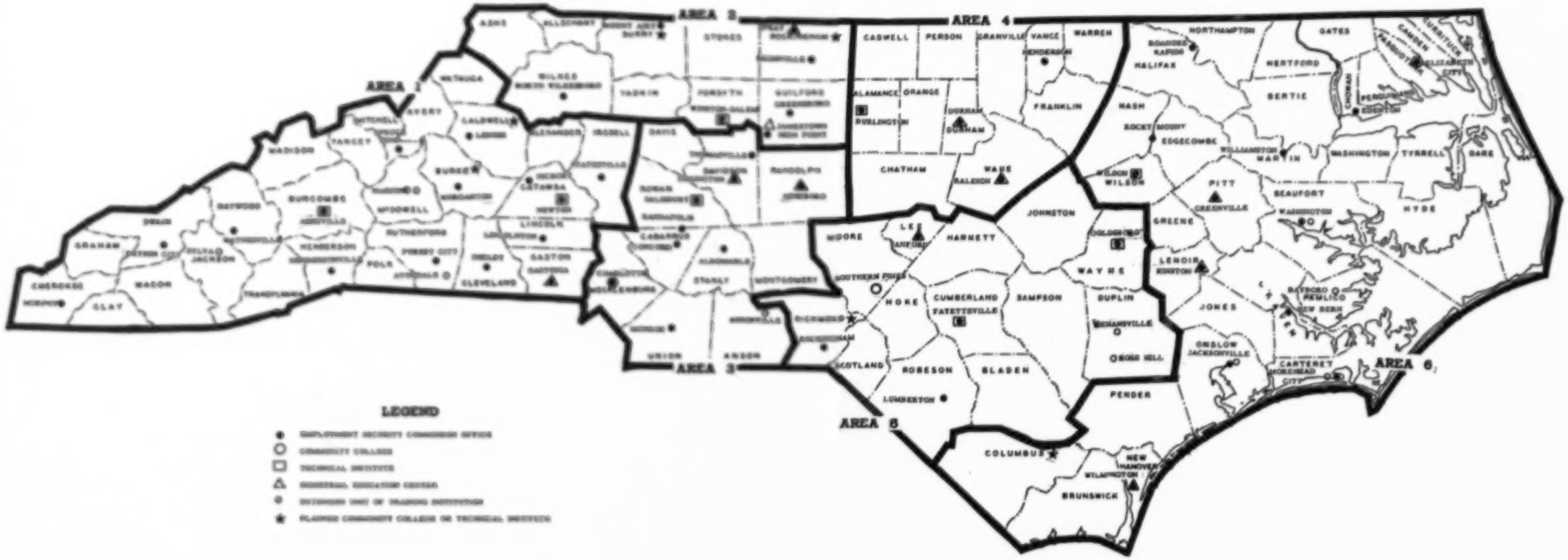
AREA 4
Least Population
- Ranks Second in Net Worker Requirements
Clerical Worker Need Great

AREA 5
Fewest Covered Workers
- Lowest Weekly Wage
General Salesmen and Automobile Mechanics Needed

AREA 6
Largest Population and Land Area
- Highest Unemployment Rate
Salesmen Needed

AREAS DESIGNATED FOR DISTRIBUTION OF STATEWIDE SURVEY FINDINGS

LOCATIONS OF TRAINING INSTITUTIONS AND NORTH CAROLINA EMPLOYMENT SECURITY COMMISSION OFFICES



INTRODUCTION

Survey results were compiled for six designated areas of the State as shown on the above map. Area results were developed to identify the distribution of employment within specific regions of the State and to point-up local occupational needs.

Table VII on the following page, shows area distribution of employment by industry during the fall of 1963. The industrialized central areas of the State comprise the heaviest proportion of surveyed nonmanufacturing employment, especially in the retail trade, insurance and finance industries. The number of workers in the hotel, motel and tourist court business is slightly higher in the western part of the State than in other areas, largely because of the heavy volume of tourist and travel trade in that region.

Table VIII shows the anticipated growth rate in each selected industry by the end of 1966, along with the expected increase by area. Over the three-year period, all employment is expected to increase 16 per cent with significantly faster growth rates in the insurance, credit agency, automobile dealer and gasoline service station businesses.

A more detailed analysis of each area's industrial composition, labor force and occupational needs is presented in the succeeding section.

TABLE VII: AREA DISTRIBUTION OF EMPLOYMENT BY INDUSTRY—FALL, 1963

Numerical Distribution—Fall, 1963								Per Cent Distribution—Fall, 1963					
State Total	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Surveyed Industries	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6
132,191	20,549	26,395	28,974	22,524	13,554	20,195	All Industry Divisions Surveyed	15.5	20.2	21.9	17.0	10.2	15.2
6,761	770	941	2,942	838	464	806	Motor Vehicles and Auto Equipment	11.4	13.9	43.5	12.4	6.9	11.9
16,763	2,932	3,257	3,810	2,581	1,685	2,498	Department Stores	17.5	19.4	22.7	15.4	10.1	14.9
26,748	5,082	4,577	4,769	3,849	3,563	4,908	Auto Dealers and Gas Service Stations	19.0	17.1	17.8	14.4	13.3	18.4
1,601	168	432	214	384	155	248	Men's and Boys' Clothing & Furnishings	10.5	27.0	13.3	24.0	9.7	15.5
5,054	865	1,387	842	772	341	847	Women's Ready To Wear Stores	17.1	27.4	16.7	15.3	6.7	16.8
2,220	435	266	440	110	391	578	Family Clothing Stores	19.6	12.0	19.8	5.0	17.6	26.0
1,392	232	237	240	242	217	224	Household Appliance Stores	16.7	17.0	17.2	17.4	15.6	16.1
650	102	102	170	105	97	74	Radio, T.V., Music Stores	15.7	15.7	26.2	16.1	14.9	11.4
23,223	3,841	4,473	4,596	3,816	2,600	3,897	Eating and Drinking Places	16.5	19.3	19.8	16.4	11.2	16.8
12,612	1,825	2,398	3,010	1,886	1,377	2,116	Banking	14.5	19.0	23.8	15.0	10.9	16.8
6,734	1,091	1,337	1,771	994	633	908	Credit Agencies Other Than Banking	16.2	19.9	26.3	14.7	9.4	13.5
759	56	179	233	162	106	23	Security Brokers and Dealers, etc.	7.4	23.6	30.7	21.3	14.0	3.0
13,510	651	4,229	3,022	4,035	570	1,003	Insurance Carriers	4.8	31.3	22.4	29.9	4.2	7.4
2,919	361	545	569	920	212	312	Insurance Agents	12.4	18.7	19.5	31.5	7.2	10.7
7,958	1,556	1,495	1,421	1,405	842	1,239	Hotels, Motels, Tourist Courts	19.6	18.8	17.9	17.7	10.5	15.5
2,982	533	502	808	386	288	465	Auto Repair Shops	17.9	16.8	27.1	12.9	9.7	15.6
305	49	38	117	39	13	49	Electrical Repair Shops	16.1	12.5	38.3	12.8	4.2	16.1

TABLE VIII: AREA DISTRIBUTION OF EMPLOYMENT ANTICIPATED FOR FALL, 1966, BY INDUSTRY, WITH PER CENT CHANGES FROM FALL, 1963

Anticipated Employment—Fall, 1966								Per Cent Change Anticipated in Employment From Fall, 1963 to Fall, 1966						
State Total	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Surveyed Industries	For State	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6
153,657	23,348	31,696	34,972	25,949	14,957	22,735	All Industry Divisions Surveyed	16.2	13.6	20.1	20.7	15.2	10.4	12.6
7,725	864	1,178	3,248	957	563	915	Motor Vehicles & Auto Equipment	14.3	12.2	25.2	10.4	14.2	21.3	13.5
18,615	3,403	3,493	4,868	2,588	1,685	2,578	Department Stores	11.0	16.1	7.2	27.8	0.3	0	3.2
32,452	6,134	5,561	5,834	4,740	4,315	5,868	Auto Dealers and Gas Service Stations	21.3	20.7	21.5	22.3	23.1	21.1	19.6
1,783	195	470	230	457	164	267	Men's and Boys' Clothing & Furnishings	11.4	16.1	8.8	7.5	19.0	5.8	7.7
5,924	896	1,860	876	1,048	341	903	Women's Ready To Wear Stores	17.2	3.6	34.1	4.0	35.8	0	6.6
2,414	456	316	502	130	376	634	Family Clothing Stores	8.7	4.8	18.8	14.1	18.2	—3.8	9.7
1,565	286	263	250	252	259	255	Household Appliance Stores	12.4	23.3	11.0	4.2	4.1	19.4	13.8
739	119	121	191	128	106	74	Radio, T.V., Music Stores	13.7	16.7	18.6	12.5	21.9	9.3	0
27,034	4,120	5,442	6,283	4,262	2,813	4,114	Eating and Drinking Places	16.4	7.3	21.7	36.7	11.7	8.2	5.6
13,765	2,125	2,635	3,289	1,957	1,433	2,326	Banking	9.1	16.4	9.9	9.3	3.8	4.1	9.9
7,909	1,163	1,653	2,284	1,070	755	984	Credit Agencies Other Than Banking	17.4	6.6	23.6	29.0	7.6	19.3	8.4
915	79	240	290	177	106	23	Security Brokers and Dealers, etc.	20.6	41.1	34.1	24.5	9.3	0	0
16,800	709	5,534	3,413	5,142	590	1,412	Insurance Carriers	24.4	8.9	30.9	12.9	27.4	3.5	40.8
3,449	405	648	718	1,051	258	369	Insurance Agents	18.2	12.2	18.9	26.2	14.2	21.7	18.3
8,612	1,765	1,620	1,551	1,493	842	1,341	Hotels, Motels, Tourist Courts	8.2	13.4	8.4	9.1	6.3	0	8.2
3,523	575	580	988	446	331	603	Auto Repair Shops	18.1	7.9	15.5	22.3	15.5	14.9	29.7
433	54	82	157	51	20	69	Electrical Repair Shops	42.0	10.2	115.8	34.2	30.8	53.8	40.8

AREA 1

TABLE IX: JOB OPPORTUNITIES ANTICIPATED BY THE FALL OF 1966[1]

Occupational Title	Employment Fall, 1963	New Jobs By Fall 1966		Net Needs By Fall 1966 [3]
		Growth	Total [2]	
ALL OCCUPATIONS	14,776	2,503	4,023	2,754
CLERICAL—TOTAL	3,574	610	1,066	459
Accounting Clerk	180	50	70	26
Bank Teller	637	168	286	104
Bookkeeper	687	62	122	97
Bookkeeping Machine Operator	379	56	111	−42
Calculating Machine Operator	8	0	0	0
Cashier	463	29	69	39
Desk—Room Clerk	162	21	31	15
Duplicating Machine Operator	1	1	1	1
General Clerk-Typist	326	81	139	67
Key-Punch Operator	11	9	9	−2
Policy Writer—Rater	79	11	11	9
Proof-Machine Operator	69	26	48	23
Secretary—Stenographer	332	64	109	80
Stock Clerk	228	31	51	34
Tabulating Machine Operator	7	0	8	7
Transcribing Machine Operator	5	1	1	1
SALES—TOTAL	4,596	784	1,133	803
Auto Parts Man	572	120	130	86
Salesman, General	953	256	351	300
Salesman, Insurance	147	49	69	40
Salesman, Motor Vehicles	128	41	47	43
Salesman, Securities	59	6	11	6
Salesperson and Sales Clerk	1,865	258	375	212
Salesperson, Clothing	872	54	150	116
SERVICE—TOTAL	3,702	367	854	682
Chambermaid	225	37	62	39
Chef	80	8	18	18
Cook	660	54	134	116
SERVICE—Continued				
Cook—Short Order	365	46	94	71
Hostess	43	3	10	8
Hotel Houseboy	43	1	11	11
Hotel Housekeeper	62	6	6	6
Janitor—Porter	410	31	86	57
Kitchen Steward	87	10	22	22
Maid	61	20	20	17
Waitress—Waiter	1,666	151	391	317
SKILLED—TOTAL	2,164	633	839	718
Appliance Service & Repairman	84	3	10	0
Auto Body Man	354	90	120	93
Auto-Truck Mechanic	925	361	471	423
Baker	62	3	13	13
Brakeman	43	12	12	7
Diesel Mechanic	16	14	14	10
Front End Man	127	36	44	39
Machinist, Automobile	91	33	40	32
Maintenance Man, Building	78	6	24	24
Painter, Automobile	68	15	15	15
Piano Tuner	6	3	3	3
Radio Repairman	14	6	6	6
Radio/TV Service & Repairman	55	19	24	24
Seamstress, Alteration Woman	208	23	34	20
Sewing Machine Repairman	0	0	0	0
TV Service and Repairman	22	9	9	9
Upholsterer—Trimmer	11	0	0	0
SEMISKILLED—TOTAL	740	109	131	92
Auto-Truck Mechanic Helper	181	44	44	29
Diesel Mechanic Helper	0	4	4	4
Service Station Attendant	559	61	83	59

[1] Area net additional needs for fall, 1964 are found in Appendix B.
[2] Growth plus replacement needs.
[3] Growth plus replacement needs minus anticipated on-the-job training.

AREA 1

ECONOMIC AND GEOGRAPHIC PROFILE

		Area Rank
Land Area	10,609 Square Miles	2
1960 Population	925,143	2
Population per Square Mile	87	4
	MARCH, 1963	
Civilian Labor Force	361,440	1
Civilian Employment	338,390	1
Rate of Unemployment	6.4 Per Cent	3
Average Weekly Wage[1]—1962	$70.75	4

Area 1 extends over 26 counties and comprises about one-fifth of North Carolina's land area and population.

In March, 1963, the unemployment rate of 6.4 per cent for *Area 1* was substantially above the ratio of 5.8 per cent for all areas. Seasonal influences on the tourist business and declines in agricultural employment contribute to the comparatively high rate of unemployment, and are partially responsible for the existence of pockets of substantial and persistent unemployment in *Area 1*. Eleven counties were classified as "labor surplus" by the United States Department of Labor in January, 1964. Twenty-one counties in this area are located in the Nation's Appalachia Poverty Belt, for which a long range economic development program is currently being considered by Congress.

In *Area 1*, during the second quarter of 1963, more than two-thirds of the 225,000 workers covered by the North Carolina Employment Security Law were employed in manufacturing jobs, compared with 55 per cent of all covered workers throughout the State. This high proportion of manufacturing jobs in *Area 1* partially results from the large volume of insured employment in the textile and furniture industries concentrated in the eastern part of the area.

[1] Wages paid in jobs covered by the North Carolina Employment Security Law.

Area Findings

Less than one-sixth of the State's employment which was surveyed was found in *Area 1*. The State's heaviest concentration of employment in hotels, motels, and tourist courts, and auto dealers and service stations, was found in this area. A heavy volume of tourist business largely accounts for the high rate of employment in these industry groups in *Area 1*.

Employment in all surveyed establishments in *Area 1*, is expected to increase from 20,500 at survey time to 23,350 by the latter part of 1966, an increase of about 14 per cent. By the end of the three-year period, employment in the occupations studied is expected to increase 17 per cent, which will closely parallel the estimated 18 per cent rise for North Carolina. This anticipated expansion plus expected replacement needs results in net additional needs for about 2,750 workers by late 1966, in the occupations studied.

Skilled occupations show the greatest proportion of employment increase, 29 per cent, over the three-year forecast period. Expanding demands for automobile mechanics in *Area 1* account for much of this rise, which follows the expected over-all employment uptrend in the automobile dealer and service station industries.

AREA 2

TABLE X: JOB OPPORTUNITIES ANTICIPATED BY THE FALL OF 1966[1]

Occupational Title	Employment Fall, 1963	New Jobs By Fall 1966 Growth	New Jobs By Fall 1966 Total[2]	Net Needs By Fall 1966[3]
ALL OCCUPATIONS	21,148	4,170	6,396	3,325
CLERICAL—TOTAL	5,903	1,078	1,765	615
Accounting Clerk	234	45	60	28
Bank Teller	676	134	289	141
Bookkeeper	788	115	162	111
Bookkeeping Machine Operator	280	−17	−11	−26
Calculating Machine Operator	65	9	24	4
Cashier	658	108	163	98
Desk—Room Clerk	138	5	6	6
Duplicating Machine Operator	38	12	20	9
General Clerk-Typist	1,278	275	472	63
Key-Punch Operator	98	55	80	22
Policy Writer—Rater	222	71	88	−17
Proof-Machine Operator	96	20	20	7
Secretary—Stenographer	887	154	232	90
Stock Clerk	292	37	67	55
Tabulating Machine Operator	61	25	40	14
Transcribing Machine Operator	92	30	53	10
SALES—TOTAL	7,459	1,529	2,177	916
Auto Parts Man	508	97	132	112
Salesman, General	1,594	327	408	301
Salesman, Insurance	1,381	710	1,023	−19
Salesman, Motor Vehicles	252	60	85	85
Salesman, Securities	130	39	51	32
Salesperson and Sales Clerk	1,938	86	173	151
Salesperson, Clothing	1,656	210	305	254
SERVICE—TOTAL	4,419	761	1,347	856
Chambermaid	300	38	63	44
Chef	158	11	11	−7
Cook	579	163	250	184
SERVICE—CONTINUED				
Cook—Short Order	312	106	153	104
Hostess	82	7	17	4
Hotel Houseboy	53	3	13	13
Hotel Housekeeper	51	10	10	10
Janitor—Porter	642	32	159	113
Kitchen Steward	186	31	61	58
Maid	245	9	24	22
Waitress—Waiter	1,811	351	586	311
SKILLED—TOTAL	2,507	667	905	792
Appliance Service & Repairman	103	20	32	15
Auto Body Man	258	80	90	83
Auto-Truck Mechanic	1,064	353	469	418
Baker	83	12	24	6
Brakeman	87	17	17	17
Diesel Mechanic	45	23	23	23
Front End Man	127	33	41	39
Machinist, Automobile	55	14	14	11
Maintenance Man, Building	56	2	20	20
Painter, Automobile	84	28	28	25
Piano Tuner	6	2	2	2
Radio Repairman	9	5	5	5
Radio/TV Service & Repairman	50	16	16	13
Seamstress, Alteration Woman	415	45	107	98
Sewing Machine Repairman	11	1	1	1
TV Service and Repairman	16	15	15	15
Upholsterer—Trimmer	38	1	1	1
SEMISKILLED—TOTAL	860	135	202	146
Auto-Truck Mechanic Helper	198	59	59	56
Diesel Mechanic Helper	5	21	21	21
Service Station Attendant	657	55	122	69

[1] Area net additional needs for fall, 1964 are found in Appendix B.
[2] Growth plus replacement needs.
[3] Growth plus replacement needs minus anticipated on-the-job training.

AREA 2

ECONOMIC AND GEOGRAPHIC PROFILE

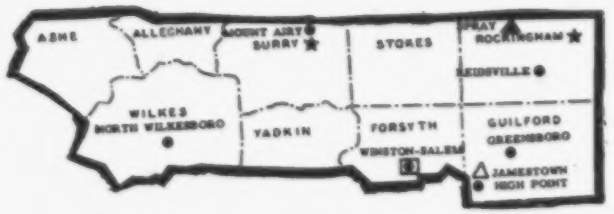
		Area Rank
Land Area	4,400 Square Miles	6
1960 Population	671,671	5
Population per Square Mile	153	1
	MARCH, 1963	
Civilian Labor Force	297,440	4
Civilian Employment	283,150	3
Rate of Unemployment	4.8	5
Average Weekly Wage—1962[1]	$79.96	1

Area 2, which is composed of only nine counties, is the most densely populated section of North Carolina. The population is heavily concentrated in the Greensboro-High Point-Winston-Salem "industrial triangle," located in the southeastern section of the area.

During March of 1963, the unemployment rate in *Area 2* was 4.8 per cent of the labor force, lower than four other areas in the State. Within the area, however, the proportion of unemployment showed wide variations. Seven counties in *Area 2* are included in the country's Appalachia Poverty Belt, recently recognized by Congress as having the most serious unemployment problem in the Nation.

During the second quarter of 1963, an average of almost 198,000 workers in this area were employed in jobs covered by the North Carolina Employment Security Law. More than 41 per cent of employment was in nonmanufacturing businesses, with employment in trade predominating. About 115,800 workers were employed in manufacturing industries, with a heavy concentration of almost 85,000 workers in Forsyth and Guilford counties.

[1] Wages paid in jobs covered by the North Carolina Employment Security Law.



LEGEND

- ● EMPLOYMENT SECURITY COMMISSION OFFICE
- ○ COMMUNITY COLLEGE
- □ TECHNICAL INSTITUTE
- △ INDUSTRIAL EDUCATION CENTER
- ○ EXTENSION UNIT OF TRAINING INSTITUTION
- ★ PLANNED COMMUNITY COLLEGE OR TECHNICAL INSTITUTE

Area Findings

Approximately one-fifth of the State's surveyed employment was in *Area 2.* More than 30 per cent of surveyed employment in insurance firms was in this section of the State. This large proportion is accounted for by the location in this area of the home offices of the largest insurance companies in North Carolina. In *Area 2,* employment in clothing stores was greater than it was in any one of the other defined areas of the State. Three major cities located in this section contributed to the large volume of employment in retail clothing stores.

By the fall of 1966, employment in all surveyed establishments in *Area 2* is expected to increase from about 26,400 to almost 31,700 workers. These additional workers would represent a 20 per cent gain above employment which existed during the fall of 1963, and would result in a substantially faster growth rate than the 16.2 per cent gain anticipated for the State as a whole.

Employment growth in the studied occupations will also rise about one-fifth during the three-year period. Although skilled occupations are expected to show the fastest growth rate—26.6 per cent—over the three-year yeriod, the greatest net number of workers will be required for sales occupations.

AREA 3

TABLE XI: JOB OPPORTUNITIES ANTICIPATED BY THE FALL OF 1966[1]

Occupational Title	Employment Fall, 1963	New Jobs By Fall 1966		Net Needs By Fall 1966 [3]
		Growth	Total [2]	
ALL OCCUPATIONS	22,389	4,233	6,844	4,180
CLERICAL—TOTAL	6,663	1,100	2,150	1,275
Accounting Clerk	462	93	200	126
Bank Teller	692	124	424	91
Bookkeeper	763	74	134	99
Bookkeeping Machine Operator	317	14	46	22
Calculating Machine Operator	22	10	25	15
Cashier	974	186	241	223
Desk—Room Clerk	134	10	52	28
Duplicating Machine Operator	13	1	1	−2
General Clerk-Typist	940	205	317	215
Key-Punch Operator	86	18	35	14
Policy Writer-Rater	257	45	92	71
Proof-Machine Operator	306	45	103	−9
Secretary—Stenographer	975	207	335	271
Stock Clerk	580	59	89	66
Tabulating Machine Operator	51	0	15	14
Transcribing Machine Operator	91	9	41	31
SALES—TOTAL	8,295	1,038	1,678	1,031
Auto Parts Man	645	95	145	125
Salesman, General	1,304	295	360	286
Salesman, Insurance	825	224	366	110
Salesman, Motor Vehicles	431	70	115	102
Salesman, Securities	103	34	67	48
Salesperson and Sales Clerk	4,206	247	502	311
Salesperson, Clothing	781	73	123	49
SERVICE—TOTAL	4,150	1,239	1,835	993
Chambermaid	341	31	86	50
Chef	92	32	67	58
Cook	319	65	102	89
SERVICE—CONTINUED				
Cook—Short Order	555	273	348	167
Hostess	61	42	60	53
Hotel Houseboy	63	7	13	13
Hotel Housekeeper	59	6	11	−2
Janitor—Porter	582	70	160	122
Kitchen Steward	95	15	28	21
Maid	185	7	17	14
Waitress—Waiter	1,798	691	943	408
SKILLED—TOTAL	2,695	801	1,073	817
Appliance Service & Repairman	63	19	24	15
Auto Body Man	361	131	146	96
Auto-Truck Mechanic	1,188	402	533	420
Baker	42	7	7	−3
Brakeman	87	35	35	22
Diesel Mechanic	51	28	33	24
Front End Man	178	16	33	26
Machinist, Automobile	110	31	38	28
Maintenance Man, Building	59	5	22	20
Painter, Automobile	72	25	28	20
Piano Tuner	4	6	6	6
Radio Repairman	9	0	5	5
Radio/TV Service & Repairman	76	24	29	17
Seamstress, Alteration Woman	287	45	107	101
Sewing Machine Repairman	30	13	13	13
TV Service and Repairman	20	7	7	1
Upholsterer—Trimmer	58	7	7	6
SEMISKILLED—TOTAL	586	55	108	64
Auto-Truck Mechanic Helper	255	43	73	29
Diesel Mechanic Helper	2	5	5	5
Service Station Attendant	329	7	30	30

[1] Area net additional needs for fall, 1964 are found in Appendix B.
[2] Growth plus replacement needs.
[3] Growth plus replacement needs minus anticipated on-the-job training.

AREA 3

ECONOMIC AND GEOGRAPHIC PROFILE

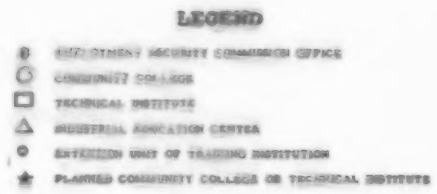
		Area Rank
Land Area	5,093 Square Miles	5
1960 Population	709,696	3
Population per Square Mile	139	2
	MARCH, 1963	
Civilian Labor Force	305,570	2
Civilian Employment	293,270	2
Rate of Unemployment	4.0 Per Cent	6
Average Weekly Wage[1]—1962	$77.81	2

Ten counties are included in *Area 3*, and although it is relatively small in land area, it includes heavily populated Mecklenburg County. The metropolitan city of Charlotte, the largest in North Carolina, is located in this county. This partially accounts for the density of population per square mile in *Area 3*.

In March of 1963, *Area 3* registered the lowest unemployment rate in North Carolina. The area, as a whole, is highly urbanized, so that business activities are relatively independent of seasonal influences. Unemployment rates for the various counties in this area were lower, for the most part, than the rate of unemployment for all areas in the State.

In *Area 3* during the second quarter of 1963, more than 211,000 workers were employed in jobs covered by the North Carolina Employment Security Law. Although the majority were working in manufacturing jobs, almost 48 per cent of the insured workers were engaged in nonmanufacturing activities. Approximately 45,000 workers were employed in the wholesale and retail trade industries, of whom 31,340 were in Mecklenburg County. Large numbers of workers were also employed in the finance, insurance and real estate businesses.

[1] Wages paid in jobs covered by the North Carolina Employment Security Law.



Area Findings

Area 3 had almost 22 per cent of surveyed employment, the largest proportion in the State. Workers in this section outnumbered those in other areas of North Carolina in ten out of 17 industries included in the study.

By the fall of 1966, it is anticipated that surveyed employment in *Area 3* will increase from almost 29,000 to about 35,000 workers. Eating and drinking places will experience the most rapid growth rate, with an expected employment rise of 37 per cent over the three-year forecast period.

Employment in the studied occupations is expected to increase at a slightly slower pace than all surveyed employment in *Area 3*, registering a gain of 19 per cent by late 1966. Of the 4,200 workers needed for business expansion over the next three years, the greatest number will be required in the service occupations studied. By the fall of 1966, it is estimated that an additional 700 waitresses and waiters will be needed for business expansion, showing a growth rate that parallels the expected over-all employment gain in eating and drinking places in this area.

The greatest expansion and replacement needs in this area will be for workers in clerical occupations. By the fall of 1966, an additional 200 workers each will be required as secretaries, cashiers, and general clerk typists.

AREA 4

TABLE XII: JOB OPPORTUNITIES ANTICIPATED BY THE FALL OF 1966[1]

Occupational Title	Employment Fall, 1963	New Jobs By Fall 1966		Net Needs By Fall 1966 [3]
		Growth	Total [2]	
ALL OCCUPATIONS	16,106	2,927	4,585	3,355
CLERICAL—TOTAL	5,356	787	1,275	930
Accounting Clerk	370	83	103	74
Bank Teller	560	89	126	60
Bookkeeper	651	39	69	51
Bookkeeping Machine Operator	208	−5	38	29
Calculating Machine Operator	28	3	3	0
Cashier	510	86	136	101
Desk—Room Clerk	104	2	34	34
Duplicating Machine Operator	42	4	8	1
General Clerk-Typist	1,221	221	314	250
Key-Punch Operator	124	65	80	69
Policy Writer—Rater	307	34	50	36
Proof-Machine Operator	110	0	10	7
Secretary-Stenographer	794	97	154	92
Stock Clerk	214	40	110	98
Tabulating Machine Operator	59	9	17	8
Transcribing Machine Operator	54	20	23	20
SALES—TOTAL	4,816	1,029	1,388	884
Auto Parts Man	507	113	158	141
Salesman, General	1,107	266	356	309
Salesman, Insurance	1,757	405	497	156
Salesman, Motor Vehicles	64	20	25	21
Salesman, Securities	71	8	8	0
Salesperson and Sales Clerk	553	24	64	17
Salesperson, Clothing	757	193	280	240
SERVICE—TOTAL	3,206	483	953	782
Chambermaid	180	14	72	53
Chef	95	4	14	11
Cook	345	73	96	94
SERVICE—CONTINUED				
Cook—Short Order	361	33	75	45
Hostess	52	5	12	9
Hotel Houseboy	26	0	20	20
Hotel Housekeeper	29	3	3	3
Janitor—Porter	552	48	108	73
Kitchen Steward	71	9	12	12
Maid	98	21	26	21
Waitress—Waiter	1,397	273	515	441
SKILLED—TOTAL	1,852	509	751	628
Appliance Service & Repairman	82	5	11	6
Auto Body Man	227	62	87	70
Auto-Truck Mechanic	908	309	436	364
Baker	79	8	28	20
Brakeman	31	6	6	6
Diesel Mechanic	42	37	47	47
Front End Man	127	27	27	25
Machinist, Automobile	17	3	9	6
Maintenance Man, Building	31	1	11	10
Painter, Automobile	80	15	23	17
Piano Tuner	8	2	4	4
Radio Repairman	5	1	1	1
Radio/TV Service & Repairman	28	4	4	1
Seamstress, Alteration Woman	176	26	54	48
Sewing Machine Repairman	4	−4	−4	−4
TV Service and Repairman	4	5	5	5
Upholsterer—Trimmer	3	2	2	2
SEMISKILLED—TOTAL	876	119	218	131
Auto-Truck Mechanic Helper	261	52	82	60
Diesel Mechanic Helper	4	18	18	18
Service Station Attendant	611	49	118	53

[1] Area net additional needs for fall, 1964 are found in Appendix B.
[2] Growth plus replacement needs.
[3] Growth plus replacement needs minus anticipated on-the-job training.

AREA 4

ECONOMIC AND GEOGRAPHIC PROFILE

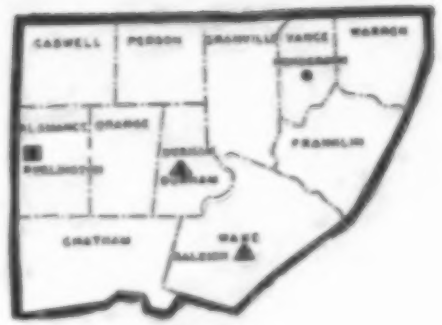
		Area Rank
Land Area	5,265 Square Miles	4
1960 Population	596,331	6
Population per Square Mile	113	3
	MARCH, 1963	
Civilian Labor Force	242,470	5
Civilian Employment	229,745	5
Rate of Unemployment	5.2 Per Cent	4
Average Weekly Wage[1]—1962	$74.60	3

Area 4, although small in land area, ranks third in density of population. The two counties of Durham and Wake, in which the large city of Durham and the State Capital at Raleigh are located, include almost half of the population in this 11-county area.

In March of 1963, unemployment in *Area 4* comprised 5.2 per cent of the civilian labor force. This proportion was lower than the rate in three other areas in the State. Nevertheless, in January, 1964, two counties in *Area 4* were classified by the United States Department of Labor as areas of "substantial and persistent unemployment," and designated as "redevelopment areas" under the Area Redevelopment Act.

During the second quarter of 1963, approximately 118,300 workers were employed in jobs covered by the North Carolina Employment Security Law. More than half of these workers were engaged in nonmanufacturing jobs. In Wake County more than three-fourths of all insured workers were employed in nonmanufacturing businesses. The greatest numbers of workers in manufacturing jobs were employed in Alamance and Durham counties.

[1] Wages paid in jobs covered by the North Carolina Employment Security Law.



LEGEND

- EMPLOYMENT SECURITY COMMISSION OFFICE
- COMMUNITY COLLEGE
- TECHNICAL INSTITUTE
- INDUSTRIAL EDUCATION CENTER
- EXTENSION UNIT OF TRAINING INSTITUTION
- PLANNED COMMUNITY COLLEGE OR TECHNICAL INSTITUTE

Area Findings

Seventeen per cent of surveyed employment occurred in *Area 4*, but a considerably larger proportion of the Statewide employment included in this study was found in men's and boys' clothing stores, security brokers, and insurance carriers and agencies. More than 31 per cent of all insurance agents in the State were employed in *Area 4*.

By the fall of 1966, surveyed employment in *Area 4* is expected to increase 15 per cent, from 22,500 to 25,900 workers. Women's ready-to-wear shops will experience the fastest growth rate, and it is anticipated that surveyed employment in this business will increase one-third over the three-year period, from 772 workers in the fall of 1963, to more than 1,000 workers by late 1966.

Employment in the 54 surveyed occupations is expected to rise 18 per cent by late 1966, increasing from about 16,000 to 19,000 workers. In addition to this anticipated expansion, a need for more than 1,600 workers for replacement will offer further job opportunities to individuals seeking work.

Sales occupations will require the greatest number of workers because of expansion in business by 1966, but the greatest net need for additional workers will be in clerical occupations.

AREA 5

TABLE XIII: JOB OPPORTUNITIES ANTICIPATED BY THE FALL OF 1966[1]

Occupational Title	Employment Fall, 1963	New Jobs By Fall 1966		Net Needs By Fall 1966 [3]
		Growth	Total [2]	
ALL OCCUPATIONS	8,401	1,212	1,951	1,418
CLERICAL—TOTAL	2,119	333	508	331
Accounting Clerk	115	50	60	33
Bank Teller	450	84	174	128
Bookkeeper	425	23	46	36
Bookkeeping Machine Operator	203	−14	3	−9
Calculating Machine Operator	5	0	0	−2
Cashier	222	38	38	29
Desk—Room Clerk	118	0	23	23
Duplicating Machine Operator	0	2	2	1
General Clerk-Typist	158	50	50	26
Key-Punch Operator	5	4	4	0
Policy Writer—Rater	31	14	14	9
Proof-Machine Operator	55	3	3	−2
Secretary—Stenographer	249	62	72	48
Stock Clerk	77	14	14	6
Tabulating Machine Operator	3	3	5	5
Transcribing Machine Operator	3	0	0	0
SALES—TOTAL	1,741	314	450	334
Auto Parts Man	333	66	93	78
Salesman, General	556	163	233	200
Salesman, Insurance	334	42	48	−3
Salesman, Motor Vehicles	92	32	39	30
Salesman, Securities	11	0	0	0
Salesperson and Sales Clerk	169	7	18	18
Salesperson, Clothing	246	4	19	11
SERVICE—TOTAL	2,852	149	393	315
Chambermaid	233	0	25	25
Chef	76	1	11	8
Cook	397	52	67	53
SERVICE—CONTINUED				
Cook—Short Order	244	14	32	30
Hostess	48	1	19	17
Hotel Houseboy	53	0	6	6
Hotel Housekeeper	51	0	3	3
Janitor—Porter	270	6	29	23
Kitchen Steward	66	6	6	−1
Maid	29	1	1	1
Waitress—Waiter	1,385	68	194	150
SKILLED—TOTAL	1,238	336	488	354
Appliance Service & Repairman	54	18	23	12
Auto Body Man	150	45	75	58
Auto-Truck Mechanic	631	163	260	200
Baker	20	6	6	4
Brakeman	31	12	12	7
Diesel Mechanic	8	7	7	5
Front End Man	120	43	51	46
Machinist, Automobile	38	19	19	3
Maintenance Man, Building	50	2	9	9
Painter, Automobile	25	7	7	1
Piano Tuner	4	0	0	0
Radio Repairman	0	0	0	0
Radio/TV Service & Repairman	38	9	14	4
Seamstress, Alteration Woman	54	1	1	1
Sewing Machine Repairman	4	2	2	2
TV Service and Repairman	0	2	2	2
Upholsterer—Trimmer	11	0	0	0
SEMISKILLED—TOTAL	451	80	112	84
Auto-Truck Mechanic Helper	151	30	40	18
Diesel Mechanic Helper	2	4	4	4
Service Station Attendant	298	46	68	62

[1] Area net additional needs for fall, 1964 are found in Appendix B.
[2] Growth plus replacement needs.
[3] Growth plus replacement needs minus anticipated on-the-job training.

AREA 5

ECONOMIC AND GEOGRAPHIC PROFILE

		Area Rank
Land Area	8,360 Square Miles	3
1960 Population	691,950	4
Population per Square Mile	83	5
	MARCH, 1963	
Civilian Labor Force	218,240	6
Civilian Employment	203,860	6
Rate of Unemployment	6.6 Per Cent	2
Average Weekly Wage[1]—1962	$62.21	6

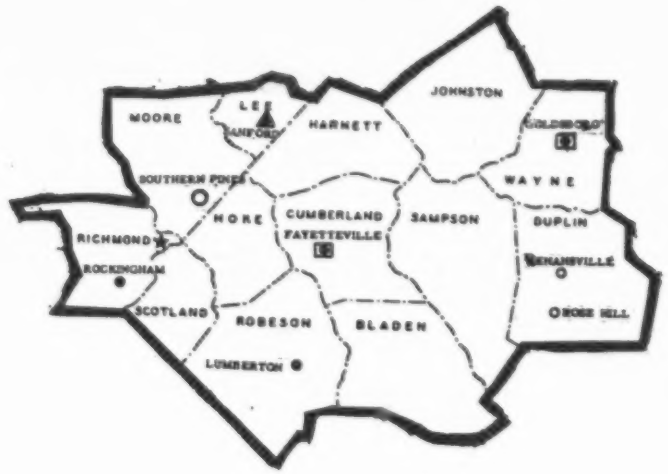
Most of the 13 counties in *Area 5* are sparsely populated. Although there are no metropolitan cities located here, two large military installations provide a more urbanized population in two counties. One of these counties, Cumberland, has almost 148,500 residents, or about one-fifth of the area's entire population.

In *Area 5* during 1962, lower average weekly wages were paid to workers covered by the North Carolina Employment Security Law than were paid in any other area of the State. Industrial development in this southeastern section has not been as rapid as in the central areas of North Carolina.

During March of 1963, unemployment of 6.6 per cent of the labor force was the second highest of the State's six areas. Seasonal factors in this primarily rural region contributed to the comparatively high rate of joblessness.

Workers in jobs covered by the North Carolina Employment Security Law totaled about 85,900 individuals during the second quarter of 1963, the smallest number of insured workers in the six areas of the State. About half of these individuals were employed in nonmanufacturing jobs, with approximately 34,000 workers engaged in such activities as trade, service, finance, insurance, and real estate. In Cumberland County alone, almost 11,000 individuals were employed in these activities. The distribution of manufacturing employment was relatively even in the thirteen counties, with the greatest proportion in Lee County.

[1] Wages paid in jobs covered by the North Carolina Employment Security Law.



LEGEND

- ● EMPLOYMENT SECURITY COMMISSION OFFICE
- ○ COMMUNITY COLLEGE
- □ TECHNICAL INSTITUTE
- △ INDUSTRIAL EDUCATION CENTER
- ○ EXTENSION UNIT OF TRAINING INSTITUTION
- ★ PLANNED COMMUNITY COLLEGE OR TECHNICAL INSTITUTE

Area Findings

Area 5 had ten per cent of all surveyed employment. The largest numbers of workers were employed by automobile dealers and in service stations, eating and drinking places, department stores, and banks.

By the fall of 1966, surveyed employment in *Area 5* is expected to increase from 13,550 to approximately 15,000 workers, an increase of about ten per cent. This is the slowest growth rate anticipated for any area in the State. Nevertheless, employment in seven of the 17 industries included in this study will increase at a substantially faster pace than the over-all employment rise in this area.

In this area, it is anticipated that employment in surveyed occupations will increase by about 14 per cent over the three-year forecast period. Business expansion will account for more than 300 new jobs in each of such categories as clerical, sales and skilled occupations. The greatest net expansion and replacement needs will be for sales and skilled workers, with requirements for 200 general salesmen and 200 automobile-truck mechanics by the fall of 1966.

AREA 6

TABLE XIV: JOB OPPORTUNITIES ANTICIPATED BY THE FALL OF 1966[1]

Occupational Title	Employment Fall, 1963	New Jobs By Fall 1966		Net Needs By Fall 1966 [3]
		Growth	Total [2]	
ALL OCCUPATIONS	14,102	2,326	4,110	2,638
CLERICAL—TOTAL	3,615	445	859	322
Accounting Clerk	163	32	42	8
Bank Teller	840	107	212	86
Bookkeeper	777	46	168	125
Bookkeeping Machine Operator	417	38	83	−42
Calculating Machine Operator	5	2	2	0
Cashier	412	62	124	56
Desk—Room Clerk	132	2	12	−12
Duplicating Machine Operator	6	0	0	0
General Clerk-Typist	238	50	65	28
Key-Punch Operator	18	19	24	13
Policy Writer—Rater	22	10	10	5
Proof-Machine Operator	75	2	2	−5
Secretary—Stenographer	370	40	60	18
Stock Clerk	130	23	43	39
Tabulating Machine Operator	2	4	4	1
Transcribing Machine Operator	8	8	8	2
SALES—TOTAL	4,475	941	1,553	1,044
Auto Parts Man	588	135	198	154
Salesman, General	962	263	380	296
Salesman, Insurance	1,355	409	734	465
Salesman, Motor Vehcles	115	39	39	39
Salesman, Securities	0	0	0	0
Salesperson and Sales Clerk	662	40	110	49
Salesperson, Clothing	793	55	92	41
SERVICE—TOTAL	3,186	298	592	420
Chambermaid	188	12	24	24
Chef	90	0	0	0
Cook	567	41	101	84
SERVICE—Continued				
Cook—Short Order	239	36	66	60
Hostess	41	8	18	18
Hotel Houseboy	36	4	14	14
Hotel Housekeeper	42	9	9	−3
Janitor—Porter	382	29	66	49
Kitchen Steward	86	9	9	4
Maid	115	8	8	7
Waitress—Waiter	1,400	142	277	163
SKILLED—TOTAL	1,993	542	803	591
Appliance Service & Repairman	88	9	22	13
Auto Body Man	285	69	89	62
Auto-Truck Mechanic	923	334	481	368
Baker	21	2	2	0
Brakeman	55	12	15	6
Diesel Mechanic	4	1	1	1
Front End Man	171	33	50	48
Machinist, Automobile	115	19	29	21
Maintenance Man, Building	20	6	6	5
Painter, Automobile	49	17	24	19
Piano Tuner	3	0	3	3
Radio Repairman	22	15	25	15
Radio/TV Service & Repairman	20	5	8	0
Seamstress, Alteration Woman	159	12	37	28
Sewing Machine Repairman	19	2	2	2
TV Service and Repairman	22	4	4	−2
Upholsterer—Trimmer	17	2	5	2
SEMISKILLED—TOTAL	833	100	303	261
Auto-Truck Mechanic Helper	287	35	108	96
Diesel Mechanic Helper	2	2	2	2
Service Station Attendant	544	63	193	163

[1] Area net additional needs for fall, 1964 are found in Appendix B.
[2] Growth plus replacement needs.
[3] Growth plus replacement needs minus anticipated on-the-job training.

AREA 6

ECONOMIC AND GEOGRAPHIC PROFILE

		Area Rank
Land Area	15,340 Square Miles	1
1960 Population	961,364	1
Population Per Square Mile	63	6
	MARCH, 1963	
Civilian Labor Force	304,690	3
Civilian Employment	281,380	4
Rate of Unemployment	7.7 Per Cent	1
Average Weekly Wage[1]—1962	$65.65	5

Area 6 is primarily a rural, agricultural sector and covers the easternmost part of North Carolina. As defined for this Study, it is the biggest geographical area in the State; it comprises 31 counties; and it has a greater portion of the State's population than any other area. The number of people per square mile, however, is the fewest of all areas.

During March of 1963, unemployment of 7.7 per cent of the labor force in *Area 6* was the highest among the defined areas of the State. This high rate results primarily from the seasonal nature of agriculture, fishing activities along the coastal areas, and tourist businesses during the summer months—all of which employ great numbers of workers.

During the second quarter of 1963, about 114,400 people in *Area 6* were working in jobs covered by the North Carolina Employment Security Law. Almost 55 per cent were employed in nonmanufacturing activities, and more than 33,500 individuals were working in wholesale and retail trade jobs. Manufacturing employment was spread throughout the area with the greatest concentration of about 6,500 workers in New Hanover County, wherein the port city of Wilmington is located.

[1] Wages paid in jobs covered by the North Carolina Employment Security Law.

Area Findings

About 15 per cent of the State's employment surveyed in this Study was in *Area 6*. By the fall of 1966, employment in the studied industries is expected to increase from 20,195 to 22,735 workers, a gain of 12.6 per cent. The most significant growth rate is expected in insurance firms, where forecasts indicate that employment may increase by nearly 41 per cent over the three-year survey period.

Employment in the occupations studied is expected to increase more than 16 per cent in *Area 6* by the fall of 1966, which would be a more substantial growth rate than that anticipated for total employment.

Sales occupations will require the greatest number of additional workers by the end of the forecast period. Job opportunities will be more numerous for trained automobile and truck mechanics by the fall of 1966, than for any of the 17 skilled occupations which were surveyed.

APPENDIX A

Definitions

INDUSTRY GROUPS[1]

Shown below is a brief description of each of the 17 surveyed nonmanufacturing industries, and industry segments.

Motor Vehicles and Automobile Equipment
Wholesale establishments primarily engaged in the distribution of new and used automobiles, automotive parts and accessories, service station and garage equipment, and tires and tubes for motor vehicles.

Department Stores
Retail stores carrying a general line of apparel, home furnishings, and housewares, normally arranged in separate sections. Establishments included in this industry generally employ 25 or more persons.

Automobile Dealers and Gasoline Service Stations
This major group includes retail dealers selling new and used automobiles and trucks, and new parts and accessories. Includes gasoline service stations.

Men's and Boys' Clothing and Furnishings
Establishments primarily engaged in the retail sales of men's and boys' suits, shirts, and other furnishings.

Women's Ready-to-Wear Stores
Establishments primarily engaged in the retail sale of women's coats, suits, and dresses.

Family Clothing Stores
Establishments primarily engaged in the retail sale of clothing, furnishings, and accessories for men, women, and children, without specializing in any one line.

Household Appliance Stores
Establishments primarily engaged in the retail sale of electric and gas refrigerators, stoves, and other household appliances. May sell radio and TV sets.

Radio, Television, and Music Stores
Establishments primarily engaged in the retail sale of radios, television sets, and record players. May sell household appliances and musical instruments.

[1] Based on "Standard Industrial Classification Manual." Broad Industry groupings are shown on page 12.

Eating and Drinking Places
Retail establishments selling prepared food and drinks; lunch counters, and refreshment stands. Subordinate food service facilities leased by outside operators are also included.

Banking
Institutions which are engaged in deposit banking or closely related functions, including fiduciary activities.

Credit Agencies Other Than Banks
Establishments engaged in extending credit in the form of loans, but not engaged in deposit banking. Includes savings and loan associations.

Security Brokers, Dealers and Exchanges
Establishments engaged in the underwriting, purchase, sale, or brokerage of securities and other financial contracts on their own account or for the account of others.

Insurance Carriers
This group comprises insurance carriers of all types.

Insurance Agents, Brokers and Service
Includes agents and brokers dealing in insurance, and organizations offering services to insurance companies and to policy holders.

Hotels, Motels and Tourist Courts
Commercial hotels, motels, and tourist courts, primarily engaged in providing lodging, or lodging and meals for the general public. Does not include apartments, rooming houses, and recreational camps.

Automobile Repair Shops
Establishments primarily engaged in furnishing automobile repair services to the general public.

Electrical Repair Shops
Establishments primarily engaged in the repair of electrical equipment except armature rewinding and electric motor repairs.

OCCUPATIONAL GROUPS[1]

For purposes of this Study, surveyed occupations were classified under the following major occupational groups. All surveyed occupations are sub-professional and none fall below the semiskilled level.

Clerical Occupations

For women, clerical work is a particularly important field of employment. About two-thirds of all clerical workers are women, and almost one-third of all women who have jobs of any kind do clerical work.

Workers in this group do a vast amount of record keeping and paper work required in modern business; they handle communication through mail, telephone, telegraph, and messenger services; and they attend to shipping and receiving of merchandise, ring up sales on cash registers of stores and restaurants and do related kinds of work. One out of four clerical workers in the United States in 1960 was a stenographer, secretary, or typist.

The expected rise in clerical employment in the next ten years would probably be much greater if it was not for the increasing use of mechanical equipment for many routine clerical tasks.

Sales Occupations

Sales workers are the link between the producers of goods and services and the consumer. The list of what sales workers sell would be practically endless.

Sales occupations afford many job opportunities for workers with widely different educational backgrounds, work experiences and personalities.

More than half the sales people work in retail trade, and another large group work for wholesalers and manufacturers. Another group is Insurance and Real Estate salesmen. In addition there are many small sales occupations such as peddlers and newsboys.

Service Occupations

Service workers help to protect people's lives and property and add to their comfort and conveniences in many other ways. These occupations are of many different kinds and afford opportunities for workers with different backgrounds and personal qualifications. Many service occupations require workers with considerable skill and training; others require comparatively little. Chefs and cooks in restaurants must be specially trained for their work, either in school or on the job. On the other hand, maids, charwomen, and janitors need little, if any, special training. A pleasant manner and nice appearance, and a special knack for dealing with people are particularly important for waitresses and hostesses. Turnover is high in these occupations for several reasons—the high proportion of women, many temporary and part-time jobs, and the relatively low rates of pay.

Skilled Occupations

Skilled workers help to transform ideas and plans of professional workers into goods and services, and are employed in almost every branch of industry. Skilled workers must have a thorough knowledge of the processes involved in their work. They exercise considerable independent judgment, and often need a high degree of manual dexterity. In some instances they are responsible for valuable equipment or products. Workers in skilled occupations usually receive extensive training.

Semiskilled Occupations

Many semiskilled employees work as machine operators, as helpers or assistants to skilled workers. In general, semiskilled employees work with their hands. Many times, they have had only brief on-the-job training. The ability to learn new tasks is perhaps more important for the entry semiskilled workers than is educational attainment.

Semiskilled occupations are more likely to be affected by economic conditions and automation.

[1] Based on the "Dictionary of Occupational Titles" of the Bureau of Employment Security, United States Department of Labor.

Survey titles and definitions with cross references to the "Dictionary of Occupational Titles" and DOT codes.

Clerical Occupations

ACCOUNTING CLERK: Performs routine calculating, typing, and posting duties in accounting. Checks items on reports, summarizing and posting data to designated records. Performs other duties such as making up invoices or monthly statements, preparing payrolls, verifying bank accounts, keeping record files, making up periodic reports of business activities, and listing and checking details as instructed. Includes Cost Clerk. (DOT Reference—ACCOUNTING CLERK: 1-01.31)

BANK TELLER: Performs a service for bank customers by receiving, paying out, and keeping accurate records of all money involved in banking transactions. Receives deposits and pays out withdrawals. Records the daily transactions and balances accounts. May supervise one or more clerks who record details of transactions. (DOT Reference—BANK TELLER: 1-06.02)

BOOKKEEPER: Keeps complete and systematic records of establishment's business transactions. Balances books and compiles reports at regular intervals to show receipts, expenditures, accounts payable, accounts receivable, profit or loss and other pertinent items. May calculate wages of employees and make up checks or draw cash from bank for payment of wages. (DOT Reference—BOOKKEEPER: 1-01.02)

BOOKKEEPING MACHINE OPERATOR: Keeps a set of records of business transactions, using a bookkeeping machine. Types on forms desired data such as: name, address, items purchased or sold, and services rendered. Determines totals, net amounts, and other items, recording final computations on the form. Performs related clerical duties. May make up bills, invoices, and statements on billing machine. In banking institutions, keeps record of individual customer-accounts by debiting withdrawals and crediting deposits. (DOT Reference —BOOKKEEPING MACHINE OPERATOR: 1-02.01)

CALCULATING-MACHINE OPERATOR: Operates a machine that automatically performs the basic arithmetic computations of adding, subtracting, multiplying, and dividing. May make other calculations. May use different types of calculators such as the Comptometer. (DOT Reference—CALCULATING-MACHINE OPERATOR: 1-25.13)

CASHIER: Keeps a record of cash transactions, receipts, and disbursements incident to the conduct of a business. Enters data to proper accounts and periodically balances cash books. Makes change and cashes checks. In hotels and lodging places records all charges against guests. Receives payment and issues receipts. (DOT Reference—CASHIER: 1-01.52)

DESK-ROOM CLERK: Registers and assigns rooms to incoming guests. Checks out departing guests and may receive payment of their account. Maintains records of their reservations, rooms occupied and guests' accounts. Gives information to guests. In large hotel, refers guests to cashier for payment of bills. (DOT Reference—ROOM CLERK: 1-07.60)

DUPLICATING-MACHINE OPERATOR: Makes duplicate copies of graphs, charts, schedules, bulletins, and similar material using a machine that prints from special metal plates onto a rubber blanket, the ink print then being transferred from the blanket onto the blank sheet of paper (offset principle). May be designated according to trade name of machine operated, such as Multilith operator. (DOT Reference—DUPLICATING-MACHINE OPERATOR: 1-25.23)

GENERAL CLERK-TYPIST: Performs any combination of the following or similar clerical duties: Types, makes up and files reports, tabulates and posts data, takes telephone orders, checks cash registers, gives information to callers, sends out bills, checks calculations, takes inventories, and operates various office machines. (DOT Reference—CLERK-TYPIST: 1-37.34)

KEY-PUNCH OPERATOR: Records statistical data on tabulating cards by punching a series of holes in the cards in a specified sequence, using a punch machine similar in operation and action to a typewriter. May operate verifier and sorter. (DOT Reference—KEY-PUNCH OPERATOR: 1-25.62)

POLICY WRITER-RATER: Transcribes from approved application forms information such as name, age, and address of insured, amount of policy, and premium rate, on blank policies for issue to applicants. Selects correct policy to suit kind of insurance requested. (DOT Reference—POLICY WRITER: 1-37.32)

PROOF-MACHINE OPERATOR: Sorts, records, proves and endorses bank transactions, such as checks, deposits, and withdrawals, using a proof machine. (DOT Reference—PROOF-MACHINE OPERATOR: 1-25.68)

SECRETARY-STENOGRAPHER: Performs general office work in relieving officials of minor executive and clerical duties. Takes and transcribes dictation and types. Makes appointments. Receives people coming into the office. Answers and makes phone calls. Handles personal and important mail, writing routine correspondence on own initiative. Performs other clerical duties as assigned. (DOT Reference—Developed from Job Descriptions of SECRETARY: 1-33.01 and STENOGRAPHER: 1-37.12)

STOCK CLERK: Receives incoming goods. Unpacks and verifies correctness of shipments against bills of lading, invoices and other records. Stores stock in a convenient position for removal when needed. Prepares merchandise for shipment or delivery. May perform part or all of duties required for shipping and receiving merchandise. (DOT Reference—STOCK CLERK: 1-38.01)

TABULATING-MACHINE OPERATOR: Sets up and operates a machine that automatically sorts, analyzes, translates and calculates information contained on punched cards, and prints data on form sheets, cards or accounting records. (DOT Reference—TABULATING-MACHINE OPERATOR: 1-25.64)

TRANSCRIBING-MACHINE OPERATOR: Transcribes the message, reproduced in sound, from the wax record on a transcribing machine, such as a Dictaphone. Types a message as heard in the earphones. (DOT Reference—TRANSCRIBING-MACHINE OPERATOR: 1-37.36)

Sales Occupations

AUTOMOBILE PARTS MAN: Sells automobile parts, and fills requisitions of service department for parts. Gives information concerning specific parts to customer, using catalogs as source of information. Examines defective parts returned by customers to determine cause for the purpose of making replacements or refund. Returns defective parts to factory. Marks and stores parts in stockroom according to prearranged plan. (DOT Reference—SALESPERSON, AUTOMOBILE PARTS: 1-75.22)

SALESMAN, GENERAL: Solicits customers, to demonstrate and sell merchandise such as automobiles, tires, refrigerators, and radios. Usually specializes in one commodity or related groups of commodities. (DOT Reference—SALESMAN, GENERAL (Retail Trade): 1-80.01)

SALESMAN, INSURANCE: Sells various types of insurance to new clients. May collect premiums. May be designated according to kind of insurance sold. (DOT Reference—SALESMAN, INSURANCE: 1-57.10)

SALESMAN, MOTOR VEHICLES AND SUPPLIES: Sells motor vehicles, such as automobiles, trucks, and tractors or supplies and accessories, such as tires, tubes, batteries and parts. Includes route salesmen. (DOT Reference—SALESMAN, MOTOR VEHICLES AND SUPPLIES: 1-85.11)

SALESMAN, SECURITIES: Gives information regarding stocks, bonds, market conditions, and history and prospects of various corporations to prospective customers. Transmits buy or sell orders to trading division in accordance with customers' wishes. (DOT Reference—SALESMAN, SECURITIES: 1-65.03)

SALESPERSON AND SALES CLERK: Displays, explains, and sells merchandise to customers on sales floor. Assists customer in making a selection by suggestions and explanations. May tell or show the customer how to use the article. Writes out sales slip. Receives payment. Cares for stock on sales floor and takes periodic inventories of stock. (DOT Reference—Developed from Job Descriptions of SALESPERSON, GENERAL (Retail Trade): 1-75.71 and SALES CLERK (Retail Trade): 1-70.10)

SALESPERSON, CLOTHING: Displays and sells clothing. Assists customers to make a selection by suggestions and explanations. Advises customer concerning prevailing styles and personal suitability of garments. Arranges for any necessary alterations. Receives payment or secures credit authorization. Takes periodic inventories of stock. (DOT Reference—SALESPERSON, GENERAL (Retail Trade): 1-75.71)

Service Occupations

CHAMBERMAID: Does all general cleaning in motel and hotel rooms. Collects and may count soiled linens. Makes beds. Empties trash from waste baskets. Dusts furniture and woodwork in guest rooms. Replenishes stationery and bathroom supplies. (DOT Reference—CHAMBERMAID: 2-24.11)

CHEF: Estimates consumption of, and orders foodstuffs, and plans menus. Usually supervises and assists several cooks. May decide size of portions. May portion orders and cut meats. In a large establishment the chef's duties are typically limited to supervising and buying food. (DOT Reference—CHEF: 2-26.31)

COOK: Prepares, seasons, and cooks food by appropriate methods. Frequently specializes in roasts and entrees. May be designated according to type of food prepared or meal served, as Cook, Dinner; Cook, Meat; Cook, Night; Cook, Roast. (DOT Reference—COOK: 2-26.32)

COOK, SHORT-ORDER: Prepares, cooks and serves to order all kinds of foods which require only a short time to prepare. (DOT Reference—COOK, SHORT-ORDER: 2-26.33)

HOSTESS: Supervises the activities of waiters and bus boys to insure courteous and rapid service for guests of establishments. Greets patrons and shows them to table. Adjusts complaints concerning food or service. Inspects dining room. May keep time records of employes. (DOT Reference—HOSTESS, RESTAURANT OR COFFEE SHOP: 2-27.14)

HOTEL HOUSEBOY: Performs routine cleaning and heavy lifting duties required in the housekeeping details of a hotel or motel, such as cleaning rugs, carpets and upholstered furniture. Arranges furniture, cleans rooms, lobby, lounges, and public lavatories. Hangs draperies, cleans ashtrays. Sets up sample rooms for salesmen, or decorations or apparatus for social functions. (DOT Reference—HOUSEBOY: 2-24.51)

HOTEL HOUSEKEEPER: Supervises the housekeeping personnel of a hotel or motel and is responsible for the cleanliness, orderliness, and perhaps the decoration of the establishment. May purchase supplies and equipment for housekeeping department. (DOT Reference—HOUSEKEEPER: 2-25.21)

JANITOR-PORTER: Keeps buildings in clean, orderly condition and good state of repair and operates furnaces and boilers to provide heat and hot water for tenants. Sweeps,

mops, and scrubs public halls and stairways. (DOT Reference —Developed from Job Descriptions of JANITOR: 2-84.10 and PORTER (2-86.10)

KITCHEN STEWARD: Assumes responsibility for the maintenance (purchase) of an adequate food supply, the proper storage and issuance of food, and the efficiency of dishwashers, pantry workers, store room help and all other kitchen employees except those actually engaged in cooking. (DOT Reference—STEWARD: 2-25.12)

MAID: Works in a department store, office building or other establishment performing lighter porter duties such as sweeping, running errands, assisting patrons with their wraps, or cleaning and dusting merchandise and furniture. (DOT Reference—MAID: 2-85.15)

WAITRESS-WAITER: Sets tables, serves meals and performs duties incidental to the furnishing of satisfactory service to guests. May remove dirty dishes and clean equipment. (DOT Reference—Developed from Job Descriptions of WAITRESS: 2-27.12 and WAITER, FORMAL: 2-27.02; WAITER, INFORMAL: 2-27.11)

Skilled Occupations

APPLIANCE SERVICE AND REPAIRMAN: Services and repairs more complex electrical appliances such as stoves and refrigerators, and/or repairs small electrical appliances such as irons and toasters. May sell appliances. (DOT Reference—Developed from Job Descriptions of ELECTRICAL APPLIANCE SERVICEMAN: 5-83.041 and SMALL APPLIANCE REPAIRMAN: 7-83.058)

AUTOMOBILE BODY MAN: Repairs dents in automobile and truck bodies and fenders. Hammers out dents. Smoothes hammered area by filing or grinding or sanding it with small electric grinding wheel. Fills badly dented areas with solder, lead or plastic. Welds breaks in metal body and files welds smooth to conform to adjacent areas. May install new fenders, bumpers and other parts of auto body. May paint autos and trucks. (DOT Reference—AUTOMOBILE BODY REPAIRMAN, METAL: 5-81.510)

AUTOMOBILE-TRUCK MECHANIC: Overhauls and repairs automobiles and trucks. Performs such tasks as overhauling and assembling engines, transmissions, clutches, and differentials. Replaces broken or worn parts. Checks and repairs fuel systems, electrical and ignition assemblies, steering mechanisms, cranking systems, generating systems, suspension and general power train components. (DOT Reference—AUTOMOBILE MECHANIC: 5-81.010)

BAKER: Produces finished baked goods, such as bread, pies, cakes and other pastries. Measures and mixes ingredients, forms dough, and bakes products in oven. (DOT Reference—BAKER: 4-01.100)

BRAKEMAN: Tests and adjusts brakes, and repairs and relines them. May aline wheels. May repair shock absorbers. (DOT Reference—BRAKEMAN: 5-81.120)

DIESEL MECHANIC: Maintains and repairs diesel engines used to power such equipment as trucks, busses, construction machinery and pumps. (DOT Reference—DIESEL MECHANIC: 5-83.931)

FRONT-END MAN: Tests for and corrects faulty alinement of automobile and truck frames, wheels, axles, and steering mechanisms. May adjust brakes. (DOT Reference—WHEEL-ALINEMENT MECHANIC: 5-81.210)

MACHINIST, AUTOMOBILE: Makes machines and repairs automobile engine parts by setting up and operating various kinds of special or general metalworking machines, such as lathes, piston grinding-and-turning machines and valve grinding machines. (DOT Reference—MACHINIST, AUTOMOBILE: 4-75.010)

MAINTENANCE MAN, BUILDING: Keeps the physical structure of an office building, apartment house, hotel, or similar structure in good repair, performing painting, carpentry and other maintenance duties. (DOT Reference—MAINTENANCE MAN, BUILDING: 5-83.611)

PAINTER, AUTOMOBILE-TRUCK: Repaints automobiles, busses, trucks, or damaged places on such vehicles. Removes old paint. Masks portions not to be painted. Sandpapers rough spots. Prepares paints. Paints automobile, insuring that all surfaces are evenly coated with paint. Touches up inaccessible spots with handbrush. May do some body repair work other than painting. (DOT Reference—PAINTER, AUTOMOBILE: 5-16.910)

PIANO TUNER: Tests and adjusts the strings in a piano so that they will conform with the accepted standards for pitch and will sound harmoniously when played. May replace broken strings or perform other piano repairs. (DOT Reference—PIANO TUNER: 5-12.100)

RADIO REPAIRMAN: Tests and repairs defective radios. Tests circuits, tubes, and other parts, using various testing meters and devices. Isolates defects, and either fixes them or replaces defective parts with new ones. Resolders loose connections. May install radios in automobiles. (DOT Reference—RADIO REPAIRMAN: 5-83.411)

RADIO/TV SERVICE AND REPAIRMAN: Tests and repairs defective radios and television sets. May install television sets. (DOT Reference—Developed from Job Descriptions of RADIO REPAIRMAN: 5-83.411 and TELEVISION SERVICE AND REPAIRMAN: 5-83.416)

SEAMSTRESS-ALTERATION WOMAN: Fits ready-to-wear clothing to customers by performing cutting and sewing operations such as cuffing, lengthening or shortening sleeves, taking in or letting out collars, and other alterations. Performs various fitting, measuring and sewing operations to repair garments. (DOT Reference—SEAMSTRESS: 4-25.020)

SEWING-MACHINE REPAIRMAN: Inspects, lubricates, adjusts and repairs sewing machines. May work in repair shop or provide home service. May sell sewing machines. (DOT Reference—SEWING-MACHINE REPAIRMAN: 5-83.641)

TV SERVICE AND REPAIRMAN: Repairs and adjusts television receivers. Tunes receiver over all channels noting audio and video characteristics to analyze source of defect. Adjusts controls. Inspects chassis. Repairs or replaces parts. Explains proper method of operating set to customer. May install sets. May sell sets. (DOT Reference—TELEVISION SERVICE AND REPAIRMAN: 5-83.416)

UPHOLSTERER-TRIMMER, AUTOMOBILE: Repairs or replaces upholstery and fabric tops of automobiles and trucks. May make other minor repairs to doors, windows and other interior furnishings. (DOT Reference—AUTOMOBILE UPHOLSTERER: 4.35.610)

Semiskilled Occupations

AUTOMOBILE-TRUCK MECHANIC HELPER: Assists journeyman automobile mechanic in all phases of automobile repair and maintenance. Performs lesser skilled duties making minor repairs and adjustments under the close supervision of a skilled automobile mechanic. (DOT Reference—AUTOMOBILE MECHANIC HELPER: 7-81.010)

DIESEL MECHANIC HELPER: Assists journeyman diesel mechanic in all phases of diesel repair and service. (DOT reference—TRUCK-MECHANIC HELPER: 7-81.030)

SERVICE STATION ATTENDANT: Performs duties at automobile service station as requested by customer. Supplies car or truck with oil, water, air, and gasoline. Changes oil and lubricates automobile or truck. Sells and installs such accessories as windshield wipers, rear-view mirrors, and spark plugs. May make minor repairs. Changes and repairs tires. May wash cars. (DOT Reference—AUTOMOBILE-SERVICE STATION ATTENDANT: 7-60.500)

APPENDIX B

Additional Tables

TABLE XV: JOB OPPORTUNITIES ANTICIPATED BY THE FALL OF 1964

Occupational Title	Employment During Fall of 1963	Anticipated By Fall of 1964		Worker Demand By Fall of 1964			Worker Supply By Fall of 1964 From On-The-Job Training	Net Additional Requirements By Fall of 1964
		Employment	Per Cent Increase	Expansion	Replacement	Total New Job Opportunities		
ALL OCCUPATIONS	96,922	104,578	7.9	7,656	4,215	11,871	4,213	7,658
CLERICAL—TOTAL	27,230	28,945	6.3	1,715	1,308	3,023	1,386	1,637
Accounting Clerk	1,524	1,699	11.5	175	73	248	85	163
Bank Teller	3,855	4,088	6.0	233	322	555	345	210
Bookkeeper	4,091	4,163	1.8	72	137	209	75	134
Bookkeeping Machine Operator	1,804	1,821	0.9	17	79	96	153	−57
Calculating Machine Operator	133	137	3.0	4	12	16	10	6
Cashier	3,239	3,431	5.9	192	105	297	56	241
Desk—Room Clerk	788	805	2.2	17	47	64	38	26
Duplicating Machine Operator	100	105	5.0	5	5	10	11	−1
General Clerk-Typist	4,161	4,570	9.8	409	190	599	251	348
Key Punch Operator	342	437	27.8	95	25	120	52	68
Policy Writer—Rater	918	980	6.8	62	32	94	48	46
Proof-Machine Operator	711	726	2.1	15	36	51	60	−9
Secretary—Stenographer	3,607	3,877	7.5	270	135	405	134	271
Stock Clerk	1,521	1,631	7.2	110	68	178	38	140
Tabulating Machine Operator	183	204	11.5	21	19	40	13	27
Transcribing Machine Operator	253	271	7.1	18	23	41	17	24
SALES—TOTAL	31,382	33,925	8.1	2,543	1,097	3,640	1,500	2,140
Auto Parts Man	3,153	3,376	7.1	223	92	315	53	262
Salesman, General	6,476	7,282	12.4	806	207	1,013	223	790
Salesman, Insurance	5,799	6,487	11.9	688	359	1,047	779	268
Salesman, Motor Vehicles	1,082	1,210	11.8	128	35	163	6	157
Salesman, Securities	374	404	8.0	30	20	50	20	30
Salesperson and Sales Clerk	9,393	9,741	3.7	348	232	580	272	308
Salesperson, Clothing	5,105	5,425	6.3	320	152	472	147	325
SERVICE—TOTAL	21,515	23,016	7.0	1,501	1,071	2,572	759	1,813
Chambermaid	1,467	1,584	8.0	117	80	197	87	110
Chef	591	616	4.2	25	26	51	20	31
Cook	2,867	3,075	7.3	208	121	329	70	259

SEE NEXT PAGE

TABLE XV: JOB OPPORTUNITIES ANTICIPATED BY THE FALL OF 1964—Continued

Occupational Title	Employment During Fall of 1963	Anticipated By Fall of 1964		Worker Demand By Fall of 1964			Worker Supply By Fall of 1964 From On-The-Job Training	Net Additional Requirements By Fall of 1964
		Employment	Per Cent Increase	Expansion	Replacement	Total New Job Opportunities		
SERVICE—Continued								
Cook, Short-Order	2,076	2,299	10.7	223	104	327	94	233
Hostess	327	351	7.3	24	28	52	13	39
Hotel Houseboy	274	288	5.1	14	25	39	0	39
Hotel Housekeeper	294	328	11.6	34	3	37	25	12
Janitor—Porter	2,838	2,942	3.7	104	157	261	79	182
Kitchen Steward	591	653	10.5	62	23	85	15	70
Maid	733	749	2.2	16	12	28	5	23
Waitress—Waiter	9,457	10,131	7.1	674	492	1,166	351	815
SKILLED—TOTAL	12,449	14,173	13.8	1,724	549	2,273	444	1,829
Appliance Service and Repairman	474	507	7.0	33	19	52	27	25
Auto Body Man	1,635	1,829	11.9	194	52	246	61	185
Auto-Truck Mechanic	5,639	6,675	18.4	1,036	291	1,327	208	1,119
Baker	307	327	6.5	20	17	37	22	15
Brakeman	334	379	13.5	45	1	46	29	17
Diesel Mechanic	166	201	21.1	35	6	41	1	40
Front End Man	850	973	14.5	123	23	146	11	135
Machinist, Automobile	426	482	13.1	56	12	68	22	46
Maintenance Man, Building	294	305	3.7	11	28	39	1	38
Painter, Automobile	378	397	5.0	19	7	26	15	11
Piano Tuner	31	42	35.5	11	2	13	0	13
Radio Repairman	59	70	18.6	11	6	17	4	13
Radio/TV Service and Repairman	267	301	12.7	34	7	41	15	26
Seamstress—Alteration Woman	1,299	1,354	4.2	55	75	130	18	112
Sewing Machine Repairman	68	80	17.6	12	0	12	0	12
TV Service and Repairman	84	108	28.6	24	0	24	7	17
Upholsterer—Trimmer	138	143	3.6	5	3	8	3	5
SEMISKILLED—TOTAL	4,346	4,519	4.0	173	190	363	124	239
Auto-Truck Mechanic Helper	1,333	1,407	5.6	74	57	131	60	71
Diesel Mechanic Helper	15	56	273.3	41	0	41	0	41
Service Station Attendant	2,998	3,056	1.9	58	133	191	64	127

TABLE XVI: AREA NET ADDITIONAL WORKER REQUIREMENTS BY THE FALL OF 1964[1]

Occupations	Statewide	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6
ALL OCCUPATIONS	7,658	1,140	1,537	1,766	1,499	596	1,120
CLERICAL—TOTAL	1,637	124	285	538	413	112	165
Accounting Clerk	163	13	8	65	43	14	20
Bank Teller	210	32	51	40	14	44	29
Bookkeeper	134	23	34	32	12	4	29
Bookkeeping Machine Operator	−57	−55	9	0	2	−5	−8
Calculating Machine Operator	6	0	1	5	0	0	0
Cashier	241	13	49	68	48	11	52
Desk—Room Clerk	26	−4	5	12	15	9	−11
Duplicating Machine Operator	−1	1	0	−1	−1	0	0
General Clerk-Typist	348	35	48	104	136	12	13
Key-Punch Operator	68	1	10	12	41	−2	6
Policy Writer—Rater	46	1	2	22	21	0	0
Proof-Machine Operator	−9	6	0	−9	−3	−3	0
Secretary—Stenographer	271	39	31	116	46	22	17
Stock Clerk	140	17	22	41	38	4	18
Tabulating Machine Operator	27	2	11	6	6	2	0
Transcribing Machine Operator	24	0	4	11	9	0	0
SALES—TOTAL	2,140	355	360	463	410	160	392
Auto Parts Man	262	23	39	48	58	28	66
Salesman, General	790	141	138	141	120	95	155
Salesman, Insurance	268	8	−51	57	124	12	118
Salesman, Motor Vehicles	157	15	46	57	13	13	13
Salesman, Securities	30	2	9	19	0	0	0
Salesperson and Sales Clerk	308	106	54	127	−10	8	23
Salesperson, Clothing	325	60	125	14	105	4	17
SERVICE—TOTAL	1,813	277	488	384	364	106	194
Chambermaid	110	22	29	16	18	10	15
Chef	31	8	−6	22	5	2	0
Cook	259	41	107	17	44	22	28

[1] Expansion needs plus replacement needs minus on-the-job training.

SEE NEXT PAGE

TABLE XVI: AREA NET ADDITIONAL WORKER REQUIREMENTS BY THE FALL OF 1964—Continued[1]

Occupations	Statewide	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6
SERVICE—Continued							
Cook—Short Order	233	36	65	61	21	16	34
Hostess	39	5	2	12	5	6	9
Hotel Houseboy	39	0	7	7	17	0	8
Hotel Housekeeper	12	6	10	−5	3	1	−3
Janitor—Porter	182	14	48	59	31	8	22
Kitchen Steward	70	13	33	17	6	−3	4
Maid	23	1	3	5	8	1	5
Waitress—Waiter	815	131	190	171	206	43	74
SKILLED—TOTAL	1,829	357	342	367	280	191	292
Appliance Service & Repairman	25	0	7	4	0	5	9
Auto Body Man	185	34	37	28	29	30	27
Auto-Truck Mechanic	1,119	219	205	222	170	114	189
Baker	15	7	0	−4	7	3	2
Brakeman	17	7	0	5	0	7	−2
Diesel Mechanic	40	4	9	3	23	1	0
Front End Man	135	27	18	15	20	23	32
Machinist, Automobile	46	16	5	11	3	0	11
Maintenance Man, Building	38	12	8	10	4	4	0
Painter, Automobile	11	4	1	3	0	−1	4
Piano Tuner	13	3	0	6	3	0	1
Radio Repairman	13	3	1	2	1	0	6
Radio/TV Service and Repairman	26	11	4	8	0	2	1
Seamstress, Alteration Woman	112	4	39	38	21	1	9
Sewing Machine Repairman	12	0	1	13	−4	0	2
TV Service and Repairman	17	6	7	1	2	2	−1
Upholsterer—Trimmer	5	0	0	2	1	0	2
SEMISKILLED—TOTAL	239	27	62	14	32	27	77
Auto-Truck Mechanic Helper	71	2	24	3	6	4	32
Diesel Mechanic Helper	41	4	18	2	13	2	2
Service Station Attendant	127	21	20	9	13	21	43

[1] Expansion needs plus replacement needs minus on-the-job training.

TABLE XVII: EMPLOYMENT DISTRIBUTION IN SURVEYED OCCUPATIONS, BY SEX
FALL OF 1963

Surveyed Occupation	Employment During Fall of 1963	Male		Female	
		Number Employed	Per Cent	Number Employed	Per Cent
ALL OCCUPATIONS	96,922	47,396	48.9	49,526	51.1
CLERICAL—TOTAL	27,230	4,400	16.2	22,830	83.8
Accounting Clerk	1,524	300	19.7	1,224	80.3
Bank Teller	3,855	653	16.9	3,202	83.1
Bookkeeper	4,091	1,009	24.7	3,082	75.3
Bookkeeping Machine Operator	1,804	145	8.0	1,659	92.0
Calculating Machine Operator	133	4	3.0	129	97.0
Cashier	3,239	325	10.0	2,914	90.0
Desk—Room Clerk	788	431	54.7	357	45.3
Duplicating Machine Operation	100	65	65.0	35	35.0
General Clerk-Typist	4,161	126	3.0	4,035	97.0
Key Punch Operator	342	22	6.4	320	93.6
Policy Writer—Rater	918	48	5.2	870	94.8
Proof Machine Operator	711	64	9.0	647	91.0
Secretary—Stenographer	3,607	0	——	3,607	100.0
Stock Clerk	1,521	1,136	74.7	385	25.3
Tabulating Machine Operator	183	72	39.3	111	60.7
Transcribing Machine Operator	253	0	——	253	100.0
SALES—TOTAL	31,382	19,893	63.4	11,489	36.6
Automobile Parts Man	3,153	3,141	99.6	12	0.4
Salesman, General	6,476	6,440	99.4	36	0.6
Salesman, Insurance	5,799	5,622	96.9	177	3.1
Salesman, Motor Vehicles and Supplies	1,082	1,082	100.0	0	——
Salesman, Securities	374	351	93.9	23	6.1
Salesperson and Sales Clerk	9,393	1,926	20.5	7,467	79.5
Salesperson, Clothing	5,105	1,331	26.1	3,774	73.9
SERVICE—TOTAL	21,515	7,755	36.0	13,760	64.0
Chambermaid	1,467	0	——	1,467	100.0
Chef	591	480	81.2	111	18.8
Cook	2,867	1,316	45.9	1,551	54.1

SEE NEXT PAGE

TABLE XVII: EMPLOYMENT DISTRIBUTION IN SURVEYED OCCUPATIONS, BY SEX—Continued
FALL OF 1963

Surveyed Occupation	Employment During Fall of 1963	Male		Female	
		Number Employed	Per Cent	Number Employed	Per Cent
SERVICE—Continued					
Cook, Short Order	2,076	1,390	67.0	686	33.0
Hostess	327	88	26.9	239	73.1
Hotel Houseboy	274	274	100.0	0	——
Hotel Housekeeper	294	11	3.7	283	96.3
Janitor—Porter	2,838	2,308	81.3	530	18.7
Kitchen Steward	591	302	51.1	289	48.9
Maid	733	0	——	733	100.0
Waitress—Waiter	9,457	1,586	16.8	7,871	83.2
SKILLED—TOTAL	12,449	11,002	88.4	1,447	11.6
Appliance Service and Repairman	474	474	100.0	0	——
Auto Body Man	1,635	1,635	100.0	0	——
Auto-Truck Mechanic	5,639	5,639	100.0	0	——
Baker	307	109	35.5	198	64.5
Brakeman	334	334	100.0	0	——
Diesel Mechanic	166	166	100.0	0	——
Front-End Man	850	850	100.0	0	——
Machinist, Automobile	426	426	100.0	0	——
Maintenance Man—Building	294	294	100.0	0	——
Painter, Automobile-Truck	378	378	100.0	0	——
Piano Tuner	31	31	100.0	0	——
Radio Repairman	59	59	100.0	0	——
Radio/TV Service and Repairman	267	267	100.0	0	——
Seamstress—Alteration Woman	1,299	50	3.8	1,249	96.2
Sewing Machine Repairman	68	68	100.0	0	——
TV Service and Repairman	84	84	100.0	0	——
Upholsterer—Trimmer	138	138	100.0	0	——
SEMISKILLED—TOTAL	4,346	4,346	100.0	0	——
Auto-Truck Mechanic Helper	1,333	1,333	100.0	0	——
Diesel Mechanic Helper	15	15	100.0	0	——
Service Station Attendant	2,998	2,998	100.0	0	——

TABLE XVIII: SAMPLE FIRM EMPLOYERS INDICATING INTEREST IN INSTITUTIONAL TRAINING

Do you think institutional training through an industrial education center would help you in meeting your employment needs for this occupation?[1]

Occupational Title	Per Cent of Employers Responding "Yes"	Per Cent of Employers Responding "No"
ALL OCCUPATIONS	63.7	36.3
CLERICAL—TOTAL	59.5	40.5
Accounting Clerk	51.5	48.5
Bank Teller	36.1	63.9
Bookkeeper	60.0	40.0
Bookkeeping Machine Operator	64.1	35.9
Calculating Machine Operator	40.0	60.0
Cashier	50.0	50.0
Desk—Room Clerk	64.6	35.4
Duplicating Machine Operator	73.7	26.3
General Clerk-Typist	56.0	44.0
Key-Punch Operator	74.4	25.6
Policy Writer—Rater	35.0	65.0
Proof-Machine Operator	48.8	51.2
Secretary—Stenographer	56.5	43.5
Stock Clerk	59.8	40.2
Tabulating Machine Operator	67.9	32.1
Transcribing Machine Operator	59.1	40.9
SALES—TOTAL	60.3	39.7
Auto Parts Man	70.2	29.8
Salesman, General	63.1	36.9
Salesman, Insurance	29.3	70.7
Salesman, Motor Vehicles	62.5	37.5
Salesman, Securities	20.0	80.0
Salesperson and Sales Clerk	57.7	42.3
Salesperson, Clothing	60.0	40.0
SERVICE—TOTAL	51.1	48.9
Chambermaid	42.1	57.9
Chef	44.4	55.6
Cook	50.0	50.0
SERVICE OCCUPATIONS—Continued		
Cook—Short Order	74.7	25.3
Hostess	62.7	37.3
Hotel Houseboy	33.0	67.0
Hotel Housekeeper	47.8	52.2
Janitor—Porter	34.6	65.4
Kitchen Steward	63.0	37.0
Maid	24.3	75.7
Waitress—Waiter	61.0	39.0
SKILLED—TOTAL	81.8	18.2
Appliance Service & Repairman	83.3	16.7
Auto Body Man	89.0	11.0
Auto-Truck Mechanic	91.3	8.7
Baker	75.9	24.1
Brakeman	72.2	27.8
Diesel Mechanic	67.2	32.8
Front End Man	83.5	16.5
Machinist, Automobile	85.3	14.7
Maintenance Man, Building	60.0	40.0
Painter, Automobile	75.4	24.6
Piano Tuner	77.8	22.2
Radio Repairman	92.3	7.7
Radio/TV Service & Repairman	93.3	6.7
Seamstress, Alteration Woman	65.5	34.5
Sewing Machine Repairman	50.0	50.0
TV Service and Repairman	88.9	11.1
Upholsterer—Trimmer	71.4	28.6
SEMISKILLED—TOTAL	73.0	27.0
Auto-Truck Mechanic Helper	80.2	19.8
Diesel Mechanic Helper	42.9	57.1
Service Station Attendant	64.0	36.0

[1] Item J of the survey questionnaire which is shown in Appendix C.

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA

APPENDIX C
Survey Methodology and Scope

SURVEY METHODOLOGY AND SCOPE

The scope of the survey included 17 industry segments and was limited to those firms insured by the North Carolina Employment Security Law. A stratified random sampling technique was used in sample selection. Each industry segment was treated separately with respect to firm selection and inflation of data. The sample was selected from lists of insured firms in March, 1963, in the 17 segments studied. Samples were drawn from industry lists of firms arranged in descending employment size. The sample coverage included all the largest firms and a lesser random representation of smaller establishments. Industry sample selection ranged from 54 to 68 per cent of employment. Of the 2,000 covered establishments selected for the total sample, more than 1,440 returned usable survey questionnaires, accounting for about 48,500 workers or slightly less than 40 per cent of the Statewide total covered employment in the 17 surveyed segments. Sample data were inflated to provide estimates for all covered employment in surveyed industries.

Estimates of replacement requirements are based on prior employer experience and reflect only replacement needs resulting from death, retirement, promotion and other labor force withdrawals; but, do not include job shifting.

The initial survey package mailed to employers included an introductory letter, two copies of the survey questionnaire, a list of occupations with descriptions, and a pre-addressed return envelope. After a two-week period, if a response was lacking, a second request letter was mailed with one copy of the survey questionnaire and a return envelope. Copies of the questionnaire and letters are shown on pages 68 and 69.

Realizing that no employer can forecast precisely the number and types of workers his company will require on a given date in the future, forecasts were requested by the fall of 1964, and by the fall of 1966. If employers did not estimate future company or occupational employment, survey period employment figures were carried over to the two forecast periods, and it was assumed that the employment for that particular company would remain the same.

Included in the list of occupations surveyed were 13 occupations which generally crossed industry lines. These jobs were included in all industry segments surveyed. The remaining occupations were characteristic of a specific industry or industries and were surveyed from lists of occupations especially prepared for use in appropriate industries.

The 54 offices of the North Carolina Employment Security Commission were provided with instructions for completing survey questionnaires, and local office personnel assisted employers in completing the forms when called upon to do so.

Responding employers mailed questionnaires directly to the State Office. Each questionnaire was carefully edited. Questionnaires which could not be used were mailed to area Labor Market Analysts for follow-up. Data were tabulated by the Commission's Department of Data Processing. Stratified sample findings were inflated independently for each industry segment studied, to arrive at universe totals.

SURVEY PLANNING AND EMPLOYER REACTIONS

The following information was obtained by four Labor Market Analysts who personally contacted officials of 80 establishments representing 20 types of nonmanufacturing industries. These establishments are listed on the inside of the front cover. These contacts were made during August of 1963. The purpose of these visits was to validate the wisdom of industrial and occupational selection and the suitability of the proposed mail questionnaire, and to ascertain whether the survey could be conducted without benefit of personal interviews, job definitions, or further instructions.

Employers interviewed were very cooperative, furnished the information requested, and commented frequently on various aspects of the impending mail-type survey effort. As a result of this survey planning, three industries were excluded. A few occupations were combined and other occupations were added to the survey list. The survey questionnaire was revised and an effort was made to fit occupations more closely to specific industries by compiling a separate list of occupations for each industry surveyed. Employers suggested that a list of job descriptions be included with each initial survey questionnaire mailed.

Employers visited expressed interest in needs for basic vocational training to better prepare job applicants for meeting the requirements of business. Informal on-the-job training for new workers was the common practice. In the 80 establishments visited, formal training programs were provided for only 11 of the surveyed occupations. On the trial run, more than 60 per cent of the responses showed employers had difficulty in recruiting workers for surveyed occupations.

Employers expressed great needs for trained salesmen and sales clerks who have the necessary desire, aptitude and personal attributes. General training would be supplemented by specific training by employers.

Restaurant owners saw a need for short training periods for waitresses in table setting, serving, and speech and manner. They said that good cooks were always in demand, and that the quality of personnel now employed could be improved by courses sponsored by Industrial Education Centers.

According to these employers, institutional training for persons entering any type of occupation requiring mechanical skills would greatly benefit both the worker and the employer.

Sixty of the 80 employers contacted favored institutional training to help meet future employment needs. Major occupational groups were ranked by employers in the following order, according to the need for institutional training:

1. Skilled
2. Clerical
3. Sales
4. Service
5. Semiskilled

Employers who were interviewed recommended institutional training for from six to 24 months in the skilled occupations surveyed, two weeks to 12 months in service occupations, and from one to 12 months in clerical and sales occupations.

Major occupational groups were ranked by employers in the following order, according to difficulty in recruiting workers:

1. Skilled
2. Sales
3. Service
4. Clerical
5. Semiskilled

Employers believe that the future installation of data processing equipment will replace some clerical workers especially in the banking industry. The use of computer systems, however, is expected to bring into being new occupations.

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA

BUREAU OF EMPLOYMENT SECURITY RESEARCH - P. O. BOX 589, RALEIGH, NORTH CAROLINA

CENTRAL OFFICE USE

(1) INDEX	1603
(2) SIC	531
(3) SIZE	1
(4) COUNTY	60
(5) AREA	2

CONFIDENTIAL REPORT ON MANPOWER AND TRAINING NEEDS

PLEASE COMPLETE THE ITEMS TO THE RIGHT AND BELOW

PLEASE MAKE AN ENTRY IN EACH COLUMN FOR EACH OCCUPATION LISTED BELOW IN WHICH YOU NOW EMPLOY WORKERS OR IN WHICH YOU EXPECT TO EMPLOY WORKERS BY THE FALL OF 1964 OR BY THE FALL OF 1966.

COMPANY EMPLOYMENT

(6) TOTAL NUMBER OF PERSONS ON YOUR PAYROLL MARCH, 1963	530
(7) TOTAL NUMBER OF PERSONS ON YOUR PAYROLL NOW	570
(8) TOTAL NUMBER OF PERSONS YOU ESTIMATE WILL BE ON YOUR PAYROLL ONE YEAR FROM NOW *	595
(9) TOTAL NUMBER OF PERSONS YOU ESTIMATE WILL BE ON YOUR PAYROLL 3 YEARS FROM NOW *	690

OCCUPATIONAL EMPLOYMENT

NO.	OCCUPATION	WE EMPLOY THIS MANY WORKERS IN THIS OCCUPATION NOW (EXCLUDE TRAINEES) MALE	FEMALE	WE ARE NOW RECRUITING THIS MANY ADDITIONAL WORKERS FOR THIS OCCUPATION (CURRENT JOB VACANCIES)	WE EXPECT TO HAVE THIS MANY WORKERS EMPLOYED IN THIS OCCUPATION ONE YEAR FROM NOW (FALL OF 1964 *)	WE EXPECT TO HAVE THIS MANY WORKERS EMPLOYED IN THIS OCCUPATION 3 YEARS FROM NOW (FALL OF 1966 *)	WE LOST THIS MANY WORKERS IN THIS OCCUPATION LAST YEAR DUE TO DEATH, RETIREMENT, AND PROMOTION. EXCLUDE ALL OTHERS (LAST COMPLETE YEAR)	WE HAVE OUR OWN TRAINING PROGRAM AND PLAN TO TRAIN THIS MANY NEW WORKERS IN THIS OCCUPATION BY: (ONE YEAR FROM NOW)	WE EXPECT TO TRAIN THIS MANY NEW WORKERS IN THIS OCCUPATION BY: (THREE YEARS FROM NOW)	DO YOU THINK INSTITUTIONAL TRAINING THROUGH AN INDUSTRIAL EDUCATION CENTER WOULD HELP YOU IN MEETING YOUR EMPLOYMENT NEEDS FOR THIS OCCUPATION?
	A	B	C	D	E	F	G	H	I	J
39	SALESMAN, GENERAL	40	0	2	42	45	1	1	5	yes
42	SALESPERSON AND SALES CLERK	120	190	10	360	375	5	4	10	yes
44	SEAMSTRESS - ALTERATION WOMAN	1	1	0	2	2	0	0	0	No
45	SECRETARY-STENOGRAPHER	0	1	0	1	1	0	0	0	yes
23	GENERAL CLERK-TYPIST	0	15	0	15	16	2	0	0	No
13	CASHIER	0	11	0	12	13	1	0	0	No
09	BOOKKEEPER	0	12	0	13	14	2	0	0	yes
10	BOOKKEEPING-MACHINE OPERATOR	0	3	0	3	3	1	0	0	yes
01	ACCOUNTING CLERK	0	3	0	4	5	1	0	0	yes
50	TRANSCRIBING-MACHINE OPERATOR									
12	CALCULATING-MACHINE OPERATOR	0	1	0	1	2	0	0	0	No
02	APPLIANCE SERVICE AND REPAIRMAN									
37	RADIO REPAIRMAN									
51	T.V. SERVICE AND REPAIRMAN									
38	RADIO/T.V. SERVICE AND REPAIRMAN									
48	STOCK CLERK	5	0	0	6	7	0	0	0	No
16	COOK	2	0	0	2	2	0	0	0	yes
53	WAITRESS - WAITER	0	2	0	2	2	0	0	0	yes
27	JANITOR - PORTER	10	0	0	10	10	1	0	0	No
31	MAID	0	2	0	2	2	0	0	0	No

* IN MAKING ESTIMATIONS OF FUTURE EMPLOYMENT REQUIREMENTS, IT SHOULD BE ASSUMED THAT CURRENT ECONOMIC CONDITIONS WILL CONTINUE WITHOUT SIGNIFICANT CHANGE THROUGH 1966.

PLEASE RETURN THIS FORM WITHIN 2 WEEKS USING THE ENCLOSED SELF-ADDRESSED, POSTPAID ENVELOPE

If there are questions, please contact the nearest Employment Security Commission office.

Signed: John Employer (NAME OF PERSON COMPLETING FORM) — Manager (TITLE) — October 10, 1963 (DATE)

EMPLOYMENT SECURITY COMMISSION
OF
NORTH CAROLINA

P. O. BOX 500
RALEIGH, NORTH CAROLINA 27602

Mr. John Employer
North Carolina Services, Incorporated
1964 Trade Street
Statewide, North Carolina

Dear Sir:

In planning programs for providing training in shortage occupations, State agencies engaged in vocational education must have current information relative to occupations in which qualified workers are most needed. Furthermore, this type of occupational information is important to youth interested in making informed career choices, to unemployed persons seeking job opportunities and to employers in planning for their own future occupational needs.

In order to identify those occupational areas in which vocational training programs would be beneficial to you and other employers, and to individuals in need of training, the Employment Security Commission in cooperation with the State Board of Education is undertaking a statewide study of selected nonmanufacturing industries, of which your business is a part.

You, as a representative employer, can contribute to this study by completing the enclosed questionnaire and returning it, as soon as possible, in the post-paid, pre-addressed envelope provided. A duplicate of the survey form is enclosed for your use and your files.

The information which you furnish will be held strictly confidential - no individual employer will be identified. A copy of the survey results will be mailed to you when the study is completed in early 1964.

May we express our appreciation for your participation in this occupational survey.

Sincerely,

Henry E. Kendall
Chairman

Enclosure

EMPLOYMENT SECURITY COMMISSION
OF
NORTH CAROLINA

P. O. BOX 500
RALEIGH, NORTH CAROLINA 27602

Mr. John Employer
North Carolina Services, Incorporated
1964 Trade Street
Statewide, North Carolina

Dear Sir:

Recently we sent you a questionnaire seeking labor market information for selected occupations.

In case your form has been misplaced, we are enclosing another and request that you complete and mail it to us in the self-addressed envelope which requires no postage.

We assure you that all information furnished will be treated confidentially, and that all data will be combined in a composite study to be used by employers, school authorities, vocational counselors and others.

Your reply is most important because the accuracy of our findings depends on the response of each individual employer. If you have already returned your questionnaire, please disregard this letter.

Sincerely,

Henry E. Kendall
Chairman

Enclosure

TRAINING INSTITUTION LOCATIONS

Community Colleges

Charlotte
Elizabeth City
Southern Pines

Technical Institutes

Asheville
Burlington
Fayetteville
Goldsboro
Newton
Salisbury
Wilson
Winston-Salem

Planned Community Colleges and Technical Institutes

Burke County
Caldwell County
Columbus County
Richmond County
Rockingham County
Surry County

Industrial Education Centers

Asheboro
Durham
Gastonia
Greenville
Jamestown
Kinston
Lexington
Raleigh
Sanford
Spray
Wilmington

Units

Ansonville
Avondale
Bayboro
Jacksonville
Kenansville
Marion
Morehead City
Rose Hill
Sylva
Washington

EMPLOYMENT SECURITY COMMISSION OFFICE LOCATIONS

Albemarle
Asheboro
Asheville
Bryson City
Burlington
Charlotte
Concord
Durham
Edenton
Elizabeth City
Fayetteville
Forest City
Gastonia
Goldsboro
Greensboro
Greenville
Henderson
Hendersonville
Hickory
High Point
Jacksonville
Kannapolis
Kinston
Lenoir
Lexington
Lincolnton
Lumberton
Marion
Monroe
Morehead City
Morganton
Mount Airy
Murphy
New Bern
Newton
North Wilkesboro
Raleigh
Reidsville
Roanoke Rapids
Rockingham
Rocky Mount
Salisbury
Sanford
Shelby
Spray
Spruce Pine
Statesville
Thomasville
Washington
Waynesville
Williamston
Wilmington
Wilson
Winston-Salem

VT 001 265

National Standard Vocational Agriculture Safety Inspection Check List.

Joint Safety Committee of the American Vocational Association and the National Safety Council.
MF AVAILABLE IN VT-ERIC SET.
National Safety Council, 425 North Michigan Avenue, Chicago, Illinois 60611 ($1.35 per 50).
Pub Date - Feb66 6p.

*VOCATIONAL AGRICULTURE; *AGRICULTURAL SAFETY; *CHECK LISTS; *STANDARDS

Standards for vocational agriculture safety are presented in checklist form for use in making regular inspections. Divisions include (1) instruction, (2) personal protection, (3) accident records, (4) classroom and laboratory, (5) agricultural mechanics shop, (6) housekeeping, (7) hand and power tools, (8) electrical safety, (9) school and land laboratory, and (10) field trips and farm visits. Space is provided at the end of the form for making recommendations for all items marked unsatisfactory. (JM)

VT 001 265

Published February, 1966

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NATIONAL STANDARD VOCATIONAL AGRICULTURE SAFETY INSPECTION CHECK LIST

Prepared by the Joint Safety Committee of the AMERICAN VOCATIONAL ASSOCIATION — NATIONAL SAFETY COUNCIL

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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ON OR POLICY.

_____ Date _____

_____

INTRODUCTION

A safe environment is an essential part of the school safety education program. Regular and frequent safety inspections by school personnel—administrators, teachers and students will identify and correct existing hazards.

Inspections may be made at the request of the board of education, the school administration, or upon the initiative of the teacher. Some communities have drawn upon the cooperative service of professional safety engineers, inspectors of state labor departments, insurance companies, and local safety councils to supplement and confirm inspections by school personnel.

DIRECTIONS

WHO INSPECTS?

This will depend upon local policies. It is recommended, however, that shop teachers and students—the student safety engineer and/or student safety committee—participate in making regular inspections. This not only tends to share responsibility, but stimulates a broader interest in the maintenance of a safe school shop.

WHEN TO INSPECT?

As a minimum, a safety inspection should be made at the beginning of every school term or semester. More frequent inspections may be advisable.

HOW TO INSPECT?

Inspections should be well planned in advance and be systematic and thorough. An inspection check list should be used. Inspection reports should be clear and concise, but with sufficient explanation to make each recommendation for improvement understandable.

FOLLOW-UP

The current report should be compared with previous records to determine progress. The report should be studied in terms of the accident situation so that special attention can be given to those conditions and locations which are accident producers. Each unsafe condition should be corrected as soon as possible in accordance with accepted local procedures. A definite policy should be established in regard to taking materials and equipment out of service because of unsafe conditions. The inspection report can be used to advantage as the subject for staff and class discussion.

CHECKING PROCEDURE

Draw a circle around the appropriate letter, using the following letter scheme:

S—Satisfactory (needs no attention)
U—Unsatisfactory (needs immediate attention)

Recommendations should be made in all cases where a "U" is circled. Space is provided at the end of the form for such comments. Designate the items covered by the recommendations, using the code number applicable (as B-2). Space is provided for listing of standards, requirements, or regulations which have local application only.

A. INSTRUCTION

1. Safety instruction is an integral part of each teaching unit. ..... S U
2. Accident prevention is taught with a positive approach. ..... S U
3. The proper use of each piece of equipment is demonstrated before students are permitted to use it. ..... S U
4. Informational safety rules are posted near each hazardous piece of equipment. ..... S U
5. Printed general safe practices are provided each student. ..... S U
6. Instruction is provided on proper methods of lifting, carrying and lowering heavy objects. ..... S U
7. Safety posters are used and are changed frequently... S U
8. Each class has a safety inspector or committee and each student has an opportunity to serve on the safety committee at some time during the four years. ..... S U
9. A procedure is established for students to recognize and report hazards. ..... S U
10. Tests on safety are given regularly as a part of the testing program. ..... S U
11. A complete record is kept of safety instruction, including test records, and is on file. ..... S U
12. First aid instruction is provided to all students..... S U
13. Students are taught the types of fire extinguishers and how to use them. ..... S U
14. Running, horseplay, etc., are completely prohibited.. S U

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B. PERSONAL PROTECTION

1. Goggles or protective shields are provided and are required for all work where eye hazards exist: grinding, drilling, wire brushing, etc. ..... S U
2. Shields and goggles are provided for electric welding and acetylene welding. ..... S U
3. Respirators are provided for dusty or toxic atmospheric conditions, such as spray painting. ..... S U
4. Coveralls or other appropriate apparel are checked for loose ends when working in the shop. ..... S U
5. Sleeves are rolled above elbows and ties are removed when working around machinery. ..... S U
6. Jewelry (rings, wristwatches, etc.) is not worn when working with machines. ..... S U
7. An adequately stocked first aid cabinet is provided in the agricultural mechanics shop and laboratory and is checked monthly. ..... S U
8. The shop is kept locked when the instructor is not present. ..... S U

C. ACCIDENT RECORDS

1. All accidents are reported to the instructor. ..... S U
2. Accident reports are completed on all accidents, regardless of their nature or severity, and such accidents are reported to the school nurse or principal's office. ..... S U
3. Accident reports are analyzed for instructional purposes and as aids in preventing other accidents. ..... S U
4. Written policies are posted and maintained which outline correct procedures in case of accident. ..... S U

D. THE CLASSROOM AND LABORATORY

1. Equipment and supplies are arranged so that there are adequate aisles for safety and easy exit. ..... S U
2. All compounds and materials are properly labeled... S U
3. Poisonous materials are labeled and kept separate from other materials. ..... S U
4. Proper laboratory procedures are demonstrated before students begin work. ..... S U
5. The laboratory is adequately ventilated. ..... S U
6. Fire resistant materials are used where needed. ..... S U

E. AGRICULTURAL MECHANICS SHOP

1. Shop lighting is safe, sufficient, and well placed..... S U
2. Ventilation is adequate to remove all fumes. ..... S U
3. Floors and aisles are skid resistant. ..... S U

4. The shop has two or more well marked exits. ..... S U
5. Students are familiar with emergency procedures for evacuating the shop. ..... S U
6. All hinged doors open outward and are kept unlocked during shop periods. ..... S U
7. Walls and storage areas are kept clear of objects that might fall. ..... S U
8. Adequate storage space is provided. ..... S U
9. Lockers and storage cabinets are regularly inspected for cleanliness and fire hazards. ..... S U
10. CO_2 fire extinguishers are available for electrical fires. S U
11. Dry powder extinguishers are available for gasoline and oil fires. ..... S U

F. HOUSEKEEPING

1. The general appearance of the shop is one of orderliness. ..... S U
2. All tools and materials are properly stored when not in use. ..... S U
3. Lumber and metal are properly stacked. ..... S U
4. Work benches are kept clear of unneeded materials... S U
5. The shop floor is kept clear and free of water, oil and foreign materials. ..... S U
6. Provision is made for daily removal of sawdust and other waste materials, or they are stored in fireproof, approved containers. ..... S U
7. Approved, properly marked containers are provided for scraps. ..... S U
8. Scrap materials are placed in proper bins promptly... S U
9. A spring-lid metal container is provided for oily waste and rags. ..... S U
10. Storage of supplies and shop projects is arranged for safety. ..... S U
11. The tool and supply room is maintained in an orderly and safe condition. ..... S U
12. Flammable materials are stored in metal cabinets.... S U
13. Dangerous materials, such as gasoline, are stored in approved containers in a separate place. ..... S U
14. Flammable materials are not used for cleaning purposes. ..... S U
15. Washing facilities are kept clean and neat. ..... S U

G. HAND AND POWER TOOLS

1. Special tool racks are provided and kept in an orderly condition. ..... S U
2. Hand tools are kept sharp, clean and in safe condition. ..... S U

3. Students are trained to use the proper size tool for the job to be done. ..... S U
4. Tool handles are kept firmly fastened and free from dirt, oil and grease. ..... S U
5. All hand tools are regularly checked for defects and damage. ..... S U
6. Machines are arranged so that workers are protected from hazards of other machines, passing students, etc..... S U
7. All gears, moving belts, etc., are protected by permanent enclosure guards. ..... S U
8. All machines have proper guards at point of operation. ..... S U
9. All power tools are operated according to manufacturers' directions. ..... S U
10. A student is permitted to operate a machine only after demonstrating his ability. ..... S U
11. Danger zones are properly indicated and marked..... S U
12. Permanently placed machines are securely fastened to the floor or bench. ..... S U
13. Strict supervision is provided for students using hazardous equipment. ..... S U
14. Machines are always shut off when not attended..... S U
15. Brushes are used in cleaning equipment..... S U
16. Unsafe equipment is promptly repaired or taken out of use. ..... S U
17. Grinder wheels are kept in balance. ..... S U
18. The grinder tool rest is maintained within ⅛-inch of the wheel. ..... S U
19. Pusher sticks are available and used on circular saws and jointers ..... S U
20. All equipment is color coded. ..... S U
21. There is adequate lighting for safe work at each equipment area. ..... S U
22. All work is securely fastened when drilling. ..... S U

H. ELECTRICAL SAFETY

1. All electrical control switches are within easy reach of the operator. ..... S U
2. All motors, fuse and switch boxes and other electrical equipment are grounded. ..... S U
3. There is a master control switch for all electrical installations. ..... S U
4. All switches are enclosed. ..... S U
5. Electrical outlets and circuits are properly identified. S U
6. All extension cords are in safe condition and do not carry excessive loads. ..... S U
7. Equipment is provided with overload and underload controls. ..... S U

8. Electrical motors are wired to comply with the National Electrical Code. ..... S U
9. All convenience outlets are grounded. ..... S U
10. All machines and power tools are properly grounded. S U

I. THE SCHOOL AND LAND LABORATORY

1. Machinery and equipment are kept in proper working order. ..... S U
2. The operator is familiar with the operation manual of the machine being used. ..... S U
3. Power takeoff drives on machines are shielded at all times. ..... S U
4. Machines are turned off when being adjusted, repaired, or serviced. ..... S U
5. Machines are used only for the jobs for which they were made. ..... S U
6. Extra care is taken in hitching and unhitching..... S U
7. Farm equipment used on the highway is properly identified with a Slow Moving Vehicle emblem. ..... S U
8. Stairs and walks are well lighted and clear of obstructions. ..... S U
9. Ladders are in good condition and tested before use... S U
10. An appropriate fire extinguisher is available in each farm building. ..... S U
11. All heating and electrical equipment is shielded and grounded. ..... S U
12. All engines are stopped when refueling. ..... S U
13. An adequate water supply is available for controlling fires. ..... S U
14. Fire-fighting equipment is readily available and well marked. ..... S U
15. "No Smoking" signs are placed in strategic places... S U
16. Maximum vision is provided where farm driveways enter the highway. ..... S U
17. All machines and equipment have proper lights for night travel. ..... S U
18. Stocks or other safety devices are used when treating or caring for farm animals. ..... S U
19. Insecticides and other drugs are properly identified and stored. ..... S U
20. Newly stored hay and grain are regularly checked for heating. ..... S U
21. Dated medicines are destroyed ..... S U

J. FIELD TRIPS AND FARM VISITS

1. Rules and laws of the highway are observed at all times. ..... S U
2. Only approved vehicles are used for farm visits and field trips. ..... S U

FIELD TRIPS AND FARM VISITS (continued)

3. All vehicles are checked periodically to keep them in safe operating condition. ..... S U
4. Hazardous areas, such as school zones, hill crests, etc., are given special consideration. ..... S U
5. The rights of pedestrians are respected at all times... S U
6. When walking near highways, everyone faces oncoming traffic. ..... S U
7. Vehicles are not overloaded with either passengers or materials. ..... S U
8. All drivers and passengers are insured for both liability and personal injury. ..... S U
9. Proper signals are given for turns and stops..... S U

K. OTHERS

1. _____ S U
2. _____ S U
3. _____ S U
4. _____ S U
5. _____ S U
6. _____ S U
7. _____ S U
8. _____ S U

RECOMMENDATIONS

For additional copies in packets of 50 send $1.35 to National Safety Council, 425 North Michigan Avenue, Chicago, Ill. 60611.

10M26609 Printed in U.S.A. Stock No. 429-72

VT 001 271
O'Connor, Thomas J.
Follow-Up Studies in Junior Colleges; A Tool for Institutional Improvement.

American Association of Junior Colleges, Washington, D.C. Student Personnel Commission
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 65 77p.

*GUIDELINES; *FOLLOWUP STUDIES; *JUNIOR COLLEGES; TRANSFER STUDENTS; TECHNICAL EDUCATION; GRADUATE SURVEYS; VOCATIONAL FOLLOWUP; DROPOUTS; COLLEGE STUDENTS; PROGRAM IMPROVEMENT; *PROGRAM EVALUATION

A guide to the philosophy, planning, and use of followup studies is presented in this bulletin. The content was selected to (1) demonstrate the value of followup studies, (2) give examples of successful practices, (3) provide guidelines for organizing followup studies, (4) suggest implications of information gained from research, and (5) encourage more 2-year colleges to collect necessary data and apply them toward improvement of their programs. Two-year colleges must be especially sensitive to all sociological and technical changes and followup is an indispensable aid to their vitality, efficiency, and productivity. Some uses of followup data are (1) establishing student characteristics norms, (2) evaluating entrance requirements, (3) appraising counseling services, (4) evaluating placement services, and (5) ascertaining the usefulness of the public relations program. Sample questionnaire forms are given for 17 purposes such as (1) occupational followup, (2) alumni information, (3) withdrawal analysis, (4) counseling evaluation, and (5) curriculum evaluation. (EM)

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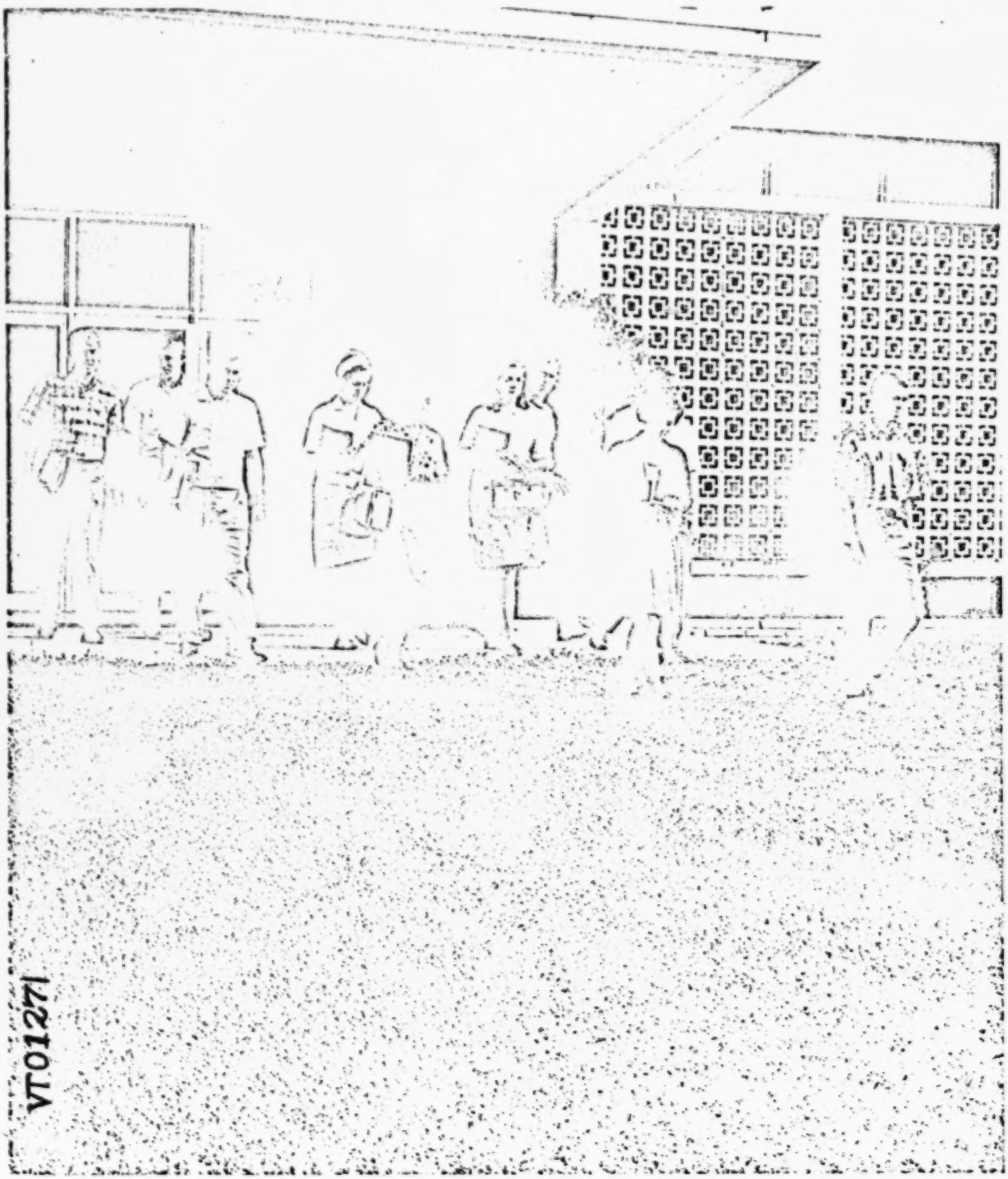
FOLLOW-UP STUDIES IN JUNIOR COLLEGES:

A TOOL FOR INSTITUTIONAL IMPROVEMENT / BY THOMAS J. O'CONNOR



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FOLLOW-UP STUDIES IN JUNIOR COLLEGES:

A TOOL FOR INSTITUTIONAL IMPROVEMENT / BY THOMAS J. O'CONNOR

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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FOREWORD

The most important person in the junior college is the student. What happens to the young man or woman while in the college, and even after matriculation, must be of primary concern to all who are involved in the educational process. The success of the institution can best be measured by the success of the student.

To ascertain the effectiveness of the college program, there must be "follow-up"—from the day the student enters the institution until, and even after, he gains employment or transfers to another institution. Simply defined, follow-up is a process by which an educational institution seeks to determine how effectively it is meeting the needs of those it serves. Introspective by nature, it determines how well the stated objectives of the college are being achieved.

Recognizing the importance of the follow-up process as a means of evaluating the impact of college experiences on students, the American Association of Junior Colleges presents in the following pages a guide to the philosophy, planning, procedures, and use of follow-up studies. "Follow-Up Studies in Junior Colleges: A Tool for Institutional Improvement" also contains sample forms which have been used successfully in this important, institutional research process.

In sponsoring this bulletin, the Association demonstrates its belief that well-planned follow-up studies should become an integral part of the institutional research program of every college. Junior colleges have tended to give greater attention to evaluation of instruction and administration than to appraisal of the student's goal attainment. Institutional research will be of little use if it does not take into account the results of the college's efforts toward meeting the aspirations and objectives of the people to be served.

This bulletin has been designed as a handbook of practical approaches to gathering data and conducting research on factors which influence student accomplishment. The content is selected to (1) demonstrate the value of follow-up studies, (2) give examples of successful practices, (3) provide guidelines for organizing follow-up studies, (4) suggest implications of information gained from research, and (5) encourage more two-year colleges to collect necessary data and apply them toward improvement of their programs.

While this handbook suggests that follow-up studies are an appropriate responsibility of the student personnel division of the junior college, it at once emphasizes that results of this kind of research are of primary concern to the entire college, especially to instruction, curriculum, and administration. Such studies, it is made clear, are an integral part of institutional research; and when they are conducted from a student personnel point of view, they can do much to bridge the artificial dichotomy of instruction and student personnel services.

Finally, this bulletin recognizes that studies of students after they leave junior college are more helpful when adequate data about the students have been collected while they are enrolled in the institution. Moreover, the bulletin recognizes that evaluation studies of performance of students while they are enrolled provide an invaluable basis for interpreting post-graduation performance.

"Follow-up Studies in Junior Colleges: A Tool for Institutional Improvement" is one of a series of publications in the guidance and counseling field being prepared by the Student Personnel Commission of the American Association of Junior Colleges. The author, Thomas J. O'Connor, is assistant superintendent of Mt. San Antonio College in Walnut, California. His experience in coordinating administration, instruction, and student personnel services in one of the nation's large community colleges is reflected in the guidelines which this bulletin provides.

This bulletin and others in the series have been prepared under the direction of Dr. Herman Sheffield, president of San Bernardino Valley College and Dr. John Johnson, president of Santa Ana College, working as co-chairmen of a committee of the Commission on Student Personnel, American Association of Junior Colleges. An advisory committee suggested content and organization and reviewed the manuscript.

The American Association of Junior Colleges is appreciative of the efforts of Mr. O'Connor, the advisory committee, the Student Personnel Commission, and Dr. Thomas B. Merson who provided staff services to the commission during the development of this bulletin.

Part I

IMPLICATIONS FOR PEOPLE AND PROGRAMS

Educators who have had experience in the development of new junior colleges are well-acquainted with the necessity for conducting preliminary surveys to determine socioeconomic and population descriptions of areas to be served. They also understand the importance of studies of high school graduates to determine potential college enrollments, as well as to ascertain academic and occupational goals and interests of prospective students. The value of information gained from this kind or research in establishing the initial programs of study for the new institution is self-evident.

But research, study, and evaluation should not end with the opening of a college. In a time of change in community structure, in the face of fast-moving industrial development, there must be continuous and effective research on the student and the entire college program. Follow-up research is as important to the junior college as market research is to a pioneering business. Without the data obtained from such research, it is impossible for junior colleges to respond quickly and effectively to the dynamic forces which shape and change communities and which have such obvious impact on their citizens.

Follow-up provides the student with reliable information regarding the success of former students transferring from junior colleges to four-year colleges, or entering employment; justifies subject requirements for graduation; gives incentive for developing traits and competence in ways shown to be requisite for future success.

Follow-up provides the instructor with firsthand evidence of the effectiveness of his teaching, the reasonableness of his standards, and the relevance of the material he includes in his courses.

Follow-up gives the counselor a factual basis for advising students regarding career choices, sources of advanced study, course selection, extracurricular participation, and success expectation.

Follow-up provides the college with facts upon which to base admissions policies; develop and organize course content; establish performance standards; improve articulation with parents, high schools, senior colleges, and industry; and suggests a means of planning new curriculums and other extensions of educational effort.

Follow-up offers the community means of identifying gaps in educational service; creates confidence in the efforts of the college; increases the productivity of college-trained recruits; and provides means of insuring effective occupational upgrading.

The need for institutional research in the community junior college is imperative, perhaps even more so than in the four-year institution. Two-year colleges must be especially sensitive to all sociological and technological changes if they are to meet the needs of business and industry and at once satisfy the requirements of students with a broad range of interests, aspirations, and abilities. Moreover, junior colleges have only two years, sometimes less, in which to make an impact on their students. Follow-up, therefore, is an indispensable aid to vitality, efficiency, and productivity of the institution.

The question may be raised as to the scope of follow-up studies. The answer, of course, will vary, but generally such research embraces three basic concepts, whether the study is based on the total program of the college or on a particular segment of the program: (1) clarifying what the college is attempting to do; (2) identifying the important tasks among its many activities; and (3) evaluating the effectiveness of its programs and efforts.

Examinations and evaluations of student progress and development involve certain costs which may appear prohibitive in some cases. However, costs can be kept to a minimum if research is confined to a specific area of the college's program. A study of the college, on a section-by-section basis, while obviously suggesting a long-range plan, may even produce better results in the final analysis.

Community junior colleges offer educational opportunity for students with a wide range of interests, abilities, and past achievement,

to move them toward goals which they might not reach without post-high school education. Thus, two-year colleges recognize responsibility for providing a variety of courses to match the characteristics of the students they enroll. These courses must be planned (1) to provide a number of starting points; (2) to provide for differing rates of achievement; (3) to provide many choices of direction; and (4) to provide several profitable stopping points. The aim of these programs is to develop maximum competence in each student and immediately move the student toward his objectives.

Such differential treatment requires a flexible administration, versatile instructors, and most important, a counseling staff fully informed about the characteristics of students and the relationship of specific characteristics to success in particular fields. To fulfill this responsibility, a college must collect, analyze, and use information about its students. The college begins by collecting information to guide its admission selection; by continuously using the information to assist students in achieving maximum success; and by evaluating occupational proficiency or transfer achievement after the student has moved from the junior college into employment or to a four-year institution.

The college must be concerned with (1) characteristics of the total student body; (2) characteristics of special groups such as the very able, the underachievers, and the slow learners; (3) characteristics of students in individual courses; and (4) characteristics of individual students.

Student groups provide a sound basis for formulating college policy with regard to admissions, course placement, curriculum, and instruction. But research on students in groups is not enough. Analysis of performance of individuals is mandatory if the college is to serve effectively the wide range of student requirements. If both student welfare and college effectiveness are viewed as important reasons for studying students and their success, it is obvious that these studies must be conducted before students are admitted, while students are enrolled, and after students graduate.

Follow-up studies serve to measure effectiveness of instruction, curriculum, and student personnel services. Specifically, data obtained from such studies can provide bases for:

- Reducing the number of students who leave, or drop out of, college before satisfactory completion of work
- Establishing norms on aptitudes, socioeconomic status, vocational aspirations, and other characteristics
- Assessing the degree to which curriculum and instruction are adapted to the full range of student and community needs
- Improving the effectiveness of technical-occupational curriculums, courses, instruction, and guidance
- Determining modifications required in transfer programs to provide strong preparation for advanced study
- Evaluating grading standards
- Identifying outstanding instructors and counselors
- Evaluating the effectiveness of entrance requirements
- Appraising the effectiveness of student counseling
- Verifying the validity of the testing program
- Measuring the extent and worth of health and clinical psychological services
- Evaluating the competency of placement services
- Determining the effect of extracurricular activities on student development
- Clarifying the effectiveness of record-keeping procedures
- Ascertaining the usefulness of the public relations program
- Measuring the values of the orientation program

STUDENT DROPOUTS

One of the most costly, perplexing, and persistent problems faced by junior college administrators is that of student dropouts. Studies of this problem usually do not result in reduction of the number of students leaving college before completing their work, perhaps because such examinations are usually conducted on a sporadic rather than an ongoing basis. A sustained analysis of the problem might well yield more effective solutions. Follow-up studies must include an analysis of dropouts.

Dropouts are students who terminate their enrollment before they have achieved their educational objectives. Statistics which count all students as dropouts who have not completed two full years and grad-

uation requirements are misleading because many students complete their educational goal in less than two years. Students appropriately counted in dropout studies are those who go through the process of preadmission testing, counseling, and registration, and formally enroll in classes but who withdraw before completing the program in which they are enrolled. Some students may complete all preenrollment testing and counseling but will not enter classes. Other students withdraw during the first semester or during a subsequent semester. Still others elect not to continue at the close of one of the school terms.

Obviously, accurate counting of bona fide dropouts is an essential prerequisite to an accurate analysis of the causes of dropouts. Second, it is of great importance to ascertain all the factors that may have contributed to the students' withdrawal from the institution. The college has an obligation to determine why students leave college prematurely, particularly as regards deficiencies in the college program that may have effected their withdrawal.

Moreover, the size of the dropout component has major implications for operating the junior college. By predicting operations, financial outlay, staffing, and facilities development on what may be false enrollment statistics, the college stands to suffer budgetary losses of sizable proportions. Expenses incurred in processing students who subsequently drop out are, in themselves, sizable.

NORMS OF STUDENT CHARACTERISTICS

In planning its program, the junior college must take into account national and local norms that may relate to conditions which affect student progress. It is essential, for example, that the college have information about national and local norms on student intelligence, socioeconomic status, marital status, educational goals, and levels of preparation.

Such data can be obtained from national and local admissions and student personnel records. By comparing such basic facts about local, state, and national student populations, follow-up studies can be interpreted with maximum meaning and validity. Furthermore, as colleges gain more experience in surveying students' characteristics, problems, and development, added insights into requirements for additional in-

formation and kinds of facts that should be included in personnel records will be gained.

ADAPTATIONS OF CURRICULUM AND INSTRUCTION

Junior colleges are often called "community colleges" because their curriculums reflect the social, economic, and industrial life of the communities they serve. To insure a proper orientation to local needs, colleges often organize advisory committees—composed of representatives of professional, business, and industrial interests—to assist in the establishment of new courses and curriculums, or to review existing programs in terms of changing needs.

Follow-up procedures should be employed to make certain that the college programs are serving the needs of the community, and do, in fact, reflect the social and economic status of the population. It would be ill-advised, for example, for a community college to overemphasize preprofessional training in a community where technical and semiprofessional programs would be more appropriate both for high school graduates and for local manpower users.

To verify whether the junior college is reflecting in its program the needs of the community, follow-up surveys of each graduating class should be conducted. This is especially true where there is a great flux in population and change in industrial development. Such studies will reveal the number of students transferring to four-year colleges and the number of technical-occupational graduates being placed locally. A further breakdown of the latter figure will give an indication of the specific businesses and industries that are absorbing community college graduates. Such information, in turn, should provide a valid basis for eliminating curriculums which are not serving local, state, or national manpower needs and for adding new programs required by employment changes.

VOCATIONAL-TECHNICAL PROGRAMS

Rapid changes in technology mandate continuous revision of technical instruction. Feed-back of information from recently employed students provides one of the best means of obtaining an evaluation

of the relevance of course content, instructional emphasis, and student advisement to the actual demands of employment. Two years or less is a short time in which to prepare students for technical and semi-professional careers. Several perennial questions face curriculum builders and student advisers:

1. What proportion of the student's program should be general education, and what part technical education?
2. What are the essential general and technical education components?
3. To what extent should technical education be specialized?
4. How much emphasis should be given in technical courses to theory and how much to skills and application?
5. How much and what kind of related, supplementary science and mathematics should the technical student be required to master?
6. What combinations of native ability and technical aptitude and proficiency are requisite for successful careers in various kinds of employment?

Follow-up studies provide some answers to these questions. Unfortunately they do not always clearly indicate the necessary course of action because replies from students after they have become employed may contain conflicting recommendations. For this reason, individual replies must be studied in order to determine the factors which are common to employment in a given position in a given field, and also to uncover differences which are related to individual employers, rather than to fields of employment.

Studies of this type are particularly helpful to advisory committees. When a committee has substantial data about graduates, it frequently is in a better position to recommend changes in employment practices as well as to recommend changes in curriculum, instruction, or advisement. When the bonds of partnership between the college and industry are strengthened in this way, all involved benefit—especially the student.

TRANSFER PROGRAMS

Junior colleges often are judged as to their effectiveness largely on the basis of the success of students who transfer to four-year colleges and universities at the end of two years. Accreditation teams direct substantial attention toward transfer courses, perhaps because these teams feel they can best judge this effort of the two-year college. Colleges must systematically survey and analyze programs of transfer students in order to insure that the experiences offered in the junior college will lead to success in upper-division work. Such continuous evaluation may result in changes in teaching materials, revision of examination and testing procedures, modification of course content and changing course prerequisites.

Successful preparation of students for upper-division work requires knowledge of: (1) the characteristics of the four-year colleges to which students will transfer; (2) the numbers of students who transfer to each college; (3) the major fields in which the transfer students enroll; (4) the success of previous transfer students in various upper-division major fields of study in these colleges; and (5) problems frequently encountered by transfer students. When adequate data are collected by the junior college on these points, liaison with the four-year college will be strengthened.

Success of transfer students is usually measured by: (1) grades earned after transfer; (2) the number achieving honors, and those earning less than an average grade; and (3) the differential between grades earned in the junior college and those earned after transfer. Annual follow-up studies should routinely analyze these factors.

GENERAL EDUCATION

Little systematic study is made of the effectiveness of general education requirements in two-year colleges. Yet, counselors, advisers, and instructors claim that this phase of the student's education is extremely important, and graduation requirements usually demand completion of some general education pattern. The results sought from general education are admittedly difficult to measure but their importance seems to warrant more effort towards evaluation.

It is difficult to ascertain the combination of program and experience that will produce lasting impact on communication skills, critical thinking, health habits, and values, or the kind of preparation which gives tangible evidence of influencing an individual toward better personal and social adjustment, citizenship competence, and stable family relationships. Intensive follow-up studies along these lines would seem to be as important as follow-up studies which assess the level of competence developed in any other program of the college.

GRADING STANDARDS

Both philosophical and practical problems are associated with the establishment and maintenance of grading standards which are appropriate for the various objectives of a comprehensive, two-year college. Continuous review of grading practices of individual instructors and of special courses and curriculums is essential. Grading practices must be related to educational objectives and to student characteristics. Many new instructors require time to appreciate the need for multiple grading standards. Follow-up studies provide more helpful data in determining realistic standards than is provided by any other source of information.

Tendencies toward either lenient or excessively severe grading may be detected by systematic analysis of grade distributions each semester. If individuals or departments are found to have given a disproportionate number of high grades, there is opportunity then to schedule conferences and examine grading philosophies and systems. Evidence from follow-up studies provides a sound means of validating grading standards. Likewise, it is possible that extremes in grading may be revealed by such studies.

Many other statistical inferences can be gained through study of grade distribution. For example, this type of follow-up will reveal how many students withdraw unofficially from college, how many withdraw with failing or passing grades, and how many receive administrative failing grades for nonattendance. The implication for further research on grades constitutes another promising area for follow-up studies.

ANALYSIS OF INSTRUCTORS AND COUNSELORS

Follow-up studies provide one means of measuring the effectiveness of instructors and counselors. Student assessments of the helpfulness of faculty and staff, ascertained in yearly or frequent studies, are one of the best sources of data for staff improvement.

Students will be quick to point out instructors whom they considered to be overly demanding or lacking in understanding, and those who showed patience and comprehension of student problems. They will give their opinions on the counseling and individual attention received. While the attitudes of departing students toward instructors and counselors must be analyzed carefully, they do identify problems that may assist in faculty and staff development.

ENTRANCE REQUIREMENTS

When a student is admitted to a college, he should have high expectation of success. In most cases, the student should not be admitted if the college does not offer a program or programs in which the student has a reasonable possibility of success.

Two-year colleges vary in their admissions criteria and standards. Some are highly selective, and others, by law or by preference, subscribe to the "open door" policy, admitting all high school graduates and those over 18 years of age who can benefit from college experience. Colleges with liberal admissions policies usually place restrictions on admission to certain curriculums within the institutions, thus assuring that some students do not enter programs where their opportunities for success are negligible.

The effectiveness of screening procedures in all junior colleges is germane to follow-up studies. Constant review of admissions requirements is necessary. Failure of the college to evaluate and use admissions requirements for specific majors and curriculums can lead students to select courses in which failure is almost certain. When an inordinate number of such failures occurs, the cost to the college is high and unjustifiable.

Preservation of standards and exercise of prudence by faculty and administration in proper use of funds are expected and demanded.

Although junior colleges frequently do act as catalytic agents in resolving the vocational and educational objectives of their students, many false starts and much time and expense could be saved by analyzing, through follow-up, the effectiveness of admissions requirements and course prerequisites. Sometimes the implications of these studies indicate the need for establishing new cut-off scores on tests, or the development of new tests and other admissions procedures.

Enrollment studies will show the number of students seeking enrollment in specific programs and courses which employ screening criteria; the number of students rejected; and the number who succeed and fail in each course or program. Follow-up will be effective, then, as a measure of predicting success, not only in college, but also in specific courses and curriculums.

Continuous follow-up study of placement and admissions tests also provides the college administration with an excellent means of predicting numbers of class and laboratory sections, in estimating numbers of transfer and technical-occupational students, in forecasting the number of part-time students, and in estimating the number and types of remedial sections required. Such information, or the trends it suggests, can also assist greatly in predicting faculty and facility needs.

COUNSELING AND GUIDANCE

Counseling is considered by many authorities to be one of the principal functions of junior colleges. Many counselors believe that the greatest challenge to their competencies lies in counseling in junior colleges. Reasons for these beliefs have their origin in the variety and complexity of the curriculums in the vocational indecision of many students, and in the variety and potential and performance of individuals in the heterogeneous student body.

At the time they enroll in junior college many students may be substantially unaware of their vocational objectives, their majors, their capacities, and their interests. Some students have experienced near failure in high school and face major problems of orientation. Many students with aspirations to enter four-year colleges immediately

following high school find that they are ineligible, so adjustments in attitudes and objectives become necessary. Another group of students posing a challenge for counseling and instruction is composed of persons possessing adequate ability and interest but having minimal previous formal education. There are also those who are eligible to enter baccalaureate programs immediately after high school but who need help in selecting majors and in choosing appropriate four-year colleges. Proper placement, timely encouragement, and direction are necessary for their assistance. Other students, who may be misguided in their objectives, will require directive counseling into those areas wherein they may have interest and potential of success.

The transfer student, in many cases, profits from guidance in selecting a college to continue his upper-division study. The counselor will be asked to help him make this selection. All transfer students reasonably expect counselors to interpret the four-year colleges in terms of admissions requirements, philosophy, prerequisites, and subject matter.

Vocational guidance is only as effective as it is realistic, current, and meaningful to the student. A great many high school students enter junior college with hazy concepts of their vocational goals. Many of them who are not qualified will indicate intent to transfer to a four-year college because they feel vocational programs lack prestige. They need realistic counseling and orientation to the world of industry and business which will help them discover their potential, and reassure them of their worth to society in a nonprofessional career.

Follow-up studies of counseling services will indicate the effectiveness of the guidance program in aiding students to select courses of study consistent with their abilities and with the needs of the community. Studies may show needs for additional counseling personnel; for an in-service training program to insure adequate and current counseling; or for improvement of some other particular aspect of counseling. The effectiveness of the counseling staff in assisting students to achieve success is best evaluated by systematic follow-up studies.

Testing

Test data for each student must be compiled before the student is scheduled for an interview with a counselor. Test scores serve as a

basis for placing students in classes where they may succeed and also be challenged, to determine vocational choices, to estimate probability of success in various curriculums, and to establish norms by which students may be compared with students in other colleges. How well all of these functions are served by testing is an essential part of follow-up procedures.

From follow-up studies of testing, valuable insights will be gained concerning the extent to which the student's choices are affected by testing, the predictive value of tests for their performance in the various courses and the curriculum selected, and faculty reaction to the testing program.

Clinical Psychological Services

Generally speaking, junior colleges are not equipped to provide therapy for disturbed students. In many cases, the best course of action is for junior college counselors to refer such students to competent, professional people.

Naturally, counseling personnel are interested in detecting as soon as possible persons who might require or benefit from such guidance. The faculty can note symptoms of abnormal behavior and refer such cases to counselors who, in turn, can identify students who require resources for such specialized assistance from community agencies. A study of this specialized activity is preferably conducted separately from general follow-up studies.

Health Services

Most colleges offer some health services for their students. Although the amount and type may vary, it is desirable to study periodically how effectively the needs of the students and the college are being met. The effectiveness of preadmission physical examinations, immunization, accident prevention and treatment, safety and health instruction should not be overlooked in follow-up studies. Student reaction to such services can give valuable insight into the effectiveness of the health program of the college and provide a reliable basis for modifying or evaluating the existing program.

Placement

Placement is a segment of student personnel services which is pivotal to the successful functioning of a comprehensive junior college. It is imperative that, if placement is to be effective, frequent follow-up studies should be undertaken in order to observe the direction and preserve the quality of its services. College placement has been defined as "a service which assists its student clients in relating their personal qualities, education, and experience to occupational requirements, assists them in their search for employment, and cooperates with employers in the successful induction of the student into part-time and career positions." [1] An evaluation of the effectiveness of this very important aspect of personnel services in junior colleges will concern itself with the qualitative as well as the quantitative aspect of placement. Placement service introspection generally consists of evaluating the adequacy of personnel and their facilities, an examination of the records to determine how many students are placed, what type of guidance they receive regarding job selection, whether they accepted part-time or full-time employment, how effectively they perform on the job, and what feed-back is established to allow the college to formulate judgments concerning reactions of employer and student. Although follow-up is concerned primarily with the results of placement, it is also concerned with the effectiveness of its methods.

Community colleges are often in an enviable position to evaluate placement procedures because of their proximity to employers. Resident colleges are forced, usually, to rely on use of questionnaires to employers and former students in order to secure information, since places of employment may be in localities other than that of the college. No effort should be spared, in either case, to conduct continuing and thorough follow-up studies of placement practices. No better method exists for determining how well the technical-occupational objectives of the college are being carried out.

One of the greatest hindrances to objective evaluation of placement lies in relying on nonprecise definitions of success. Further research

[1] Mohs, Milton H. *Service through Placement in the Junior College.* Washington, D.C.: the American Association of Junior Colleges, 1962, p. 3.

will be required before employment success can be measured accurately enough to provide a valid basis for evaluating the impact of guidance and instruction on job readiness. Systematic follow-up studies, if carefully analyzed, may yield clues to improved evaluative techniques.

Student Activities

Student activities generally denote participation in self-government, interest clubs, social activities, and organized athletics. A well-organized and effective student activity program is dependent, basically, upon the student body's participation in, and conduct of, student affairs. All efforts at beginning an evaluation of the effectiveness of the student activity program of a junior college must commence with an understanding of the philosophy of college officials toward extracurricular activities. College authorities must recognize that education consists of developing leadership and responsible citizenship as well as formal learning.

Usually, mistakes made in a classroom are considered as evidences of the maturation of the individual. But mistakes made in the conduct of student government often are judged to be evidence of student irresponsibility. Complete success in student government is as rare as complete success in a classroom. The most important part of the student government program is the process, not the accomplishment of the activity. Student appraisal of the activity program should be sought because there is a strong relationship between an effective activity program and student morale. A periodic, systematic evaluation of the student activity program should be conducted to ensure that this program is contributing to the development of socially mature students.

Housing and Dining Services

Residential colleges uniformly emphasize the educational advantages for students of varied backgrounds living together on campus. Such a mingling provides opportunity for educational enrichment and for development of social responsibilities when the dormitory is used

as an educational unit. Colleges have discarded the idea that their responsibility ends when the student is assigned a room and given a meal ticket. College dormitories are not hotels wherein casual relationships exist between the proprietor and the guest; rather the guest is a student and the proprietor is an educator throughout the day.

Follow-up studies will show how well the college is providing the following residence services:

1. Adequacy of living quarters and meals
2. Balance in privacy and social interaction
3. Appropriate regulations and supervision
4. Effective student control in developing personal responsibility
5. Availability of competent personal guidance within the residence hall.

Community colleges which do not have residence halls find their student centers provide opportunity for many of the advantages of residence hall living. Follow-up studies are helpful in improving opportunities in the student center or the residence hall for informal social experiences which may give the student a feeling of identity with the college.

Records

The establishment, maintenance, and proper use of records provide the broad basis for all examination and analysis of student progress.

Carefully planned records, which include essential or important information, not only make student personnel services more effective but also are essential to meaningful follow-up procedures. Excellent records of three types are essential: (1) admissions information, (2) academic achievement, and (3) student personnel information.

Colleges usually have established policies regarding specific categories of information which are to be collected for use while the student is enrolled, and other information which is to be retained permanently. Use of microfilm and data processing tapes reduce the storage problem, especially in colleges with large enrollments. Information about students, which should be retained permanently, will answer questions about the student's background, his progress and

achievement in college, his record on qualifying examinations, counseling data of a nonpersonal nature, his student activities records, and other information needed for letters of reference.

A new development in record keeping is that of utilizing the student's social security number as the identifying code number. This system has proved helpful in avoiding duplication of information and provides easy access to records when they are needed. When such practice becomes common it should greatly simplify the task of locating former students for purposes of follow-up studies.

The quality of the record system of a college will be immediately evident when these records are used to interpret information obtained in follow-up studies.

Public Relations

Because an important part of student personnel services in junior colleges begins before the student enrolls in college, attention in any follow-up study should be directed toward the means used to inform parents, high school students, and the public in general of the educational opportunities of the junior college. This aspect of the public relations endeavor is frequently conducted by the student personnel staff and is accomplished through the press, addresses to civic groups, by "College Night" programs at high schools, by addresses to high school students, and through college publications.

Follow-up studies should seek to determine how effectively the college image is being projected in the community. It would be a mistake for a junior college to assume that its community is fully acquainted with the college and its programs merely because the college has been in existence for a long time. Changing populations, with the influx sometimes coming from sections of the country where no junior colleges exist, must be oriented to the junior college. Lack of understanding is all too common. Some junior colleges, perceiving that counseling alone cannot accomplish the task of informing the public of the functions of the junior college, have established public information offices appropriately staffed for the public relations job.

Follow-up studies should seek to provide information by which the college may judge the impressions entering students have of the

college and its programs at the time they enroll. With proper information, realistic orientation programs can be planned and improvement of preenrollment publicity may be implemented.

Orientation

The procedures by which a college orients its new students should be evaluated in follow-up studies. Students differ in the value they ascribe to such activities as "Freshman Day," explanation of college rules and regulations, and campus tours. In the evaluation, it is important to ascertain the activities which most influence the student in achieving an identification with the college and the activities which reduce the time required by the student to adjust to the demands of college life and routine.

In addition to "Orientation Day" programs colleges schedule group guidance orientation classes for part or all of the first semester. Such courses help students to improve study habits, evaluate interests and aptitudes, interpret the meaning of test scores, and provide assistance in improving personal and social adjustment. These classes, when taught by the student's counselor, pave the way for effective, individual conferences which can be devoted to interpretation rather than explanation. Follow-up studies enable the college to correct false impressions about effective orientation practices and to retain those activities judged beneficial.

Part II

FOLLOW-UP PROCEDURES

Procedures and methods by which a junior college may develop and employ follow-up practices in an effective manner are varied. When the personnel services are of a comprehensive nature touching upon the total collegiate program of the student, it seems logical that the student personnel staff should conduct, or at least coordinate, the follow-up studies. Colleges which employ directors of research may find it advantageous to center all studies in the research office. If the study is well-designated and well-planned and the results are disseminated to the appropriate departments of the college, the office to which the study is assigned is not of great importance.

The effectiveness of a follow-up study frequently bears a direct relationship to the time and care devoted to planning it. An important step in launching a follow-up study is to insure that both the administration and the faculty are in agreement on the values to be derived. Joint planning by both faculty and administration usually results in a more effective study and in more widespread use of its findings. A steering committee of faculty and administration, including representation from both instruction and student personnel services, should be established. This committee will define and delimit the study, formulate procedural guidelines, design the study, and structure the methods to be used in carrying it out.

The principal tools employed in follow-up studies are record analysis, interviews, and questionnaires, or a combination of such devices. If questionnaires are to be used, care should be given to their formulation. Questions which are ambiguous and incomplete usually elicit responses in kind. The combined talents of the faculty members of

the sociology, psychology, and mathematics departments should be sought in designing follow-up questionnaires and in interpreting the responses to them. Knowledge of research techniques and sampling methods will do much to reduce costs and to increase the effectiveness of the surveys.

It is recommended that interviews be used wherever possible. The personal nature of an interview will assure greater rapport than can be obtained through a questionnaire. Students are usually eager to cooperate when representatives of the college call upon them. Interviews also have the advantage of providing opportunity for expansion and explanation of student opinions.

However, in conducting an interview which will have validity it is advisable for the junior college representative to work from a prepared questionnaire or check sheet in order to insure comparable inclusion of all topics to be assessed by the study. To preserve the feeling of personal contact, it is recommended that the interviewer, rather than the student, record the statements made in the interview. Care should be exercised not to lead the student into making statements which do not actually represent his opinion.

When expense, distance, time, and other factors preclude interviews, a thoughtfully developed questionnaire can secure much valuable follow-up information.

In the following pages practical approaches to organizing and conducting follow-up studies are described for three selected categories: transfer students, technical-occupational curriculum graduates, dropouts and withdrawals.

FOLLOW-UP STUDIES OF TRANSFER STUDENTS

The follow-up study on transfer students should be concerned with:

1. Determining the colleges to which students transferred
2. Ascertaining major fields of study of transferring students
3. Observing changes in the student after transfer
4. Discovering admission problems and problems of acceptability of junior college courses
5. Comparing the students' performance at the four-year college and the junior college

6. Obtaining the students' opinion of the quality of preparation provided in the junior college

7. Ascertaining areas of strength and weaknesses in the junior college program

8. Verifying correlation of subject matter taught at the junior college with that of the four-year college

9. Observing at what period of junior college education most students transfer, and the relationship of the period of attendance at the junior college to success in the senior college.

An important decision to be made in initiating the study of transfer students is the selection of four-year colleges to be included in the study. Usually a major portion of the graduates of particular junior colleges transfer consistently to a small number of colleges, and the remainder transfer to a variety of others. In most instances, very little research is needed to determine to which colleges the bulk of the students have transferred. It is much more difficult to locate the students who have elected to attend colleges which attract only a few of the graduates. Requests for transcripts will help determine the destinations of transfer students. In some cases, the four-year colleges provide a roster of those students who have enrolled, as well as invitations to visit the students. In the final analysis, the decision as to the number of colleges to be included in the study will be based on the distribution of transfer students; the method of research used, whether interview or questionnaire; and the finances available to conduct the study.

The degree of comparability of instruction and instructional standards in junior colleges and four-year colleges is one of the most important findings of transfer follow-up studies. It is also one of the most difficult to obtain accurately and in depth. One way of determining comparability of instruction is to compare grade-point averages achieved by the same student at each institution. When the grade differential between institutions is very high, (over one-half a grade point) an analysis of the distribution of grades at the junior college is suggested. Through such a process, tendencies toward both lenient and severe grading may be detected. Comparison of student success at several senior colleges and universities gives counselors val-

uable clues to advising students in selecting a college to which they can transfer with expectation of success.

Often an analysis of student records will reveal errors in evaluating transfer credit by the university. The most serious result of such errors occurs when a student is required by the four-year college to repeat a course already completed at the junior college. The reasons for such action must be determined so the junior college may take steps to prevent recurrence of such action.

Reasons will vary, of course, but when a course must be repeated, there is obviously need for better articulation between the two-year and four-year colleges. Nothing is more damaging to the reputation of the junior college than to have its credits refused by the four-year institutions.

To expedite communication and to bring about better understanding of mutual problems of course equivalence it is advisable to assign responsibility for relations with other educational institutions to a specific person or office of the junior college. Usually an administrative staff member with a broad orientation to college policy and philosophy would be assigned to this function. By centralizing this responsibility in one office, or in one person, continuity can be maintained, and errors can be more readily corrected.

The Interview

Junior college representatives will be welcomed at senior colleges as they prepare to interview former students and, in fact, the four-year institutions will usually assist in expediting the process. Through contact with his counterpart at the four-year institution, either by mail or telephone, the junior college representative can make necessary arrangements for interviews. Care should be taken to avoid holidays and examination periods when scheduling visits and interviews.

Usually the four-year college will arrange for the place of interview, the schedule, and the notification of students, though sometimes the junior college representative may be asked to make contacts with former students directly. The junior college agent should plan to make himself available throughout the day of his visit so students will have opportunity to meet with him at their convenience.

Sufficient time should be given the four-year college to make the necessary preparation for the visit by the junior college representative. Remembering that this service is a courtesy, junior college representatives should not cause unnecessary inconveniences by thoughtless requests.

Through the interviews, students are able to furnish many insights into the effectiveness of the junior college. Naturally, their observations and comments should be carefully evaluated in terms of the students' reliability, previous records at the junior college, and their opportunity to have observed firsthand the situation upon which they are commenting. Allowances must be made for a certain amount of subjectivity. Because instructors do not influence all students similarly, comments about instructors must be carefully considered before any valid judgment can be deduced. In research of this type, it is safe to presume that, in most instances, students are well-intentioned and are trying to be objective about their evaluations.

In order to get best results from interviews, it is advisable to acquaint the students with this service while they are still attending junior college. It should be pointed out that follow-up studies are evidence of the continuing interest of the college in the welfare of the student, and that they provide an excellent opportunity for the student to make a significant contribution to the junior college.

The junior college representative who is to conduct the interviews must make advance preparation by studying student records—both before and after transfer—and by compiling grade-point differentials, program changes, and other information which familiarize him with the student's relative success at the two institutions. Grades taken from the official records of the college are far more reliable than grades estimated by the student.

An important advantage of the follow-up interview is that it provides opportunity for the counselor to aid the student quickly, when need for aid is perceived. Homesick students, those who are not achieving as well as they did in junior college, and those who have personal problems, many times turn to the junior college for assistance. They may not always overtly seek help with personal problems but the skilled interviewer can discern difficulties and offer assistance. If

possible, the same students should be interviewed twice during their careers at the four-year colleges. Increased maturity and insight may cause some to alter original conclusions about the overall effectiveness of the junior college program.

The Questionnaire

Questionnaires employed to gather information about transfer students are used in connection with interviews or as a substitute means of collecting data. When used in conjunction with the interview, the questionnaire helps the interviewer to include salient points in the discussion. The advantage of the questionnaire for widely dispersed graduates is obvious.

Although questions selected for inclusion in the questionnaire will vary, the first section of the questionnaire will probably include questions such as the following:

1. Student—name, age, sex
2. College to which he transferred
3. Date of transfer
4. Number of semesters completed at the junior college
5. Field of study pursued at the junior college
6. Major presently being studied at the four-year college
7. Date of the interview and the number of semesters completed at the four-year college
8. Grade-point average at the junior college
9. Grade-point average at the four-year college.

The second section of the questionnaire in most cases is concerned with the process of admission to the four-year college. Problems of articulation with regard to acceptance of courses by the four-year college usually emerge from such questions as: "Were all of your transfer courses accepted by the four-year college?" "Which courses were not accepted?" The responses to these questions give the interviewer the opportunity to perceive articulation problems, and in some cases, the opportunity, while he is still on campus, to have the four-year college rectify evaluation mistakes if any exist. This is one of the most important sections of the interview for the student because, if a mistake has been made in the process of evaluation, the junior college repre-

sentative can ask the admissions dean to take corrective action with reasonable expectation of success.

The third section of the questionnaire, relating to instruction, may concern itself with the following:

1. Adequacy of the junior college curriculum
2. Student's evaluation of instruction in the junior college
3. Competency of junior college instructors with regard to experience and preparation
4. Comparison of grading systems used at the junior college and the four-year college
5. Availability and willingness of the junior college instructors to give assistance to students
6. Comparison of study assignments at the junior college with those at the four-year college
7. Difficulties encountered by the student in the transition to the four-year college, and advice on how these difficulties could be reduced or eliminated for future students.

A fourth section of the questionnaire should concern itself with the student personnel services provided by the junior college. The following information may be requested:

1. The student's opinion as to the adequacy of educational counseling. The interviewer will be concerned with the student's evaluation of the ability of the counselor to give proper advice about the curriculums of the four-year college.
2. The student's opinion on the adequacy of personal counseling. Was it available when the student needed it and was the counselor willing and able to give the kind of help the student sought? Was there a system of referral if specialized assistance was required?
3. The student's opinion as to the amount and quality of assistance provided in vocational planning. Was specialized testing used to assist the student in discovering abilities and interests?
4. The student's opinion of the value of the extracurricular program. Was the program sufficiently extensive? How general was the student's participation? Did it provide sufficient opportunity for leadership? How did it compare with opportunity at the four-year college?
5. The adequacy of the placement services. Did the student require

part-time employment while in college? Was the placement office effective in helping him obtain it?

A final section of the questionnaire is frequently used for the purpose of eliciting general impressions of the entire junior college program. Junior college interviews often ask the student to compare the instruction at the junior college with that of the four-year college, soliciting the process recommendations for strengthening junior college instruction.

The organization of the questionnaire and the subjects suggested here are, at best, rough guides as to the type of information follow-up studies of transfer students may seek. Naturally, the committee which establishes the philosophy and objectives of the study may design the questionnaire to achieve these objectives. Each time a follow-up study is conducted the questionnaire should be revised in accordance with changed objectives or observed imperfections, particularly when there are questions which yielded ambiguous answers. Moreover, questionnaires should be brief and planned in such a way that responses can be tabulated quickly and efficiently. (A comprehensive form aimed at eliciting brief answers may be found in Form 1, pp. 54-57, and Form 2, pp. 57-58.)

Annual Reports from Senior Colleges

In addition to the data derived from the interviews and questionnaires, another rich source of information is that found frequently in reports regularly furnished by the four-year colleges. There is an increasing trend for senior colleges to send to the junior colleges grade reports on individual students, as well as statistical data comparing the grade-point average of the junior college students with the native students. Some universities send annually to junior colleges statistical summaries of the work of junior college transfers along with their transcripts.

Systematically prepared reports of this type make possible comparisons of the performances of junior college students with native students in the university. This is a particularly valuable service because relatively few junior colleges systematically collect follow-up data on transfer students from the time of their transfer to the time they receive their bachelor's degree. The advantages of complete and unin-

terrupted data are obvious. It is to be hoped that increased use of data processing equipment will make such reports and studies routine and widespread.

Reporting Transfer Follow-Up Studies

When the final analyses of the record, the interviews, and/or the questionnaires are made, the findings should be reported to the administration and faculty. Custom seems to indicate that written reports, complete with statistical data, be submitted routinely to the administration. Some colleges prepare additional reports for the faculty which may be written or may be presented orally at a general faculty meeting or in departmental meetings. It should be kept in mind that lengthy statistical reports frequently do not inspire action, yet they are valuable for later comparisons.

Whether the report is oral or written, the person who conducted the study should interpret the results in the light of his experience and make comparisons which will be meaningful. In most cases, the faculty who teach transfer subjects will center their interest on grade-point differentials, the students' opinions and attitudes toward their teaching, and how well junior college preparation correlated with preparation provided at the four-year college. Quotes from the students concerning their impressions of the junior college in general and their attitudes toward the value of junior college education are appreciated by the faculty. Student remarks about individual instructors or counselors, of either complimentary or uncomplimentary nature, should be reserved for private dissemination.

Many of the four-year colleges can benefit from comments that transfer students make concerning their programs and many of the colleges request copies of the report. As a courtesy and a mark of appreciation for the extra work involved in arranging follow-up interviews, it is good practice to forward any information which would be of help to the four-year college in its self-evaluation.

FOLLOW-UP STUDIES OF TECHNICAL-OCCUPATIONAL STUDENTS

One of the most vital, frequently neglected, and yet highly important areas of follow-up studies is that of students in technical-occupational

curriculums. These studies are more difficult than studies of transfer students for the following reasons:

1. Technical-occupational students quickly disperse; they are difficult to find.

2. Because of the dispersion of students, greater reliance must be put on the questionnaire as a source of information; interviews are difficult and time-consuming except in certain employment concentrations.

3. Not all students who become employed after they leave junior college were enrolled in technical-occupational curriculums in the junior college.

4. Caution must be exercised to separate the dropouts from the occupationally prepared students.

5. Standards of acceptable employment performance vary widely in business and industry.

6. Response from occupational students, especially when the questionnaire is the only means to reach them, is frequently low.

There are, of course, exceptions to these generalizations. Many groups of students with occupational majors are quite uniform in their preparation, are employed in well-defined positions, and respond willingly to any assistance requested.

Focal Points of the Process

To provide a meaningful base upon which to evaluate the findings from follow-up studies, related follow-up studies of technical-occupational studies should include the following elements of student supply, occupational opportunities, and employment needs:

1. Study of the educational programs and interests of graduating high school seniors in the junior college districts

2. Study of manpower needs and supply prepared by federal, state, and local agencies

3. Surveys of manpower needs of the entire community and its environs to determine the types of industry and business that could employ junior college graduates

4. Surveys of industries and businesses to determine educational preparation required currently and in the future

5. Surveys of supervisors in business and industrial fields to determine the specific knowledge, skill, and abilities required in the occupations they represent

6. Continuing study of the students who are presently enrolled in junior college as to their majors and indicated interests, and the relationship of these programs to employment opportunity

7. Study of former students, both graduates and non-graduates, of the technical-occupational curriculum to determine their place of employment, and to secure their impressions of their junior college preparation

8. Analysis of the junior college placement records to determine the categories of employment of students, and the relationship of this employment to previous preparation

9. Surveys of employer reaction to student preparation for employment.

In establishing the framework for follow-up studies of technical-occupational students, the junior college is primarily concerned with two major problems. The first centers around concern as to whether the college is actually serving the community through its various curriculums. The second revolves around the question as to the adequacy of student preparation in these programs. The joint committee of faculty and administration directing follow-up research should decide the methods to be used to obtain an answer to these questions.

Community Needs

At an early stage in planning a follow-up study of technical-occupational students the several occupational advisory committees which serve the college should be consulted. Because members of these committees represent various community interests, their counsel and assistance will be helpful in designing the study, in securing support of the business community, in interpreting its findings, and in implementing its recommendations. Failure to use advisory committees would indeed represent poor public relations.

As a starting point, the objectives of the technical-occupational program should be reassessed in the light of any changes in the community's development. If the community is not changing in its indus-

trial and business structure, and if the characteristics of the population have remained stable for some time, the curriculums may be meeting business and industrial needs. If there has been substantial community change, new objectives may need to be developed. Decisions about procedures to identify changes and to adapt the study to these changes should be a major initial consideration.

When a junior college is first established, much time and effort is spent in ascertaining the characteristics of the community in which it is located. Studies and surveys are originated and analyzed to determine occupational curriculums which are appropriate. As time goes on, there is a tendency to assume that the original selection of majors and subjects is still representative of local manpower demands. This assumption may be realistic in some communities, but it is unlikely in a majority of the country's cities and towns, for changing technology can alter the structure of a community in a very short time. Impressions as to adequacy of curriculums are not enough. They must be validated by continual research.

In ascertaining the effectiveness of technical-occupational curriculums, the following questions are frequently asked:

1. Is the college offering types and varieties of curriculums truly representative of the social, economic, and industrial life of the community it is serving?

2. By what means does the college check its objectives with its performance in this respect?

3. If advisory committees are used to guide the college in keeping curriculums current and representative of the needs of the community, how effective are they?

Community surveys are usually used to obtain data required to evaluate the appropriateness of occupational curriculums. Despite their expense, there has been an increase in their use during past years—local, state, and national. Federal funds are available to conduct area occupational studies which are aimed at determining need for and opportunity in new occupations. Foundation grants have been given to some private junior colleges for this purpose.

Research is being conducted in increasing amounts by federal and state agencies in order to keep information about changing occupational opportunities current. This information is available on request, and continuous study of these data is essential for any college operating technical-occupational programs.

Effectiveness of Curriculum

The second major problem to be solved by follow-up studies of technical-occupational students centers around how well the students are prepared for their employment. Follow-up research would be concerned with these questions:

1. Are the students receiving an education which permits them to move into their occupational endeavors with competence and assurance?

2. Are the students well-received by their employers as evidenced by a higher rate of pay and rapid promotion?

3. What are the students' opinions and attitudes toward the type of education they received in college?

4. Is the placement office supplying adequate numbers of skilled recruits for business and industry in the community?

Procedures

Usually, appraisal of student success in employment is accomplished through direct contact with students and employers. The survey may be organized to cover a single occupation, several occupations in a single field, or to cover all the fields in which the college provides occupational studies. The college must decide the number of graduating classes the survey should cover, and in what depth the information will be gathered.

When the scope of the survey is determined, initial contact is made with the employers who will participate in the study. Decisions must be made early as to the information that will be gathered by phone, by questionnaire, and by visits and interviews, and as to who will gather the data. While costly, a professional staff may get results that are better than those obtained with volunteer help.

Colleges planning their first occupational follow-up study should seek the assistance of a consultant. Small-scale studies done frequently are often more helpful than studies of larger scope done with long lapses of time between them. Experiences of other colleges could also be helpful and reports of other colleges which have conducted occupational follow-up studies should be thoroughly studied. The project director should be a person with experience in survey techniques, and one who is fully acquainted with the field under study. Employers respond favorably to contacts made by competent staff.

While surveys vary, information generally sought will include:

1. Number of junior college graduates employed
2. Other sources of employees in this field
3. Specific aspects of the preparation of the employees deemed essential
4. Specific weakness of employee preparation
5. Records of employee promotions.

For the data to be of maximum value in an occupational follow-up study, information must be gathered about *each* student. Only when the individual employee's employment record is compared with his collegiate preparation is the information diagnostically significant. Group data hide many important clues.

On the other hand, group data must be compiled. In this connection a meaningful summary is difficult because terminology for comparable tasks often differ. This difficulty can be minimized by selecting competent survey personnel, by validating questionnaire replies, and by providing built-in safeguards in the data collecting process.

The ideal to be sought is probably a routine follow-up of each student placed by the college. (See Pasadena City College form, Appendix, p. 67.) Systematic analysis of information gathered provides the college with reasonably reliable data and provides continuing opportunity to correct faulty data collecting techniques. Furthermore, periodic analysis of such data will distinguish genuine trends from temporary fluctuations.

It should be noted that surveys of a limited number of employers will provide data about only a small proportion of the occupational

graduates. When the employer survey is combined with follow-up of each graduate, the information obtained is much more reliable. Though widely dispersed as most students are, most of them can be located, and when approached properly, their responses are as valuable as the responses of employers. From the students the college usually seeks the following information:

1. Dates enrolled in the college
2. Major in college
3. Present job; is it related to the student's major field of college experience?
4. Job sequence since leaving college
5. Aspects of college preparation which have proved helpful in obtaining initial employment and in gaining promotions
6. Deficiencies in college preparation
7. Additional education obtained since graduation
8. Evaluation of instruction
9. Evaluation of advisement and counseling
10. Advice to other students planning employment.

Because of the difficulty in keeping abreast of the constant change in technological fields, a combination of several methods of follow-up is advisable. Complete reliance on one method only is not adequate to assure a comprehensive picture of the community occupational requirements, and of the success of students in a variety of employment situations.

Placement Services

A very important phase of the technical-occupational follow-up study is that of evaluating the effectiveness of the placement service of the college. This service is one of the most important of all the student personnel services. In many colleges, the placement office is the lifeline between the college and the community which it serves. Through his many contacts, the placement officer keeps his finger on the business and industrial pulse of the college community and he is alert to employment opportunities for students on campus. Often he is the person responsible for conducting follow-up studies, and his office becomes the repository for the data received from such studies.

Any evaluation of the effectiveness of placement services should be undertaken from the viewpoint that placement is vocational guidance in action. Actually, while much vocational counseling is given by all counselors and by some instructors, the placement officer is best equipped to provide this service. The placement director and his staff should be considered essential members of the counseling and guidance team.

The following general guidelines are suggested for evaluating the effectiveness of placement services:

1. Is the placement office supplementing general counseling by offering vocational advice?
2. Are vocational materials and information current?
3. Are vocational tests administered by the placement office, or, if not, are results readily available to this office?
4. Does the placement officer communicate trends in new or unusual job classifications to the curriculum office so that appropriate educational programs may be initiated?
5. Does the placement office attempt to locate part-time positions for students?
6. Does the placement office report occupations which seem to be diminishing in numbers and importance?
7. Does the placement officer conduct an exit interview of dropouts, attempt to find them positions, and encourage them to continue their education?
8. What success has the placement office had in securing full-time employment of graduates?
9. Does the placement office have sufficient clerical help to process applications for employment by students, and requests for applicants by employers?
10. Is on-campus placement activity channeled through the placement office?
11. Do the deans or chairmen of the technical-occupational areas cooperate with the placement counselor in matters of placement and placement reports?
12. Are adequate placement records maintained?
13. Is there an effective system for maintaining off-campus contacts with prospective employers?

14. Does the placement officer make monthly reports which indicate the number of positions filled and the number of requests for student employment by prospective employees?

15. Does the placement officer maintain effective liaison with federal and state employment agencies so that notices of position vacancies can be posted?

DROPOUTS AND WITHDRAWALS

Junior colleges, like other educational institutions, take great pride in annual graduation ceremonies which offer tangible evidence of success, both of the student and of the instructor. While this feeling of pride is justified, it should be tempered with the recognition that an element of failure is present in every college. This failure is represented by the alarming number of students who enter college but who fail to complete a program of studies.

The trends vary, but generally follow one of these patterns:

1. Students, called "no shows," who register and complete the entire admissions process but fail to appear on the opening day of class

2. Students who drop out of college sometime during the semester without any explanation, thus becoming unofficial withdrawals

3. Students who withdraw with proper notice during the semester

4. Students who end their education before completing the junior college degree program. (Such withdrawals, of course, may not necessarily reflect failure on the part of the junior college because the students may have planned a short-range program of studies.)

Follow-up studies are concerned with determining the number of dropouts and withdrawals, attempting to determine the characteristics of such students, and taking the proper steps to reduce their number.

It is relatively easy to determine the number of "no shows." After the close of registration, the admissions office and the registrar are able to collect and count the uncalled for program cards. If a follow-up study of these students is to be initiated, there is a ready-made list of names and addresses which can be used as a basis for the study. It is usually true that this group, above all others, will yield the poorest returns on questionnaires.

It may be possible to reduce the number of "no show" students by charging registration fees but research has shown that a student may make preliminary application to more than one college in order to increase his chances of being admitted. And this practice may increase as a result of the increase in number of students seeking college education. This practice is, of course, unnecessary at public community colleges with open door admissions policies. A large proportion of the students who make multiple applications have marginal scholastic records.

The student who drops out of school sometime during the semester without any explanation, the "unofficial withdrawal," presents a different problem. Since he has not completed a terminal interview, it is difficult to trace his whereabouts or to identify his true reasons for leaving college.

The person who officially withdraws gives the college an opportunity to counsel with him, to determine the reasons for his withdrawal, and perhaps to assist him in finding employment. Many junior colleges have adopted the policy of requiring a withdrawal interview for each student who terminates during a semester. The statistics gathered from these interviews are a source of great interest, not only to the college concerned, but to all state educational agencies.

Follow-up studies of dropouts usually seek answers to the following:

1. Personal-social background of the student (sex, marital status, education of parents, income of parents, standards of housing, ethnic origin of students)

2. Academic potential and performance aptitude test scores, grade-point average, transfer or technical-occupational student, previous college experience

3. Probable causes of withdrawal (during what semester, reason given).

The college usually has considerable information about students before they become dropouts. But after students drop from college, they frequently are difficult to contact and rarely contribute much to further interpretation of causes leading to their withdrawal. Consequently, little has been learned from studies of student withdrawals, which will help to reduce this number.

Research has shown little correlation between student characteristics and dropouts. Matson,[1] after exploring the characteristics of two hundred and seventeen students who withdrew from public junior colleges, found, after comparing these students with others who remained in school, that there was very little difference in the two groups with regard to sex, marital status, veteran status, high school attended, socioeconomic status, academic aptitude, or grade-point average. One conclusion she reached from her study is the possibility that the student who withdraws lacks a sense of belonging or identification with the college.

More recent research indicates an interesting avenue to the identification of potential dropouts by measurement of attitudes. Roleder,[2] using a projective technique of personality assessment directed toward five attitude areas representative of the college student's background, experienced measurable success in predicting the type of student attitude which could forecast the dropout. He selected the following five attitude areas as determiners for dropouts:

1. Motivation
2. Collegiate culture
3. Levels of aspiration
4. Family relationships
5. Socioeconomic status

Although further research is indicated, the scale used in this experiment labeled correctly 81 per cent of the dropout group and 73 per cent of those in the group who remained in college. Additional studies of this type seem most desirable. Once it is possible to recognize in advance types of students who are apt to withdraw, research may then be undertaken to ascertain counseling approaches that will be most effective in holding these people in college and in helping them to achieve their goals.

The students who withdraw after completing a semester or two

[1] Matson, Jane E. *Characteristics of Students Who Withdraw from a Public Junior College,* (Unpublished doctoral dissertation, Stanford University, 1955).

[2] Roleder, George T. *College Attitude Measurement by Direction of Perception Technique,* (Unpublished master's thesis, Claremont Graduate School, 1958).

sometimes provide interesting cases for research. Investigation usually reveals that many who withdraw are dissatisfied with the college in some way. Students who withdraw at the close of any semester before they graduate do not have an exit interview. Therefore, their reasons for leaving and their attitudes toward the junior college must be explored by follow-up questionnaires or personal interviews. If it is found that a significant number of these people are transferring to other colleges, it is important to determine why this is happening. Dissatisfaction with instruction, with curriculums, or with student personnel services should be investigated and corrective action taken when necessary. (See Valley College forms in Appendix, pp. 59-60.)

It can be anticipated that many students who have accepted employment before graduation will continue their education in the evening program of the college. They should be included in all general follow-up studies to determine their reasons for leaving, their attitude toward the college, and their impressions as to how much they are benefiting on the job from the education they have received at the junior college. Certainly, the college should manifest a continuing interest in their well-being.

Future follow-up studies of students who withdraw must become much more incisive and analytical before we can predict with certainty the potential dropout or assess efforts to reduce the rate of dropouts. This is a field which needs more research.

Part III

USING FOLLOW-UP STUDIES

Implicit throughout this bulletin is the assumption that the information derived from follow-up studies will provide a basis for future action in various phases of college operations. This assumption is based on the belief that follow-up studies, as a type of institutional research, are directed toward the improvement of college services. When research data indicate a need for corrective action such action should be taken. Follow-up studies are not, and should not be, undertaken merely to compile records. Their ultimate objective is to gain information which will enable educators to do a better job.

In order to convert the information derived from follow-up studies into action which will bring improvement there must be an attitude shared by both faculty and administration which will encourage objective analysis of the junior college, its purposes, and procedures. There must be wholehearted cooperation both in the process of conducting studies and later in implementing its findings. Therefore, to be effective, all staff must be involved in follow-up studies. There is a trend today among junior colleges to assign administrative assistants to institutional research which includes systematic follow-up studies. While this may be expedient, an efficient means of identifying responsibility for organizing such studies, it is nevertheless true that participation by the entire staff is necessary if the studies are to result in change. Total responsibility should not be vested in one person, particularly one who usually represents administration.

All of the procedures involved in follow-up studies are designed to provide information which will enable the college to better serve its students. Little is to be gained in examining college procedures and

philosophies if the outcome of such effort is not directed toward the person for whom the college exists—the student. If future students are to be benefited, it follows that the methods used in helping them towards the attainment of their goals will also be improved. Follow-up is not, and cannot be, an end in itself. The essential goal of this type of study is a college sensitive and attentive to the needs of its students.

The action phase, which is essential to improvement, begins when the results of follow-up studies are conveyed to the college staff. This step is often a difficult one. Faculty may react adversely to actual or implied criticism. If care has been taken to create the proper atmosphere for the study, this situation should not arise. Naturally, in making known the findings, good judgment and tact should be used to avoid needlessly embarrassing any member of the college staff. On the other hand, an administration which allows the results of a sound study to be placed in some office file, whose contents are consigned to oblivion, shirks its responsibility.

Following the presentation of the report, the administrator should praise outstanding performance, point out inadequacies, and delegate to the appropriate areas the responsibility for corrective action. It would be wise also to establish a schedule for completion of the recommended changes and to call for periodic reports on action taken. It is not sufficient to assume that because deficiencies have been revealed they will automatically be corrected.

It is desirable to transmit results of follow-up studies to groups other than the college faculty. For example, advisory committees should be informed about problems and these committees should consider the solutions which might be appropriately instituted.

Not the least of those to whom the results of follow-up studies should be announced are the general public and future students. If a junior college wishes to be forward looking, progressive, and capable of staying abreast of changing technological and sociological changes, no better method exists than to conduct, implement, and make known results of follow-up studies. The existence of junior colleges depends on their ability to convince the people of their communities that they are dynamic, educational institutions capable of serving students well. Maintenance of standards, excellence in teaching, and a keen desire

to serve effectively the needs of businesses and industries of their communities are the necessary trademarks of junior colleges. Follow-up studies keep the college in tune with these obligations.

The junior college is an institution committed to being responsive to student and social needs. To achieve these aims demands a full measure of effort by those who represent it. When these efforts are directed by the findings of well-designed, follow-up research, there is no better reason to expect that they will succeed in performing the complex tasks which society has given to the junior college.

Appendix

Form 1 Follow-up Survey
OAKLAND CITY COLLEGE—MERRITT CAMPUS
Oakland, California

Name .....
Age upon entering OCC.....
Age upon leaving OCC.....

1. College Attendance
   .....a. For how many semesters were you enrolled at Merritt Campus of Oakland City College? (not including summer sessions)
   .....b. In how many of these semesters were you enrolled in a program of six or fewer units? (not including summer sessions)
   .....c. In how many summer sessions were you enrolled?
2. What has been your one principal field of endeavor since leaving Oakland City College?
   .....a. Further education
   .....b. Full-time employment
   .....c. Armed Forces
   .....d. Housewife
   .....e. Other.....
3. Which category of the following pertains to you?
   .....a. Received A.A. degree at Oakland City College but have not continued education at a four-year college or university.
   .....b. Completed desired course or courses at Oakland City College without receiving A.A. degree but have not continued education at a four-year college or university.
   (If you check a or b, answer Question 4 but not 5.)
   .....c. Withdrew from Oakland City College before completing a course or courses of study and now continuing education at a four-year institution.
   .....d. Withdrew from Oakland City College before completing a course or courses of study and not now continuing education at a four-year institution.
   (If you check c or d, answer Question 5 but not 4.)
   .....e. Received A.A. degree or completed course of study at Oakland City College and now continuing education at four-year college or university.
   (If you check e, skip to Question 7.)
4. If your answer to Question 3 was choice a or b, indicate in the space below the primary reason and secondary reasons for not continuing university or college work.
   (Use the choices listed below and place the letter of the appropriate reason in the space provided here.)
   .....One Main Reason .....Any Other Reason
   a. You could not afford to continue.
   b. You were unable to transfer to a four-year college because of low grade-point average.
   c. You did not feel higher education was meeting your personal needs.
   d. You felt you had an adequate education for work in a particular skill, trade, or area.
   e. You felt that higher education had nothing to offer you.
   f. You secured a full-time position which you preferred to higher education.
   g. You married.
   h. You entered the Armed Forces.
   i. Other.....
5. If your answer to Question 3 was choice c or d, indicate in the space below the primary and the secondary reasons for your withdrawal from OCC.
   (Use the choices listed below and place the letter of the appropriate reason in the space provided here.)
   .....One Main Reason .....Any Other Reason
   a. You had inadequate financial means of support.
   b. You were needed to support your family.
   c. You had no sense of success in college work.
   d. You were excluded because of low grade-point average.
   e. You found through self-analysis that you were unable to do college work.

f. You had personal adjustment problems in the college.
g. You had personal adjustment problems in the home.
h. You were dissatisfied with the attitude of the college and the college staff.
i. You were no longer interested in higher education.
j. You had a new interest in a field or area not offered at OCC.
k. You wanted to obtain full-time employment for economic reasons.
l. You desired to learn a skill or trade not offered at Merritt Campus of OCC.
m. You felt the training you desired at OCC had been completed.
n. You found that the courses you desired were not available.
o. You entered the Armed Forces.
p. You wanted to transfer to another college or university.
q. You married.
r. Other.....

6. If you have not continued with higher education after leaving OCC, do you plan to do so in the future?

.....Yes .....No

7. Did you first begin college because you: (check one only)

.....a. Desired a higher-paying business position through the college diploma?
.....b. Merely wished to learn a skill, a trade, or begin work in a profession?
.....c. Desired a combination of both a and b?
.....d. Were strongly encouraged by parents and/or friends to attend college?
.....e. Were influenced to attend college because your friends were going to college?
.....f. Desired to enter a professional field, i.e., medicine, law, teaching, engineering, etc., which required higher education?
.....g. Were not sure of what you wanted to do after high school graduation?
.....h. Other.....

8. In the following statements, indicate with a check the response which best describes your feeling about your experiences at OCC.

a. College Study
(1) College study was more difficult....., less difficult....., about as difficult....., than/as I expected.
(2) College study in general was more stimulating....., less stimulating....., about as stimulating....., than/as I expected.
(3) There was more help....., less help....., about as much help....., from instructors than/as I expected.
(4) Courses offered and programs available were more....., less....., about as varied....., than/as I expected.

b. Guidance and Counseling
(1) There was more....., less....., about as much....., general help from counselors than/as I expected.
(2) There was more....., less....., about as much....., vocational guidance from counselors than/as I expected.
(3) There was more....., less....., about as much....., time and opportunity to decide on definite vocational or educational goals than/as I expected.
(4) There was more....., less....., about as much....., opportunity for guidance in personal problems than/as I expected.
(5) Other response.....

c. College Activities
(1) There were more....., less....., about as many....., social and student activities than/as I expected.
(2) There was more....., less....., about as much....., time and opportunity for participation in team sports than/as I expected.
(3) There was more....., less....., about as much....., encouragement from the college to participate in social, student, and athletic activities than/as I expected.
(4) I had more....., less....., about as much....., time and opportunity for social and student activities than/as I expected.
(5) Other response.....

9. Did your understanding or awareness of the nature of higher education change either while you were in college or after you had left?

.....Yes .....No

10. If your point of view about college work did change was it because of (check one most important reason):
    .....a. A counselor's help?
    .....b. An instructor's help?
    .....c. Your own self-analysis?
    .....d. Failure in college work?
    .....e. Work experience?
    .....f. Social experiences?
    .....g. Other.....

11. Show in what ways your college experience at OCC was most helpful by indicating in the space below the areas of primary assistance, and the areas of secondary assistance.
    (Use the choices listed below and place the letter of the appropriate item in the space provided here.)
    .....One Main Area of Assistance
    .....Any Other Area of Assistance
    a. You obtained a clearer understanding of your abilities or goals.
    b. You gained a clear understanding of the nature of higher education and the demands it makes upon the individual.
    c. You obtained a clearer understanding of job or professional requirements and opportunities.
    d. You received the training and/or education necessary to get a job in the field of your choice.
    e. You received the encouragement, challenge, and sense of success necessary for you to continue your education.
    f. You learned how to get along with people in your community.
    g. Through a particular course or group of courses, you discovered a new field of interest.
    h. Other.....

12. Show in what ways your experience at OCC could have been more helpful to you by indicating in the space below the areas of primary assistance and the areas of secondary assistance that would have been helpful to you.
    .....One Main Area of Assistance
    .....Any Other Area of Assistance
    a. A closer relationship could exist between students and instructor.
    b. A wider range of potential fields of study could be offered.
    c. More supervision and guidance in classwork could be offered.
    d. There could be more helpful guidance in choice of programs and explanation of courses.
    e. More time could be allowed for student activities.
    f. There could be more integration of student activities into the total college program.
    g. More students could be encouraged by the college to participate in student activities.
    h. Other.....

13. If you are now working full-time, indicate what type of work you are doing.
    .....a. Industry
    .....b. Business
    .....c. Sales
    .....d. Profession
    .....e. Self-employed
    .....f. Other.....

14. If training was required for your present occupation, indicate below the approximate amount of training required and list occupation in the space provided here.
    .....a. Several months or years of academic study.
    .....b. Several months or years of apprentice training leading to journeyman standing.
    .....c. Several months or years of training in general office procedure or secretarial field.
    .....d. Several months or years of training in technical field.
    .....e. Few weeks or months of training for particular occupation.
    .....f. No training other than on-the-job training required.
    OCCUPATIONAL TITLE.....

15. If the work required training or the acquisition of a skill, where did you receive most of this training?
    .....a. OCC Merritt Campus only.
    .....b. OCC Merritt Campus plus upper-division work at another college or university.
    .....c. OCC Laney Campus.
    .....d. Other trade or technical school: (Name).....
    .....e. Apprenticeship program (other than at Laney).
    .....f. Training on the job.

.....g. Business school or college: (Name).....

.....h. Other.....

16. Is your present employment a continuation of a part-time job held in college?

.....Yes .....No

17. Do you plan to make this job your life's work?

.....Yes .....No

18. If not, what are your future plans?

.....a. Further training in your present field of endeavor.

.....b. Further education at a college or university.

.....c. Change of vocation to another area.

.....d. Marriage.

.....e. Other.....

Return the questionnaire in the enclosed self-addressed envelope

Additional Comments

Form 2 Alumni Questionnaire
RIVERSIDE CITY COLLEGE

1. Name ..... Sex .....
   Last First
2. Address ..... Tel. .....
   Street City Zone State
3. What was your course major while in college? .....
4. What was your specific vocational objective? .....
5. Are you married? Yes ..... No ..... Maiden name .....
6. At the present time I am: (Please Check)
   a. Working full-time ..... c. Unemployed ..... e. Military service .....
   b. Working part-time ..... d. Housekeeping .....
   f. Going to school ..... Where .....
   If you are working, please complete the following for your present position.
   a. Firm or employer .....
   b. Employer's address .....
   c. Type of business .....
   d. Your position and duties .....
   e. Starting date ..... Beginning salary $..... Present salary $.....
   (Please indicate total salary, including overtime, and whether monthly or weekly)
   f. Is your present work in line with your training?
   Yes ..... No ..... Partly .....
7. Please list the positions you have held since leaving Riverside City College.

Dates of Employment Month and Year	Name and Address of Firm or Employer	Type of Work Done Reason for Leaving	Total Salary or Wages
1. From	.....	.....	Start $.....
To	.....	.....	End $.....
2. From	.....	.....	Start $.....
To	.....	.....	End $.....

8. Were you employed while attending college? yes ..... no .....
   Approximate number of hours per week, Less than 10 ..... 10-20 ..... More than 20 .....
9. Will you comment on the help you received from the college counseling services and give any suggestions which might improve the services.
   1. Pre-registration program counseling .....
   .....
   2. Psychology 49 .....
   .....
   3. What other assistance from counselors or deans was helpful to you? .....
   .....
   .....

10. Did you participate in college activities? yes ..... no .....
Which activities were of value to you? .....
.....

11. If you transferred to a four-year college—
   1. Did you lose credit for any Riverside City College courses?
      a. Name of the four-year college .....
      b. Which courses were involved .....
      .....
      c. Reason for loss of credit .....
      .....
   2. Were you given credit for any courses which you did not expect to transfer?
      a. Name of the four-year college .....
      b. Which courses .....
      .....
      c. Reason credit was allowed .....
      .....

12. What specific subjects at Riverside College did you find of poor or of little value? Please be frank and give reasons for your opinion.

Subject	Reasons
1.	1. .....
2.	2. .....
3.	3. .....

13. In your college major, what courses benefited you most?

Subject	Reasons
1.	1. .....
2.	2. .....
3.	3. .....

14. In courses outside your major, which do you feel have been of value?

Subject	Reasons
1.	1. .....
2.	2. .....
3.	3. .....

15. What courses which you did not take do you wish you had taken and why?

Subject	Reasons
1.	1. .....
2.	2. .....
3.	3. .....

16. Do you regret your choice of college major? ..... If so, what do you wish you had taken?
.....
Why? .....

17. What changes would you recommend in our curriculum?
.....
.....

18. Please put further comments on the back.

Form 3 Double Post Card Questionnaire
AMERICAN RIVER JUNIOR COLLEGE

Dear Graduate:

Greetings from your alma mater! As a graduate of American River Junior College you have probably reflected a little on your experiences and training here.

We are keenly interested in your views as to how we may have assisted you, and in what ways we might have done better. Your frank reply to the questions on the attached, self-addressed, stamped postcard will be greatly appreciated.

Sincerely,
President and District Superintendent

REPLY POST CARD

1. What is your present occupation? .....
   Please circle the appropriate reply:
2. Does it relate to work done by you at ARJC?
   None A Little Somewhat Very Much

3. Did ARJC prepare you for the future?
   No A Little Somewhat Very Well
4. How much did ARJC counseling help?
   None A Little Somewhat Very Much
5. How would you classify the instruction?
   Unsatisfactory Good Superior
6. Did you benefit from campus activities?
   No A Little Somewhat Very Much

Comments .....

.....

Form 4 Double Post Card Questionnaire
LOS ANGELES HARBOR COLLEGE

Dear Alumnus:
Will you take one minute of your time to help us with an important job?
Harbor College has a continuing interest in its graduates, and would like to keep up with their progress. Your answers on the survey card will not only help us at the present time but will be of great value in planning for future years.
Please complete the attached card NOW and drop it in the mail.
NOTE: For your convenience the card is stamped and addressed.
Just mail!

Sincerely,
Placement Coordinator

REPLY POST CARD

(Print) Last name ..... First name ..... Telephone no. .....

Present address No., Street, City ..... Major at Harbor .....

Please check present status:

1. Attending college: ..... Name of college ..... Units ..... Major .....
2. Employed: Full-time ..... Part-time ..... Job title .....
   Name of company or employer .....
3. Unemployed:

In general the instruction at Harbor was:	Superior	Excellent	Good	Fair	Poor
The counseling at Harbor was:					

Comment: .....

.....

Form 5A Withdrawal Analysis
LOS ANGELES VALLEY COLLEGE

1. Name ..... Withdrawal date .....
   Last First
2. Sex: M ..... F ..... Marital status: Single ..... Married ..... Veteran: Yes ..... No .....
   Year of birth .....
3. High school attended: Name ..... Graduated: Yes ..... No ..... Year .....
4. Other colleges or universities attended .....
5. How many semesters have you attended Valley? .....
   Date you first entered .....
6. Are you leaving school to accept employment? Yes ..... No .....
   If yes, Full-time ..... Part-time .....
7. Did your courses prepare you in any way for this job? Yes ..... No .....
8. Nature of work .....

9. Are you now employed? Yes ..... No ..... How many hours a week? .....
10. What was your major source of support while attending V. C.?
    Yourself ..... Parents ..... Other .....
11. Do you have major financial difficulties at the present time? Yes..... No ..... If yes, please explain (optional) .....
12. Approximately how many hours per week did you spend on outside study? .....
13. Were you active in sports or other extracurricular functions? Yes ..... No .....
14. Do you plan to return to V. C. at some later date? Yes ..... No .....
15. Do you eventually plan to attend a four-year college or university? Yes ..... No .....
16. Did your father attend college? Yes ..... No ..... Number of years .....
17. Did your mother attend college? Yes ..... No ..... Number of years .....
18. What is your father's occupation? .....
19. What is your mother's occupation? .....
20. Do you live with family or relatives? Yes ..... No .....
21. How many miles is V. C. from your place of residence? Under 5 ..... 5 to 9 ..... Over 10 .....
22. Did transportation difficulties contribute to your withdrawal? Yes ..... No .....
23. Did you have any health problems while attending V. C.? Yes ..... No .....
24. Did you have any personal or family problems while attending V. C.? Yes ..... No .....
    Comment, if you wish .....
25. Are there any other reasons for your withdrawal from Valley College at this time? Yes ..... No .....
    If yes, please explain .....

Form 5B Withdrawal Interview
LOS ANGELES VALLEY COLLEGE

Name ..... Date .....
Last First

1. Why did you decide to go to college? .....
2. Did you have a major field of study or goal? Yes ..... No .....
   If yes, indicate: 1st choice ..... 2nd choice ..... 3rd choice .....
3. Did you have academic difficulties at V. C.? Yes ..... No .....
   If yes, explain .....
4. If you had academic difficulties, were they due to poor study habits? Yes ..... No .....
5. Were these courses too difficult? Yes ..... No ..... Did you attend classes regularly? Yes ..... No .....
6. In general, were you satisfied with: a. Instructors Yes ..... No ..... b. Course Offerings Yes ..... No ..... c. Counseling Yes ..... No .....
   Comment: .....
7. Do you wish help in obtaining a job? Yes ..... No .....

ADDITIONAL DATA

H. S. (GPA) ..... Iowa Scores .....
SCAT (Percentiles) V ..... Q ..... T .....
Probationary Status: New prob. ..... Prov. admit. ..... Cont. prob. .....
Freshman entered on probation .....
Semester units completed ..... Units carried this semester .....
Withdrawal pattern
W Grades Number ..... W Semesters (Number, including present) .....
.....
Counselor

Form 5C Withdrawal From Class
LOS ANGELES VALLEY COLLEGE
Evening Division

In an attempt to provide a more adequate educational program, this form has been developed as part of a research project to study withdrawals from class. It has no personal interest in your individual response. Your answers and reactions will remain confidential. Please answer all items as completely as possible.

Name of class ..... Instructor ..... Date .....

Please complete each item in sentence form.

1. I enrolled in this class because .....

2. What I liked best about this class was .....

3. What I liked least about this class was .....

4. I am dropping this class because .....

Name ..... Sex M ..... F ..... Marital status ..... Married
Age .... Single
High school ..... Graduated Yes..... No ..... Year.....
Veteran Yes ..... No .....
Other college(s) attended ..... Approx. number of units
at other colleges .....
Where are you employed? ..... Nature of work .....
Hours of work per week ..... Overtime .....
Do you plan to enroll again at Valley College at some later date? Yes ..... No .....
Do you plan to attend a four-year college or university? Yes ..... No ..... Major .....
How many miles is Valley College from your home? Under 5 ..... 5 to 9 ..... Over 10.....
Do you live with: family ..... relatives .....friend ..... spouse ..... alone .....
Have you ever withdrawn from college classes before? Yes ..... No ..... How many? .....
Have you used the counseling services at Valley College?

Yes ..... No ..... a. Personal counseling, other than registration.
Yes ..... No ..... b. Testing program (aptitude tests, interest inventory achievement test).

Form 6A Follow-up Questionnaire for Transfer Students
LOS ANGELES VALLEY COLLEGE

Name ..... Date .....
Last First

Our records indicate that you transferred from Valley College and enrolled at another institution of higher learning.

It is essential to evaluate the effectiveness of our academic program in relation to those of other colleges. For that reason we welcome your comments, and would appreciate receiving the completed questionnaire within the next ten days. A self-addressed stamped envelope is enclosed for your convenience.

1. Did you experience any difficulties in adjusting to the four-year college?
   Yes ..... No ..... If yes, explain .....
2. Was your grade-point average at the four-year college higher or lower than at Valley College?
   Explain .....
3. Does the native student, (i.e. four-year college freshman) have any advantages over the transfer student? Yes ..... No .....
   If yes, explain .....
4. If you withdrew from the four-year college,
   a. What were your main reasons? .....
   b. Do you plan to return in the future? Yes ..... No .....
   c. What is your present employment situation? .....
5. If you are still attending a four-year college,
   a. What academic goals or objectives are you seeking? .....
   b. Do you have a bachelor's degree? Yes ..... No .....
      If not, when will you receive it? Date .....
   c. Have you been awarded any scholastic honors or scholarships? Yes ..... No .....
      If yes, what kind? .....
6. Briefly comment on any or all of the following factors in comparing the junior college with the four-year college:
   a. Academic standards .....
   b. Competency of instructional staff .....

c. Degree of student competition .....
d. Final grades and/or final examinations .....
e. Counseling services and/or aids in adjustment to college .....
.....
f. Friendliness and/or individual attention .....
g. Class size .....
h. Attendance requirements .....
i. Extra-curricular activities .....
j. Others (Describe) .....

7. What are some recommendations that you would make to the junior college to help transfer students? .....
8. What are some recommendations that you would make to the four-year college to help transfer students? .....
9. Additional comments: .....
.....
.....

(Use other side if necessary)

Form 6B Follow-up Interview With Four-year College Transfer Students
LOS ANGELES VALLEY COLLEGE

Present Institution ..... Date .....
Name ..... Age ..... Sex .....
Last First

Item of Information	Valley College	Four-Year College
Number of semesters completed		
Number of units completed		
Approximate grade average		
Major		
Time required for study per week		
Honors & scholarships		
Extra-curricular activities		
Employment, hours per week		

Date left Valley ..... Date entered four-year institution.....

1. What difficulties, if any, did you experience at

	Four-Year College	Valley College
a. Maintaining scholastic standards		
b. Meeting student competition		
c. Taking examinations		
d. Obtaining counseling services		
e. Instructor-student relationship		
f. Relationship with other students		
g. Campus activities		
h. Other		

2. In general, do you feel satisfied with the training offered by Valley College?
Yes ..... No ..... If no, explain .....
3. Were you counseled properly at the junior college for the courses in your major?
Yes ..... No ..... If no, explain .....
.....
4. Did you receive full credit at the four-year institution for all college level courses completed at Valley? Yes ..... No ..... If no, explain .....
.....
5. How does the quality of instruction at Valley compare with that of the four-year college?.....
.....
6. What recommendations would you make to the junior college to help transfer students?.....
.....
7. What recommendations would you make to the four-year college to help transfer students? .....
.....

(Use reverse side for additional comments.)

Form 7 Sophomore Day Questionnaire
MT. SAN ANTONIO COLLEGE

Name ..... Phone .....

Address .....

A. Where will you be next SEPTEMBER?
   1. Continuing college, full-time ..... part-time .....
   2. Working, but intend to transfer later .....
   3. Working permanently .....
   4. Military service .....
   5. Other .....

B. If you have checked "CONTINUING COLLEGE" answer here
   Have you decided where you will go? Yes ....., No .....
   Name of institution .....
   Will your major be the same ....., different ....., unknown .....

C. If you have checked "WORKING PERMANENTLY" answer here
   Have you located the position? Yes ....., No ....., Probably .....
   Title of job .....
   Is the job in the field for which you prepared at Mt. SAC? Yes ....., No .....

D. WOMEN ONLY! Are you married? Yes ....., No .....
   If not, are you engaged? Yes ....., No .....
   If engaged, will you be married by next September? Yes ....., No .....
   If so, do you intend to work after marrying? Yes ....., No .....

E. MEN ONLY! Are you married? Yes ....., No .....
   If not, are you engaged? Yes ....., No .....
   If engaged, will you be married by next September? Yes ....., No .....
   If so, do you intend to continue college? Yes ....., No .....; Day ....., Night .....

REMEMBER! You are welcome to use your Mt. San Antonio College Placement Office even though you have completed your schooling here.
For remarks, pro or con, please use the other side of this sheet.

Form 8 Counseling Evaluation
COLLEGE OF THE SEQUOIAS
Anonymous Student Questionnaire

DIRECTIONS: In this questionnaire you are asked to provide certain facts about yourself and your experience with your College Counseling Program. All of the questions can be answered by a few words or by writing an (X) for the alternative that comes closest to describing your situation. Please answer all questions as accurately as possible. Thank you for your cooperation.

Male ..... Female ..... Age ..... Single ..... Married ..... Other .....

Class in College: Freshman ..... Sophomore .....

What is your major? ..... Transfer .....
Terminal .....

PART I

1. Do you know where the Counseling Offices for your college are located?
   Yes ..... No ..... Uncertain .....
2. Have you needed help while in college in getting along better in your school work?
   Yes ..... No .....
3. About how many times have you gone to your counselor for help of any kind during this school year:
   ..... None ..... Three to five times
   ..... Once or twice ..... Five or more times
4. Have you experienced difficulty in seeing your counselor?
   Yes ..... No ..... Sometimes .....
5. Have you needed help while in college in changing your educational program or major?
   If yes, did you get help in school?
   If yes, write the name of person or persons in school (not students) who helped you .....
6. Have you needed help while in college with personal problems?

Yes ..... No .....
If yes, did you get help in school? Yes ..... No .....
If yes, write the name of person or persons in school (not students) who helped you .....
.....

7. Have you needed help while in college in choosing your subjects or courses?
Yes ..... No .....
If yes, did you get help at school? Yes ..... No .....
If yes, write the name of person or persons in school (not students) who helped you .....
.....

8. Has there ever been any conflict in your mind between whether you should get more education after finishing junior college or go to work?
Yes ..... No .....
If yes, did you get help in school? Yes ..... No .....
.....
Did you get as much help as you wanted? Yes ..... No .....

9. Have you become aware of a better understanding while in college of your interests and abilities?
Yes ..... No .....
If yes, check one or more:
..... From guidance tests ..... From an instructor
..... From my counselor ..... Other (specify).....

10. Have you found a better understanding while in college of the occupations you might choose?
Yes ..... No .....
If yes, check one or more:
..... By studying an occupation in a class
..... By reading material in the library or Student Personnel Center
..... By talking with the counselor
..... By talking with the instructor
..... Other (please specify) .....

11. Have you needed help while in college in finding part-time employment? Yes ..... No .....
If yes, did you get help in school? Yes ..... No .....
If yes, write the name of the person or persons in school (not students) who helped you .....
.....

12. Have you received a better understanding while in C.O.S. of the school or college you want to attend after leaving junior college? Yes ..... No .....
If yes, check one or more:
..... By reading school or college catalog
..... By talking with my counselor
..... By talking with a teacher
..... Other (specify) .....

13. Have you obtained a better understanding while in junior college of the jobs available in your community? Yes ..... No .....
If yes, check one or more:
..... By talking with an employer
..... By talking with an employment agency
..... By talking with my counselor
..... By talking with an instructor
..... Other (specify) .....

14. Have you needed help while attending C.O.S. in finding full-time employment when you leave school or graduate? Yes ..... No .....
If yes, did you get help in college? Yes ..... No .....
If yes, write the name of the person or persons in school (not students) who helped you .....
.....

15. Have you needed help while attending C.O.S. in obtaining information about scholarships or loans?
Yes ..... No .....
If yes, did you get help in school? Yes ..... No .....
If yes, write the name of the person or persons in school (not students) who helped you.....
.....

16. In the space below, feel free to make any comments on the way you feel about the counselors and the counseling program or anything about this questionnaire.

PART II

DIRECTIONS: Below are several items concerning attributes of counselors. Each item contains several alternatives. Put an (X) in front of the alternative which comes closest to describing your feeling. Check **only one** response for each item.

IMPORTANT: The word counselors as used below refers **solely** to the deans and counselors at C.O.S.

1. In basic philosophy and outlook on life, the counselors
   ..... are always optimistic.
   ..... tend to see the brighter side of life.
   ..... are sometimes optimistic and sometimes pessimistic.
   ..... are usually sour and pessimistic.
2. The understanding that counselors have of the social and economic forces prevalent in our society today is
   ..... very limited and inaccurate.
   ..... vague and somewhat unrealistic.
   ..... usually adequate and realistic.
   ..... very extensive and realistic.
3. The knowledge and understanding that counselors have of the world of work is
   ..... quite limited.
   ..... about average.
   ..... somewhat better than average.
   ..... excellent.
4. How do you feel about the counselors' ability to understand and help students who differ from themselves in background, race, religion, social, or economic status?
   ..... They have an excellent understanding of background differences.
   ..... They have some understanding of students different from themselves.
   ..... They have little or no understanding of background differences.
5. How much interest do counselors show in their job of counseling with students?
   ..... They definitely lack interest.
   ..... They do not show their interest.
   ..... They seem to be interested.
   ..... They have a great deal of interest.
6. Counselors are
   ..... lacking in emotional adjustment.
   ..... like most people in their emotional adjustment.
   ..... very stable and well-adjusted emotionally.
7. In trying to see the student's point of view, counselors
   ..... are very tolerant.
   ..... try to be fair-minded.
   ..... are sometimes overbearing and talk down to students.
   ..... usually force their pet ideas on students.
8. The training and experience of the counselors enable them to handle
   ..... all kinds of student problems.
   ..... only certain kinds of student problems.
   ..... no student problems.
9. How well do counselors help students achieve a clear-cut and realistic understanding of themselves and their problems?
   ..... very well.
   ..... fairly well.
   ..... not very well.
   ..... not well at all.
10. The counselor's interpretation of psychological tests to students is
    ..... always clear and very understandable.
    ..... usually clear and understandable.
    ..... too general to be of much help.
    ..... confusing and of no help.
11. The amount of time that counselors spend in talking about tests and test scores is
    ..... much greater than it ought to be.
    ..... somewhat excessive.

..... about right.
..... much less than it ought to be.
..... somewhat less than it ought to be.

12. How do counselors deal with the student's problems?
..... They usually dictate the solutions.
..... They are likely to give solutions to problems.
..... More often than not they present students with alternatives.
..... They always offer alternatives from which the student may choose.

13. In helping students with their personal and emotional problems, the counselors are
..... of great help.
..... of some help.
..... practically of no help.
..... do more harm than good.

14. The understanding that counselors have of classroom conditions, problems, and student-teacher relationships is
..... clear and realistic.
..... adequate.
..... lacking and confused.

15. The information possessed by counselors concerning requirements of the various departments of C.O.S. is
..... very limited and inaccurate.
..... somewhat limited and varying in accuracy.
..... usually comprehensive and quite accurate.
..... always comprehensive and accurate.

16. In assisting non-transfer students in selecting a field in which to major, counselors
..... are of great help.
..... are of some help.
..... are practically of no help.
..... do more harm than good.

17. How do you feel about the amount of time given for interviews by the counselors?
..... Interview is quick, impersonal, and rushed.
..... Interview feels somewhat hurried.
..... Interview time is reasonable.
..... Length of interview is set by the student.

18. When advising students in course selection, the counselors
..... disregard student wishes.
..... try to dissuade students from their choices.
..... sometimes allow students to make their own choices.
..... allow students complete freedom in making their choices.

COMMENTS: .....

Form 9 Employment Follow-up
PLACEMENT BUREAU, PASADENA CITY COLLEGE
Employer's Evaluation

Name of employee ..... Date .....
Employer .....

I. Is the above-named person still in your employ? Yes..... No.....
   A. If not, was his termination voluntary? Yes..... No.....
      1. Approximately how long was he in your employ? .....
   B. If his termination was NOT voluntary, what reasons caused you to release him?
      1. Lack of interest shown in the job. .....
      2. Immaturity. .....
      3. Insufficient training or education to meet the requirements of the job. .....
      4. Lack of general education. .....
      5. Poor attitude toward you, the customer and/or fellow employees. .....
      6. Reduction of need for his services. .....
      7. Other reasons. .....

II. Was this person a part-time employee of your company before he became a regular, full-time worker? Yes..... No.....
III. What was his beginning position with your company? .....
VI. Has he been promoted since? Yes..... No.....
   If so, what is his present job title? .....
V. Does he have potential for future promotion? Yes..... No.....
VI. Do you feel that this person is interested in a permanent career with your company?
   Yes..... No.....
VII. What are some of his weaknesses? .....

What are some of his better qualities? .....

Form 10 Employment Survey Questionnaire, Curricula Evaluation Survey
LOS ANGELES CITY COLLEGES

....
(Name of employee) (College major course)

Graduate of: .....

1. Is the above-named person still in your employ? Yes..... No.....
2. Is this his first employment following graduation? Yes..... No.....
3. Present job title .....
4. As a result of his college work, would you say that this individual, as compared with the average new employee without such college work was:
   a. Better prepared for his job? .....
   b. About as well-prepared? .....
   c. Less prepared for his job? .....
5. In your opinion, did he start in a better beginning job as a result of his college training?
   Yes..... No..... Don't know.....
6. Does this individual with his college background have any advantages in the matter of promotion or upgrading? Yes..... No.....

....
(Company) (Name)

(When completed, please return in the accompanying reply envelope)

Conducted by
MERCHANTS AND MANUFACTURERS ASSOCIATION
725 South Spring Street
Los Angeles 14, California

(4" x 6" card sent with Los Angeles City Colleges Curricula Evaluation Survey)

NAME OF SCHOOL .....

NAME OF STUDENT .....

MAJOR FIELD ..... GRADUATED .....

PRESENT EMPLOYER .....

ADDRESS OF EMPLOYER .....

STUDENT NOW EMPLOYED AS: .....

Form 11 Survey of Business Students
MODESTO JUNIOR COLLEGE

Name .....

Number of semesters completed at MJC .....

Did you graduate from MJC? Yes..... No.....

What was your major educational emphasis at MJC? (Please check)

.....Accounting .....Secretarial

.....Clerical .....Transfer to a state college

.....General business .....Transfer to a university

.....Merchandising .....Other (Please explain)

What is your present status? (Please check)

.....Student .....Unemployed but seeking employment

.....Employed full-time .....Other (Please explain) .....

.....Employed part-time .....

Have you had additional education since leaving MJC? Yes..... No.....

(Include study in the Adult Division, MJC)

If your answer is "Yes," please give the following information:

Schools attended	Dates	Field of study

If you are attending a four-year college, did you have difficulty in transferring any of your units completed at MJC? Explain .....

.....

Please list the jobs you have held since leaving junior college. Start with your present job.

Employer and location	Type of work	From	To

List courses taken in business which have been of most value to you.

.....

We would appreciate any comments you care to make about your education at MJC.

(Use reverse side, if needed.)

Form 12A Follow-up of San Bernardino Valley College Students

Form A: For Students Who Entered Employment or Homemaking Immediately After Graduating from Valley College

1. Name ..... Date .....
2. Present address .....
3. Marital status: S, M, W, D, Sep. .....
   No. of children .....
4. Date entered Valley College ..... Date .....
5. What was your major at Valley College? .....
6. What is your present employment? .....
7. Are you working in the field you prepared for at Valley College?
   Yes..... No.....
8. If not, why did you change fields? .....
9. List jobs held since leaving college, beginning with present job and going back:

Job	Inclusive dates		Reasons for changing

10. Has your training at Valley College helped you with your job?
Yes..... No.....
In what ways? (Please be as specific as you can.)
.....
.....
.....

11. What specific courses seem to contribute most to your success on the job?
.....
.....

12. If you had college to do over again would you take a different pattern of courses?
Yes..... No.....
If yes, why? .....
.....

13. What additional training have you had since entering full-time employment?
Evening classes: .....
On-the-job: .....
Other: .....

14. In your opinion, have general courses (such as English or social science) or practical courses (such as electricity or shorthand) helped you most in job advancement? .....
.....

15. Was your advising (as to courses, etc.) while in Valley College satisfactory?
Yes..... No.....
In what way? .....
.....

16. What advice would you like us to give students expecting to enter employment upon leaving Valley College?
.....
.....
.....
.....

17. Please list the community activities in which you have engaged since leaving Valley College (church, luncheon club, lodge, union, etc.): (include leadership roles you have taken) .....
.....
.....
.....

18. In what ways did your experience at Valley College (in class and student activities) affect your participation in community life? .....
.....
.....
.....

19. In what ways did your experience at Valley College affect your behavior as a parent? .....
.....
.....
.....
.....

20. In what ways did your experience at Valley College contribute to your own development in personality and character? .....
.....
.....
.....

Remarks:

Form 12B Follow-up of San Bernardino Valley College Students

Form B: For Students Who Transferred to a Senior College or University

Name .....
College or university .....
Permanent address .....
When did you enter your present college? ..... Your major .....

Number of semesters completed since V.C. ..... Degrees earned .....

1. Please list your courses and grades for the last semester of attendance in the college you are now attending: (Omit if you are not now enrolled).
   Course Units Grades Course Units Grades
2. How do (or did) your average grades in senior college compare with your average grades in Valley College?
   Better ..... Same ..... Worse .....
3. Do (or did) the following conditions affect your work as compared to the same conditions at San Bernardino Valley College?

Travel time	Improved	Same	Hindered .....
Living conditions	Improved	Same	Hindered .....
Hours of work (employment)	Improved	Same	Hindered .....
Campus activities	Improved	Same	Hindered .....

4. In general, do you feel that Valley College gave you adequate or inadequate preparation for your present study?
   Adequate ..... Inadequate .....
5. In what ways has the type of instruction in the university or senior college been more effective or less effective than that in Valley College?
6. Were there any courses in which you found yourself especially well or especially poorly prepared? List them:
   Well-prepared: Poorly prepared:
7. Was your advising (as to courses, etc.) while in Valley College satisfactory?
   Satisfactory Unsatisfactory In what way?
8. Were there any courses for which you did not receive credit upon transfer? Yes ..... No .....
   Please list:
9. What advice would you like for us to give Valley College students expecting to transfer to your college in the future? Include any other comments you care to make. (Reply on back of page.)

Form 12C Rating Scale by Former San Bernardino Valley College Students

Present college of attendance .....

Student's name .....

	At San Bernardino Valley College	At university or college of transfer
Major:	.....	.....
Time spent:	.....	.....
Adviser:	.....	.....

THIS PART PERTAINS TO VALLEY COLLEGE:

PART I. PLEASE ANSWER THIS PART OF THE QUESTIONNAIRE IN LIGHT OF YOUR EXPERIENCE AT SAN BERNARDINO VALLEY COLLEGE

1. Were you qualified as a freshman to enter the university or college you are presently attending?
   Yes ..... No .....
   Comment: .....
2. Did you have to make up high school deficiencies at Valley College? Yes ..... No .....
   Comment: .....
3. How many semesters were you at Valley College? (Circle the one applicable) 1, 2, 3, 4, 5, 6, 7, 8
   Comment: .....
4. Did you have a part-time job? Yes ..... No .....
   If so, state the number of hours you worked per week .....
5. COURSE OFFERINGS (Curriculum)

1 2 3	4 5 6	7 8 9
Broad curriculum. All lower division courses offered.	Adequate	Lacked necessary lower division offerings.

   Comment: .....

6.	SUBJECT MATTER (Presentation of material)	1 2 3 Presented to promote thinking and critical evaluation.	4 5 6 Adequate for transfer.	7 8 9 Too much memory work. Poor presentation.
	Comment:			
7.	METHOD OF INSTRUCTION	1 2 3 Teacher generally stimulated student.	4 5 6 Introduced and covered subject.	7 8 9 Dry. Uninteresting. Did not communicate with student.
	Comment:			
8.	INSTRUCTORS (Academic)	1 2 3 Well-qualified. Experienced.	4 5 6 Average.	7 8 9 Lacked preparation and experience.
	Comment:			
9.	INSTRUCTORS (Availability for help)	1 2 3 Were always willing and available for help.	4 5 6 Were available and helpful.	7 8 9 Not available. Hard to find. Unwilling to help.
	Comment:			
10.	MARKING SYSTEM (Evaluation-grades)	1 2 3 Too rigid in grading.	4 5 6 Similar to transfer institution.	7 8 9 Too easy in grading.
	Comment:			
11.	YOUR SCHOLARSHIP LEVEL AT VALLEY COLLEGE	1 2 3 Excellent. Above average (3.0 or better).	4 5 6 Average (2.0 to 2.9).	7 8 9 Poor. Less than 2.0.
	Comment:			
12.	LESSON PREPARATION (Time required by you)	1 2 3 Had plenty of time to adequately prepare each lesson with time to spare.	4 5 6 Adequate but no time to spare.	7 8 9 Not enough time.
	Comment:			
13.	TRANSFER OF COURSES	1 2 3 Units were all accepted for full credit except for terminal courses, etc.	4 5 6 Transferability of courses questioned.	7 8 9 Lost transfer units in evaluation. (Please comment if applicable.)
	Comment:			
14.	EDUCATIONAL COUNSELING (Program planning)	1 2 3 Well-planned course sequence. All the help needed.	4 5 6 Average or normal assistance.	7 8 9 Poor planning and advising.
	Comment:			

(Answer item No. 15 **only** if you sought vocational counseling at S.B.V.C.)

15.	VOCATIONAL COUNSELING	1 2 3 Counselor helped in selecting an occupation or major field.	4 5 6 Average help.	7 8 9 Assistance not available to student.

Comment: .....

(Answer item No. 16 **only** if you sought personal counseling at S.B.V.C.)

16.	PERSONAL COUNSELING	1 2 3 Counseling staff willing and able to help in solving problem.	4 5 6 Some help available.	7 8 9 Assistance not available. Help of little or no value.

Comment: .....

17.	EXTRA-CURRICULAR ACTIVITIES	1 2 3 Wide variety of well-planned activities.	4 5 6 Some activities offered.	7 8 9 Inadequate. Did not fill my need.

Comment: .....

18. List the subjects in which you feel you were best prepared while at S.B.V.C.

.....

19. List the subjects in which you feel you were most poorly prepared while at S.B.V.C.

.....

20.	OVERALL TRAINING AT S.B.V.C.	1 2 3 More than adequate. Very good.	4 5 6 Adequate for transfer.	7 8 9 Poor preparation. Inadequate for transfer.

Comment: .....

21. Should a student spend one or two years at a junior college? Yes ..... No .....
    a. Should make up deficiencies only before transferring .....
    b. Should complete all requirements for the lower division .....
    c. Should go directly to four-year college if qualified .....

    Comment: .....

22. What could we have done at our institution to have made your transition to a four-year institution less difficult?

.....

THIS PART REFERS TO THE COLLEGE YOU ARE NOW ATTENDING:

PART II. PLEASE ANSWER THIS PART OF THE QUESTIONNAIRE IN LIGHT OF YOUR EXPERIENCE AT THE PRESENT INSTITUTION OF ATTENDANCE.

1. Do you now have a part-time job? Yes ..... No ..... if so, state the number of hours you work per week .....

Comment: .....

2. SUBJECT MATTER (Presentation of material)	1 2 3 Presented to promote thinking and critical evaluation.	4 5 6 Adequate for college success.	7 8 9 Too much memory work. Poor presentation.
3. METHOD OF INSTRUCTION	1 2 3 Teacher generally stimulates student. Enthusiastic.	4 5 6 Introduces and covers subject.	7 8 9 Dry. Uninteresting. Does not communicate with student.

Comment: .....

4. INSTRUCTORS (Availability for help)	1 2 3 Always willing and available for help.	4 5 6 Available and helpful.	7 8 9 Not available. Hard to find. Unwilling to help.

Comment: .....

5. YOUR CURRENT SCHOLARSHIP LEVEL	1 2 3 Excellent. Above average. (3.0 or better)	4 5 6 Average. (2.0 to 2.9)	7 8 9 Poor. (Less than 2.0)

Comment: .....

6. TIME REQUIRED FOR STUDY	1 2 3 Have plenty of time to adequately prepare each lesson with time to spare.	4 5 6 Adequate but no time to spare.	7 8 9 Not enough time.

Comment: .....

7. ADJUSTMENT TO PRESENT CAMPUS	1 2 3 No problems, either socially or academically.	4 5 6 Few problems at first. No more than expected.	7 8 9 Have been unable to make satisfactory adjustment.

Comment: .....

8. EDUCATIONAL COUNSELING (Program planning)	1 2 3 Well-planned course sequence. Very helpful.	4 5 6 Average or normal assistance.	7 8 9 Poor planning and advising.

Comment: .....

(Answer item No. 9 **only** if you have sought vocational counseling)

9. VOCATIONAL COUNSELING	1 2 3 Counselor helped in selecting an occupation or major field.	4 5 6 Average help.	7 8 9 Assistance not available to student.

Comment: .....

10. PERSONAL COUNSELING	1 2 3 Counseling staff willing and able to help in solving problem.	4 5 6 Some help available.	7 8 9 Assistance not available. Help of little or no value.

11. EXTRA-CURRICULAR ACTIVITIES	1 2 3 Wide variety of well-planned activities.	4 5 6 Some activities offered.	7 8 9 Inadequate. Do not fill my need.

Comment: .....

12. HOW DO YOU COMPARE WITH OTHER J.C. TRANSFERS HERE	1 2 3 Better trained and prepared than most J.C. transfers.	4 5 6 No different than any other J.C. transfer.	7 8 9 Not as well-prepared as other J.C. transfers.

Comment: .....

THANK YOU FOR YOUR COOPERATION. IF YOU HAVE ADDITIONAL COMMENTS, PLEASE USE THE SPACE BELOW.

Sample Cover Letter

Dear Alumnus,

As an indication of your college's continuing interest in you, we are seeking your opinion of the college and its service to you. As a former student you can offer us an objective evaluation of our successes and inadequacies. We believe that your remarks will help us to do a better job for the students who will follow you. The enclosed questionnaire is the method by which you can help us continue a program of studies which will be meaningful and helpful to those who follow you at

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VT 001 272
Harris, Norman C.
Technical Education in the Junior College; New Programs for New Jobs.

American Association of Junior Colleges, Washington, D.C. Curriculum Commission
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 64 102p.

*TECHNICAL EDUCATION; CURRICULUM; *CURRICULUM DEVELOPMENT; *PROGRAM PLANNING; PROGRAM EVALUATION; MANPOWER NEEDS; *JUNIOR COLLEGES; EDUCATIONAL NEEDS; ADMISSION CRITERIA

The purpose of this booklet is to provide guidelines and advice for establishing technical education programs in 2-year colleges and creating better public understanding of changing national manpower needs and the directions which education must take to meet them. "Introduction and Rationale" covers the purposes of the bulletin, new directions in higher education, and societal and technological trends. "College Level Occupational Education" discusses the manpower needs and the rewards of 2 years of college study. "The Spectrum of Middle Level Manpower" discusses the role of the technician in industry, health fields, business, agriculture, and other semi-professional occupations. "Planning Educational Programs" assesses the need and capability, steps in curriculum planning, and the evaluation of the technical education program. "Concept and Practice in Curriculum Development" gives (1) definitions and levels, (2) technologies related to engineering and industry, (3) a core curriculum in technical education, (4) semi-professional curriculums such as health, business, and agriculture, and (5) three instructional innovations. "Recruitment, Selection, Guidance and Placement" and "Sources of Assistance and Information" are concluding chapters. (PA)

VT 001 272

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TECHNICAL EDUCATION IN THE JUNIOR COLLEGE / NEW PROGRAMS FOR NEW JOBS

BY NORMAN C. HARRIS

TECHNICAL EDUCATION IN THE JUNIOR COLLEGE NEW PROGRAMS FOR NEW JOBS

BY NORMAN C. HARRIS
Professor of Technical Education
The University of Michigan

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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TECHNICAL EDUCATION IN THE JUNIOR COLLEGE

NEW PROGRAMS FOR NEW JOBS

by NORMAN C. HARRIS

AND

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FOREWORD

This booklet was planned and developed as a project of the Curriculum Commission of the American Association of Junior Colleges. Its publication is a part of the Association's program to provide new resources for and fresh insight into the comprehensive approaches of the nation's junior colleges in training and educating both adults and youth. *Technical Education in the Junior College* aims at providing guidelines and advice on the establishment of technical education programs in two-year colleges and creating better public understanding of changing national manpower needs and the directions which education must take to meet them.

The author, Norman C. Harris, is a nationally recognized consultant in the field of technical education, particularly as applied to junior colleges. He is Professor of Technical Education at The University of Michigan, and author of numerous texts and articles in his field.

Publication of the booklet is supported in part by a grant from the Alfred P. Sloan Foundation. The booklet was developed with assistance from a national advisory committee.

—American Association of Junior Colleges

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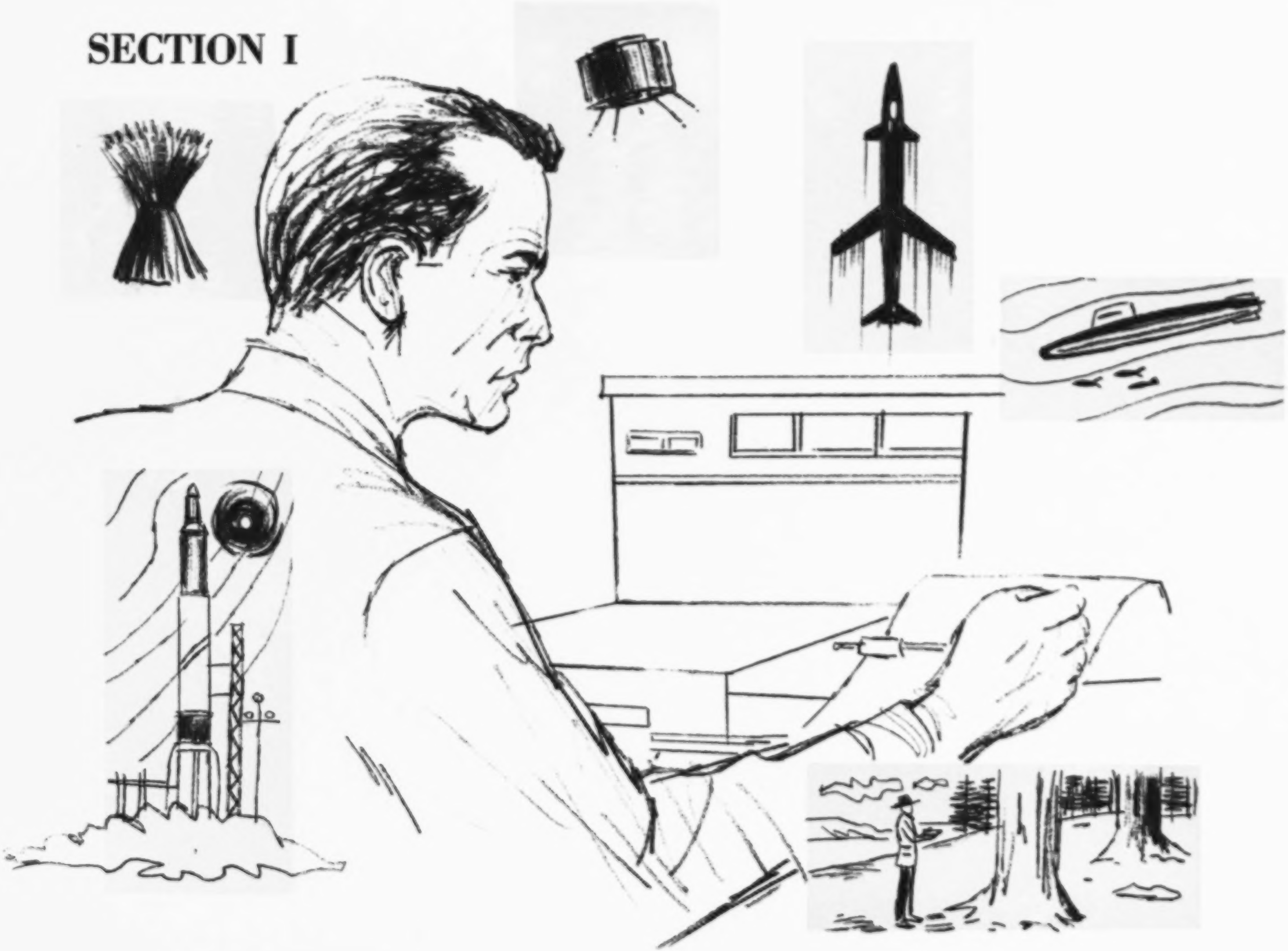
NEW PROGRAMS FOR NEW JOBS

by NORMAN C. HARRIS

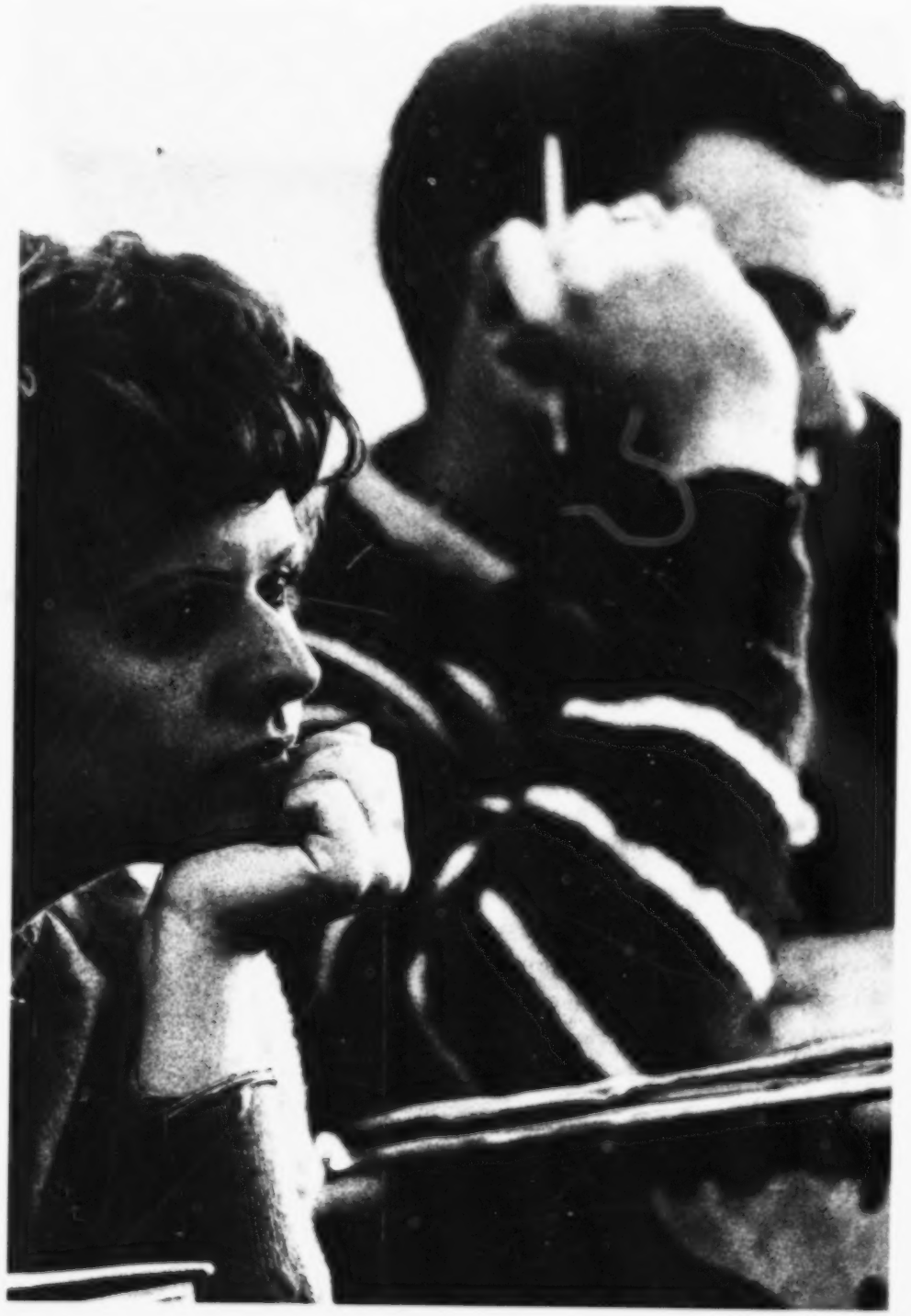
SECTION I



Introduction and Rationale

Purposes of the Bulletin

- To bring into sharp focus the issues in American society which demand new directions in higher education.
- To highlight the role of the junior college in providing diversity in higher education.
- To acquaint high school students and their parents; high school counselors and teachers; industrial and business leaders; and the public generally, with the potential of the junior college for occupational education.
- To clarify the occupational structure in America and suggest patterns of higher education which will bridge the gap between men and jobs.
- To examine the spectrum of "middle level manpower"—the semiprofessional occupations—and place these occupations in proper perspective within the total manpower picture in America.
- To suggest guidelines for long-range planning of occupational education programs in junior colleges.
- To present some specific examples of junior college curriculum development and program operation which have proved successful.
- To recommend procedures for (1) curriculum construction and program evaluation; (2) selection and retention of students; (3) counseling, placement, and follow-up of students; and (4) establishment of liaison with business and industry.
- To suggest patterns of organization and administration which can make technical education programs more effective.
- To make available a list of sources of assistance and information for junior college faculties planning technical education programs.



THIS BULLETIN IS FOR

Junior College Students and Their Parents

Junior College Instructors and Counselors

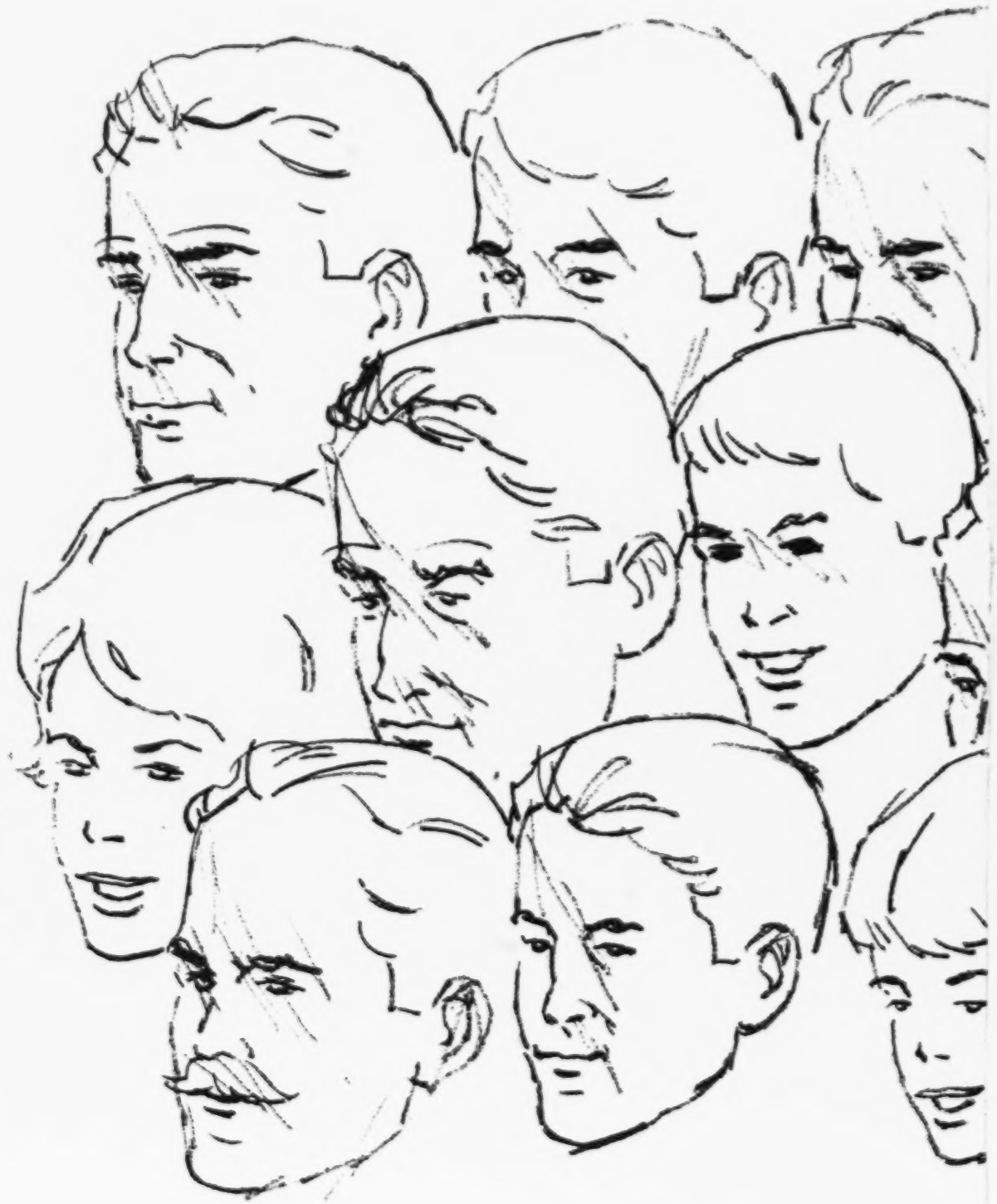
Junior College Presidents, Deans, and Other Administrative Personnel

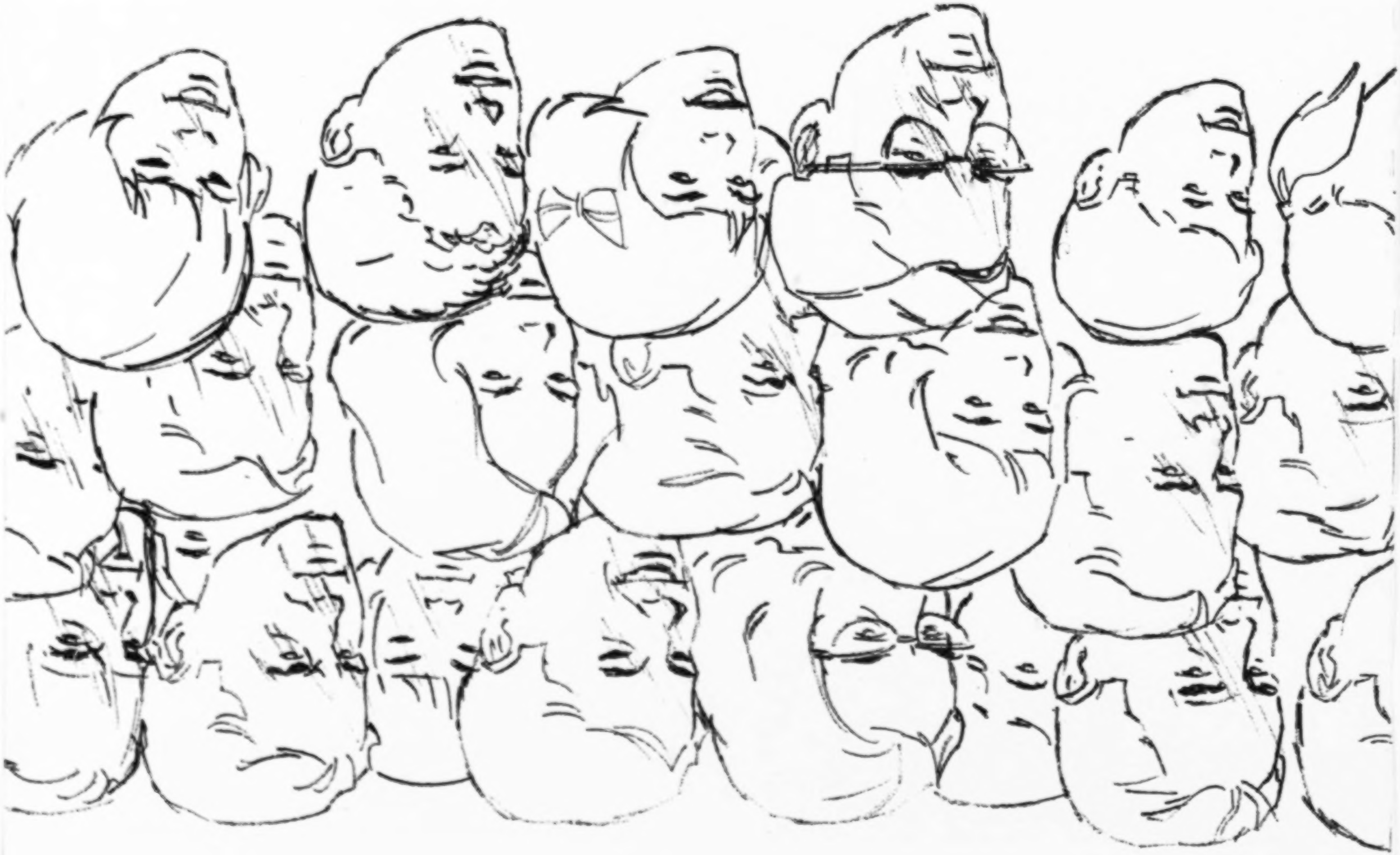
High School Students and Their Parents

High School Teachers and Counselors

Junior High School Counselors

Industry and Business: Employers of Men and Women in Semiprofessional and Technical Jobs.





NEW DIRECTIONS IN HIGHER EDUCATION

When the horse was king of the highway and Dalton's atom was indivisible, when America was a young country with a geographic frontier to win, when brawn and brain were of equal importance to the nation, "going to college" acquired certain connotations which, though applicable then, are not always applicable today. Here are some of them:

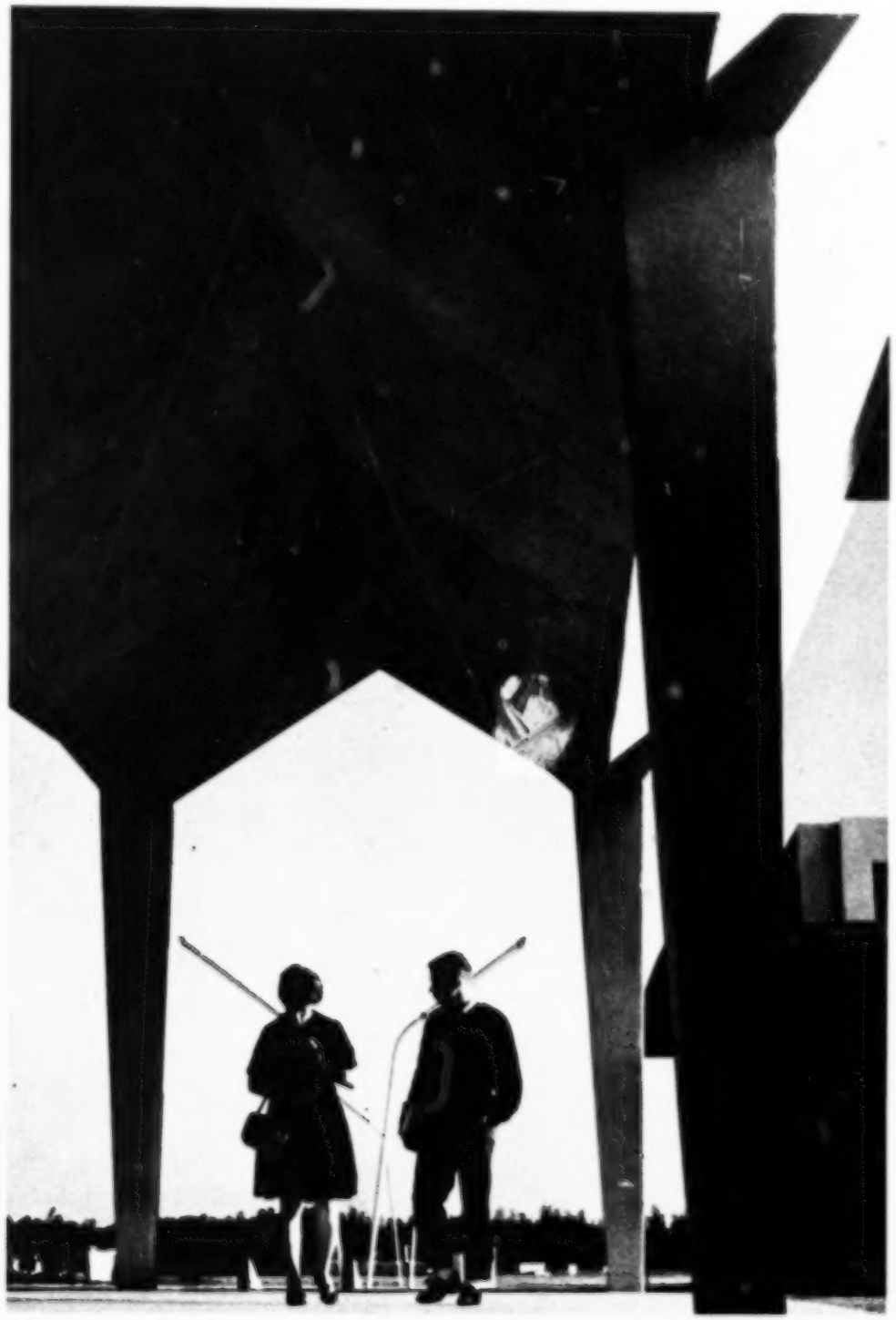
- A college is a community of scholars.
- College is only for the intellectually gifted.
- Higher education should concern itself only with the liberal arts.
- Only the wealthy can send their sons to college.
- Only those whose goal is the professions need a college education.
- A common school education is good enough for most people.
- All you need to get ahead are common sense, hard work, and a little luck.

In the Victorian era, American education was organized at two levels—the public common school and its three R's for the majority; and higher education, usually private, in the academic tradition for the intellectually and financially able. The private academies and preparatory schools bridged the gap between the two. Perhaps five percent of Americans "worked" in the realm of ideas, while the other ninety-five per cent worked.

VICTORIAN STYLE EDUCATION was suited to the nineteenth century and spilled over into the twentieth century, perpetuating a bi-polar society a little while longer in the waning day of the horse and the little round atom.

But Everything Else Has Changed

- Sixty-thousand thundering horses now thrust our jet planes across the sky.
- Dalton's atom has not only been divided—its fission energy holds great promise for a future which its fusion energy threatens to destroy.
- Geographic frontiers no longer exist, but social, political, technological, and economic frontiers beckon with all the lure and all the dangers of the great western migration.
- Space frontiers confront us with problems that require no brawn—all brain.



- A rural society and a pastoral economy have been replaced, in two generations, by an urban society and an industrial economy.
- An America with a predominantly western European culture finds itself a leading power in a family of nations of widely differing cultures.
- A society formerly characterized by a small elite group and a large mass group has evolved into one whose dominant features are a large middle class and a continuous mobility among classes.
- A population of 63,000,000 in the United States in 1890 has increased to one of nearly 200,000,000.
- The new technology demands education and training for all young people in order that they may meet the challenge of an increasingly complex world of work.
- An economy of scarcity in a world of scarcity has become one of abundance in a world of scarcity.
- The freedom of man, perceived by the framers of the Magna Carta and eloquently expressed in the documents establishing this nation, is threatened by pressures from within and by challenges from without.

And Higher Education, Too, Is Changing

There is increasing realization that higher education must and will become a dynamic force for the over-all improvement of society. If we look upon youth as the promise of the future—if we believe, with Epictetus of old, that "only the educated are free," if we are determined that our free society shall endure and in turn assist other peoples in their drive for freedom—then our system of higher education will have to be re-cast in a form and substance which will assure the realization of these ideals.

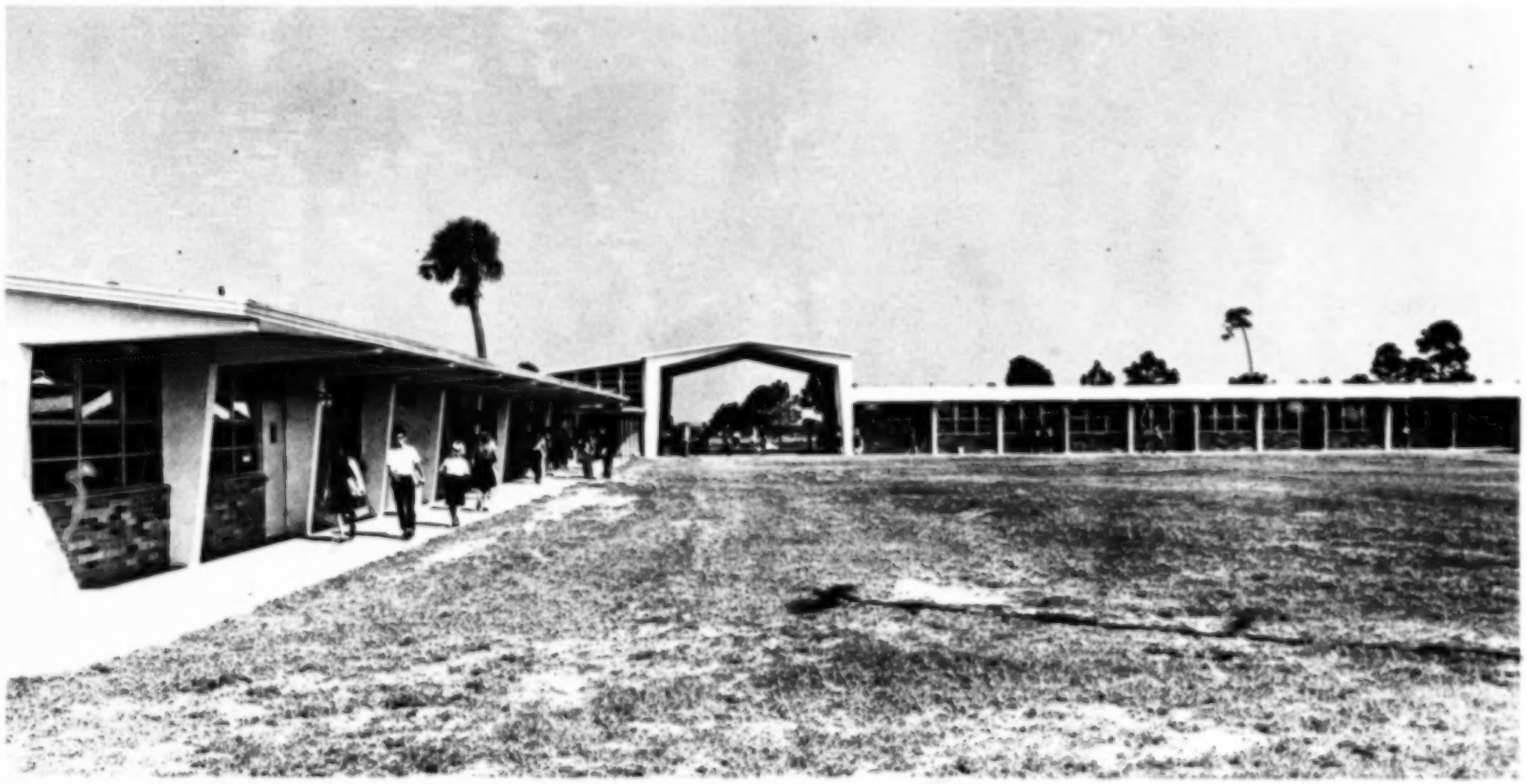
There is evidence that appropriate changes are already under way. The growth of systems of state colleges; the diversification of offerings of the major universities along with the establishment of branch campuses; and the increasing enrollments in technical institutes and business colleges are all healthy signs that higher education is being extended to vastly increased numbers of young people. And the almost fantastic development of the junior college over the past two decades is pointing the way toward a real democratization of higher education.

The Development of the Junior College

Nearly 425 public junior colleges now are operating, and new ones are starting at the rate of 20 to 25 per year. Perhaps the most phenomenal development in recent years is in Florida, where 22 junior colleges were planned, built, staffed, and put into operation between 1957 and 1962. California already had 64 in 1957 and now has 76. New York has a rapidly growing system of community colleges. Significant new developments are occurring in the Midwest. State after state is passing enabling and funding legislation for community colleges. It is probably quite conservative to forecast 600 public junior colleges by 1970, enrolling 1.5 million students. Private junior colleges, too, are moving toward greater comprehensiveness in their educational programs, and their enrollments are increasing yearly.

There are five significant factors about the junior college which identify its role in democratizing higher education:

1. Junior colleges are a force in being, not a dream of the future. They are ready in hundreds of communities to expand educational opportunity.



2. The community junior college typically is located close to the student's home, making access to higher education readily available and relatively inexpensive.
3. Junior colleges already have established liaison with high schools in their attendance areas. Extension of this effort to include occupational information and guidance assistance to high school teachers and students is a relatively easy matter, and many junior colleges already offer such services.
4. The junior college specializes in two-year curriculums, and this length of time is currently optimum for the education and training of most semiprofessional and technical personnel.
5. Community junior colleges know the value of the liberal arts and the humanities in the over-all educational development of young people. Junior college occupational education curriculums typically include courses in English, history, mathematics, science, and economics. These curriculums emphasize *education*, and avoid a narrow concept of "job training."

The community junior college is in a very real sense society's answer to the need for expanded educational opportunity. Millions of high school graduates of "middle level" ability need further education and training to fit them for careers within the spectrum of "middle level manpower"—in semiprofessional and technical jobs. By 1970, one-fourth of the nation's labor force will be employed in semiprofessional and technical jobs which did not even exist in 1930. Some factors which have brought about this shift in the occupational structure are enumerated on the following pages.

SOCIETAL AND TECHNOLOGICAL TRENDS

Society, like the sea, is restless and changing—occasionally tranquil, but more often surging and confused. But just as there are predictable currents and tides in the sea which require a ship to change course if it is to reach its landfall, so also are there certain identifiable currents and trends in society, which, given careful study and assessment, can indicate new directions for society's institutions.

Higher education is one of those institutions which, until recently, has

been guided by tradition. But since American society is not tradition-directed, many problems have arisen which could not be solved by educational approaches of the past.

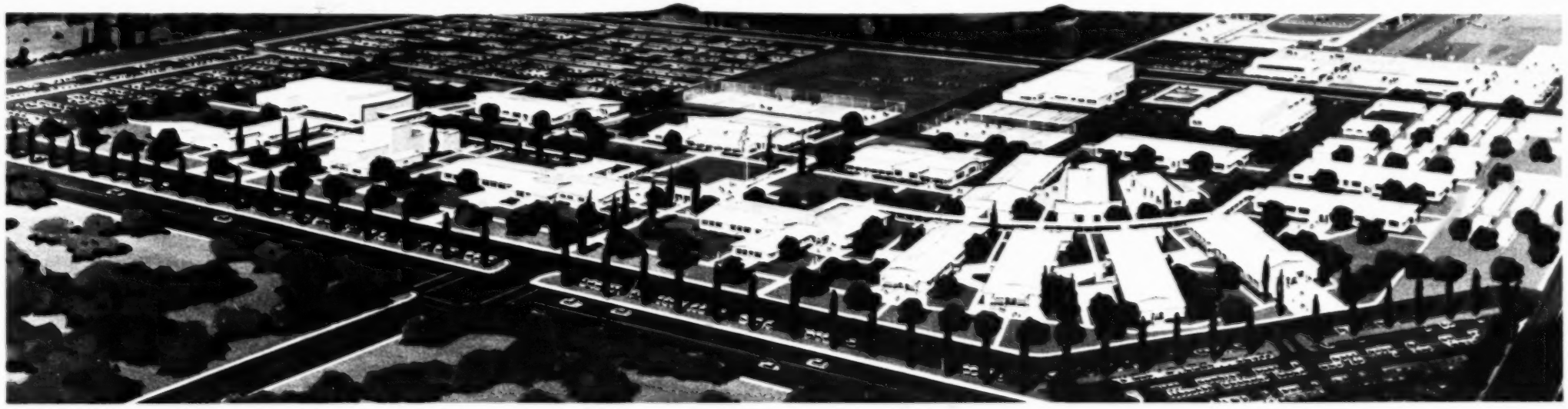
What are some of the societal and technological trends which demand that higher education seek new directions—which have given impetus to the development of the community junior college in America? Here are a few:

- The increasing complexity of everyday life in an urban, industrialized society.
- The explosion of technical and scientific knowledge which has characterized the past four decades.
- The alarming increase in sophistication and complexity of occupations at all levels.
- The fact that in our society education stands between man and his job —that lack of education is a barrier between men and jobs.
- The virtual disappearance of unskilled (common labor) jobs.
- The impact of automation and the flow process industries on production, on jobs, and on people.
- The action and reaction within a free society which leaves no person content "to stay in his place."
- The realization that knowledge is the key to a better life—not just for the few, but for the many.
- An awareness of the fact that if "only the educated are free," then all the free must be educated to the maximum of their capabilities.
- The needs of industry and business for semiprofessional ("middle level") manpower.
- A manpower shortage in professional, semiprofessional, and technical categories; contrasted with devastating unemployment in the unskilled and semiskilled categories.
- The realization that a "disaster gap" is opening up between those of our citizens with advanced education and those with little education.
- The urgent need for millions of citizens who can both think and do—and the gradual disappearance of a bi-polar society in which an elite few did all the thinking, and the rest did all the work.

SOME DEFINITIONS OF TERMS USED IN JUNIOR COLLEGES

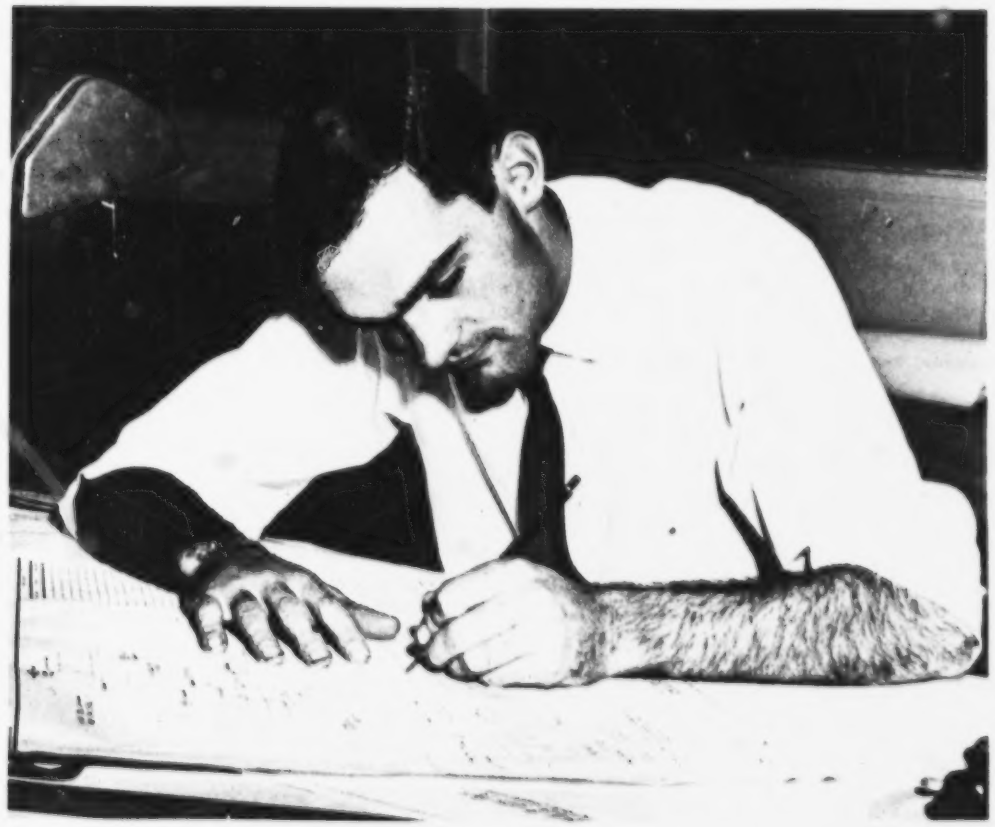
Clarification of terminology may be helpful at this point. Even within junior college circles, unanimous agreement on the following definitions might not be obtained, but they will set a pattern for the content of the rest of the Bulletin.

- COLLEGE LEVEL STUDIES are conducted at the post-high school level in formally organized courses for which one semester unit of credit is given for a course which meets one hour weekly for fifteen weeks, or the equivalent. Two hours of outside preparation are expected for each class hour. College level studies are offered by institu-



tions granting the baccalaureate degree and also by those offering the associate degree, such as community junior colleges and technical institutes. Courses offered as a part of an organized curriculum in occupational education are *college level*, as well as courses in the traditional academic disciplines.

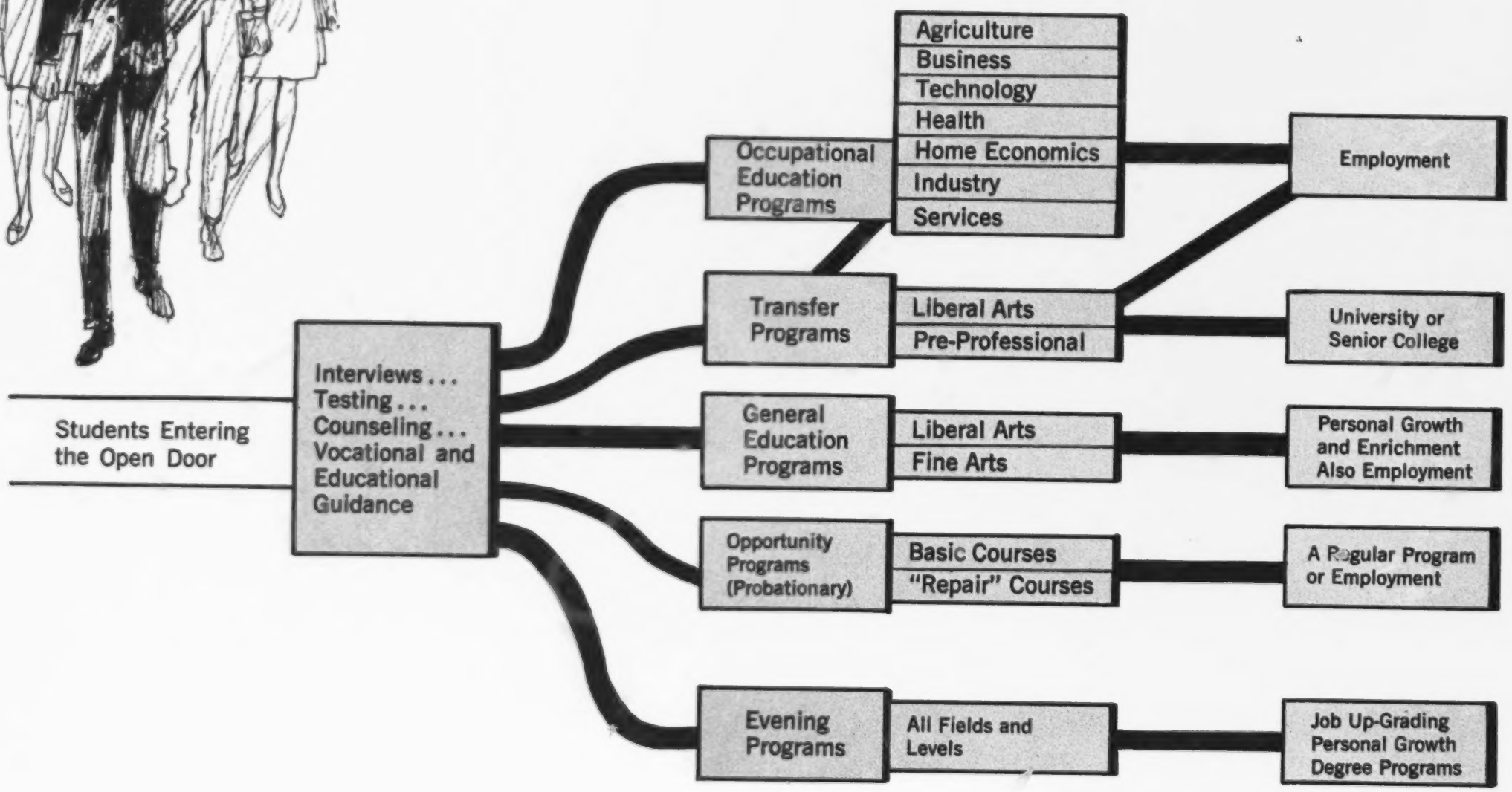
- OCCUPATIONAL EDUCATION refers to any and all education and training offered by junior colleges aimed at preparation for employment, as distinguished from curriculums in the liberal arts, the fine arts, or the humanities. "Occupational education" covers professional, semiprofessional, technical, and skilled-level curriculums for all fields (*e.g.*, agriculture, business, industry, health, home economics, public service) of employment.
- SEMIPROFESSIONAL EDUCATION is represented by formal curriculums leading to the associate degree and designed to prepare the student for employment in career fields recognized as nearly professional in status. Some examples: engineering technician, medical technician, architectural draftsman, business data programer, and associate degree registered nurse. Semiprofessional workers usually work in close cooperation with and perhaps under the direct supervision of a professional person.
- TECHNICAL EDUCATION is a term which is just beginning to acquire meaning in this country. There is no unanimously accepted definition of the term. For the purposes of this Bulletin, however, technical education—
  1. Is organized into two-year curriculums at the college level.
  2. Emphasizes work in the field of science and mathematics, and frequently, but not always, is related to industry and engineering.
  3. Gives much attention to technical knowledge and general education, but also stresses practice and skill in the use of tools and instruments.
  4. Leads to competence in one of the technical occupations, and usually to the granting of an associate degree.
  5. Includes a core of general education courses (English, humanistic-social studies, liberal arts) up to perhaps one-fourth of the total credit hours.
- TRANSFER COURSES are those offered by junior colleges which are accepted for full credit by a university or four-year college. They are usually in the traditional academic disciplines.



- VOCATIONAL EDUCATION, in the generic sense, is education and training the purpose of which is the preparation of students for employment or for a career—as distinguished from the liberal arts and the humanities in which emphasis is intellectual and non-utilitarian. Until recently, vocational education has been associated with high school and vocational (or trade) schools. Junior colleges only recently have begun to offer education and training for skilled jobs in agriculture, business, industry, and home economics fields. In vocational or trade training programs courses are ordinarily described in terms of class contact hours; in college level programs, in terms of semester hours spent in class or laboratory.
- TRADE AND INDUSTRIAL EDUCATION aims at preparing persons for employment in industry or in the service occupations (sometimes, but not always via apprenticeship) at the skilled and semi-skilled levels. Junior colleges can and should provide such programs when needed, but *such programs are not "technical education,"* and are therefore not the primary concern of this Bulletin.
- THE OPEN DOOR COLLEGE means a college where entry is unrestricted. Many courses and curriculums are available—some within the range of the student's interest and abilities, some outside his interests, and some beyond his ability. He need not choose what lies outside his interests, but on the other hand he cannot choose that which clearly lies beyond his ability. The "open door college" does not mean "the open door curriculum."

Quality within diversity must be the hallmark of the comprehensive community college if it subscribes to the "open door" concept. The open door college offers a wide range of programs, each at its proper level of rigor, and each of high quality for its intended purpose. Extensive guidance, counseling, and testing procedures operate to place students in curriculums and courses suited to their abilities and interests.

FLOW CHART FOR STUDENTS ENTERING A COMPREHENSIVE COMMUNITY COLLEGE THROUGH THE "OPEN DOOR"



SECTION II

College Level Occupational Education

Needs and Rewards

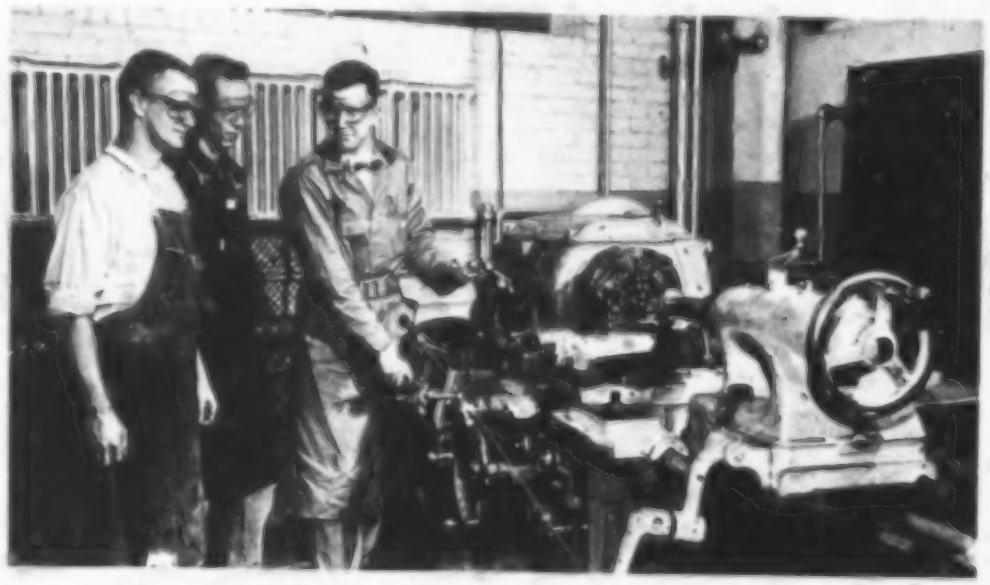
The technological and sociological changes discussed in the previous chapter have had significant impact on the labor force. The scientific and technical developments which have had the greatest influence in creating the occupational structure of this decade started with:

The Industrial Revolution—

triggered by James Watt's steam engine (about 1769) and the introduction of the factory system.
Further development occurred in the 19th century through

Mechanization—

in the textile, wood turning, and metal working industries, and in agriculture.
The late 19th and early 20th centuries brought the introduction of



Electrification—

spurred by the inventions of Thomas Edison and others.
The advantages of electrification, combined with growing mass markets and a new approach to manufacturing problems brought the concept of

Mass Production—

which was nurtured to full flower by the early Ford organization about 1915, but actually dates back to the time of Eli Whitney and his cotton gin (about 1800) for its first application.
These developments taken in the aggregate necessitated an expanded labor force with many workers in the skilled and semiskilled labor classifications. Mid-twentieth century industrialization brought, however, the

Flow Process Industries—

and

Automation—

resulting in a drastically reduced demand for semiskilled and unskilled workers; a steady demand for highly skilled workers; and a markedly

increased demand for technical, semiprofessional, and professional workers.

The march of technology has resulted in a new complexity and an increased sophistication of jobs at all levels in business, industry, agriculture, and public service. There is new emphasis on research and design in industry, and on a "systems approach" to the solution of problems. This decade—1960-1970—has produced

The Team Concept in Research, Design, and Production.

Technicians and other semiprofessional workers are key members of the team.

MANPOWER NEEDS OF THE NATION

The nation's changing manpower needs demand a tremendous expansion of college level occupational education. The accompanying table shows the occupational pattern as it was in 1940, compared to probable need by 1975.

DISTRIBUTION OF THE LABOR FORCE IN VARIOUS MAJOR OCCUPATIONAL GROUPS[1]
(United States, 1940-1975)

Major Occupational Group	Percents 1940	Percents 1975
Professional, technical, and kindred workers	8.0	14.2
Managers, officials, and proprietors, except farm	8.1	9.6
Clerical and sales workers	16.7	22.9
Skilled and semiskilled workers	29.7	29.3
Farmers, farm managers, foremen, and laborers	18.5	4.6
Service workers	11.9	14.4
Unskilled workers, except farm and mine	7.0	4.4

NOTE: Because of rounding, column sums do not total 100%

[1] Data from publications of the U.S. Department of Labor, Bureau of Labor Statistics.

The world of work in the 1960's is vastly different from that of a generation ago. Consequently, educational patterns must be developed which will be in the interest of youth and of society. A recent U.S. Department of Labor report[2] shows:

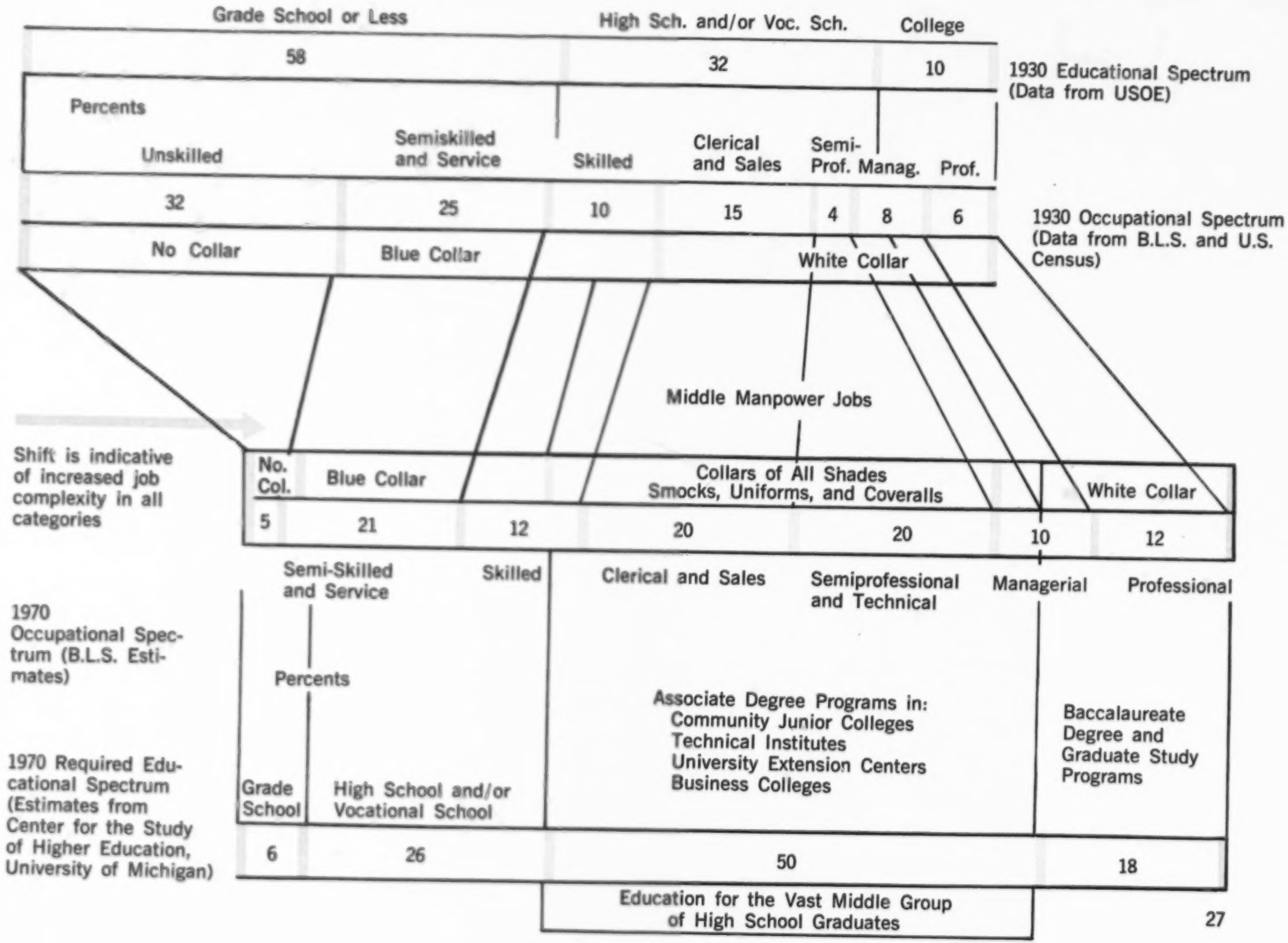
1. By the late 1960's, the U.S. labor force will be 20 per cent greater than it was in the 1950's; and it will have a higher percentage of young persons (18 to 25) than ever before in our history.
2. There are now more workers in nonmanual than in manual labor classifications. The United States is the first nation in history to achieve this status.
3. In the 1960's, professional, semiprofessional, and technical workers will increase by over 40 per cent; clerical and sales workers, by 26 per cent. In contrast, jobs requiring unskilled workers will actually *decrease.*
4. Gross national product (GNP) will increase by almost 50 per cent during the '60's, and while the over-all standard of living rises, the demand for unskilled labor will fall off markedly.

The accompanying chart will assist in the interpretation of occupational trends and in assessing the educational requirements of the middle and late 1960's. The upper half of the chart "matches" the 1930 educational "spectrum" to the 1930 occupational spectrum. They are approximate because of the inexactness of the data collected at that time. The lower half of the chart portrays the estimated spectrum of 1970 occupations and matches it with optimal educational requirements.

The three-level educational system of the 1930's roughly sorted young people into the various occupational categories shown. But in 1970, as the chart shows, this three-level educational system will no longer suffice. At one extreme, increased numbers of persons with baccalaureate and advanced degrees will be needed by 1970. At the other, very few jobs will be available for the person with only an eighth grade education. High school and/or vocational school education and training will be necessary for a much larger percentage of the labor force in 1970 than in the 1930's. However, the really significant change is in the middle of the two spectra. Managerial, semiprofessional and technical, clerical and sales, and highly skilled jobs will involve about half of the labor

[2] U.S. Department of Labor. *Manpower: Challenge of the 1960's.* Washington, D.C.: Government Printing Office, 1961.

OCCUPATIONAL TRENDS AND EDUCATIONAL REQUIREMENTS
(U.S. Labor Force—1930 and 1970)

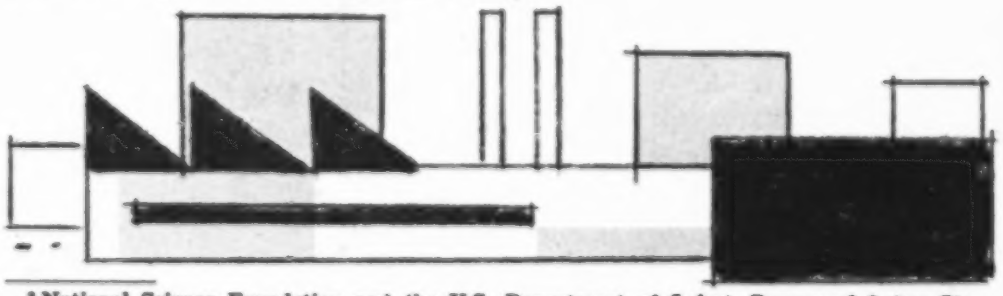


force by 1970. Proper preparation for most of these jobs will require some college training, but usually not the baccalaureate degree. Community junior colleges, technical institutes, and business colleges are the institutions of our society which will educate the "middle fifty per cent."

Our society can no longer operate efficiently with the four-year educational gap which exists between the high school graduate and the college graduate. The two-year college is the logical answer to the problem of closing this gap; and, among the two-year colleges, it is the community junior college which can make the greatest contribution to the nation's manpower need. Of the kinds of two-year colleges listed, the community junior college is the only one with enough enrollment potential to make a significant impact on the nation's middle manpower problem.

Extent of Need for Technicians in Industry

The national need for semiprofessional and technician manpower is critical. The National Science Foundation, in a 1961 study[3] concluded that by 1970 the national need for technicians in industry alone would exceed 1,262,000. This figure, contrasted with the 630,000 employed in 1960, indicates that the supply must be doubled in the decade. Allowing for deaths and retirements as well as for *new* demands, almost 68,000 new technicians would have to be educated and trained each year to meet the 1970 estimated demand. It is doubtful that the current annual rate of production of technicians from all sources (junior colleges, technical institutes, industry training programs, and armed services schools) exceeds 35,000. Further, other sectors of the economy, such as government, education, and health fields employed another 240,000 technicians in 1960, and this figure will probably double by 1970 also. Most certainly there is a challenge here for the junior college.



[3] National Science Foundation and the U.S. Department of Labor, Bureau of Labor Statistics. *The Long-Range Demand for Scientific and Technical Personnel.* Bulletin NSF 61-65. Washington, D.C.: Government Printing Office, 1961.

THE REWARDS OF TWO YEARS OF COLLEGE STUDY

It can be seen that the need for technical and semiprofessional workers is great. But what does it mean to the student about to enter a two-year college program? Where does this kind of experience lead in terms of salaries, status, and working conditions? What are the material returns from the investment in a junior college education? Are they worth the postponement of plans and the sacrifice of time, money, and effort?

In short, what are the rewards, beyond the satisfaction of broadening social and cultural perspectives through acquisition of knowledge and new ideas, for the successful student in a two-year program? The potential rewards might be considered under *income, status,* and *working conditions.*

Income

Compare the following typical earnings, at the going rates for the mid-sixties.

	Hourly	*Monthly*
Male high school graduate, entry job, unskilled work	$1.25	$210
Male high school graduate, some experience, semiskilled work	$1.85	$300
Male junior college graduate, entry job, highly skilled technician	$2.50	$425
Female high school graduate, entry job, counter clerk, retail store	$1.00	$185
Female high school graduate, entry job, typist and office work	$1.50	$255
Female junior college graduate, entry job, semiprofessional secretary		$360
Male junior college graduate, entry job, semiprofessional technician		$490
Male junior college graduate, semiprofessional technician, after five years' experience		$650
Senior engineering technician, ten years' experience		$800

Some Other Examples:

Registered nurse (junior college graduate plus licensing)	$14 to $18 per day
Medical technician (three years of college plus two years' clinical internship)	$450
After five years' experience	$650
Data processing technician (junior college graduate plus two years' experience)	$500
Architectural draftsman (junior college graduate plus two years' experience)	$500
Policeman (junior college graduate in law enforcement program), entry job	$400-$500
Auto mechanic (junior college auto mechanic program plus five years' experience)	$400-$700
Medical office assistant (junior college graduate, entry job)	$275-$350

At these differentials it does not take long to recover the expenses of a junior college education and forge ahead of one's contemporaries who ended their education with high school.

Status

Education stands squarely between man and his job. High school preparation, of itself, no longer meets the educational demands of most professional, semiprofessional, and technical jobs.

The claim has been made that semiprofessional and technical workers are "key members of the team." They are important on the job, in their communities, in their service to humanity, in their contributions to national defense, and as research workers on the frontiers of science and space.

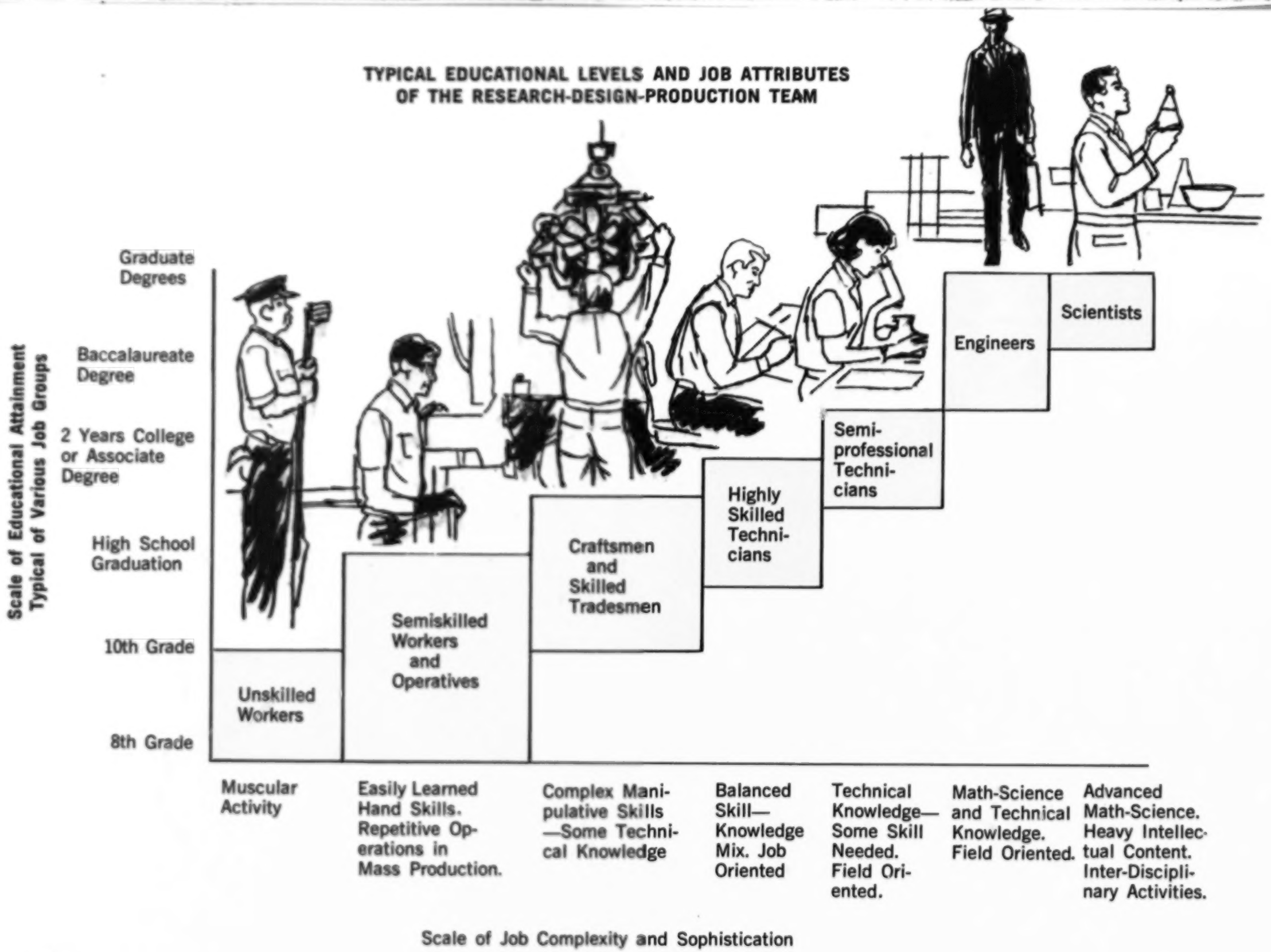
A few examples of the status of technicians:

- The work of from two to five technicians may be required before a physician who specializes in internal medicine can diagnose the malady of his patient.
- The number of technicians involved in a space shot may be two to three times the number of scientists and engineers.
- A group of three or four professional architects and engineers will need up to thirty architectural draftsmen as the firm prepares plans and specifications for a major building project.
- A scientist may conceive it, a few engineers may design it, but hundreds of technicians will be required to assemble, adjust, test, and operate a new radar telescope to probe outer space.
- Technicians save lives, provide entertainment, make world-wide communication possible, keep defenses at peak efficiency, make industry and business hum, open new frontiers, and live the good life themselves, as well-paid and highly respected members of society.

Working Conditions

- Technicians work everywhere—in glamorous places like Hawaii, in home towns like Dubuque, in the heart of San Francisco, in an embassy in Paris, and on a geophysical exploration truck in Timbuktu.
- Semiprofessional workers (including technicians) typically are salaried employees working in the research, planning, development, and evaluation activities of an enterprise.
- Technicians ordinarily work in clean, well-lighted, air conditioned laboratories, and other semiprofessional personnel such as dental assistants, secretaries, draftsmen, nurses, and data programers, work in comfortable and attractive surroundings.

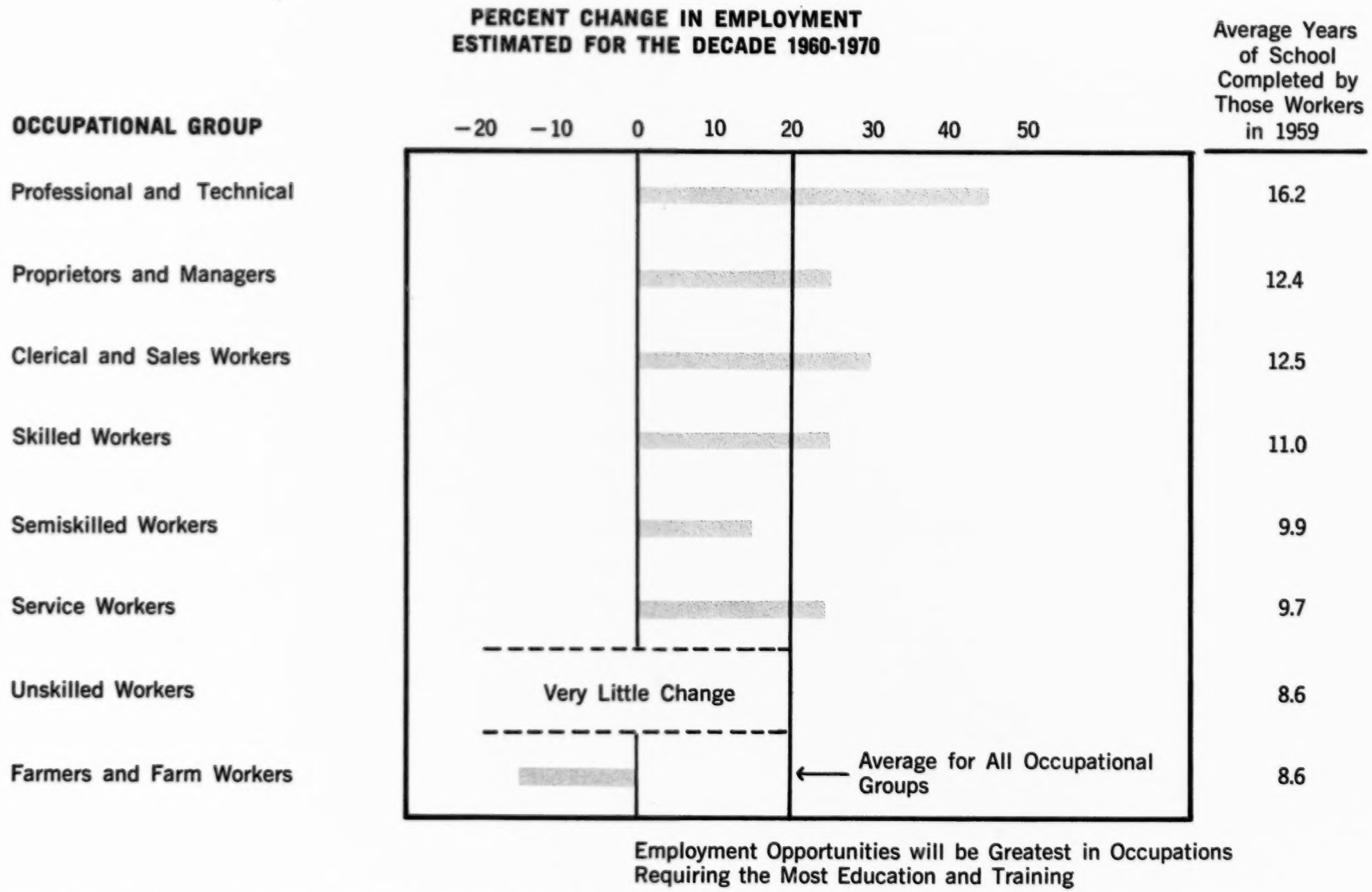
TYPICAL EDUCATIONAL LEVELS AND JOB ATTRIBUTES OF THE RESEARCH-DESIGN-PRODUCTION TEAM



OCCUPATIONAL STATUS DEPENDS ON EDUCATION

People in These Occupational Groups	Have These Average Educational Attainments (Percents)		
	Less Than High School Graduation	High School Graduation	College Graduation or Some College
Professional and Technical Workers	6	19	75
Proprietors and Managers	38	33	29
Clerical and Sales Workers	25	53	22
Skilled Workers	59	33	8
Semiskilled Workers	70	26	4
Service Workers	69	25	6
Unskilled Workers	80	17	3
Farmers and Farm Workers	76	19	5

Adapted from: **Manpower: Challenge of the 1960's,** U.S. Department of Labor.



Adapted from: *Manpower: Challenge of the 1960's*, U.S. Department of Labor.

SUMMARY

The Needs of the Nation demand a rising level of education and training for the entire work force to meet needs in all occupational classifications.

The Needs of Youth and Adults center around the new relationship between man, education, and jobs. At the turn of the century, five per cent of the labor force worked in the realm of ideas and the other 95 per cent worked! Today, more than half the labor force is engaged in "work" whose intellectual content is such that post-high school education is essential.

Occupational Patterns are changing so fast in response to the new technology that education is never terminal. Most young workers now entering the labor force will have to effect a complete change in their work skills and knowledge at least three times during their working careers. Continued employment depends on continuing education.

The Impact of Automation cannot yet be assessed, but it is clear that even as the new technology has created unemployment it has also created an almost insatiable demand for *new skills* in unfilled jobs—teachers, engineers, technicians, scientists, medical personnel, semiprofessional workers in business, industry, and agriculture; and for thousands of workers in the service industries to "back-stop" the nation's productive effort. It may be that the ultimate answer to technological unemployment will have to involve these approaches:

1. Markedly increased levels of pre-employment education and training for almost all high school graduates.
2. Training and retraining, as now envisioned in a preliminary approach by the Manpower Development and Training Act,[4] to make adults with obsolescent skills employable again, or to enable the "underemployed" to move up the occupational ladder, thus leaving unskilled and semiskilled jobs for the unemployed to fill—the so-called "trickle-up" theory of full employment.
3. An awareness and an acceptance of the need for semiskilled persons in service jobs. Persons engaged in professional, semiprofessional, technical, and skilled jobs need their houses cleaned, their laundry done, their lawns mowed, their hair cut, and their gadgets repaired; and they are willing to pay others to perform these services. As the higher order tasks of society become more complex with each passing year, and as the lower order (production) tasks are relegated to machines, many of which are controlled by other machines, the service jobs will become the major source of employment for that one-fourth of the labor force which is without specialized education and training. The jobs are there—it is up to society to create a climate in which they will be acceptable. John Gardner has said: "The discipline of roles is as necessary in a democracy as in any other society, but it is only workable in a democracy so long as all the roles are honorable and decently rewarded. . . . We must learn to honor excellence (indeed to *demand* it) in every socially accepted human activity, however humble the activity, and to scorn shoddiness however exalted the activity."[5]

It would seem inevitable that community junior colleges will have to develop courses and curriculums leading to jobs in the semiskilled and service categories. The challenge is there and waiting. The needs of one-fourth of the labor force cannot be ignored.

[4] U.S. Department of Labor. *Manpower Development and Training Act.* Report of the Secretary of Labor, Office of Manpower, Automation, and Training, to the Congress. Washington, D.C.: Government Printing Office, 1963.

[5] Gardner, John W. "Quality in Higher Education." *Junior College Journal* 25: 9; May 1968.

SECTION III

The Spectrum of Middle Level Manpower

There is a wide range of technical occupations. Many technicians work at highly sophisticated levels in research, design, and prototype production. Theoretical knowledge approaching that of the professions, combined with some practical "know-how" about instruments, tools, and laboratory equipment is required for such work. Men and women in these jobs are coming to be called "semiprofessional technicians," and college level educational programs are required for their education.

At the other end of the technical job spectrum are those occupations which demand a high degree of manual skill and ingenuity, but require only a modest background in science, mathematics, and technical theory. Persons who hold these jobs are commonly called "highly skilled technicians." Many persons reach this level through on-the-job or armed services training programs, and a few via technical high schools and vocational schools, but the main avenue of the future will probably be through junior colleges and technical institutes since college study will be increasingly required in the future.

It is important to remember that there are many degrees and kinds of technicians between these two extremes. The gap between the professions and the skilled worker cannot be filled by one kind or level of technician —a great variety of talents and specialized abilities is needed.

Technicians work in a variety of fields, and terminology differs somewhat from one field to another. This chapter will discuss middle level manpower as found in the following areas of work:

Technicians in industry	Technicians in agriculture
Technicians in health fields	Semiprofessional personnel other than technicians
Technicians in business	

TECHNICIANS IN INDUSTRY

It is in industry that the "spectrum" concept is most applicable to the technician. *Engineering technician* is a term frequently used to describe semiprofessional technicians; and the term *industrial technician* is sometimes used to indicate those whose work is more nearly like that of the skilled craftsman. There are no generally accepted definitions of these terms, and job titles themselves are not always helpful. As examples, however, the following statements, in terms of job demands, are given:

SEMIPROFESSIONAL TECHNICIAN (Engineering Technician)

"Technicians work with engineers and scientists in virtually every aspect of engineering and scientific work. One of their largest areas of employment is in research, development, and design work. Technicians in this type of activity generally serve as direct supporting personnel to engineers or scientists. In the laboratory, they conduct experiments or tests; set up, calibrate, and operate instruments; and make calculations. They may assist scientists and engineers in developing experimental equipment and models, do drafting, and frequently assume responsibility for certain aspects of design work under the engineer's direction." [6]

"Engineering technology is that part of the engineering field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational area between the craftsman and the engineer at the end of the area closest to the engineer.

a) Engineering technology is identified as a part of the engineering field to indicate that it does not by any means encompass the entire field and also to differentiate it from other types of technology in areas such as medicine and the biological sciences. The engineering field is viewed as a continuum extending from the craftsman to the engineer. Engineering technology falls, in the continuum, between the craftsman and the engineer and closer to the engineer than to the craftsman.

b) Engineering technology is concerned primarily with the application of established scientific and engineering

[6] U.S. Department of Labor. "Employment Outlook for Technicians Who Work with Engineers and Physical Scientists." Bureau of Labor Statistics, Bulletin No. 1300-96. Washington, D.C.: Government Printing Office, 1962. (Reprint of article in *Occupational Outlook Handbook*, 1961.)

THE SPECTRUM OF TECHNICAL JOBS

Continuous Spectrum—Technicians

Craftsmen and skilled craftsmen

Production jobs requiring manual skills of a high order. Occasional need for technical knowledge. Repair, maintenance, and construction jobs.

Test, maintenance, and prototype production. Drafting, detailing, checking, estimating. Manual skills required, but technical knowledge essential also. Use of instruments and gathering of data under supervision.

Research and design activities in support of engineers and scientists. May work individually. Some manual skills, but major emphasis is on technical knowledge.

Basic research and design. Direction of research and production activities. Emphasis is on knowledge, not skills. Working at the "frontier" of knowledge.

Toward increased complexity and intellectual content of the job demands

knowledge and methods. Normally engineering technology is not concerned with the development of new principles and methods.

c) Technical skills such as drafting are characteristic of engineering technology. Engineers graduated from scientifically oriented curricula may be expected to have acquired fewer of these skills than previously and the engineering technician will be expected to supply them.

d) Engineering technology is concerned with the support of engineering activities whether or not the engineering technician is working under the immediate supervision of an engineer. It may well be that in a complex engineering activity he would work under the supervision of an engineer, a senior engineering technician, or a scientist.

An engineering technician is one whose education and experience qualify him to work in the field of engineering technology. He differs from a craftsman in his knowledge of scientific and engineering theory and methods, and from an engineer in his more specialized background and in his use of technical skills in support of engineering activities."[7]

HIGHLY SKILLED TECHNICIAN (Industrial Technician)

"The industrial technician is one who does not require an extensive knowledge of science and engineering in depth to perform his work. When an industrial technician is working he uses more craft and manipulative skills than he does engineering knowledge.

Some technical occupations are very limited in scope and level. In this group may be found such jobs as product inspection . . . or routine engine testing. . . . Such jobs are clearly not far from the craft worker, but are differentiated by the necessity for the technician to apply some science and engineering knowledge.

Some technical occupations deal with a large number of different skills and knowledge (scope) but do not require depth of knowledge (level) . . . and therefore are classed as industrial technicians' jobs. Such jobs include the laboratory technician who is capable of performing all the common tests, but is not able to interpret results; or a draftsman who is accomplished in mechanical, electrical, or aeronautical drawings but performs few layout or design functions."[8]

The *engineering technician's* job is one of relatively wide scope, calling for frequent application of mathematical and scientific principles. He must be able to apply these principles and his technical knowledge to a broad field of engineering-related industrial problems. Schaefer and McCord[9] have characterized the engineering technician as being *field-oriented*, in contrast to the *industrial technician*, who, since his work is usually connected with a specific job, is said to be *job-oriented*.

Another way to look at the spectrum of technicians is in terms of the education required. The semiprofessional (engineering) technician typically has had two or more years of post-high school education in a junior college, a technical institute, or a university extension center, whereas many highly skilled industrial technicians attain their job status without formal college work.

Table 3-1 suggests an approach to scope and level in junior college curriculums leading to competence in certain fields of semiprofessional (engineering) technology.

A number of junior colleges are presently offering programs in the engineering technologies, and many more will add these curriculums in the immediate future.

Programs of education and training for highly skilled (industrial) technicians have been offered in junior colleges, technical institutes, vocational-technical schools, certain technical high schools, evening extension centers (recently through the Manpower Development and Training Act), and industry (in-plant) training centers. Community junior colleges will be increasingly involved in educational programs of this kind.

[7] The American Society for Engineering Education. *Characteristics of Excellence in Engineering Technology Education*. James L. McGraw, Project Director. Urbana, Ill.: the Society, 1962. p. 11.

[8] Harvard University, Graduate School of Business Administration. *Managing Technician Manpower*. A Report to Industry. Cambridge, Mass.: the University, 1959.

[9] Schaefer, Carl J., and McCord, Robert E. "Needed: A Definition of the Technician." *Technical Education News* 22: 23-24; June 1963.

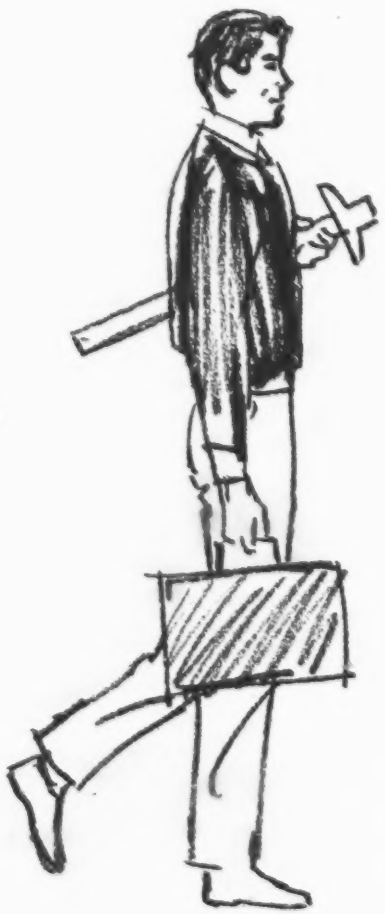


TABLE 3-1

SUGGESTED COURSE AND SEMESTER CREDIT HOUR REQUIREMENTS FOR JUNIOR COLLEGE CURRICULUMS SEMI-PROFESSIONAL (ENGINEERING) TECHNICIANS

Divisions of the Curriculum and Suggested Courses	Semester Credit Hour Requirements (One credit for one lecture hour or for three lab hours)	
	Credit Hours	Percent of Total
Mathematics (technical) . . . covering algebra, geometry, trigonometry, slide rule, analytic geometry, applied calculus and advanced topics	10	13.5
Science for the technician—covering applied physics, or chemistry, mechanics, thermodynamics, metallurgy, etc.	10	13.5
Technical specialty courses basic to the student's major—elementary and advanced; theory and practice	30	41
Supporting technical courses—graphics, engineering laboratory, technical writing	6	8
General education courses—English, humanities, social studies, etc.	18	24
TOTAL	74	100

TABLE 3-2

SUGGESTED COURSE AND SEMESTER CREDIT HOUR REQUIREMENTS FOR JUNIOR COLLEGE CURRICULUMS FOR HIGHLY SKILLED (INDUSTRIAL) TECHNICIANS

Divisions of the Curriculum and Suggested Courses	Semester Credit Hour Requirements (One credit for one lecture hour or for three lab hours)	
	Credit Hours	Percent of Total
Mathematics—a one-year technical math course covering advanced arithmetic, algebra, geometry, trigonometry, and slide rule	6	8
Applied science—technical physics or technical chemistry	8	11
Technical specialty courses basic to the student's major—some theory, but emphasis on practice	36	49
Supporting technical courses—drafting, general shop, etc.	9	12
General education courses—English, humanities, social studies	15	20
TOTAL	74	100

Table 3-2 indicates the suggested scope and level of pre-employment junior college curriculums for highly skilled technicians.

While the foregoing definitions and suggested curriculum requirements may be helpful, it is of the utmost importance to recognize that there really is not a bi-modal distribution of technicians—the spectrum is a continuous one from the up-graded skilled craftsman to the degree engineer who may be temporarily doing technician's work. And junior colleges should provide programs for several levels and kinds of technicians—not just one level or kind.

CLUSTERS OR FAMILIES OF TECHNICAL OCCUPATIONS

Overspecialization is inadvisable. There is a growing trend among employers today to expect the graduate of a junior college or technical institute to be broadly educated and trained in programs with considerable depth in mathematics and science and related technical work rather than in just one specialty. Consequently, it is advisable to plan curriculums for "clusters" or "families" of jobs. Some of these "families" are listed below with just a few of the typical job titles associated with each. Some jobs in each family are semiprofessional, others are highly skilled. The first-year program for each "family" can contain a common core of studies, with much of the specialization occurring in the sophomore year.

MECHANICAL TECHNOLOGY

Air Conditioning/Refrigeration Technician
Airframe Technician
Automotive Technician
Diesel Technician
Engineering Aide
Hydraulics Technician
Machine Drafting Technician
Missile Technician
Operating (Building) Engineer
Precision Measurements Technician
Tool and Die Technician

ELECTRICAL/ELECTRONIC TECHNOLOGY

Aviation Electronics Technician
Communications Technician
Computer Technician
Electrical Power Technician
Electronic Drafting Technician
Industrial Electronics Technician
Microwave Technician
Missile Electronics Technician
Radar Technician
Radio and Television Technician
Sound Systems Technician
Transmitter Technician

CIVIL TECHNOLOGY

Architectural Draftsman
Building Construction Technician
Concrete Technician
Estimator
Map Draftsman
Sanitation Technician
Specification Writer
Structural Testing Technician
Surveyor (Engineering Aide)

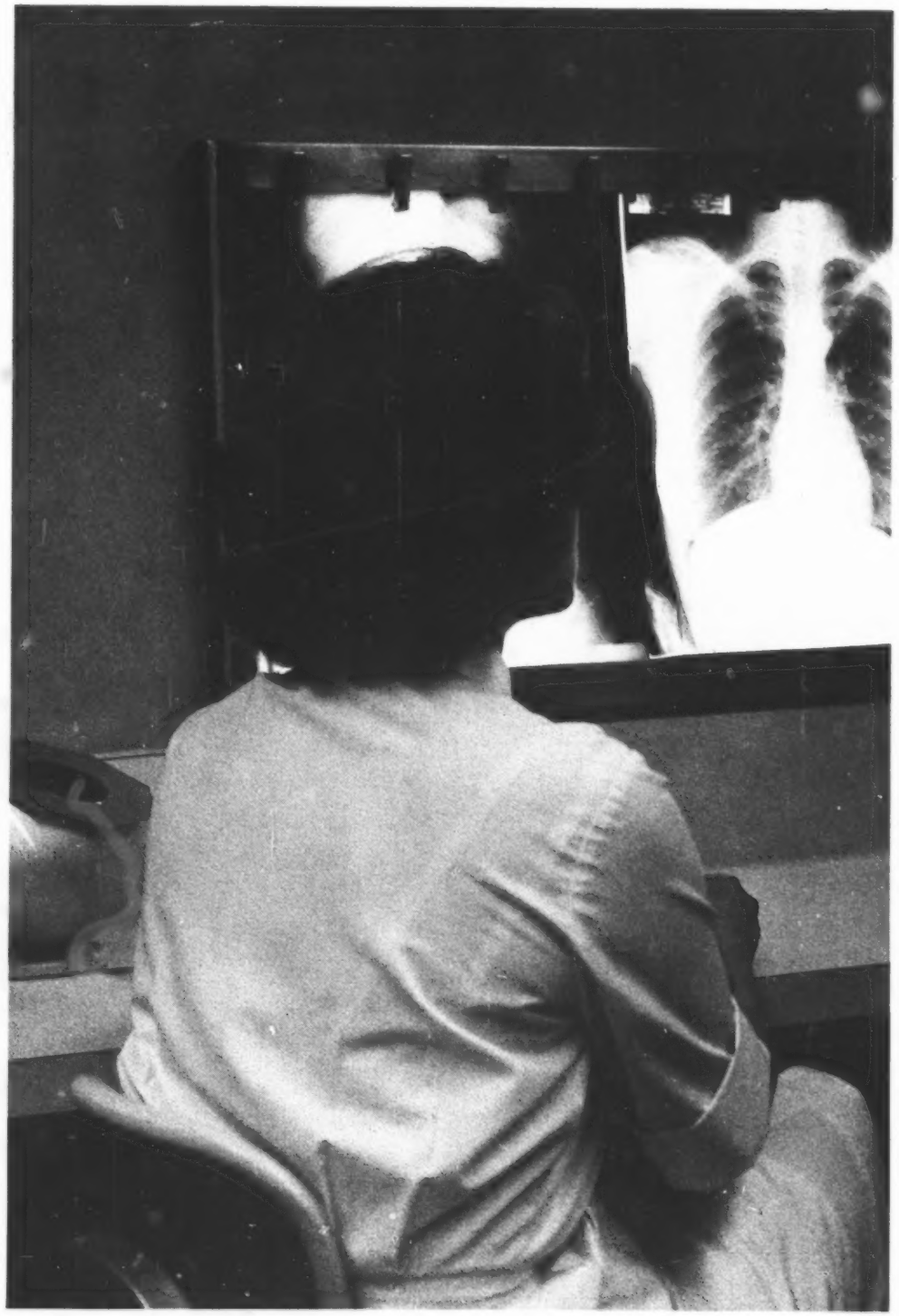
ENGINEERING LABORATORY TECHNOLOGIES

Ceramics Technician
Chemical Technician
Instrumentation Technician
Metallurgical Technician
Optical Technician
Plastics Technician
Research Technician (many grades)

CERTIFICATION OF ENGINEERING TECHNICIANS

In an attempt to set standards of job performance and education for engineering technicians there has been formed recently the Institute for the Certification of Engineering Technicians, with offices at 2029 K Street, N.W., Washington, D.C. Sponsored by the National Society of Professional Engineers, the Institute determines, by written examination and investigation of job performance, the competency of those who apply for certification.[10]

[10] See Williamson, Merritt. "The Institute for the Certification of Engineering Technicians." *Journal of Engineering Education* 54, No. 2, October 1963.



TECHNICIANS IN THE HEALTH FIELDS

By tradition, we tend to think of the health and medical team as composed of two persons—the doctor and the nurse. Although these two are still the key figures in the health fields, there are today many other kinds of workers, most of them at the semiprofessional level, whose knowledge and skill are essential to the care of the sick and the injured and to preventive medicine and medical research.

More than 100 different job titles can be identified[11] in the health occupations field. The list which follows includes just a few of these jobs. The junior college can and should assume an important role in the education and training of these workers.[12]

- Dental Assistant
- Dental Laboratory Technician
- Electrocardiograph Technician
- Histologic Technician
- Medical Laboratory Technician
- Medical Office Assistant
- Medical Record Technician
- Optical Technician
- Psychiatric Technician
- Radioisotope Technician
- Registered Nurse (Associate Degree)
- X-ray Technician

Every study which has been made in the medical manpower field in recent years has come to the same conclusion—a critical shortage of workers in all the semiprofessional classifications exists, and probably will continue to exist in the forseeable future. No enterprise offers a greater challenge to the junior college than that of expanding education in the health fields.

Most of the health occupations are regulated by state law, and licensed by the appropriate legal bodies (usually state boards). The scope and level of educational programs are frequently stipulated, and in-service work experience or internship is often required. Further, most of the health occupations groups have national and state associations which often set standards higher than those required by law. Junior colleges contemplating the establishment of educational programs in the health fields should enlist the cooperation of the appropriate associations, ordinarily through local chapters.

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[11] National Health Council. *Health Careers Guidebook*. New York: the Council, 1955.

[12] Light, Israel. "Training for Health Occupations." *Junior College Journal* 33: 16-21; March 1963.

BUSINESS-RELATED OCCUPATIONS

The successful business enterprise can no longer operate with only a few typists and bookkeepers. Today's business office is automated to a considerable degree. Fewer hand workers, but more "think workers" are required. Technicians are required for business data processing, machine accounting, inventory control, customer billing, information retrieval, microfilming of records, and copy reproduction. The private secretary, too, must supplement her typing and shorthand with many new skills and abilities to meet the demands of her position today.

Here are a few of the job titles of the semiprofessional and technical occupations associated with modern business.

- Bookkeeper
- Business Data Programer
- Buyer (Retail Store)
- Data Processing Technician
- Department Manager (Retail Store)
- Graphic Arts Technician
- Insurance Salesman
- Legal Secretary
- Library Assistant
- Medical Secretary
- Office Supervisor
- PBX Operator-Receptionist
- Private Secretary
- Real Estate Salesman
- Statistical Technician
- Technical Illustrator

With modern methods of communication, reproduction and storage of records, and information retrieval, the numbers of typists, file clerks, and stenographers needed by business offices has reached a plateau and may even begin to decline in the near future. The new technology in the business office requires persons with new knowledge and skills—most of them at a level beyond that which the high school can provide. Predictions of current and future needs are difficult to make, but experienced occupational analysts estimate that some 25,000 new workers each year will be needed to meet the expected demand for office workers with semiprofessional and technical competencies.

Business education programs in junior colleges should probably be expanded at several levels and in many fields, but especial attention should be given to new programs for business office technicians.[13]

[13] Van Wagenen, R. C. "Business Education Enrollments in California's Public Junior Colleges." *California Schools* 34: 155-62; May 1963.

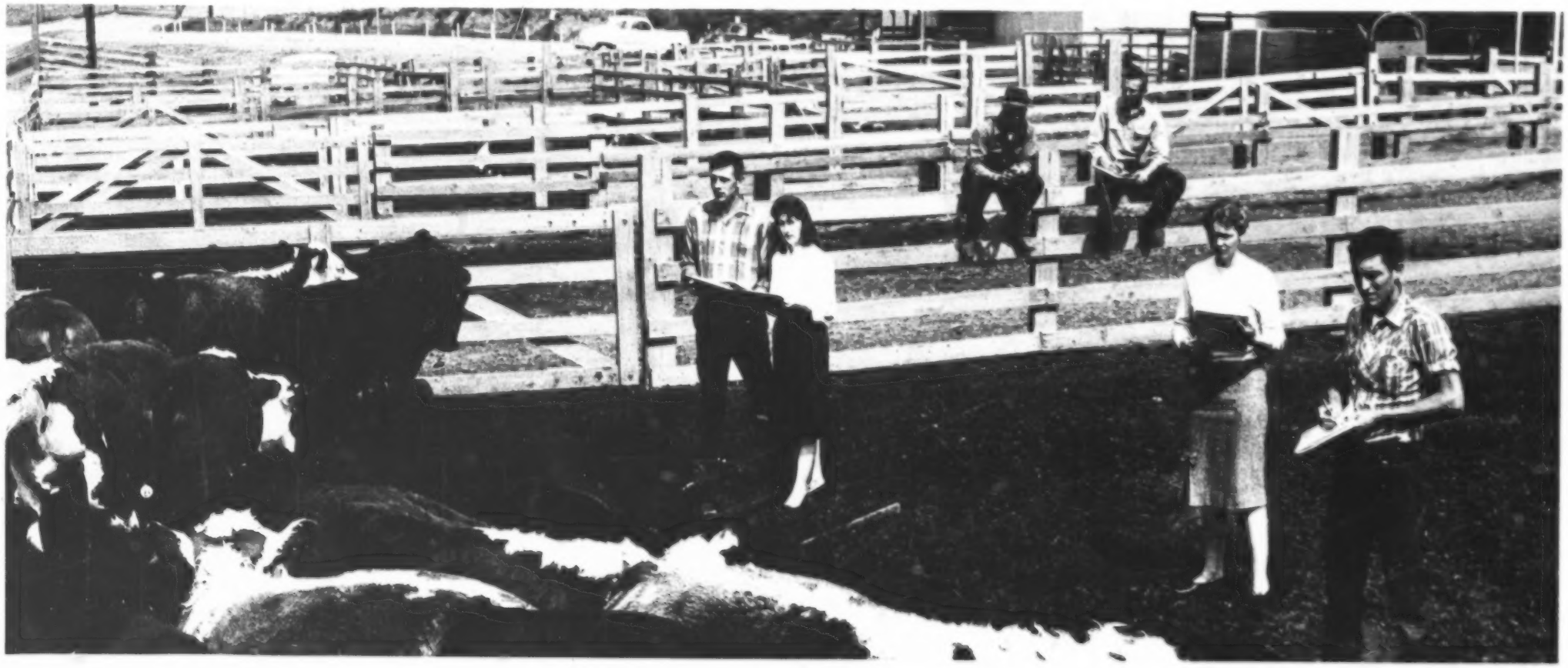
TECHNICIANS IN AGRICULTURE

Although the family farm is still a vital factor in the nation's economy, agriculture is changing with almost revolutionary impact. In many regions corporate agriculture is the response to the new technology. The agricultural businessman is replacing the "farmer" in some areas. Success in corporate farming and, indeed, on the family farm, too, depends today on the farmer's approach to new problems in the production, processing, distribution, and marketing of his products. Production and processing are becoming more and more science- and engineering-based, and distribution and marketing, business-based. The need for professional agronomists, engineers, chemists, biochemists, economists, and marketing specialists is accompanied by an equally great need for semiprofessional and technical personnel to assist in research, construction, analysis, production, purchasing, processing, and distribution.

Junior colleges in regions where agriculture is of economic importance should consider the feasibility of providing two-year associate degree programs for some or all of the following fields:[14]

- Agricultural Business Technician
- Agricultural Engineering Technician
- Agricultural Processing Technician
- Agricultural Research Technician
- Sales and Service Technician
- Farm Operator (owner or manager)
- Landscape and Nursery Technician
- Soils Technician

[14] For an extended discussion of agricultural technicians see: California State Department of Education. *Technicians in Agriculture.* Report of a Research Project in Agriculture Technology—California State Department of Education, and Modesto Junior College. Sacramento: the Department, 1962.



RELATIONSHIP OF CURRICULUMS TO OCCUPATIONAL LEVELS AND JOB FIELDS

Occupational Level	Employment Field	Examples of Job Fields and Job Titles	Kind and Level of Curriculum Required: General	Kind and Level of Curriculum Required: Specific Attributes
Semi-Professional	Engineering and Industry	Technician jobs in electronics, mechanical, civil, chemical and other fields. Emphasis on research, design, and prototype production. Work with scientists and engineers.	"Job-cluster" orientation. Emphasis on science, mathematics, and technical content. Skill training a secondary objective.	Emphasis on applied sciences. Mathematics through applied calculus. Technical and supporting-technical courses with considerable rigor. Significant general education content.
	Business	Business management, machine accounting, business data processing, sales, advertising, real estate, high level secretarial.		Emphasis on business theory, with some economics, marketing, etc. Strong program in English and mathematics of business. Rigorous program in the technical specialty, with significant general education content.
	Health	Nursing (R.N.), medical and dental technology, X-ray and radioisotope technology, medical research assistant, medical and dental office assistant.		Emphasis on the natural sciences. Significant content in the humanities and social sciences. Rigorous work in the technical specialty.
	Public Service	Law enforcement, fire service, sanitation, conservation, forest technology.		Strong preparation in both natural sciences and social sciences. Thorough preparation in the specialty, with significant general education content.
Highly-Skilled	Industry	Technician jobs in specialized fields, as automotive and diesel technology. Emphasis on testing, maintenance, operation, and production.	Specific job orientation. Some theoretical content, but major emphasis is on specific technical skills.	Emphasis is on specialization in a relatively narrow job field. Mathematics through trigonometry. Practical physics or chemistry. Much attention to skill development.
	Business	Stenography, office machine operation, PBX operator, bookkeeper.		Introduction to business, business mathematics. A general education core, but heavy emphasis on development of office skills.
	Health	Practical nurse, medical lab assistant.		Some general education, but major emphasis on skill development.
Skilled	Industry	Craftsmen and operatives in production, construction, maintenance, and repair; mechanics, artisans, and repairmen.		Trade mathematics and practical sciences. A core of general education, but primary emphasis on skill development. Many of these vocations require an apprenticeship. May be short-term courses.
	Business	General office work—typing, filing, duplicating. Retail sales work.		May be short-term courses. Heavy emphasis on skills. Some mathematics and English.
	Service	Food processing and preparation. Cosmetology, service station attendant.		Some basic science and general education but emphasis on skill development.

OTHER SEMIPROFESSIONAL OCCUPATIONS

Two relatively new fields of employment for semiprofessional and technical personnel are in (1) scientific laboratory research and in (2) the public service occupations.

Technicians in scientific research (nonengineering) laboratories must have preparation which is heavily science- and/or mathematics-based. Emphasis may be in either the physical or the biological sciences, depending on the research field.

Scientific research technicians (as distinguished from engineering technicians discussed previously) are illustrated by these job titles:

- Biological (Zoological) Technician
- Biophysical Technician
- Chemistry Research Technician
- Geophysical Technician
- Hydrographic Technician
- Mathematics Aide
- Meteorological Technician
- Physics Research Technician
- Radioisotope Research Technician
- Spectroscopy Technician

In *public service*, persons with two years of college work are finding increasing employment opportunities in such jobs as:

- Crime Laboratory (ballistics) Technician
- Fireman (city, county, and state agencies)
- Forest Conservation Technician
- Mosquito Abatement Technician
- Patrolman (law enforcement agencies)
- Sanitation Technician
- Wildlife Management Technician

SUMMARY

This, then, is the *spectrum* of middle level manpower. These jobs, considered in their aggregate, will account for nearly 30 per cent of the labor force by 1970. Today's high schools do not offer adequate preparation for these jobs, nor do four-year colleges and universities. Responsibility for the necessary preparation rests, instead, with the community junior college. But the educational programs must take new directions—they must be oriented toward middle level youth rather than academically superior youth. The educational programs for these youth must be characterized by diversity, rather than conformity; by the real quality of good teaching, rather than by highly selective admissions policies only; and by practicality rather than by sheer intellectuality.

The middle fifty per cent of high school graduates are the future technicians and semiprofessional workers of our society. They outnumber academically "superior" students by two to one. Their educational needs are important, and the educational programs for these youth are respectable. Their need is also the nation's need. Junior colleges are uniquely fitted to serve both.

SECTION IV

Planning Educational Programs

New directions in higher education must be sought wisely. A new course should be charted with great care and with the advice and assistance of those familiar with the route.

In this section some planning methods will be identified, and the experiences of some junior colleges with outstanding programs of occupational education will be pointed up.

ASSESSING THE NEED

The need for an educational program can be assessed in terms of national needs, state or regional needs, and local needs.

The local need can be looked at in two different ways: needs of local youth and adults for the education and training which will qualify them for jobs, and needs of local industry and business for competent workers.

National and state needs for semiprofessional and technical personnel can usually be assessed from manpower studies by the U.S. Department of Labor, the National Science Foundation, the U.S. Office of Education, and the United States Chamber of Commerce, as well as from the reports of state agencies.

Regional and local manpower needs of industry and business are usually not a matter of public information. They have to be determined locally by the community junior college and other local agencies (chambers of commerce, businessmen's associations, manufacturers' and dealers' associations, and state employment service branch offices).

Techniques of conducting a "community occupational survey" are already well known.[15] In general, two approaches might be considered in making such a survey: (1) the "team of experts" approach; (2) the "citizen participation" approach.

If several agencies desire to cooperate and provide for an exhaustive survey of the community's economy, the "expert" survey is probably better. A management consultant firm or consultants from a university may be employed to study the community's economic life, collect complete information on the labor force, and make projections. Here the community agencies raise the necessary funds and enlist the cooperation of individuals, business firms, and local agencies in obtaining the desired information.

On the other hand, if a community survey is to provide information primarily for educational purposes, the "citizens' participatory study" is ordinarily more productive. As implied, emphasis is placed on the participation of citizens representative of all segments of the community. An experienced survey director is essential, of course, and outside consultants may be required.

In a community whose population is 100,000 or more it would be normal practice to involve a hundred or more citizens in the survey. A public information program is started; committees formed and tasks assigned; survey instruments are constructed, evaluated, and revised; and "pilot" studies are used to perfect the survey techniques. The date for the start of the survey should coincide with the peak of public interest. Personal visits, which are far more productive than mail-out questionnaires, should be used where possible. Follow-up should continue until the greatest possible percentage return has been obtained. Then raw data may be compiled by clerks and by machine methods, but the data should be analyzed and interpreted by subcommittees under the supervision of the survey director. Each subcommittee should be responsible for the writing and editing of a chapter or section of the report. The report should be attractively reproduced and widely distributed.[16]

One advantage of the citizens' participatory survey is its relatively low cost; but far more significant is the fact *that is has involved hundreds of local people.* It is their survey for their junior college. The rationale and interest developed during the survey will pave the way for implementing the findings. The necessity for "seeking new directions" for educational effort will already have been made apparent. Comprehensive

[15] See Zapoleon, Marguerite Wykoff. *Community Occupational Surveys.* U.S. Department of Health, Education, and Welfare, Office of Education, Vocational Education Bulletin No. 233. Washington, D.C.: Government Printing Office, 1942. See also State University of New York. *Conducting a Job Opportunity Survey of Your Community.* Albany, N.Y.: the University, 1945.

[16] See The University of Michigan, Bureau of School Services. *Citizens Survey of Washtenaw County Community College Possibilities.* A survey directed by Raymond J. Young. Ann Arbor, Mich.: the University, July 1963.

occupational surveys should be supplemented by "spot" surveys within specific industries whenever a need is sensed or apparent.

Occupational surveys are not the only means by which new curriculums come into being. The president of the college, the dean or director of technical education, department heads, coordinators, and faculty are all sources of curriculum building ideas. The mere evaluation of needs which already exist is not enough; alert educators should be able to sense or anticipate needs for training before the need actually exists.

ASSESSING CAPABILITY

Educational programs may be direly needed, but the capability to provide them may be lacking. After a need survey is completed, an institutional self-study to determine capability should be undertaken. Semiprofessional and technical education programs must be of good quality or the student, his future employer, and the college's reputation will all suffer. Affirmative answers to the following questions should be assured before the decision is made to offer a new curriculum, even if the need for it has been definitely established:

1. Can well-qualified faculty be obtained?
2. Will suitable space for classrooms, laboratories, and shops be available?
3. Can tools, instruments, and specialized equipment of high quality be provided in sufficient quantity?
4. Will the budget permit expenditures for replacement of worn-out and obsolescent equipment?
5. Can coordinating, placement, and guidance services be provided?
6. Are students with the necessary ability and interest available in sufficient numbers?
7. Will all these factors result in a program which will satisfy student and community needs at a reasonable unit cost?

The following suggestions are worth considering:

1. Develop the technical program one careful step at a time, or the first program may be the last.
2. Make good use of advisory committees. Their work is only *advisory*, but listen to their ideas.
3. Consider regional cooperation in offering certain very expensive or very rigorous programs. For example, data processing, computer electronics, dental technology, might be developed regionally, with one junior college or technical institute in the region "specializing" in a given curriculum area.
4. Develop cooperative work-study programs in some of the technical fields. Realistic training and effective placement are inherent in co-op technology programs.
5. Put the emphasis on *good* programs rather than on the proliferation of programs.

STEPS IN CURRICULUM PLANNING

The Administrative Organization

Curriculum development has its beginning and its fruition in cooperative faculty effort. This kind of effort does not take place in a leadership vacuum. To set goals and then accomplish them through the work of people requires organization and administrative leadership in colleges as well as in other agencies of human endeavor. And junior colleges where programs of semiprofessional and technical education are being developed need an extremely high quality of leadership for the following reasons:

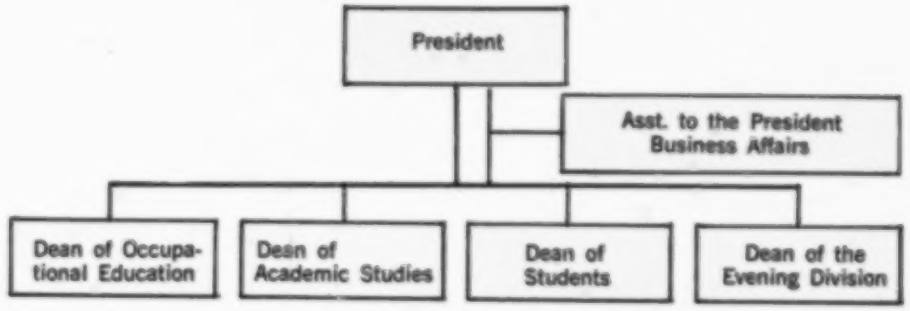
1. Departure from tradition frequently meets with indifference and sometimes with resistance from those who like the *status quo.*
2. Academicians on the faculty and on the board of trustees might regard any trend toward "vocationalism" with suspicion and may oppose it either directly or indirectly.
3. New kinds of knowledge and skills are required to plan meaningful programs of occupational education.
4. The cost of occupational education programs is likely to exceed that of traditional "academic" programs.
5. New kinds of laboratories and classrooms will be required.
6. A new and different emphasis in guidance must be achieved. Vocational guidance must be stressed, as well as educational and personal guidance.

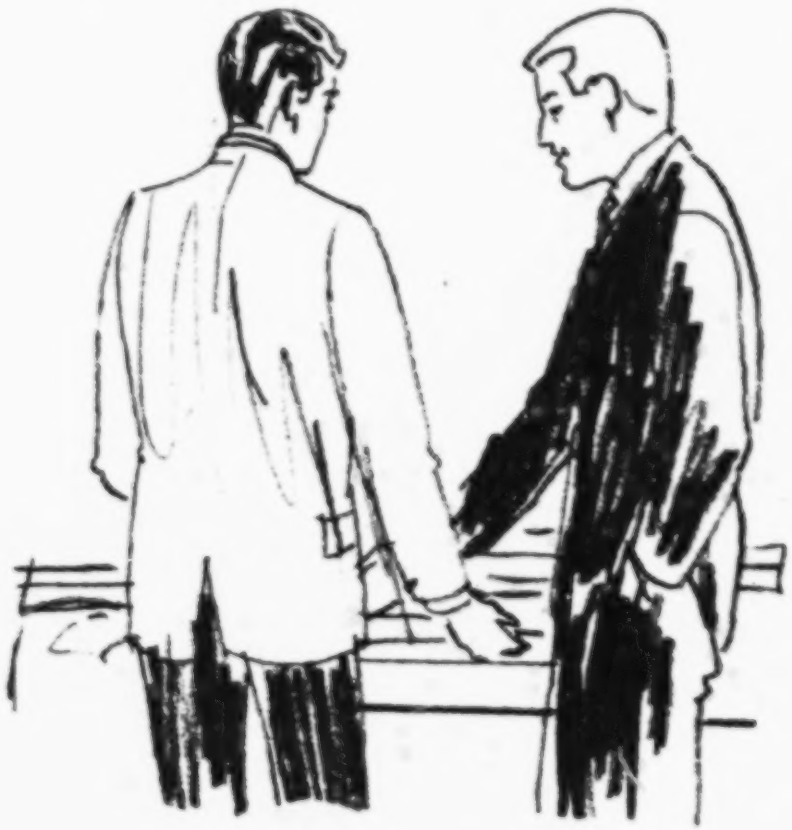
Only through personal involvement of top administration will occupational education programs start properly and continue to grow. The technical program must be as prestigious in the eyes of the president as the academic or "transfer" program. He must identify himself with both programs. His attitudes will be reflected by faculty, students, and the community at large.

It is of the *utmost importance* that the occupational education program be provided with the same high quality leadership which is given to the transfer program. The dean in charge of occupational education should be at the same level of administration as the dean in charge of the academic (transfer) program. The arrangement shown in the shortened organization chart of Fig. 4-1, is worthy of serious consideration.

FIGURE 4-1

SUGGESTED ORGANIZATION CHART FOR A COMPREHENSIVE COMMUNITY COLLEGE



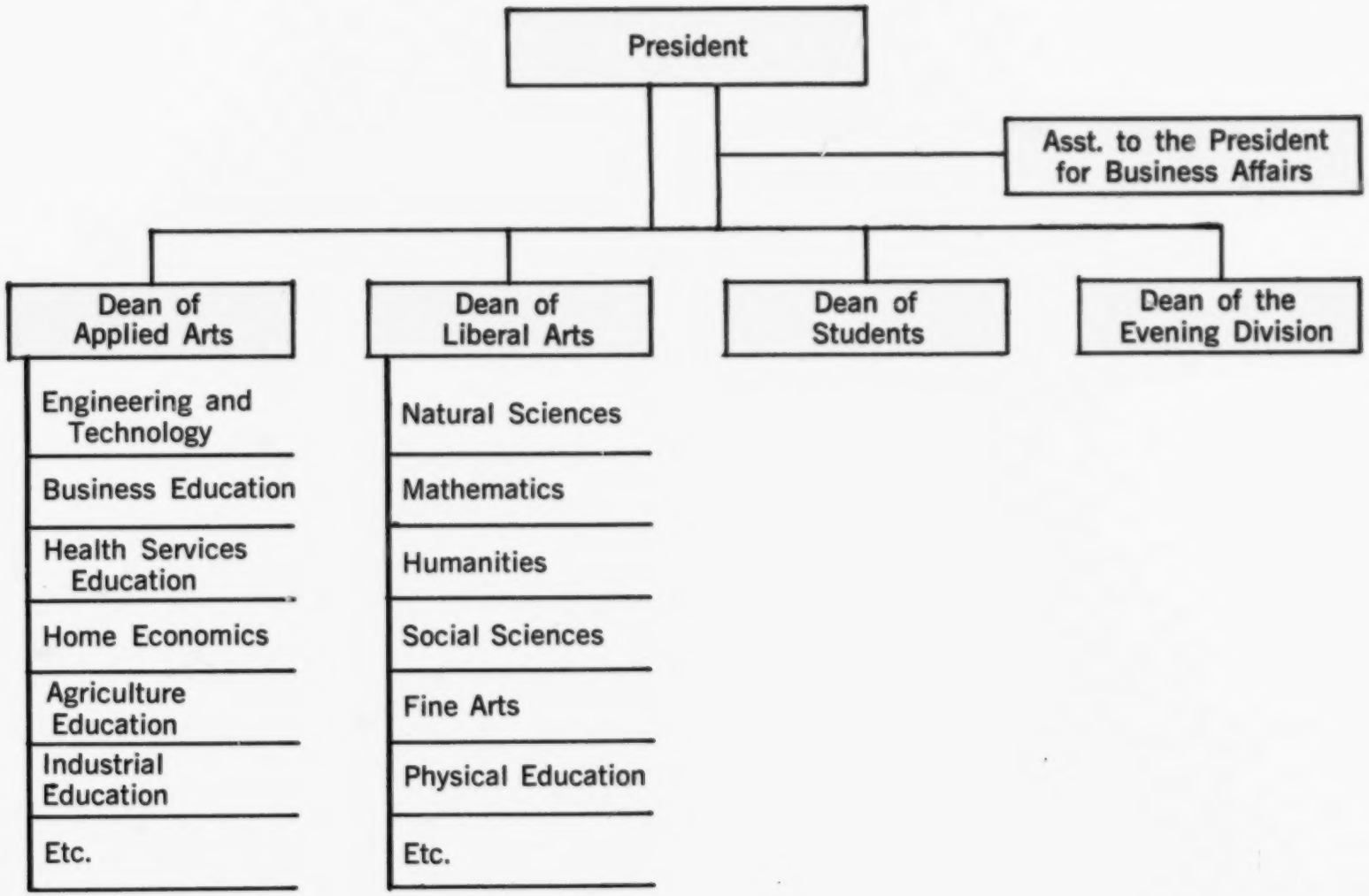


An organization plan which places a tradition-directed "academic dean" between the president and the person who leads and directs the occupational program should be avoided. Such a scheme will automatically relegate the occupational program to second class status in the minds of faculty, students, and citizens, and may make access to the president difficult for the person in charge of the occupational program.

An even better arrangement than that of Fig. 4-1 in the opinion of some junior college leaders, is one in which no sharp, artificial distinction is made between academic (transfer) programs and occupational (technical) programs, but one in which a distinction is made between the liberal arts and the applied arts. This plan is shown in the shortened organization chart of Fig. 4-2.

FIGURE 4-2

AN ALTERNATIVE PLAN OF ORGANIZATION FOR A COMPREHENSIVE COMMUNITY COLLEGE



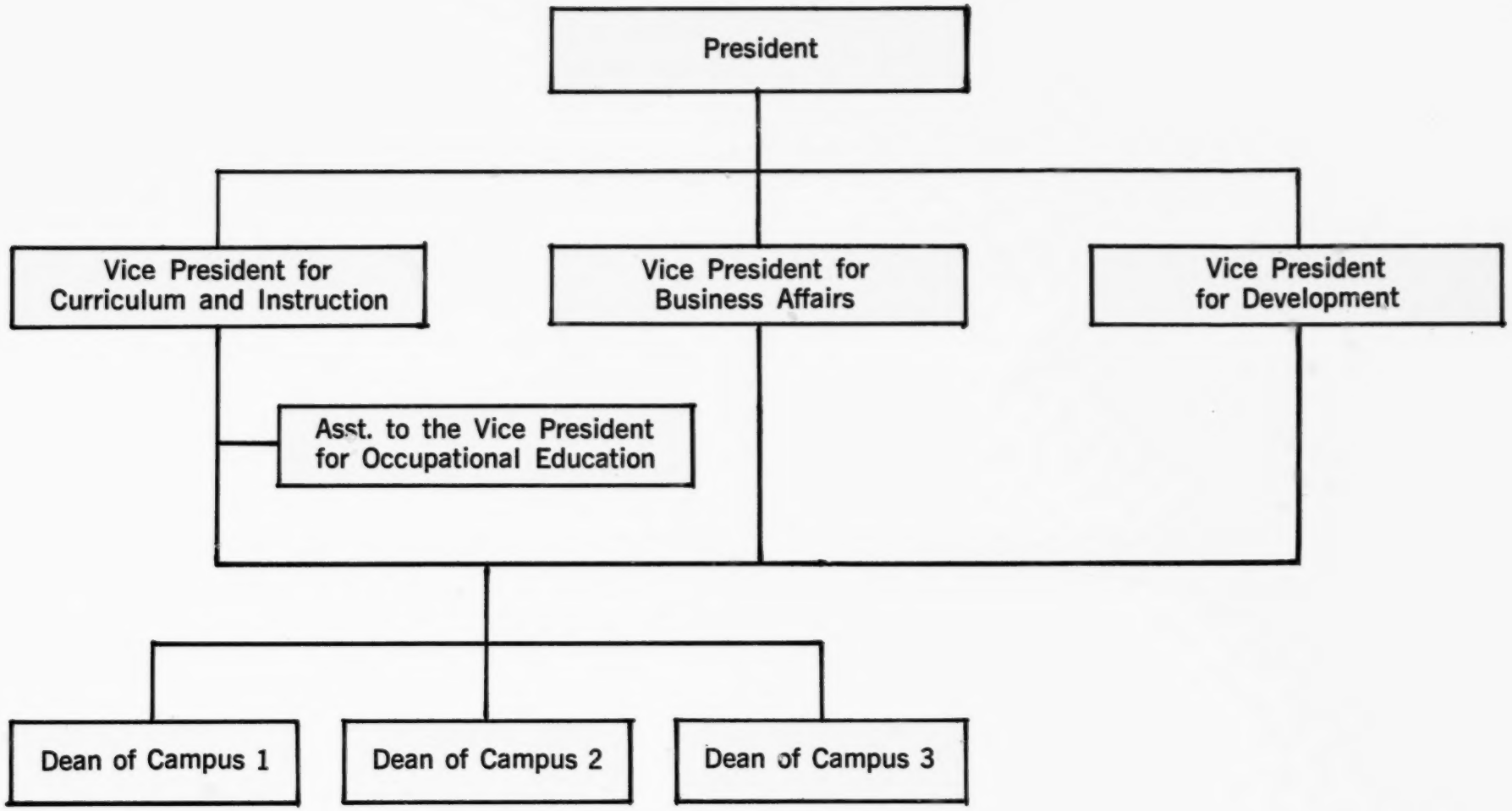
Here the dean of applied arts will be responsible primarily for leadership in occupational education, but he will also *administer a number of lower division transfer programs* which are "applied" in nature. Obviously he must have an intense interest in and a keen knowledge of the kinds of educational programs which bridge the gap between youth and jobs.

The dean of liberal arts will be dealing, for the most part, with transfer students and programs. But under his leadership, programs of general education and courses in English, mathematics, and the social sciences, will be planned and offered for employment-bound students.

In large junior college districts, where the chief administrator may be both president and superintendent, and where there are two or more campuses, a system with vice presidents is sometimes favored. Fig. 4-3 shows a chart giving occupational education the status and leadership it needs in a large district.

FIGURE 4-3

SUGGESTED ORGANIZATION PLAN—LARGE DISTRICT



The office of assistant to the vice president for occupational education might be a staff position. Plans and ideas would originate, for the most part, with the assistant, but would emanate as policy from the office of the vice president for curriculum and instruction. In this plan each campus would have an assistant dean for occupational education. Acceptance of the total role of the junior college system by all the vice presidents is essential. The president himself is the key to this acceptance and understanding. Instruction being the *raison d'être* of a college, the total instructional program should come to a focus in the person of the president. His philosophy will determine his actions, and his actions will determine the educational directions which the college seeks.

THE CURRICULUM COMMITTEE AND FACULTY INVOLVEMENT

Cooperative faculty effort can best be initiated through the activities of a college curriculum committee. The following suggested guidelines may be used for the establishment and operation of such a committee.

MEMBERSHIP

- Seven to fifteen members.
- President, deans, and directors of guidance and placement to be permanent members.
- Two (or three) department or division chairmen from applied arts.
- Two (or three) department or division chairmen from liberal arts.
- Several members from the faculty at large.
- Provision for rotating the positions held by department chairmen among the several departments.
- Provision for "staggered" terms, in order to preserve continuity.

OPERATING PROCEDURES

- Chairmanship rotates between dean of applied arts and dean of liberal arts.
- Committee concerns itself with *curriculum planning and development*, not merely with course approval and disapproval.
- Committee develops necessary forms and procedures for new curriculum and course proposals.
- Department chairmen and faculty are invited to meetings as needed, to propose or support curriculum and course changes.
- Members of the college's lay advisory committees are invited to certain meetings for their counsel on curriculum and course proposals.
- Committee develops standard format for course outlines to be prepared by instructors for every course offered by the college.
- A complete record of all meetings is kept, and the significant actions are reported to the faculty after each meeting.
- Subcommittees (augmented by faculty members not on the curriculum committee itself) are frequently appointed to study and make reports on curriculum matters which require careful study and detailed documentation.

- Committee actions, although quasi-official, are subject to the approval of the president and the governing board.

Curriculum Committee action will have its base in any or all of the following:

1. The findings of community surveys, and "spot" surveys.
2. The requirements of four-year colleges to which baccalaureate degree-bound students transfer.
3. Suggestions and proposals emanating from faculty members or from instructional departments and divisions.
4. Requests of student groups.
5. Requests and suggestions of lay advisory committees or of other citizens or citizens' groups.
6. Suggestions and proposals emanating from the coordinators, deans, and the president.
7. Suggestions and requests from high schools of the attendance area.

The continuing service of such a committee will assure cooperative faculty action in curriculum planning and development. Decision making on curriculum matters, subject to presidential and board approval, becomes a faculty function. Obviously, some proposals will be denied, and others which may seem to some to have questionable value will sometimes be approved; but on balance, a curriculum development program through committee action will result in the best possible faculty support of the total program of a community college.

HOW A NEW CURRICULUM COMES INTO BEING

The following order of events might well characterize the development of a new curriculum (in law enforcement, for example) at a community junior college. A similar sequence might apply to almost any other program.

- Having offered evening "up-grading" courses for local law enforcement agencies for several years, the dean of occupational education "senses" that a pre-employment program for entry jobs as patrolmen is probably a community "need."
- The dean discusses the idea with local law enforcement officials such as the chief of police, the county sheriff, and the chief officer in the area for the state police.
- If it is agreed that a probable need exists, an advisory committee is formed, consisting of the officials mentioned, plus training officers of the agencies concerned, and other local officials with an interest in, or knowledge of, law enforcement.
- A preliminary appraisal of the problem is made by this committee, and information is accumulated on—
  a. Education and training needs for entry jobs with each law enforcement agency.
  b. Legal and financial problems involved.
  c. Law enforcement programs at other junior colleges.
  d. Possible candidates for teaching in the program.
  e. Facilities and equipment required.
- A formal request for such a curriculum is prepared and submitted to the college curriculum committee.

- The curriculum committee considers the request, hearing evidence from—
  a. The dean of occupational education.
  b. The advisory committee.
  c. "Experts" in law enforcement training, called in to present testimony.
- If the curriculum committee views the request favorably, a subcommittee is appointed to plan the curriculum—content, scope, sequence of courses, rigor, entrance requirements, balance between specialized and general education, adequacy of space, availability of faculty, etc.
- If the curriculum committee approves the new curriculum, this action is forwarded to the president for his review and approval, and for presentation to the governing board.
- After board approval, a coordinator-instructor is named (or newly employed) to direct the program, plan the specific courses in detail, arrange for cooperative work experience for students with local law enforcement agencies, select textbooks, prepare information brochures, and recruit and select students for the program. This final phase of preplanning might well involve a full semester.
- The first class is selected, and instruction begins. Two years later, the successful students will graduate with the associate degree. The success of the program will in large measure depend on the placement and performance on the job of this first group of graduates.

EVALUATING THE TECHNICAL EDUCATION PROGRAM

Evaluation of the total educational program of the college should be a continuous effort. Periodic self-studies are useful for this purpose. The visits of representatives of the regional accrediting associations will spur institutional introspection. (The transfer program can be evaluated through yearly reports of four-year colleges on junior college transfer students.) No phase of the college's program should go unevaluated, but the suggestions that follow are primarily for guidance in evaluating the occupational education program. Emphasis is on semiprofessional and technical programs, but other kinds and levels of programs are not excluded. The entire occupational education program should be evaluated annually against such a set of guidelines, by a self-study or "grand jury" committee.

SUGGESTED GUIDELINES FOR EVALUATION[17]

Note: "Guidelines" have been grouped in categories for more ready applicability to an evaluation situation.

CATEGORY I—MEETING COMMUNITY NEEDS

1. Is there evidence that the college administration is aware of and sensitive to the occupational education needs of business and industry?
2. Is there evidence that there is effective liaison between the college and the industrial and business community? Between the college and other nearby colleges? Between the college and the high schools of the attendance area?
3. Is the college serving as an area technical-vocational center for youth and adults of the region? Does it serve for both training and retraining?
4. Is there evidence that lay advisory committees are appointed; that meetings are held regularly; and that occupational education programs reflect their participation?
5. Has there been growth and/or modification of the college curricular offerings during the past five years, in response to community needs for occupational education?
6. Have community occupational surveys, spot surveys, and/or other techniques been used to keep the college informed of community occupational training needs?

CATEGORY II—ADMINISTRATIVE "CLIMATE" AND ORGANIZATION

1. Is there evidence that the college gives status to technical education by assigning qualified directors and supervisors? Is the dean or director of the occupational program a ranking member of the "administrative team?"
2. What evidence is there that the administration recognizes and welcomes the responsibility of the college to provide occupational education?

[17] Adapted from a similar set of (unpublished) guidelines prepared by the Vocational-Technical Education Committee of the California Junior College Association in 1960.

3. Is there evidence that the salary schedule is equitable for instructors in technical and other occupational fields?
4. Is there evidence that the administration attempts to inform all faculty about occupational education goals so that better understanding of the junior college role can be achieved?
5. Does the president involve himself personally in the occupational program?

CATEGORY III—GUIDANCE, PLACEMENT, AND FOLLOW-UP

1. Is there evidence that the college guidance program aids students to choose a curriculum commensurate with their abilities as well as with their interests?
2. Does the college guidance program work cooperatively with the guidance programs of the local high schools?
3. Is there a satisfactory balance between vocational and educational guidance in terms of: (1) counselor time assignments? (2) follow-up procedures? (3) occupational and educational information?
4. Is there evidence of satisfactory use of faculty members from the technical and vocational fields in guidance?
5. Is there an awareness of the disparity between academic aspirations and ability? Is the guidance staff actively working to bring about a decrease in the percentage of students whose aspirations outstrip their academic abilities? Is there evidence that students who do not succeed in the first semester of a transfer program are successfully guided into an occupational curriculum?
6. Is there an active, centralized placement office?
7. Is there evidence that the placement office emphasizes *vocational placement* (*i.e.*, placement of students on jobs for which they have been trained in an occupational curriculum)?
8. Is there evidence of a well-planned follow-up program for students in occupational fields? Are records kept so that the following may be determined?
   a. Transfers to other majors in the college.
   b. Transfers to other colleges.
   c. Dropouts, and a sampling to determine causes.
   d. Placement on jobs (part-time and full-time).
   e. Employer acceptance of the student and of the student's educational preparation.
   f. The opinions of former students about their education and training at the college.
9. Are the successes of occupational education graduates adequately publicized?
10. Are adequate guidance and placement services provided for adult (evening) students?

CATEGORY IV—INSTRUCTION AND CURRICULUM

1. Is there evidence that the members of the instructional staff are well prepared, and teaching effectively in classrooms, laboratories, and shops?
   a. Have most of the instructors had employment experience within the fields in which they teach? (This criterion should be applied to teachers in business education, health and public service fields, home economics, and agriculture, as well as to teachers of technical and industrial courses.)
   b. Are instructors encouraged to obtain on-the-job experience by taking advantage of industry-business-education summer programs?
   c. Are instructors encouraged (with financial inducements) to participate in summer professional improvement programs such as National Science Foundation institutes or industrial work programs?
2. Is there evidence of evaluation of instructional practices? Are syllabi properly prepared for every course with an up-to-date copy on file in the dean's office?
3. Are instructional facilities, visual aids, mock-ups, field trips, effectively used?
4. Does the library have an adequate number of reference books in occupational education fields?
5. Is there evidence that instruction, in both content and method, is in step with the times? Are mathematics, physics, and graphics being taught as needed in today's technical occupations?
6. Are textbooks and other teaching aids current and suited to the courses in which they are being used?

7. Is there evidence throughout the occupational education program of the college an atmosphere of excellence in instruction?
8. Is there a college curriculum committee with broad faculty representation, and with a balance between academic and occupational education interests?
9. Are there work-study programs in operation for students in technical and business education programs?
10. Is there evidence that general education courses, approximating one-fifth to one-fourth of the total credit hours, are included in occupational curriculums?

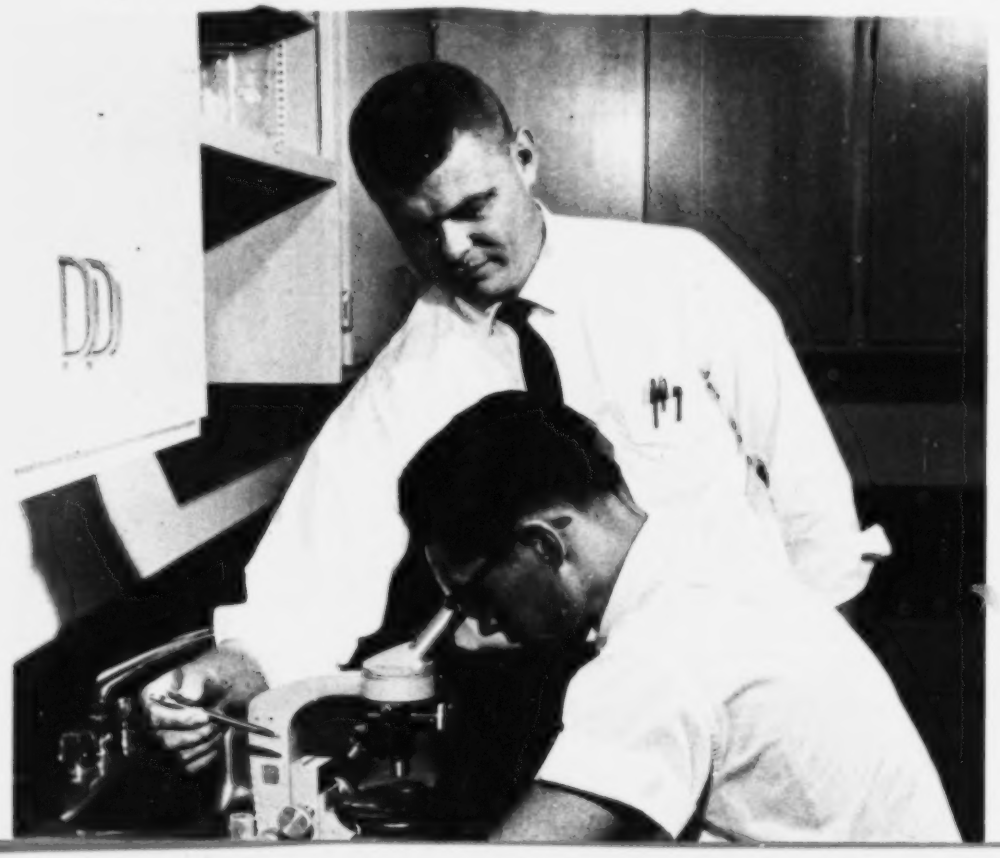
CATEGORY V—FACILITIES AND EQUIPMENT

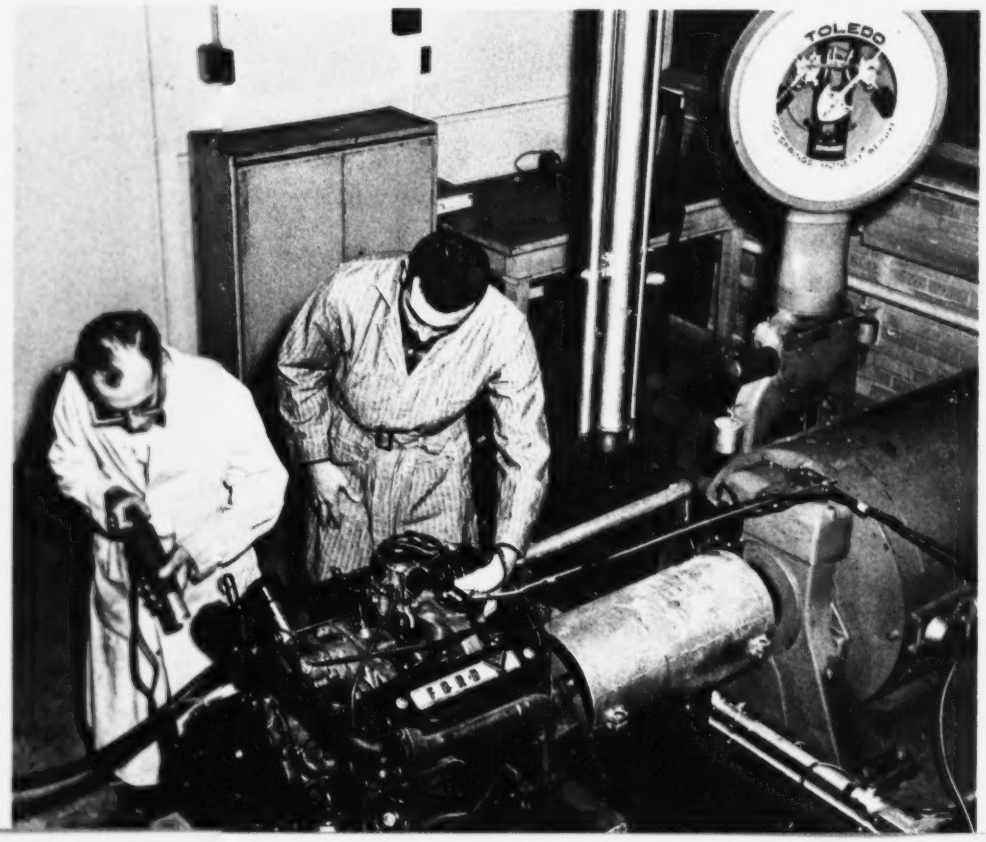
1. Is there evidence that the college is providing the necessary classrooms, laboratories, shops, equipment, and supplies for quality programs?
2. Has the college participated effectively in national and state programs which supplement local funds for technical and vocational education?
3. Has the college sought assistance from the educational foundations which have expressed an interest in semiprofessional and technical education?
4. Is there evidence of a planned program for replacement of obsolescent equipment with up-to-date equipment?
5. Is occupational education sharing equitably in the current operating budget? In the capital outlay budget?
6. Is there effective liaison with business and industry to encourage contributions of equipment and funds?
7. Has the college been active in obtaining equipment, tools, and supplies from stores declared surplus by the Department of Defense?

SUMMARY

Curriculum planning for junior college occupational education programs must be a cooperative faculty effort conducted within a framework of competent leadership provided by the president and the deans. The support of the board of trustees is essential, of course, and so also is the interest and support of the community. Employers are always interested in youth with more knowledge and more highly developed skills for the increasingly complex jobs of today's economy. Parents of "middle level ability" youth are much interested in post-high school occupational education for their sons and daughters.

But it is only through *action* by faculty and administration that the comprehensive community college becomes a reality. The junior college becomes the "people's college" only when the faculty makes it so. And the faculty will make it so only when the president himself leads in charting the new course.





SECTION V

Concept and Practice In Curriculum Development

Some general concepts related to junior college technical education curriculums will be discussed first in this chapter, and then some "model" junior college curriculums which have been successful will be presented. The chapter closes with a brief review of some "instructional innovations."

DEFINITIONS AND LEVELS

Terminology is a problem for first consideration. Definitions are troublesome—especially when applied to jobs, for a man's job is his personal status symbol. A clerk may think of himself as a "professional," even though his job is listed as "clerical and kindred." Today's auto mechanic may call himself a technician, but he is classified officially as a skilled tradesman. The word "engineer" may be combined with technician in some job titles. A similar difficulty also arises in defining kinds of educational programs. However, some definitions will be necessary for the discussion which follows:

1. *Semiprofessional education* is organized in college-level curriculums of two or more years in length, leading to an associate degree, and designed to prepare the student for employment in one of several fields recognized as nearly professional in status. Examples of semiprofessional jobs are registered (bedside) nurse, private secretary, research assistant, architectural draftsman, medical technician, engineering technician, surveyor, business data processing technician.
2. *College level technical education* is one kind of semiprofessional education. It is carried out in junior colleges, technical institutes, and extension centers of some four-year colleges. It emphasizes work in mathematics and science, and is frequently, but not always, related to engineering at the research, design, and development level; gives major attention to specialized technical content, but also stresses skill in the use of instruments and specialized tools; provides the educational foundation, in terms of mathematics, science, and general education, for future growth in the technical occupations and for the responsibilities of citizenship; and leads to occupational competence in the chosen field of technical specialization.
3. *Technical training for highly skilled occupations* consists of curriculums, courses, and experiences leading to competence in industrial jobs where the major emphasis is on production, maintenance, operation, or testing. It may, but does not have to, lead to an associate degree, and it may be highly specialized, with relatively less content in basic sciences and in general education than is characteristic of semiprofessional technical education programs.

In the engineering and industrial field, community colleges should provide several curriculums in the technologies at different levels, ranging from college-level engineering technology to courses for highly skilled technicians to accommodate the needs of business and industry and also the abilities and interests of students. Many recent occupational surveys support this conclusion.[18]

The necessity for several levels of technical education has resulted in some confusion and controversy over the *quality* of the program. The *confusion* has been common among students, parents, and employers, while the *controversy* has occurred largely among educators.

A good distinction between *quality* and *level* of program comes from a recent evaluation of engineering technology education, an excerpt from which is quoted here:

> "The *level* of a program is determined by its objectives, and the *quality* by how well it achieves its objectives. If, for example, the objective of a program is to train retarded persons to perform simple household tasks, it may excel at accomplishing this objective. On the other hand, a graduate program in a highly abstract field may well be of poor quality."[19]

A concept of *quality within diversity* must pervade the technical education program of the community junior college. That rigor must be maintained which is essential to quality within a given level. Certain engineering technology programs, for example, possess a level and quality which

[18] Dauwalder, Donald D. *Education and Training for Technical Occupations.* Los Angeles: Los Angeles City School District, Division of Extension and Higher Education, 1961.

U.S. Department of Labor. *Technical Occupations in Research, Design, and Development.* Washington, D.C.: Government Printing Office, 1961.

[19] American Society for Engineering Education. *Characteristics of Excellence in Engineering Technology Education.* James L. McGraw, Project Director. Urbana, Ill.: the Society, 1962. p. 13.

results in accreditation by the Engineers' Council for Professional Development (ECPD). Other programs with different objectives *may be of a different level, but of equally high quality.*

The "*quality within diversity*" concept is admittedly difficult to maintain, but certainly not impossible. Many community junior colleges have done it for years. Outstanding leadership and a high quality faculty seem to be the attributes of colleges where this concept has been successful.

In summary, it seems clear that three kinds or levels of technical education should be recognized, and curriculums and students selected accordingly:

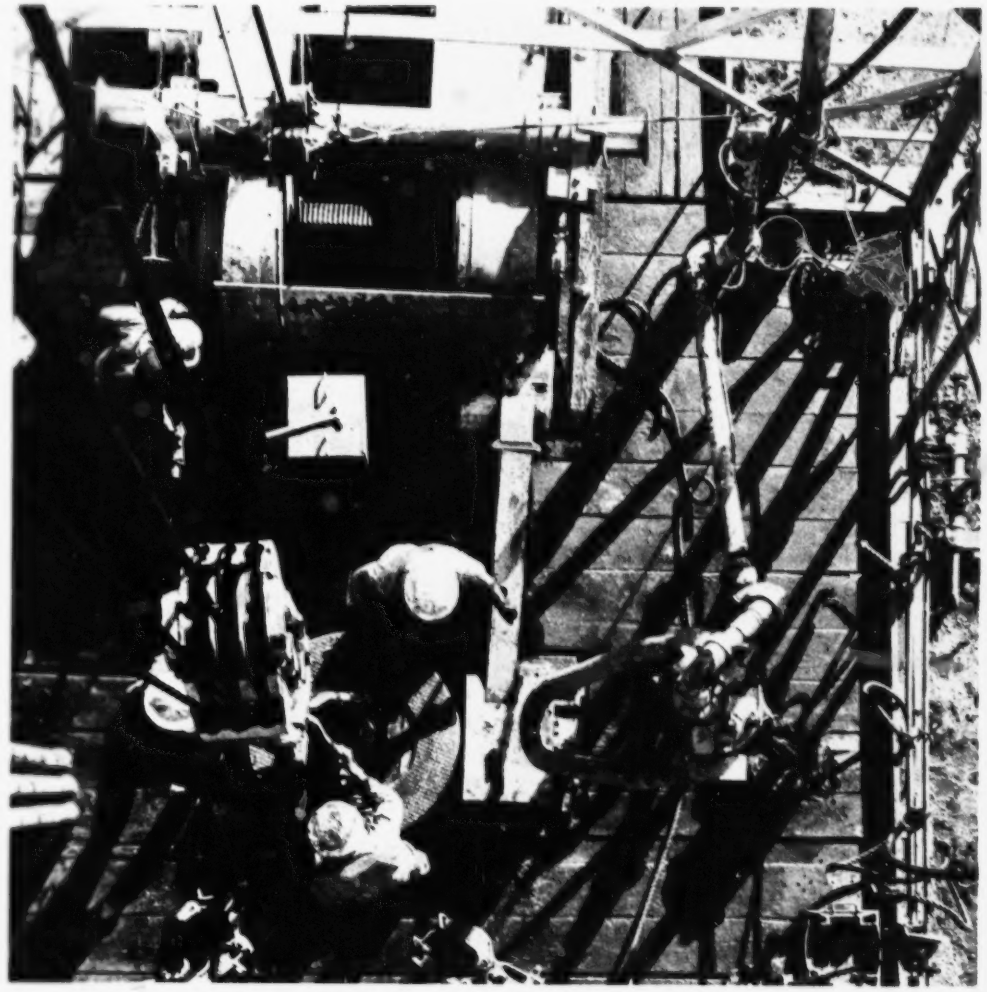
1. College level semiprofessional technical education for business, industry, health, agriculture, and public service fields;
2. Technical education for highly skilled technicians in industry and other fields;
3. Technical *training* programs for industry and business, with courses for employed adults aimed primarily at job up-grading; or for unemployed adults aimed at retraining.

TECHNOLOGIES RELATED TO ENGINEERING AND INDUSTRY

Mathematics and physics constitute the foundation of curriculums the purpose of which is to prepare technicians for fields related to engineering and industry. It should be recognized, however, that the classical sequence of compartmented mathematics courses (algebra, trigonometry, analytical geometry, calculus, etc.) and the typical general physics courses are not well suited to the demands of technical education programs. Technician students should not be scheduled in the same mathematics and physics sections with students of science and engineering. The sequence of these courses is not suited to technical curriculums, and the content includes much of the abstract that technicians will not need, and omits much of the practical which they must have. Furthermore, the level, *if properly planned for future scientists and engineers,* is too rigorous for future technicians. In such cases the *level* is pitched so high that the *quality* of the technical program suffers. Moreover, the instructors of these transfer courses are sometimes reluctant to work with students who are interested in the course as a tool subject rather than as an academic discipline.

Consequently, the terms "technical mathematics" and "technical physics" will be used here to refer to courses especially designed for technicians. Brief descriptions of such courses will be given in a later section.

For purposes of illustration, a number of curriculum patterns in various technologies related to engineering and industry follow. All of those included are in actual operation at some junior college or technical institute in the United States. It is emphasized that they are illustrative only; and there is no intent, expressed or implied, that these patterns need be imitated in order to achieve quality.



AN ELECTRONICS TECHNOLOGY CURRICULUM
(Semiprofessional Level—Public Junior College)
(Associate Degree Program)

Freshman Year

Courses	Units	Hrs. Per Wk. Each Semester Lecture	Lab	Total
English A-B	3 - 3	3		3
Technical Physics A-B	4 - 4	3	3	6
Technical Mathematics A-B	3 - 3	3		3
Introduction to Graphics A-B	1 - 1		2	2
Engineering Laboratory A-B	3 - 3	1	6	7
Electronics A-B	5 - 5	3	6	9
TOTALS	19 -19	13	17	30

Semester II

Courses	Units	Hours Per Week Lecture	Lab	Total
Economics	3	3		3
Psychology (or other elective)	3	3		3
UHF and Microwave	5	3	6	9
Transistor Theory and Circuitry	2	1	3	4
Television Circuits	5	3	6	9
TOTALS	18	13	15	28

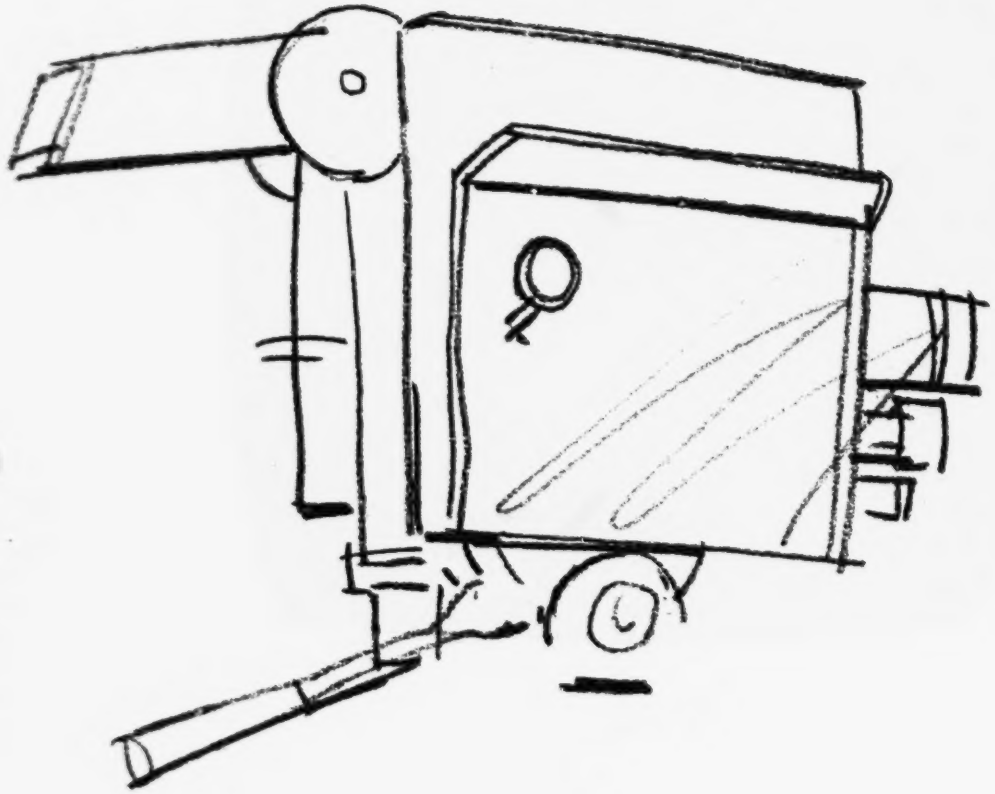
Sophomore Year

(Three Options Available)

Example I: **Communications Electronics Option**

Semester I

Courses	Units	Hours Per Week Lecture	Lab	Total
American History	3	3		3
Speech (or other elective)	3	3		3
Technical Mathematics C	3	3		3
Circuit Design and Analysis	5	3	6	9
Transmitters and Receivers	5	3	6	9
TOTALS	19	15	12	27



Example II: **Industrial Electronics Option**

Courses	Units Semester I	Units Semester II
American History	3	
Economics		3
Psychology (or other elective)		3
Technical Mathematics C	3	
D-C and A-C Machinery	5	
Electronic Drafting	2	
Industrial Electronics A-B	5	5
Instrumentation		5
Technical Report Writing		2
TOTALS	18	18

Example III: **Computer Electronics Option**

Courses	Units Semester I	Units Semester II
American History	3	
Economics		3
Psychology (or other elective)		3
Technical Mathematics C-D	3	3
Circuit Design and Analysis	5	
Computer Electronics A-B	5	5
Transistor Theory and Circuitry		2
Electronic Drafting	2	
Technical Report Writing		2
TOTALS	18	18

Total semester credit hours for the two-year curriculum (average) 74

A CIVIL TECHNOLOGY PROGRAM
(Semiprofessional Level—Public Junior College)
(Associate Degree Program)

Freshman Year (Quarter System)

Fall Term

Courses	Quarter Credit Hours
Mathematics A	5
Graphics I	3
Construction Methods	2
Construction Materials	4
Estimating	2
Orientation	1
TOTAL	17

Winter Term

Courses	Quarter Credit Hours
English A	3
Mathematics B	5
Graphics II	3
Hydrology	3
Construction Contracts	3
TOTAL	17

Spring Term

Courses	Quarter Credit Hours
English B	3
Elementary Surveying	5
Route Surveying	4
U.S. History	3
Report Writing	2
TOTAL	17

Sophomore Year
Fall Term

Courses	Quarter Credit Hours
Physics I	5
Geodetic Surveying	4
Political Science	3
Statistics	5
TOTAL	17

Winter Term

Courses	Quarter Credit Hours
Physics II	5
Highway Technology	4
Statics	4
Advanced Surveying	4
TOTAL	17

Spring Term

Courses	Quarter Credit Hours
Physics III	5
Strength of Materials	3
Structural Technology	4
Soil Testing	3
Project Laboratory	3
TOTAL	18

Total quarter credit hours for the two-year curriculum 103

A MECHANICAL TECHNOLOGY CURRICULUM[20]
(Semiprofessional Level—A Technical Institute)
(Associate Degree Program)

Freshman Year (Quarter System)

Fall Term

Courses	Quarter Credit Hours
Algebra	5
Chemistry	6
Graphics I	2
Engineering Laboratory	5
TOTAL	18

Winter Term

Courses	Quarter Credit Hours
Physics I (Mechanics)	6
English I	3
Graphics II	2
Trigonometry	5
Human Relations	3
Machine Shop I	2
TOTAL	21

Spring Term

Courses	Quarter Credit Hours
Physics II (Electricity)	6
English II	3
Analytical Geometry and Calculus	5
Machine Shop II	2
Metallurgy	3
Welding	2
TOTAL	21

Sophomore Year
Fall Term

Courses	Quarter Credit Hours
Physics III (Ht., Sd., Lt.)	6
Mechanics of Materials I	2
Machine Drawing I	2
Public Speaking	3
Industrial Engineering Technology	6
TOTAL	19

Winter Term

Courses	Quarter Credit Hours
Mechanics of Materials II	4
Machine Drawing II	2
Industrial Electricity	6
Time and Motion Study	3
Technical Writing	3
Project Seminar	2
TOTAL	20

Spring Term

Courses	Quarter Credit Hours
Industrial Economics	5
Plant Layout	3
Jigs and Fixtures	4
Industrial Electronic Controls	4
Machine Design	5
TOTAL	21

Total quarter credit hours for the two-year curriculum 120

[20] This program has been accredited by the Engineers' Council for Professional Development.

AN AUTOMOTIVE TECHNOLOGY CURRICULUM
(Highly Skilled Technician Level—Public Junior College)
(Associate Degree Program)

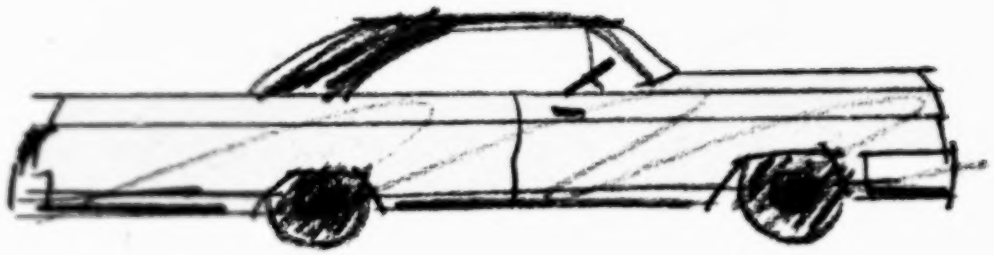
Freshman Year

Semester I

Courses	Credit Hours
English A	3
Physics A	4
Mathematics A	3
Graphics I	2
Automotive Technology I (Engines)	5
TOTAL	17

Semester II

Courses	Credit Hours
English B	3
Physics B	4
Mathematics B	3
Graphics II	2
Automotive Technology II (Electricity)	3
Automotive Technology III (Carburetion)	3
TOTAL	18



Sophomore Year

Semester I

Courses	Credit Hours
History	3
Machine Tools	3
Hydraulics	3
Automotive Technology IV (Ignition)	2
Automotive Technology V (Transmissions)	4
Report Writing	2
TOTAL	17

Semester II

Courses	Credit Hours
Economics	3
Human Relations	2
Industrial Materials	3
Automotive Technology VI (Test Lab)	3
Automotive Technology VII (Chassis)	2
Automotive Drafting	2
Elective	3
TOTAL	18

Total semester credit hours for the two-year curriculum 70

A CORE CURRICULUM IN TECHNICAL EDUCATION

Some community colleges offer only *engineering technician* curriculums, and these are sometimes at the level of the "engineering" student rather than the "technician" student. There are two reasons why such an approach is not advisable:

1. Students whose abilities are at the engineering level should be encouraged to enter engineering curriculums, not technician curriculums.
2. Technician programs which almost parallel lower division engineering curriculums result in high attrition rates, too few graduating technicians, and general dissatisfaction with the community college's technical education program. In some communities, such an approach has resulted in the establishment of a post-high school technical school to serve a need which the "community" college has chosen to ignore.

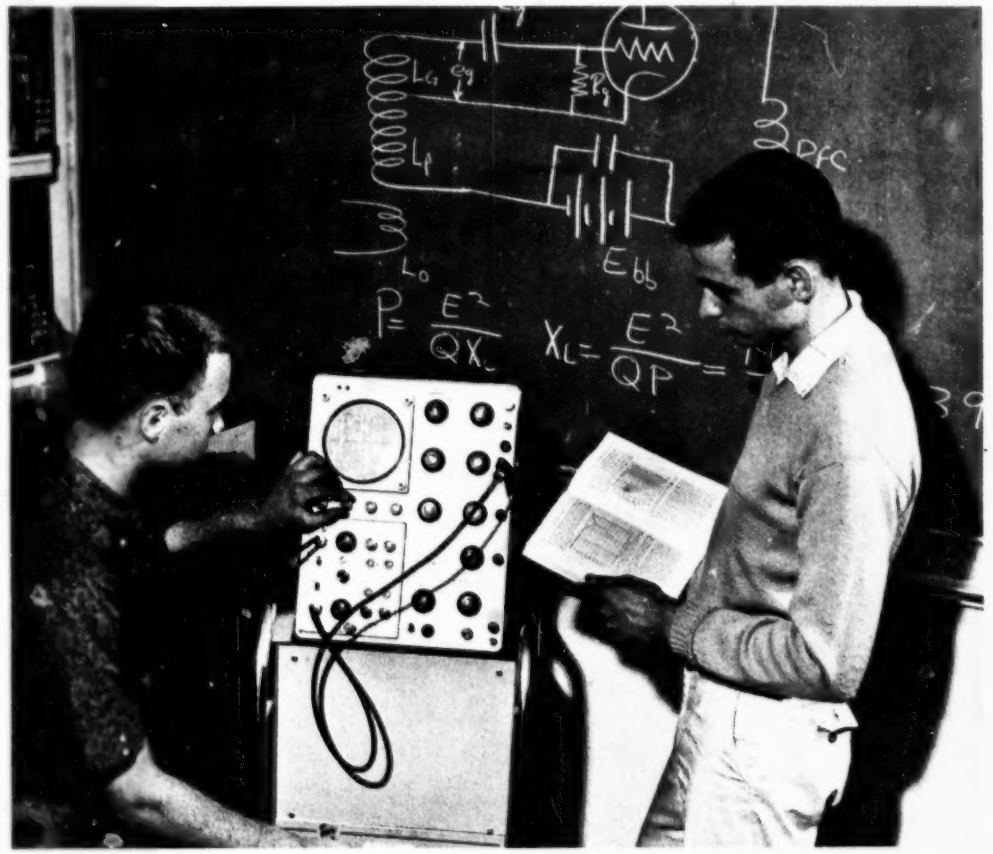
Programs designed to educate semiprofessional (engineering) technicians and those for highly skilled (industrial) technicians have a number of common factors. Both emphasize mathematics and science, and both should include certain general education experiences in English, history, economics, psychology, and similar courses. Greater depth of preparation in mathematics and science is required for engineering technician students than for industrial technician students; and the rigor of most of the courses in the major technical specialty is greater for the former than for the latter.

Some junior colleges and technical institutes with large enrollments in technical education prefer to establish two curriculum tracks—one at the semiprofessional technician level, and one at the highly skilled technician level. Under this plan all, or nearly all, of the courses required in the semiprofessional curriculum are different from and possibly more rigorous than those for the highly skilled technician curriculum.

Colleges just beginning a technical program, or colleges with small enrollments cannot, however, provide such a proliferation of courses. Furthermore, if "superior" students are being encouraged to elect a 'transfer" or pre-engineering curriculum,[21] the student group from which technician enrollees will come is a "middle level" group. It will have sufficient homogeneity at the freshman level that a core curriculum for the freshman year is not only possible but actually has much more to recommend it than mere expediency.

All technician students need at least one year of college technical mathematics, and a full year of applied (or technical) physics, with laboratory. The teachers of these courses should have an applied or engineering approach, rather than a narrow subject-matter orientation or liberal arts approach. In the sophomore year, the engineering technician students will need considerable additional work in mathematics and in science-related technologies.

[21] Considering the critical shortage of engineers and scientists, this is the only defensible course of action.



A SUGGESTED CORE CURRICULUM

A suggested pattern of courses for the freshman year of junior college technical programs (suitable for a student group which may contain both industrial and engineering technicians), follows:

First-Year Core Curriculum [22]

Courses	Units	Hours Per Week Lecture	Hours Per Week Laboratory
English A-B	3 - 3	3	
Technical Mathematics A-B	3 - 3	3	
Technical Physics A-B	4 - 4	3	3
Introduction to Graphics A-B	1 - 1		2
Engineering Laboratory A-B	3 - 3	1	6
Major Technical Specialty	5 - 5	3	6
TOTALS	19 -19	13	17

This pattern of courses and time assignments constitutes a heavy load, compared to the 16 semester units commonly accepted as a "full load" for college students. This heavy load cannot be avoided, for preparation of a competent technician in a two-year program requires such application. *Technical Mathematics A* might be waived (by examination) for students with four years of high school mathematics, and *Introduction to Graphics A* might be skipped by students with two or more years of high school drafting. Certain of the required courses might be taken in summer session to reduce the regular semester load.

THE SOPHOMORE YEAR

Academic performance in the freshman core may well determine the student's objective—semiprofessional (engineering) technician, or highly skilled (industrial) technician. The sophomore program suggested here may be used as a framework for building second-year programs for either objective. The general education courses could be common to both objectives, *but the sophomore mathematics is required only for semiprofessional technicians.* The technical specialty courses for semiprofessional technician students would probably all be different from and more rigorous than those designed for highly skilled technician students.

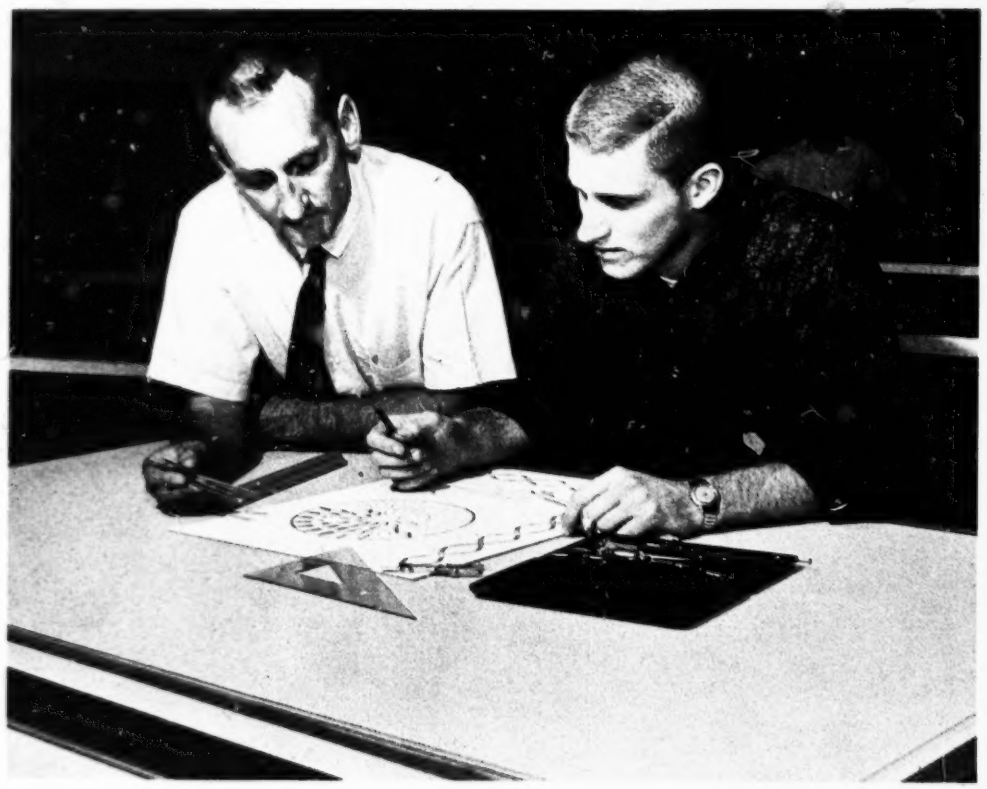
[22] Brief descriptions of the basic core courses are given beginning on page 70.

Second-Year Curriculum

Courses	Units		Hours Per Week Lecture		Hours Per Week Laboratory	
American History	3		3			
Economics		3		3		
Psychology	3		3			
Technical Mathematics C*	3		3			
Technical Mathematics D**		3		3		
Major Technical Specialty Courses***	10	12			20	24
TOTALS	19	18	9	6	20	24

Total Class Hours 1st Semester—29 Total Class Hours 2nd Semester—30

* Required of all semiprofessional (engineering) technician level students.
** Required only for electronics technology majors at the engineering technician level.
*** Highly skilled (industrial) technician students, since sophomore mathematics is not required, could be scheduled for greater blocks of time in their technical and skill courses in laboratory and shop.



BRIEF DESCRIPTIONS OF BASIC COURSES IN THE CORE CURRICULUM

Technical Mathematics A-B

Assumes a knowledge of elementary algebra. Starts with a review of methods of computation, then goes into a review of linear equations and the four fundamentals of algebraic operations. Elementary topics in geomentry are then presented. The first semester moves on rapidly through a unit on slide rule, and a consideration of elementary vector analysis, relating the latter to the trigonometry of the right triangle. A unit on logarithms and an introduction to graphical representation close the first semester.

The second semester begins with a thorough treatment of simultaneous equations, determinants, and quadratics. Then come algebraic functions, logarithmic and exponential functions, and trigonometric function analysis. Complex number and vector algebra are next, with J-operator being stressed. Advanced topics in algebra (including series and the binominal theorem) and advanced graphics end the second semester.

Technical Mathematics C

Technical mathematics A-B or mathematics through college algebra and trigonometry are prerequisite. Analytic geometry, differential calculus, and integral calculus are presented in a one-semester course built around applications to industrial and engineering problems. The course makes no pretense at holding the level of rigor which would be found in the regular "transfer" calculus course for engineers. Familiarization with, rather than mastery of, the calculus is the objective.

Technical Mathematics D

Technical mathematics A-B or equivalent is prerequisite, together with successful completion of a basic course in electric and electronic circuits. Number systems and their applications to electronic and transistor circuits are studied. The specialized mathematics of computers is emphasized. Boolean algebra and a detailed study of logical systems brings the course to a close.

Technical Physics A

A knowledge of elementary algebra and geometry is required. High school physics is desirable but not required. Technical mathematics A (or equivalent) must be taken concurrently, so that mathematics skills will keep pace with the needs of the course. The "level" approaches that of first-year engineering physics courses of twenty years ago, before calculus was required. The course stresses applications in the fields of industry and engineering technology.

Precision measurement, properties of matter, hydrostatics and hydraulics are studied first. Then comes force and motion and Newtonian mechanics. Vectors and graphic solutions are followed by a study of statics. Then comes dynamics, followed by rotary motion. The first semester closes with a detailed treatment of heat and thermodynamics, with unusual emphasis being placed on heat engines. A carefully planned laboratory course, meeting for one three-hour period per week, accompanies the lecture course.

Technical Physics B

The course opens with an elementary treatment of sound and acoustics. Further development of the theory of wave motion leads into the study

of light and optics. A rather extensive treatment of magnetism and electricity follows, with emphasis on d-c and a-c circuits and machines. An introduction to basic electronics follows, and the course closes with a brief treatment of nuclear energy for industrial purposes. Laboratory exercises accompany the lecture course, with one three-hour laboratory period per week. The laboratory investigations serve as bases for an introduction to the writing of technical reports.

English A

Prerequisite—three years of high school English and a SCAT (V) score at or above the 20th percentile on college freshman norms. A basic course in English composition for the employment-bound student in all fields. This is not a technical writing course, nor is it a "repair" course. It has the same general objectives as the basic course for transfer students, but deals with them at a somewhat less sophisticated level.

English B

Prerequisite—English A, or equivalent. Literature and speech for the employment-bound student. Emphasis is given to the development of reading and speaking skills. The selection of readings and the assignment of speech topics is such that students of middle level abilities will be challenged, but not discouraged.

Introduction to Graphics A

One two-hour laboratory per week. Basic drafting techniques, introduction to orthographic projection and isometric drawing. Use of engineering standards and handbooks. Dimensioning, sectional views; oblique and perspective systems. Elementary vector graphics, introduction to "simplified" drafting and elementary nomography.

Introduction to Graphics B

Continuation of Semester A. Intermediate and advanced orthographic projection. Additional and more advanced work in vector graphics, nomography, "simplified" drafting, and "exploded views." Introduction to freehand sketching.

Engineering Laboratory A

One-hour lecture and six hours laboratory per week. A processes and materials course intended to give future technicians a broad familiarity with production processes. Precision measurement; engineering standards; materials testing (destructive and nondestructive); elementary metallurgy; heat treating; introduction to welding; elementary foundry practice.

Engineering Laboratory B

Continuation of Semester A. Covers manufacturing processes. Introduction to machine tools and machining processes; sheet metal and plastics fabrication; introduction to manufacturing systems; estimating; production testing.

The core courses in history, economics, and psychology might possibly be selected from the regular "transfer" courses, but each case should be

considered on its own merits. A strong argument can be advanced that, for the economics and psychology work, the student whose goal upon graduation is immediate employment as a technician needs a course different from that provided for the student who is taking the first course in a subject matter field which may be his major for a baccalaureate degree. History and political science might be combined in a one-year "problems-approach" course.

Very little of such a program is intended for baccalaureate degree credit. In one sense this is regrettable, of course, but such loss of credit is not unique to technical education. Any change of educational objective always entails additional work. The transfer engineering student would face a great deal of "make-up" work also if he decided to change his objective to astronomy or life science. After careful testing and counseling, if the decision of student and counselor is for a technician career, then the curriculum must be tailored for that objective, not "doctored," to bring about some sort of hybridization between lower division engineering and technology.

It should be recognized, however, that some four-year colleges will accept almost all of a good two-year technology program and credit these units toward a *baccalaureate degree in technical education.*

ADVANTAGES OF THE CORE CURRICULUM PLAN

1. A basic level of attainment in general education, science, and mathematics and supporting technical courses is set for all technician students and thus employers can be assured of employees with potential for future growth on the job.
2. Narrowly specialized *training* is avoided, and emphasis is placed on *education*, with significant content in the "common learnings."
3. Problems of scheduling and class size are minimized.
4. Better assignment of instructors may result.
5. Students may switch from one technical major to another at the end of the first year, with minimum loss of credit.
6. When junior colleges agree to cooperate regionally on such a common core, there are advantages to students and employers throughout the area.
7. Instructional unit costs, which may be quite high in many technical fields, can be reduced to some extent.

SEMIPROFESSIONAL CURRICULUMS: HEALTH, BUSINESS, AGRICULTURE

HEALTH FIELDS

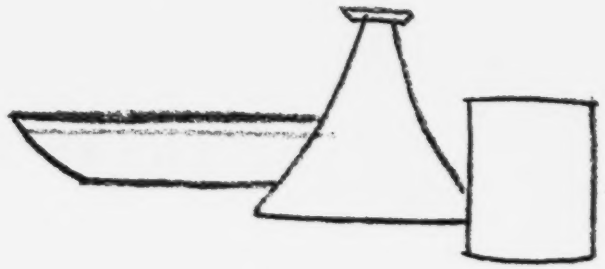
Many junior colleges offer educational programs in health fields such as nursing,[23] medical technology, dental assisting, and X-ray technology. The associate degree nursing program will be used for illustration.

REGISTERED NURSING PROGRAM
(Private Junior College—Associate Degree)

Freshman Year

Courses	Credit Hours Semester I	Credit Hours Semester II
English	3	
Speech		3
Chemistry	4	
Anatomy and Physiology A-B	3	3
Nutrition		3
Microbiology		3
General Psychology	3	
Introduction to Nursing	3	
Medical and Surgical Nursing		6
TOTALS	16	18

[23] See Montag, Mildred L. "Technical Education In Nursing?" *The American Journal of Nursing* 63: 100-103; May 1963. See also Harris, Norman C. "Technical Education: Problem for the Present—Promise for the Future." *The American Journal of Nursing* 63: 95-99; May 1963.



Sophomore Year

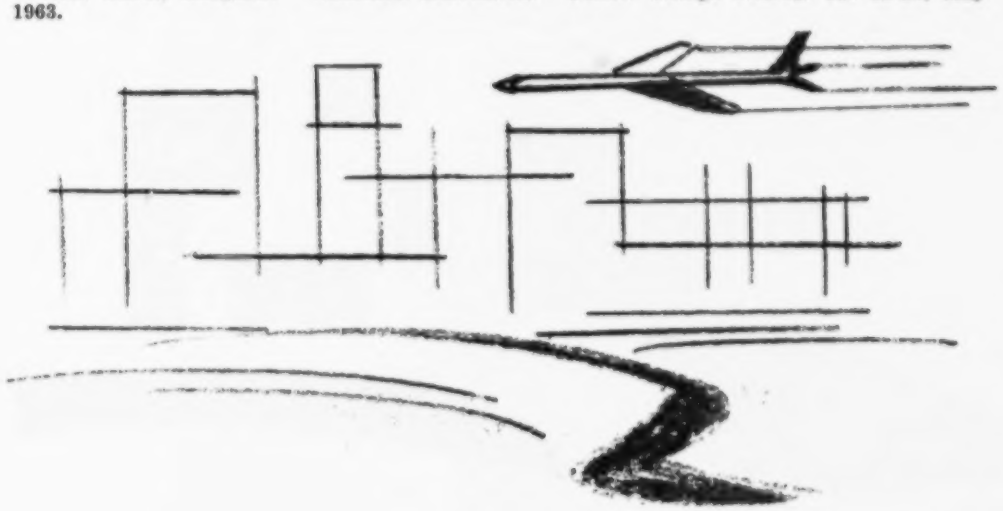
Courses	Credit Hours Semester I	Credit Hours Semester II
History A-B	3	3
Nursing Asepsis	2	
Maternity Nursing	10	
Pediatric Nursing		5
Advanced Surgical Nursing		5
Psychiatric Nursing		5
Nursing as a Profession	2	
TOTALS	17	18

Successful completion of such a program carries with it authorization to take the state examination for licensure as a registered nurse. The program should be planned with the advice and approval of the state board of nurse examiners.

BUSINESS FIELDS

Business education probably enrolls more junior college students than does any other occupational field. The three programs listed below are typical of the newer trends in business education for semiprofessional jobs.[24]

[24] See Kurtz, Margaret. "Technical Secretaries." *Junior College Journal* 33: 25-26; May 1963.



LEGAL SECRETARY
(Public Junior College—Associate Degree)
(Semiprofessional Level)

Freshman Year

Courses	Credit Hours Semester I	Credit Hours Semester II
English A-B	3	3
History	3	
Economics		3
Approved Typing	3	3
Stenography A-B	4	4
Introduction to Business	3	
Modeling and Fashions		2
Business Mathematics A-B	2	2
TOTALS	18	17

Sophomore Year

Courses	Credit Hours Semester I	Credit Hours Semester II
Secretarial English	3	
Stenography C-D	3	3
Accounting A-B	3	3
Typing (if needed)	3	
Office Practice A-B	3	3
Machine Calculation		3
Legal Terminology		3
Business Law A-B	3	3
TOTALS	18	18

Total credit hours for the two-year curriculum 72

GENERAL BUSINESS MANAGEMENT
(Semiprofessional Level—Private Junior College)
(Associate Degree Program)

Freshman Year (Quarter System)
First Term

Courses	Semester Credit Hours
Principles of Accounting I	2
Business Organization and Management I	2
Mathematics I	2½
English A	2
Orientation	1

Second Term

Courses	Semester Credit Hours
Principles of Accounting II	2
Business Organization and Management II	2
Mathematics II	2½
English Composition	2
General Psychology	2

Third Term

Courses	Semester Credit Hours
Principles of Accounting III	2
Effective Speaking	2
Law of Contracts	2
Business Correspondence	2
Physical Science Survey	2½
TOTAL	30½

Sophomore Year
First Term

Courses	Semester Credit Hours
Principles of Marketing	3
Principles of Economics	2½
Law of Partnership and Corporation	2
Report Writing	2

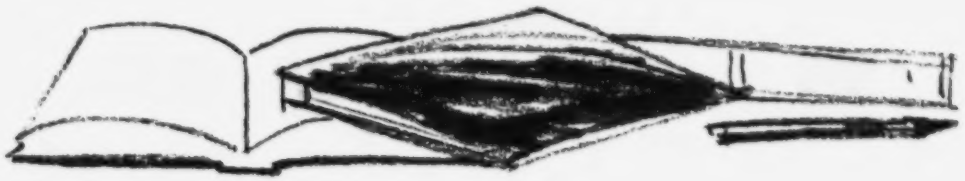
Second Term

Courses	Semester Credit Hours
Sales Fundamentals	3
American Government	2½
Law of Negotiable Instruments	2
Economic Problems	2½

Third Term

Courses	Semester Credit Hours
Advertising Principles	3
Finance	3
Bases of American Culture	2½
Principles of Credits and Collections	2
TOTAL	30

Total semester credit hours for the two-year curriculum 60½



BUSINESS DATA PROCESSING[25]
(Public Junior College—Associate Degree)
(Semiprofessional Level)

Freshman Year

Courses	Credit Hours Semester I	Credit Hours Semester II
English A-B	3	3
Accounting A-B	4	4
Business Organization and Management	3	
Psychology		3
Technical Mathematics A-B	3	3
Introduction to Business Data Processing		5
Machine Calculation	3	
Elective	2	
TOTALS	18	18

Sophomore Year

Courses	Credit Hours Semester I	Credit Hours Semester II
American History	3	
Economics		3
Accounting C-D	3	3
Business Statistics	4	
Introduction to Electronic Computers	3	3
Technical Mathematics D	3	
Elective	2	
Programming Business Data		5
Field Project		3
TOTALS	18	17

Total credit hours for the two-year curriculum 71

[25] See also Technical Education News. "Certificate Program in Data Processing." *Technical Education News* 22: 8; June 1963; and California State Department of Education. *Business Data Processing—Technical Courses.* Bureau of Business Education, Publication No. 105. Sacramento: the Department, 1962.

AGRICULTURE FIELDS

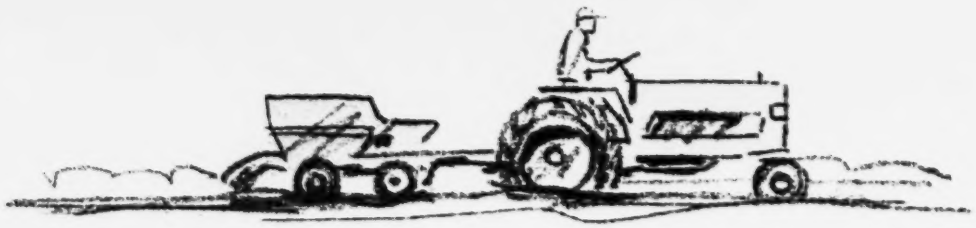
Agriculture is still the biggest "industry" in the United States, though it is changing rapidly under the impact of the new technology. Educating and training farmers is still very necessary, but programs for persons who will work in agriculture-related fields are even more important, especially in the junior college. Two programs will be used for purposes of illustration.

AGRICULTURE TECHNOLOGY[26]
(Highly Skilled Level—Public Junior College)
(Associate Degree Program)

Freshman Year

Courses	Credit Hours Semester I	Credit Hours Semester II
English A-B	3	3
Technical Mathematics A-B	3	3
Agronomy A-B	3	3
Agricultural Machinery	3	
Farm Tractors		3
Farm Surveying	3	
Welding		3
Introduction to Business	2	
Applied Psychology		3
TOTALS	17	18

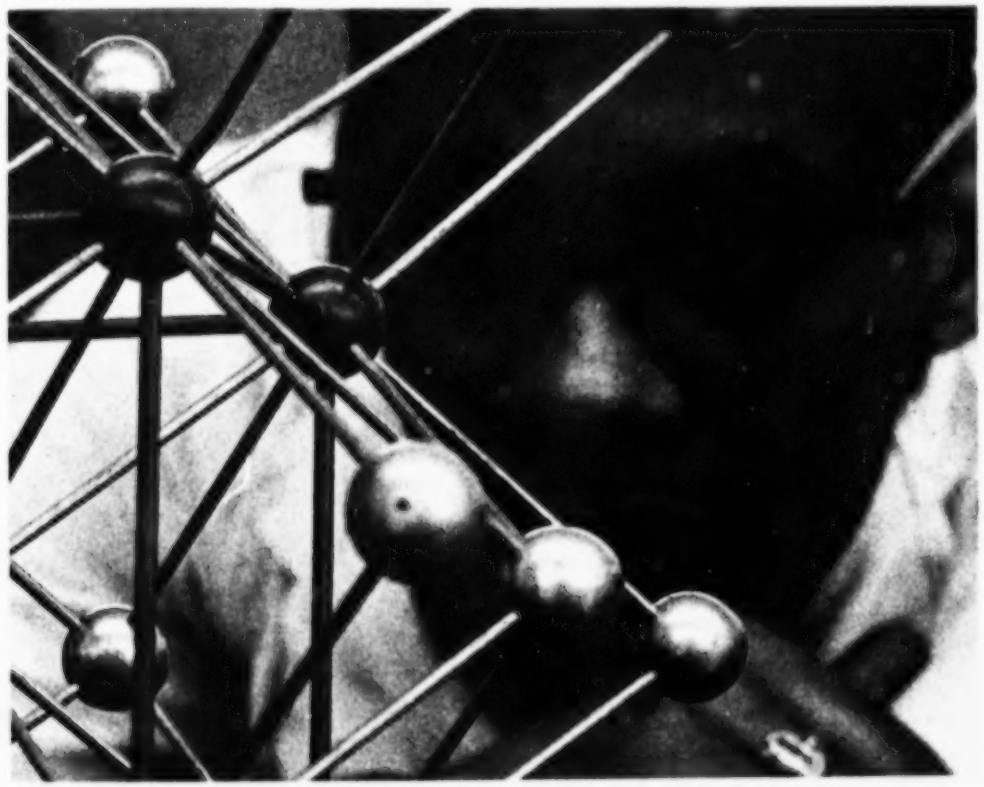
[26] See California State Department of Education. *Technicians in Agriculture.* Report of a Research Project in Agricultural Technology—California State Department of Education and Modesto Junior College. Sacramento: the Department, 1962.



Sophomore Year

Courses	Credit Hours Semester I	Credit Hours Semester II
History	3	
Speech		2
Economics		3
Technical Physics A-B	4	4
Farm Management A-B	3	3
Pumps and Irrigation		3
Farm Power A-B	3	3
Soils	3	
Agricultural Entomology	2	
TOTALS	18	18

Total credit hours for the two-year curriculum 71



AGRI-BUSINESS
(Public Junior College—Associate Degree Program)

Freshman Year

Courses	Credit Hours Semester I	Credit Hours Semester II
English A-B	3	3
American Problems A-B	3	3
Business Mathematics A-B	3	3
Agronomy 1-2	3	3
Introduction to Business	3	
Accounting A-B	3	3
Farm Machinery		3
TOTALS	18	18

Sophomore Year

Courses	Credit Hours Semester I	Credit Hours Semester II
Applied Psychology	3	
Effective Speech		3
Economics	3	
Farm Management A-B	3	3
Animal Husbandry A-B	3	3
Salesmanship		3
Technical Physics (or Chemistry)	4	4
Cost Accounting	2	
Tax Accounting		2
TOTALS	18	18

Total credit hours for the two-year curriculum 72

Note: It is again emphasized that the curriculum patterns listed on the foregoing pages are for illustrative purposes only and are not intended as models which would have to be followed, but as being indicative of the broad scope, the level, and the quality of community college occupational education programs.

THREE INSTRUCTIONAL INNOVATIONS

The new technology has had its impact on education as well as on business and industry. Not only are new "directions" apparent, but new educational methods are showing much promise. Added to engineering technology, industrial technology, health technology, and the others is the rapidly growing field of *educational technology*. In addition to such time-tested methods and devices as audio-visual aids and mock-ups, teachers now are using programed learning devices, open- and closed-circuit television, and specialized learning laboratories or forums.[27]

Innovations in instructional method hold special interest for technical educators, for several reasons:

1. Most of them allow learning to proceed at differing rates, and they are therefore suited to the rather heterogeneous ability levels of the middle 50 per cent of students.
2. Specialized (sophomore) courses in technical fields usually have high unit costs. Since some of the new techniques and facilities show promise of preventing a further rise in unit costs, they should be investigated thoroughly.
3. Because well-qualified faculty for technical education programs are in continual short supply, any technique or facility that allows a "master teacher" to reach greater numbers of students must be exploited.

PROGRAMED LEARNING

Presently, programing of subject matter for student learning can be done through the use of programed textbooks, and by means of "teaching machines" with electronically sequenced programs, usually on tape.

It is too early to assess the promise of programed learning with any degree of objectivity. Tentatively, however, some conclusions can be drawn from several years of junior college experience in widely scattered locations. Programed learning techniques—

[27] Johnson, B. Lamar. "Islands of Innovation, Report of a Cross-Country Survey of Experiments in Teacher Utilization." *Junior College Journal* 34: 9-14; February, 1964. (A complete report of this study will be published by the Junior College Leadership Program, University of California, Los Angeles.)

1. Have shown considerable promise in home-study or outside-of-class learning.
2. Make it possible for a student to proceed at his own rate, and are, therefore, of great value to both slower learners and very rapid learners.
3. Assist in the "reinforcement of learning" or "overlearning" which assures retention.
4. Are particularly well suited to subject matter which builds a new concept or idea on the foundation of concepts previously learned.
5. Are excellent for review and drill, and since these purposes may then be served out of class, class time may be used more effectively.
6. Have produced learning in electronics and mathematics essentially equivalent (but not clearly superior) to standard classroom teaching methods, in a carefully controlled research study.[28]

[28] See Collins, John J. "An Experiment in the Use of Teaching Machines." *Junior College Journal* 33: 73-77; October 1962.

7. Are probably most applicable to subject matter which is factual and relatively static from year to year (*e.g.*, mathematics, electricity, hydraulics, English grammar); and do not seem to hold much promise for classes emphasizing interpretation, controversial issues, development of attitudes, or the development of oral and written expression.
8. Evidently will not "replace" the teacher, and certainly will not lower the cost of instruction significantly.
9. Are costly, whether the equipment and materials are purchased or rented; and, therefore, may be difficult to justify.
10. Suffer from lack of *really good* programs, for many of those now available were produced on a "crash" basis to meet a market demand, and, therefore, may be of questionable value.

In summary, programed learning is a new tool in educational technology. Though promising, it is not a panacea for many educational problems.[29] Junior college administrators and teachers should be alert to its promises and wary of its pitfalls; they should keep abreast of developments in the field,[30] and if possible, should participate in one or more research projects in the new technique every year. Only from experimental data gathered over wide geographical areas and from many subject matter fields, will an objective evaluation of programed learning be made possible.

EDUCATIONAL TELEVISION

Technically, educational television (ETV) offers two kinds of instructional possibilities, *open-circuit television*, reaching broad community audiences with both formal and informal programs; and *closed-circuit television*, usually for on-campus instruction.

Open-circuit television involves operation of an actual TV station, which can be picked up on any receiver, or the use of limited time on commercial or educational stations. Because of the prohibitive costs, only large and well-financed districts can plan for open-circuit television programing. Some colleges have used time effectively on both commercial and non-commercial stations to teach courses and offer enrichment programs. The Chicago Junior College system pioneered with its TV College over educational station WTTW, a program now firmly established.[31]

Closed-circuit television, however, is a more feasible approach for many junior colleges. A modest closed-circuit ETV installation can be put into operation for an initial outlay of perhaps $150,000, with an annual operating budget of from $25,000 to $40,000.

Such a system should have facilities and staff to—

1. Televise lectures from the campus studio or from lecture halls, and show them at a number of locations (student center, dormitories, special TV viewing rooms).
2. Pick up programs from the commercial networks (when legally permissible) and show them on campus receivers.
3. Televise motion picture films.
4. Televise programs from video-tape or kinescope recordings.
5. Record video-tapes from live programs for future use.

Weekly program schedules should be published in the campus newspaper and posted near receivers. For maximum effectiveness, there should be flexibility of programing so that several programs can be shown simultaneously at different locations. For example, a physics lecture-demonstration may be routed to several monitor screens while a video-tape recording on automation is received by an electronics class, and a network broadcast on a news event is being viewed by a social problems class.

Adequate space and equipment are essential. Equipment needed would include cameras, TV receivers, video-tape and kinescope recorders, a film chain, studio technical instruments; and cables, circuits, and connections. Personnel required would include a producer, electronics and audio-visual technicians, and a secretary-receptionist for the studio.

Closed circuit ETV has many applications for technical education. It can—

1. Bring industry to the students every week.
2. Give a "front row seat" to all students in a large lecture section by televising close-ups of the instructor and demonstrations of equipment.
3. Provide for re-runs of lectures or lab demonstrations for slower learners, for review and drill, or for students who were absent.

[29] For a highly critical view of programed learning see Mayer, Martin. "Last Chance for Our Schools." *Saturday Evening Post*, September 14, 1963.

[30] Two relatively new journals in the field are: (a) *The Journal of Programmed Instruction*, published by the Center for Programmed Instruction, Inc., 365 West End Avenue, New York, New York; (b) the *NSPI Journal*, published by the National Society for Programmed Instruction, Trinity University, 715 Stadium Drive, San Antonio, Texas.

[31] See Erickson, Clifford G., and Chausow, Hymen M. *Chicago's TV College*. Final Report of a Three-Year Experiment. Chicago: Chicago City Junior College, August 1960.

4. Show the work of technicians on the job in industrial and scientific laboratories, clarify working relationships, and delineate the skills and knowledge expected of technicians.

Closed-circuit ETV does indeed have promise, but it is not an answer, in itself, to technical education problems. In view of its very heavy financial requirements the returns on the investment must be carefully evaluated and weighed against the outcomes of an equal expenditure of funds and energy on other techniques and facilities before a decision is made to install ETV. As with any innovation, cooperative faculty planning and interest are essential. Many faculty regard ETV as a poor substitute for traditional classroom teaching, as indeed it is, if it is not well done. Someone has said: "Mark Hopkins at one end of a log with students at the other end and a coaxial cable in between is poor teaching." Many faculty will agree with this position, and their suspicions will prove correct unless the new medium is planned carefully, used wisely, and evaluated continuously.

A LEARNING FORUM

Another innovation is being used with considerable success by some junior colleges. This third approach attempts to bring many educational technologies to bear on the problem of teaching large numbers of students simultaneously in an especially equipped lecture hall which might be called a *learning forum*. Reaching greater numbers of students with qualified faculty is infinitely better than "keeping class size down" by adding unqualified persons to the teaching staff. The first requisite for this innovation is a number of courses with large enrollments necessitating several sections of the same course. The second requirement is a lecture hall large enough to seat two or three hundred students. The third requirment is the presence on the faculty of master teachers who would rather present a lesson *once* to 150 students than give the same lecture *five times* to sections of thirty students.

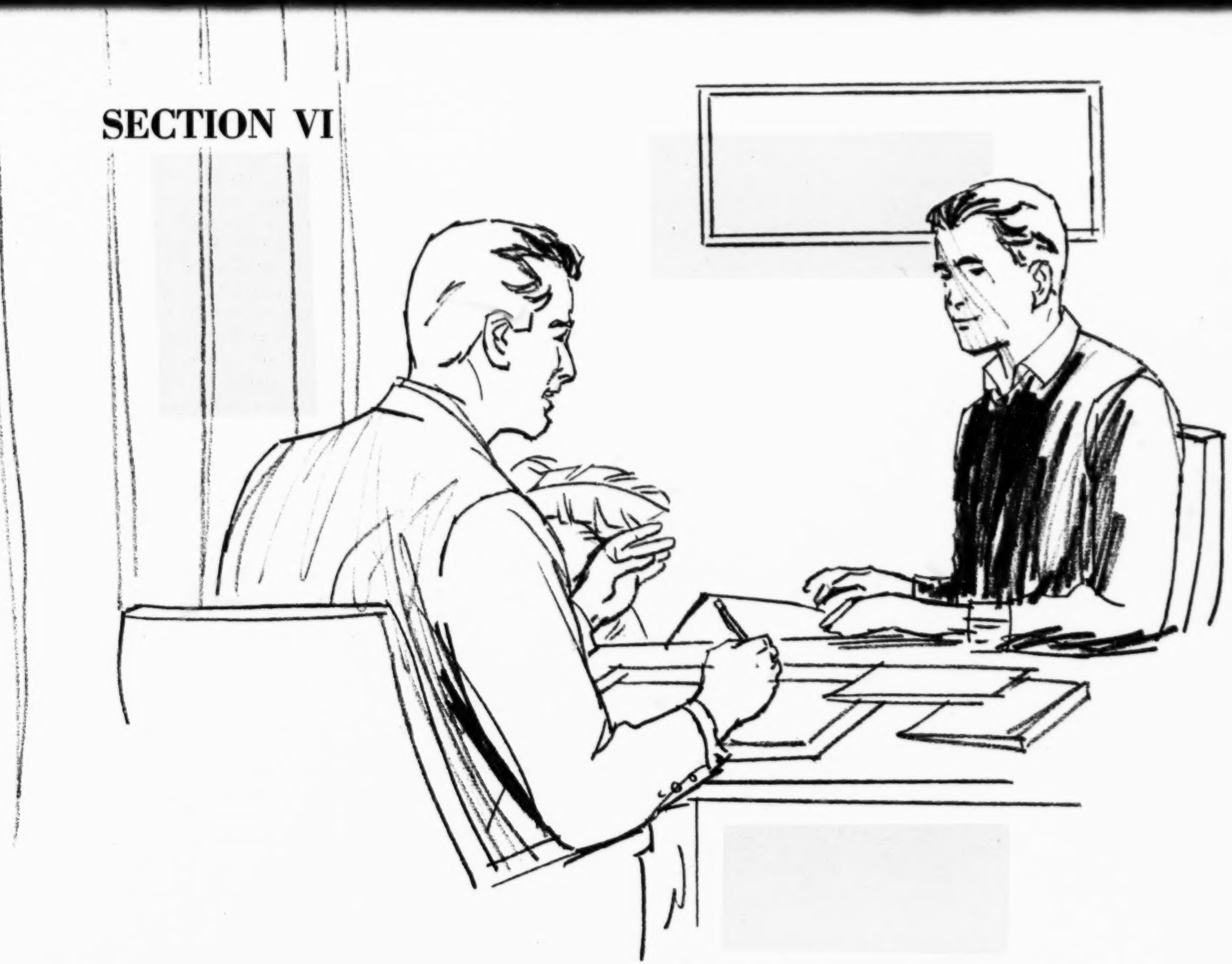
Given these conditions, the next step is to plan the learning forum so that every avenue to teaching and learning can be exploited. A few of the necessary steps are listed, to suggest the scope of the over-all development.

The forum room should be planned like a theater in terms of acoustics, seating, and lighting; and it should contain the best quality audio-visual equipment. Closed-circuit educational TV should be used, with receivers which can be viewed by all students in the room. Technicians should be provided to operate audio-visual and television equipment.

Participating faculty members should be aided by a producer in planning presentations. Rehearsal time should be allocated for the forum room, and faculty load should be reduced for those who participate in the learning forum presentations.

The learning forum places a master teacher in a classroom in personal contact with students, supported by every device which possesses potential for aiding learning. It makes use of the *team teaching approach*, and is therefore in keeping with the education and utilization of technicians. The teacher concentrates on teaching and assigns the supporting role to others. (New and/or inexperienced faculty should be encouraged to attend the forum presentations, both as an in-service professional experience for themselves and to acquire background for their assignments in charge of quiz sections, laboratory sections, and discussion sections.)

SECTION VI



Recruitment, Selection, Guidance, and Placement

Planning and operating programs of semiprofessional and technical education demand administrative and faculty effort of considerable dedication and effectiveness. "Quality within diversity" is not a goal for a faculty which enjoys the simplicity of the *status quo*. Once a faculty has committed itself to the diversity characteristic of the community college, change is the normal order of events; curriculum development becomes continuous; and evaluation takes place on a continuing basis as the result of "feedback" from graduates, from advisory committees, and from the community.

Intensive curriculum planning and excellent instruction, important as they are, do not, of themselves, insure a successful occupational education program; for they tend to reflect the needs of industry and business and the competencies of the faculty, while neglecting to consider the raw material in the educational process—the students themselves. Four factors related to the students are of special importance—recruitment, selection, guidance, and placement.

Recruitment—because more persons are needed for semiprofessional and technical jobs than are now being educated.

Selection—because not all students who apply for enrollment in technical curriculums have the ability to succeed.

Guidance—because choosing a career, and an educational program leading to it, are critical decisions in the lives of young people.

Placement—because the very essence of occupational education is the placement and success of graduates on the job.

STUDENT RECRUITMENT

Semiprofessional and technical personnel are needed in greater numbers than ever before. The fact is, however, that most semiprofessional workers and technicians today were, when they were high school students, planning on professional careers. The recognized professions (though they comprise only 11 per cent of the labor force) are the rather ill-defined goal of over 50 per cent of high school students. Pressures from parents, fellow students, and from high school teachers and counselors motivate thousands of high school youngsters to elect the academic program when their interests and abilities actually lie in more practical fields.

Junior colleges, too, face the same status problem. Nationwide the average junior college freshman class, *even with and after testing and counseling procedures*, shows a predilection for the "transfer" programs. Medsker[32] reports that two-thirds of junior college freshmen choose the academic or transfer program. The lack of realism in many of these choices is evident in the fact that only about one-third of junior college freshmen ever matriculate in a senior college for upper division work.[33]

The public junior college has been a terminal institution for nearly 70 per cent of its freshmen students. How well has it met the educational needs of those who elected the academic program but did not succeed in it? A related, but equally important question is, what can be done to increase significantly the precentage of students who will choose a realistic goal—occupational education in the junior college? In a status-conscious society how can we give more status to the semiprofessional, technical, and skilled occupations and to the educational programs for these occupations? Herein lies the solution to the problem of student recruitment.

Techniques in recruitment vary from one community and region to another. Indeed, some regions in a few states report little or no difficulty with recruitment for technical programs, but this situation is not commonplace.

Some suggestions for attacking the related problems of status and recruitment will be given, within the framework of several assumptions. The assumptions are as follows:

1. A fair-sized (1,000 or more regular day students) community junior college in a region served by several comprehensive high schools.
2. A comprehensive program of occupational education (semiprofessional, technical, and skilled levels) as well as lower division programs for transfer.
3. A state or region where public higher education is available to all high school graduates at nominal cost.

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[32] Medsker, Leland L. *The Junior College: Progress and Prospect.* New York: McGraw-Hill Book Co., 1960. p. 97.

[33] *Ibid.*

4. An industrial and business economy which offers employment to significant numbers of semiprofessional and technical personnel.
5. A reasonable budget for recruitment purposes.

The following techniques have proved their worth at many junior colleges:

Technique No. 1—Tell the "community college story" with pictures.

Prepare a professional quality color slide film presentation on the occupational education program. Write a script for the production, record it on tape, and key an automatic slide projector with the taped commentary. Then give the program the widest possible showing in the community—before service clubs, PTA's, church groups, youth groups, union meetings, employee associations, chamber of commerce meetings—using a well-informed and articulate faculty member to lead a discussion following the slide presentation.

These programs must be of professional quality, and they must be as smooth as a corporation sales meeting. You have an important message on education—be sure you tell it effectively to each of your many publics.

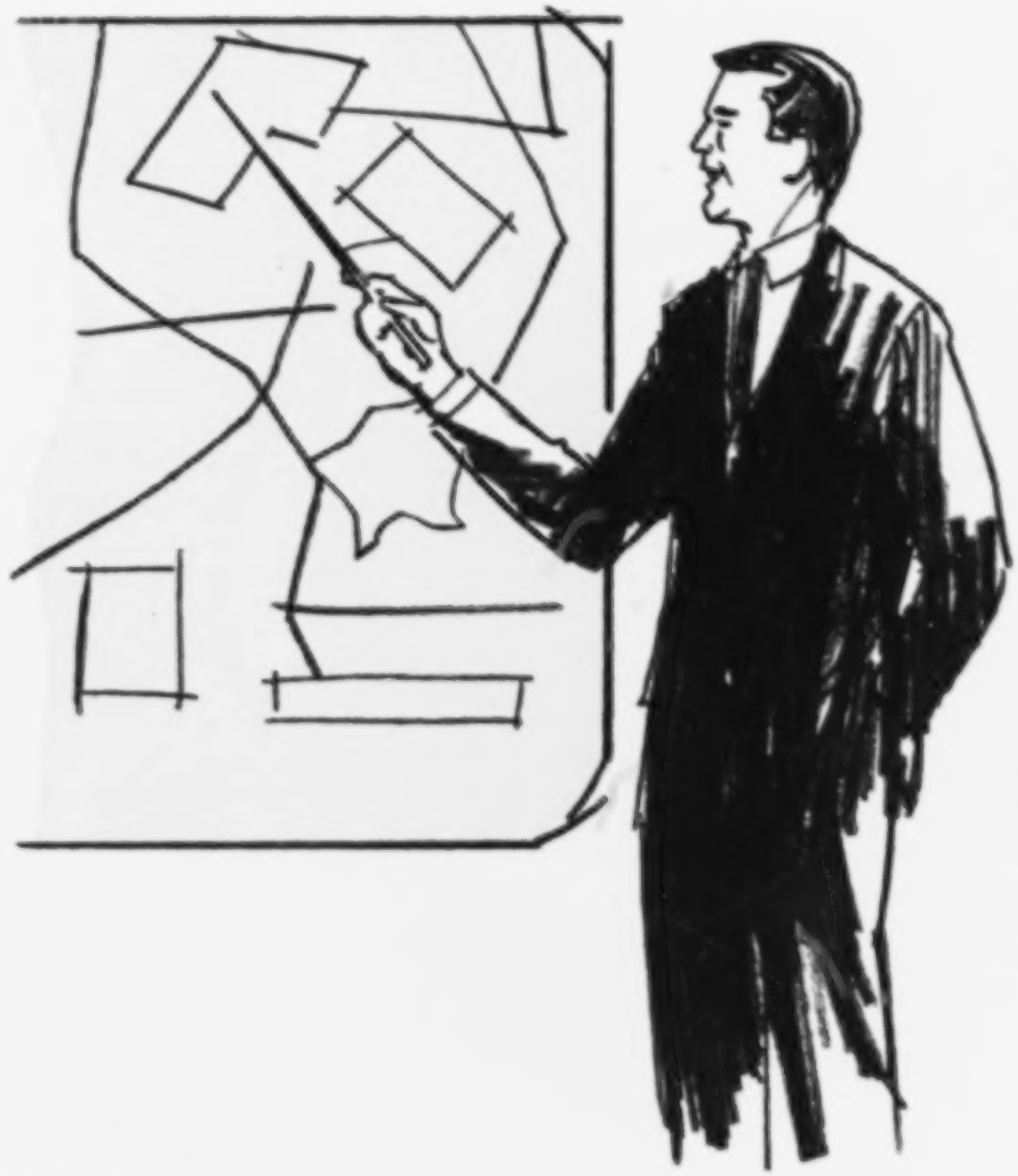
Add a new program each semester, until you have one on each of the occupational curriculums offered. Keep them up-dated and feature education as the bridge between man and his job.

Technique No. 2—Build status for "middle level" occupations.

Plan news stories and television programs featuring the work of technicians, secretaries, nurses, business data programers, health service workers, agricultural technicians, department store buyers, food and appliance demonstrators, and others in semiprofessional, technical, and skilled occupations. Inform the public about working conditions, salaries, and job opportunities in these fields. Create an image of the semiprofessions to balance the image of the professions held by the general public.

Technique No. 3—Build status for the occupational education program in your college.

Emphasize its requirements, the quality of the program, the high school preparation required for entrance, and the status of the associate degree. Develop the concept that these are college-level programs with an employment objective. Feature the recent graduates of your programs—their jobs and their salaries. Identify the college educational programs with prestige companies, with departments in companies, and with new and popular industries such as space research, automated operations, medical research, aviation, communications, electronics, and pharmaceuticals.



Technique No. 4—Interest high school teachers and counselors in occupational education.

Studies show that high school teachers and counselors rank equally with parents and friends in their influence over the career (and educational) choices of high school students. Creating understanding of college level occupational education among high school counselors and teachers is one of your most important jobs.

Invite them to the college campus for symposiums and workshops. Visit them on their campuses and try to understand their problems. Provide them with occupational information, career publications, and brochures on your occupational education programs. Give them specific information about the prerequisites for your courses and curriculums. Offer to send speakers from the college to talk to high school groups about occupations and the educational programs at the college.

Talk with high school staffs about the feasibility of a "third track" in high school—college prep curriculums whose objective is to prepare graduates for success in junior college occupational education curriculums.[34]

Technique No. 5—Provide a career day on campus for high school seniors every spring.

Divide the visiting students into interest groups and schedule short but meaningful group guidance sessions on occupations and on the programs the college offers. Make the groups small enough so that discussion is possible. Use visual aids! Use faculty and junior college students to the best advantage. Tour the laboratories, classrooms, and shops where instruction is in progress.

Invite members of lay advisory committees or other business and industrial employers to present brief remarks and participate in group discussions on careers. Select people who will stress the importance of post-high school occupational education.

Career days should be well planned by faculty and students. Nothing should be left to chance. Visitors will judge the college by their experiences on campus during the day. The image they take way must be one of quality within diversity.

[34] *The Richmond Plan.* Report of a Pre-Technology Program for the "Average Learner." San Francisco: Cogswell Polytechnical College, 1962.

Technique No. 6—Use the mail for educational purposes.

Send a letter of congratulation to every high school graduate in the college attendance area. Encourage them to consider further education at the college of their choice. And include selected brochures on your college—its occupational education programs and its "transfer" programs. Invite them to visit the campus and talk over their plans with a counselor.

The recruitment effort here proposed is a continuous effort. Several years are required before encouraging results are obtained. But adaptations of these techniques to your community will bring results in good time—results which may in time approximate these statistics:

1. Sixty per cent of high school graduates will "go on to college," in contrast with the 30 per cent which is common in many communities today.
2. Half or more of those who enroll on your campus will actually elect an occupational education program at the outset.
3. Most of the "borderline" transfer students will move willingly to an occupational education objective after one or two semesters, if success is not achieved in academic courses.

STUDENT SELECTION

The "open door college" can and should have closed doors to some of its curriculums. These "curriculum doors" open only when the student turns the key of proper preparation. For some junior college students, the first freshman semester may be spent in building a sound educational foundation for the work demanded by the curriculum which has been tentatively chosen in conference with a counselor.

Admissions Policies. Many junior colleges admit any high school graduate or any adult who can "profit from the instruction." Others have developed admissions criteria similar to those in use by universities and liberal arts colleges. Between these extremes are many institutions whose admissions policies are not exactly "open door," nor are they highly restrictive. Typical of this group are those colleges which require a "C" average from high school.

Some "open door" colleges in recent years are adopting a "probation at entrance" admissions plan for all students whose high school grade average is below "C." Probationary students who earn a 2.0 grade point

average (on a 4-point scale) in the first semester of a "general" or "opportunity" program, move off probation and may move into one of the regular curriculums. Failure to make a "C" average in the general program may result in dismissal from the college.[35]

But regardless of the policy of *admission to the college*, admission to a particular curriculum or to specific courses should be based upon evidence which would indicate a fair chance of satisfactory performance in the program or course. This section will discuss some criteria which have been used with success by a number of junior colleges in selecting students for various occupational education programs.

Note: *The following guidelines are suggested procedures only, and are not intended as "rules" for selection. Each institution will set its own rules, as the collective wisdom of faculty and counselors is brought to bear upon the difficult problem of assisting students to set goals which are consistent with their abilities and interests.*

ENGINEERING AND INDUSTRY-RELATED TECHNICAL PROGRAMS

Rank in high school graduating class has been and still is one of the most reliable of predictive devices. Standardized achievement, aptitude, and interest tests should be used to supplement information from the high school record. Two of the more widely used standardized tests are the CEEB-SAT battery and the SCAT battery. Both produce raw scores which can be converted to percentile ranks on national norms for college freshmen; and both yield a "Q" (quantitative or mathematical) score and a "V" (verbal skills) score. The *Iowa Tests of Educational Development*, particularly Test Two, "General Background in the Natural Sciences" (ITED-2), and Test Four, "Ability to do Quantitative Thinking," (ITED-4) are both reasonably good predictors of performance in technology curriculums which are science- and/or mathematics-based.

No one selection criterion should be used alone. At least two, and preferably three, should be considered. High school rank in class, the

[35] See Dula, T. C. *Academic Probation and Suspension Policies and Practices in Public Junior Colleges.* Tallahassee: Florida State University, Office of Institutional Research and Service, 1961.

SCAT battery and ITED-4, "Ability to do Quantitative Thinking" constitute a group of three predictors which have been used with considerable success.[36] Raw scores on tests should be converted to percentile ranks on college freshmen norms, and the high school rank in class may be easily converted to a percentile.[37]

New students entering junior college and interested in the general field of engineering, science, or the related technologies might well be considered as a group to which the following very tentative selection criteria could be applied. (Test scores are, of course, just one factor to be considered. Noncognitive factors must also be taken into account.)

1. Students who are generally above the 70th percentile on freshmen norms and who have a "B" or better average in a high school math-science major probably should be encouraged to enter a pre-engineering or pre-science "transfer" program.
2. Students whose test records place them at or above the 50th percentile, and who have "C" or better grades in a "college prep" program (with significant mathematics and science work) from high school, are ordinarily good prospects for *semiprofessional* or *engineering technology* curriculums. A good standardized test for mechanical aptitude might well be given as a check on the other predictors.
3. Students who rank as low as the 20th percentile on college freshman norms and who have completed elementary algebra and/or plane geometry with grades of "C" or better, might be accepted for enrollment in technical curriculums of the *highly skilled* or *industrial technician type*. A mechanical aptitude test is again advised.
4. Students near the bottom of the percentile distribution and particularly those who present no significant science or mathematics competencies from high school should probably be placed in a one-semester probationary program designed to test their suitability for technical education, and to bring their mathematics and communications skills up to a level which might enable them to succeed in a regular college level occupational program. Or, if the college offers programs for the skilled and semiskilled occupations, these students might better be encouraged to enroll in one of these curriculums.

In all cases, the "Q" (quantitative) scores should be given greater weight in selecting technician students, but unusually low "V" scores should ring an alarm bell, since serious reading deficiencies may be indicated in these cases. Specialized work in communications skills, and perhaps a reading improvement course, would be indicated in cases where low "V" scores are associated with satisfactory "Q" scores.

Carefully conceived and wisely operated selection procedures should make it possible to avoid the 50 per cent to 70 per cent attrition rates which have characterized a number of junior college technical education programs in the past.

OTHER SEMIPROFESSIONAL FIELDS

Similar procedures can be used to assist in the selection of students who will probably succeed in other semiprofessional curriculums. A few guidelines which have proved helpful at a number of junior colleges are listed below:

Business Education Curriculums

1. Secretarial (private secretary level)—in the top half of the high school graduating class. "V" scores at or above the 40th percentile on standardized tests. "Q" scores above the 25th percentile—college freshman norms.
2. Business management and accounting—in the top half of the high school graduating class. "Q" scores above the 40th percentile, "V" scores above the 30th percentile.
3. Business data programing—in the top half of the high school graduating class. "Q" scores above the 50th percentile, "V" scores above the 30th percentile.

Health Education Curriculums

1. Nursing (R.N.), medical technology, and dental technology—in the top half of the high school graduating class. Satisfactory performance in natural science aptitude tests. "Q" and "V" scores generally above the median of the college freshman class.

[36] See Los Angeles City School District. *Some Characteristics of Engineering-Technical Students in the Los Angeles City Junior College District.* Research Report No. 248. Los Angeles: the District, November 1962.

[37] Greenwood, R. Leroy. "Predicting Success in Technical Programs." *Technical Education News* 23: 22-23; December 1963.

2. Medical and dental office assisting—above the 40th percentile of the high school graduating class. "V" scores above the 40th percentile, "Q" scores at or above the 20th percentile.

Public Service Occupational Curriculums (such as law enforcement and fire service)

Above the 30th percentile of the high school graduating class. "Q" and "V" scores both at or above the 20th percentile on college freshman norms.

Agriculture Curriculums

1. Agri-business—essentially the same criteria as recommended above for business management and accounting.
2. Agriculture technology—essentially the same criteria as recommended above for "highly skilled" technicians in industry.

Home Economics Curriculums

Essentially the same criteria as recommended above for medical and dental office assisting.

LOWER QUARTILE STUDENTS

What about the many students whose over-all scholastic aptitude, as estimated from several tests and from high school grade standings, places them in the lower quartile of college freshmen? This is a very significant question, for the open door college has many of these.

The best answer, of course, is to provide a variety of educational programs in which these students *can succeed* and later take their place as a part of the skilled work force of the nation. Such curriculums are not the primary purpose of this Bulletin, but their omission here *does not in any sense imply that they should be neglected.* The community college cannot neglect the education and training needs of this group of young people. A variety of two-year, one-year, and short term curriculums, leading to competencies for employment in the skilled and semiskilled occupations, would seem to be needed for this group of students. General education must not be neglected, however, for it is frequently a deficiency in reading and writing skills or in elementary mathematics which turns the semiskilled worker into an unemployment statistic.

A FINAL WORD ON SELECTION PRACTICES

Despite the seeming emphasis on "cutting scores" in the above recommendations, it is emphasized that they must be applied with great care and with much flexibility. Aptitude measurement is far from an exact science. The wise counselor will use scores and percentiles as a *guide,* but he will not let them dictate his actions. Students are people, and people are continually confounding the experts. If there is a reasonable chance for success in a given case, the student should be given that chance.

GUIDANCE

All junior college students should have counseling services available to them both before and after registration and enrollment in classes. Guidance services are especially important for employment-bound students. A personnel folder should be made up for each student as he begins registration and enrollment, and it should be kept up to date during the period of his college attendance. The folder should contain, as a minimum—

- The student's high school transcript, his rank in his graduating class, and letters of reference from high school sources.
- The results of all standardized intelligence, aptitude, and achievement tests, with raw scores converted to percentiles on college freshman norms.
- The results of vocational interest tests with their profile interpretations.
- Anecdotal reports of conferences with the student and with his parents.
- His assignment to a curriculum and the proper notation as to his status —whether in make-up courses, on probation, or fully enrolled in the curriculum, without deficiencies.
- His class schedule of courses, and hours of class attendance for each semester.
- Grade reports and other periodic or casual reports from instructors.
- A record of part-time or full-time job experiences, with an evaluation by employers.
- A record of extracurricular activities.
- A cumulative record of courses completed, grades attained, and progress made toward meeting the requirements for the associate degree in the occupational field selected.

A weak spot in the guidance program of many junior colleges is the "first-point-of-contact" interview. Too often this "interview" is a hurried conversation at the registration counter, followed by a flurry of filling out forms and an assignment to a counselor on the basis of the *student's declaration* of educational and occupational goals. This procedure may be satisfactory for a few well-motivated and self-directed students, but for most the "first-point-of-contact" should be a searching, probing session with a professionally trained guidance counselor. The outcome of this interview can then influence the nature of the testing program and the assignment to the proper counselor for curriculum and course selection. As McDaniel [38] points out:

"Junior colleges enroll unusually large proportions of 'undecided' and 'vaguely decided' students. Career decisions must be made soon or time will be wasted. Frustration, failure, and dropout often result from lack of choice or wrong choice. Good choice is made difficult by inadequate information, faulty self-appraisal, peer influences, status values, family pressures, conflict with immediate needs."

Proper "first-point-of-contact" counseling can minimize the "frustration, failure, and dropout" to which McDaniel refers. Giving students a good start will materially reduce the counseling load later in the semester, and will enable the college to maintain its program of quality within diversity as it serves the needs of all its students.

The work by McDaniel [39] gives an excellent treatment of the subject of junior college guidance programs. Consequently this section will not deal in general principles, but will suggest, *from the viewpoint of the technical educator*, some specific ways in which guidance services for employment-bound students can be improved. The college administration should—

1. Recognize that educational advisement (the principal need of the transfer student) and vocational guidance (the immediate need of the employment-bound student) are quite different aspects of guidance.
2. Make a clear-cut distinction between counseling on personal and individual problems (which is the proper concern of guidance workers with a strong psychology background), and vocational guidance (which is the proper concern of persons who are qualified by both work experience and guidance training to advise students about careers).

   Employment-bound students generally realize greater value from the college guidance service when there is widespread faculty participation in counseling, rather than when all the counseling is done by a few full-time professional guidance workers. When technician students can be advised by a counselor who has had actual engineering or industrial experience; nursing students by a nursing educator; business students by a counselor with recent

[38] McDaniel, J. W. *Essential Student Personnel Practices for Junior Colleges.* Washington, D.C.: American Association of Junior Colleges, 1962. p. 20.
[39] *Op. cit.*

business management or business office experience—then *mutual decisions* about career and curriculum choices can be made with much greater satisfaction to the student than is possible in counseling situations where neither the student nor the counselor really knows very much about the world of work.

3. Maintain a complete and current collection of occupational and career information. In addition to a file in the library "occupations area," display the material attractively on bulletin boards and tables in several different locations. Change the displays weekly—feature occupations or families of occupations. Provide chairs and tables where students can use the materials. Relate the occupational information to the curriculums and courses offered on campus. Most junior colleges could improve their occupational information services immensely if funds and personnel were provided to do the job.
4. Provide an orientation course for all employment-bound students during their first semester, for the purpose of continuing group guidance. Students' test scores can be interpreted, occupational information can be studied in detail, and discussions (with guests from business and industry) can be held to bring career aspirations and educational objectives into sharper focus.
5. Provide enough counselor time to allow for unhurried discussions of career aspirations and academic ability. Matching these two is time-consuming. It hardly seems likely that a young man or woman who is already eighteen and has graduated from high school without choosing a career, can now decide in a fifteen-minute interview.

   Counselor time is expensive, of course, but starting students right, and checking on their progress periodically, are fully as important as providing high quality instruction. "Frustration, failure, and dropout" are expensive too, not only in terms of money, but in terms of the lost self-esteem and reduced value to society of the young people affected.
6. Provide the same caliber of guidance services for adult (evening) students as for regular day students. Wasted effort is just as inexcusable at 9:00 p.m. as it is at 9:00 a.m. Permitting adults to enroll indiscriminantly in evening courses and curriculums is just as indefensible as permitting day students to do so. It may be true that employed adults bring a more mature attitude to their work, but it is also true that they are "rustier" in basic subject matter; they have forgotten how to study; and they have home and civic responsibilities which may militate against scholastic achievement. Getting them started at the right level and at the correct pace is the key to their ultimate success.

The junior college which cannot "afford" quality guidance services for its adult (evening) students probably cannot afford to offer an evening program at all.

PLACEMENT AND FOLLOW-UP

Placement is the keystone in the occupational education structure. It should not be left to chance, nor should it be entrusted entirely to some agency outside the college. The assistance of other placement agencies (public and private) may be welcomed, but the major directive effort should be centralized in one person or office at the college. Coordinators, department chairmen, counselors, and faculty members may (and should) assist in placement, but the over-all effort must not be incidental and uncoordinated. Industrialists and businessmen seeking employees should be able to deal with one office at the college. Placement records (student personnel files and job listings) should be centralized where they may be kept up to date, and this office, under the direction of a trained placement official, should provide students, graduates, and potential employers with efficient and courteous service.

It is especially important that the junior college which operates semiprofessional and technical education programs have an effective placement bureau. Graduates of these programs move into relatively new occupational streams where channels for job placement are not yet well established. The professional occupations on the one hand, and the trade and craft occupations on the other, are served by public and private agencies accustomed to dealing in these well-established job categories. In general these same agencies are not accustomed to serving the semiprofessional worker, and by the same token, employers with "middle level" job openings do not normally seek these employees through existing agencies. Junior college graduates and local employers, too, will be best served if the college operates its own placement bureau.

Concept and practice for the junior college placement office have been throughly treated in another AAJC publication.[40] Consequently, this discussion will be brief and pointed toward placement services for graduates of (or students in) occupational education programs. Operating details will not be discussed since they are very effectively treated by Mohs in the publication just referred to.

The following guidelines are suggested for the operation of a placement bureau in a community junior college where occupational education is a recognized function:

1. Centralize placement activities in a placement office under the direction of a trained placement official.
2. Encourage placement efforts by faculty and staff in a planned and orderly manner, but with coordination of the total effort in the placement office.
3. Dedicate the efforts of the placement office to the real job—*career placement*. If budget and staff permit, the service of *casual placement* may be rendered to students, but avoid letting "the tail wag the dog."[41]
4. Conduct an energetic (and continuous) campaign of information about the placement office until every business, industry, and agency in the region knows of its existence and purpose.
5. Cooperate with and enlist the assistance of local employment agencies, both public and private.
6. Keep records on students and job openings current—if not day by day, at least week by week.
7. Match students to jobs so that mutual satisfaction (employer-employee) will result. The reputation of the placement office, and indeed, the reputation of the college's occupational education program depends on the integrity and skill of placement personnel in this regard.
8. Prepare the student for his job interview. Get him ready to face his prospective employer by "training" him in the placement office.
9. Appoint a director of placement who will get out into the community and locate job openings like a trained reporter sniffs a news story. An "office recluse" waiting for the telephone to ring will not be very effective.
10. Make use of all the citizens' advisory committees in the placement effort. An annual "advisory committee night" in the spring (dinner, program, visits to regular classes and laboratories which have been moved to an evening hour for "advisory committee night") is often extremely productive.
11. Make placement important on campus. Use bulletin boards, display racks, photographs of former students at work on their jobs,

[40] Mohs, Milton C. *Service Through Placement in the Junior College.* Washington, D.C.: American Association of Junior Colleges, 1962.

[41] Definitions: *Career placement*—placing graduates (or students completing an occupational curriculum) on jobs for which they were educated and trained in the college. *Casual placement*—placing any and all students on part-time and summer jobs, usually unrelated to their course of study, for the sole purpose of "making some extra money."

feature articles in the campus newspaper. Bring last year's graduates back occasionally to talk to freshman orientation sections about their education at the college and their work on the job. Get the local city and county newspapers to run articles on graduates working at interesting jobs.

FOLLOW-UP PROCEDURES

Placement and follow-up should be inseparable. Exit interviews should be held with each student just before graduation (or completion of his program), and the follow-up process should be initiated at that time. The reasons why the college desires to follow up on its graduates should be explained. A "permanent" address should be obtained. Samples of the follow-up questionnaires which he might receive during the next year or two should be shown and explained to the student.

Follow-up programs are often too abortive to be of any real value. A typical procedure is for a junior college to goad itself into a mammoth follow-up study once every five to ten years, publish the report, and then more or less forget about it. The report of such studies may "add to the literature," but they do not furnish the continuous "feedback" which the college must have for curriculum revision and devolpment. Graduates of semiprofessional and technical programs should be followed up just as tenaciously as are students who transfer to four-year colleges and universities.

In soliciting information from the graduates themselves, one year, two or three years after graduation, such data as the following might be requested:

- Starting salary, and record of increases.
- Promotions received, and paths to further advancement.
- The actual demands of the job with respect to mathematics, physics, technical specialty knowledge, and background in general education.
- The working conditions. Hourly pay, or salaried? Working in research, design, production, maintenance, testing?
- Relationship to professional persons on the job, and also to craftsmen and trade-level workers.
- Opinion on education and training received at the college. Wherein was it excellent? Adequate? Inadequate?
- Suggestions for improvement of certain phases of the college program: in the technical specialty courses; in the supporting science and mathematics courses; in the general education courses; in guidance, counseling, and placement services.

In soliciting information from employers, aim at involving two levels of management—the first-line supervisor level, and the plant manager or personnel manager level. Make sure that these two persons answer independently of one another, so that cross checks and legitimizers can be used to advantage. Questionnaires sent to employers could solicit much the same information as that expected from the graduate himself, but the instrument would be organized differently. Personal interviews with employers should be held occasionally to explore in depth certain matters which can only be touched on lightly in a questionnaire survey.

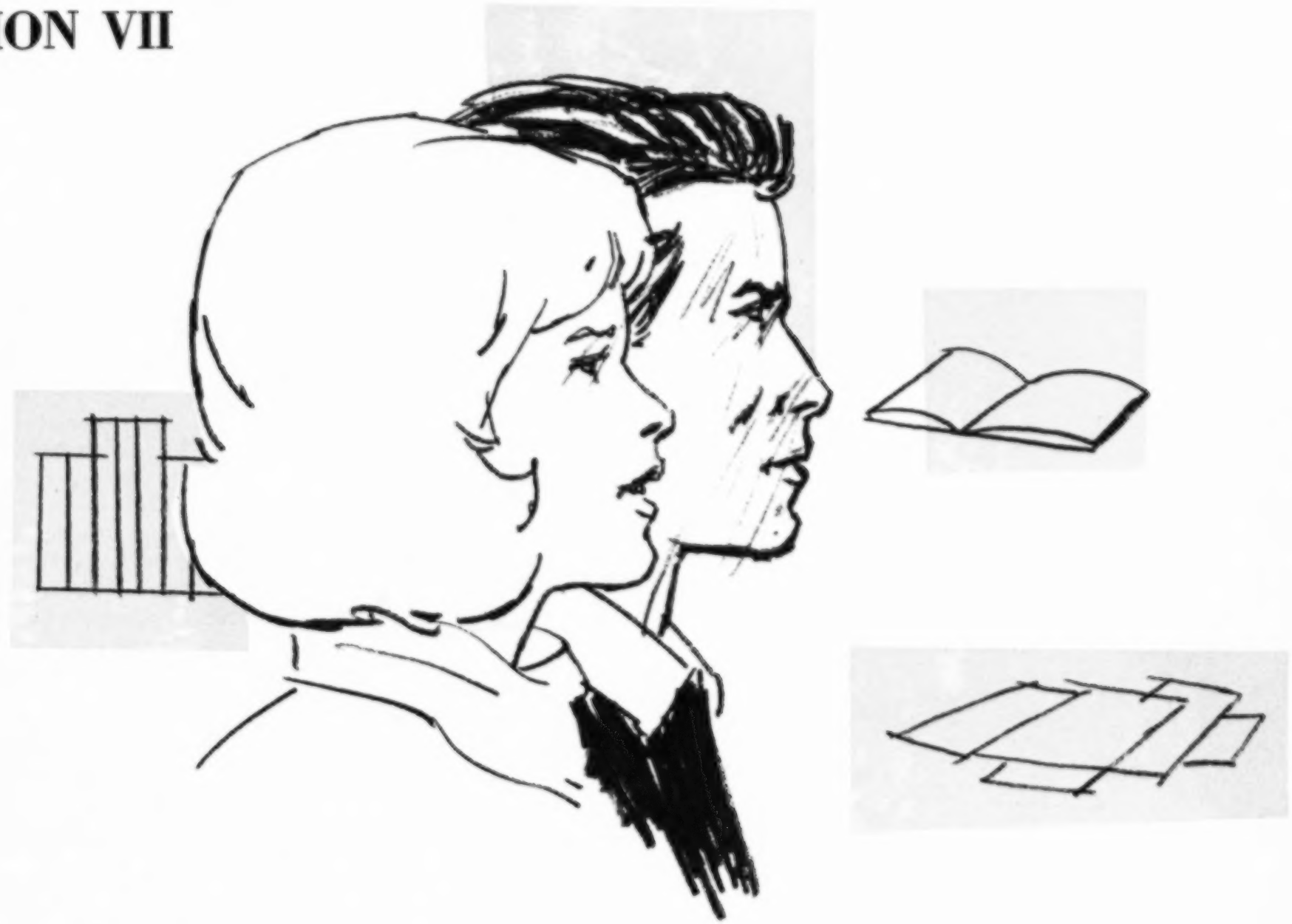
Information from follow-up studies should be disseminated to coordinators, department chairmen, and instructors so that remedial action, if necessary, can be taken at once. The findings should serve as a major factor in curriculum changes from year to year. The director of placement, because of his key position between students and potential employers, should be a continuing member of the college's curriculum committee.

Follow-up studies, if their results are disappointing, will act as a spur for improvement. If the results are satisfying or complimentary, the studies can add status to the program. They will lend force to admonitions to students to remain until graduation. Published data from the studies will influence community opinion and engender local pride in the institution as a true community college. *Remember that technical education still has to be sold to the public at large.* Nothing sells like success, so when you have a success story, tell it effectively and tell it far and wide.

SUMMARY

Recruitment, selection, guidance, placement, and follow-up are not ancillary activities of a junior college program. They are *essential* to the entire educative process. Although any attempt to compare education with a business or industrial enterprise is at best only illustrative, it is interesting to contemplate the probable fate of a business enterprise if the functions of raw materials procurement, component specifications, quality control, and sales and market research were relegated to a position of secondary importance in the over-all scheme of operations. Without effective programs of recruitment, selection, guidance, placement, and follow-up, a technical education program awaits the same fate—ignominious failure.

SECTION VII

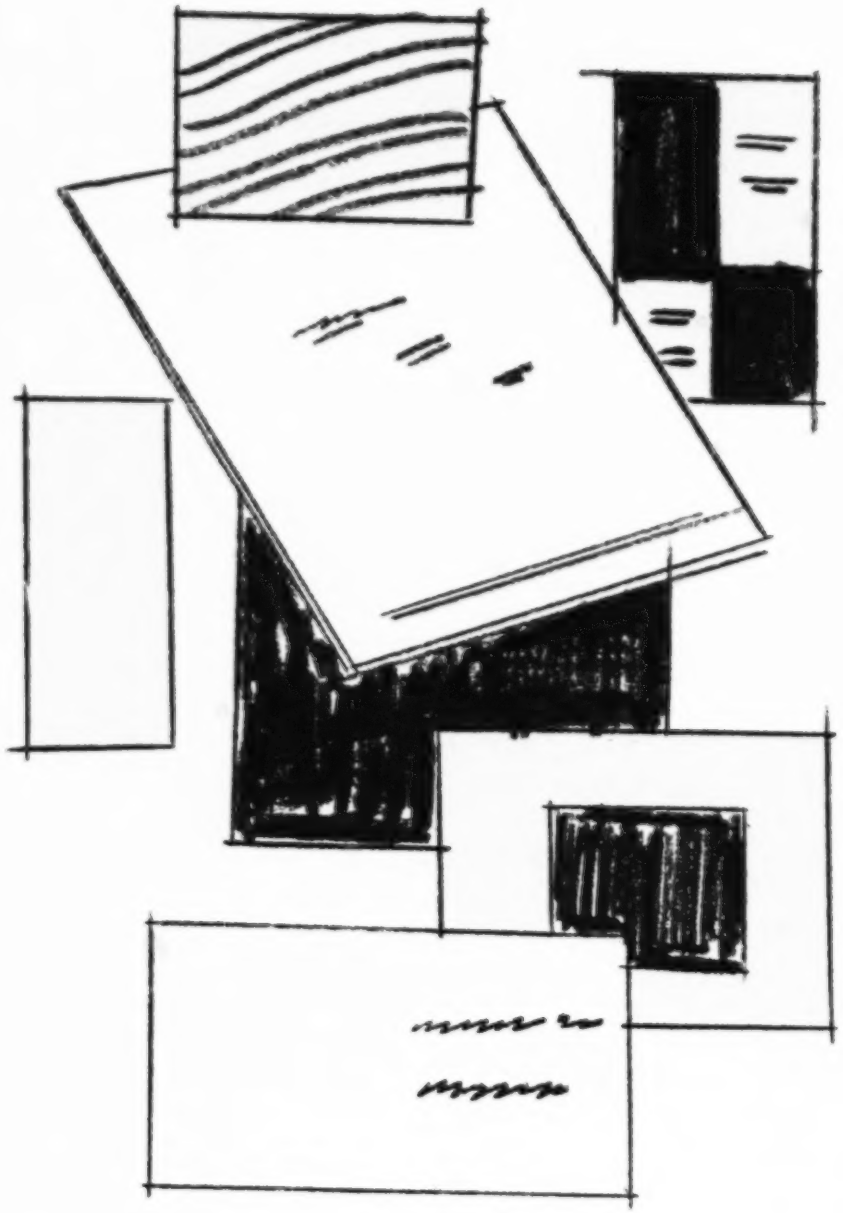


SOURCES OF ASSISTANCE AND INFORMATION

"New directions in junior college education" is a good topic or theme for a workshop or convention; it can serve as a slogan for conducting an institutional self-study; and it could well be the theme of a citizens' community survey. But actually changing to the new course and ringing up full speed ahead involves more than mere sloganeering. Lip service to the needs of middle level youth has not yet created a comprehensive community college. Determination born of conviction, faculty action spurred by administrative leadership, trustee planning backed by citizen support, people and parents honestly concerned about *all youth*—these are the factors which combine to produce the comprehensive junior college. And the catalytic agent for this combining reaction is the college president.

Once the decision has been made (hopefully, as a result of faculty action) to offer a broad program of occupational education, the need for information, assistance, advice, and documentation is immediately felt. Information to support and document the decision may be needed to win the support of the governing board. Graphic and/or pictorial presentations may have greater impact with citizens' groups and with high school students; while detailed factual information is needed for curriculum and facilities planning.

This concluding chapter will present a compilation of sources of information and assistance which may be helpful to junior college faculties planning new programs of occupational education.



A SELECTED, ANNOTATED BIBLIOGRAPHY OF BOOKS, STUDIES, AND SURVEYS

American Association of Junior Colleges. *Junior College Directory*. Washington, D.C.: the Association, 1964.

American Council on Education. *Man, Education, and Work*. A report of a study on the need for occupational education in colleges, sponsored by the American Council on Education; Grant Venn, consultant. Washington, D.C.: the Council, 1964.

The study committee consisted of leaders from education and industry from a wide geographical area. Educators from high schools, community colleges, and universities assisted in preparing the report.

Bogue, Jesse Parker. *The Community College.* New York: McGraw-Hill Book Co., 1950.

A comprehensive work by a former executive secretary of the American Association of Junior Colleges. The occupational education function of the community college is given considerable attention.

Barlow, Melvin L. *A Survey of Junior College Work Experience Education Programs.* Los Angeles: University of California at Los Angeles, Division of Vocational Education, 1963.

Describes the work-study programs being conducted during 1962-63 by eighteen California junior colleges.

Barlow, Melvin L., and Schill, William John. *The Role of Mathematics in Electrical-Electronic Technology.* Los Angeles: University of California at Los Angeles, Division of Vocational Education, 1962.

Describes the results of a study made in the electronics industry and in forty-five California junior colleges, to determine the expected mathematical abilities of technicians in the industry.

Brady, James T., and Others. *Teamwork in Technology: Managing Technical Manpower.* Scarsdale, N.Y.: Technician Manpower Associates (P.O. Box 158).

An authoritative study of the education and utilization of technician manpower. Emphasis is on technicians in industry.

Brandon, George L. *Twin Cities Technicians.* East Lansing, Mich.: Michigan State University, College of Education, Department of Vocational Education, January 1958.

A study of technician needs and training facilities in two Michigan cities.

California State Department of Education. *A Study of Technical Education in California.* Department Bulletin, Vol. 23, No. 7. Sacramento: the Department, 1959.

A report of a study made by Herbert S. Wood. Reviews a ten-year period of development, and makes recommendations for future action. Gives especial attention to the role of the public junior college.

———. *Business Data Processing—Technical Courses.* Bureau of Business Education, Publication No. 105. Sacramento: the Department, 1962.

An analysis of the technical and supporting technical courses recommended for a two-year junior college program in business data processing.

———. *Mathematics and Science Competencies for Technicians.* Department Bulletin, Vol. 29, No. 12. Sacramento: the Department, 1960.

A report of a survey made in the chemical and electronics industries of California of the actual "need to know," by working technicians, of certain levels and concepts of mathematics and science.

———. *Technicians in Agriculture.* A report of a research project in agricultural technology—California State Department of Education and Modesto Junior College. Sacramento: the Department, 1962.

An analysis of the work of the agricultural technician and a suggested pattern of courses for a two-year junior college curriculum.

California State Department of Education and the University of California at Davis. *Training Requirements of Workers in the Production and Distribution of Nursery Plants.* Sacramento: the Department, 1959.

The results of a state-wide study of the employment practices of nurseries and greenhouses, with implications for junior college agriculture programs.

Dauwalder, Donald D. *Education and Training for Technical Occupations.* Part I—A Study of Industries and Schools in San Fernando Valley, California, Relating to the Education and Training Required for Technicians and Related Occupations. Part II—A Guide for Curriculum Development and Student Counseling. Los Angeles: Los Angeles City School District, Division of Extension and Higher Education, 1961.

A comprehensive and intensive survey of technical occupations in a metropolitan area. One of the best sources of information available for colleges planning to initiate or expand occupational education programs.

Deterline, William A. *An Introduction to Programed Instruction.* Englewood Cliffs, N.J.: Prentice-Hall, 1963.

Treats psychological theories of learning and discusses the relationship between the teacher, the teaching machine, the programed material, and the student.

Diebold, John. *Automation.* New York: D. Van Nostrand Co., 1952.

An early appraisal of the automation movement by the man who is credited with coining the word, "automation."

Drucker, Peter F. *America's Next Twenty Years.* New York: Harper and Brothers, 1957.

A look into the future with implications for education, industry, and politics.

Employment Security Commission of North Carolina. *North Carolina Study of Skilled and Technical Manpower.* Raleigh, N.C.: Bureau of Employment Security Research, 1962.

A definitive manpower study of the state, with especial emphasis on the utilization of technicians and future needs for technicians and skilled workers.

Engineering Extension Service. *Survey of Technical Occupations.* College Station, Tex.: Texas A & M College, 1959.

Report of a state-wide survey of technical occupations in Texas.

———. *Technician Requirements in Principal Industrial Areas of Texas.* College Station, Tex.: Texas A & M College, 1959.

The report of a careful study of technical occupations in a key industrial state.

Fine, Benjamin. *Teaching Machines.* New York: Sterling Publishing Co. (419 4th Avenue), 1962.

A survey of attitudes toward self-instructional devices.

Florida State Department of Education. *Administration of Technical Education in Florida.* Tallahassee: the Department, 1958.

Describes procedures for planning programs. The community occupational survey, curriculum planning, selection of instructors and students.

———. *Technical Education, Technicians for Florida's Industries.* Division of Vocational and Adult Education, Bulletin 79D-1. Tallahassee: the Department, 1959.

Reviews the development of technical education curriculums in Florida's junior colleges, with especial attention to the needs of industry in that state.

Fry, Edward. *Teaching Machines and Programed Instruction: An Introduction.* New York: McGraw-Hill Book Co., 1963.

A survey of the programed instruction movement useful to administrators and faculties wanting to get started in the field.

Gleazer, Edmund J., Jr., editor. *American Junior Colleges.* Sixth edition. Washington, D.C.: American Council on Education, 1963.

Gleazer, Edmund J., Jr. *A New Social Invention: The Community College, What It Is.* Washington, D.C.: American Association of Junior Colleges, 1962.

Green, Theodore M. *A Liberal Christian Idealist's Philosophy of Education.* Modern Philosophies and Education. Chicago: National Society for the Study of Education, 1955.

The author makes the point that in a "truly liberal academic community" vocational and occupational subjects are just as honorable and valuable as the so-called intellectual disciplines—that they should be taught in "a spirit of deep social concern for the needs of others and for the common good."

Henninger, G. Ross. *The Technical Institute in America.* Carnegie Series in American Education. New York: McGraw-Hill Book Co., 1959.

History, development, and current status of the technical institute movement in America.

Kansas State Board for Vocational Education. *The Training Needs of Highly Skilled Technicians.* Topeka: the Board, November 1959.

A report of a state-wide study of the utilization of technicians and their education and training needs.

King, Sam W. *Organization and Effective Use of Advisory Committees.* U.S. Depart- of Health, Education, and Welfare, Office of Education. Washington, D.C.: Government Printing Office, 1961.

A valuable treatise on the importance of lay advisory committees to programs of technical and vocational education.

Los Angeles City School District. *Some Characteristics of Engineering Technical Students in the Los Angeles City Junior College District.* Research Report No. 248. Los Angeles: the District, 1962.

A study of factors related to success in pre-engineering and engineering technology programs in a large city junior college district.

McDaniel, J. W. *Essential Student Personnel Practices for Junior Colleges.* Washington, D.C.: American Association of Junior Colleges, 1962.

A graphical and pictorial account of the guidance function in the junior college.

Medsker, Leland L. *The Junior College: Progress and Prospect.* New York: McGraw-Hill Book Co., 1960.

A scholarly appraisal of the junior college movement in America, growing out of research studies conducted over a decade.

Mohs, Milton C. *Service Through Placement in the Junior College.* Washington, D.C.: American Association of Junior Colleges, 1962.

A comprehensive treatment of the function of placement in the junior college.

National Education Association. *Automation and the Challenge to Education.* Proceedings of a symposium sponsored by the Project on the Educational Implications of Automation of the NEA; Luther H. Evans, director. Washington, D.C.: the Association, 1962.

A collection of papers by national authorities in the fields of education, economics, sociology, and industrial relations.

———. *No Room at the Bottom—Automation and the Reluctant Learner.* Proceedings of a symposium held in St. Louis in August 1962, sponsored by the Project on the Educational Implications of Automation of the NEA; Luther H. Evans, director. Washington, D.C.: the Association, 1963.

A collection of the papers presented by national authorities in the field of motivational research, bearing on the problem of the slow learner.

National Health Council. *Health Careers Guidebook.* New York: the Council (1790 Broadway), 1955.

Contains career information and educational guidance information on 150 different occupations in the health field. Many of these occupations are at the semiprofessional and technical levels.

National Science Foundation and U.S. Department of Labor, Bureau of Labor Statistics. *The Long-Range Demand for Scientific and Technical Personnel.* Bulletin NSF 61-65. Washington, D.C.: Government Printing Office, 1961.

The best single source of information on long-range projections of need for scientific and technical manpower.

New York State Department of Education. *Planning for College in New York State.* Prepared by Kenneth T. Doran, associate in higher education. Albany, N.Y.: the Department, 1959.

Information for those planning to attend college in New York. A detailed list of semiprofessional and technical curriculums in New York's community colleges and technical institutes is included.

New York State Department of Labor. *Jobs 1960-1970: The Changing Pattern.* Albany, N.Y.: the Department, 1960.

Manpower and technological change in New York State.

President's Committee on Education Beyond the High School. *First Report to the President* (Eisenhower). Washington, D.C.: Government Printing Office, 1957.

The community junior college and its occupational education programs receive much attention in the report of this distinguished group.

———. *Second Report to the President* (Eisenhower). Washington, D.C.: Government Printing Office, 1957.

Recommendations of a national committee composed of citizens of wide experience for all-out expansion of educational opportunities at the post-high school level. Occupational education, and the community college's role in it are stressed.

Schramm, Wilbur; Lyle, Jack; and Pool, Ethiel de Sola. *The People Look at Educational Television.* Stanford, Calif.: Stanford University Press, 1963.

An evaluation of the performance of nine representative educational television stations.

Smith, Harold T. *Education and Training for the World of Work.* A Vocational Education Program for the State of Michigan. Kalamazoo, Mich.: The W. E. Upjohn Institute for Employment Research, 1963.

Contains recommendations for a state-wide plan for vocational education, including recommendations for the role of the community college in technical education.

Streloff, Alexander N. *Guide to Public Relations for Junior Colleges.* Burlingame, Calif.: Southwestern Publishing Co., March 1961.

An excellent treatment of the subject—could serve as a guide to establishing an office of public relations.

Syracuse Board of Education. *Industrial Technicians for Greater Syracuse.* Syracuse, N.Y.: the Board, 1960.

An excellent "spot survey" on the need for technicians in a highly industrialized metropolitan area.

Teal, Gilbert E., editor. *Programed Instruction in Industry and Education.* Proceedings of the Institute on Programing, Stamford, Connecticut, 1961. Stamford, Conn.: Public Research Service, 1963.

A report of a workshop on programed instruction, in which many facets of the movement are examined.

The American Society for Engineering Education. *Characteristics of Excellence in Engineering Technology Education.* James L. McGraw, Project Director. Urbana, Ill.: the Society, 1962.

A report of a year-long study of engineering technology education with particular application to criteria required for accreditation by the Engineers' Council for Professional Development.

The Richmond Plan. Report of a study by the Richmond (California) Union High School District and the Cogswell Polytechnical College. San Francisco: Cogswell Polytechnical College, 1962.

The report is a study of the feasibility of pre-technical curriculums in high schools. Available from Cogswell Polytechnical College, San Francisco.

Thornton, James. *The Community Junior College.* New York: John Wiley & Sons, 1960.

A comprehensive treatment of the two-year college, with the "community college philosophy" clearly explained and forcefully documented.

U.S. Atomic Energy Commission. *Programs for Nuclear Educational Assistance.* Oak Ridge, Tenn.: Oak Ridge Institute of Nuclear Studies, 1962.

Describes loans, grants, equipment, speakers, and planning services available to colleges.

U.S. Department of Health, Education, and Welfare, Office of Education. *Area Vocational Programs.* Regulations for the Administration of Title VIII, NDEA of 1958, OE-80001. Washington, D.C.: Government Printing Office, 1960.

Sets up the framework within which state plans for technical education programs to be financed under the act may operate.

———. *Area Vocational Education Program Bulletins.* Suggested Two-Year Post-High School Curriculums. Office of Education, Division of Vocational and Technical Education. Washington, D.C.: Government Printing Office. The following are currently available:

No. 1—Electrical Technology—OE 80006
No. 2—Electronic Technology—OE 80009
No. 3—Mechanical Technology—OE 80019
No. 4—Electronic Data Processing—OE 80024

These bulletins are of considerable help to colleges planning technical programs in the fields listed.

———. *Occupational Criteria and Preparatory Curriculum Patterns in Technical Education Programs.* Office of Education, Division of Vocational and Technical Education, OE 80015. Washington, D.C.: Government Printing Office, 1962.

An excellent guide to curriculum planning for industry-related technical education programs. Discusses technician occupations, defines occupational requirements, and discusses criteria for educational programs.

———. *Education for a Changing World of Work.* Report of the Panel of Consultants on Vocational Education. Office of Education, Bulletin OE 80021. Washington, D.C.: Government Printing Office, 1963.

The official report of the President's (Kennedy) Panel of Consultants on Vocational Education.

———. *Technical Training in the United States;* Appendix I to *Education for a Changing World of Work.* Office of Education, Bulletin OE 20022. Washington, D.C.: Government Printing Office, 1963.

A scholarly study of technical education in the United States, prepared for the President's Panel on Vocational Education, written by the consultant for this project, Lynn A. Emerson.

U.S. Department of Labor. *Careers for Women as Technicians.* Women's Bureau, Bulletin 282. Washington, D.C.: Government Printing Office, 1961.

Points up the fact that women, too, are needed in the semiprofessional occupations. Identifies the job fields which hold greatest promise for women.

———. *Employment in the Atomic Energy Field.* Bureau of Labor Statistics, Bulletin 1297. Washington, D.C.: Government Printing Office, 1961.

An occupational survey of the new field of employment. The work of technical level personnel is thoroughly treated.

———. *Employment Outlook for Technicians Who Work With Engineers and Physical Scientists.* Bureau of Labor Statistics, Bulletin No. 1300-96. Washington, D.C.: Government Printing Office, 1962.

One in a series of occupational outlook reports. Educational requirements, the nature of technical occupations, and the employment outlook are described.

———. *Manpower, Challenge of the 1960's.* Washington, D.C.: Government Printing Office, 1961.

Presents with graphic impact, the manpower challenges of this decade. Emphasizes the importance of education for jobs at all levels.

———. *Manpower Report of the President.* Washington, D.C.: Government Printing Office, 1963.

A comprehensive report by the Department on manpower, requirements, resources, utilization, and training, prepared for the President's annual message to Congress.

———. *Occupational Outlook Handbook.* Career Information for Use in Guidance. Prepared by the Bureau of Labor Statistics. Washington, D.C.: Government Printing Office, 1963.

———. *Report on Research and Training Activities Under the Manpower Development and Training Act.* Prepared by the Office of Manpower, Automation and Training. Washington, D.C.: Government Printing Office, 1963.

A summary of the first year's operations under the MDTA. Technical level training and retraining programs are well described.

———. *Selected Occupations Concerned With Atomic Energy.* Bureau of Employment Security, Bulletin BES E-197. Washington, D.C.: Government Printing Office, 1961.

Summarizes the educational requirements and the job demands of many semiprofessional and technical level jobs in the field.

———. *The Challenge of Jobless Youth.* Report of the President's Committee on Youth Employment, W. Willard Wirtz, Chairman. Washington, D.C.: Government Printing Office, 1963.

Surveys the problem of youth employment and unemployment and the implications for education. Recommends a new and vital approach to vocational education, involving existing high schools, future technical-vocational schools, and existing and future community colleges.

University of Michigan, The. *Citizens' Survey of Washtenaw County Community College Possibilities.* Raymond J. Young, Director. Ann Arbor: the University, July 1963.

A citizens' participatory study of the feasibility of establishing a new comprehensive community college on a county-wide basis.

Washington State Board for Vocational Education. *Technical Education in Washington.* Olympia, Wash.: the Board, 1961.

A pictorial description of post-high school technical education in Washington, together with occupational information for career planning.

Wolfle, Dael. *America's Resources of Specialized Talent.* The Report of the Commission on Human Resources and Advanced Training. New York: Harper and Brothers, 1954.

The classic study of scientific, technical, and managerial manpower in the United States.

A Bibliography of Recent Periodical Literature

Arnstein, George E. "Automation—Threat and Promise." *California Monthly* (University of California Alumni Association); January 1963.

Brademas, John. "New Frontiers in Technical Education." *Technical Education News* 22: 3-6; Special Issue, 1962.

Buckingham, Walter. "White Collar Automation." *The Nation* 194: 10-12; January 6, 1962.

Changing Times. "The Fabulous Fifteen Years Ahead." *Changing Times* 15: 7-21; January 1, 1961.

Dannenberg, Raymond A. "Programed Instruction for Distributive Education." *American Vocational Journal* 38: 27-28; April 1963.

Drucker, Peter. "Education in the New Technology." *THINK Magazine;* June 1962.

"ECPD and ASEE: What They Are and What They Do." *Technical Education News* 22: 1-2; June 1963.

Engineering and Scientific Manpower Newsletter. "Technician Lag Intensifies Crisis." *Engineering and Scientific Manpower Newsletter* (Published by the Engineering Manpower Commission); April 1962.

Fick, Vincent, and Wotowiec, Peter. "Vocational Horticulture in Cleveland." *American Vocational Journal* 38: 14-15; March 1963.

Fuchs, Victor R. "Fallacies and Facts About Automation." *The New York Times Magazine*; April 7, 1963.

Greenwood, R. Leroy. "Predicting Success in Technical Programs." *Technical Education News* 23: 22-23; December 1963.

Harris, Norman C. "A Special Role in Engineering Education." *Junior College Journal* 33: 8-12; April 1963.

———. "Administrative Leadership in Vocational-Technical Education." *Junior College Journal* 32: 380-87; March 1962.

———. "Jack Be Nimble." *Phi Delta Kappan* 37: 211-16; February 1956.

———. "Skilled Manpower and the Community Junior College." *Current Issues in Higher Education* (Association for Higher Education, a Department of the NEA) 110-13; 1962.

———. "The Role of Physics in Technical Education." *Technical Education News* 14: 1-3; April 1955.

Helmick, John S. "Selection of Technical Institute Students—Tests Can Predict Success." *Technical Education News* 28; Special Issue, 1958.

Henneman, H. A. "Agricultural Technician Training Is No Fantasy." *American Vocational Journal* 37: 14-15; March 1962.

Johnson, Richard A. "Office Workers—How Will Automation Affect Their Careers?" *Advanced Management—Office Executive*; February 1962.

Kohler, M. C., and Fontaine, A. "We Waste A Million Kids a Year." *Saturday Evening Post* 235: 50-54, 68; March 17, 1962 and 235: 58-62; March 24, 1962.

Krauss, J. Edward. "Training Mechanical Technicians." *School Shop* 18: 58-60; April 1959.

Kurtz, Margaret. "Technical Secretaries." *Junior College Journal* 33: 25-26; May 1963.

Leonard, George B. "Are We Cheating Twenty Million Students?" *Look Magazine*; June 4, 1963.

Light, Israel. "Training for Health Occupations." *Junior College Journal* 33: 16-21; March 1963

McLure, William P. "The Challenge of Vocational and Technical Education." *Phi Delta Kappan* 43: 212-17; February 1962.

Meier, Harold, and Steward, George A. "Industry Looks to the Junior College." *Junior College Journal* 34: 31-32; October 1963.

Meyer, Mary. "Jobs and Training for Women Technicians." *Occupational Outlook Quarterly* 5: 9-14; December 1961.

Montag, Mildred L. "Technical Education in Nursing?" *The American Journal of Nursing* 63: 100-103; May 1963.

Nerden, Joseph T. "Electrical Technicians from Hartford." *School Shop* 28 18: 40-42; April 1959.

Price, W. T., and Barnett, R. A. "Beginning Computer Education." *Junior College Journal* 34: 19-23; September 1963.

Roney, Maurice W. "Trends in Technical Education." *School Shop* 22: 17; March 1963.

Rushing, Joe B. "Your Community Can Help." *Junior College Journal* 33: 8-10; May 1963.

Schaefer, Carl J., and McCord, Robert E. "Needed: A Definition of the Technician." *Technical Education News* 22: 23-24; June 1963.

Technical Education News. "Certificate Program in Data Processing." *Technical Education News* 22: 8; June 1963.

"The Engineering Technician: His Role in Industry and National Defense." *Technical Education News* 16; Special Issue, 1956.

Twork, Lester A. "Training Metallurgical Technicians." *School Shop* 18: 36-38; April 1959.

Van Wagenen, R. C. "Business Education Enrollments in California's Public Junior Colleges." *California Schools* 34: 155-62; May 1963.

Walsh, John P. "The Future of Technical Education." *School Shop* 18: 26-27; April 1959.

Williamson, Merritt. "The Institute for the Certification of Engineering Technicians." *Journal of Engineering Education* 54; October 1963.

Wood, Helen. "Trends in Clerical Employment." *Business Education World* 42: 18-21; November 1961.

List of Associations, Organizations, and Agencies Interested in Semiprofessional and Technical Education

Administrative Management Society (formerly National Office Management Association)

1927 Old York Road, Willow Grove, Pennsylvania. Has as its purpose to stimulate interest in, raise the status of, and attract high caliber people to administrative management as a profession through cooperative programs with educational institutions at all levels.

American Association of Junior Colleges (AAJC)

1777 Massachusetts Avenue, N.W., Washington, D.C. 20036. Represents the nation's junior colleges, advancing their role in higher education. Publishes the *Junior College Journal* and has active commissions at work in many fields including areas of occupational education.

American Council on Education (ACE)

1785 Massachusetts Avenue, N.W., Washington, D. C. 20036. The representative voice of higher education in America. Has recently conducted a year-long study of college-level occupational education. (See bibliography, p. 93.)

American Dental Assistants Association (ADAA)

410 First National Bank Building, La Porte, Indiana 46350. Has as its object to promote the education of the dental assistant, to improve and sustain the vocation of dental assisting, and to contribute to the advancement of the dental profession and the improvement of public health.

American Dental Association, Council on Education

222 East Superior Street, Chicago, Illinois 60611. The official accrediting agency of the dental profession for programs in dentistry, dental hygiene, dental assisting, and dental laboratory technology. Likewise serves as an informational and consultative agency for educational institutions desirous of inaugurating programs in the above areas of study.

American Dental Hygienists' Association

100 East Ohio Street, Chicago, Illinois 60611. Makes available career information regarding profession and practice of dental hygiene; licensed and auxiliary to dentistry.

American Home Economics Association

Professional organization representing over 28,000 graduate home economists, engaged in education, business, extension, research, health, and welfare.

American Management Association, Inc.

135 West 50th Street, New York, New York 10020. A nonprofit educational organization dedicated to finding, developing, and sharing better methods of management. Makes available a bibliography of occupational information.

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The official journal of the Division of Higher Education, U.S. Office of Education.

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Published by the American Association of Junior Colleges, 1777 Massachusetts Avenue, N.W., Washington, D.C. 20036. The official magazine of the junior college movement in America. Publishes articles on all facets of junior college education.

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Published by the American Dental Assistants Association, 410 National Bank Building, La Porte, Indiana.

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VT 001 275
Allen, Hollis P.; Brockmann, L.O.
A Preliminary Study of Orange County's Junior College Occupational Curricular Needs.

North Orange County Junior Coll. District, Fullerton, Calif. Board of Trustees
Orange Coast Junior Coll. District, Costa Mesa, Calif. Board of Trustees
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Feb66 113p.

CURRICULUM PLANNING; *EMPLOYMENT TRENDS; *VOCATIONAL EDUCATION; EMPLOYMENT QUALIFICATIONS; TECHNICAL EDUCATION; *JUNIOR COLLEGES; EMPLOYMENT OPPORTUNITIES; *OCCUPATIONAL SURVEYS; ENROLLMENT TRENDS; ECONOMIC FACTORS; *JOB PLACEMENT; MANPOWER NEEDS; OCCUPATIONS; EMPLOYMENT OPPORTUNITIES
ORANGE COUNTY; CALIFORNIA; ORANGE COAST JUNIOR COLLEGE DISTRICT; COSTA MESA

National, state, and local statistical data were analyzed to identify the county's economic characteristics and occupational requirements in order to plan curriculum and facilities for 10 junior colleges needed in the area by 1980. National studies were used to identify the technology and manpower needs by 1970 for 39 selected industries. A sample survey was made of the major business and industrial employers of the county to obtain information about specific occupations. Enrollment trends in occupational curricula over the past 5 years are given for the two junior colleges in the county. The job market for terminal students of these colleges is reviewed. An over-all view of the economic forces that are shaping the population and industry characteristics of the county is given. Some conclusions were: (1) Work-experience education programs seem to offer considerable promise for junior colleges, (2) The continued use of advisory committees for the occupational curriculums is highly desirable, (3) The continuous study of economic trends in Orange County seems to be a necessity because of the county's rapid development, and (4) In the development of occupational curricula, the concept of families of related jobs should be considered. (PS)

VT 001 275

ED0 30001

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Occupational Curricular Needs

A Preliminary Study for Orange County Junior Colleges

1966

VTC01275

Published by

Boards of Trustees

North Orange County Junior College District
1000 North Lemon Street
Fullerton, California

and

Orange Coast Junior College District
2701 Fairview Road
Costa Mesa, California

A PRELIMINARY STUDY OF ORANGE COUNTY'S JUNIOR COLLEGE OCCUPATIONAL CURRICULAR NEEDS

Sponsored by:

North Orange County Junior College District

and

Orange Coast Junior College District

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February 1966

INTRODUCTION

This study was undertaken for the North Orange County and Orange Coast Junior College districts to furnish them with information that might allow more effective planning for curriculum and facilities in the occupational or technical and vocational fields. Such planning becomes especially important at this time, as each district is now building or planning a new campus with the consequent need of constructing extensive and expensive specialized facilities for these fields. While an ordinary classroom may be easily adapted to teach English, mathematics or history, more specialized facilities are needed for such fields as merchandising, electronics, computer and dental services.

Even if no new facilities were being planned, this age of increasing tempo of technical change demands that attention be given to occupational trends as a basis for curriculum revision and for the advisement of students. The expansion of economy, and particularly the expansion of the sophisticated economic structure of the 'new' Orange County economy, is dependent upon the availability of well prepared potential employees. More important still is the advancement of the economic and cultural well-being of individuals who, through the acquisition of skills, understandings and abilities, can provide services that are both marketable today and adaptive to the changing needs of the future.

This preliminary study will deal with some qualitative aspects of the industry and occupational structure of Orange County. It will also attempt some quantitative measures which may be of value in developing an orderly allocation of occupational training to specific institutions. Regional planning in this regard is important. For instance, Orange Coast College now has a fine program in Oil Technology, the only one in the County. We have ascertained that there is a declining need for technicians in this area. Thus, other campuses of junior college districts should not attempt programs in this field. As the County develops the ten (10) junior college campuses which will be needed by 1980, it is strongly recommended that county-wide planning to identify the region's economic characteristics and occupational requirements (as illustrated by Oil Technology) be continued. By this means much expensive campus duplication can be avoided.

As one reviews the evidences of recent occupational change and employment trends, it becomes apparent that to rely on the past as a basis for justifying the present occupational, semi-professional or technical curriculum is extremely

dangerous, particularly if Orange County's junior college programs are to serve students effectively in the work-a-day world. A few illustrations from the national scene may suffice:

> The occupational group of professional, technical and kindred workers increased 47% from 1950 to 1960, in contrast to 15% in the total experienced labor force. Mathematicians increased 348%, aeronautical engineers 194%, psychologists 147%, industrial engineers 140%, designers 133%. Technicians increased 141% over the decade, with the largest increase among electrical and electronic technicians, 680%.
>
> 1964 World Almanac

> Farm employment was 17% of total US employment in 1935, but shrunk to 7% by 1962.

> The age group under 24 years of age accounts for 18.3% of the labor force but for 37.2% of unemployment.

> Today throughout the country only 6% of jobs are unskilled. At the other end of the scale 18% of positions are in professions which require four or more years of college.

> Automatic elevators have recently displaced 40,000 elevator operators in New York. New equipment in the Census Bureau enabled 50 statisticians to do the work in 1960 that had required 4,000 such people in 1950.

> Technology has created a new relationship between man, his education, and his work, in which education is placed squarely between man and his work. This relationship may now be said to exist for all men and all work.
>
> Grant Venn in Man, Education and Work

The general trend of this changing occupational scene may be judged from the table which follows, taken from Page 8 of the Venn study:

MAJOR OCCUPATIONAL GROUPS AS A PERCENTAGE OF TOTAL LABOR FORCE

	1900	1947	1960	1975
White-Collar Workers	17.6	34.9	43.1	47.8
Professional & Technical	4.3	6.6	11.2	14.2
Managers and Proprietors	5.8	10.0	10.6	10.7
Clerical Workers	3.0	12.4	14.7	16.2
Sales Personnel	4.5	5.9	6.6	6.7

	1900	1947	1960	1975
Blue-Collar Workers	35.8	46.7	36.3	33.4
Craftsmen & Foremen	10.5	13.4	12.8	12.8
Semi-Skilled Operators	12.8	21.2	18.0	16.3
Laborers (excl. of farms & mines)	12.5	6.1	5.5	4.3
Service Workers	9.0	10.4	12.5	14.3
Farm Workers	37.6	14.0	8.1	4.5

These national-scene figures, however, are of little assistance to us in determining junior college curricula in Orange County. They tend to hide in their general categories the specifics upon which occupational education must be based if it is to be effective. Also, probably the occupational structure of Orange County is very different from that of the nation, and, with its sophisticated technology, in a more rapid state of flux. Moreover, even when specific data on occupational trends are secured, such statistics do not disclose which are the "vestibule jobs" or entry jobs for the new trainee starting to work in the labor market, as the junior college graduate will be. Nor do they disclose the "advancement pattern" by which a person, after entering his "vestibule" position, advances in the occupation. Clearly education for the labor market must take these factors into consideration and recognize, too, the possible changes required of labor which technology may bring about. The data that follow clearly indicate that preparation should be broad, with sufficient background in related study and experience to give maximum adaptability for promotion and change in technology. Although our major concern here is for the student who is preparing for his first career position, we cannot overlook the need for the reeducation of those whose previous skills or technologies have become outmoded or need to be updated. By meeting these needs the junior colleges will also be of service to the people as well as to the economy of the region. Such matters as these have encouraged the survey of evidence existing in Orange County that might guide the structure and form the educational facilities.

This study makes no pretext of finality. Its limited time and resources confine it to analysis of evidences rather readily available and with emphasis on economic aspects. Although we believe its findings will be of considerable

assistance to the junior colleges, in a sense the study is exploratory of problems, evidences and needs which a much larger and longer-range study should subsequently undertake.

Several types of evidence are included in this study. Chapter I discusses and analyzes the trends within the junior colleges by using evidence of actual enrollments in specific occupational fields over the past five years, together with supply and demand figures for occupation from the junior college placement records for the past year. Chapter II is devoted to career placement of junior college students majoring in occupational curricula and contains a review of the job market as it concerns the terminal student of these two colleges. It represents a very modest supply and demand study of the occupationally prepared junior college student. Chapter III is concerned with the economic setting for changing educational programs in Orange County and presents an over-all view of the most obvious economic forces that are shaping the population and industry characteristics of the county. The chapter contains many charts and graphs to illustrate the dynamic economic developments of the county. In Chapter IV the impact that technology might have on the directions of industry employment is analyzed. Chapter V presents information on some specific occupations drawn from a sample of business and industrial firms and from the study generally, and, finally, Chapter VI contains observations drawn from the study as a whole and the experiences of the directors.

The co-directors have drawn upon the services and view of several individuals in the development of the several specialized phases of the study. These have been: Dr. Paul Sultan*, Chairman Economics Department, Claremont Graduate School, and specialist on labor economics; Dr. Gerhard Rostvold, Professor of Economics, Pomona College, specialist on regional economic trends, population, and valued member of the staff for the 1960 junior college study of Orange County; Mr. Robert Gates, Administrative Assistant--Business, North Orange County Junior College District, who has directed and compiled studies to gain specific employment information from selected employers of the County and the study of placement of junior college students. The superintendents of the two sponsoring

*Through the efforts of Dr. Sultan, this study had the services of Western Data Processing Center at the University of California at Los Angeles.

junior college districts, Drs. Lake and Watson, have been most helpful in presenting ideas and making personnel available for much of the detailed work. We particularly appreciate the help of Placement Officers and those who have interviewed employers and the assistance of Mr. Frank O. Hopkins and Mr. Chester Gromacki who have coordinated activities in each district. Mr. Norman R. Stanger, Director of Vocational Education in the office of the County Superintendent of Schools, did much effective ground work in getting the project under way. The co-directors are appreciative of Miss Eva Jensen and Mr. Jack E. Lyons of the California State College at Fullerton Foundation who have cared for business aspects of this project and of Mrs. Jean Knox and Mrs. Ruby C. Jordan for typing and helping to prepare the preliminary and final copies of the report.

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CHAPTER I

ENROLLMENT TRENDS IN OCCUPATIONAL CURRICULA IN ORANGE COUNTY JUNIOR COLLEGES* 1960-61 to 1964-65

In this chapter we are concerned with what has been happening in junior college enrollment of students in vocational, technical and semi-professional curricula over the past five years. It is desirable to ascertain in a study of this kind where we have been in terms of this enrollment and where we are now as one basis for determining where we might go. Two tables present the overall picture. Table 1 gives the total enrollment trends of the two junior colleges in terminal occupational areas for the past five-year period. Table 2 presents the enrollment trends by specific occupational majors within these areas and the size of the enrollment. Both Tables 1 and 2 are based on Table A found in Appendix A. This latter table gives figures in detail not only for the six major areas but for the sub-groupings within the areas.

Data from the junior colleges participating in this study were obtained by using a form adapted from Directory of Occupation Centered Curriculums in California Junior Colleges and Schools for Adults published by the California State Department of Education, 1964 edition. Since all junior colleges report on this form, it was felt that reasonable accuracy would be assured and comparisons might be made with other junior colleges in the second phase of this study to be conducted later on if this form were used. Minor deviations in reporting enrollments on the form by the junior colleges were incorporated under existing classifications, except Metal Trades and Metallurgy, which were reported separately in Occupational Area No. 2, Homemaking, which was reported separately in Occupational Area No. 4, and Art and Interior Decorating, which were reported separately in Occupational Area No. 5.

The phrase "major occupational curricula" is interpreted to mean those one

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*The junior colleges cooperating in this phase of the study are: Fullerton Junior College, Fullerton, California, and Orange Coast Junior College, Costa Mesa, California.

to two year program of study preparing directly for employment and taken by terminal students. These one to two year terminal curricula are in contrast with the transfer curricula which lead to professional preparation necessitating the transfer to state colleges, universities, or other institutions of higher learning offering four or more years of preparation.

Reference to Table 1 shows that there has been more than a doubling of enrollment in Occupational Area No. 1 - Business and Management, Occupational Area No. 3 - Health Services, and in Occupational Area No. 4 - Other Services (includes Fire Science, Police Science, Library Assisting, etc.). Occupational Area No. 5 more than tripled in enrollment, but the number of students involved is not as large as is true for Occupational Areas No. 1 and No. 2. Occupational Area No. 2 - Trade and Technical, and Occupational Area No. 6 - Agriculture, Horticulture and Forestry, increased at about the same rate, but the number of students enrolled in Occupational Area No. 6 is relatively small.

Enrollment trends in specific junior college occupational curricula are given in Table 2. The enrollment figures given on the left are those of 1964-65.

Increased enrollment over the five year period was shown in twenty-six majors in the six occupational areas as shown by Table 2. A static condition or no appreciable change in enrollment was found in twelve of the major occupational curricula. In this part of the analysis some judgments had to be made, for there were a few instances in which a small increase in enrollment was followed by a small decrease in enrollment and vice versa. Seven of the specific occupational curricula in this column were checked with a question mark. However, the over-all picture in these instances appeared to be one of no change. Five of the vocational-technical majors showed a decrease over the five-year period.

TABLE 1

Total Enrollment in Junior College Curriculums Under Study
Terminal Occupational Areas (Majors Only)

	1960-61	1961-62	1962-63	1963-64	1964-65	Index of Growth*
Occupational Area No. 1						
Business & Management	900	1201	1328	1450	1853	2.06
Occupational Area No. 2						
Trade & Technical	1025	1328	1324	1394	1419	1.38
Occupational Area No. 3						
Health Services	438	661	762	834	914	2.09
Occupational Area No. 4						
Other Services	214	351	308	358	499	2.33
Occupational Area No. 5						
Applied & Graphic Arts	153	208	288	377	512	3.345
Occupational Area No. 6						
Agriculture, Horticulture & Forestry	64	65	70	86	88	1.375
	2794	3814	4080	4499	5285	

*Number of times the 1964-65 enrollment has increased over 1960-61.

TABLE 2

Enrollment Trends in Specific
Junior College Terminal Occupational Curricula
For the Five-Year Period 1960-65
Together With Total Enrollment For 1964-65
(Majors Only)

	Enrollment 1964-65	Trends* Increase	Static	Decrease
OCCUPATIONAL AREA NO. 1				
Business & Management				
Secretarial & Stenographic	580	x		
General Business Management	400	x		
Data Processing	288	x		
Accounting & Bookkeeping	252	x		
General Clerical	126	x		
Sales & Retail Merchandising	107		x	
Real Estate	68	x		
Purchasing	23	x		
Insurance	5	x		
Hotel & Restaurant Management	3		?	
Petro-Business	1		?	
Totals	1853	8	3	0
OCCUPATIONAL AREA NO. 2				
Trade & Technical				
Drafting	425	x		
Electronics Technology	388		x	
Auto Mechanics & Diesel Engines	153	x		
Building Construction	126	x		
Industrial Technology	63			x
Petroleum Production	41	x		
All-around Machinist	40		?	
Electrical Technology	34	x		
Electro-mechanical Drafting	27			x
Sheet Metal	25	x		
Civil & Construction Technology	24		?	
Welding & Oxygen Cutting	19		x	
Metal Trades & Metallurgy	37			x
Engineering Aide	10			x
Food Preparation & Service	7			
Totals	1419	6	4	4

*Where data were insufficient to make a valid judgment, a question mark (?) was placed in the most appropriate column.

TABLE 2, continued

	Enrollment 1964-65	Trends: Increase	Static	Decrease
OCCUPATIONAL AREA NO. 3				
Health Services				
Dental Assisting	285	x		
Registered Professional Nursing	269		?	
Medical Assisting	138	x		
Licensed Vocational Nursing	101	x		
Medical X-ray Technology	97	x		
Medical Record Librarianship	23			
Medical Technology	1			x
Totals	914	4	1	1
OCCUPATIONAL AREA NO. 4				
Other Services				
Police Science	231	x		
Cosmetology	164	x		
Homemaking	91	x		
Library Assisting	13		?	
Totals	499	3	1	0
OCCUPATIONAL AREA NO. 5				
Applied & Graphic Arts				
Art	241	x		
Advertising Art & Commercial Art	95	x		
Publishing & Printing	65	x		
Photography	46	x		
Interior Decorating	45		?	
Journalism	13		x	
Broadcasting-Telecasting	7		x	
Totals	512	4	3	0
OCCUPATIONAL AREA NO. 6				
Agriculture, Horticulture & Forestry				
General Agriculture	70		x	
Agriculture-Business	18	x		
Totals	88	1	1	0
GRAND TOTALS	5285	26	12**	5

**Seven of these are in the doubtful (?) category.

SUMMARY AND CONCLUSIONS

This brief chapter has indicated the current status and growth trends during the past five years for the occupational preparation programs in the two junior colleges of this study. From the evidences of these data only, it would appear that all of the occupational areas, with the possible exception of Occupational Area No. 2 - Trade & Technology, and Occupational Area No. 6 - Agriculture, Horticulture and Forestry, were growing at a pace which may be in balance with the observed expansion of the employment demands in the regional economy.

If enrollment trends of the past were the only consideration in determining occupational curricula for present and new junior college campuses, it would seem safe to include studies in preparation on all campuses for all occupations which have substantial and increasing enrollment as indicated in Table 2. However, a number of added occupations will be noted which appear to have enrolled fewer students than may be needed by the economy and/or which may have been static or decreasing in numbers over the past five years. Sales and Retail Merchandising may be a case in point.

Occupational curricula in which no enrollment was reported by either junior college included in the study were: Industrial Management; Traffic and Transportation; Advertising; Retail Floristry; Telephone Operation; and Airline Stewardess and Steward in Occupational Area No. 1. Laboratory Assisting; Communications; Instrumentation; Electro-mechanical Technology; Tool Designing and Tool and Die Making; Aeronautics; Air-Conditioning; Heating, Refrigeration and Stationary Engineering; Industrial Pattern Making; Plumbing and Pipefitting; Mining; Petroleum Refining; Baking; Apparel Construction; Dry Cleaning; Shoe Repairing; Furniture Upholstering; Household Appliances Repair; Business Machine Service; Watch Repair; and Gunsmithing in Occupational Area No. 2. Dietetics; Dental Technology; Dental Hygienist; Ophthalmic Optics; and Sanitation Technology in Occupational Area No. 3. Fire Science; Nursery School; Recreational Leadership; Vocational Housekeeping; and Swimming Pool Service in Occupational Area No. 4. Technical Art and Commercial Art; Journalism; Theatre Arts; and Women's Clothing Designing in Occupational Area No. 5. Agricultural Management; Agriculture Mechanics; Poultry Husbandry;

Animal Husbandry; Dairying; Dairy Products Manufacturing; Pomology; Viticulture and Enology; Vegetable and Field Crops; Floriculture and Ornamental Horticulture; and Forestry in Occupational Area No. 6.

It becomes apparent that many other evidences are needed if decisions about inclusion of occupational curricula or their modification are to be made objectively. The remainder of this study is devoted to some of these evidences.

CHAPTER II

CAREER PLACEMENT OF JUNIOR COLLEGE STUDENTS MAJORING IN OCCUPATIONAL CURRICULA

Although this study will place its greatest emphasis on economic analysis and projections as they relate to the vocational, technical, and semi-professional curricular planning of the two junior colleges under consideration, these will be better understood if the actual curricular situation of the moment, together with recent trends in these respects, is understood. Thus, Chapter I has been devoted to a brief study of occupational enrollments in these two junior colleges and trends during the past five years. This chapter, similarly, will be devoted to a brief review of the job market as it concerns the terminal students of these two colleges. In a sense, this will represent a crude supply and demand study as it concerns the occupationally prepared junior college student.

With the assistance of the Placement Directors of each college, working with key department chairmen and faculty members, estimates have been obtained of: a) the number of job orders received from business and industry, b) the number of students placed in these jobs, and c) an estimate as to whether the demand trend was increasing, stable or decreasing. The year 1964-65 was used for this study. Part-time jobs were not considered in our final analysis, though hundreds of these were reported, and no doubt many of these were entrance jobs to careers.

Table 3 presents these data in consolidated form for the same six major occupational areas as in Chapter 1. It will be noted that in excess of 2,000 full-time job orders were placed by business and industry with these two colleges during the year 1964-65 and that for each area the demand appears to far exceed the supply as measured by placements actually made. The largest number of orders was Occupational Area No. 2 - Trade and Technical fields, where also the largest proportion of orders was filled by placement of junior college students. This area was followed by Occupational Area No. 3 - Health Services, in second place, and Occupational Area No. 1 - Business & Management, in third place, except that the latter had a lower proportion of job orders filled by junior college

TABLE 3

TOTAL JOB ORDERS RECEIVED AND TOTAL JOB PLACEMENTS MADE FOR THE TWO JUNIOR COLLEGES OF THIS STUDY FOR THE YEAR 1964-65, BY MAJOR OCCUPATIONAL AREAS, FOR FULL-TIME CAREER JOBS ONLY

Occupational Area	Total Job Orders	Total Job Placements	% Jobs Filled
OCCUPATIONAL AREA NO. 1			
Business & Management	513	155	30
OCCUPATIONAL AREA NO. 2			
Trade & Technical	735	342	46
OCCUPATIONAL AREA NO. 3			
Health Services	549	220	40
OCCUPATIONAL AREA NO. 4			
Other Services	203	44	20
OCCUPATIONAL AREA NO. 5			
Applied & Graphic Arts	84	333	39
OCCUPATIONAL AREA NO. 6			
Agriculture, Horticulture and Forestry	13	5	39
Total	2097	799	

students than the Occupational Area No. 5 - Applied and Graphic Arts. The number of job orders in Area No. 6 - Agriculture, Horticulture and Forestry, was minute. It would appear that the substantial demand for employees in Occupational Area No. 4 - Other Services, with the low proportion of positions filled, would justify greater emphasis on the occupations of this area.

For detailed information about specific occupations, one should consult Table 4. It will be noted that this has a column indicating job trend in demand. Occupations within areas 1 and 3 seem to be increasing in demand to a greater extent than in other areas. A careful review of each of these occupations will indicate many which may be significant for this study, either because they show heavy volume of demand or because of the marked discrepancy between demand

TABLE 4

JUNIOR COLLEGE PLACEMENT EVIDENCES OF JOB DEMAND TRENDS, JOB ORDERS, AND JOB PLACEMENTS BY THE TWO COLLEGES OF THIS STUDY FOR THE YEAR 1964-65, BY SPECIFIC OCCUPATIONS AND FOR FULL-TIME CAREER JOBS ONLY

	Job Trends*	Job Orders	Job Placements
Occupational Area No. 1			
Business and Management			
Secretarial and Stenographic	+	96	28
General Clerical	0	74	15
Data Processing	+	56	33
Sales and Retail Merchandising	+	55	37
Hotel and Restaurant Management	+	55	10
Receptionist	0	38	7
Accounting and Bookkeeping	+	35	8
Escrow	nc	26	3
Insurance	+	15	1
General Business Management	+	12	2
Transportation Operator	0	12	0
Real Estate	+	9	1
Telephone Operation	+	6	0
Personnel & Public Relations	0	6	0
Purchasing	+	4	1
Banking	0	2	2
Varitype Operator	nc	2	2
Petro-Business	+	2	1
Industrial Management	+	2	0
Library Clerical	0	2	0
Advertising	+	1	2
Retail Floristry	+	1	0
Business Machines	+	1	0
Airline Stewardess and Steward	0	1	0
Cashier	nc	1	1
Production Supervisor	nc	1	1
Occupational Area No. 2			
Trade and Technical			
Drafting	+	211	104
Surveying Technology	+	93	10
All-round Machinist	+	67	40
Civil and Construction Technology	0	67	60
Electronics Technology	0	66	30
Arc Welding	+	40	8
Petroleum Technology	0	30	15
Welding and Oxygen Cutting	0	21	10
Sheet Metal	0	20	0
Electro Mechanical Drafting	0	20	15
Laboratory Assisting	+	16	8
Aeronautics	0	16	10

	Job Trends*	Job Orders	Job Placements
Occupational Area No. 2, continued			
Tool Designing and Tool & Die Making	0	12	3
Cost Estimator	0	10	4
Mechanical Technology	0	13	7
Engineering Aide	+	7	1
Quality Control	0	6	0
Radio and Television Repair	0	4	0
Auto Mechanics and Diesel Engines	0	3	8
Industrial Technology	0	2	0
Food Preparation and Service	0	2	1
Time Study	nc	1	1
Cabinet Maker	nc	1	0
Wood Worker	nc	1	0
Metallurgy	0	1	1
Plastics	0	1	2
Industrial Patternmaking	nc	1	0
Plumbing and Pipefitting	nc	1	2
Petroleum Production	0	1	0
Petroleum Refining	0	1	0
Air-Conditioning, Heating, Refrigeration and Stationary Engineering	0	0	2
Occupational Area No. 3			
Health Services			
Dental Assisting	+	185	75
Licensed Vocational Nursing	+	146	73
Registered Professional Nursing	+	142	71
Nurses Aides & Orderlies	+	51	0
Medical Technology (Recept. Clerk)		10	0
Medical Assisting	0	8	1
Surgical Technology	0	5	0
Nursing Clerical	0	1	0
Dental Hygienist	0	1	0
Occupational Area No. 4			
Other Services			
Police Science	+	167	42
Cook	0	10	0
Fire Science	0	9	0
Maintenance and Custodial	0	9	2
Vocational Housekeeping	nc	5	0
Nursery School	0	2	0
Recreational Leadership	0	1	0
Occupational Area No. 5			
Applied and Graphic Arts			
Advertising Art, Commercial Art	0	21	13
Technical Illustrating	0	21	7
Music	0	10	5
Publishing & Printing	0	9	2
Interior Design	0	9	0

	Job Trends*	Job Orders	Job Placements
Occupational Area No. 5, continued			
Photography	0	7	3
Theater Arts	0	4	2
Technical Writing	0	1	0
Broadcasting-Telecasting	0	1	1
Sign Maintenance	0	1	0
Occupational Area No. 6			
Agriculture, Horticulture and Forestry			
Floriculture and Ornamental Horticulture	+	6	4
Agriculture-Business	+	5	0
Agriculture Management	+	2	1

*Read as follows: +, increase in demand; 0, stable demand; -, decrease in demand; nc, no comment has been made by estimators.

and supply. In general, it would appear that there should be occupational curricula in one or more junior colleges of the County in most occupations listed in Table 4 with job orders of 20 or more. Unless there is a drastic change in employment conditions, there are likely to be good employment possibilities in each of these areas. Special cases should also be made for curricular inclusion of many fields in which job orders were fewer. It is apparent that the evidences of this chapter must be combined with other evidences, to be treated later, to be of maximum value.

SUMMARY AND CONCLUSIONS

To be more specific, it appears that in many instances job orders far outrun enrollments in certain vocational curricula and this should be thoroughly checked in the second phase of this study. From the data available thus far in this study, expansion of or the addition of curricula in contemplated colleges seems warranted in Secretarial and Stenographic, General Clerical, Data Processing, Sales and Retail Merchandising, Hotel and Restaurant Management, Accounting and Bookkeeping, Drafting, Surveying Technology, Registered Professional Nursing, Licensed Vocational Nursing, Nurses Aids, Dental Assisting, and Police Science, to mention but a few.

Placement trends and job orders seem to conform generally to the four major economic groups in Orange County employing 80% of the workers, namely, manufacturing, wholesale and retail trade, services, and government.

CHAPTER III

THE ECONOMIC SETTING FOR CHANGING EDUCATIONAL PROGRAMS IN ORANGE COUNTY

In this chapter, we shall present a global view of the most obvious economic forces that are shaping the population and industry characteristics of Orange County. In Chapter IV, the impact that technology might have on the directions of industry employment will be analyzed. This, in turn, will lead us to the vital information on the region's occupational structure and needs in Chapter V.

Population Growth: 1940-1975

Orange County's population continues to grow at a spectacular rate. In the five-year period from April 1960 to April 1965, its population increased by 432,400 persons. During the entire decade of the 1950's, population increased by a total of 487,701 persons.

Recent population data developed by the Orange County Population Research Committee indicate that the population of the County grew by 26,014 persons during the first quarter of 1965. This would suggest that population currently is growing at an annual rate in excess of 100,000. These data suggest an increasing rate of household formation and school enrollments in the decade ahead.

Population growth data from 1940 through 1975 are summarized in Table 5.

For general planning purposes it is interesting to note in Table 6 the geographic pattern of recent population growth in Orange County. Huntington Beach, Orange, and Anaheim have grown most rapidly in the past year.

The population growth of the County during the past decade has not proceeded at an even pace. Annual increments range from 47,816 between 1957-58 to 104,804 between 1962-63. It would appear that the 1965-66 growth will match or slightly exceed that of 1962-63.

TABLE 5

ORANGE COUNTY POPULATION
1940-1975

Year	Population
1930	118,674
1940	130,760
1950	216,224
1960	703,925
1965 (1/1)	1,110,211
1970*(1/1)	1,550,000
1975* (1/1)	2,000,000

*Rostvold Projections

Sources: U.S. Census, Orange County Population Research Committee

TABLE 6

GEOGRAPHIC DISTRIBUTION OF RECENT POPULATION GROWTH
ORANGE COUNTY
JANUARY 1, 1964 to JANUARY 1, 1965

City/Area	Population Increase
Huntington Beach	14,405
Orange	11,768
Anaheim	8,359
Fullerton	5,015
Buena Park	5,002
Santa Ana	4,954
Costa Mesa	4,789
Garden Grove	3,981
Fountain Valley	2,883
Tustin	2,873
Balance of County	21,375
Total	85,404

TABLE 7

ANNUAL POPULATION INCREASES FROM
1955-56 TO 1965-66

1955-56	+110,079
1956-57	55,016
1957-58	47,816
1958-59	61,815
1959-60	91,506
1960-61	60,012
1961-62	82,350
1962-63	104,804
1963-64	95,358
1964-65	85,404
1965-66*	105,000

*Rostvold Projection

The uneven pattern of growth can be seen graphically in Figure 1.

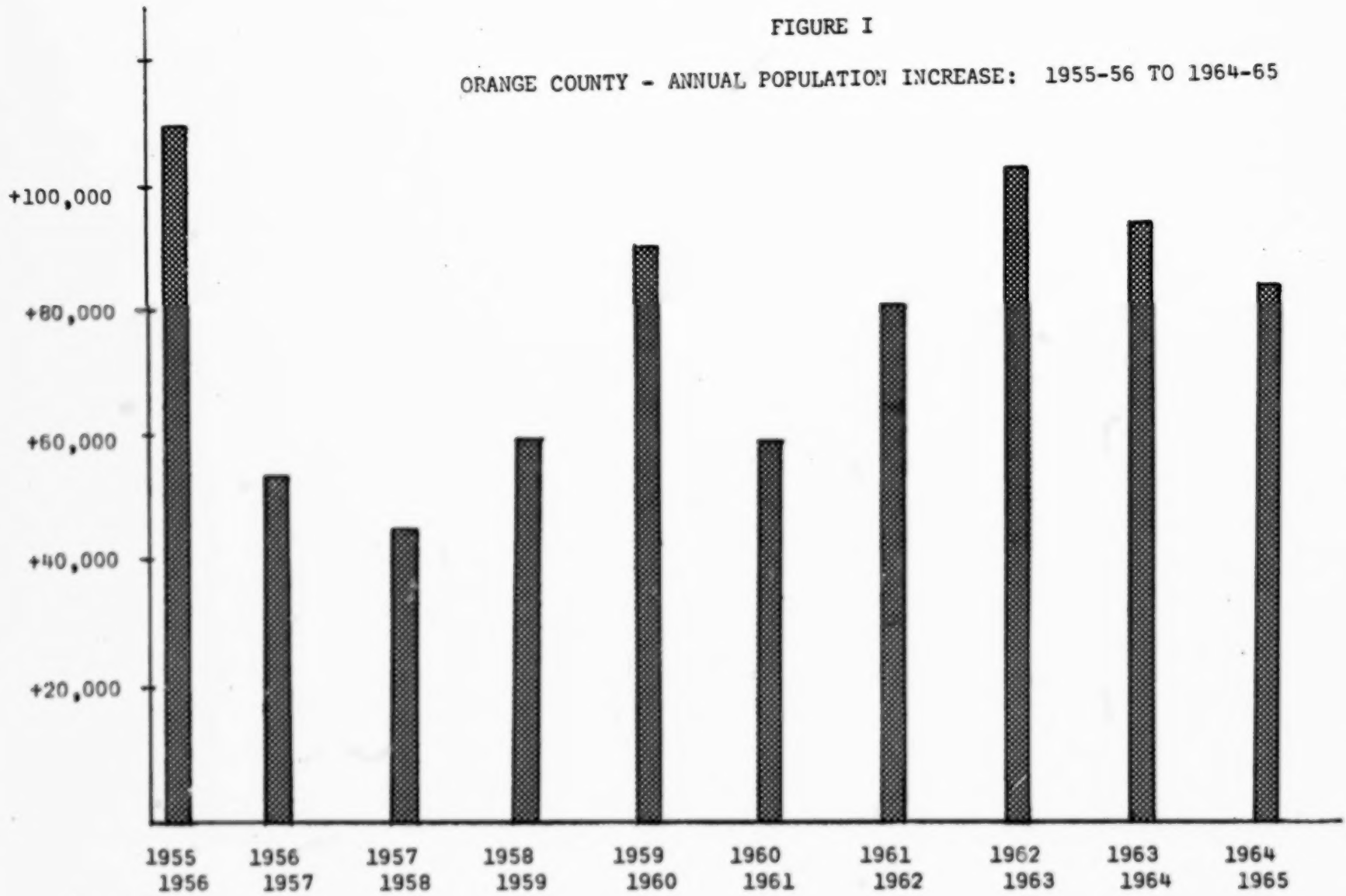
There has been an increase in the labor force participation rate of the population in Orange County. For example, the California State Department of Labor estimates that in 1958, 28.6 percent of the Orange County population was in the labor force and that by 1964 this had increased to nearly 32.0 percent of the Orange County population. This growing percentage reflects the general youthfulness of the working population, suggesting a measure of the growing responsibilities of the Junior College Program revision during the next decade. Clearly, a growing population produces a direct increase in effective demand for labor services in the so-called non-basic areas of employment such as wholesale and retail trade, services, construction, finance, transportation, communications, utilities, and government. The Junior College curriculum should be geared to meet the expanding employment which will inevitably occur in the non-basic areas. These are the areas of employment related to population growth and the attendant formation of new household units.

Long-Term Trends of Industry Employment:

The long-term trends in the reallocation of employment activity are suggested by Bureau of Census data derived from the Census Years 1940, 1950, and 1960, as seen in Table 8.

FIGURE I

ORANGE COUNTY - ANNUAL POPULATION INCREASE: 1955-56 TO 1964-65



The dramatic industrialization of the county is seen in the fact that farm employment, 21.3 percent of the total county employment in 1940, decreased to a modest 3.3 percent of total county employment in 1960. The reverse pattern is seen in manufacturing employment: it represented only 10.3 percent of the total county employment in 1940, but increased to 28 percent by 1960. Government employment increased from 3.6 percent in 1940 to 8.8 percent in 1960, while more moderate advances of the employment proportions were realized in wholesale and retail trade (increasing from 15.9 percent in 1940 to 18.5 percent in 1960) and contract construction (increasing from 6.4 percent of total employment in 1940 to 8 percent in 1960). Service employment diminished in its relative employment role, as did mineral extraction activities.

Short-run Industry Employment Trends:

To what extent are the broad relocations of employment from 1940 to 1960 supported by more recent evidence of employment shifts since the beginning of this decade?

Total employment in Orange County rose from just over 150,000 (the annual average) in 1958 to 325,400 by September, 1964. This represents a net gain of about 112 percent in just six years, which compares favorably with the 84 percent increase in population for the same period. The comparatively greater rate of job growth indicates that the proportion of workers both residing and working within the County is greater now than was the case in 1958. Non-farm jobs, other than factory, have nearly doubled, rising from 112,000 to 223,000, while factory work forces were up to 93,400 in September of 1964 for a 172 percent increase since 1958. By 1963 over 3 of every 10 employees were engaged in manufacturing activities, compared to 22.4 percent six years earlier. The average number of workers employed on farms has remained fairly steady throughout the years at the 7,000 level.

The sustained upward trend in the level of County employment is indicated in Figure 2. This index reveals bi-monthly employment in the county from January, 1958 to June, 1965. With a straight-line, the trend of total employment plotted against time indicates that the 'average' employment increase for this time span has been 2,345 per month. The correlation of the total employment value against time offers a regression value of .9941, suggesting that the prediction of a sustained upward trend of employment can be made with convincing certainty.

TABLE 8

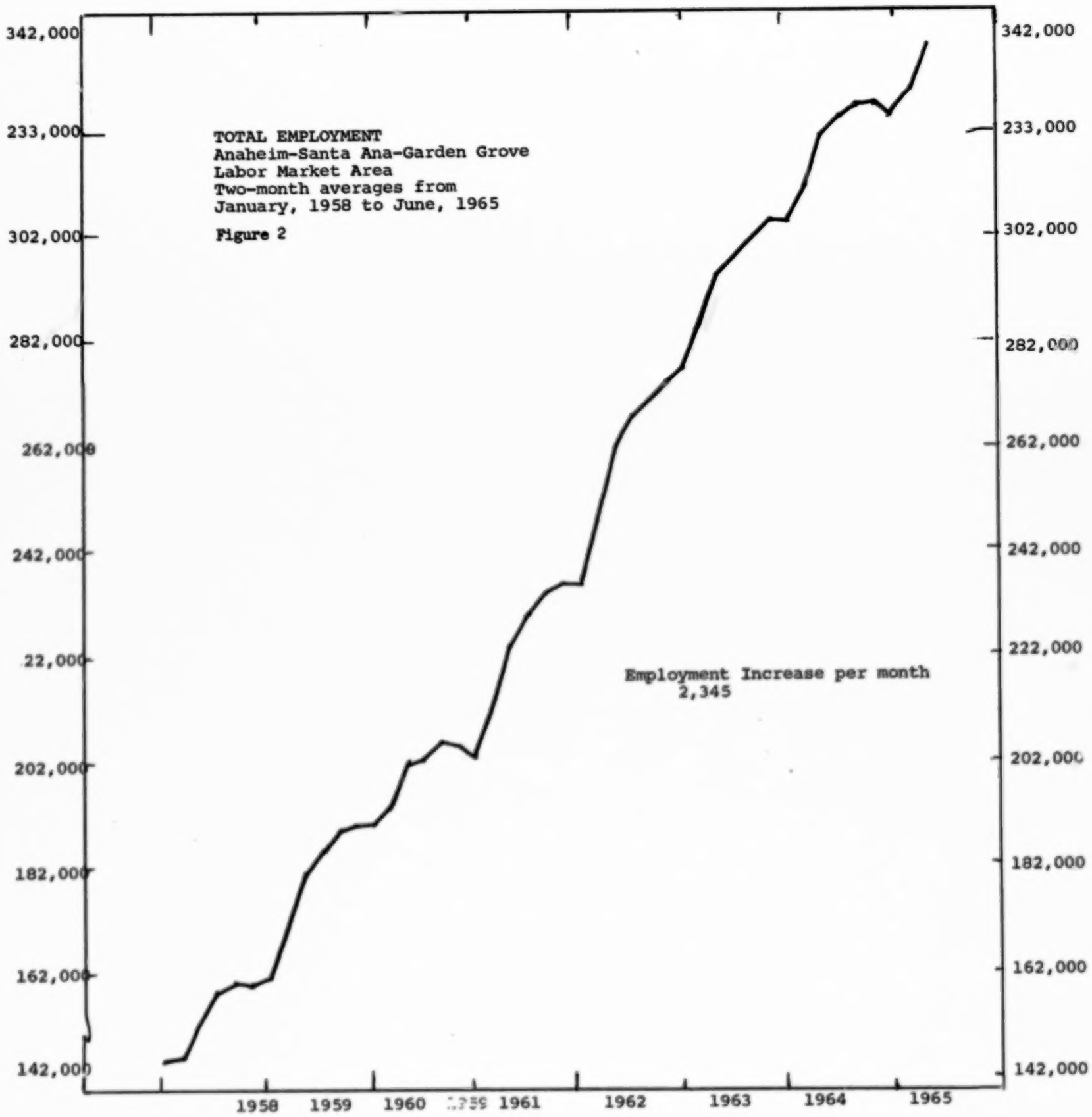
EMPLOYMENT OF ORANGE COUNTY RESIDENTS BY MAJOR INDUSTRIAL GROUPS
1940 - 1960

Major Industrial Group	1940 Total Employment	1940 Percent of Total Emp.	1940 Percent of County Emp.	1950 Total Employment	1950 Percent of Total Emp.	1950 Percent of County Emp.	1960 Total Employment	1960 Percent of Total Emp.	1960 Percent of County Emp.
Agriculture, forestry, and fishing	8,887	21.3	6.8	8,470	10.7	3.9	8,317	3.3	1.2
Mineral extraction	2,043	4.9	1.6	1,603	2.0	0.7	1,644	0.7	0.2
Contract construction	2,673	6.4	2.0	7,436	9.4	3.4	20,395	8.0	2.9
Manufacturing	4,294	10.3	3.3	12,419	15.7	5.7	71,187	28.0	10.1
Transportation, communications, and utilities	1,968	4.7	1.5	3,989	5.0	1.9	11,833	4.7	1.7
Wholesale and retail trade	6,635	15.9	5.1	17,002	21.5	7.9	46,948	18.5	6.7
Finance, insurance, and real estate	1,484	3.5	1.1	2,639	3.3	1.2	11,725	4.6	1.7
Service industries	9,909	23.7	7.6	12,060	15.2	5.6	49,450	19.4	7.0
Government[a]	1,518	3.6	1.2	13,667	17.2	6.3	22,289	8.8	3.2
Not reported[b]	2,390	5.7	1.8				10,120	4.0	1.4
Total	41,801	100.0	32.0	79,285	100.0	36.7	253,908	100.0	36.1

NOTE: Employment figures include wage and salary workers, self-employed workers, unpaid family workers, and domestic workers.

a. Includes military and assumes continued level (12,000) of military personnel to 1980.
b. Category only for 1940 and 1960.

Sources: 1940, 1950, and 1960 U.S. Department of Commerce, Bureau of the Census.


TOTAL EMPLOYMENT
Anaheim-Santa Ana-Garden Grove
Labor Market Area
Two-month averages from
January, 1958 to June, 1965
Figure 2
Employment Increase per month
2,345
342,000
233,000
302,000
282,000
262,000
242,000
222,000
202,000
182,000
162,000
142,000
1958
1959
1960
1961
1962
1963
1964
1965

Over 142,000 jobs were added to the employment base of Orange County from 1960 to mid-year 1965. The major industrial groups in which the employment increases occurred were the following:

Manufacturing	+46,700
Wholesale and Retail Trade	+27,200
Services	+24,800
Government	+19,100

We see that manufacturing, trade, services, and government sectors accounted for 117,800 jobs; this increment represented 83.0 percent of all of the additions to Orange County's employment base between April, 1960, and June, 1965.

The five-year shifts in the proportion of labor allocations are indicated in Table 9. The shorter time span does not, of course, reveal as sharp a change in labor use as those indicated in 10-year Census data. Significantly, however, agriculture continues its decline, while manufacturing continues to increase in relative importance.

TABLE 9

TOTAL EMPLOYMENT IN ORANGE COUNTY
1960 AND 1965

	1960		(June) 1965	
Major Industrial Group	Total Employment	% of Total	Total Employment	% of Total
Agriculture, etc.	7,200	3.6	7,200	2.1
Contract Construction	20,600	10.3	32,000	9.4
Manufacturing	48,800	24.5	96,500	28.4
Transportation, etc.	7,000	3.5	10,400	3.1
Wholesale and retail trade	45,100	22.6	72,300	21.2
Finance, Insurance, etc.	7,100	3.6	14,300	4.2
Service Industries	36,500	18.4	61,300	18.0
Government	24,600	12.3	43,700	12.8
All other	2,600	1.2	3,300	0.8
Total	199,500	100.0	341,000	100.0

Source: California State Department of Employment

The significance of manufacturing to the Orange County economy deserves, of course, more specific attention. In Figure 3, the bi-monthly data on manufacturing employment from January 1958 to June 1965 is again plotted. Note that sharp upward speed in manufacturing employment was broken in the fourth quarter of 1962. The growth rate in this major sector is still positive, but the rate of growth has moderated since the fourth quarter of 1962. Taking the entire time span, the straight-line fit of manufacturing employment trend indicates a monthly increase of 771 persons per month.

Because manufacturing activity is of ascending significance in Orange County, it is important to appreciate the heterogeneous mix of activities represented by that category and the notable role of electrical machinery manufacture to the manufacturing sector. As we see in Table 10, durable manufacturing accounted for close to 79 percent of such employment, with 21 percent represented by nondurable activities. But for all manufacturing employment 44 percent was accounted for in electrical machinery activity. Because no other single manufacturing employment (with aircraft and missiles at 8.08 percent, the second largest component), the vitality of manufacturing activity clearly reflects the buoyancy of electrical manufacturing employment.

Industrial Employment Refinements:

A further refinement of employment trends by industry in the Anaheim-Santa Ana-Garden Grove labor market areas follows:

Straight-line trends were calculated for nineteen major employment sectors from monthly data running from January, 1958, to August, 1965, with the results indicated in Table 11. If employment is regressed against time, the slope of that line indicates the increment of employment for each month. In Table 11 the monthly increments are arrayed in terms of their size, again indicating the significance of four major sectors: electrical machinery, services, retail trade, and government. The increments of employment for a year, two years and five years are readily derived by multiplying the increment by the time interval. It should be realized, of course, that the projected employment increases are not the gross number of jobs likely to be created in the future. To these one must add the job vacancies created by the natural attrition and turnover of employees.

Fig 3

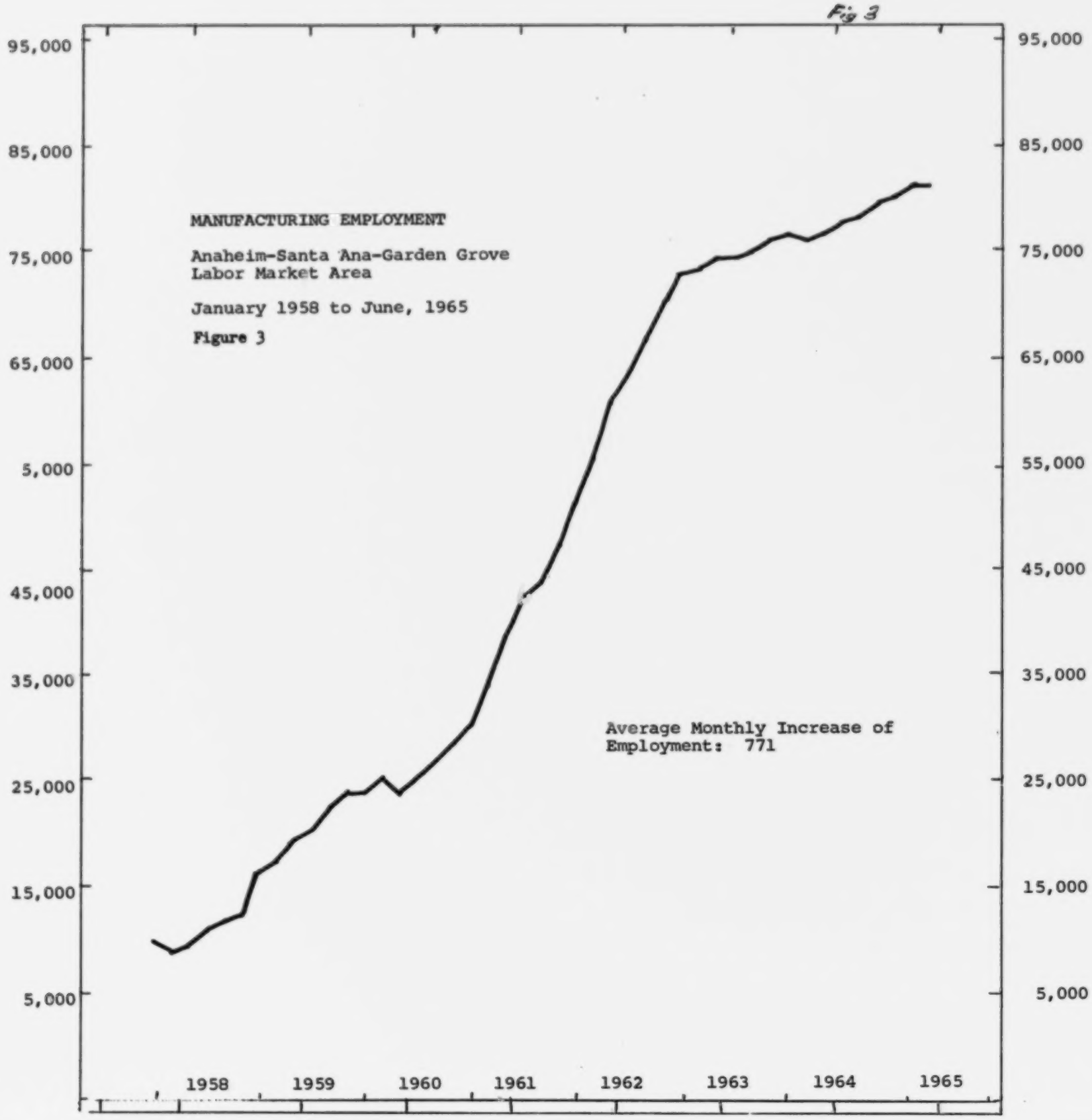

MANUFACTURING EMPLOYMENT
Anaheim-Santa Ana-Garden Grove
Labor Market Area
January 1958 to June, 1965
Figure 3
Average Monthly Increase of
Employment: 771
95,000
85,000
75,000
65,000
5,000
45,000
35,000
25,000
15,000
5,000
1958
1959
1960
1961
1962
1963
1964
1965

TABLE 10

PROFILE OF MANUFACTURING EMPLOYMENT
ORANGE COUNTY
JUNE, 1965

Industry	Number Employed	Percent of Manufacturing
Durables:		
Lumber, Furniture, etc.	2,200	2.28
Stone, Glass, Clay	2,600	2.69
Fabricated Metals	5,700	5.91
Non-electrical Machinery	5,200	5.39
Electrical Machinery	42,600	44.14
Aircraft and Missiles	7,800	8.08
Scientific Instruments	3,600	3.73
Other Durables	6,400	6.63
Total Durables	76,100	78.85
Non-durables:	(20,400)	(21.15)
Food	6,500	6.74
Paper, Printing, Publishing	6,600	6.84
Chemicals	1,700	1.76
Rubber and Plastics	3,700	3.83
Other Non-durables	1,900	1.98
Total Manufacturing Employment . . .	96,500	100.00

There is considerable risk in making straight-line projections of employment in an area subject to such diverse economic pressures and rapid - but sometimes uneven - industrial growth rates. The reliability of the projections can be assessed by reviewing the values for the correlation of employment to time, as seen in Table 12.

The patterns can be seen more clearly, however, when plots are made of the industry employment level, as provided in Figures 4 through 7. These indices have been grouped to draw attention to varying characteristics of the employment pattern.

TABLE 11

PROJECTED INCREASES OF TOTAL EMPLOYMENT IN ORANGE COUNTY BY INDUSTRY
Projections based on regressions of industry employment on time, making use of monthly data of industry employment from January, 1958, to June, 1965

INDUSTRY GROUP	Monthly Increment of Employment	One-Year Increment of Employment	Two Year Increment	Five Year Increment
Electrical machinery	556 workers	6,672	13,344	33,360
Services	413 workers	4,956	9,912	24,780
Retail Trade	395 workers	4,740	9,480	23,700
Government	293 workers	3,516	7,032	17,580
Construction	181 workers	2,172	4,525	10,860
Finance, Insurance and Real Estate	121 workers	1,452	2,904	7,260
Aircraft and Missiles	100 workers	1,200	2,400	6,000
Wholesale Trade	55 workers	660	1,320	3,300
Food	50 workers	600	1,200	3,000
Transportation, Communications, and Utilities	50 workers	600	1,200	3,000
Paper, Printing and Publicity	49 workers	588	1,176	2,940
Nonelectrical Machinery	38 workers	456	912	2,280
Fabricated Metals	34 workers	408	816	2,040
Rubber	24 workers	144	288	1,440
Scientific Instruments	30 workers	360	720	1,800
Stone, Clay and Glass	19 workers	228	456	1,140
Furniture and Fixtures	18 workers	216	432	1,080
Chemicals	12 workers	144	288	720

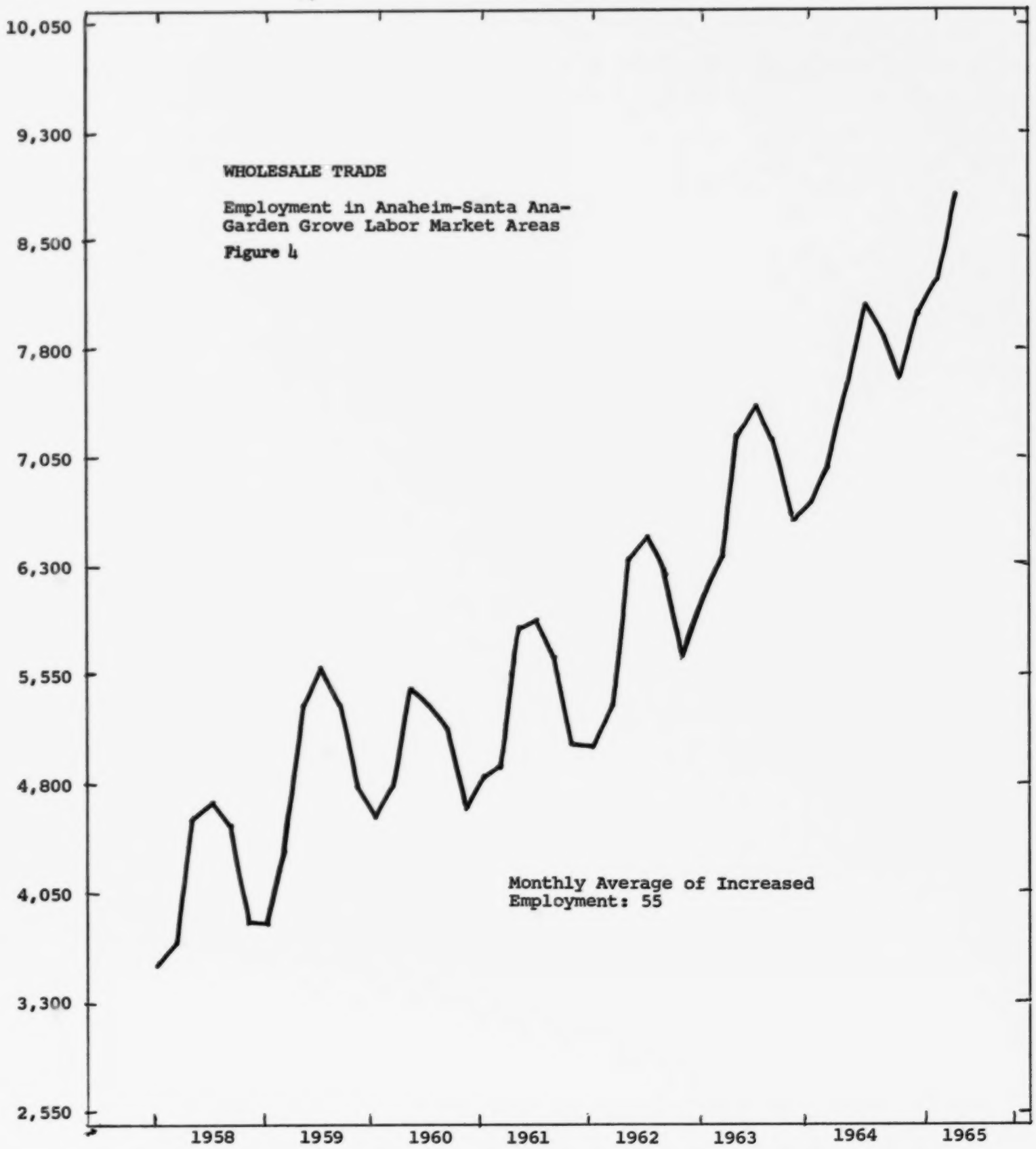
TABLE 12

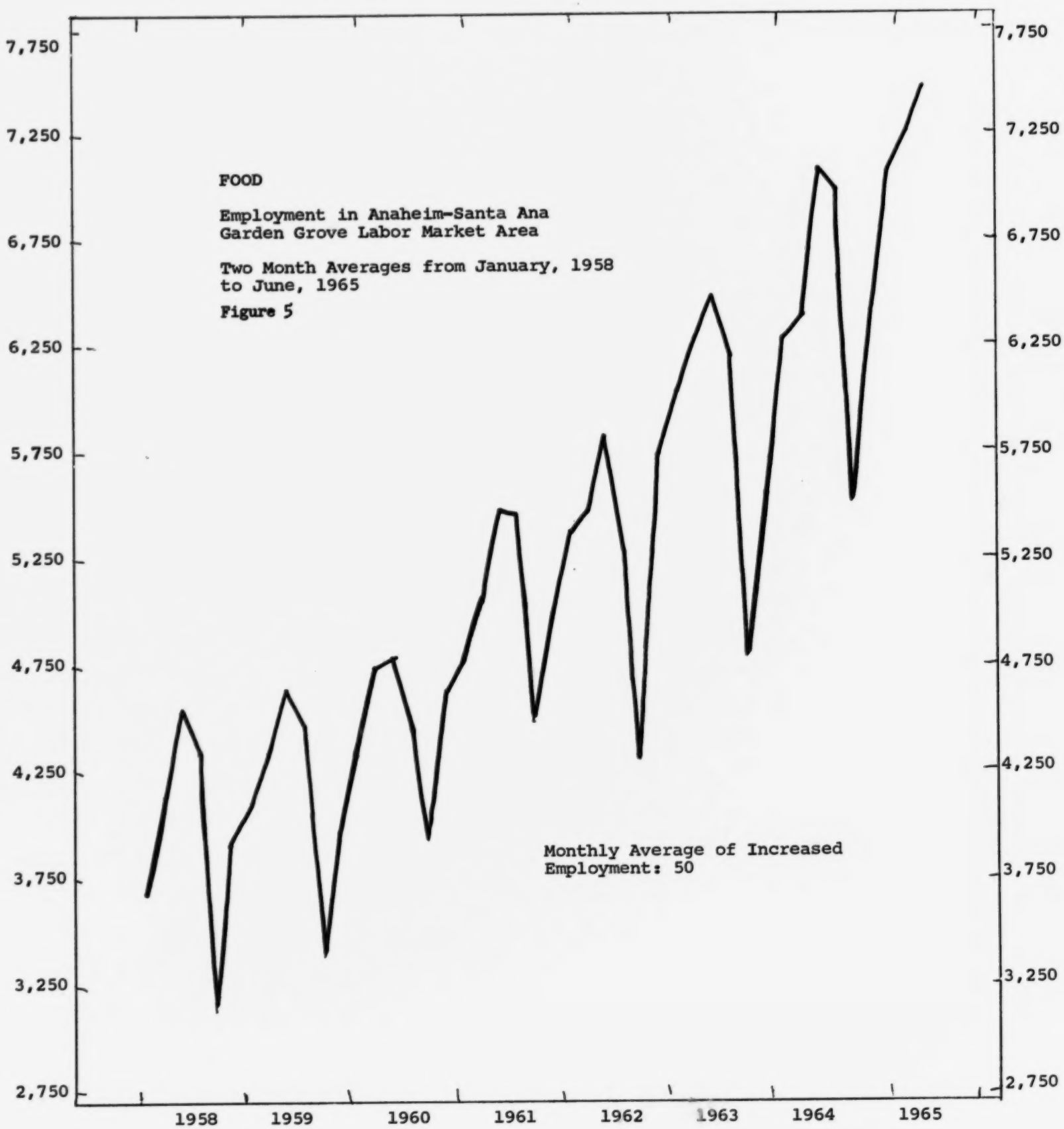
CORRELATIONS OF MONTHLY VARIABLES WITH TIME
(JAN. 1958 TO AUG. 1965)

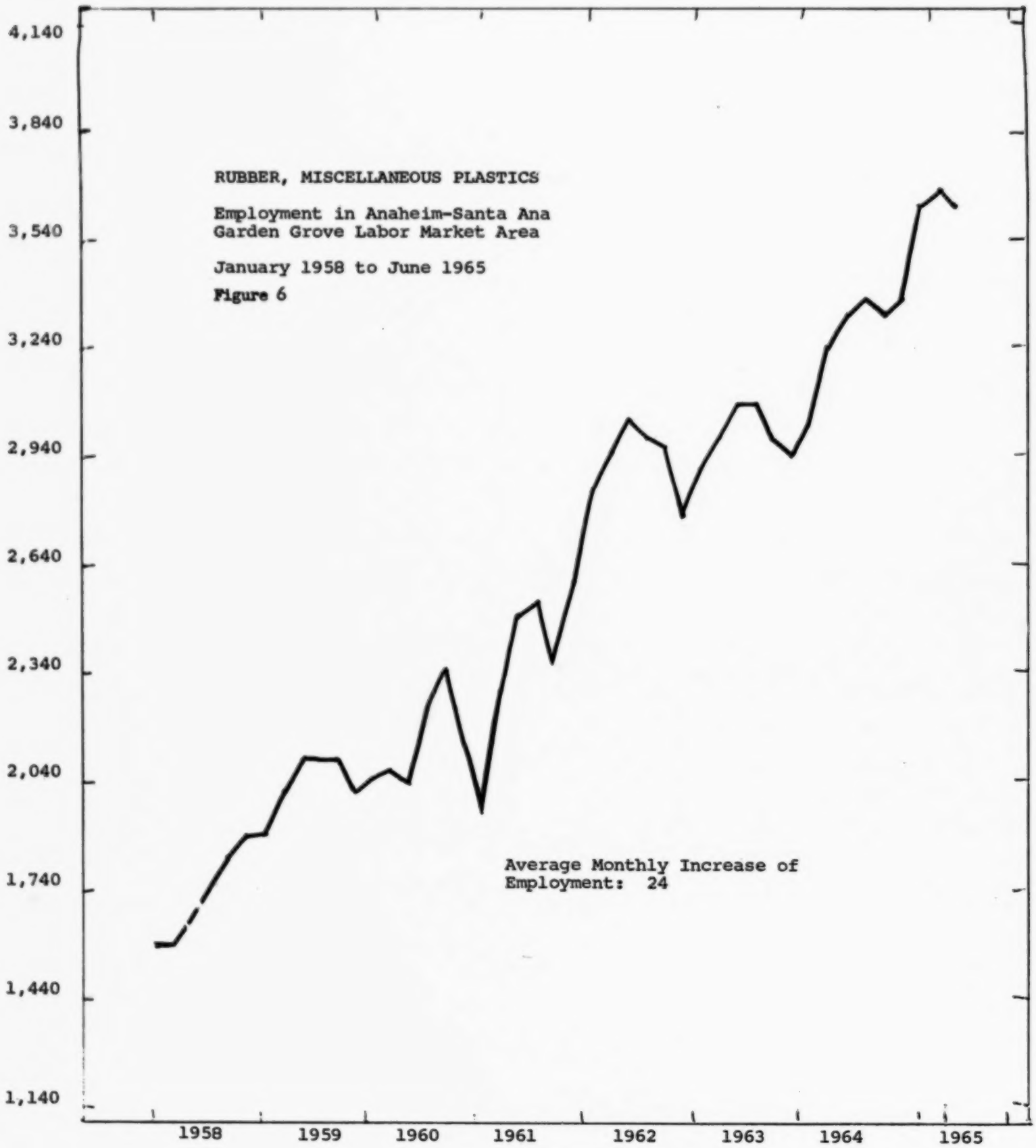
Unemployment	.7353
Percent of workforce unemployed	-.3955
Employment	.9941
Agriculture	.0134
Construction	.9268
Durable Manufacture Employment	.9776
Lumber, furniture and fixtures	.9574
Stone, clay and glass	.9560
Fabricated metals	.9709
Non-electrical machinery	.9864
Electrical machinery	.9405
Aircraft and missiles	.9206
Scientific instruments	.8984
Other durables	.7445
Food	.8604
Paper, printing and publication	.9970
Chemicals	.8592
Rubber, miscellaneous plastics	.9658
Transportation, communication and utilities	.9734
Wholesale trade	.9234
Retail trade	.9881
Finance, insurance and real estate	.9855
Services	.9933
Government	.9868

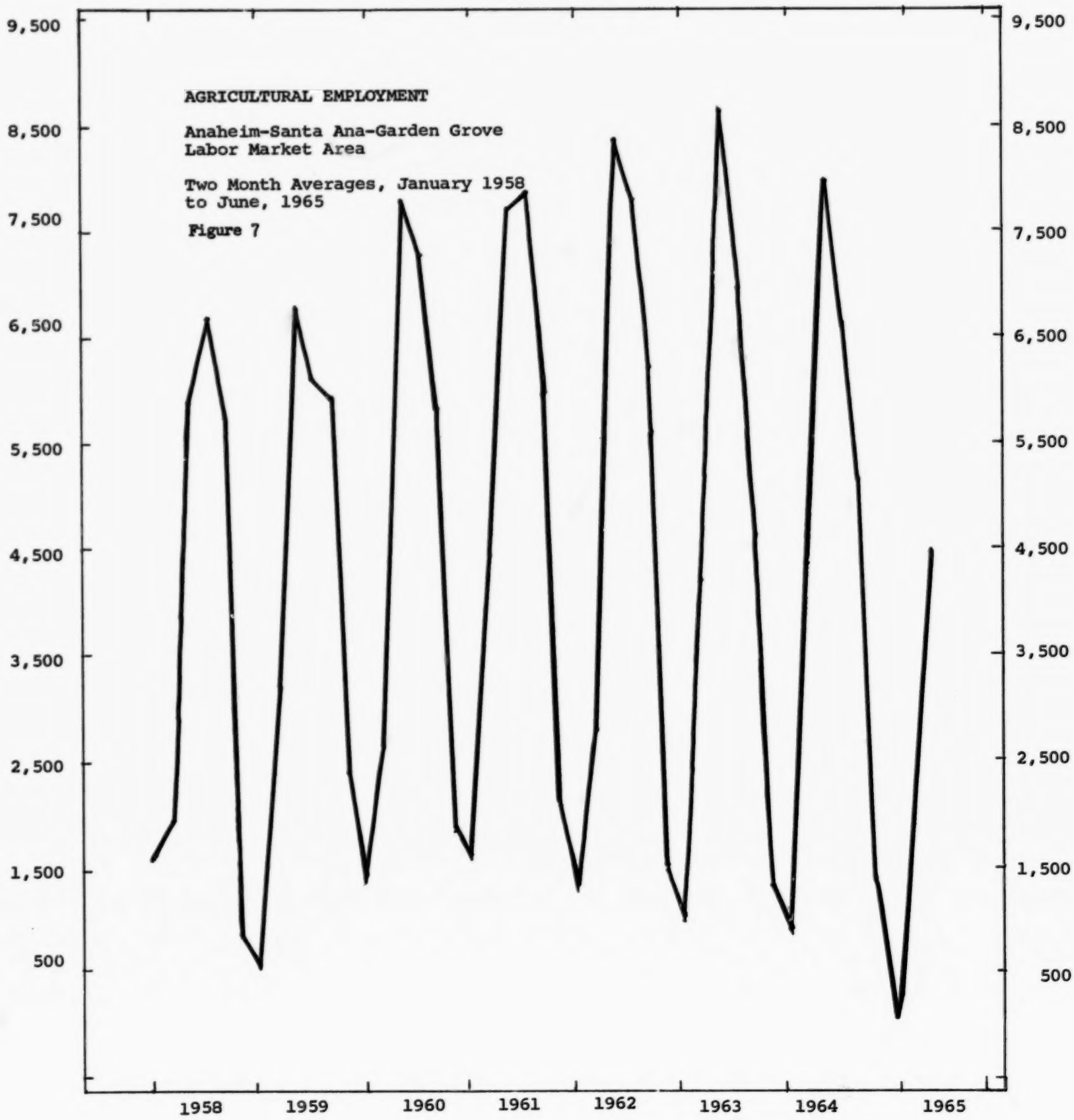
The Seasonal Sectors:

Four sectors - wholesale trade, food, rubber and miscellaneous plastics, and agriculture - have been grouped in Figures 4 through 7 (following Table 12) to indicate the highly seasonal nature of employment. Most dramatic, of course, is agriculture where there is little evidence that the wide swings of employment are being dampened through time. More significant is the pronounced seasonal variability of employment in the growth sectors of wholesale trade and food


WHOLESALE TRADE
Employment in Anaheim-Santa Ana-Garden Grove Labor Market Areas
Figure 4
Monthly Average of Increased Employment: 55
10,050
9,300
8,500
7,800
7,050
6,300
5,550
4,800
4,050
3,300
2,550
1958
1959
1960
1961
1962
1963
1964
1965


FOOD
Employment in Anaheim-Santa Ana
Garden Grove Labor Market Area
Two Month Averages from January, 1958
to June, 1965
Figure 5
Monthly Average of Increased
Employment: 50
7,750
7,250
6,750
6,250
5,750
5,250
4,750
4,250
3,750
3,250
2,750
1958
1959
1960
1961
1962
1963
1964
1965


RUBBER, MISCELLANEOUS PLASTICS
Employment in Anaheim-Santa Ana
Garden Grove Labor Market Area
January 1958 to June 1965
Figure 6
Average Monthly Increase of
Employment: 24
4,140
3,840
3,540
3,240
2,940
2,640
2,340
2,040
1,740
1,440
1,140
1958
1959
1960
1961
1962
1963
1964
1965


AGRICULTURAL EMPLOYMENT
Anaheim-Santa Ana-Garden Grove
Labor Market Area
Two Month Averages, January 1958
to June, 1965
Figure 7
9,500
8,500
7,500
6,500
5,500
4,500
3,500
2,500
1,500
500
1958
1959
1960
1961
1962
1963
1964
1965

processing. Surveys made of current manpower needs in these sectors must give attention to the seasonal rhythm of manpower requirements within the year.

The Sustained Growth Sectors:

This group, represented by Figures 8 through 11, is made up of sectors which, while subject to seasonal influences, appear to be relatively immune to cyclical influences. This group, in effect, enjoys a sustained trend of employment expansion. It includes (in order of size of employment expansion) services; retail trade, transportation, communication and utilities; and paper, printing and publication. The first three account for monthly employment increases of 1100 persons, and are major sources for stabilizing the pace of increase of job opportunities in Orange County.

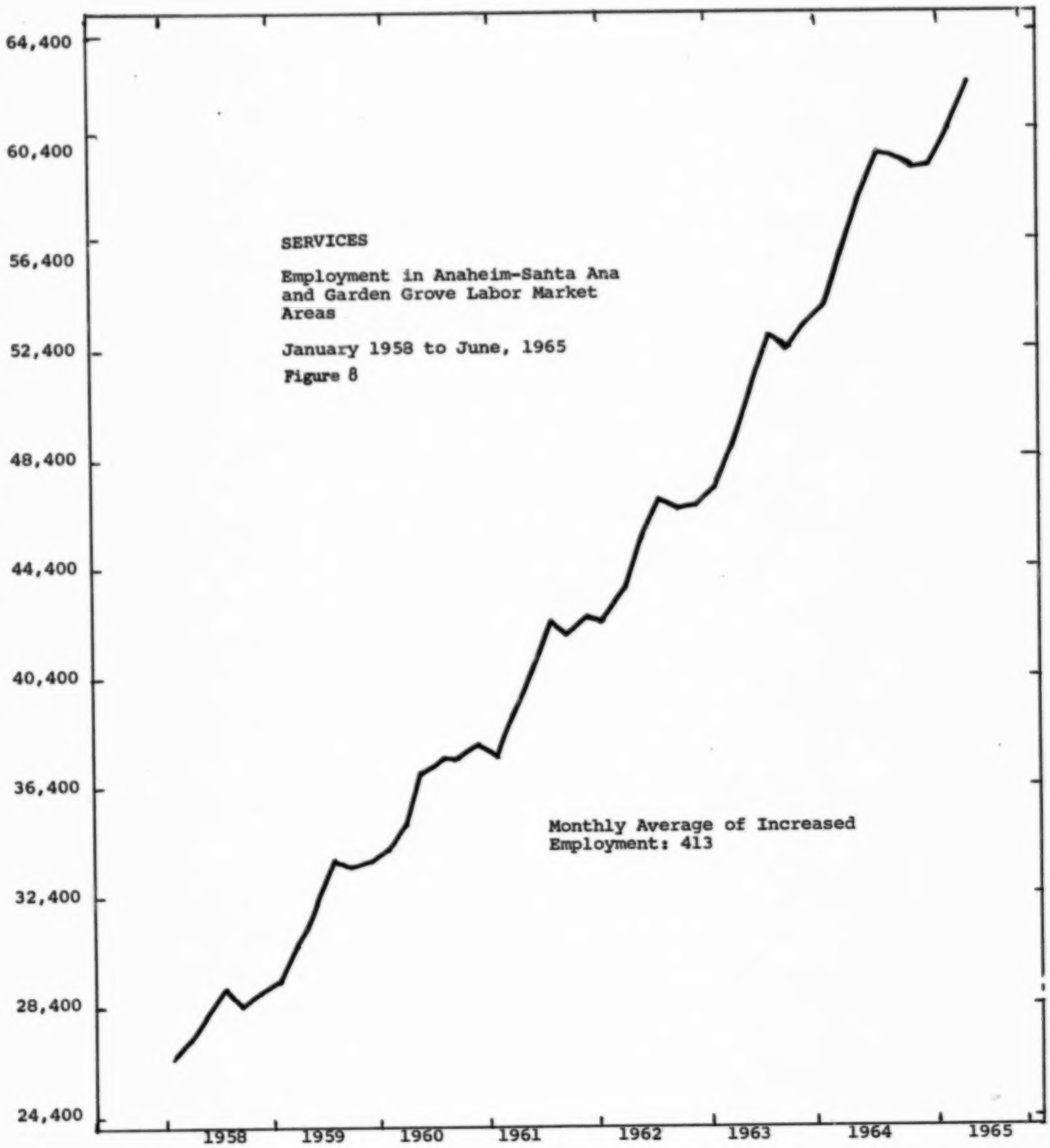
The Erratic Employment Group:

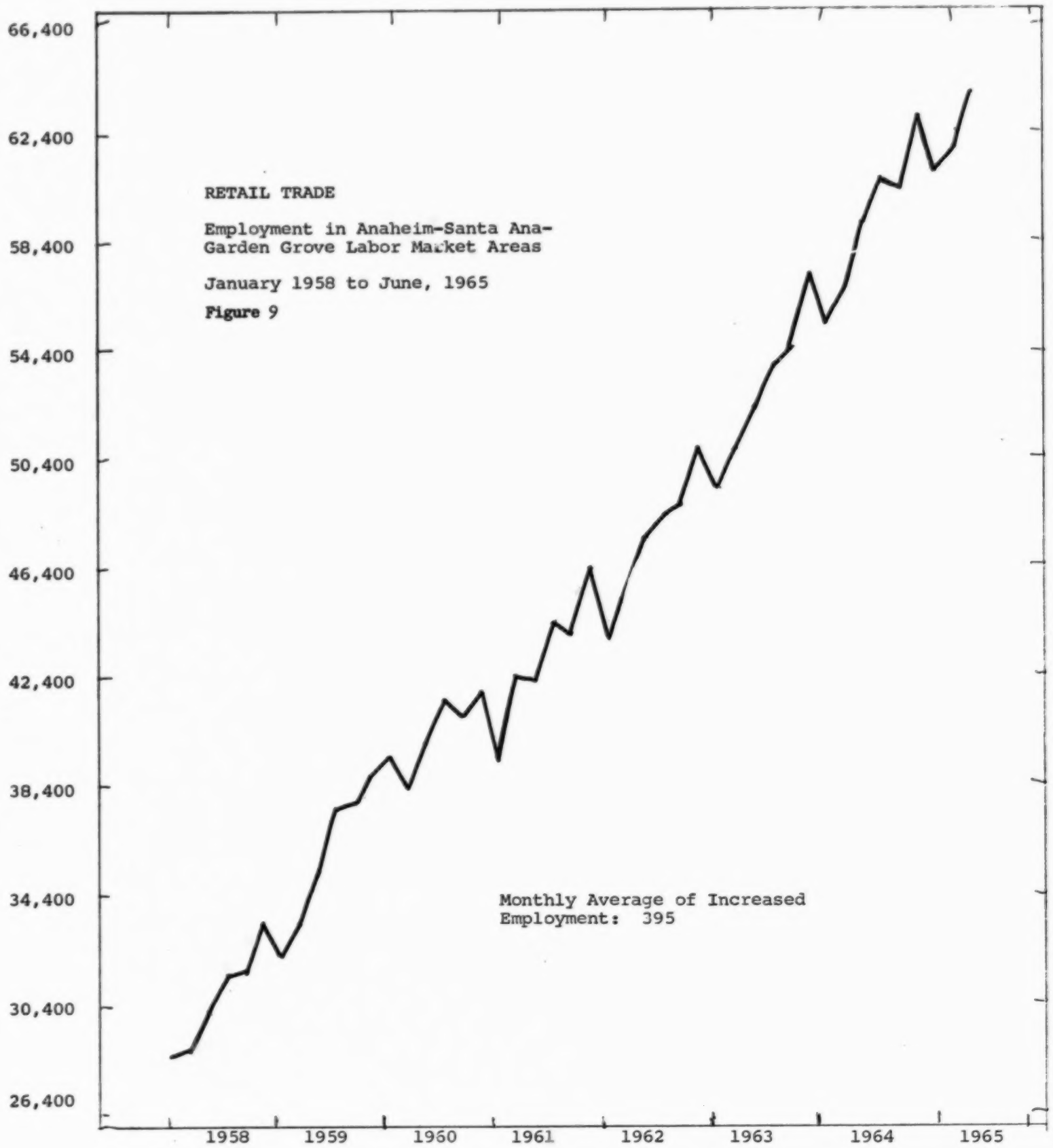
While total employment, as we noted earlier in Figure 2, has enjoyed a rather sustained growth in the period under analysis, there has been sharp variability in both the numbers unemployed and in the proportion of the unemployed to the labor force. A 'hump' in the unemployment percentages can be seen in Figure 12 for 1960 to 1962. While the total of unemployment has been climbing since its low in the end of 1962, (see Figure 13) the number of job opportunities has also been expanding so that the percentages of unemployed have been hovering around the 5 percent level since 1962. The seasonal variability in the unemployment rate should also be noted. Again surveys of manpower requirements made by the Junior Colleges might be biased should questions (involving entry-level requirements and so on) be asked when labor appears to be in abundant supply.

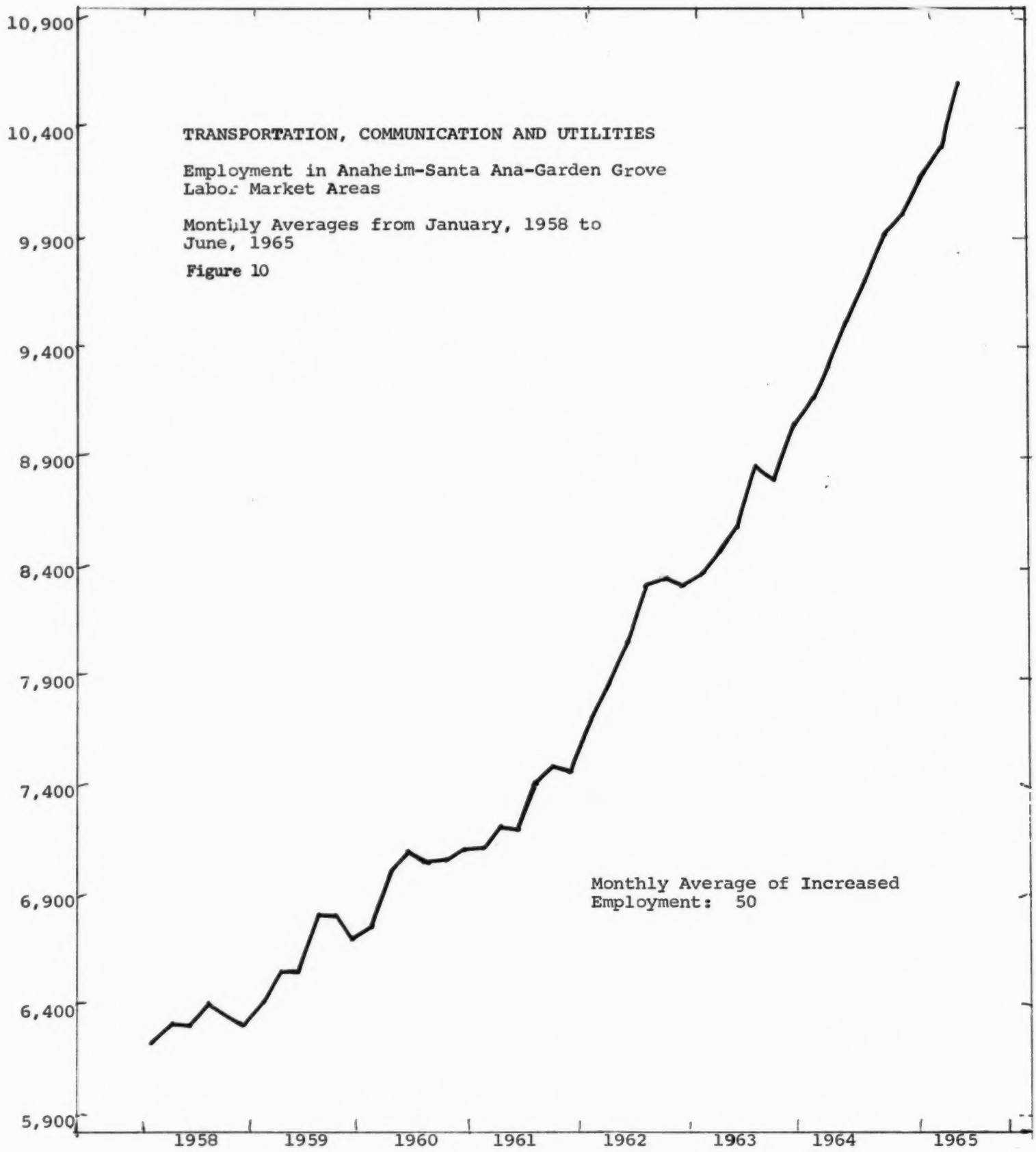
In the 'erratic employment' group we place both fabricated metals and non-electrical machinery, (Figures 14 and 15). The upward but erratic pace of employment growth, with such variability, is not fully explained by seasonal factors alone.

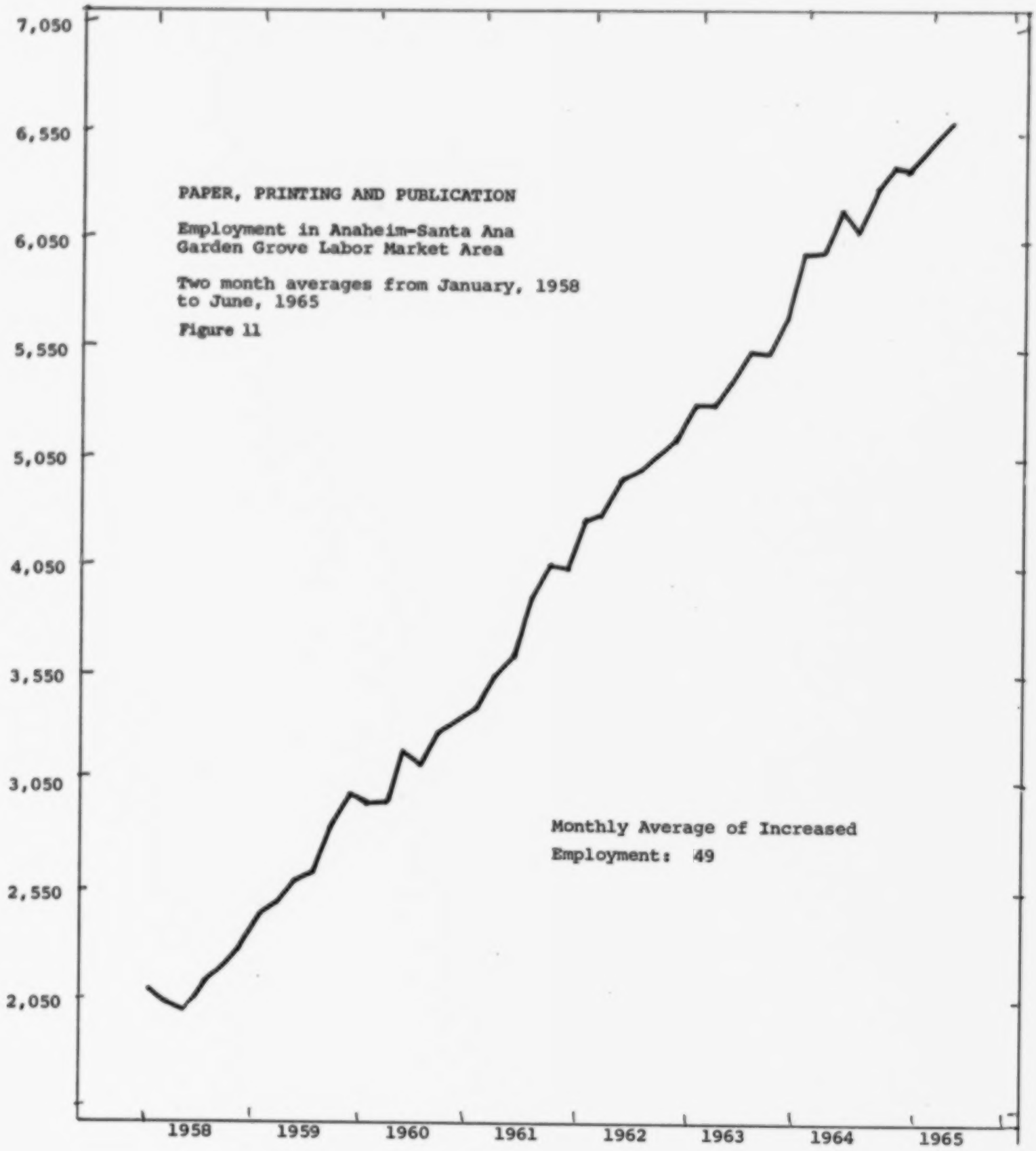
The Employment Stabilizing Sectors:

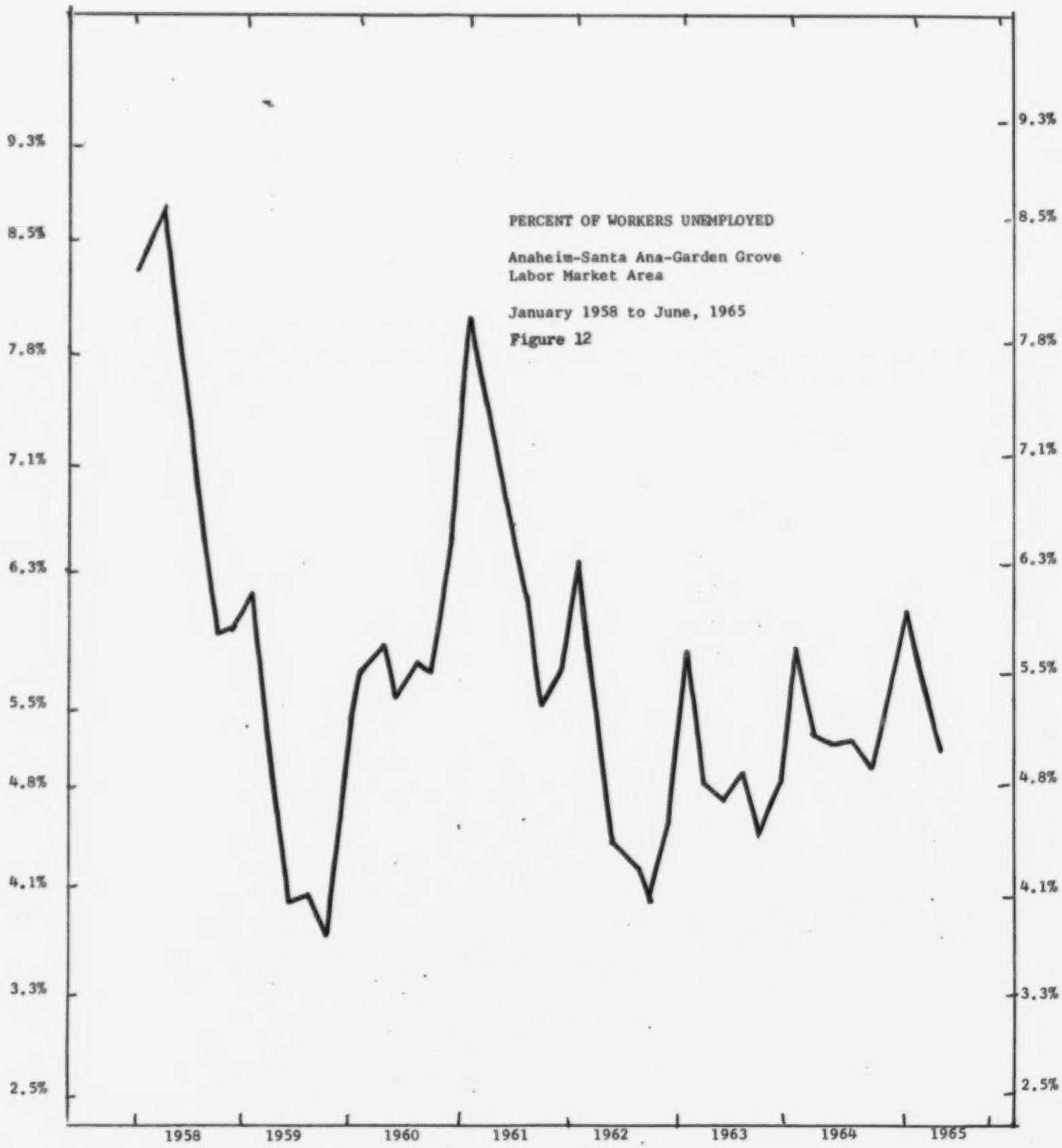
We have noted the dramatic upward shift to manufacturing employment in Orange County since 1940. But we noted, too, in Figure 3 that there has been some leveling of the employment growth rate in manufacturing since 1962. Several components in the manufacturing sector help explain this leveling characteristic. Most significant, electrical machinery, in Figure 16, 'peaked' by the end of 1962,

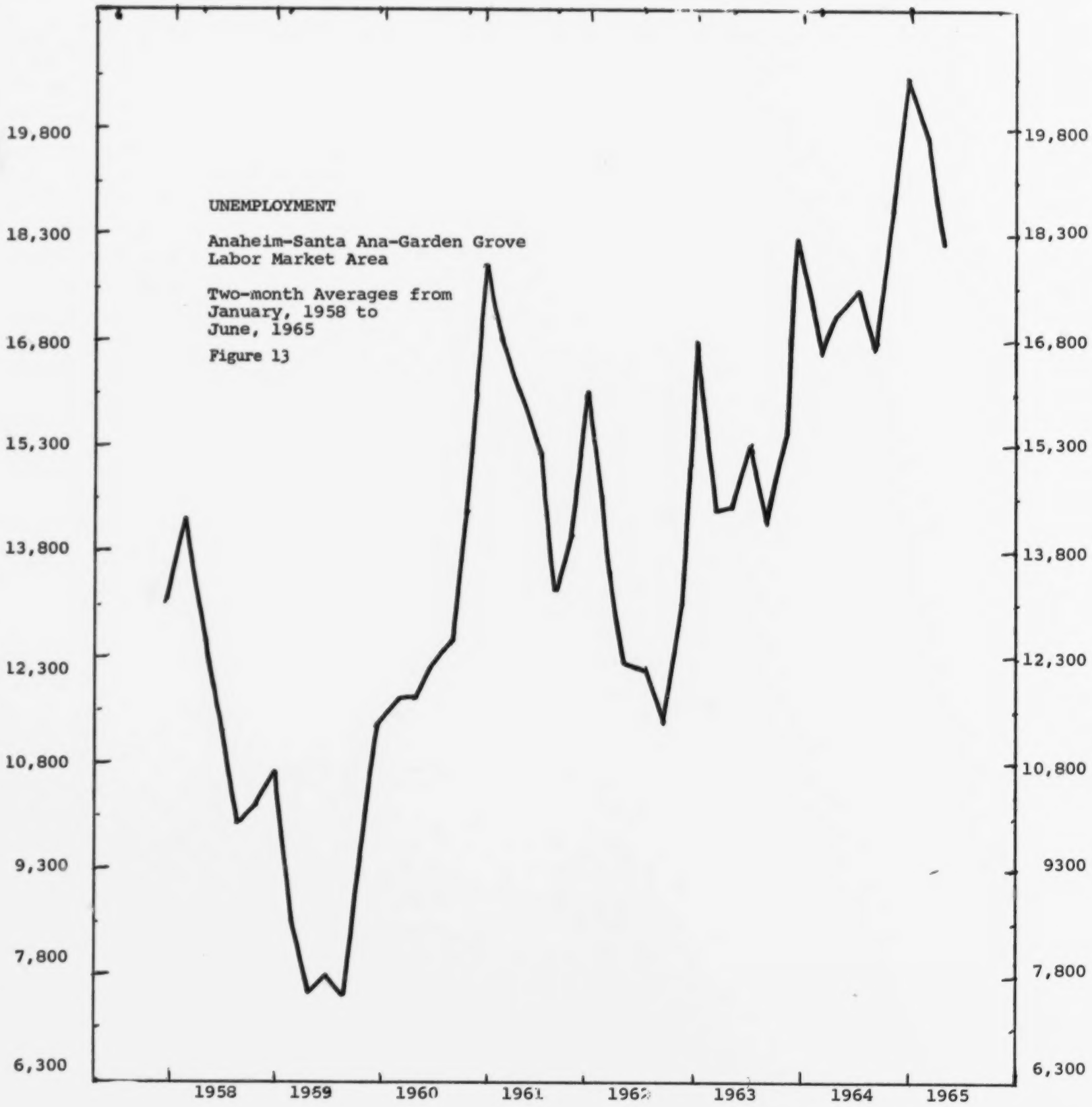

64,400
60,400
56,400
52,400
48,400
44,400
40,400
36,400
32,400
28,400
24,400
1958
1959
1960
1961
1962
1963
1964
1965
SERVICES
Employment in Anaheim-Santa Ana and Garden Grove Labor Market Areas
January 1958 to June, 1965
Figure 8
Monthly Average of Increased Employment: 413

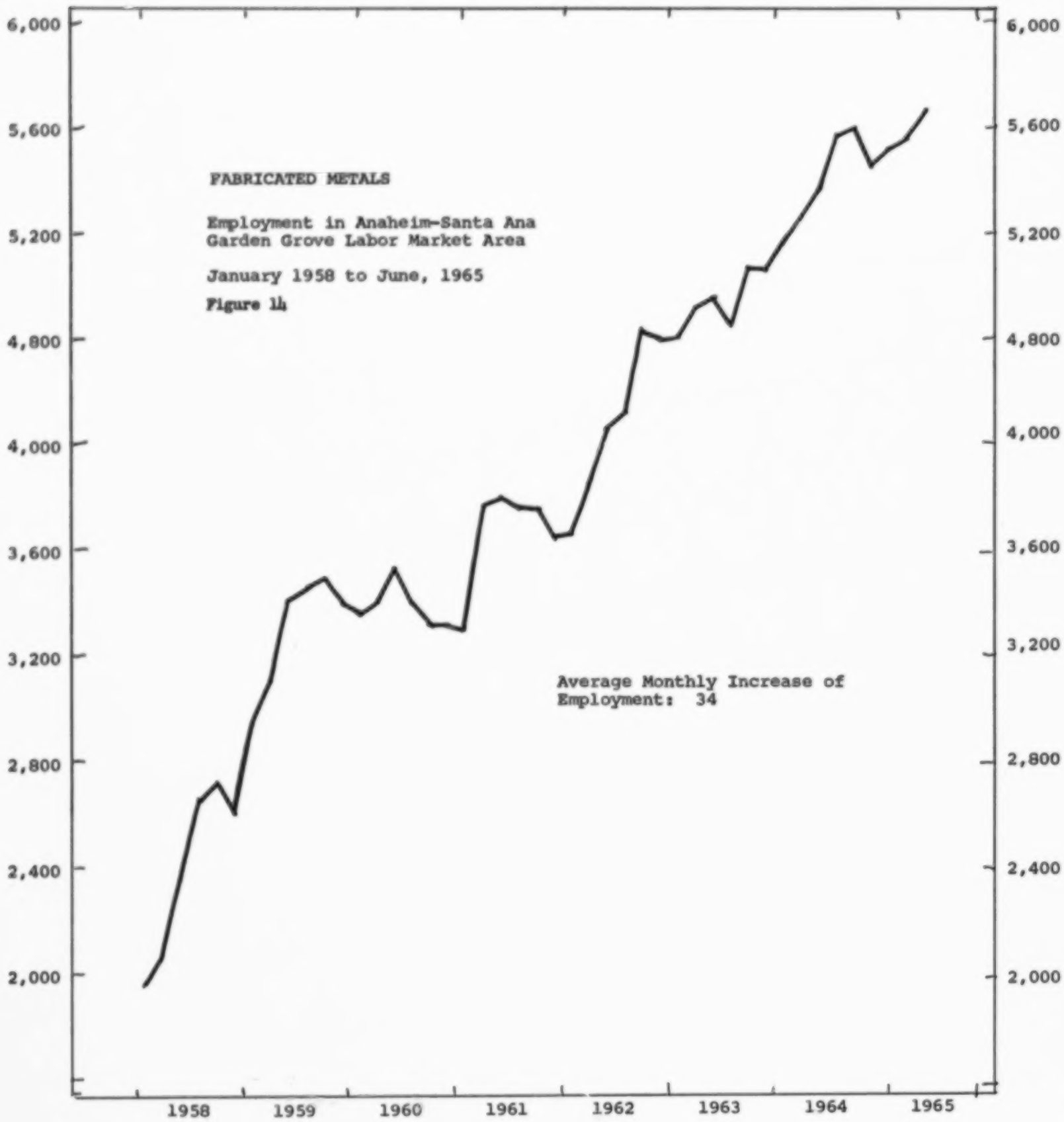

66,400
62,400
58,400
54,400
50,400
46,400
42,400
38,400
34,400
30,400
26,400
RETAIL TRADE
Employment in Anaheim-Santa Ana-
Garden Grove Labor Market Areas
January 1958 to June, 1965
Figure 9
Monthly Average of Increased
Employment: 395
1958
1959
1960
1961
1962
1963
1964
1965

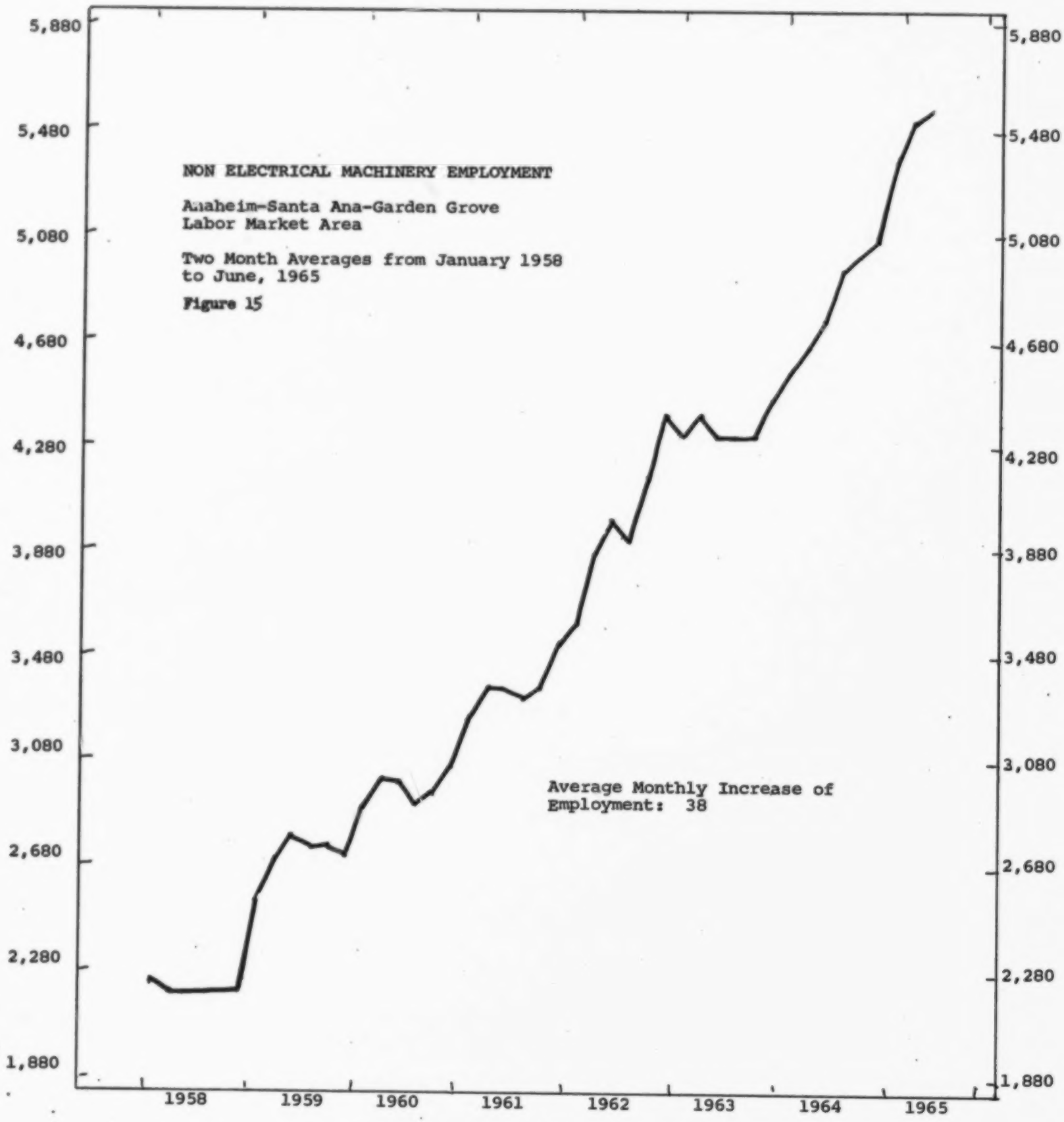

TRANSPORTATION, COMMUNICATION AND UTILITIES
Employment in Anaheim-Santa Ana-Garden Grove Labor Market Areas
Monthly Averages from January, 1958 to June, 1965
Figure 10
Monthly Average of Increased Employment: 50
10,900
10,400
9,900
9,400
8,900
8,400
7,900
7,400
6,900
6,400
5,900
1958
1959
1960
1961
1962
1963
1964
1965

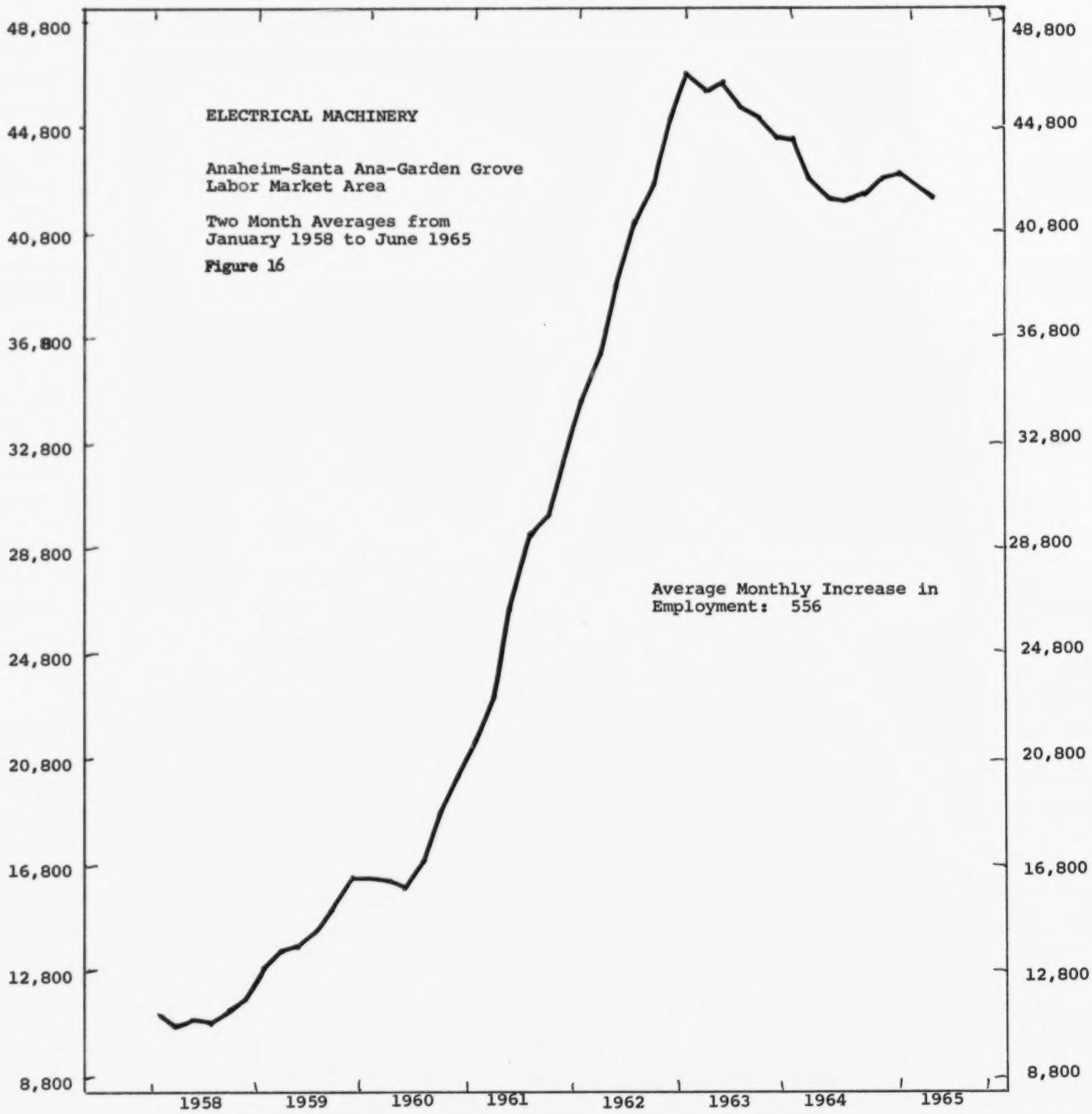

7,050
6,550
6,050
5,550
5,050
4,050
3,550
3,050
2,550
2,050
PAPER, PRINTING AND PUBLICATION
Employment in Anaheim-Santa Ana
Garden Grove Labor Market Area
Two month averages from January, 1958
to June, 1965
Figure 11
Monthly Average of Increased
Employment: 49
1958
1959
1960
1961
1962
1963
1964
1965


PERCENT OF WORKERS UNEMPLOYED
Anaheim-Santa Ana-Garden Grove
Labor Market Area
January 1958 to June, 1965
Figure 12
9.3%
8.5%
7.8%
7.1%
6.3%
5.5%
4.8%
4.1%
3.3%
2.5%
1958
1959
1960
1961
1962
1963
1964
1965


UNEMPLOYMENT
Anaheim-Santa Ana-Garden Grove
Labor Market Area
Two-month Averages from
January, 1958 to
June, 1965
Figure 13
19,800
18,300
16,800
15,300
13,800
12,300
10,800
9,300
7,800
6,300
19,800
18,300
16,800
15,300
13,800
12,300
10,800
9300
7,800
6,300
1958
1959
1960
1961
1962
1963
1964
1965


FABRICATED METALS
Employment in Anaheim-Santa Ana
Garden Grove Labor Market Area
January 1958 to June, 1965
Figure 14
Average Monthly Increase of
Employment: 34
6,000
5,600
5,200
4,800
4,000
3,600
3,200
2,800
2,400
2,000
1958
1959
1960
1961
1962
1963
1964
1965


NON ELECTRICAL MACHINERY EMPLOYMENT
Anaheim-Santa Ana-Garden Grove
Labor Market Area
Two Month Averages from January 1958
to June, 1965
Figure 15
Average Monthly Increase of
Employment: 38
5,880
5,480
5,080
4,680
4,280
3,880
3,480
3,080
2,680
2,280
1,880
1958
1959
1960
1961
1962
1963
1964
1965


ELECTRICAL MACHINERY
Anaheim-Santa Ana-Garden Grove
Labor Market Area
Two Month Averages from
January 1958 to June 1965
Figure 16
Average Monthly Increase in
Employment: 556
48,800
44,800
40,800
36,800
32,800
28,800
24,800
20,800
16,800
12,800
8,800
1958
1959
1960
1961
1962
1963
1964
1965

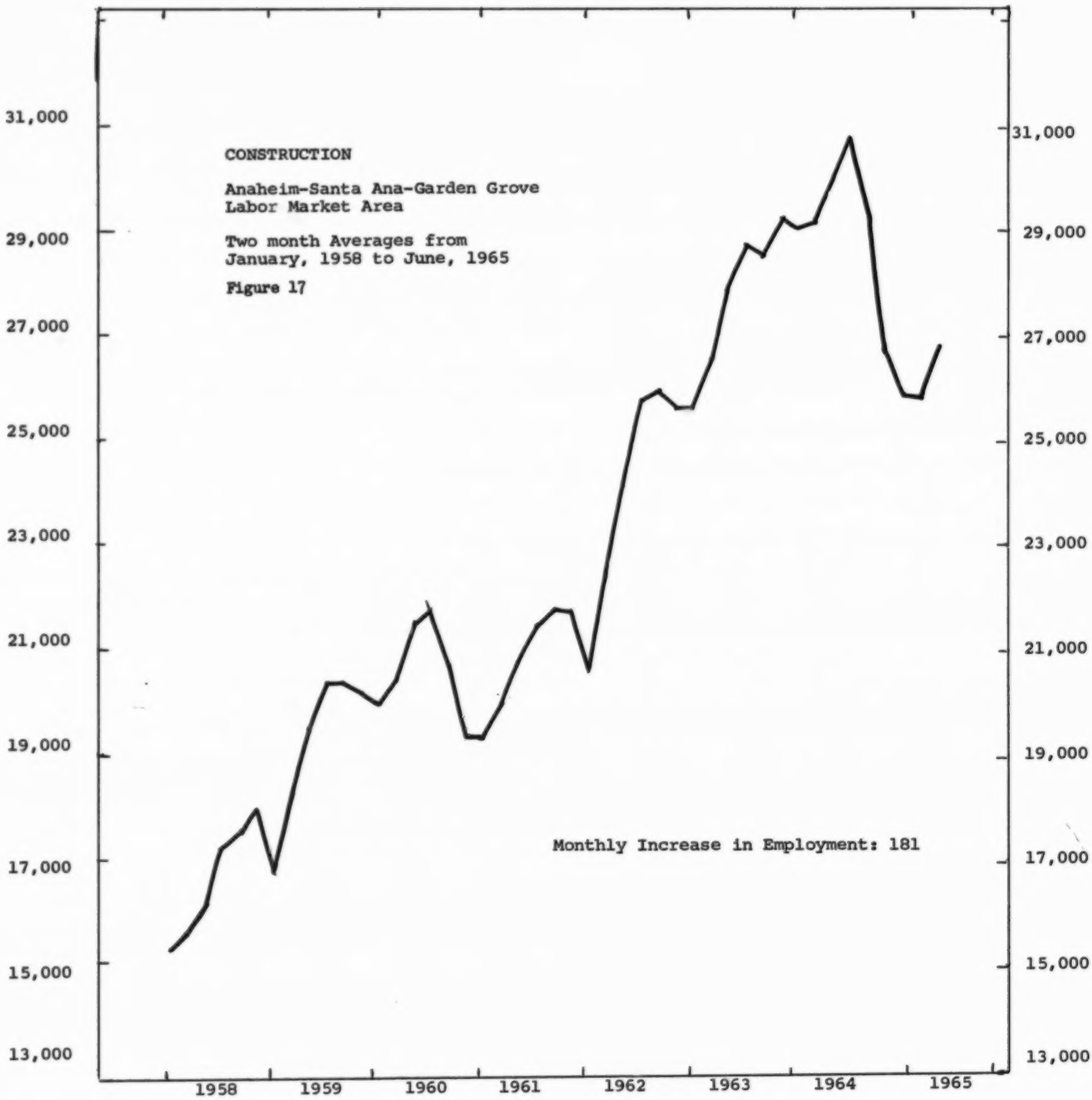
and employment here has since that time been drifting downward. The downward tendency in construction (Figure 17) is also in evidence since its peak in mid-1964. Other sectors displaying this 'hump' characteristic include scientific instruments; and lumber, furniture and fixtures, and chemicals (seen in Figures 18, 19, and 20). It is likely that sharp declines of employment in the electrical machinery sector have induced secondary employment consequences in these related activities.

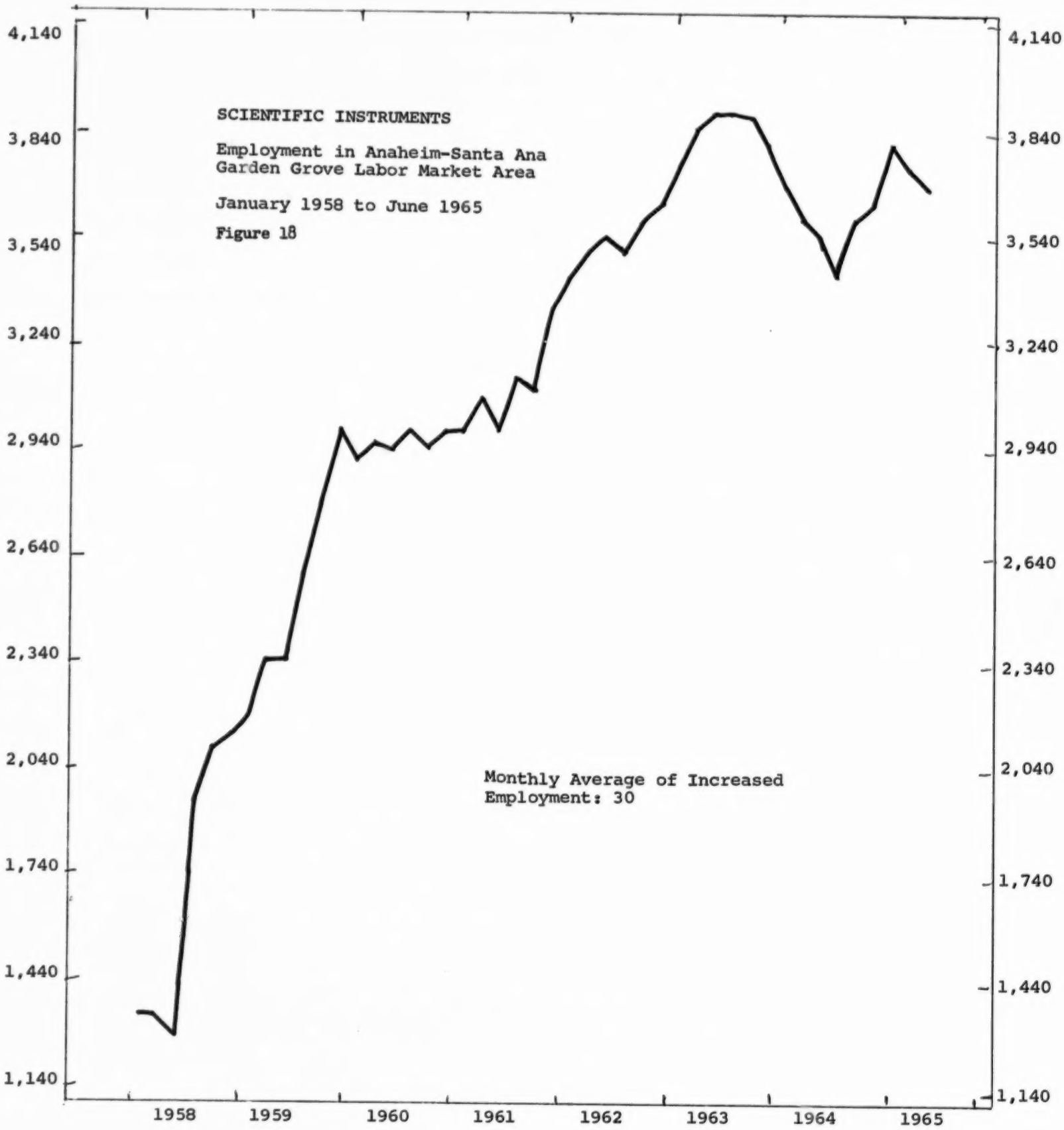
The"Take Off" Sectors:

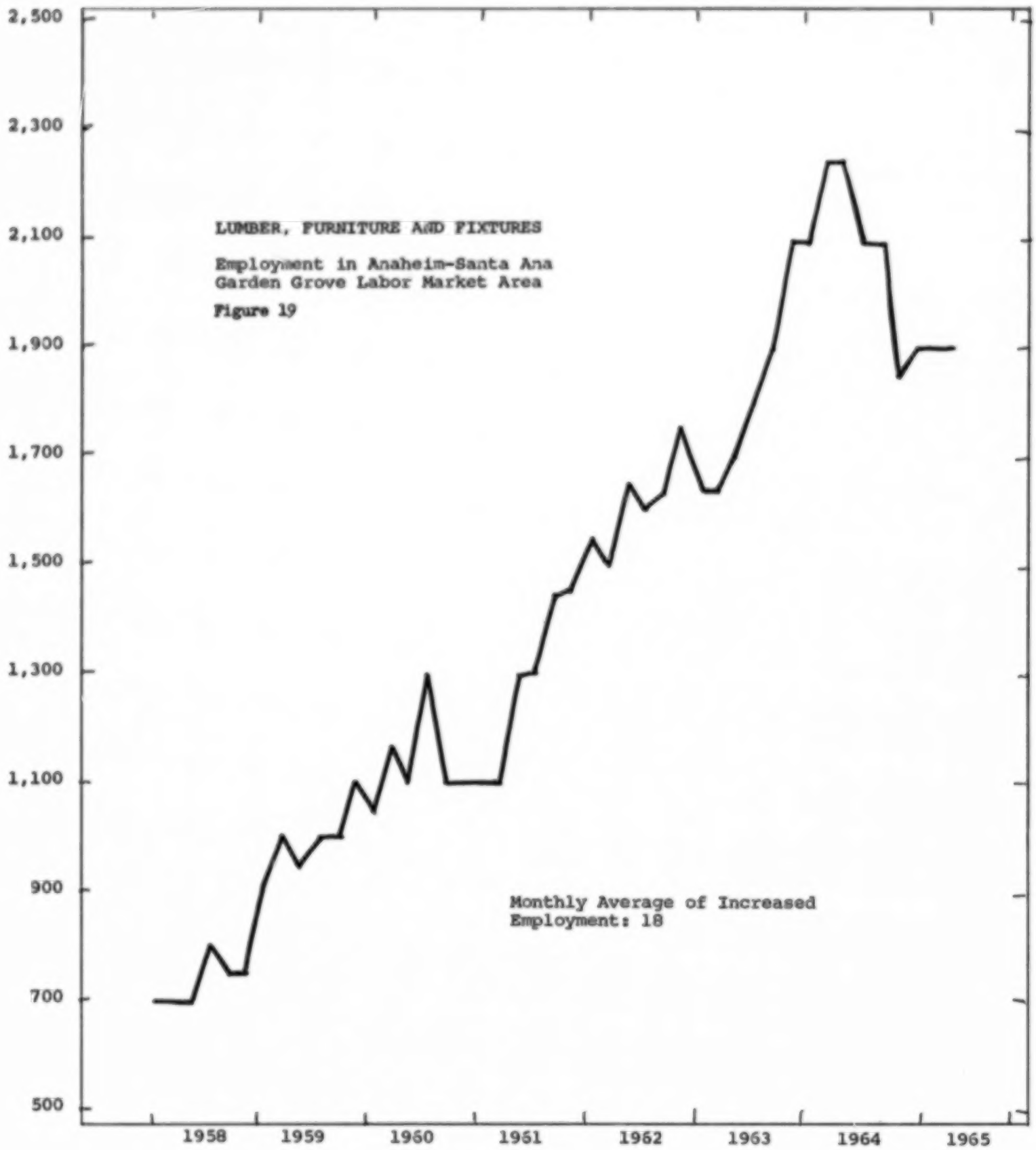
Another grouping, seen in Figures 21 to 25, include those sectors where the upward swing of employment appears to be increasing at an increasing rate, dominated by the sharp increase of aircraft and missile employment beginning in 1962. Upward sweeps are also in evidence in stone, clay and glass and in the general category of 'other durables.'

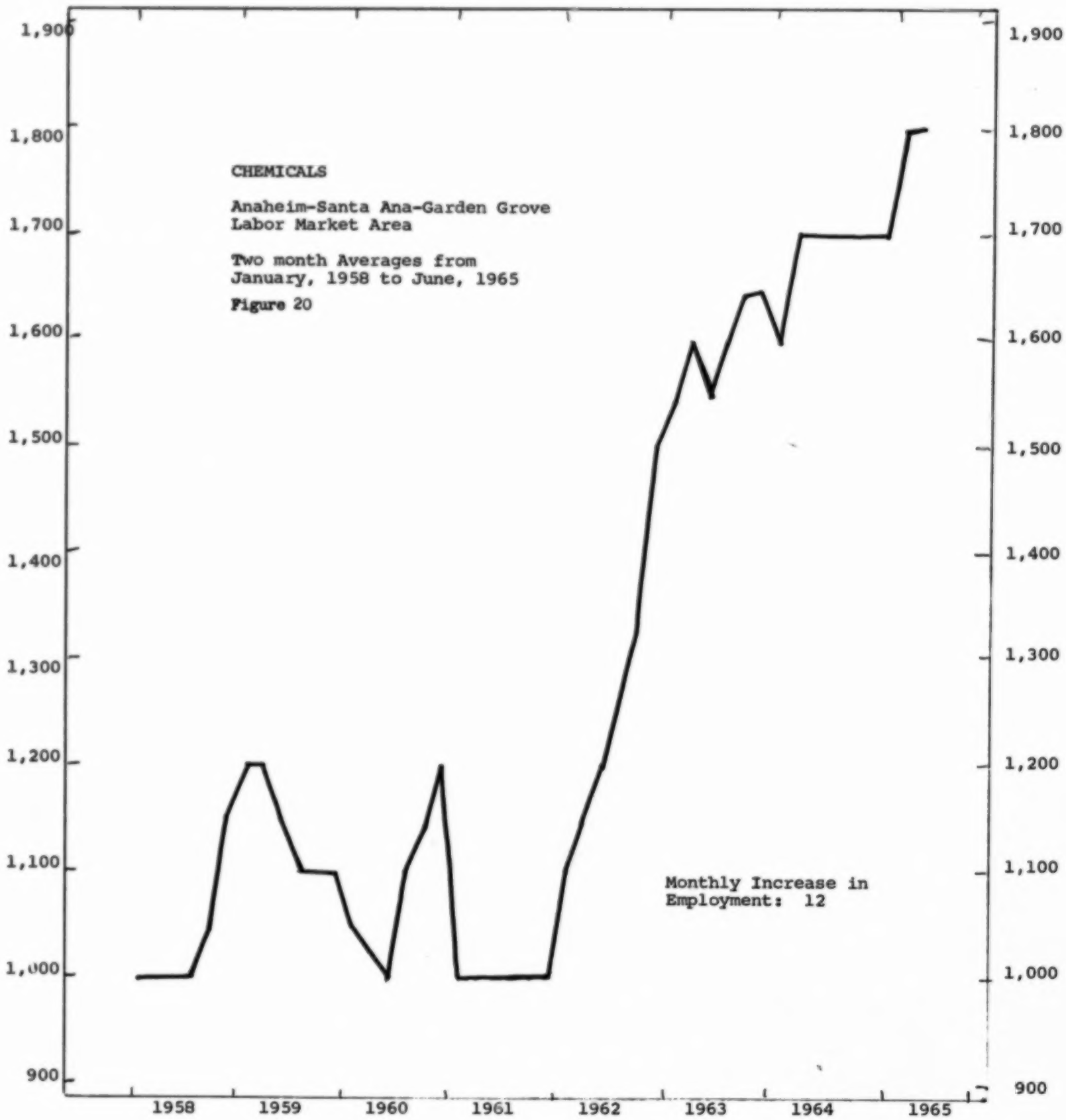
The picture of broad trends of industry employment do not reveal, of course, the complexity of forces working within the components of the manufacturing sector to account for shifts in manpower use. In order to give a 'sampling' of some of these forces, the following extractions are drawn from the Orange County Labor Market Bulletin (printed monthly since October 1964):

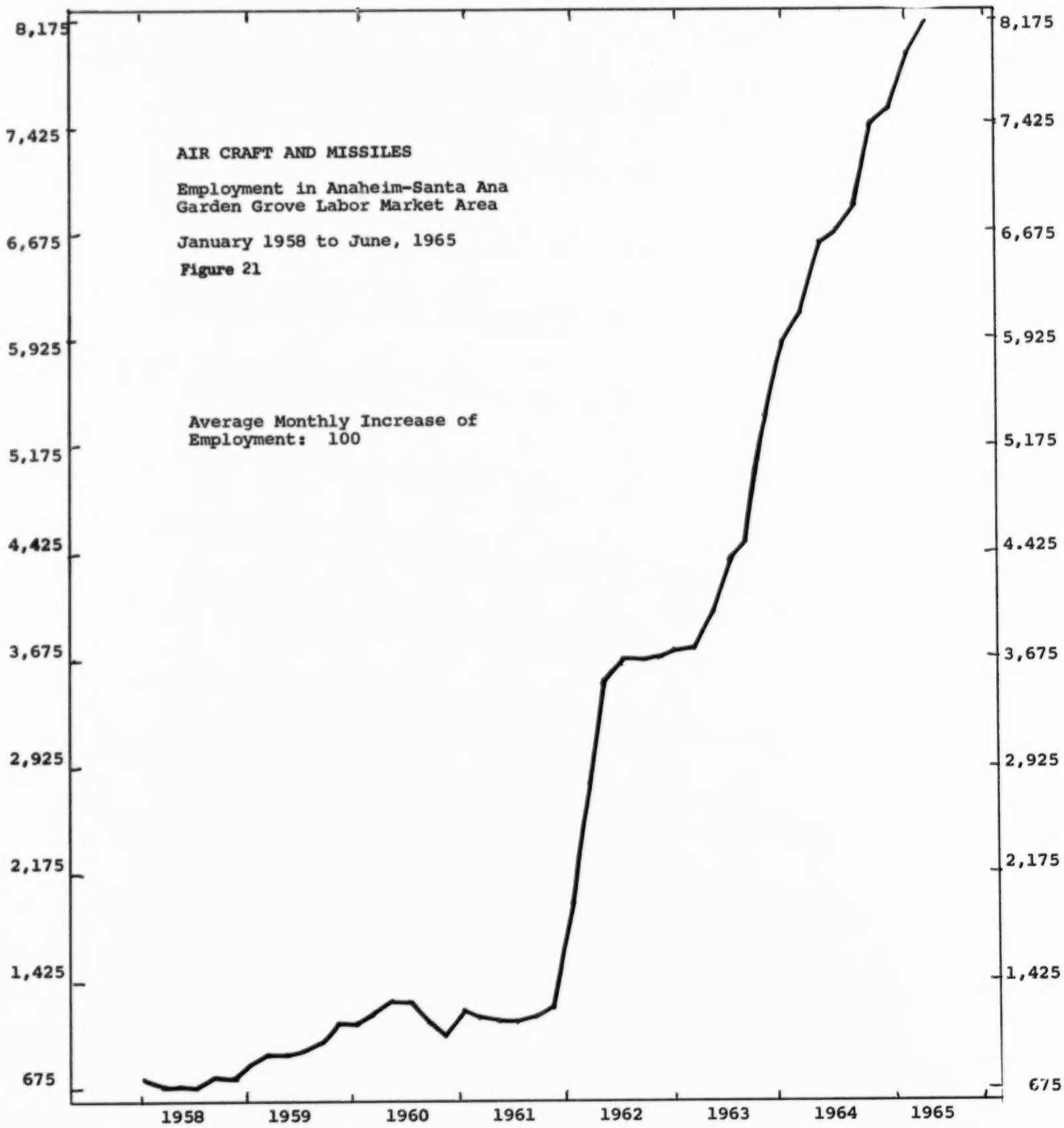
> October 1964:
> Two major employing groups - public schools and factories - scored large job gains over the past thirty-day period but these increases were largely offset by seasonal declines in the farm, trade, and service industries.
>
> A labor dispute in the food distribution group also tended to restrict the net employment increase.
>
> The service groups, up by 6,400 in the past twelve months, led all others in job growth, but were closely followed by trade and government, with gains of 5,400 and 4,300 respectively. Manufacturing payrolls were up 2,900 over the year despite a 2,700 loss in electrical machinery during the same period. The transfer of a large electronics production unit from Los Angeles County and some step-up in defense contracts helped boost electrical machinery employment from 41,900 to 42,600 during the past month.
>
> Aircraft and missile makers added 300 workers in October to bring the current job level to 6,600 or up by 2,100 over the year. Aerospace production has become the County's second largest source of durable goods jobs despite the loss of a major plant that closed in late 1963.
>
> Summer recreational workers were released by local government agencies but total public service employment was up by 1,700 from September as

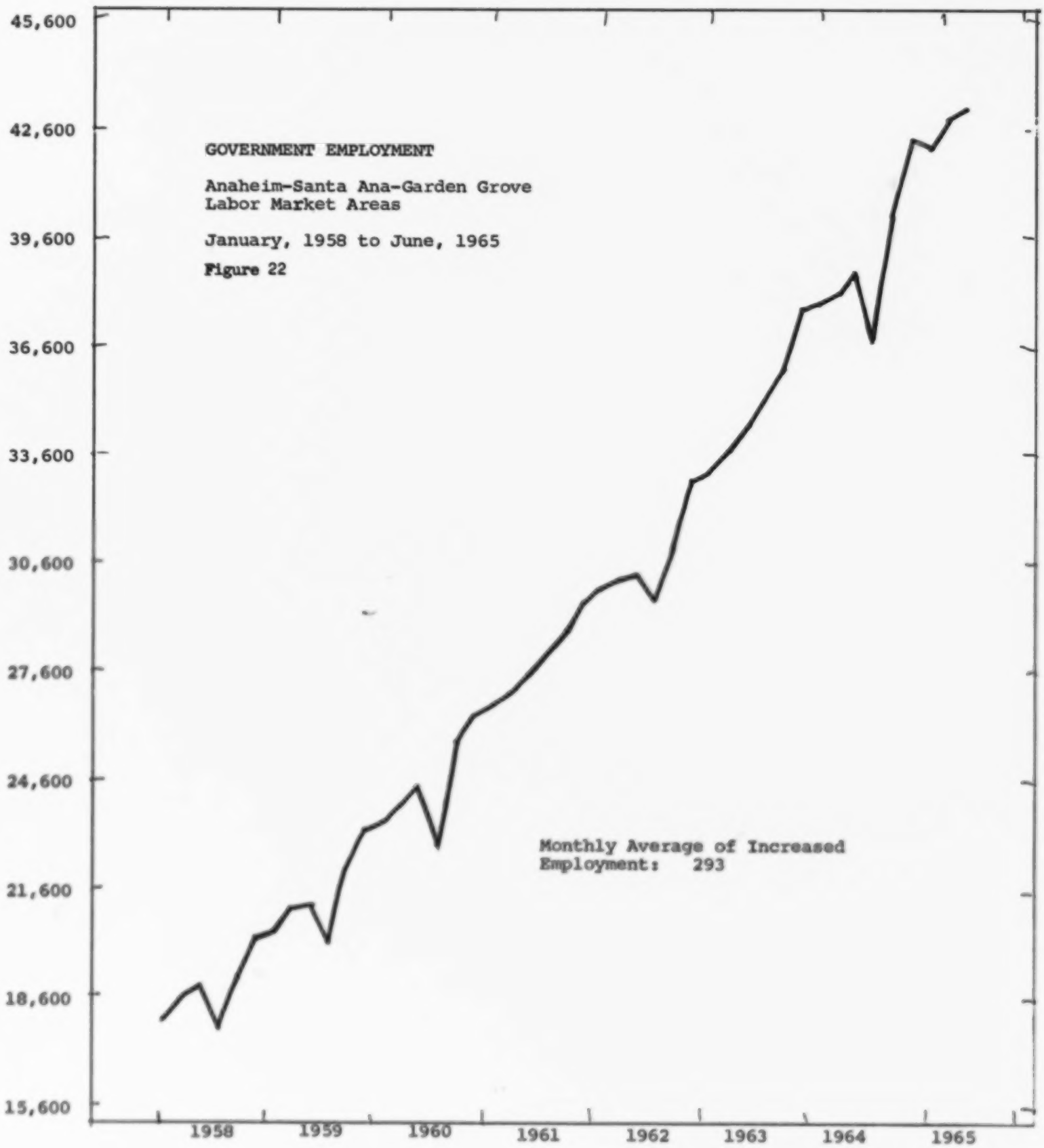

CONSTRUCTION
Anaheim-Santa Ana-Garden Grove
Labor Market Area
Two month Averages from
January, 1958 to June, 1965
Figure 17
Monthly Increase in Employment: 181
31,000
29,000
27,000
25,000
23,000
21,000
19,000
17,000
15,000
13,000
1958
1959
1960
1961
1962
1963
1964
1965

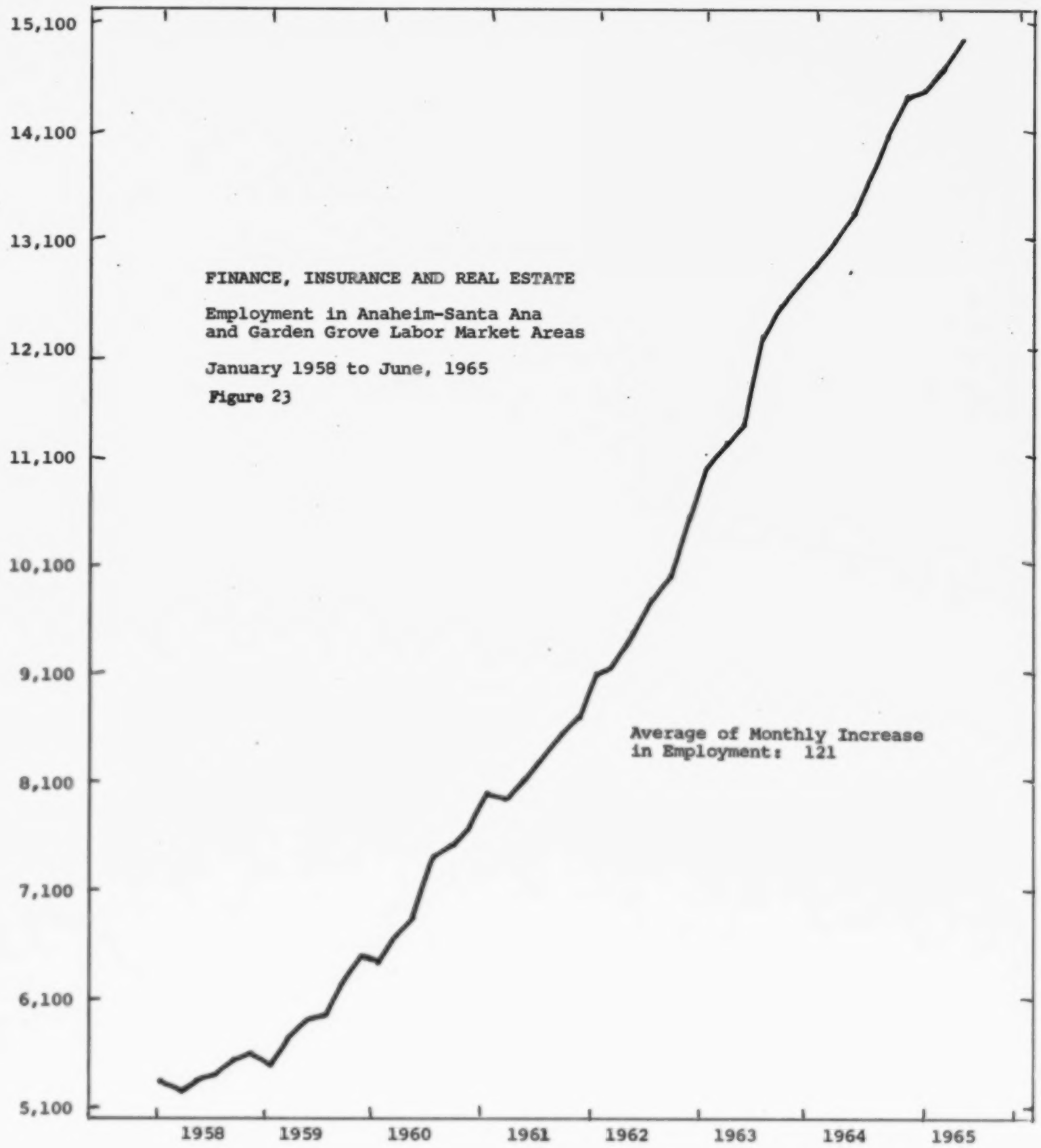

SCIENTIFIC INSTRUMENTS
Employment in Anaheim-Santa Ana
Garden Grove Labor Market Area
January 1958 to June 1965
Figure 18
Monthly Average of Increased
Employment: 30
4,140
3,840
3,540
3,240
2,940
2,640
2,340
2,040
1,740
1,440
1,140
1958
1959
1960
1961
1962
1963
1964
1965

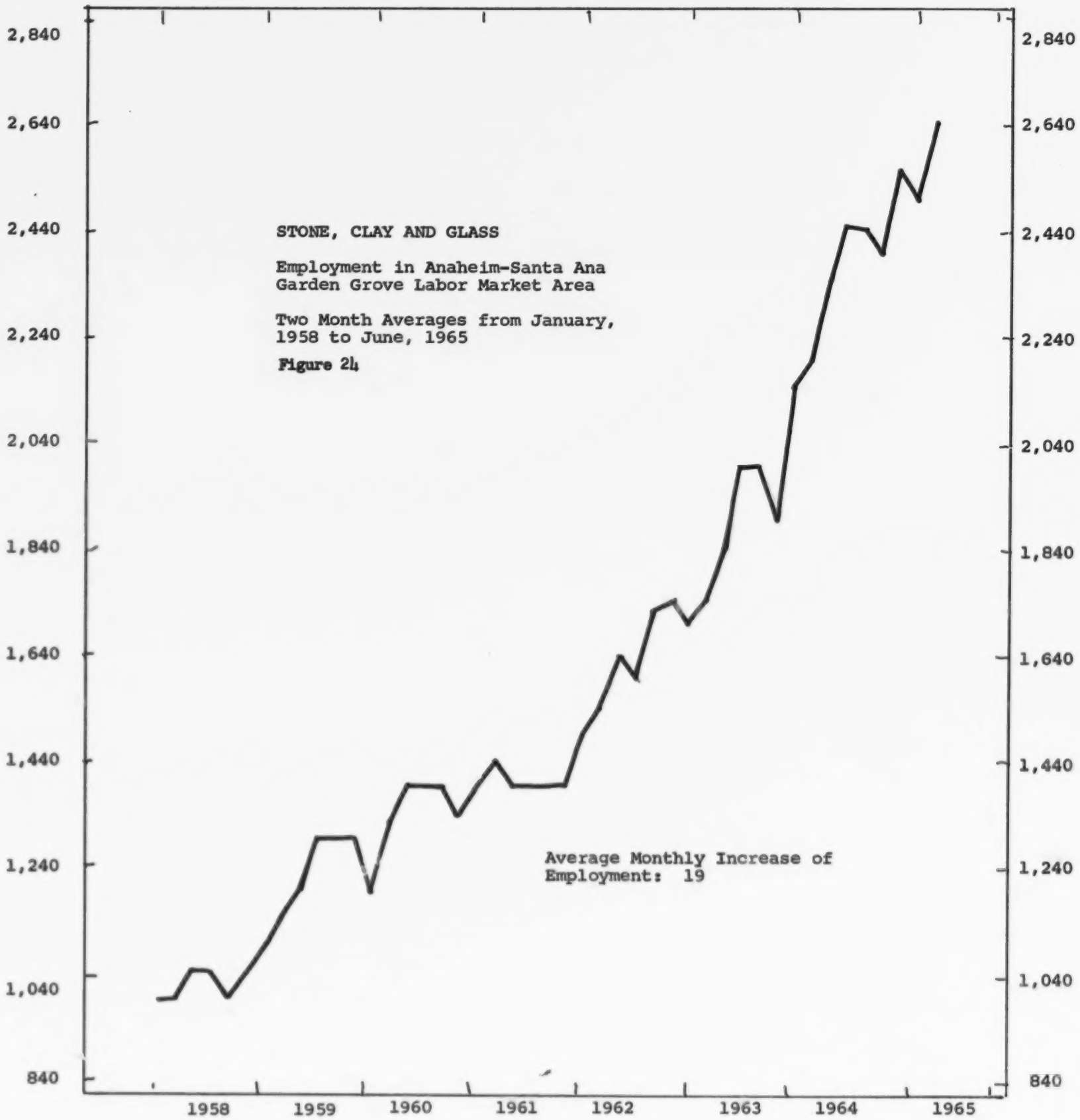

LUMBER, FURNITURE AND FIXTURES
Employment in Anaheim-Santa Ana
Garden Grove Labor Market Area
Figure 19
Monthly Average of Increased
Employment: 18
2,500
2,300
2,100
1,900
1,700
1,500
1,300
1,100
900
700
500
1958
1959
1960
1961
1962
1963
1964
1965


CHEMICALS
Anaheim-Santa Ana-Garden Grove
Labor Market Area
Two month Averages from
January, 1958 to June, 1965
Figure 20
Monthly Increase in
Employment: 12
1,900
1,800
1,700
1,600
1,500
1,400
1,300
1,200
1,100
1,000
900
1958
1959
1960
1961
1962
1963
1964
1965


AIR CRAFT AND MISSILES
Employment in Anaheim-Santa Ana
Garden Grove Labor Market Area
January 1958 to June, 1965
Figure 21
Average Monthly Increase of
Employment: 100
8,175
7,425
6,675
5,925
5,175
4,425
3,675
2,925
2,175
1,425
675
1958
1959
1960
1961
1962
1963
1964
1965


GOVERNMENT EMPLOYMENT
Anaheim-Santa Ana-Garden Grove
Labor Market Areas
January, 1958 to June, 1965
Figure 22
Monthly Average of Increased
Employment: 293
45,600
42,600
39,600
36,600
33,600
30,600
27,600
24,600
21,600
18,600
15,600
1958
1959
1960
1961
1962
1963
1964
1965


15,100
14,100
13,100
12,100
11,100
10,100
9,100
8,100
7,100
6,100
5,100
1958
1959
1960
1961
1962
1963
1964
1965
FINANCE, INSURANCE AND REAL ESTATE
Employment in Anaheim-Santa Ana
and Garden Grove Labor Market Areas
January 1958 to June, 1965
Figure 23
Average of Monthly Increase
in Employment: 121


STONE, CLAY AND GLASS
Employment in Anaheim-Santa Ana
Garden Grove Labor Market Area
Two Month Averages from January,
1958 to June, 1965
Figure 24
Average Monthly Increase of
Employment: 19
2,840
2,640
2,440
2,240
2,040
1,840
1,640
1,440
1,240
1,040
840
1958
1959
1960
1961
1962
1963
1964
1965

OTHER DURABLES
Anaheim-Santa Ana-Garden Grove
Labor Market Area
Two Month Averages from
January, 1958 to June, 1965
Figure 25
Monthly Increase in Employment: 54
7,040
6,640
6,240
5,840
5,440
5,040
4,640
4,240
3,840
3,440
3,040
1958
1959
1960
1961
1962
1963
1964
1965

schools began to approach their full staffing complement for the 1964-65 school year.

Farm labor needs diminished by 1,000.

January 1965:
More than two thirds of the job losses of the past thirty days were induced by the release of temporary holiday workers in trade and government while seasonal reductions in farm and tourist traffic related activities resulted in a decrease of 600 workers.

A reduction of 500 temporary mail carriers and clerks lowered government payrolls to 42,300 in January.

Declining winter tourist traffic reduced workers needs by 300 in service industries such as hotels and recreational facilities.

The pressure by local packing houses to build up their lemon inventories in December prior to termination of foreign worker program and dry weather which delayed fruit growth were held responsible for this year's lowered labor needs.

The job level in mining, which tends to be quite stable, rose by 100 from December due to an increase in petroleum exploration and production.

October 1965:
The area's comparatively new missile industry employment reached 9,600 in October or up 400 from September and 3,000 over the year. Future growth in this industry is expected to boost payrolls by a hefty 50 percent within the short span of six months.

A major firm recently announced a $10.5 million expansion program that will include six new buildings and transfer of a major division headquarters to Orange County. Most of the recent and anticipated worker increases involve relocation of personnel from other plant sites, most of which are in Los Angeles.

Factories producing fabricated metals, nonelectrical machinery, scientific and musical instruments also contributed to a higher worker count. The electronics component industry was the one weak spot as employment declined by 300 in a mixed pattern of large layoffs and moderate hiring programs.

November 1965:
Additional workers were required by outlets selling general merchandise, groceries, apparel and drug items, but restaurants and auto dealers reported small losses.

Service industry job opportunities turned out to be better than expected with the usual increase in recreational and medical services augmented by a healthy advance for aerospace-oriented research and development activities.

Electrical machinery dropped by 300 to 41,600.

Increased activity in garment factories in addition to the opening of a new bakery cut November losses for the soft goods group to 300.

Monthly studies of major labor market adjustments for Orange County would quite logically emphasize the seasonal shifts within the year, but the sampling of commentary suggests the range of forces at work within the labor market area that modify the contours of job opportunity from day to day. Junior College personnel concerned both with student advisement and curriculum design could probably acquire an appropriate 'sense' of county employment trends by reviewing these monthly studies made available by the Department of Employment without cost. A more refined procedure would involve their analysis by a County School planning committee, with the subsequent distribution to school personnel of their more obvious implications for the vocational programs of the schools and counseling activities.

The Number and Size of Firms in Orange County Manufacturing Employment:

In its Annual Industrial Inventory of 1965, the Orange County Planning Department noted that there was a total of 28,041 acres of industrially zoned land within the county, with proposals for the zoning for industrial use of an additional 7,069 acres. The percentage of developed industrial land to the zoned base is only 27.8 percent, indicating the immediate land expansion potential. Another dimension to the structure of county activity is access to transportation. Currently there are 85.9 miles of freeways constructed within the county, with the California State Division of Highways planning an additional 246 miles. The significance of this growth can be appreciated when it is realized that, prior to 1950, Orange County had no freeways. Additional transportation facilities are available to the county through three major railroad lines, two heliport terminals and three airports.

The number of manufacturing firms in the county as of July, 1964, was 1,356, with total manufacturing employment at that same date placed at 92,181. Significantly, the number of new manufacturing firms locating in Orange County from 1960 to 1964 was 424, and the addition of firms undoubtedly contributed substantially to the increase of manufacturing employment (of over 46,000) in that same interval. In the view of the County Planning Department, the expansion of new firms is clear evidence that "this region offers an industrial atmosphere

conducive to a wide span of operations."

The County's manufacturing base represents all of the Standard Industrial classifications except tobacco processing. A measure of employment concentration that makes use of the Standard Industrial Classification groupings indicates that there has been some tendency towards employment concentration. A perfectly diversified economy would be rated at 850, with complete employment concentration rates at 1600. For Orange County in 1960, the diversification index was 1,221, whereas four years later in 1964 the index number had increased to 1302. The County Planning Board concludes, however:

> While Orange County has become slightly less diversified in recent years, it has tended to concentrate in those industries offering high per capita incomes, specifically electronics, aerospace and the areas of research and development. Inasmuch as high income employment tends to support a wide range of economic activity, the trend towards less diversification is not necessarily critical. (p 13)

The size of industrial operations has obvious significance for the planning of junior college vocational programs, for it is likely that the smaller employer will be more dependent on the skill acquisitions of potential employees acquired in school or through previous experience. He has less opportunity or resources to institutionalize in-plant training programs and is more inclined, therefore, to seek employees with 'ready-made' skills. There is likely to be less formal or specific definition of job skills required for the smaller plant, and it is likely, too, that job duties will span over a broader range of functions. Further, the size of the firm has also considerable influence of labor turnover experience, although the statistical influence in this regard has yet to be formally established.

The following Table 13 arrays (in terms of size of employment as of July 1964), the number of employees with the number of firms for major manufacturing categories.

Table 13 indicates the 'average' index of employment concentration for several of the manufacturing components (refined beyond the 'two digit' classification represented in the earlier analysis of this chapter). There is some positive association between total numbers employed and the size of the firms in Orange County, a factor that can encourage generalizations about occupational needs when samples of opinion are secured from representatives of firms of large size cooperating with an occupational survey. But it should be remembered that

TABLE 13

MANUFACTURING EMPLOYMENT DISTRIBUTION
ORANGE COUNTY, JULY 1964

(Firms with 10 or more employees)

	Employment	Number of Firms	Employees Per Firm Average
Electrical Machinery	41,019	75	546
Communication Equipment	34,955	14	2,496
Transportation Equip & Ordinance	8,849	51	173
Food Processing	6,024	64	94
Fabricated Metals	5,306	77	69
Non-electrical Machinery	4,448	70	
Printing & Publishing	3,413	55	62
Rubber Products	3,307	36	91
Instruments	3,213	15	214
Canning, Preserved Veg & Sea Foods	2,579	14	184
Chemicals	2,050	29	71
Paper Products	1,965	18	109
Stone, Clay and Glass	1,917	45	43
Electronic Components	1,747	29	60
Electrical Industrial Apparatus	1,305	6	217
Primary Metals	1,242	23	54
Wood Products	911	23	40
Apparel	891	26	34
Furniture	849	31	27
Dairy Products	706	11	64
Petroleum Refining	671	8	84
Ship, Boat Building & Repairing	664	16	42
Aircraft & Parts	449	2	225
Textiles	235	3	78
Meat Products	202	4	51
Frozen Fruits	74	4	18
Firms with less than 10 employees	3,126	674	4

while large firms are more likely to have formalized definitions of job requirements, there may well exist a considerable 'entry-level' market for the vocationally-trained junior college graduate in the smaller firms, for the reasons indicated above.

Geographic Distribution of Industry Employment Within the County:

The data provided to this point make clear the heavy dependence of the County on electronics and defense related activities. The rational design of the college curriculum requires more than information about industrial areas of expanding job opportunities. Information must be secured, too, regarding the geographic distribution of industrial activity within the County. While commuting patterns suggest considerable mobility for labor in the Southern California area, it would make much sense for the junior colleges to effect a 'division of labor' in the allocation of vocationally-oriented programs to reflect the specialized economic activities that characterize the geographic area of the college.

In Table 14, information is provided regarding the ten major employers of labor (by employment size) in Orange County, with the attachments of the number of firms to selected areas within the County.

The distribution of firms by city area within the County, even compared with the average size by firm provided in Table 13, can provide school planners with a first approximation of the location of economic activities that might be served by vocational specialities of new institutions (or by refinements in the division of activities of existing programs). It would be important, of course, to follow preliminary inferences drawn from employment averages with more specific information regarding the skill mix required by such industrial attachments, and, of course, to secure further detailed information on the distribution of the actual employment (lest essential details on job locations be obscured by these industry employment averages).

TABLE 14

INDUSTRIAL ACTIVITY
NUMBER OF FIRMS OPERATING IN AREA
(Ordered from left to right in terms of employment size)

CITY	Electrical Machinery	Communication Equipment	Transportation Equip. & Ordnance	Food Processing	Fabricated Metals	Non-electrical Machinery	Printing & Publishing	Rubber Products	Instruments	Canning, Preserved Veg. & Seafoods	Chemical	Paper Products
Anaheim	28	6	9	14	20	17	12	6	2	6	5	7
Brea			1	1	2	2		2			3	
Buena Park	1		4	8	3	5	1			2	2	2
Costa Mesa	11	1	11		2	9		5	4		2	2
Cypress-Fountain Valley			1		1							
Fullerton	10	2	2	8	10	9	6	3	2	1	2	3
Garden Grove	3		2	1	3	3	1	1				2
Huntington Beach			1			1	1	1	1			
Laguna Beach	2	1					3	1				
La Habra	2			2	4		2		1	1	1	
Los Alamitos			1		1		1					
Newport Beach	3	2	5	2	7	4	9	2		1		
Orange	2		1	3	4	3	5	2	1		2	
Placentia						2					1	
San Clemente-San Juan Capistrano					1		1	1	1			
Santa Ana	13	2	9	21	17	14	12	10	4	2	5	2
Seal Beach			2				1				2	
Stanton			1		1	1		1			1	
Tustin				2	1					1	3	
Westminster			1	2								
Unincorporated								1				

SUMMARY AND CONCLUSIONS

The statistics of this chapter indicate the following:

(1) Orange County enjoys an upward sweep of employment for most industrial sectors, a reality that can serve as a positive influence in pulling resources, including the junior college student, into programs of mutual benefit to industry and the individual. It is necessary, however, that data on industrial employment be made available to area institutions on a more regular basis and that inferences for their training and vocational programs be more systematically reviewed. In this respect, a regular digest of the Orange County Labor Market Bulletin would prove useful for vocational counselors and those concerned with curriculum design.

(2) The dependence of Orange County on missile and defense-related activity indicates that the County must cultivate sophistication in its incoming labor force if it is to sustain (or expand) the economic benefits to the community that such activity allows. Defense and research activity is undoubtedly drawn to known reserves of intellectual talent rather than to excesses of technical capacity or other influences that might be more important to the private sector.

(3) The buoyance in employment observed in the recent decade can, in part, be attributed to the expansion of missile and related employment activity. The variability of federal expenditures in this area compounds the economic uncertainties for the regional economy and makes all the more obvious the need for junior colleges to provide students with a broad-based core of skills and understandings to maximize adjustment prospects that are obviously indicated.

(4) The electronics character of the economy further is on the cutting edge of technical change. It is all the more important, therefore, that training programs be 'geared up' for the technology planned for tomorrow, rather than to make use of 'conventional' production skills. Indeed, aerospace officials have, on occasion, found that the commitment of the worker to 'conventional' methods can sometimes handicap his adjustment to new technology. Again, emphasis on 'fundamentals' would be indicated, rather than on sustained attention to single production activities.

(5) It is likely that the mobility pattern for the individual worker will become increasingly varied in the future, with job enlargement the order of the

day. This indicates that the traditional family of skills is corroding, and that citizen advisory committees organized to serve the interests of single crafts or skills may have too narrow a viewpoint to identify the broad range of educational needs necessary to serve the student during his lifetime of activities. If this be true, it is suggested that the Advisory Committee structure be reviewed to give attention to the possibility of varying the size, number of selections of sophisticated, and reliable talent on the committee to give attention to (i) the significance of the industry to employment in the county; (ii) the significance of technological change in the industry; and (iii) the significance of the industry for 'entry level' jobs for junior college graduates.

It might prove helpful to organize the advisory committee on industry rather than trade lines. We assume there is much more prospect for inter-occupational mobility within the industry than inter-industry job mobility. As a consequence, it is important to identify the progression of jobs (and their requisite skills) that are traditionally associated with entry-level functions. Committees organized on 'trade lines' may become excessively specialized or narrow in their focus on craft traditions.

It might also prove helpful to increase the uniformity of committees' deliberations so that common information having vocational implications can be collated from all committee reports. This would be particularly important if the industry (rather than occupational) format were emphasized. A central agency should be responsible for collating vocational information throughout the County for further feedback and its possible translaction into educational policy. In fact, because the County is committed to plan its occupational curricula regionally, there is strong argument for County-wide advisory committees.

(6) It is necessary for the County to secure current information, not only on the over-all attachment of labor to industry (for these must certainly be translated into their occupational dimensions to be of direct value to educators), but also on basic changes in the structure of industry. Major plans for plant expansion and major in-migration patterns of industry should be noted (along with the inventory of human talent these require), so that junior colleges can accommodate their educational programs to meet the rapidly changing needs of this rapidly changing regional economy.

CHAPTER IV

TECHNOLOGY AND MANPOWER NEEDS IN ORANGE COUNTY

The effort to identify the occupational skills required by both public and private sectors of the Orange County economy is complicated by the subtle influences of a variety of pressures that cannot be readily isolated and measured. First, definitions of manpower needs are likely to be highly subjective, particularly if the employer is encouraged to identify the 'ideal' employee for a hypothetical vacancy. There is likely to be a considerable range between the bundle of employee characteristics the employer regards as 'desirable' and the educational background regarded as 'minimal.' Such assessments are likely to shift, too, in the light of the tightness of the labor market: during periods when labor is in abundant supply and when employers have only weak incentives to expand the size of their workforce, the definition of entry-level skill may be escalated to take account of the opportunity to screen applicants more severely. And increasingly, as workers are identified as part of the 'overhead' rather than variable costs because of efforts (encouraged by the union or otherwise) to stabilize employment, employers are inclined to make more intensive use of their existing workforce than add to their workforce. The less pervasive the pressures for adding to the workforce, then, the more likely are employers to enhance specifications for entry-level positions.

Another subjective element in the assessment of manpower needs is the possibility that some employers are not aware of the range of terminal-degree programs provided by junior colleges. Such ignorance or confusion can, of course, prejudice the 'objective reality' of placement prospects; it is likely that a survey of occupational prospects that proceeds from the list of existing vocationally-oriented programs would lead to a set of responses different from a review where the range of programs is not known.

In addition, personnel policy can very easily distort efforts to match occupationally-oriented programs of the Junior Colleges in Orange County with defined job needs. For example, the point of ingress for the Junior College graduate into the plant will reflect company policies to 'promote from within.' Where such policies are traditional or where collective bargaining agreements

narrow the options of the employers in recruiting employees for job vacancies, specifications for the entry-level position may not give attention to the technical competence that might ultimately be required in the job progressions that individuals could anticipate. In defining labor needs, therefore, employer responses may be colored by the institutional reality that prevents consideration of all possible candidates for the job.

As a variant on this same theme, one employer may define the entry-level specifications in terms of the occupational career that could be reasonably anticipated by a new employee and is thus attentive to the personal traits and technical skills that give promise of his capacity for retraining in the future. Again, the employer's perspective on the permanence of his manpower needs and his impulse to view the new applicant in terms of conventional paths of job progression will influence his definition of worker traits he is seeking.

We observe, then, a range of 'external' influences that can influence the employer perception of his labor requirements. To the list of elements suggested above--the 'tightness' of the labor market, institutional policy regarding promotional sequence, and the long-run and short-run perspectives of the employer--must be added the influence of technical change. Of all the pressures changing the configurations of labor needs, technical change is usually held to be most significant. In the analysis of this chapter, attention will be given to both process innovation (that is to say, changes in production techniques involving changes in the engineering form) and product innovation, or changes in product design and the product mix having implications for the quantity of labor required.

Efforts to isolate the specific effects of technical change on employment and skill requirements are complicated because there is no standard classification system yet devised for measuring technology or innovations in engineering forms. As a first approximation to technical change, economists have been making use of the labor productivity index on the assumption that a radical change in the output/man-hour-input ratio is likely where substantial changes in production technique have been introduced. But even here we lack complete labor productivity data on both the national and regional basis. No formal studies of the manpower and training implications of technical change have been made in Orange County.

The bulk of the material in this chapter has drawn heavily on two Department of Labor sources. First, Technological Trends in 36 Major American Industries, identifies some of the engineering changes present in the industry and some of the more obvious implications these have for the levels of employment. Second, more specific analysis of their occupational implications is provided by Ewan Clague (until recently Commissioner of the Bureau of Labor Statistics in the Department of Labor) in his paper "Effects of Technological Change on Occupational Employment Patterns in the United States" (prepared for the Conference on the Manpower Implications of Automation of the Organization for Economic Co-operation and Development, Washington D.C., December 8, 1964). In the absence of regional information, yet to be gathered for Orange County, inferences for regional experience must be drawn from studies that are national in scope. General conclusions of employment prospects giving careful attention to available data on technical change are provided in Table 15 . It will be noted that contract construction, electronics manufacturing, and both retail and wholesale trade, banking, and insurance are considered employment growth sectors. These industrial activities make up, as we noted in Chapter III, a substantial proportion of total employment in Orange County.

Employment decreases are expected in aerospace, dairy and meat products, and petroleum refining. Aerospace employment is, of course, very much dependent on changes in levels of defense spending. Declines in food processing and petroleum refining are attributed to anticipated mechanization. Let us turn, then, to specific technological patters in particular industries that are significant in Orange County employment:

In Electronic manufacture, it is anticipated that the use of micro-electronic circuitry and further mechanization of production techniques will have pronounced effects on quality of labor demanded. Nationally, employment is expected to increase 39%, from 778,000 in 1961 to over one million by 1970.

Dramatic labor savings can be anticipated in the use of semi-automatic equipment for testing and selection of transistors in component fabrication. More machines will be employed in assembly operations. The use of mechanized wiring machines will be extended.

It is expected that there will be a sharp increase in the use of computers and numerical controls for machine tools. Demand for the industry output is

TABLE 15

HIGHLIGHTS OF TRENDS IN SELECTED INDUSTRIES

Industry	Employment: 1962 (Thousands)	Employment: Average annual percent change 1947-57	Employment: Average annual percent change 1957-62	1970 Outlook
A. Industries in which employment may expand by 1970				
Air transportation	180	6.1	3.9	Growth of jet freight and passenger services may result in moderate employment gain.
Aluminum	72	6.0	2.0	New uses are likely to result in output and employment gains.
Banking	656	4.5	3.8	Substantial employment gains are likely, but growth may be slowed by electronic data processing.
Cement	40	1.4	-1.7	Employment gains depend on volume of construction.
Contract construction	2,909	4.0	-0.1	Employment is expected to expand if economy maintains growth.
Concrete products.	164	n.a.	4.1[1]	Employment increase is likely to continue if construction activity rises.
Electronics manufacturing. . . .	778[2]	n.a.	8.4[3]	Employment may continue to increase, but at a slower rate than recently.
Gas utility and pipeline.	204	2.3	0.3	Despite automation, greater output and construction may result in slowly rising employment.
Insurance	759	4.6	2.4	Rising sales will result in slow employment growth despite computerization.
Printing and publishing	925	1.9	1.2	Output is expected to increase, but more efficient processes may slow employment growth.

TABLE 15 - continued

Industry	Employment 1962 (Thousands)	Average annual percent change 1947-57	Average annual percent change 1957-62	1970 Outlook
A. Industries in which employment may expand by 1970 - continued				
Synthetic materials	136	1.9	1.2	Anticipated substantial growth in output will bring some employment expansion.
Trade, retail	8,521	1.9	1.3	Increased efficiency may offset growth in consumer expenditures, and a rise in employment is expected.
Trade, wholesale	3,061	2.1	1.1	Expanded merchandise volume may be expected to offset increased efficiency in materials handling, resulting in continued increase in employment.
Trucking	880	3.2[4]	3.1[5]	Laborsaving innovations and interindustry competition are expected to slow down growth in employment.
B. Industries in which trend in employment by 1970 is uncertain				
Electric power.	247	1.9	-0.9	Despite output gains, greater efficiency may result in stable or declaining employment.
Federal Govemment.	2,340	1.6	1.1	Management economies and increased use of computers may stabilize employment.
Glass containers	60	1.4	2.0	Larger and faster equipment may increase productivity and retard employment growth.

TABLE 15 - continued

Industry	Employment 1962 (Thousands)	Employment Average annual percent change 1947-57	Employment Average annual percent change 1957-62	1970 Outlook
B. Industries in which trend in employment by 1970 is uncertain - continued				
Iron and steel	592	0.9	-3.8	Wide range of technological improvements is expected to hold down increases in employment despite an expected growth in output.
Motor vehicles and equipment. .	692	.0	-2.1	Improved materials handling and other laborsaving equipment are likely to offset growing demand for motor vehicles, with ultimate result on employment uncertain.
Pulp and paper.	225	1.4	-0.1	Laborsavings in materials handling and pulping may reduce rate of employment growth.
Tobacco, cigarettes	41	-0.1	1.4	Relative stability in employment may not continue because of possible consumer reaction to medical findings.
Industries in which employment may decline by 1970				
Aerospace	635	14.1	-6.6	Changes in defense and space programs point to lower employment levels.
Bakery products	294	0.8	-0.6	Because of slow growth of consumption and greater use of faster equipment, production worker employment is expected to decline.
Bituminous coal	140	-6.0	-9.5	Further mechanization of underground mining is expected to reduce labor requirements despite expected output growth.

TABLE 15 - continued

Industry	Employment 1962 (Thousands)	Employment Average annual percent change 1947-57	Employment Average annual percent change 1957-62	1970 Outlook
C. Industries in which employment may decline by 1970 - continued				
Crude oil and natural gas	299	3.3	-2.7	Improved methods may more than offset some increase in activity, resulting in a decline in employment.
Dairy products	275	1.5[6]	-1.6	Improved equipment and faster pasteurization indicate a continued decline in employment despite a slow growth in output.
Footwear	241	-0.5	-0.2	New techniques and materials may reduce labor requirements.
Foundries, iron and steel	193	-1.6	-3.2	Greater mechanization of materials handling is likely to result in some decline in unskilled workers.
Foundries, nonferrous	72	1.6	-1.7	Laborsaving equipment may slow down increase in employment
Lumber and wood products	589	-2.5	-2.2	Continued employment decline is expected alongside improvements in logging and sawmill equipment.
Malt liquors	66	-0.6	-3.1	Processing innovations are likely to continue productivity advance, and, with output increasing slowly, employment may decline.
Meat products	313	1.9	-1.3	As mechanization advances, employment will continue to decline despite slowly rising output.
Petroleum refining	123	0.5	-4.4	Decline in employment may continue with greater automation despite anticipated increases in output.

TABLE 15 - continued

Industry	Employment 1962 (Thousands)	Average annual percent change 1947-57	Average annual percent change 1957-62	1970 Outlook
C. Industries in which employment may decline by 1970 - continued				
Railroads	700	-3.1	-6.6	Advancing technology is expected to contribute to further decline in employment despite improved outlook for traffic.
Telephone communication . .	688	2.8	-2.2	Employment may continue to decline despite growing variety and volume of communication services.
Textile mill products	903	-2.7	-1.7	Modernization is expected to result in continued employment decline.
Tires and tubes	86	-1.8	-2.2	Modernization may offset output increase with reduced employment
Tobacco, cigars	22	-3.5	-7.6	Changes in consumer preference may offset employment decline.
Waterborne transportation . .	121	-2.0	-2.9	Automation of old and building of new vessels will determine employment.

[1]Percent change, 1958-62.
[2]Data for 1961.
[3]Percent change, 1958-61.
[4]Percent change, 1947-58.
[5]Percent change, 1958-62.
[6]Percent change, 1954-57.

expected to continue to expand in the latter part of the sixties, with value of shipped products expected to increase from the 1961 level of $10.8 billion to $20 billion in 1970. There is evidence that electronic computers may be the major growth item in the electronics segment. Research and development expenditures reached $2.5 billion in 1962, with activities directed to maser and laser technology, fuel conversion for electrical energy, bioelectronics, automated teaching, and advanced communications. The demand for engineers, scientists, and technicians is expected to be most evident in this industry. The average annual percentage change in total production (in constant dollar terms) was 9.5 percent from 1958 to 1961, with an annual average percentage increase of total employment in the same interval being 8.4 percent.

Miniaturized electronic assemblies, functioning as entire circuits, are expected to have significant manpower implications. Employers indicate the need for an increased supply of fabrication personnel relative to assembly workers and the need for better trained personnel. Engineers must have more familiarity with "basic principles in science." Microelectronics and chemical processing will become increasingly important, relative to manual assembly.

In Aerospace, the shifts in the direction of spending for military hardware has induced changes in production technique. Most important is the use of numerically-controlled tools and an increasing volume of research and development activity. Employment is much related to defense and space programs. The industry is less involved in the standardized mass production of units, but is now turning to the custom production of complex parts or to production of a variety of complex items produced in small quantities for the missile program. The use of numerical-control (N/C) technology has been particularly significant in the short production runs of intricate shapes.

In 1962 400 N/C machines were in use in the industry, with the number expected to increase to 1,600 by 1970. Additional operations, such as drafting, welding and inspection, are being adapted to N/C. Reductions of unit labor costs are placed at from 20 to 80 percent.

New metal forming methods are being devised, with new adhesive bonding products employed. Electron beams are being used for welding and cutting and chemical milling, and electrochemical machinery is being developed to shape metal parts. These new techniques will require new skills and retraining.

Employment of scientists and engineers increased at an annual rate of 11.5 percent from 1957 to 1962. Significantly, the employment of production workers has not paced the increased employment of technicians and engineers during the upswing of aerospace activity, and during the downswing the layoff of production workers has exceeded that of the technical group.

Our defense and space programs, including automic energy and research and development, have greatly affected the occupational distribution of employment in the United States. For example, the dramatic increase in the demand for scientists, engineers, and technicians is related to expanding government expenditures for research and development. The defense work force has an above-average proportion of professional, technical, clerical, and drafting workers, and below-average proportions of semiskilled operatives. This contrast can be seen in Table 16, with its comparison of broad occupational groups in manufacturing employment as a whole with those in defense-related employment in private industry.

In the defense industry, 15 percent of the work force consists of professional and technical workers, as against only 9 percent in manufacturing as a whole. Indeed, the proportions of the more highly skilled administrative, clerical and craft workers in defense industry are higher than in manufacturing. Conversely, only 37 percent of defense employment (3 workers out of 8) are operatives or laborers, while about half of manufacturing employment consists of these occupations.

Another illustration of the higher-scaled structure of defense-oriented manufacturing can be seen in Table 17 which compares the occupational distribution in plants manufacturing military and space electronic end-products with that in plants manufacturing consumer products, such as radios and television sets.

In electronics manufacturing, employment in military and space products consists of 60 percent nonproduction workers and only 40 percent production workers, whereas in the manufacture of consumer products in that same industry only 30 percent are nonproduction workers and 70 percent production workers. Engineers and other technical workers were three times as numerous in military and space work, while clerical and stenographic personnel were nearly twice as numerous. Even among the production workers there was a marked difference. Nearly one-

TABLE 16

MANUFACTURING AND DEFENSE-RELATED EMPLOYMENT, 1963

Occupation	All U.S. Manufacturing (percent) 100 1/	All Defense-Related Employment in Private Industry (percent) 100
Professional and technical workers	9	15
Managers, officials, and proprietors	6	7
Clerical workers	12	15
Sales and Service workers	5	6
Craftsmen	18	20
Operatives	43	31
Laborers	6	6

1/ Because of rounding, percents do not total 100.
SOURCE: Montly Labor Review, May 1964, p. 514.

third of the production workers in military and space products plants were skilled, with the remaining two-thirds semi-skilled and unskilled. On the other hand, nine-tenths of the production workers in consumer products were semiskilled and unskilled (over 63 percent of the entire work force). The major factor in accounting for this contrast is that military and space products are on the frontiers of technology; it emphasizes custom production subject to continued invention and improvement. Consumer products are more likely to be mass-produced items with large volume.

The demand shifts in Contract Construction in Orange County may largely wash out any decline of employment related to improvement in production technique or use of labor-saving technology. As noted in Chapter III, demand increases in Orange County can be anticipated because of new family formation, the rapid suburbanization of the area, and industry construction activities. Improvements in construction equipment involve an increase in its size, capacity, power speed and durability. Improvements in component parts, such as transmissions, have increased labor productivity by as much as 25 percent in some activities. On-site construction techniques continue to be improved with a marked trend to the off-site manufacture of building components. Production line techniques indicate more intense mechanization. One nailing machine, for example, can drive up to 500,000 nails every 8 hours. Labor economics of

TABLE 17

ILLUSTRATIVE OCCUPATIONAL DISTRIBUTIONS IN ELECTRONICS MANUFACTURING, MILITARY-SPACE AND CONSUMER PRODUCTS, MID-1962

Occupation	Military and space products	Consumer products
	Percent	
Total employment	100.0	100.0
Nonproduction workers	60.0	30.0
Engineers and other technical workers	33.4	11.0
Engineers	21.0	6.0
Technicians	7.7	3.0
Draftsmen	4.7	2.0
Administrative and executive	13.2	12.0
Clerical and stenographic	13.4	7.0
Production workers	40.0	70.0
Skilled	12.6	6.8
Assemblers	5.2	--
Analyzers and trouble shooters	1.1	5.1
Processing workers	.2	--
Machinists and repairmen	3.7	.3
Sheet-metal workers	.8	--
Tool and die makers	.3	.4
Welders	.6	.1
Carpenters	.2	.2
Electricians	.2	.2
Plumbers and pipefitters	.2	.1
Other Skilled workers	.1	.4
Semiskilled and unskilled	27.4	63.2
Assemblers	11.0	42.0
Inspectors and testers	3.1	14.4
Fabricating workers	3.7	1.2
Processing workers	3.1	1.2
Shipping and receiving workers	1.3	1.2
Material handlers, truckdrivers, and laborers	[illegible]	2.2
Custodial and janitorial workers	1.5	.4
Other semiskilled and unskilled workers	3.4	.6

Source: U.S. Department of Labor, Bureau of Labor Statistics; based on information obtained through field visits to electronics establishments.

Note: For further information see BLS Bulletin No. 1363, "Employment Outlook and Changing Occupational Structure in Electronics Manufacturing," October 1963, p. 37.

25 percent have been realized by use of prestressed concrete beams in place of structural steel in some areas. The use of adhesives and plastic allows greater flexibilities in design and greater speed of construction. Where carpenters work with pre-assembled building components, such as stairways, windows, and

doorways, skill requirements have, in some instances, been reduced.

In wholesale and retail trade, improvements in materials handling and the use of automatic equipment in supermarkets as well as the increased use of vending machines and other self-serving techniques are likely. Further use of computers can be anticipated for inventory control and billing. Employment will be expanding in spite of these labor saving devices, but employment is expected to absorb more and more part-time workers, including women and youth.

Large wholesalers of food and staple products will be installing automatically controlled conveyors for sorting and moving goods into storage. Smaller wholesalers may be merging to gain the economies of such technology and automatic warehousing. More use of conveyors is expected in larger retail department stores, with the new methods of palletizing goods reducing unit labor requirements in food warehousing activities.

Further development of automatic wrapping machinery is expected, with additional use of powered devices to reduce 'back room' work. Additional central prepackaging of perishable foods is anticipated. Research is now underway to develop automatic check-out counters which would total and bag items mechanically.

In the Federal Government sphere, the computers and quick copy equipment are expected to have an influence on total employment. Microfilm, data transmission and communication systems, as well as materials handling equipment, are being improved to increase efficiency. Further closing down of obsolete defense facilities can be expected. Routine clerical tasks will be reduced. The Federal Government had 1,248 electronic computers in 1963, with 10,000 employees working with digital computer systems as administrators, analysts, programmers and operators. Thousands of clerical personnel are involved in key-punch operations and supporting electronic data processing (EDP) tasks. The budget bureau estimates that 2,100 computers will be in use by June 30, 1966, a gain of 68 percent in 3 years. Electronic computers are now being used for accounting, check disbursing, insurance payment, tax return processing, and inventory control. They are used by the Weather Bureau, Patent Office, Bureau of Standards and Department of Defense. Programs are

now underway for integrating processing systems within and between departments. They are also being used to develop air traffic control systems. And research is underway of optical character recognition (OCR) equipment that would automatically read and transcribe text into card, paper or magnetic tape for computer analysis. The post office is develping techniques for the mechanization of mail sorting and distribution activities. Eventually, keyboard letter sorters may be replaced by optical scanners. Parcel post and sacked mail sorting machines have already been installed in several post offices. Magnetically controlled conveyor systems for transporting and sorting mail trays are undergoing field tests. Employment has expanded in this sector at the annual rate of 1.1 percent from 1957 to 1962.

Another example of the effects of introduction of electronic computers on office employees can be seen from a study made by the Bureau of Labor Statistics of the tax return processing in a southern region of the United States. This study shows that large numbers of routine and repetitive clerical jobs, particularly those relating to posting, checking, and maintaining records, have been cut back substantially. Also reduced significantly were the number of operators of bookkeeping machines and other office equipment. However, it should be noted that at the same time large numbers of key-punch operators (also classified as clerical workers) are now needed to transcribe data from tax documents to punch cards for processing by computers. Another major effect is the reduction in the number of lower-level supervisory jobs resulting from the elimination of certain routine clerical functions. Some new occupations related to administering and operating the computer system--systems analyst, programmer, and console operator--were created.

The printing and publishing component (representing 6.8 percent of manufacturing employment in Orange County in June 1965) offers prospects for improved, faster printing equipment, and greater use of photocomposition, offset printing, and tape controlled linecasting equipment. Training needs are directed to photographic skills, with an anticipated increase of employment of lithographic workers. Linotype operators, stereotypers and bookbinders may suffer some reduction of employment. An increasing number of small and medium sized newspapers have shifted from letter press to web offset printing because of lower production costs and excellent photograph reproduction. In December 1964, it was estimated that 2,000 of 11,000 dailies and weeklies were printed

with offset methods compared to 200 firms using this equipment in 1957. Firms using hot metal letterpress equipment are applying new techniques as hot metal pasteup to achieve cost savings. Some small newspapers are making use of contract offset printing shops.

There is anticipated use of keyboard operated teletypesetters, or equipment which converts copy to punched tape used to control linecasting equipment. Linotype operators in firms using teletypesetters are being retrained to operate the keyboard of teletype setting machines. Data from punched tape can be sent by teletype to newspapers in other cities, reperforated on tape, and used on tape controlled linecasting machines.

Several metropolitan newspapers are making use of electronic computers. Copy is prepared and edited by conventional methods, retyped on an electric typewriter which simultaneously converts copy to coded paper tape. The tape is fed directly into a computer programmed to automatically justify lines and hyphenate words. Production worker employment has increased annually at 1.1 percent from 1957 to 1962.

Technological changes here appear to reduce the skills required of typesetters. Typesetting machines now can be operated by means of perforated tapes prepared by a perforating machine operator rather than a typesetter. Although the operator must be a skilled typist with a knowledge of typing measurements and terms, he needs much less skill than the printing compositor.

In Banking and Insurance, electronic data processing is also being utilized to reduce routine clerical labor. Most large companies make use of computers in their home offices, with installations in the field as well. Office employment in insurance companies with computers accounts for 60 percent of all insurance carrier employment. Various reading and sensing techniques are being introduced for such mass applications as premium collections. These developments are designed to reduce the input preparation done by such workers as keypunch operators. Employment in insurance has increased at an annual rate of 1.9 percent from 1957 to 1962. In banking, computers and magnetic ink character recognition (MICR) devices will secure wider use to speed up customer service. Banking automation will lead to additional bank functions, including the handling of payrolls and consumer credit check account reconciliation. Banks may ultimately serve as data

processing centers for customers. The need for clerical employees, particularly those in bookkeeping for demand deposit activity, will be reduced, although overall employment is expected to expand to 1970.

In 1962, 40 percent of all banks, including virtually all of the largest banks, were making use of computers. Smaller banks are obtaining the computer services of larger banks. Electronic bookkeeping machines, machines to receive and receipt deposits, and closed circuit TV are other advances in efficiency in the bank area. The annual rate of employment expansion has been 3.8 percent from 1957 to 1962.

In banking, use of electronic data processing equipment has involved sharp reductions in manpower and requirements for a given volume of work. In the demand deposit sector, the need for bookkeepers, proof and transit clerks, and many other routine clerical workers is being substantially reduced through the use of magnetic ink character recognition, electronic bookkeeping machines, and full-scale computer systems. Among the new jobs created are reader-sorter operator, check encoder or inscriber, control clerk, and keypunch operator. A few new jobs for programmers and system analysts are being created at the professional and technician level. About half the people employed in banking--tellers, secretaries, typists, switchboard operators, officers and professional workers--are not expected to be much affected by technological change, and their employment will continue to rise as banks increase their facilities and add new services. (The Bureau of Labor Statistics estimates that bank employment will rise by more than 300,000 between now and 1975, despite the rapidly expanding use of electronic data processing equipment and other innovations.)

In the Bureau of Labor Statistics Study of the introduction of computers into 20 offices, it was found that in a total of 2800 previously existing jobs, 1500 were unchanged, 600 new jobs were created in those same offices, and 700 jobs were eliminated. A total of some 900 workers were either reassigned, transferred, or retrained, many of the latter for higher-grade jobs. In experience that seems typical for most of the economy, employers found it possible to avoid layoffs, employing the natural attrition of the labor force in the above cases to effect the reductions of force of 400 that were dictated by the labor-saving technology. And while the adjustment experiences have been success-

ful, it is quite certain that technology has the effect of making obsolescent specific labor skills while opening job prospects for a new family of skills.

Contrasts in the effects of technology are shown in the changing occupational distributions of the petroleum and baking industries, as seen in Table 18. In the petroleum refining industry, between 1950 and 1960, laborers decreased in number and proportion, whereas craftsmen and professional workers increased. The increase in the employment of craftsmen resulted largely from the growing amount of maintenance needed in the highly instrumented and automated petroleum refining processes. Employment of technicians was increased because of the greater utilization of automated and computerized systems.

In the baking industry, on the other hand, the biggest increases in proportion of total employment occurred among sales workers and operatives; craftsmen declined as a proportion of the total. The decline in the relative importance of craftsmen is attributable to the introduction of continuous mixing units and modernized ovens in which products are baked while passing through the oven on a conveyor. In addition, because perishable items can be frozen, they are produced in much larger quantities, contributing to the reduction in the relative number of skilled bakery workers required. The increase in sales workers is related to the greater number of driver-salesmen required to handle the much larger volume of bakery products. The increase in proportion of semiskilled workers resulted to a great extent from the large expansion in the number of truck drivers--more than offsetting the decrease in operatives needed because of the introduction of automatic slicing, packaging, and other machines.

The change in technology in the telephone industry has resulted in an occupational shift different from those previously described. Table 19 shows that the greatest shift has been the decrease in the proportion of telephone operators and other clerical workers, resulting from the conversion from manual systems to automatic dial services for local and long distance calls, and the introduction of automatic timing and billing devices. At the same time, linemen, telephone installers, and repairmen have increased because of the growing number of telephone as well as the complexity and growing volume of telephone services.

TABLE 18

CHANGES IN OCCUPATIONAL EMPLOYMENT IN THE PETROLEUM REFINING AND BAKERY INDUSTRIES, 1950-1960

	Bakeries		Petroleum Refining	
	1950	1960	1950	1960
Total employed (In thousands)	267.0	362.0	257.2	252.7
Total percent	1/100.0	1/100.0	1/100.0	1/100.0
Professional and technical	.8	.6	14.9	16.2
Managers, officials, and proprietors	6.6	6.1	5.9	6.0
Clerical workers	8.5	8.5	17.5	18.1
Sales workers	6.7	9.9	2.1	2.2
Craftsmen and foremen	31.7	27.4	21.7	23.7
Operatives	39.5	41.5	26.3	26.3
Service workers	3.1	3.0	2.3	1.7
Laborers	3.1	2.9	9.2	5.9

1/ Base used in computing percents was the employed less the number not reporting occupations.
SOURCE: Department of Commerce, Bureau of the Census.

TABLE 19

CHANGES IN OCCUPATIONAL EMPLOYMENT IN THE TELEPHONE INDUSTRY, 1960-1960

	1950	1960
Total employed (in thousands)	594.8	692.5
Total percent	1/100.0	1/100.0
Professional and technical	4.9	6.5
Managers, officials, and proprietors	3.7	5.4
Clerical workers	62.5	55.5
Telephone operators	(44.2)	(31.8)
Sales workers	.3	1.1
Craftsmen and foremen	24.9	28.6
Linemen and servicemen	(22.0)	(25.5)
Operatives	1.2	.7
Service workers	1.6	1.7
Laborers	.8	.5

1/ Base used in computing percents was the total employed less the number not reporting occupation.
SOURCE: Department of Commerce, Bureau of the Census

Dramatic technological changes have taken place in farming, resulting from increased mechanization, the use of scientific methods, chemical fertilizers, better seeds and so on. Significantly, from 1950 to 1960 farm employment decreased by about 40 percent, but the number of professional workers in agriculture rose by about 20 percent. Such workers include airplane pilots (for crop dusting), scientists, foresters, accountants, veterinarians, and so on.

SUMMARY AND CONCLUSION

What general conclusions might one make regarding the impact of technical change for the economy generally and for Orange County specifically? First, it is difficult to determine the ultimate impact of technical change on the level of employment and the 'skill mix' required of labor. As Ewan Clague has observed:

> A new technology (whatever form it takes at a particular time and place) smashes into the inert mass of existing economic practices and scatters them in all directions. The ultimate effect is not only variable; it is literally unpredictable.[1]

Much of the existing evidence is provided by Department of Labor studies which may not be a sound basis for generalizations about the manpower effects for the entire economy. Indeed, they may well give the impression that technical change is proceeding much more rapidly than is actually the case, since the focal point for such study is, more often than not, an industrial activity undergoing rapid process innovation. While 'islands of mechanization' are the focal point for study, the uneven adoption of new engineering techniques increases the labor-absorption possibilities for industry.

It is clear that the introduction of technology creates 'bottlenecks' for specific skills, while generating labor surplus for other occupations. The fundamental challenge facing educators is to identify those worker traits that maximize the 'skill transferability' capacities for employees. With the introduction of electronic computers, for example, in a key tabulation unit one can find working side by side employees whose jobs are disappearing and those whose jobs are expanding.

Unhappily, the skills which make a worker a good punch-card operator are not those required for a good statistical programmer. There exists what Ewan Clague has labeled the "occupational gap."

Obviously, educational activity in Orange County must become increasingly concerned with this adjustment process. It must develop innovations for measuring not only manpower needs but also the cultivation of skills or attributes

[1] "The Impact of Technology Upon Manpower," Chamber of Commerce Paper given at the Philadelphia Chamber of Commerce, January 10, 1963, processed.

that are most easily modified to serve those needs. The student population must increasingly be represented by mature men and women with considerable work history who must be 'recycled' through the educational process to preserve their opportunities for making or enhancing the contributions to society.

A further theme emerges from the Department of Labor case studies of technology: there is considerable need for accommodation to job activities that 'enlarge' conventional duties. This indicates the need to identify "fundamentals" that have multi-service applications in broad areas of labor activity. For example, business machine servicemen need a broader technical knowledge than ever before--especially of electricity and electronics--to service the complex office machines coming into use. Many experienced maintenance electricians must now learn basic electronics to maintain and repair the complex new equipment being installed. More complex modern metalworking equipment is raising the technical skills required of tool and die makers, and a knowledge of mathematics, the basic sciences, electronics, and hydraulics is becoming more and more necessary to perform this work. The work of appliance servicemen requires greater skill than ever before and a good working knowledge of electricity and electronics, because of the growing use of electric control devices in household appliances.

There is, of course, a considerable debate on the net impact technical change has on the skill requirements of industry. We need not be concerned with all of the elements of that debate here; but it is certain that change itself is the 'constant' that will characterize manpower demands in Orange County. The adjustments required of labor are complicated because of up-grading or down-grading of job requirements and because emerging functions required of labor may be radically different from existing single-purpose skills. But the high-skill activities that offer a greater number of job opportunities impose, concurrently, the greater demands for adjustment. As Ewan Clague has summarized the need for labor's 'adjustment' capabilities:

> Employers prefer the worker who can not only perform the immediate job, but who can learn quickly to operate new equipment or perform new functions as the skill mix changes. The girl who can shift easily from check sorter to key-punch operator, to tape-punch operator, to coder, to edit clerk is likely to be continuously employed by one firm or in demand by other employers. Similarly, the young man who can read a bill-of-lading, follow instructions for loading a truck,

use judgment on size of loads, and exercise caution in handling fragile articles will surely be a good candidate for operator of a fork lift or other mechanized equipment when it is introduced by his employer. On the other hand, the laborer who has only strength to offer is likely to join the ranks of the unemployed when mechanized equipment takes over material movement.

CHAPTER V

APPLICATION TO SPECIFIC OCCUPATIONS

While previous chapters have dealt with more general factors related to students in these junior colleges, the economy of the business and industry of Orange County, or technological change as it involved employment possibilities, this chapter will attempt to introduce more information about specific occupations pertinent to the County.

What have been the trends in growth of occupational groups for Orange County during recent decades? It will have been noted in Table 8 of Chapter III that there was considerable change in the employment among major industrial groups from 1940 to 1960. Table 20 gives comparable data by major occupational groups. Between 1940 and 1960 it will be noted that there was a six-fold increase in the employment force of the County. The proportion of this force increased dramatically in clerical-sales workers and in professional and semi-professional workers, with a somewhat smaller proportionate increase in craftsmen. All other major occupational groups showed proportionate decline, this being particularly dramatic for farmers and farm managers, domestic workers, farm laborers, and other laborers. However, even with proportionate declines in many of these occupational groups, the total number of individuals employed in each has shown startling growth in all groups except those involved with farming, where slight drops are noted. That continued rapid growth has taken place since 1960 was noted early in Chapter III, with the greatest impact on manufacturing, wholesale and retail, services and government.

Occupations in Business and Management and Trade and Technical Fields:

Of particular import to the junior colleges in curricular planning for occupations are the vestibule jobs through which entrance is normally made into business and industry, the pattern of normal advancement during the first years, and the complex of personal and skill qualifications which are essential to gain the entrance positions and subsequent advancement. To prepare for positions not normally available to new employees, to neglect skills and attributes essential for advancement, or to omit consideration of other qualifications would be a disservice to students and to the community.

TABLE 20

EMPLOYMENT STATUS AND MAJOR OCCUPATIONAL GROUPS OF RESIDENTS
ORANGE COUNTY
1940, 1950, and 1960

Major Occupational Group	1940 Total Employment	1940 Percent of Total Emp.	1940 Percent of County Pop.	1950 Total Employment	1950 Percent of Total Emp.	1950 Percent of County Pop.	1960 Total Employment	1960 Percent of Total Emp.	1960 Percent of County Pop.
Profession and semi-professional workers	3,824	9.2	2.9	7,446	9.4	3.4	35,427	14.0	5.0
Farmers and farm managers	2,975	7.1	2.3	3,196	4.0	1.5	2,322	0.9	0.3
Managers, officials, and proprietors, except farm	5,052	12.1	3.9	8,718	11.0	4.0	26,025	10.3	3.7
Clerical-sales workers	6,730	16.1	5.2	13,553	17.1	6.3	55,980	22.1	8.0
Craftsmen	4,889	11.7	3.7	12,474	15.6	5.8	37,924	14.9	5.4
Operative workers	6,449	15.4	4.9	11,355	14.4	5.3	37,185	14.6	5.3
Domestic workers	1,220	2.9	0.9	1,363	1.7	0.6	3,961	1.6	0.6
Service workers	3,071	7.4	2.4	5,669	7.1	2.6	18,349	7.2	2.6
Farm laborers	4,819	11.5	3.7	4,169	5.3	1.9	4,414	1.7	0.6
Laborers, except farm	2,266	5.4	1.7	4,159	5.3	1.9	9,197	3.6	1.3
Military personnel	n.a.	n.a.	n.a.	6,000	7.6	2.8	12,103	4.8	1.7
Other workers	506	1.2	0.4	1,184	1.5	0.6	11,021	4.3	1.6
Total employed	41,801	100.0	32.0	79,285	100.0	36.7	253,908	100.0	36.1

n.a. means not available.

Note: Employment estimates are averages for the respective years.

Source: U.S. Department of Commerce, Bureau of the Census.

With this in mind, a number of the most representative major business and industrial employers of the County were asked to provide evidences which might bear on these matters. Rather than statistical, the nature of these surveys was by informal interview to gain what is, in effect, a series of case studies. It should be noted that these inquiries were directed specifically to occupational preparation in the junior colleges.*

A Sample Survey

An analysis of the information gathered from the interview sample of employers in Orange County leads to the conclusion that at least three broad directions for training are being emphasized. These appear to divide themselves into human relations, technical competencies, and academic subjects.

Those organizations involved in service activities with the public stressed need for the following when responding to the question:---"What skills and understandings should the employee have at the time of hiring?" "Accounting background and/or business administration majors, in addition, the biggest need is public relations skills or human relations courses--- There will be more emphasis on public relations. The banks will have to make more personnel service available to the public."

A second corporation responded that ". . . the success of the business using service help is dependent upon the ability of the service employees. Training needed in grooming, voice, personality, social sciences, (psychology, sociology, etc.) practical mathematics, job techniques, human relations, economics." Service personnel were listed for this corporation as "security, office/clerical, technical maintenance, and food service."

The area of technical skills seems sharply focused on the field of engineering. An industry representative interviewed stated that 4,000 engineers were now needed in Southern California and that imports from foreign countries were now being utilized. A second industry reported---"Jobs that require completion of two years of college or specialized technical training and experience are more difficult to fill. Currently, the company is in need of people who have

*More detailed information from these interviews and other sources has been given to the junior college districts involved in this study.

an AA degree, 2.5 Grade Point Average (GPA) and a broad background in math, chemistry, and physics. Such an individual would be hired as an assistant engineer, trained by the company and given supervisorial responsibilities. Last year they could have used twelve people in this area and were able to hire only four." Draftsmen are reported as being in critically short supply in the space industry.

Consistent reference is made to the need for automatic process control technicians, individuals with a knowledge of computer and data process applications. In answer to "What skills and understandings should the employee have at the time of hiring?" an electronics firm replies, "A thorough knowledge of fundamentals is desired, an awareness of computer uses also would be extremely helpful to all skilled fields. In this facility, all management personnel have been company trained in the use and application of computers in order to install an attitude of operating efficiency and watchfulness as to possible automation application." Another organization replies, "We expect increased mechanization and automation of our personnel, supply, disbursing, and accounting functions resulting in additional need for Digital Computer Systems Analysts and Programmers."

In summary of these general areas, human relations, technical competence and academic subjects, industry seems intent upon recruiting individuals with broad backgrounds underlying specialized skills. Most of the industries contacted maintain some forms of on-the-job training but are looking for "good communications skills (English, writing, speaking, and broad background appreciation coming from literature) and ability to reason quantitatively."

The entry positions listed by the various employers contacted provide direction for training. Demand is directly related to skill level with no recruiting difficulties for low skilled jobs. The entry positions listed in Table 21 are those given by the sample of employers interviewed. All jobs listed are rated as jobs available to junior college graduates.

Trends reported by the sample of employers with regard to needed competencies are as follows:

1. More emphasis on public relations; more personnel service to the the public.

TABLE 21

ENTRY POSITIONS IN A SAMPLE OF EMPLOYERS SURVEYED

Business and Management:	Trade and Technical:
Management Trainee	Mechanics
Secretary XXXX[1]	Mechanical leadmen
New Account Clerk	Shop supervisor
Teller	Junior Supervisor
Clerk Typist XXX	Production planning
NCR Proof Machine Operator	Production leadman
Statement and Safety Deposit Clerk	Production leadmen: trainees
Purchasing X	Quality control technicians
Scheduling	Lab Technicians
District Sales representative	Draftsman X
Clerk Office XX	Electronic Technician XXX
Data Processor Operator	Sheet Metal Worker
Business worker: PERT	Equipment maintenance
Cashier	Engineering Technician
Service representative	Electrical Technician
Clerk: Accounting	Assistant Engineer
EAM Operator	
Card Punch Operator	

[1]X equals the number of compies in the sample who mentioned this particular need.

2. Fewer but more qualified office-clerical and manufacturing employees. More skills in distributive fields.
3. Increased demand toward automatic process control technicians; more computer and data processing knowledge.
4. More automatic control skills; technical skills; computer influence.
5. Managerial skills---ability to handle fewer employees using specialized equipment.
6. New systems and machines, business machines; data processing accounting.

Of further use as an indicator for curriculum development are the lists of skills and understandings developed by each of the firms in the survey sample. Duplications occuring in the combined listing may serve as indicators of broadness of demand.

1. Accounting background and/or business administration major. Public relations skills or human relations courses.
2. Good verbal and English skills, minor knowledge of organizing and management, accounting, business machines.
3. Shop math, electrical machine repair, lower engineering, general business.

4. Supervisor and management skills, mechanical, math, report writing.
5. Purchasing, math, office practice, organization and management, wholesaling, retailing, display, advertising.
6. Math, English, management and organizational theory, principles of supervision, quality control, labor laws, cost control.
7. Math, statistics, production programming, report writing, organization and management.
8. Typing, spelling ability, some shorthand.
9. Transfer major curriculum.
10. Thorough fundamental knowledge.
11. Awareness of computer uses.
12. Mature awareness of professional attitudes; willingness to contribute to team effort.
13. Specialized skills, good liberal arts, communications, literature.
14. Basic skills; open mind and willing to adapt.
15. Math-science oriented or aptitudes.
16. Business and commercial, card punch and EAM, sales checker, computer operating and programming, blueprint reading, trade theory, use of basic tools and equipment, related math, shop practices.

Summarizing, the business and management area, supervisory and management skills, including personnel relations, was mentioned most often. The second most important trait was the ability to write reports clearly, with accurate spelling and related verbal abilities. Mathematics, which has, of course, general applications to both business and technical operations, was rated as equally important with communication skills just mentioned. Other business and management areas suggested for development included:

Accounting
Human Relations
Business Machines
General Business
Purchasing
Office Practice
Wholesaling
Retailing
Sales checker
Labor Law
Cost Control
Statistics
Production Programming
Typing
Shorthand
Awareness of computer uses
Communications

In the technical areas, the following were mentioned as areas requiring additional attention:

Electrical
Machine repair
'Lower' engineering
Mechanical skills
Quality control

Milling and Baking
Blueprint Reading
Uses of basic tools and equipment
Shop practices
Trade theory

Occupations in Government:

It was noted earlier that government is a major employer, with an employment increase of 19,100 in Orange County between 1960 and 1965. This is distributed between federal, state, county and local jurisdictions, including cities and school districts. This study has been unable to make a detailed analysis of governmental employment as it relates to occupational preparation in the junior colleges, but is has ascertained that many jobs, particularly at the county and municipal level, are appropriate to this study. The vast range of occupations involved may be judged by the fact that Orange County government alone has approximately 600 different job classifications. Most of these parallel occupations in the private sectors of the economy, with some exceptions such as in law enforcement.

County governments of California generally employ very heavily in the following occupational fields: social worker, law enforcement, nursing, probation officers and civil engineering. These are followed closely by: tax appraiser, juvenile counselers and medical personnel. Table 22 presents a list of selected occupations employed by Orange County, together with the number of positions budgeted in 1964-65 and an estimate of the added number of positions which will be needed in 1974-75. It will be noted that for most of these occupations the number of employees needed will be doubled in this 10 year period. With rapid growth, similar trends no doubt will be evident in other occupations and in other governmental jurisdictions.

Orange County reported in January of 1965 that it was having particular difficulty in recruiting personnel in the following fields: occupational therapy, physical therapy, medical records library, medicine, psychiatry, dentistry, clinical psychology, medical social work, psychiatric social work, dairy livestock inspection and toxology.

TABLE 22

SELECTED OCCUPATIONS USED IN THE GOVERNMENT OF ORANGE COUNTY, WITH NUMBER OF POSITIONS BUDGETED IN 1964-65 AND THE EXPECTED ADDED POSITIONS NEEDED BY 1974-75.

Occupation	Number of Jobs Budgeted 1964-1965	10 Year Projection Estimated Number of Positions Over 1964-65
1. Clinical Lab Technology	26	26
2. Microbiology	14	14
3. Nursing, Registered	193	200
4. Nursing, Public Health	47	50
5. Occupational Therapy	10	12
6. Physical Therapy	13	12
7. Medical Records Library	2	2
8. Medicine	37	40
9. Psychiatry	1	16
10. Clinical Psychology	5	10
11. Health Education	3	4
12. Social Work-General	184	280
13. Social Work-Medical	6	6
14. Social Work-Psychiatric	3	8
15. Library	25	25
16. Agriculture Inspection	34	0
17. Civil Engineering (includes Draftsmen)	80	80
18. Sanitation	41	40

SUMMARY

There is no reason to believe that the rapid growth and trends of recent decades will not continue to a considerable degree in the major occupational groupings of people employed in Orange County. Many of these occupations are appropriate for junior college curricula. The survey of a selected group of larger employers of the County gives added evidence of the importance of the occupational programs of the junior colleges and the need for broadening much of the training to include essential academic background, desirable personal development and broader occupational skills than have been expected in the past. The growing opportunity for employment in occupations in government should challenge the junior colleges to added preparation in areas related thereto. Attention should be given also to occupational curricula in recreational work and in occupations in the maritime field.

From the data thus far presented and with due respects for the limitation of this preliminary study, some increased emphasis on curricula in occupational areas is suggested.

Occupational Area No. 1 - Business and Management:

1. Secretarial and Stenographic.
2. General Business Management.
3. Data Processing.
4. Accounting and Bookkeeping.
5. Sales and Retail Merchandising.
6. Hotel and Restaurant Management.

Occupational Area No. 2 - Trade and Technical:

1. Drafting.
2. Electronics Technology.
3. Auto Mechanics and Diesel.
4. Building Construction.
5. Surveying Technology.
6. All-around Machinist.

Occupational Area No. 3 - Health Services:

1. Dental Assisting.
2. Registered Nurse.
3. Medical Assisting.
4. Licensed Vocational Nurse.
5. Medical X-ray Technology.

Occupational Area No. 4 - Other Services:

1. Police Science.

Occupational Area No. 4 - Other Services, continued:

2. Cosmetology.
3. Homemaking.

Occupational Area No. 5 - Applied and Graphic Arts:

1. Art.
2. Advertising Art and Commercial Art.
3. Publishing and Printing.

Occupational Area No. 6 - Agriculture, Horticulture, and Forestry:

1. Agri-business.

There are no doubt many others, and in some Occupational Areas these may be almost self-evident. Such may be the case in Occupational Area No. 4 with respect to a possible two year terminal occupational curricula in Fire Science to help develop competent personnel for the increased fire danger which is a by-product of heavy population concentration in Orange County. The second phase of this study should give particular attention to this and other special areas.

CHAPTER VI

OBSERVATIONS

From the several types of evidences included previously in this report, a number of observations seem pertinent.

While in past generations the word "skill," as applied to occupations, referred largely to manual skills and use of neuro-muscular adaptions, today's and tomorrow's skills increasingly involve the intellect.

The dichotomy of vocational - academic has largely disappeared. There are very few occupations today, particularly economically productive occupations, which do not require an extensive background of formal academic study. This is particularly true if one is to avoid "blind-alley" jobs. Employment of the present and of the future is increasingly dependent upon further education with sufficient background in several areas of study and experience to give maximum adaptability for promotion and the change in technology.

Taking all of these into consideration, occupational preparation in the junior college should increasingly be welded into an adapted lower division program, suitable for employment upon completion of the AA degree, and also suitable, with a minimum of loss of credit, for continuing through a baccalaureate degree, probably on a part time basis while employed. The growing youthfulness of the population of Orange County further supports the idea of junior college responsibility for occupational and general educational preparation.

Monthly studies of labor market adjustments for Orange County could probably give counselors an appropriate 'sense' of county employment trends which would be helpful in counseling youth effectively.

Small employers (nine or less employees) will be dependent upon junior college occupational programs for obtaining competent workers. These small employers can do little or no in-plant training because of their limited resources.

Work-experience education programs would seem to offer considerable promise for junior colleges. These programs, involving close cooperation between schools and business and industry, offer youth an opportunity to try out their talents in their chosen fields while still in school. Cooperative educational programs give youth occupational training in very real job situations with up-to-date equipment and the most recent job techniques. Furthermore, these programs can help youth to learn how to get along with people in a working relationship.

The study of the distribution of business and industrial firms by city areas within the county can give valuable suggestions for the location of occupational curricula in certain junior colleges and thus avoid unnecessary duplication of staff and facilities. Students should be able to transfer readily among junior colleges to follow specific curricula located in only one or two places.

The continued use of advisory committees for the occupational curricula is highly desirable. These committees, however, might well be selected on an industry wide basis rather than from a single trade to produce a broad point of view among the members. Members might well be chosen on a county wide basis, too, for a similar reason.

The continuous study of economic trends in Orange County seems to be a necessity because of its rapid development. Information obtained from such study should undergird curriculum planning. For example, it has been ascertained that there is a declining need for production labor in the oil industry in the county and that hence the fine program in Oil Technology at Orange Coast College will probably suffice for a long time and should not be duplicated in other junior colleges. A central clearing house of information obtained from economic studies might be very helpful if such an agency could be set up in a way so as to produce information readily translated into meaningful suggestions for curriculum planning.

In any planning for the development of occupational curricula, the concept of families or related jobs should be considered. For example, occupations in the health services field such as dental assisting, nursing, and medical x-ray technology might have a common core of subjects and thus be grouped into one instructional unit. The same principle could apply to other families of occupa-

tions such as secretarial, stenographic, general business, and data processing. Further groupings into families of occupations might be possible.

Data from this study from which recommendation for building purposes can be made are somewhat limited. Consideration should, however, be given to providing space for classrooms and laboratories for: electronics and precision instrumentation; retailing and wholesaling (the distributive education program in vocational education); hotel, motel, and restaurant management; data processing; professional and practical nursing; police work, fire prevention and control; sanitation; and possibly others. It is desirable that in the construction of vocational-technical buildings consideration should be given to the idea that a large building with few weight-bearing partitions should be constructed in order to provide for the greatest internal flexibility for rearrangement of classroom and laboratory space to provide for the changes in occupational curricular offerings.

Further investigation needed:

It is hoped that this preliminary work will lead to the second phase of this study and have as its objectives the following:

1. To develop an occupational profile for a rapidly-changing regional economy.
2. To develop devices for translating the occupational-industry matrix into projections that could be made quarterly, with minimum effort, of future occupational requirements in the area.
3. To develop indexes of labor supply and labor demand that would serve as a guide for educational policy, curriculum design, and counseling activity.
4. To analyze the family of employee skills identified with job success for the junior college graduate.
5. To analyze job histories and patterns of vocational experience that might be explained by vocational and technical training.

Much literature and some research exists in the occupational curricula area, and in a future study this information should be brought together for the benefit of the junior colleges in Orange County.

The findings and observations of this report appear to agree with the many recommendations made by Dr. Grant Venn in the study he prepared for the American Council on Education entitled, Man, Education and Work, A.C.E.

1964. Particularly appropriate for the concluding remarks of this work are recommendation number four, p. 113, "Higher education should assume a greater responsibility for the education of youth and adults for occupational competence in the technical and highly skilled occupations at the less-than-baccalaureate level;" and number five, p. 165, "The two-year colleges in America, if they are to assume their proper and effective role in the educational system of the nation, should make vocational and technical education programs a major part of their mission and a fundamental institutional objective."

APPENDIX A

TABLE A

ENROLLMENT IN JUNIOR COLLEGE
OCCUPATIONAL TERMINAL CURRICULUMS 1960-65
(Majors Only)

	1960-61	1961-62	1962-63	1963-64	1964-65
OCCUPATIONAL AREA NO. 1					
Business and Management					
General Business Management	197	254	352	316	400
Hotel and Restaurant Management					3
Industrial Management					
Traffic and Transportation					
Advertising					
Purchasing					23
Retail Floristry					
Petro-Business			1	2	1
Home Economics in Business					
Sales and Retail Merchandising	110	119	91	99	107
Insurance				3	5
Real Estate			11	50	68
Accounting and Bookkeeping	154	168	147	184	252
General Clerical	42	115	93	105	126
Business Machines					
Data Processing	63	125	202	222	288
Secretarial and Stenographic	334	420	431	465	580
Telephone Operation					
Airline Stewardess and Steward					
Total	900	1201	1328	1450	1853
OCCUPATIONAL AREA NO. 2					
Trade and Technical					
Engineering Aide	59	81	8	13	10
Laboratory Assisting					
Electrical Technology	9	22	19	18	34

	1960-61	1961-62	1962-63	1963-64	1964-65
OCCUPATIONAL AREA NO. 2, continued					
Electronics Technology	378	502	493	434	388
Radio and Television Repair	14	8	4	3	
Communications					
Instrumentation					
Electromechanical Technology					
Electro Mechanical Drafting			37	48	27
Mechanical Technology		3	3	1	
All-round Machinist	41	34	41	51	40
Industrial Technology	52	103	133	71	63
Tool Designing and Tool and Die Making					
Drafting	235	283	289	373	425
Aeronautics					
Auto Mechanics and Diesel Engines	74	90	73	152	153
Civil and Construction Technology	13	28	19	29	24
Building Construction	59	59	84	88	126
Air-Conditioning, Heating, Refrigeration and Stationary Engineering					
Sheet Metal	10	13	15	19	25
Industrial Patternmaking					
Welding and Oxygen Cutting	116	11	16	19	19
Plumbing and Pipefitting					
Mining					
Petroleum Production	24	35	34	32	41
Petroleum Refining					
Baking					
Food Preparation and Service					7
Apparel Construction					
Dry Cleaning					
Shoe Repairing					
Furniture Upholstering					
Household Appliance Repair					
Business Machine Service					
Watch Repair					
Gunsmithing					
Metal Trades and Metallurgy	41	56	56	43	37
Total	1025	1328	1324	1394	1419

	1960-61	1961-62	1962-63	1963-64	1964-65
OCCUPATIONAL AREA NO. 3					
Health Services					
Registered Professional Nursing	196	273	334	327	269
Licensed Vocational Nursing	74	72	57	101	101
Medical X-ray Technology	24	33	34	74	97
Medical Technology	10	6	5	12	1
Dietetics					
Dental Technology					
Dental Assisting	79	187	225	220	285
Dental Hygienist					
Medical Assisting	55	90	107	100	138
Medical Record Librarianship					23
Ophthalmic Optics					
Sanitation Technology					
Total	438	661	762	834	914
OCCUPATIONAL AREA NO. 4					
Other Services					
Fire Science					
Police Science	70	182	153	168	231
Library Assisting	2	15	8	.6	13
Nursery School					
Recreational Leadership					
Cosmetology	80	89	106	111	164
Vocational Housekeeping					
Swimming Pool Service					
Homemaking	62	65	41	73	91
Total	214	351	308	358	499
OCCUPATIONAL AREA NO. 5					
Applied and Graphic Arts					
Advertising and Commercial Art	94	135	70	63	95
Technical Illustrating					
Journalism	19	17	15	36	13
Technical Writing					
Photography	3	5	4	39	46

	1960-61	1961-62	1962-63	1963-64	1964-65
OCCUPATIONAL AREA NO. 5, continued					
Publishing and Printing	32	40	49	49	65
Theater Arts					
Broadcasting-Telecasting	3	2		5	7
Music	2	9	4	2	
Women's Clothing Designing					
Art			142	183	241
Interior Decorating					45
Total	153	208	288	377	512
OCCUPATIONAL AREA NO. 6					
Agriculture, Horticulture and Forestry					
General Agriculture	58	53	61	74	70
Agricultural Management					
Agriculture-Business	6	12	9	12	18
Agriculture Mechanics					
Poultry Husbandry					
Animal Husbandry					
Dairying					
Dairy Products Manufacturing					
Pomology					
Viticulture and Enology					
Vegetable and Field Crops					
Floriculture and Ornamental Horticulture					
Forestry					
Total	64	65	70	86	88
GRAND TOTAL	2794	3814	4080	4499	5285

VT 001 283
Dunn, William A.
Report on the Summer Institute for Administrators and Supervisors of Technical Education, (3rd, Oklahoma State Univ., June 7-18, 1965).

Oklahoma State Univ., Stillwater
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 65 26p.

*TECHNICAL EDUCATION; *PROGRAM ADMINISTRATION; *SUPERVISION; *SUMMER INSTITUTES; ADMINISTRATIVE PERSONNEL; PROGRAM PLANNING; CURRICULUM PLANNING; EDUCATIONAL FACILITIES; INSTRUCTIONAL STAFF; EDUCATIONAL NEEDS
*SUMMER INSTITUTE FOR ADMINISTRATORS AND SUPERVISORS OF TECHNICAL EDUCATION, STILLWATER, OKLAHOMA, JUNE 7-18, 1965

The main objective of this institute was to give administrators of technical education programs an insight and some firsthand knowledge on how to improve existing programs and develop and start new programs. Nineteen administrators and supervisors from 14 states attended. Discussion was restricted to engineering-related technical programs in the investigation of 12 areas of concern. Maurice W. Roney of the host institution, presented (1) "The Elements of Long-Range Planning in Education," (2) "Identifying and Publicizing Technical Program Needs," (3) "Program Planning," (4) "Curriculum Design," (5) "Mathematics in the Technical Curriculum," (6) "Science in the Technical Curriculum," and (7) "Evaluation and Accreditation." Consultants presented "Providing Facilities for Technical Programs," "Staffing a Technical Program," "Financing the Technical Program," and "Research in Technical Education." A bibliography for technical program planning includes 41 items dated from 1950 to 1964. (EM)

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REPORT ON
THE THIRD SUMMER INSTITUTE FOR
ADMINISTRATORS & SUPERVISORS OF TECHNICAL EDUCATION

Held at

Oklahoma State University
June 7-18, 1965

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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FOREWORD

Technical education is a rapidly expanding part of our public education services in the United States. Growing out of the pioneer efforts of public and private schools throughout the country, a distinctive pattern of technician training is emerging. Post high school programs, two or more years in length, have developed a form and function, unique in many respects, serving a group of people who find that neither a traditional baccalaureate degree curriculum nor highly specialized skill training meets their needs.

The Oklahoma State University Summer Institute series was established in 1963 to bring together experienced technical education personnel who have common administrative problems. The 1965 institute was devoted to a study of technical program planning and operation, utilizing the combined experience of the participants and selected specialists who served as discussion leaders.

This summary report of the conference was prepared by William A. Dunn, Assistant Professor of Engineering at Pennsylvania State University. Detailed reports for each of the major subject areas dealing with administrative planning were prepared by sub-groups at the conference and duplicated for the participants use.

M. W. Roney, Director
School of Industrial Education
Oklahoma State University

REPORT ON
THE THIRD SUMMER INSTITUTE FOR
ADMINISTRATORS & SUPERVISORS OF TECHNICAL EDUCATION

This third summer institute for administrators and supervisors of technical education was held in the delightful and relaxing atmosphere of Oklahoma State University at Stillwater, Oklahoma, during the period from June 7 to June 18, 1965.

There were 19 attendees from all parts of the country representing 14 different institutions - all with a common purpose - to provide the best technical education programs that their faculty and facilities would permit.

The main objective of this institute was to give these administrators of technical education programs an insight and some first hand knowledge on how to improve existing programs and how to develop and put into operation new programs when the need arises.

This was accomplished by investigating the following twelve areas in detail:

1. The Elements of Long Range Planning in Education
2. Identifying & Publicizing Technical Program Needs
3. Program Planning
4. Curriculum Design
5. Mathematics in the Technical Curriculum
6. Science in the Technical Curriculum
7. Administrative Organization
8. Providing Facilities for Technical Programs
9. Staffing a Technical Program
10. Financing the Technical Program
11. Evaluation & Accreditation
12. Research in Technical Education

It should be pointed out here that this institute restricted its thinking and discussion to engineering-related technical programs.

The time spent in investigating each of the 12 areas varied widely. As one might suspect with a professional group such as this, lively discussions developed and time was all too scarce. However for each topic there was a committee of three appointed to write a summary report of the deliberations. These were dittoed and distributed to the attendees and could be obtained by interested parties by writing to Professor Roney at Oklahoma State University. They are not included with this report because of the length of time involved in preparing and assembling the additional copies that would be required and the report would then be too voluminous.

In most of the sessions Professor Roney presented the material and led the discussion that followed. However, in several instances, resource personnel were utilized. This was done because these resource people are experts in their particular field and devote their major professional efforts to that field.

The material that follows is a recapitulation of the deliberations of the institute with each of the 12 topics discussed separately.

The Elements of Long Range Planning

In the area of long range planning it was found that the most logical approach could be developed by looking at some elements that go into all successful educational plans. These include philosophy, objectives, programs, organization, staffing, facilities and financing of a particular program. It was the consensus that these should be looked at in light of the administrators home institution preferably in the order listed. However, practicalities sometimes dictate that the order be scrambled in many different ways. For instance you may have a staff that must be used in new programs, you may have certain facilities that will have to be utilized, your finances may be very restricted - in other words - it's the old "which comes first, the chicken or the egg" approach that may have to be used.

The group agreed that the ideal long range plan could best be developed by answering the following questions in the order listed:

A. PHILOSOPHY

1. What are the educational needs of a free society?
2. Who should be educated, to what extent, and by whom?
3. What new knowledge and skills are required?

B. OBJECTIVES

1. Which of these general educational needs should this institution seek to meet?
2. What group or groups should it serve and what changes in their knowledge, skills and attitudes should it try to bring about?

C. PROGRAMS

1. What instructional programs, research programs and service activities will best serve the needs selected?
2. What range and intensity of coverage is required?
3. What curriculum content and educational methods are most appropriate?

D. ORGANIZATION

1. What human abilities, knowledge and skills are required in order to carry out the selected programs and activities?
2. How can these required abilities, knowledge and skills best be translated into requirements for specific faculty, research, administrative and non-academic positions?
3. What functions, responsibility and authority should be associated with each position?
4. What inter-relationships should exist among the different positions in order to best achieve the institution's objectives?

E. STAFFING

1. What numbers, kinds and qualifications of people are required to fill the positions and assume the responsibility in order to best carry out the selected programs and activities?

F. FACILITIES

1. What numbers, kinds, quality and locations of facilities are required to best enable the staff to carry out the desired programs and activities?

G. FINANCING

1. What operating and capital funds are required to provide the necessary staffing and facilities, and where and how can these funds best be obtained?

Identifying & Publicizing Technical Program Needs

All indications point to the fact that well qualified engineering technicians are in short supply at the present time and will be needed in ever increasing numbers in the future. Many institutions find it difficult to identify the particular program needs in properly fulfilling their educational obligation to their respective communities.

It was felt that basically the demand for a new program comes from the industry or industries who would employ the graduates of the program. This demand can be crystallized by normal contact with personnel people in placement

departments within the industrial complex who come to your school to interview graduates of other programs, by the relationship between the school people and industrial people and by alumni from the schools who are working in industry and see the needs of the industry from the industrial side after having been through another educational program.

After the need for a program has been determined, surveys of industry are important to determine job functions of the graduates. Many times job titles are used and this leads to confusion and the development of a program that misses its intended objective. In conducting this type of survey it is extremely important that the people conducting the survey are completely oriented and well versed in it. From the public relations standpoint it is desirable to get many people in as many industries as possible involved.

One must be cognizant of existing programs in the same field and must determine if there is need for additional programs of the same nature if others do in fact exist.

Once the need for a particular program has been determined, school population studies from a quantatative point of view should be conducted to see if potential students are available.

The program must now be publicized and this can be accomplished by conventional means of news media - newspapers, radio and television. In addition brochures and catalogs are utilized as well as motion pictures and recorded film strips.

Personal contact with students and schools are a must as well as industrial visits. It is very important that high school guidance counselors understand the program completely and that all questions from parents and high school students be thoroughly and honestly answered.

Program Planning

Once the need for a program has been established and it is determined that students are available to take it, then the program planning phase comes into focus.

It was felt by the group that we should be preparing the student for several entry jobs in a particular field. This could best be accomplished by having the program broad in nature - mechanical, electronics, civil, etc., rather than too specific - servo-mechanisms, fixture designs, T.V. circuits, etc. In addition, the program should be so developed that graduates are prepared to advance to positions of increased responsibility as they gain on-the-job experience. The program should prepare the individual for further study in his chosen field and develop in him a sense of social responsibility. The subject matter that one hopes will accomplish the above goals will be discussed under Curriculum Design.

The program should be planned for capable, average students with rather specific entrance requirements. These would include:

1. High school graduation or equivalent

2. Two years of math - preferably one year of algebra and trigonometry would be desirable.

3. Three or four years of English

4. One year of laboratory science. Lab experience is all important here.

In addition some "shop" experience and perhaps some drafting would be helpful. Intense interest in the particular field and a willingness to work are assumed.

In some instances it may be desirable to think in terms of cooperative programs. If there is a dire shortage of technicians and the need is immediate, an agreement can perhaps be reached with industry where the individual goes to school and works on alternate weeks, semesters, etc. There are instances too where lab facilities are not available at the school but are available in industry--here a cooperative arrangement can work out very satisfactorily.

Supplementary and extension programs should be included in one's planning for those craftsmen who wish to become engineering technicians and for those practicing technicians who wish to avoid technical obsolescence. For this type of program industry offers a wealth of teaching talent on a part-time basis.

Curriculum Design

Of all the areas investigated in this Institute, this one seemed to create the most interest and was perhaps the most controversial. As Professor Roney pointed out when the discussion on this phase began, there has been very limited research done on this subject and there is a definite need for it.

We have been bound in the past by traditional concepts such as the transfer of learning theory, the building block concept, the single teacher concept and/or a combination of them. These are all excellent concepts and are tried and true in traditional educational programs but in technical programs to prepare engineering technicians, they just don't fit as well as they might.

Other problems that creep into the picture and perhaps bias ones thinking are the compromises with transfer credit, the institution's entrance requirements and accreditation standards. This is not to imply that these are necessarily stumbling blocks, the fact that they have to be considered may help to make a stronger program.

It would be ideal if one could choose his staff after the program has been developed. However, there are occasions where an existing staff has to be used and this can create problems in curriculum design.

Facilities and monetary limitations can be influencing factors and the dominance of a particular company or industry may be present and affect the curriculum.

A curriculum for this area of education should include:

1. Technical specialty courses - basic and advanced courses from the particular technology

2. Mathematics

3. Science

4. Auxiliary and supporting technical courses (engineering graphics, etc.)

5. General Education courses, humanities, social studies, etc.

Three illustrative curriculums are listed. It should be pointed out that these were developed by experts in this field, working independently. (Note the general agreement)

Subject Matter	Curriculum Source and Credit Hours		Tech. Ed. in ***Jr. College
	*USOE	**ASEE	
Specialized Technical	35	33	30
Mathematics	9	12	10
Science	9	6	10
Auxiliary Technical	7	6	6
General Education	11	15	18

*Occupation Criteria & Preparatory Curriculum Patterns in Technical Education Programs. O.E. 80015 USOE

**Characteristics of Excellence in Engineering Technology Education - ASEE

***Technical Education in the Junior College - Harris

Much discussion was devoted to the principles of curriculum design. These six principles follow:

1. Early introduction of the technical specialty by one or two major courses in the first semester. This is done for two basic reasons:

   a. To motivate the student

   b. With only 4 or 5 semesters available, they must come early to provide for sufficient depth in the total program.

There was considerable discussion and lack of general agreement on this latter point. Generally it was agreed that it is desirable to introduce the technical specialty as early in the program as possible. However, it was not agreed upon the amount of mathematics, general education and auxiliary courses needed nor when they should be introduced. It was agreed that the optimum condition would be perfect coordination between all courses including the specialties; regrettably this is not always possible or practical. Several charts from Professor Roney's prepared material were used to demonstrate the problems in simplified form.

2. Auxiliary technical courses must be included to broaden the student's understanding of the particular technology he is studying.

3. Mathematics & Science courses should be closely coordinated with the technical courses in the curriculum to introduce concepts and theory when needed.

4. A minimum of 30 credit hours of specialized (technical) course work should be included.

5. Student load:

   There should not be more than five (5) courses per semester. Credit hours should be around 18 per semester with 28 to 30 contact hours per week with a total of 50 to 54 hours of class, lab and study per week. (This is based upon the rather standard rule of requiring 3 hours per week of student effort for each credit hour in college level work. If a class is strictly lecture, two hours of outside preparation are required for each one in class. In a laboratory situation, normally three hours are required for each credit hour. If a lab is 3 hours in length, little if any outside work is necessary. If it is two hours in length, one hour outside is usually necessary for writing the report, reading instructions, etc.)

6. Provision should be made for either individual or small group problem work during the final term. This is to promote independent thinking and to test each individual's comprehension of the total curriculum content.

It is suggested that each individual read Professor Roney's paper on Curriculum Design in Technical Education.

Mathematics in the Technical Curriculum
and
Science in the Technical Curriculum

Because of their close relationship to one another and the fact that they are necessary and mandatory to the understanding of the technical and auxiliary technical courses, mathematics and science in technical curriculums were discussed together. The math situation was looked at in considerably more depth than the science grouping.

There are two approaches to the math sequence in technical education cirriculums. One is to integrate the mathematics with courses in science and technical specialties and the other is to teach math as a pure science. In the latter, the math courses are usually taught by the math department and are taught with few problems illustrating the applications of the principals. The objective of this type of program is to teach the level of math necessary to prepare one for more advanced math. True, this type of math identifies concepts and formulas, but it does not provide the application vital to the success of the practical technician's career. This approach was not felt to be adequate for technical education programs so the discussion centered on the integrated approach.

In this method of teaching math there is a correlation of the math and the technical courses. The advancement in mathematics and the advancement in the technical courses parallel each other. Here the student has math instruction plus the reinforcement of learning that comes from the application of mathematics in the technical courses.

The amount of mathematics and scientific courses in a curriculum depends upon the determined needs of the technology. However, it may be generalized that most curriculums would include 9 semester hours of math and 6 semester hours of science (see section on Curriculum Design of this report).

The objectives of mathematics (and science to some extent) were found to be threefold:

1. Mathematics & Science are foundation courses in the curriculum. These disciplines may be thought of as foundations for the further interpretation of the technical subject matter.

2. The study of mathematics and science may be viewed as a foundation for continued study after the completion of the two year program. These are, of course, differences of opinion as to the validity and worth of this position, but when one views the ever changing nature of the technician, the worth is obvious.

3. Mathematics has a major part in communications of skills.

Curriculum studies by Professor Roney of 35 ECPD approved curriculums in 12 technical institutes showed a wide variation of time devoted to courses in mathematics (Range 0 to 13 semester hours). Current thinking seems to indicate about 9 hours as desirable - algebra and trigonometry - 5 hours; selected topics in analytic geometry and calculus - 4 hours.

Desired emphasis is on the use of formulas rather than the mechanics of formula derivation. However the student should be expected to follow derivations of formulas; concepts in algebra and trigonometry should be fully exampled by technical applications. The purpose of the analytic geometry and calculus is to introduce fundamental concepts of higher mathematics. Problem solving using these concepts is limited.

No discussion involving math and science would be complete unless it involved the text and instructor. No one seemed to be completely satisfied with available texts nor is there any one text "most widely used." The group felt that studies leading to the development of suitable texts for this educational level might well be undertaken.

Perhaps as important as the subject matter itself is the availability and selection of qualified instructors. Instructors should have a thorough understanding of the theoretical nature of the subjects as well as the practical application to the technology (This is discussed in more detail in the Staffing Section).

Administrative Organization

There were 19 participants representing 19 different institutions and 14 states at this Institute. The administrative organization at each one was different from the others. Each administrative organization is perhaps peculiar to that school and what may prove to be satisfactory in one school or area may be totally inadequate and unwieldy in another. This being the case it is extremely difficult to generalize and next to impossible to point out or define a typical organizational structure.

Providing Facilities for Technical Programs

The material for this session was presented by Professor H. P. Adams from Oklahoma State University. Professor Adams is known as the "Dean of Technical Institutes" in the Southwest and has had world wide experience in setting up and operating technical institutes; Professor Roney then led the discussion that developed.

It is universally agreed that laboratories are the backbone of Technical Institute education so the discussion centered on this facility.

Practical application of principles in technical training programs is provided through laboratory experiences rather than through traditional shop courses. Laboratories should provide for a variety of engineering and

scientific applications, provide for competency in the use of laboratory equipment, precision measuring instruments and computing devices as well as scientific and engineering handbooks. In addition its functions should include correlation of specialized technical courses with mathematics and science. Each student should be encouraged to develop to the maximum of his ability and capacity.

The technical laboratory must be organized and equipped to permit maximum training in a minimum of time. Following are some general guide lines that will help to achieve efficient laboratory management:

1. Theory classes and laboratory experiences should be closely correlated and preferably taught by the same instructor.

2. Laboratory equipment should support and complement the planned technical program.

3. Laboratory manuals should be used to supplement and expand detailed course outlines and other teaching materials. These manuals should be well planned and thought out to include experiments that are practical in nature.

4. Laboratory time should not be used to teach theory. (At this point, Professor Roney explained that he had onetime seen the following regarding laboratories. "The word should be written LABORatory not labORATORY."

5. Strict discipline of laboratory time is essential.

   a. Lab periods should be a full three hours in length and should be designed on an effective time schedule so that the entire lab period is utilized. If breaks are permitted they should be carefully controlled. If some of the students get their experiments finished early, additional experiments should be assigned.

   b. Instructor-pupil ratio should be carefully controlled - a maximum of 20 students in a lab section is most desirable.

   c. Laboratory sessions should be planned and organized so that a minimum of time is spent in "getting ready" for the experiment.

6. Laboratory exercises and materials should be continuously reviewed, revised and up-graded.

7. The first lab session should begin with an experiment.

8. Staff members should be allowed planning time for developing and testing laboratory exercises and equipment. This can be accomplished by utilizing the summer when classes are not in session and/or giving the instructor released time on an individual basis.

Design considerations and costs were discussed in general terms and Professor Adams passed out some material he had compiled regarding costs, sizes and specifications for classrooms, laboratories and equipment for engineering technology programs. This material can be obtained by writing to Professor Adams at Oklahoma State.

This general design and construction topic was discussed by the group and it was suggested by one of the attendees that a Mr. Michael Russo at the U.S.O.E. could be of help with planning and construction problems. Mr. Russo is in the Vocational & Technical Division of U.S.O.E. in Washington.

The design and cost considerations would be somewhat dictated by the kind and type of program that is to be offered. Space requirements can vary from 45 to 170 square feet per student, so the number of students you plan to have is all important. It was recommended that class sizes be restricted to 40 students and labs held to 20. Naturally the size of the teaching and administrative staff will have to be considered. The planning phase should include lay-outs of shops and laboratories with equipment lists.

When specifying the purchase of equipment, several rules should be followed.

1. Quality is very essential - don't be penny wise and dollar foolish.

2. Equipment should be accurate, well designed and of the type used in industry.

3. Equipment is sometimes available other than by direct purchase. Sources include:

   a. Consignment by manufacturer
   b. Lease-purchase agreements
   c. Rental
   d. Government Surplus
   e. National Industrial Equipment Reserve

It was felt that a reputable architect should be engaged to design the building. Costs can be estimated at $4000 to $5000 per student for buildings and equipment and operational costs range between $1000 and $1200 per student per year.

Staffing a Technical Program

This session opened with a general statement to the effect that any teacher in a technician training program must be first of all technically competent. This is the first prerequisite and this competency comes from educational training and industrial experience, secondly some professional skills in teaching are required, however the kind and amount are debatable.

Professor Roney then introduced Professor Jerry Dobrovolny from the University of Illinois who gave a fine presentation on technical education and teacher training. The discussion which followed centered around sources of teacher for technical institute programs, their desirable qualifications and the strength and weakness of teachers with different backgrounds.

In staffing a technical program it was stated that a 20 to 1 ratio of students to faculty was ideal. In addition to the technical and pedagogical requirements initially presented, it is important that a faculty member of this type of program be familiar with and sympathetic toward engineering technology education.

There is no one source to obtain teachers for this type of program. The varied sources include former members of the Armed Forces who have a technical education and have had technical experience in the Service (Penn State is currently offering a one year NSF Institute for this type of person to prepare him for teaching at the engineering technician level.)

Former engineering college faculty who have an interest in and understanding of this type of education are another source of faculty.

Evening school part-time teachers who are employed in industry and have a technical education background offer another source.

Selected vocational education and industrial arts teachers who can be updated can develop into good teachers in this type of program.

Graduates of Associate Degree programs who have industrial experience and have gone on to get a B.S. degree are a fine source (University of Illinois is currently offering this type of program), as well as Oklahoma State.

Other sources include people with degrees in physics, math or chemistry with industrial experience and a desire to teach.

Quite naturally technical education teachers with different backgrounds have strong and weak points; these have been generalized as follows:

A. Engineers (including industrial and retired military)

1. Strong in technical competency both by degree and experience
2. Weak in pedagogy
3. Weak for this type of program because he may teach at the technical institute level the same way he was taught in engineering college
4. If these people are unemployed in the industrial complex they may have undesirable traits which would prevent their becoming good instructors

B. Vocational teachers

1. Usually strong in teaching methods
2. May be too much project oriented rather than principle oriented in technical subjects
3. May be over-specialized in a narrow field
4. May be academically weak
5. May not be up-to-date technically

C. Industrial Arts teachers

1. Usually strong in teaching methods
2. May be ready and ripe for a philosophical change
3. May be weak in technical specialization
4. Probably will lack industrial experience

D. Technical Institute Graduates

1. Have been through this kind of an educational process and are likely to understand and appreciate it
2. Have achieved success in the profession - as technicians in industry
3. Probably have had additional training through company courses, evening school, etc.
4. May be limited technically because of specialization in a narrow field
5. May be weak in terms of pedagogy and may not understand the educational system of curriculums, administrative problems, etc.
6. May lack and not understand the need for a professional attitude

The above discussion and summation has centered about the teachers of technical subjects in an engineering technology program. Perhaps even more difficult to find are math instructors and instructors for engineering report writing who understand and believe in technical institute education.

Financing the Technical Program

Professor Roney introduced Mr. Robert Knoebel from the Department of Health, Education and Welfare, Office of Education in Washington, D. C., who presented this topic of the Institute agenda.

Mr. Knoebel pointed out that funds for technical institute programs can and do come from the following sources:

1. Local taxation
2. State appropriations
3. The Federal Government
4. Student tuition
5. Gifts in the form of money, services, equipment and supplies
6. Research contracts both government and private.

His main discussion then centered on Federal funds with emphasis on Public Law 88-204, 88th Congress H.R. 6143, December 16, 1963, Public Law 88-210, 88th Congress, H.R. 4955, December 18, 1963. In addition he passed out to the group and discussed the following two publications:

1. Milestones in Education OE-10031-A, U.S. Department of Health, Education and Welfare, Office of Education, Circular No. 761, Washington, D. C.

2. Part 104 Administration of Vocational Education Federal Allotments to States
   Rules and Regulations
   Reprinted from Federal Register, August 28, 1964
   U.S. Department of Health, Education and Welfare, Office of Education, Washington, D. C.

This subject is too broad in scope and too narrow in detail to generalize in this report except to say that all of the Federal Acts & Laws are designed to help educational institutions and programs.

It would appear that these acts and laws are very flexible and can be broadly interpreted. It is suggested that the reader secure copies of these acts and seek expert advise from the State or Federal government if he feels the provisions apply.

Evaluation & Accreditation

This is a subject that is extremely controversial and the opinions of the group were quite divided. The three man committee charged with writing the summary for this topic wrote a very comprehensive, impartial report. The reader is referred to this report from which he may draw his own conclusions regarding evaluation and accreditation.

Research in Technical Education

Professor Roney introduced Dr. J. Paschal Twyman, who is the Assistant Director of the Research Foundation at Oklahoma State University. Professor Twyman is an expert in educational research and presented an interesting and enlightening talk on the subject.

He began by giving his definition of research which is, "Research is a careful, unbiased study of a problem based as much as possible on facts and interpretation and evaluation of data."

Reasons were cited why certain individuals should be interested in and concerned with research; they include:

1. Not enough research has been done in the past in the field of education - particularly in technical institutes
2. Many educators have little or no knowledge of research
3. Many good reports on educational research are available
4. There is a definite shortage of capable persons in the research field
5. Federal funds are available for research. (Public Law 88-210 allocates 10% of the funds for research in vocational education.)

Determining the problem is sometimes extremely difficult. The following questions arise in this determination.

1. Can the problem be stated in such a way that research is desirable? In social sciences it is difficult to measure factors such as attitudes
2. Is it socially significant?
3. Will research on the problem make any difference?
4. Does the proposer of the research have an interest in the problem?
5. Is this problem of general interest to others?
6. Can this research be completed in a reasonable time?
   Types of Research include:
   a. Historical - this is used to determine what has happened in the past

   b. Descriptive - this determines what situation exists at the present time - based on the idea that it is necessary to know where we are now in order to know where to go

   c. Experimental - this determines what will happen in a controlled situation where certain factors are varied

Some general comments included:

1. A researcher must be willing to accept his finding, whatever their outcome. As Professor Twyman pointed out here, many people after they have collected their data and it doesn't indicate what they thought it should, they feel that the research has been a failure and they feel they have to start all over.

2. Once the data has been collected it can be analyzed by:
   a. Statistics - used for summarizing data into a meaningful form for people to use. Allows for probability statements of the reliability of the data.
   b. Description including a summary inference.

3. The Written Report:

   a. The project must be described so that others can understand it.
   b. Sufficient facts must be presented so that others can theoretically repeat the experiment and expect to obtain comparable data.
   c. The report must be written keeping in mind the type of audience that will read it and the type of publication in which it will be published.

Professor Twyman from his position of screening research proposals, indicated the following common errors occurring in many of them.

1. Poor grammar.
2. Lack of specificity of stating the problem.
3. General inconsistency in using words and concepts.
4. Poor literature review for determing what work has been done on the problem.
5. Poor design.
6. Not being realistic in regard to the amount of time required for the project.
7. Not being specific about items in the budget.

There is a publication entitled, "Conditions & Procedures," published by the U.S. Government Office of Education which deals with research contracts under section 4c of Pl 88-210. Mr. Knoebel from Washington, who spoke to us is going to send each Institute participant a copy of this publication.

At this point, the proceedings of the Institute were brought to a close with all participants feeling that the past two weeks were most profitably spent.

It is suggested that readers of this report who were not fortunate enough to attend the Institute write to Professor Roney at Oklahoma State University and obtain the following papers:

1. Laboratory Facilities for Occupational Training
2. Curriculum Design in Technical Education
3. Mathematics & Science in Technical Education

LIST OF REFERENCES
FOR TECHNICAL EDUCATION PROGRAM PLANNING

1. Allee, David W., Planning the Plant for Technician Training. School Shop, 18:8; April 1959.

2. American Society for Engineering Education - Technical Institute Division. Committee Report on Curriculum Development. Technical Education News, 18:1; Special Issue 1958.

3. American Society for Engineering Education - Technical Institute Division. The Evaluation of Technical Institute Education. Characteristics of Excellence in Engineering Technology Education 1962.

4. Boaz, Ted. How Much Does It Cost to Develop an Instrument Laboratory? Technical Education News, 18:5; May 1959.

5. Brandon, George L., Twin City Technicians. East Lansing, Michigan, State University, 1958.

6. Brookins, J. E. and Purvine, W. D., Training in Civil Technology. School Shop, 18:8; April 1959.

7. Flesher, W. R., Public Vocational-Technical Education in Oregon, (Report of a Survey Made for the Oregon State Board of Education.) Columbus, Ohio, School Survey Service, 1958.

8. Harrington, Gordon M., Technicians for Connecticut Industry. Hartford, Connecticut, State Department of Education, 1957.

9. Henninger, G. Ross. The Technical Institute in America. New York, McGraw-Hill Book Co., 1959. 276 p.

10. Kansas State Board for Vocational Education. Training Needs of Highly Skilled Technicians in Twenty-Three Selected Manufacturing and Processing Firms in Kansas. Topeka, Kansas, The Board, 1959. 138 p.

11. Smith, Leo F., and Lipsett, Laurence. The Technical Institute. McGraw-Hill Book Co., 1956. 319 p.

12. Technical Institute Curriculum - Typical curriculums described in various issues of Technical Education News.

13. U. S. Department of Health, Education, and Welfare, Office of Education. Electrical Technology - Suggested Curriculum, Course Outlines, Laboratory Layouts and Equipment Lists. Washington, U. S. Government Printing Office, 1960. (OE-80006)

14. U.S. Department of Health, Education, and Welfare, Office of Education. Electronic Technology - Suggested Curriculum, Course Outlines, Laboratory Layouts and Equipment Lists. Washington, U.S. Government Printing Office 1960. (OE-80009)

15. U.S. Department of Health, Education, and Welfare, Office of Education. Electrical and Electronic Technology. Washington, U.S. Government Printing Office, 1959. (OE-80004) 34 p.

16. U.S. Department of Health, Education, and Welfare, Office of Education. Mechanical Technology Design and Production. - Suggested Techniques for Determining Courses of Study in Vocational Education Programs. Washington, U. S. Government Printing Office, 1962. (OE-80014) 29 p.

17. U.S. Department of Health, Education, and Welfare, Office of Education. Occupational Criteria and Preparatory Curriculum Patterns in Technical Education Programs. Washington, U.S. Government Printing Office, 1962. (OE-80015) 26 p.

18. U.S. Department of Health, Education, and Welfare, Office of Education Civil and Highway Technology - Suggested Techniques for Determining Courses of Study in Vocational-Technical Education Programs. Washington, U.S. Government Printing Office, 1962. (OE-80018) 20 p.

19. U.S. Department of Health, Education, and Welfare, Office of Education. Mechanical Technology; Design and Production. Washington, U.S. Government Printing Office, 1962. (OE-80019) 103 p.

20. U.S. Department of Health, Education, and Welfare, Office of Education. Electronic Data Processing - I - A Suggested 2-Year Post High School Curriculum for Computer Programmers and Business Application Analysts. Washington, U.S. Government Printing Office, 1963. (OE-80024) 49 p.

21. U.S. Department of Health, Education, and Welfare, Office of Education. Mechanical Drafting and Design Technology. Washington, U.S. Government Printing Office, 1959. (OE-80000).

22. U.S. Department of Health, Education, and Welfare, Office of Education. Organization and Effective Use of Advisory Committees. Washington, U.S. Government Printing Office, 1961. (OE-84009)

23. Wood, Herbert S., A Study of Technical Education in California. Sacramento, State Department of Education, 1959.

24. U.S. Department of Health, Education, and Welfare, Office of Education. Education - For A Changing World of Work. Washington, U.S. Government Printing Office, 1963. (OE-80022)

25. Barlow, Melvin L. and William John Schill. The Role of Mathematics in Electrical-Electronic Technology. Division of Vocational Education, University of California, Los Angeles, 1962.

26. Emerson, Lynn A., Technician Training Beyond the High School. Vocational Materials Laboratory, State Department of Public Instruction, Raleigh, North Carolina, June 1962.

27. Emch, Arnold F., Long Range Planning for Colleges and Universities. Report given at 1958 meeting of Governing Boards of State Universities-Purdue University.

28. Murphy, Christy A., Technician Needs Study - Vermillion County Illinois. University of Illinois, 1964, 78 p.

29. Technical Occupations, in Research Design and Development. U.S. Office, Department of Labor, Washington, D.C., 1961, 113 p.

30. Beardon, H.D., Technician Requirements in Principal Industrial Areas of Texas. Texas A & M College, 1959, 136 p.

31. Duwalder, Donald D., Education and Training for Technical Occupations. Division of Extension and Higher Education, Los Angeles City School District, 1961, 195 p.

32. Harris, Norman C., Technical Education in the Junior College. American Association of Junior Colleges, Washington, D. C., 1964, 192 p.

33. Mathematics and Science in Technical Education. "The Journal of Technology" Oklahoma Technical Society, Vol. 1, No. 4, Spring 1964.

34. Medsker, Leland L., The Junior College - Progress and Prospect. McGraw-Hill Book Inc., New York, New York, 1960.

35. Engineers Council for Professional Development. Thirty-First Annual Report, ECPD, 345 East 47th, New York, New York, 1965.

36. Cutlip and Center. Effective Public Relations.

37. Graney, Maurice R., The Technical Institute, The Center for Applied Research in Education, Inc., New York 1964.

38. Technician Education Yearbook 1963-64, Prakken Publications, Inc., Ann Arbor, Michigan, 1963.

39. Harral, Stewart, Patterns of Publicity Copy, University of Oklahoma Press, Norman, Oklahoma. 1950.

40. Milestones in Education - What the 88th Congress Did for American Schools and Colleges. OE-10031A, Cir. No. 761, U.S. Department of Health, Education and Welfare, Office of Education, 1965.

41. Part 104, Administration of Vocational Education. Federal Allotments to States. Rules and Regulations. U.S. Department of Health, Education and Welfare, Office of Education. Reprinted from Federal Register, August 28, 1964.

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TECHNICAL EDUCATION
INSTITUTE FOR ADMINISTRATORS AND SUPERVISORS
June 7-18, 1965

VT 001 292

Education and Employment; A Study of the Needs for Vocational-Technical Education Conducted with the Cooperation of the Boards of Education of the Public Schools, and the Parochial High Schools in Columbia, Duchess and Putnam Counties in the State of New York.

New York Univ., N.Y. Center for School Services and Off-Campus Courses
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 65 157p.

*VOCATIONAL EDUCATION; TECHNICAL EDUCATION; SURVEYS; PROGRAM ATTITUDES; OCCUPATIONAL SURVEYS; PARENT ATTITUDES; STUDENT ATTITUDES; EMPLOYER ATTITUDES; EMPLOYMENT PROJECTIONS; *EDUCATIONAL PLANNING; *AREA VOCATIONAL SCHOOLS; *EDUCATIONAL NEEDS; OCCUPATIONS; *EMPLOYMENT OPPORTUNITIES

A committee of 63 high school administrators, guidance personnel, and other school administrators, 79 laymen representing industry, business, labor, and the school board, and a team of specialists in vocational education assisted in the study. A total of 32 participating schools represented a population area of 273,756. Questionnaires were returned from 5,758 10th and 12th-grade students in an occupational interest survey. Parents returned 3,318 questionnaires expressing their views of students' plans and expansion of programs in vocational education. Questionnaires received in 1964 from 1,142 1958 ninth-grade students showed that 566 were in college and 576 had discontinued school. Manpower needs and employer viewpoints were obtained from 212 questionnaires and 55 personal interviews. It was recommended that (1) three area vocational-technical centers be established in the three-county area, (2) each center be located so as to serve more than 2,000 students, (3) business education, home economics, and industrial arts courses now offered be continued in home schools, (4) advanced courses in these areas be offered in the area centers, and (5) existing trade, industrial, and technical education courses be transferred to the centers. (PS)

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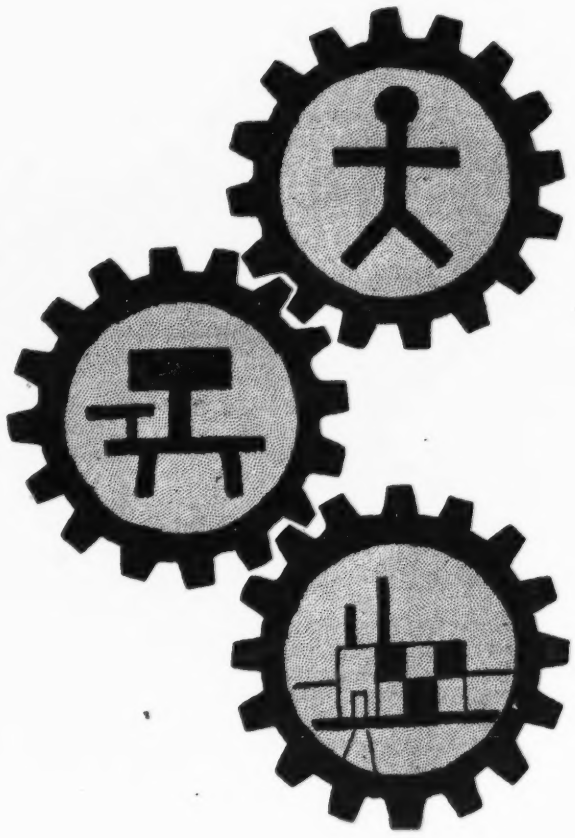

EDUCATION and EMPLOYMENT

A STUDY OF THE NEEDS FOR VOCATIONAL-TECHNICAL EDUCATION CONDUCTED WITH THE COOPERATION OF THE BOARDS OF EDUCATION OF THE PUBLIC SCHOOLS, AND THE PAROCHIAL HIGH SCHOOLS IN COLUMBIA, DUTCHESS AND PUTNAM COUNTIES, STATE OF NEW YORK.

CENTER FOR SCHOOL SERVICES AND OFF-CAMPUS COURSES
NEW YORK UNIVERSITY

1965

VT001292

EDUCATION AND EMPLOYMENT

A Study of the Needs for Vocational-Technical Education Conducted with the Cooperation of the Boards of Education of the Public Schools, and the Parochial High Schools in Columbia, Dutchess and Putnam Counties in the State of New York

John G. Miller, Director
Survey Team

Edwin L. Hunger, Chairman
Executive Committee

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Center for School Services and Off-Campus Courses

New York University

1965

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
ALBANY 1

JOSEPH R. STROBEL
ASSISTANT COMMISSIONER FOR
INSTRUCTIONAL SERVICES
(VOCATIONAL EDUCATION)

November 10, 1964

To the Citizens of Columbia, Dutchess and Putnam Counties:

If educational planning is to reach its optimum level of effectiveness, it must be fulfilled with methods which are democratic and which provide for the progressive participation of all concerned.

Your State Education Department commends your adherence to this principle while undertaking and completing an Area Vocational Study. Your eagerness to identify and make available needed programs of occupational education is a step forward in improving the area's total educational effort. The completion of this study would not have been possible without the assistance of numerous persons and organizations. Boards of education, school administrators, professional school personnel, survey teams and members of the several committees are to be commended for their leadership and constructive contributions.

Increasingly, people at work are required to have advanced knowledge and skills prior to their entry into the labor market. The education of youth, the unemployed and underemployed, will make an increasingly important contribution to the economic welfare of your agriculture, business and industrial communities.

This report should be a helpful guide for the establishment of needed area programs of occupational education. We join you in your aspiration for the early realization of greater educational opportunities for the youth and adults of Columbia, Dutchess and Putnam Counties.

Sincerely yours,

Joseph R. Strobel

JRS:CA:mp

NEW YORK UNIVERSITY
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WASHINGTON SQUARE, NEW YORK 3, N.Y.

CENTER FOR SCHOOL SERVICES
AND OFF-CAMPUS COURSES

TELEPHONE: SPRING 7-2000

January 15, 1965

Dr. Edwin L. Hunger, Chairman
Executive and Policy Committee
Area Vocational Education Study
Columbia, Dutchess, and Putnam Counties
c/o Poughkeepsie City School District
Poughkeepsie, New York

Dear Dr. Hunger:

In fulfillment of an agreement dated March 19, 1964, between the Executive and Policy Committee of the Area Vocational Education Study for Columbia, Dutchess, and Putnam Counties and the Center for School Services, I am pleased to submit 2000 copies of a report entitled, Education and Employment.

The committees representing Columbia, Dutchess and Putnam Counties deserve commendation for the vision and concern which led them to secure professional guidance for the resolution of problems in the complex area of vocational and technical education. The professional staffs throughout the counties were most cooperative in providing data and facilitating the study in general. The spirit of good will which prevailed throughout the study augurs well for an effective follow through on the recommendations made.

Obviously, all recommendations in the report are not equally applicable or viable. Final decisions, moreover, are always the prerogative of constituted authority. This report will serve its purpose best if it is studied and discussed by all who are concerned with vocational and technical education in Columbia, Dutchess, and Putnam Counties - - legislators, boards of education, administrators, professional staffs, parents, lay leaders, and other citizens. To this end, the Study Director is prepared to assist with the presentation and interpretation of the report.

You may be sure that New York University and its Center for School Services will maintain a continuing interest in educational development in the tri-county area.

Sincerely yours,

Lou Kleinman

Lou Kleinman, Director

CL

cc: Dean Daniel E. Griffiths
Professor John G. Miller

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SECTION I

VOCATIONAL-TECHNICAL EDUCATION FOR SECONDARY SCHOOL STUDENTS

Education is a process of acquiring the knowledge, skills and standards of a culture, and learning to contribute to that culture. The public elementary and secondary school is but one of the many institutions in the United States engaged in education. The roles of home, church, and community are basic, and educational opportunities are supplied by colleges, universities, professional schools, parochial schools, and schools for continuing adult education. The primary responsibility for education of most Americans rests with the public schools. It is with the quality of these schools that most people are concerned today.

The best education is that which does most to enable each student to develop his abilities and, at the same time, to learn how best to serve the society in which he lives. Education must then be appropriate for serving the needs of each individual and the needs of society. It must be kept in mind that students are individuals, student bodies are constantly renewed, and our society is continually changing. The highest quality education demands never ending adaptation and improvement.

The diverse needs of society demand diversified education. A society which strives to maintain high standards of living and culture needs to develop talents of every type. Communities differ and therefore the schools which serve them must differ. Education of many kinds must be provided in America.

Early Developments in Vocational-Technical Education

The concept of "vocation" is as old as man. People have always had to make certain career choices which have over the years come to be known as a "vocation." Until rather recent times the person's occupation was often determined by birth. Whether the young person became a craftsman, farmer, merchant, or preacher he recognized his vocation as something permanent, or for life.

The son's life work was very often the same as his father's. The son learned the rudiments of that work from his father and from other men in the community. The method of learning occupational skills was largely through observation, imitation, and personal initiative. In larger commercial centers, skills were transmitted in a more organized manner through apprenticeship.

This state of vocational affairs was well suited to a society whose political, cultural, economic, social, and religious institutions were based on permanency. Beginning in the sixteenth century, and slowly gaining momentum in the seventeenth and eighteenth until the acceleration was moving with great force in the nineteenth and twentieth centuries, a counter-trend developed, a trend described as "change". Change, and not permanency, became the mark of many institutions including cultural, religious, social, economic, and political, if these institutions were to survive.

Each of these great changes, and the industrial revolution in particular, wrought great changes involving man and his work. For increasing numbers of men, the pursuit of a vocation involved more than observation, imitation, and initiative; this involved some form of vocational training and eventually the establishment of formal vocational education. In a factory and office system, geared to great change and marked by specialization, the son was not necessarily going to do the same work his father had done. The son needed new training and he needed it from a new place.

Recognition of Vocational Education as a State Function

The years between 1900 and 1910 were ones of great growth in the United States. The population increased from seventy-six million to over ninety-two million. The gross national product more than doubled. Farm income, after two lean decades, rose sharply. Boosts in industrial production ranged from eighty-five to one hundred and sixty percent. Along with the accelerating social and economic changes came new demands from both the factory and the farm for skilled workers and managers. During the early 1900's, the need for skilled manpower became critical and the country turned to its school system for an answer. Educational decisions had to be made during these years and were made, not because of educational consensus but rather societal pressure to get a job done.

In January 1914, Congress authorized and the President signed a bill creating a Commission on National Aid to Vocational Education. The report of the commission finally led to the passing of the Vocational Education Act of 1917 known as the Smith-Hughes Act. The initial Smith-Hughes Act provides an annual grant of $7.2 million dollars to the states: three million dollars for agricultural training, three million dollars for trade-and-industrial and home economics education, one million dollars for teacher training and the rest for Federal costs of administering the act. The $7.2 million yearly appropriation for the Smith-Hughes Act continues today although prior to the passage of the Vocational Education Act of 1963 various other enactments had added some forty million dollars to that basic yearly fund.

Types of Administrative Units for Vocational-Technical Education

The Administrative patterns utilized for vocational education in the various states differ greatly. In Connecticut, programs are planned, administered, and financed directly by the state. These programs are conducted in area vocational schools. States with county administrative organization for all schools often include the administration of vocational education programs under the same boards of education. In most states the vocational education programs are part of the local systems. Combinations of the patterns mentioned above exist in some states. In New Jersey the existence of county vocational education boards separates most vocational education from the rest of the public school system except at the state level. Fifteen of New Jersey's twenty-one counties have County Boards of Vocational Education for area vocational-technical education. For a number of years, there were several county vocational programs in the State of New York.

Vocational education programs are found in comprehensive high schools, in vocational high schools, in technical high schools, and in area vocational schools. All of these schools generally provide training programs for adults as well as high school students.

The comprehensive high school is an organization where all pupils of secondary school age may study those courses for which they are best equipped. In the comprehensive high school, academic, vocational, and technical students are housed under one roof. In communities, where there can be only one high school, the comprehensive high school offers a possible solution to providing both academic and vocational-technical programs. However, the number of students is often too small to provide a wide selection of courses. Theoretically, the comprehensive high school should be feasible and desirable in small cities or large suburban communities. One difficulty with this type of school organization is the tendency to downgrade the vocational-technical programs in favor of the programs for college preparation.

Currently most vocational-technical programs in large urban areas are offered in one or more vocational or technical high schools. It has always been accepted that a larger unit was economically more feasible to administer. Cities such as New York and Buffalo, with large concentrations of pupil population, can administer vocational programs in separate vocational schools with diversified offerings and even with some schools offering programs in highly specialized areas of industry and technology. Smaller communities and school districts have been forced to settle for much less in vocational-education opportunities for their children. Because most vocational education is expensive to provide, most rural schools have been unable to offer any vocational courses at all.

The Area Vocational-Technical Center

Dr. Walter M. Arnold, United States Office of Education's assistant commissioner for vocational and technical education, in 1963 stated, "An area administrative organization has many advantages. Usually it is more flexible and effective than local administration because of its broader administrative and taxing base, the possibility of enrolling more students from a larger geographical area, the wider range of courses it can provide, and the variety of facilities and equipment it can make available to meet specific and immediate training needs of employed workers as well as of students preparing to enter occupations". The area school is a larger administrative unit designed to serve more efficiently an area larger than the traditional local school district. A survey completed by the American Vocational Journal, reveals steady progress and expansion. Nearly one-half million persons are being served today in more than three hundred such schools in operation in thirty-three states and the District of Columbia. The United States Office of Education reports that seventy-one new area vocational-

technical schools were opened during fiscal 1963, thirty-seven more are under construction and sixty-nine are in the planning stage. In addition, fifty-three area schools are planning to expand their offerings in technologies next year and many currently are adding new facilities.

Our New Technology and Unemployed Youth

The public schools of the United States now enroll nearly all of the children of all of the people, an enviable accomplishment achieved during the last century. Parents expect the schools to provide an education for effective citizenship, the development of habits of safe, healthful living, a respect for individual dignity, and the practice of friendly cooperation, as well as an introduction to appreciation and practice of the arts. Parents also expect their children to learn how to make a living, preferably a better living than they have managed to provide.

On a national base, of every ten students now enrolled in elementary grades, three will probably not attain high school graduation. How will these three earn a living without a high school diploma? Of the other seven boys and girls who will finish high school in this decade, three will not go on to college. What will these three high school graduates do for a living? Of the four remaining students who will eventually enter college, only two will receive a baccalaureate degree. Thus, eight out of ten youngsters now in elementary schools most likely have a need for vocational education. These young people will enter the labor force in this decade twenty-six million strong, and will account for nearly ninety percent of the growth in the labor force during the 1960's. Will these young workers be well prepared for the world of work? Will their interests, skills, and knowledge match the changing requirements of the economy?

A recent report made by the American Council on Education indicates that the country is confronted by the paradox of between four and five million persons unemployed, while there are job openings for some four million skilled workers. It places much of the blame on the emphasis and prestige given to "the college track" in the schools, which concentrate attention on about twenty percent of the students - those who complete college. The other eighty percent - those who either drop out of high school, fail to enter college, or drop out of college without a degree - enter the modern technological world "unequipped with the tools they need for survival". The study[1] reported that in order to meet the minimum goals of one hundred thousand new technicians for science and engineering fields alone, the educational system must triple its present efforts. By 1970, the technical, highly-skilled occupations will account for more than half of all job opportunities.

The Vocational Act of 1963

The Vocational Education Act of 1963 was passed because of the accumulating evidence that the old Federal program of assistance to vocational education - the one begun by the Smith-Hughes Act in 1917 and augmented and supplemented over the years by other acts of Congress - was not broad enough, or flexible enough, or rich enough to meet the needs of today, much less the needs of tomorrow.

The act is comprehensive: it excludes no group, no occupation, except those generally considered professional or as requiring a baccalaureate or higher degree. It is concerned about workers of all ages at all levels for all fields; about persons in sparsely-settled areas as well as the urban; about delinquent young people as well as the most industrious; about the employed as well as the unemployed and the underemployed. In its provisions for making vocational training accessible to all persons, the act is not only idealistic but realistic; it requires each state and each community to plan its vocational education programs with an eye always on the changes taking place in the economy and in the world of work.

The Act is also concerned with quality of education - with wise choices by the students, with the training of teachers, with the supply of materials and equipment, with research of problems and a search for solutions. The Act provides for assistance which should help bring excellence into all programs of vocational education.

Summary

A school program of high quality is one in which the promise of educational opportunity for each

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1. Venn, Grant, Man, Education, and Work. Washington, D.C.: American Council on Education, 1964.

student is made real through the proper guidance and teaching. Secondary schools should offer varied and specialized programs of instruction which make possible a broad general education, advanced and specialized study, and the planning of programs on an individual basis. Educational offerings should be appropriate to meet the needs of individual students with different social needs.

The quality of an educational enterprise is largely determined in each locality. High quality in a local educational system depends directly on the character of the community at large and on the abilities and attitudes of the parents, the school boards, the administrators, and the teaching staff. The basic quality in a school is a vigorous public commitment to education based on understanding of what education can do and what good schools are like.

The first step in providing quality education for all of the youth in the tri-county area is to survey the needs. These needs may well be determined by going to the students, the parents and the potential employers. The needs for quality educational programs in the area have changed just as they have changed in all sections of the United States. Education for the world of work in a changing technological society must provide for better programs and adequate facilities for vocational education. The area needs will be determined by this survey and the recommendations based on the findings will help the citizens of the tri-county area decide what kind of vocational-technical education opportunities they will provide for the youth of the area.

SECTION II

ORGANIZATION OF THE SURVEY

The geographical area covered by this tri-county study is located in southeastern New York State and comprises a major section of the seven-county Mid Hudson Economic Area. The survey area is composed of a series of three counties on the eastern side of the Hudson River and bounded by the New England States on the east.

The area is of a rectangular outline extending approximately one hundred miles in a north-south direction and about twenty-eight miles in an east-west direction. The boundary on the north is Rensselaer County and on the south is Westchester County.

The main line of the New York Central Railroad serves the cities and towns along the Hudson and the Taconic State Parkway almost bisects the counties and serves all areas as the main north-south artery for passenger car transportation. Several other good state highways and five bridges spanning the Hudson make almost every part of this tri-county area readily accessible by automobile. The sparsely populated areas in eastern Columbia and Dutchess Counties and the western part of Putnam County has resulted in the development of small high schools serving large geographical areas.

During the early part of 1964 the Boards of Education and School Administrators of Columbia, Dutchess and Putnam Counties together with the authorities of the Parochial High Schools in this area joined in the effort of conducting a survey to determine the desirability of establishing an area plan for vocational and technical education. The State Education Department, Division of Industrial Education, supported this study as a part of a state-wide plan to provide the highest quality program for occupational, vocational and technical education to all areas of our state.

Executive and Policy Committee

An Executive and Policy Committee composed of eleven school superintendents representing the schools of the area was organized with Dr. Edwin L. Hunger of Poughkeepsie City Schools as chairman. The purpose of this committee was to organize and administer the study and also to establish policy for its conduct. A unanimous decision to engage the services of New York University's Center for Community and Field Services was made early in March. Dr. John G. Miller, Director of Instructional Shops for the Department of Vocational Education at New York University, agreed to act as director of the proposed study which began the first of May.

The study was designed in several phases, each relating to the planning of area programs for occupational, vocational and technical education with an emphasis on secondary education. The main phases of the study design are:

A study of the population in the area including projections for the future.

A detailed survey of the existing enrollment, and programs related to occupational, vocational and technical education in the secondary schools of the survey area.

A detailed survey of the occupational interests of high school students including student's reactions to the establishment of high school programs which would prepare them for entering gainful employment.

A comprehensive study of the viewpoints of the parents of high school students with respect to the vocational choice of their children and also their own reaction to occupational, vocational, and technical education on the secondary level; also parent's interests in possible apprenticeship and occupational extension courses.

The problem of the high school "drop out" was considered as a major factor in anticipated plans and therefore a study of a single class of students who had finished or left high school was conducted.

The employment phase of the study was conducted by contacts with key persons in the fields of agriculture, business, industry, public institutions, labor and employers' organizations. From information gathered, a picture of future employment possibilities led to recommendations related to occupational, vocational and technical education.

The final phase of the study is concerned with a summary of the data gathered by the survey team and recommendations for action with statements of alternatives for the implementation of a vocational-technical program to service the entire tri-county area.

Planning and Action Committee

A committee of sixty-three high school administrators, guidance personnel, and other interested school administrators made up this working committee representing the high schools. This committee assisted in the preparation of questionnaires; administered questionaires to the parents and students and conducted the study of the "Class of 1962". The duties of this committee will extend beyond the completion of the report since they will be a key group representing the schools and commissioned to see that plans are made in the near future to implement the recommendations of the study.

Advisory Committee

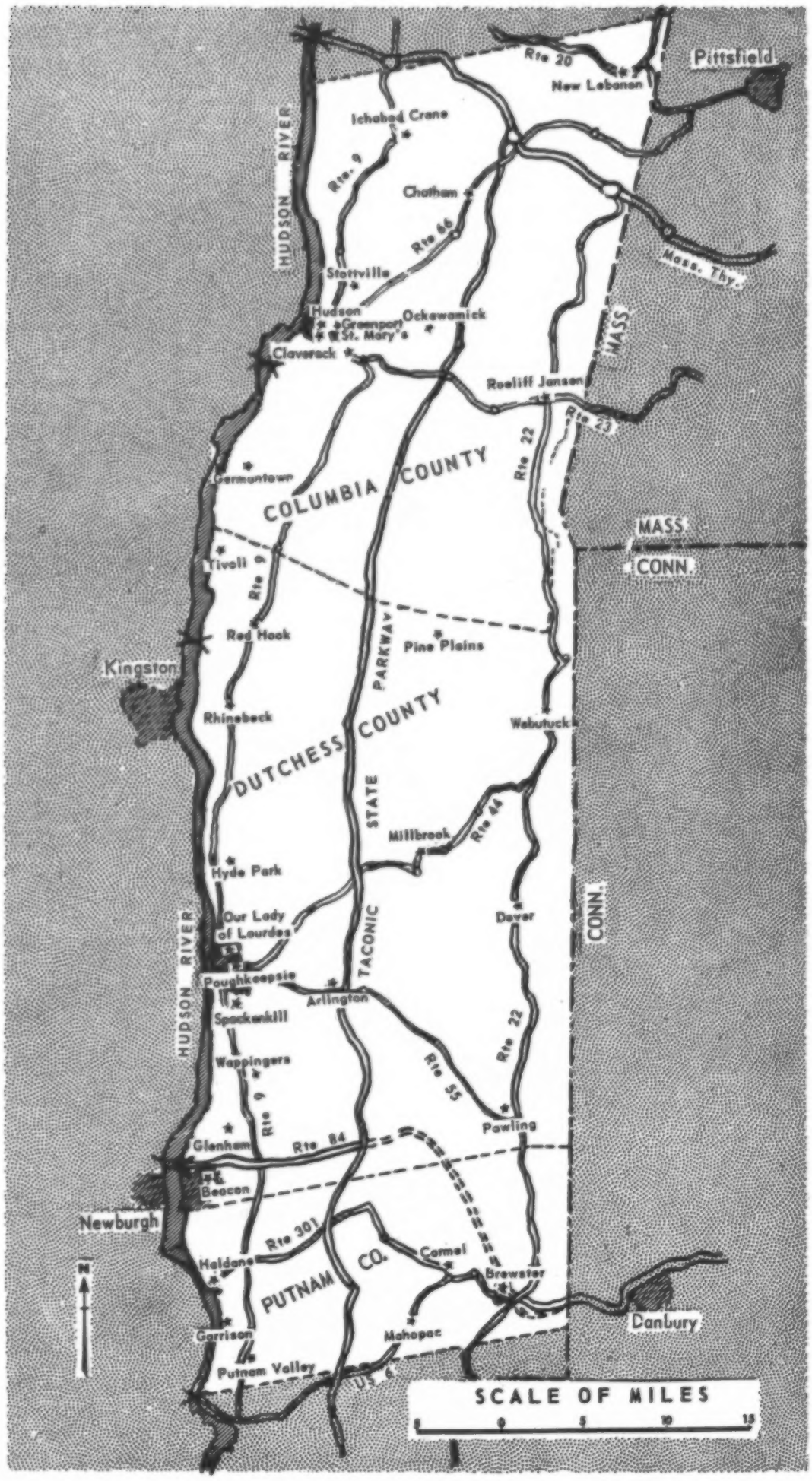
A committee of seventy-nine laymen representing industry, business, labor, members of school boards, and others assisted in the employment phase of the study. This committee reviewed the survey outline; aided in development of employer's questionnaires; aided in making contacts with business and industry; and made many valuable suggestions for obtaining facts about employment in the survey area. The Advisory Committee will extend its function beyond the preparation of this report by assisting in the development of public understanding during the period of final implementation of the survey recommendations.

Survey Team

The survey team composed of specialists in the field of vocational education visited existing facilities, served as consultants to the above committees and together with a staff of tabulators, assembled the findings and prepared the final report.

Format of the Study

The various phases of the survey were defined and accepted by the executive committee before work was begun. These phases formed section headings for the final report. At the request of the Executive Committee all of the information was tabulated by County in such a way that it might be separated if found necessary for other uses. Although this sectional reporting is used throughout, each section of the report contains data which concerns the tri-county area as a whole.



LOCATION OF SCHOOL DISTRICTS IN THE TRI-COUNTY AREA

SECTION III

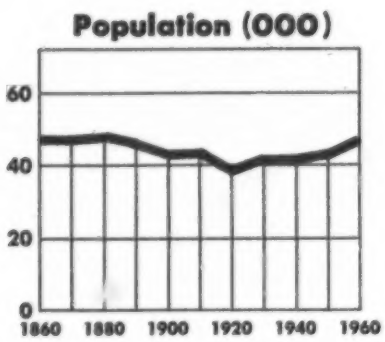
POPULATION DISTRIBUTION

Population by Counties

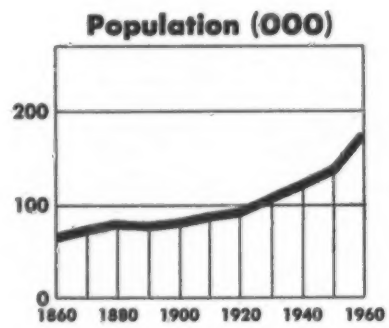
In planning an area program of vocational-technical education, it is important to know the present population and the projected future changes. The data presented here provides an overall picture of the number of people living in the survey area and the estimated population growth through 1980.

Table 3.1 Population Growth in the Tri-County Area

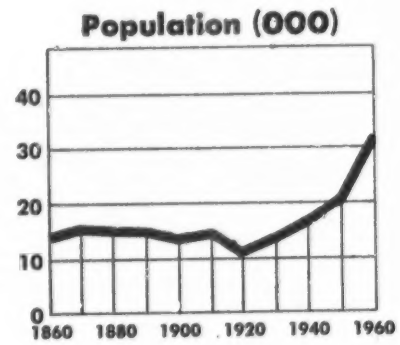
Year	Columbia	Dutchess	Putnam	Total
1940[2]	41,464	120,542	16,555	178,561
1950[2]	43,182	136.781	20,307	200,270
1960[2]	47,322	176,008	31,722	255,052
1963[1]	48,733	189,137	35,886	273,756



COLUMBIA



DUTCHESS



PUTNAM

Table 3.2 Population Projections [3]

		1970	1980
Columbia	Low	51,360	58,570
	High	57,771	59,716
Dutchess	Low	218,610	279,600
	High	270,180	405,000
Putnam	Low	51,231	90,622
	High	57,647	110,000
Total	Low	321,201	428,792
	High	385,598	574,716

1. Business Fact Book, 1963 Supplement. Albany: Department of Commerce, 1964.
2. Basic Statistics for Columbia, Dutchess, and Putnam Counties. Albany: Department of Commerce, 1964.
3. Projections of Regional Developments. Albany: Office for Regional Developments, 1964, (Mimeo).

Tables 3.1 and 3.2 show that expected increases in population in the 1960's in Columbia County range for a low of 8.5% to a high of 9.4%; in Dutchess County from a low of 24.2% to a high of 53.5% and in Putnam County from a low of 61.5% to a high of 81.6%. During the 1970's continued growth is expected until the percentage of increase in population over the 1960 figures reaches a low of 22.9% to a high of 26.2% for Columbia County; a low of 58.8% to a high of 130% for Dutchess County; and a low of 185% to a high of 247% for Putnam County.

In the next fifteen years, it is quite possible that the combined population of the three counties will reach the half million mark and even more. A conservative estimate indicates a population of more than 400,000.

Population in Towns

In considering population concentration as a possible aid in establishing vocational-technical education centers, a breakdown of population figures by cities and towns is provided.

Table 3.3 Population in Towns 1960[1]

COLUMBIA COUNTY

Angram Town	1080
Austerlitz Town	809
Caanan Town	1272
Chatham Town	3402
Claverack Town	4989
Clermont Town	980
Copake Town	1630
Galatin Town	621
Germantown Town	1504
Ghent Town	3485
Greenport Town	3299
Hillsdale Town	1299
Hudson City	11075
Kinderhook Town	4185
Livingston Town	1770
New Lebanon Town	1674
Stockport Town	2025
Stuyvesant Town	1496
Taghkanic Town	727

The population in Columbia County is spread over the entire county, with the bulk living in and around the City of Hudson.

1. United States Census, Characteristics of Population, 1960, New York.

Table 3.4 Population in Towns[1].

DUTCHESS COUNTY

	1960
Amenia Town	7546
Beacon City	13922
Beekman Town	3326
Clinton Town	1639
Dover Town	8776
East Fishkill Town	4778
Fishkill Town	7083
Hyde Park Town	12681
La Grange Town	6079
Milan Town	944
Northeast Town	2489
Pawling Town	3938
Pine Plains Town	1608
Pleasant Valley Town	4046
Poughkeepsie City	38330
Poughkeepsie Town	32164
Red Hook Town	6023
Rhinebeck Town	4612
Stanford Town	1614
Union Vale Town	1138
Wappinger Town	9577
Washington Town	3695

The bulk of the population in Dutchess County is living in the area along the Hudson River.

Table 3.5 Population in Towns[2].

PUTNAM COUNTY

	1960
Carmel Town	9113
Kent Town	3924
Patterson Town	2853
Philipston Town	5918
Putnam Valley Town	3070
South East Town	6844

The bulk of the population in Putnam County - nearly half - is centered around the Carmel and Brewster area.

1. United States Census, Characteristics of Population, 1960, New York.
2. Basic Statistics for Columbia, Dutchess, and Putnam Counties. Albany; Department of Commerce, 1964.

SECTION IV

PRESENT PROGRAMS AND FACILITIES

A study of the needs for an area program in vocational-technical education would be incomplete without an overview of the present secondary school programs in existence throughout the survey area. Questions related to the study are:

> What are the present organizational patterns of the schools within the survey area?
>
> What is the enrollment in these grades which might benefit from a vocational-technical program?
>
> What are the projected high school enrollments?
>
> What is the present "holding power" in the high schools?
>
> What kinds of continuing education do high school graduates report and what percent of the graduates continue their formal education?
>
> Are there any adult education courses of a practical nature?
>
> What present programs are now established in vocational-technical education?

Answers to these and additional related questions were obtained by one of two procedures: (1) A questionnaire was designed and sent to each high school principal to obtain much of the statistical data. (2) A member of the survey team made visits to the larger schools in each of the counties. During these school visits, it was possible to interview superintendents, principals, members of the guidance staffs, a coordinator of a department of technical and industrial arts education, industrial arts teachers, and trade teachers. A member of the survey team was able to observe many shop classes in session. session.

The information in this section of the study was developed from the replies to the questionnaire and also from structured observations and interviews made during the visits to seventeen schools and BOCES programs.

Schools and Their Organizational Patterns

A total of thirty-two (32) schools participated in the study. This represents all of the public school districts in the three-county area, together with two parochial schools which have high school enrollments. There were eleven participating schools in Columbia County, fifteen in Dutchess County, and six in Putnam County. The type of district represented by the schools participating in the study is shown in Table 4.1

Table 4.1 Types of Schools Districts

	Central	Union Free	City	Parochial	Common	Total
Columbia	6	2	1	1	1	11
Dutchess	9	4	2	1	1	17
Putnam	5	1	0	0	0	6
Total Tri-County	20	7	3	2	2	34

Of the thirty-two participating schools, two public schools did not have high school classes. The Garrison Union Free School in Putnam County sends all of its high school students to Highland Falls High School in Orange County. These students were not covered in the phase of the study dealing with occupational interests since they could not be contacted as a group. Enrollment figures from Garrison and Putnam Valley Schools are included with this report since these students might take advantage of an area plan for vocational-technical education. The high school students in Claverack, Greenport and Stottville School Districts, all in Columbia County, attend high school in neighboring districts in Columbia County and therefore have been included in this study as members of the high school where they attend. The high school students from Spackenkill and Glenham Union Free Schools, Dutchess County, attend corresponding grades in neighboring school districts and likewise are represented by the figures in the schools they attend. In the area covered by this Survey, there are twenty-six schools with programs leading to a high school diploma.

Enrollment Distribution in Grades 9, 10, and 11 as of June 1964

In order to show the population distribution of high school students which an area vocational-technical program might serve, a tabulation of the enrollment of students in grades 9, 10, and 11 as of June 1964 is presented. These grades were selected since they will represent the school population of the 10th, 11th, and 12th graders in the school year 1964-65. It is for these three grades that secondary programs of vocational and technical education are primarily designed. In large cities where vocational and technical programs have been well established, eighteen percent of the enrollment in grades 10, 11, and 12 avail themselves of this type of specialized education.[1] Table 4.2 shows the distribution of these enrollments with totals for each county. There are centers in each county where the larger enrollments occur. These centers correspond to population concentrations and may indicate possible locations of area centers.

Experience has shown that it is not economically feasible to plan vocational-technical programs for school districts with fewer than one thousand to fourteen hundred students in grades 10, 11, and 12.[2] Table 4.2 shows that there are only two schools in the survey area which have enrollments meeting this minimum requirement. When the total enrollment in these grades in the three-county area of eleven thousand, three hundred and fifty-six is considered, the possibility of combining districts to establish centers for area programs is worthy of consideration.

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1. Education for a Changing World of Work. Summary Report of the Panel of Consultants on Vocational Education requested by the President of the United States, Washington, D. C.: Superintendent of Documents, 1963.

2. Guide to School District Reorganization for New York State. Bureau of Rural Administration Services, State Education Department, Albany, 1958.

Table 4.2 Enrollments in Grades 9, 10, and 11

June 1964

School	County	9	10	11	Total
Chatham	Columbia	130	147	94	371
Claverack	Columbia	*	*	*	*
Germantown	Columbia	59	57	41	157
Greenport	Columbia	*	*	*	*
Hudson	Columbia	247	229	221	697
Ichabod Crane	Columbia	136	132	91	359
New Lebanon	Columbia	65	76	57	198
Ockawamick	Columbia	88	80	52	220
Roeliff Jansen	Columbia	79	89	57	225
St. Mary's**	Columbia	57	51	51	159
Total Columbia County		861	861	664	2,386
Arlington	Dutchess	334	312	304	950
Beacon	Dutchess	264	238	228	730
Dover	Dutchess	69	52	45	166
Hyde Park	Dutchess	326	285	263	874
Millbrook	Dutchess	72	89	58	219
Our Lady of Lourdes**	Dutchess	301	238	223	762
Pawling	Dutchess	79	84	56	219
Pine Plains	Dutchess	85	86	67	238
Poughkeepsie	Dutchess	434	470	389	1,293
Red Hook	Dutchess	109	91	95	295
Rhinebeck	Dutchess	71	87	73	231
Spackenkill	Dutchess	90	*	*	90
Tivoli	Dutchess	10	14	11	35
Wappingers	Dutchess	434	450	404	1,288
Webutuck	Dutchess	59	50	66	175
Total Dutchess County		2,737	2,546	2,282	7,565
Brewster	Putnam	154	137	142	433
Carmel	Putnam	156	137	94	387
Garrison***	Putnam	23	12	11	46
Haldane	Putnam	59	56	46	161
Mahopac	Putnam	156	105	117	378
Putnam Valley***	Putnam	55	52	60	167
Total Putnam County		603	499	470	1,572
Total Combined Tri-County Area		4,201	3,906	3,416	11,523

* Students from classes indicated by "*" attend school at another high school in the same county and are counted with the enrollment of that school.

** Parochial High Schools

*** Students attending high school classes in schools outside the survey area. They have been counted in the enrollment study because they will be potentially part of the population from which an area vocational-technical school might draw.

Table 4.3 Projected Enrollments of Grades 10, 11, and 12 Through 1967-68

School	County	'65-'66	'66-'67	'67-'68
Chatham	Columbia	415	407	393
Claverack	Columbia	**	**	**
Germantown	Columbia	172	185	198
Greenport	Columbia	**	**	**
Hudson	Columbia	632	635	770
Ichabod Crane	Columbia	378	386	390
New Lebanon	Columbia	222	224	234
Ockawamick	Columbia	240	237	235
Roeliff Jansen	Columbia	236	212	226
* St. Mary's	Columbia	51	51	51
Stottville	Columbia	**	**	**
Total Columbia County		2,346	2,337	2,497
Arlington	Dutchess	1,022	1,127	1,177
Beacon	Dutchess	679	720	791
Dover	Dutchess	190	228	239
Hyde Park	Dutchess	909	933	941
Millbrook	Dutchess	210	200	195
* Our Lady of Lourdes	Dutchess	730	730	730
Pawling	Dutchess	239	243	257
Pine Plains	Dutchess	248	265	285
Poughkeepsie	Dutchess	1,279	1,280	1,239
Red Hook	Dutchess	315	330	395
Rhinebeck	Dutchess	216	226	257
Spackenkill	Dutchess	**	**	**
Tivoli	Dutchess	36	35	35
Wappingers	Dutchess	1,441	1,639	1,845
Webutuck	Dutchess	140	164	173
Total Dutchess County		7,654	8,[illegible]0	8,559
Brewster	Putnam	460	475	490
Carmel	Putnam	531	593	598
** Garrison[1]	Putnam	63	63	63
Haldane	Putnam	173	206	222
Mahopac	Putnam	400	445	493
** Putnam Valley[1]	Putnam	169	183	193
Total Putnam County		1,796	1,965	2,059
Total Tri-County Area		11,796	12,422	13,115

* Parochial School

** No classes in grades 10, 11, and 12

1. Tenth, eleventh and twelfth grade students are presently attending high schools outside the survey area.

Projected High School Enrollments in Grades 10, 11, and 12

The majority of schools in the study area reported on projected enrollments through the 1967-68 school year. These projections may be found helpful in determining geographical areas where school populations are likely to increase or decrease. This information should not be treated as an absolute projection of school enrollments since unforeseen factors such as rapid population growth due to increased movement into some areas from nearby urban communities is contemplated in projected population figures published by the United States Census. Information on projected population of the study area is in Section III of this report. Table 4.3 shows projected enrollments for the grades in high school from which an area vocational-technical program might draw. There appears to be a steady rate of anticipated growth in many of the districts. The most rapid growth is anticipated in districts just outside the City of Poughkeepsie.

Estimated "Holding Power" of Secondary Schools

Nationally, the President's Panel of Consultants on Vocational Education recently reported that during the present decade, of every ten youngsters presently enrolled in grade schools, three will not finish high school. This report indicated a potential national "drop-out" rate of thirty percent.[1]

Administrators in each of the schools participating in this study were asked to report on the "holding power" of their respective high schools. Holding power was figured by the pupil accounting method[2] as established by the State Education Department. The percentage of holding power was established for the group of students who were in the ninth grade in 1960-61 and would normally continue their high school education through graduation in 1964. The "holding power" of schools in the area ranges from a high of 93.1% to a low of 67.1%. The over-all holding power of 80.8% for the survey area compares favorably with national figures. Table 4.4 shows the holding power percentages and the number of "drop-outs" from the 1964 graduating class in each of the high schools.

Table 4.4 Holding Power of the High Schools
(Class Entering 9th Grade 1960)

School	County	Potential Graduates in 9th Grade***	Holding Power in Percent	Drop-Outs From Grade 9
Chatham	Columbia	132	77.3	30
Germantown	Columbia	47	76.6	11
Hudson	Columbia	252	70.0	53
Ichabod Crane	Columbia	137	81.0	26
New Lebanon	Columbia	51	72.5	14
Ockawamick	Columbia	44	86.4	6
Roeliff Jansen	Columbia	93	74.2	24
* St. Mary's	Columbia	43	72.1	12
** Total Columbia County		799	78.0	176

* Parochial schools

** Four-year high schools only

*** The number of graduates increased by the number of voluntary withdrawals

1. Education for a Changing World of Work. Summary Report of the Panel of Consultants on Vocational Education requested by the President of the United States, Washington, D. C.: Superintendent of Documents, 1963.

2. How High Schools Can Reduce Their Dropout Rate. An Action Guide, The University of the State of New York, Albany: State Education Department, Bureau of Guidance, 1964.

Table 4.4 (continued)

School	County	Potential Graduates in 9th Grade***	Holding Power in Percent	Drop-Outs From Grade 9
Arlington	Dutchess	307	82.7	53
Beacon	Dutchess	214	78.9	45
Dover	Dutchess	55	74.5	16
Hyde Park	Dutchess	291	82.5	51
Millbrook	Dutchess	58	93.1	4
* Our Lady of Lourdes	Dutchess	218	79.4	45
Pawling	Dutchess	55	85.5	8
Pine Plains	Dutchess	71	71.8	20
Poughkeepsie	Dutchess	460	87.3	59
Red Hook	Dutchess	87	82.8	15
Rhinebeck	Dutchess	85	67.1	28
Tivoli	Dutchess	17	87.5	2
Wappingers	Dutchess	358	85.2	53
Webutuck	Dutchess	63	76.2	15
** Total Dutchess County		2,339	82.3	414
Brewster	Putnam	126	74.6	32
Carmel	Putnam	137	81.9	25
Haldane	Putnam	46	67.4	15
Mahopac	Putnam	125	80.8	24
** Total Putnam County		434	77.9	96
** Total Combined Tri-County Area		3,572	80.8	686

Continuing Education of High School Graduates

On the national level, it is reported that seventy percent of our elementary school children finish high school. Of those who receive a high school diploma, fifty-nine percent continue their education. This group of students entering educational programs beyond the high school represents forty percent of our country's youth.[1] Some of these high school graduates attend four-year college programs; others attend junior or community colleges; a smaller number attend nursing schools, business schools, special trade schools, and other post-secondary programs.

Schools in the survey area reported on continuing education for a recent graduating class. Percentages of students pursuing education beyond high school range as high as eighty-four percent. Table 4.5 presents a detailed report on education beyond the high school as reported by the schools in the tri-county area. Note the relationship between the figures in the table and national percentages mentioned above.

* Parochial schools

** Four-year high schools only

*** The number of graduates increased by the number of voluntary withdrawals

1. Education for a Changing World of Work. Loc. Cit.

Table 4.5 Education Beyond High School

School	Graduated 1962	Entered Four-Year College	Entered Two-Year College or Technical Institute	Nursing School	Business School	Special Trade School	Evening Adult Classes	Other	TOTAL	Percentage of Graduates Continuing Education
Columbia County										
Chatham	70	25	14	3	1	1	1	0	45	64
Germantown	26	9	2	1	1	1	0	0	14	54
Hudson	158	41	15	9	7	4	0	0	76	48
Ichabod Crane	63	17	7	3	5	0	0	0	32	51
New Lebanon	43	13	12	3	4	0	1	3	36	84
Ockawamick	36	13	8	2	2	0	1	0	26	72
Roeliff Jansen	69	26	11	6	3	0	0	1	47	68
* St. Mary's	31	11	3	3	3	2	0	0	22	71
Total Columbia County	496	155	72	30	26	8	3	4	298	60.1
Dutchess County										
Arlington	191	73	34	9	4	0	9	0	129	68
Beacon	117	25	14	8	8	1	0	0	56	48
Dover	33	11	7	1	7	0	0	0	26	79
Hyde Park	132	32	37	6	3	8	0	1	87	66
Millbrook	25	4	9	0	2	1	0	0	16	64
* Our Lady of Lourdes	170	83	16	10	3	0	0	0	112	66
Pawling	29	11	3	4	3	0	0	0	21	72
Pine Plains	36	11	7	0	0	0	0	0	18	50
Poughkeepsie	302	102	67	4	5	0	0	0	178	59
Red Hook	54	21	4	1	1	0	0	1	28	52
Rhinebeck	38	10	8	1	1	0	0	0	20	53
Tivoli	1	0	0	0	0	0	0	0	0	0
Wappingers	152	49	40	5	6	2	2	0	104	68
Webutuck	36	8	11	2	4	0	0	1	26	72
Total Dutchess County	1,316	440	257	51	47	12	11	3	821	62.4
Putnam County										
Brewster	70	27	6	5	4	2	1	0	45	64
Carmel	88	39	14	2	7	1	0	0	63	72
Haldane	41	12	6	4	3	4	0	0	29	70
Mahopac	59	21	7	3	7	0	0	0	38	64
Total Putnam County	258	99	33	14	21	7	1	0	175	67.8
Total Tri-County Area	2,070	694	362	95	94	27	15	7	1,294	62.5

* Parochial Schools

Adult Education of a Practical Nature

Schools in the survey area were asked to report the number of adult education classes available in their communities which were of a "practical nature". Many course titles indicated a need for self improvement among adult employees. An area vocational-technical center would undoubtedly include an evening adult program for all participating districts. Reports from the schools indicate the following for the school year 1963-64:

Columbia County

Hudson High School reported adult classes in Blueprint Reading, Bookkeeping, Refrigeration and Air Conditioning, Typing and Advanced Tailoring.

Dutchess County

Arlington Central School offered classes in Basic Electricity, Blueprint Reading, Industrial Measurement, and Professional Engineering Refresher I and II.

Beacon High School reported adult classes in Welding and Typing.

Poughkeepsie High School has an extensive adult program including apprentices which is covered in detail elsewhere in this section of the study.

Tivoli had an adult class in Typing.

Ketcham High School in Wappingers Falls, offered adult classes in Typing and Shorthand.

The Young Farmer Program of Vocational Agriculture was conducted in Chatham, Roeliff Jansen, and Webutuck as an adult evening class.

Mention should be made of the evening program in Dutchess Community College. About one thousand, three hundred students took advantage of evening extension courses last year. The majority of these offerings emphasize technical knowledge rather than manual skills. More information on the program of Dutchess Community College, included elsewhere in this section of the study.

Putnam County

Carmel and Mahopac had an adult education program in which Typing and Shorthand were offered.

Terms Related to Vocational Education

Education in secondary schools includes several kinds of vocational and technical programs. Each program has a specific purpose in providing skills required for entering occupations upon completion of high school. In order to have no misunderstanding with respect to the areas of instruction covered by the broad term "Vocational-Technical Education", the following definitions are included here:[1]

Agricultural Education

"Vocational education in agriculture will be designed to meet the needs of persons over fourteen years of age who have entered upon or are preparing to enter: (a) the work of the farm or farm home, or (b) any occupation involving knowledge and skills in agricultural subjects, whether or not such occupation involves work of the farm or of the farm home."

Business and Office Education

"Programs of instruction will be concerned with concepts of the American business system, be committed to a career development approach, with each regular vocational student having a stated career objective..."

---

1. Definitions furnished by the New York State Education Department, 1965.

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Business and Office Education

"Programs of instruction will be concerned with concepts of the American business system, be committed to a career development approach, with each regular vocational student having a stated career objective..."

Distributive Education

"Programs of instruction will be concerned with concepts of the American business system, be committed to a career development approach, with each regular vocational student having a stated career objective..."

Health Occupations

"The health occupations render supportive services to the health professions such as nursing, medical, and dental practice, all of which are concerned with providing diagnostic, therapeutic, preventive, restorative and rehabilitative services to people."

Home Economics

"Homemaking-Vocational education in homemaking means education which provides instruction which will enable families to improve their family life through more effective development and utilization of human resources."

"Vocational education in home economics directed toward gainful employment provides instruction that qualifies individuals to engage in occupations involving knowledges and skills in home economics subject matter areas, i.e., child development, clothing and textiles, food and nutrition, home and institutional management, home furnishings and equipment, etc. Included are such occupations as those which provide services to families in the home and similar services to others in group situations; those which provide assistance to professional home economists and professionals in fields related to home economics in business, agencies and organizations etc.; and other occupations directly related to one or more home economics subject-matter areas."

Industrial Arts

"Indusrial arts as a school subject, is the broad study of the materials, organization, tools, processes, products, jobs and the human problems of industry. It is developed through planning and constructing projects of interest to students, and through discussions, observations and readings related to industry."

Technical Education

"Technical education...will be designed to train persons for employment as highly skilled technicians in recognized occupations requiring scientific knowledge in fields necessary for the national defense."

Trade Education

> "Trade and industrial education means education which includes any subject which is necessary to develop the manipulative skills, technical knowledge, and related information such as job attitudes safety practices and trade judgment necessary for employment in a trade and industrial occupation."

The present program of vocational or technical education in the three-county area includes, with the exception of practical nursing, at least one program in each of the types defined. Table 4.6 shows the distribution of programs by counties and also the enrollments and number of teachers and schools involved.

BOCES and Vocational Education

In the Survey Area, there are four supervisory districts which have a Board of Cooperative Educational Services. BOCES makes possible such educational services, to the smaller schools, that are not normally available because of low enrollments. For a number of years, the BOCES in Putnam County has provided trade education for the eleventh and twelfth grade students in the high schools of that county. Courses in Building Construction and Auto Mechanics are available for boys, and a course in Cosmetology has been established for girls. The students in the BOCES program take the regular general-education classes in their home school in either the morning or afternoon. For their special skill courses, they are transported by bus to the location of the shop facility in Carmel for the boys and the cosmetology facility in Mahopac for the girls. Some students are transported a distance of twenty miles.

In Columbia County, the First Supervisory District has a BOCES. A very successful two-year Auto-Mechanics course is offered in a rented garage in Kinderhook. Students are transported from their home school during half of the school day and spend the balance of the day in regular high school classes at their home school. Agriculture Education is offered as a part of the BOCES program of the First Supervisory District. These classes are conducted in the high school building at Chatham.

Plans are under way for expanding the services of BOCES in both of these counties. "Work-Study" programs are being considered to give high school students a beginning work experience under school supervision.

Although there is a BOCES in the Sole Supervisory District covering Dutchess County, there are no vocational programs in any of the district schools. A possible reason for this situation is the existing vocational program in the City of Poughkeepsie. Recent interest in establishing vocational programs sponsored by this BOCES has not been acted upon pending the outcome of this tri-county survey.

Vocational and Technical Education at Poughkeepsie High School

Poughkeepsie High School is a comprehensive school with a long-established program in vocational and technical education. The vocational-technical program which was started in 1926, is administered by a Coordinator of Technical and Industrial Arts Education. Trade courses in Machine Shop, Auto Mechanics, and Cosmetology are offered. A technical course in Electricity is offered as part of a program outlined in Title VIII of the National Defense Education Act of 1958. Poughkeepsie High School services the students residing in the city school district with a very few exceptions. If there is room in a program for a nonresident, and if the nonresident meets the entrance qualifications, he may be admitted. Several nonresident students are being served in the vocational program at Poughkeepsie High School. The fact that more nonresidents are not being serviced by vocational programs is not unusual; it merely emphasizes the possible need for an area program which will serve several school districts in an area. Table 4.6 gives enrollment details.

Business and Distributive Education

A total of sixteen out of the seventeen high schools in the survey area have a program in business education. Physical space and equipment necessary for teaching courses which may enable high school students to enter employment in this area is not as elaborate and expensive as that which is required for trade-industrial and technical education. Table 4.6 shows that this form of vocational education is available to most high school students who wish to take advantage of the training.

Distributive education in the three counties is not as strong as one might expect. Only two schools, both in Dutchess County, have programs for training students to enter employment in this field.

Agriculture Education

Agriculture education in secondary schools consists of a four-year sequence of courses related to farming and agriculture mechanics. At present, there are but four programs in agriculture in the area covered by the Survey.

The BOCES in District One of Columbia County offers a course in agriculture as a service to the schools in that supervisory district. Roeliff Jansen Central School which is located in the southeastern section of Columbia County has a program. In Dutchess County, there are two central schools offering agriculture. These schools are located in the eastern section of the county.

Agriculture education provides a sequence of four one-year courses. Schools often offer Agriculture I and III in one school year and Agriculture II and IV on alternative years in order to justify the employment of a teacher for the lower enrollments in the program. The agriculture education program does not terminate with other secondary school programs in the summer months. The vocational agriculture teacher uses the summer months to supervise students projects on the farms. Agriculture education is therefore a twelve month program. Table 4.6 shows the enrollment and number of teaching positions in vocational agriculture.

Homemaking Education

Nationally, homemaking is the largest vocational program in the high school. Since homemaking education does not usually prepare students for payroll jobs, at present it can be thought of as vocational only in the broadest sense of the term. Only two high schools offered this program in Columbia County. There are three schools with homemaking programs in Dutchess County and only one in Putnam County. See Table 4.6 for details regarding enrollment and number of teachers.

Manpower Development Training Programs

Although the Manpower Development Training Act of 1962 is not strictly a phase of vocational education, the type of training provided by this Act is training for employment. This Act provides for the training and retraining of those individuals who are unemployed or under-employed. There are two centers in the tri-County area where MDT programs have been established, one in the City of Hudson, another in the City of Poughkeepsie.

Hudson

In July 1964, a class for training practical nurses was organized on a twenty-two week basis with provision for an additional twenty-four weeks of clinical experience in Columbia Memorial Hospital. Twenty-four adults were involved in this program. In September 1964, a course was organized for training in the field of auto mechanics in the City of Hudson. Instruction is carried on in a vacant garage rented by the Board of Education. Fifteen adults are enrolled in this training program, which consists of nine hundred and four instructional hours. A second course will begin in March 1965, with fifteen students enrolled.

Poughkeepsie

An MDT program started in Poughkeepsie in 1962 with courses in auto mechanics, key punch operation, stenography, and general machine operator. Seventeen adults have completed training in auto mechanics, fifty-four in key punch operation, fifteen in general machine operator, and thirteen in stenography. In August 1964, a program was established for licensed practical nurses with an enrollment of forty-eight adult trainees. This program is scheduled to be completed June 30, 1965. A second program in stenography began September 1964 with twenty trainees; a second key punch operator program began November 30, 1964 with fifteen trainees in each of three sections. Placement of trained key punch operators has

been highly successful. Each of the fifty-four who have completed the course have reported successful placement as key punch operators. Additional programs are in the planning stage in auto mechanics, cable makers, general machine operator; and a program in general maintenance awaiting State approval. There is an existing need for persons trained in basic building maintenance to serve the needs of the area hospitals, hotels, motels, and public buildings.

Table 4.6 Vocational and Technical Programs by County

(June 1964)

County	Kind of Vocational Program	Offered by BOCES	Number of Schools	Number of Students	Number of Teachers
Columbia	Agriculture Education	1	1	74	2
	Business Education		4	323	7
	Homemaking Education		1	29	1
	Trade Education	1		26	1
Total Columbia				452	12
Dutchess	Agriculture Education		2	151	2
	Business Education		9	548	21 1/2
	Distributive Education		2	67	2
	Homemaking Education		4	183	3 1/2
	Technical Education		1 (Pough.)	38	1
	Trade Education		1 (Pough.)	121	4
Total Dutchess County				1,108	34
Putnam	Business Education		3	136	7
	Homemaking Education		1	20	1
	Trade Education	3		107	3
	Work Experience	1		28	3/4
Total Putnam County				291	11 3/4
Total Tri-County Area				1,851	57 3/4

Apprenticeship and Occupational Extension Programs

Apprenticeship classes are conducted by the Department of Technical and Industrial Arts Education of Poughkeepsie High School in cooperation with labor organizations in that area. The program enables men to improve their related trade knowledge during evening school while working at a trade during the day. During the spring of the 1963-64 school year there were a total of one hundred and fifty enrolled in nine different trade apprenticeship courses. Table 4.7 shows the courses offered and enrollments.

Table 4.7 Trade Apprenticeship Classes at Poughkeepsie High School

Plumbing	22
Sheet Metal	14
Refrigeration	15
Machine Shop	18
Auto Mechanics	14
TV and Radio	19
Domestic Heating	21
Drafting	14
Welding	13
Total	150

There were no other trade apprenticeship courses in other parts of the survey area. Young tradesmen who lived too far away from the Poughkeepsie program must depend on self unorganized instruction for technical and related skills which might improve their earning power.

Occupational extension courses are also offered at Poughkeepsie in the Department of Technical and Industrial Arts Education. These courses are similar to those offered in the apprenticeship program but are not necessarily for persons already employed in a trade. An adult wishing training or retraining in a skill for the purpose of employment or advancement in employment may enroll in these courses. In some cases, these courses were taught at the same time as adult-education classes. In the spring of the 1963-64 school year there were three occupational extension classes with a total enrollment of thirty-seven. Table 4.8 shows this program.

Table 4.8 Occupational Extension Classes at Poughkeepsie High School

Machine Shop	25
Carpentry	4
Wood Finishing	8
Total	37

Dutchess Community College

A report on present programs in vocational-technical education would not be complete without mention of the Dutchess Community College. This college is one of several locally-sponsored two-year colleges established as part of the State University of New York. The campus is located just outside the city of Poughkeepsie. One of the most impressive building units is a modern technology building which houses the laboratories. These laboratories include:

- Architectural Laboratory
- Mechanical Design Laboratory
- Machine Shop Laboratory
- Testing Laboratory
- Electronics Laboratory
- Physics Laboratory
- Nursery School
- Nursing Laboratory
- Dental Assistant Laboratory
- Retail Management Laboratory
- Business Accounting Laboratory
- Secretarial Laboratory
- Business Machines Laboratory

The program of Dutchess Community College includes fifteen technology areas. About fifty-four percent of the students are enrolled in these technical areas which are terminal programs. The balance of the student body concentrate on a two-year liberal arts program and are working toward the goal of transferring to a four-year degree-granting institution upon completion of their two-year curriculum.

About one thousand, one hundred full-time students were enrolled at Dutchess Community College during the 1963-64 school year. About an equal number of students attended evenings on a part-time basis. There are no dormitories on campus; therefore many students commute to and from college by car. The majority of students come from the tri-county area with others from many areas in New York State and a few from other states and foreign countries. Students attending Dutchess Community College in 1963-64 were graduated from high schools in the counties shown in Table 4.9.

Table 4.9 Location of High Schools from which Dutchess Community College Students Graduated

County	Percentage
Dutchess	59.5%
Columbia	3.9%
Putnam	4.7%
Ulster	11.3%
Westchester	2.4%
Orange	1.9%
Greene	.7%
Other Counties in New York State	12.1%
Other States	2.0%
Other Counties	.7%
General Equivalency Diploma	.8%

Dutchess Community College has a Technical Divsion offering training for technicians in nine different areas. Entering students are generally required to have a good background in high school mathematics and science when pursuing the technical programs. Dutchess Community College does not offer the trade courses generally associated with manipulative skills. There seems to be no conflict with the purposes of Dutchess Community College and those of an area vocational-technical program on the secondary level. The technical programs of Dutchess Community College might serve as a terminal education for some of the more able graduates fron an area vocational-technical school.

Industrial Arts

Almost every high school in the survey area has a program of industrial arts. Although the goals of industrial arts are not the same as those of vocational education, there are some common elements and relationships. The purpose of industrial arts is to provide broad experience with tools and materials as part of general education. Vocational education, on the other hand, concentrates on skill in a single trade or industry. Both use shop equipment. Generally an industrial arts course is taught during a single forty-minute period for a school year while vocational education courses are taught for a three-hour daily session for two or three years of school. One of the purposes of industrial arts is to explore areas of industry, especially in the seventh through ninth grades. Many educators consider this aspect of industrial arts as a pre-vocational phase of an industrial education program.

A member of the survey team observed the larger industrial arts programs in each of the counties. The following are some observations:

Many schools in the survey area have excellent facilities for teaching industrial arts in well equipped shops. It was observed that often industrial arts shops located in the older buildings tended to have

obsolete or worn out equipment which should be replaced. Boards of Education often provide fine capital equipment for the school shops when a school is built but then are reluctant to provide a program for replacement as equipment becomes worn or obsolete. One school had begun a program of replacing obsolete equipment. Where needs exist, an organized equipment replacement program should be supported.

Shop Facilities for BOCES Programs

The facilities available for vocational programs offered by the BOCES in Putnam County consisted of a rented building located at some distance from the BOCES offices. Although an evaluation of the Auto Mechanics and the Building Trades courses by a member of the survey team would rank these two programs high even when compared to well established vocational schools with similar courses, there is room for much improvement in connection with building and equipment. The facility for the Cosmetology class was also rented space which was not of suitable design for educational purposes.

The BOCES Auto Mechanics shop in Kinderhook, Columbia County, also conducted in a rented building not designed for educational purposes. Although there was indication of high quality instruction in this program, equipment and building should meet more than minimum standards.

Summary

All of the thirty public school districts, and also two parochial schools located in the tri-county area, participated in the study. There are twenty-seven high schools in the area with an enrollment of approximately eleven thousand, five hundred and twenty-three in grades ten, eleven, and twelve. Projected enrollments for grades ten through twelve indicate a steady growth in almost every district. The total growth in percentage is projected with an increase of 2.3% for 1965-66; 7.8% for 1966-67 and 13.8% for 1967-68.

The total potential "drop-outs" for a single year is estimated at six hundred and eighty-six for the entire three-county area. This figure represents 19.2% of the students beginning the ninth year. Although this figure compares favorably with national estimates, the "drop-out" poses a major problem for the entire community.

Many high school graduates continue their education in some formal school program. Dutchess Community College plays an important roll serving both those interested in technical education and others who desire a two-year liberal arts college program. Undoubtedly many of those who drop out of high school and also many of those who terminate their education with high school graduation, could benefit by an area program of occupational, vocational or technical education.

An area program for vocational-technical education on the secondary level will concentrate on manual and technical skills for entering occupations. There should be no possible conflict with this secondary program and present technical programs offered at the Dutchess Community College. Technical programs at the Community College could suppliment some of the technical programs of an area vocational-technical center for the more able students who wish to advance their education in technology at the community college or, even later, at an engineering college level.

Very few of the participating school districts offer evening adult education courses. Arlington and Poughkeepsie High Schools are the most active in evening courses which are related to occupations. Poughkeepsie High School is the only center for apprenticeship and occupational extension programs in the tri-county area.

Existing day programs in vocational education in the secondary schools include: four in vocational agriculture; thirteen in business education; two in distributive education and six in homemaking. Trade courses are offered at Poughkeepsie High School and by the BOCES in the First District, Columbia County, and also by the BOCES in Putnam County. There is only one technical course available in secondary schools in the study area. A total of one thousand, eight hundred and fifty-one high school students are now being served in the above areas of vocational education. Trade or technical courses are available to only two hundred and ninety-two high school students. A work-study program in the BOCES in Putnam County serves twenty-eight students.

The prevocational aspect of industrial arts provides a natural foundation for any program for occupational, trade or technical education. Emphasis on an area vocational-technical program should strengthen industrial arts in the local schools. An effort should be made to improve facilities and up-date equipment where needed in present industrial arts programs.

SECTION V

OCCUPATIONAL ASPIRATIONS OF HIGH SCHOOL YOUTH

Each of the tenth and twelfth grade students of the high schools in the survey area participated in this phase of the survey by completing a questionnaire dealing with their occupational interests. The questionnaire was prepared by the survey staff in cooperation with the Executive Committee and also the Planning and Action Committee.

Questionnaires were administered in each of the schools under the supervision of a member of the Planning and Action Committee. A proctor was assigned to each group of students and instructed to review the general aspects of vocational-technical education and the specific purposes of the questionnaire. The students were reminded of the importance of their part in the survey which was to fill in the answers to questions on the Occupational Interest Questionnaires. Students were encouraged to ask questions of the proctor while they were responding to the questionnaire.

The information included in this section of the study is a detailed account of the responses of high school youth with respect to occupational choice.

Percentages indicated in this section have been figured on the total number of responses. In some cases it will be noticed that the total percent does not equal one hundred since some respondents did not answer every question on the questionnaire.

COLUMBIA COUNTY

The high-school students in Columbia County completed a total of 1360 occupational-interest questionnaires. The number of responses per school was:

Chatham	219
Ichabod Crane	234
New Lebanon	102
Ockawamick	116
Germantown	82
Roeliff Jansen	136
Hudson	379
St. Mary's Academy	92
Total	1360

Students' Plans for Completing High School

	Number	%
Yes, I expect to graduate with my class.	1155	85
Yes, but later than my classmates.	36	3
No, I expect to leave high school and not graduate.	11	1
I do not know at this time.	126	9

Students' Present Thoughts for Post-High School:

	Number	%
I have a rather specific future plan for the college and/or work I would like.	672	49
I have a plan, but I am not sure of it.	417	31
I have thought about it, but I do not know what I want to do.	237	17
I have not given it much thought.	32	2

What Students Think Actually Will Happen When They Leave High School:

	Number	%
Go to work full time	169	12
Work part time and continue education part time	45	3
Enter an apprenticeship program	24	2
Attend a four-year college or university	386	28
Attend a two-year college	242	18
Take vocational course work	57	4
Attend a technical institute	25	2
Take course work in a private business school	41	3
Get married and keep house	29	2
Get married and continue working	37	3
Enter the Armed Forces	143	10
I do not know what I will do.	92	7

When Students Decided What to do After Leaving High School:

	Number	%
Before entering seventh grade	109	8
While in grades 7 through 9	352	26
While in grades 10 through 12	687	50
Not yet made a decision	183	13

The Factors Which Influenced Students Most in Deciding What They Wanted to do After Leaving School:

(Students were permitted to check more than one.)

	Number
My high school courses	278
Work experience	213
Influence of others (parents, friends, teachers, etc.)	622
Job opportunities available	199
Economic conditions at home	53
My own abilities, interest, personality, etc.	846
I do not know what factors have influenced my decision	66

(Other) Acceptance to college; Academic record; Armed forces; Baby sitting; Books read; Career sessions; Desire to aid society; Desire for education; Educational and economic conditions abroad; Environment; 4-H club; Good job conditions; Homelife; Hobbies; Hospital volunteer work; Interest in one field; Money; Membership in Civil Air Patrol; Religious affiliation; Regard for future; Sports.

Those Who Helped Students to Decide:

(Students were permitted to check more than one.)

	Number
Family members (parents, brothers, sisters)	837
Relatives	225
Friends	373
Teachers	237
School counselor(s), principal(s)	370
No one helped me.	268

(Other) Beauticians; Counseling program; Guest counselors; Doctor; Employers; 4-H Club; Lawyer; Minister; Navy; Nurse; Officers in Civil Air Patrol; Pamphlets; Reports in school; Television; Employment Office.

Occupational Interests

Students were asked to examine carefully the following list of possible occupational areas and to select a choice for a long-time career. If they planned to go to work upon leaving high school they were asked to indicate the occupational area they thought that they would actually enter. Those planning to go to college were asked to designate the area which they might first enter upon leaving college.

Table 5.1 Occupational Interests of Students

	Long-time Career	First Employment on Leaving High School	First Employment on Leaving College
Agriculture and Agricultural Services, Forestry and Fishing:			
Farming, including dairy, fruit, livestock, poultry, truck gardening, etc.	32	25	8
Fishing, including hatchery operation	5	4	1
Florist, greenhouse, nursery	3	2	0
Forestry, tree surgery	18	7	5
Kennelman	3	1	0
Landscaping, gardening	6	0	0
Farm machinery; sales and service	8	3	2
Feed and fertilizer sales	0	0	0
Garden and lawn sales	0	0	1
Food products inspection	6	2	2
Conservation Service	19	4	4
(Other) Agricultural engineering; Conservation; Cattle and horse raising; Farm hand; Forest ranger; Geology; Veterinary medicine	12	7	6
Building and Construction:			
Building, including plumbing, painting, electrical, masonry, carpentry, etc.	40	23	6
Highway and street	16	9	3
(Other) Construction - 5; Operating heavy equipment - 2; Operating engineer apprenticeship	12	8	5
Finance, Insurance and Real Estate:			
Banking	14	13	9
Credit institutions, including Savings & Loans, Personal Finance	3	3	2
Insurance carriers, including life, accident, fire, etc.	5	7	5
Real estate, including sales, builders, developers, etc.	7	3	3
Security dealers and exchanges	5	1	1
(Other) Business accountant; Insurance underwriter	2	0	0
Government:			
Armed Forces (Army, Air Force, Marine, Navy, etc.)	61	101	47
Federal, including Department of Defense, post office, etc.	12	6	5
State	18	6	5
Local			
(Other) Foreign service - 4; Peace Corps - 7; State trooper - 3; WAC - 2	11	3	12
Manufacturing-durables:			
Electrical machinery, material and supplies	9	1	4
Fabricated metal products, e.g. cans, cutlery, wire, etc.	0	0	0
Furniture and fixtures	1	0	0
Instruments, including optics, photographic, dental, surgical, etc.	1	1	0
Iron and steel, copper, lead, zinc products	0	0	0
Lumber and wood products	3	1	0
Machinery, incl. engines, machine tools, office machines, electrical and electronic products, etc.	8	3	7
Ordnance (explosives)	4	0	0

Table 5.1 (continued)

Primary metals manufacture	0	0	0
Stone, clay and glass products	0	1	0
Steel making (and Non-Ferrous metals)	1	2	0
Transportation equipment	8	2	0
Cement manufacture	1	4	1
(Other) Brick layer; foundry, mechanic; sheet metal	3	4	1
Manufacturing-non-durables:			
Apparel, men's and boys', women's and misses', furs, leather and leather products, etc.	8	7	2
Chemicals and allied products, incl. drugs, paints, soap, etc.	4	1	3
Food and allied products, incl. meat, dairy, canned, grains, beverages, etc.	2	3	1
Paper and allied products, incl. boxes, bags, tubes, drums, etc.	1	0	1
Petroleum refining, incl. rubber tires, leather, footwear, etc.,	4	0	0
Printing, publishing and allied industries, incl. bookbinding, cards	1	1	0
Rubber and plastic products.	4	1	0
(Other) Factory work; sales; textiles			
Mining:			
Coal, anthracite.	2	0	0
Coal bituminous	3	1	1
Petroleum and gas	4	1	1
Metal.	1	1	0
Quarrying (sand and gravel)	3	4	0
(Other) Diamond mining; cement plant	1	1	
Professions:			
Accountant, auditor	35	15	31
Architect			
Clergyman, Priest, Minister, Rabbi, Psychologist, Economist, Social worker, Physicist, Chemist, Astronomer, Biologist	52	4	45
Lawyer, judge, engineer	39	5	41
Mathematician, Statistician	16	2	19
Physician, surgeon, dentist, pharmacist, veterinarian	54	6	39
Registered nurse and practical nurse	84	29	52
(Other) Art and commercial art.	20	6	14
Engineer	8	3	6
Interior decoration	4	1	2
Journalist	8	0	6
Music	9	1	3
Teacher	105	15	125
Services:			
Amusement and recreation, except motion pictures, bowling, golf, skiing and other winter-summer sports	27	13	9
Automotive, incl. repair, rentals, parking, etc.	46	30	12
Business, incl. credits and collections, secretarial (typing, shorthand, filing), data-processing, duplicating, selling, clerking, etc.	112	92	63
Electrical repair, incl. appliances, heating, radio-television	20	7	10
Hotels, motels, tourist courts, restaurants	11	11	6
Medical and health, incl. hospitals, offices and laboratories	26	21	22
Motion pictures, incl. filming, distributing, showing	5	1	3
Personal, incl. laundry, photography, beauty and barbershop, tailoring, cleaning and dyeing, etc.	70	44	2
Transportation-Utilities:			
Air	21	15	7
Communication	9	1	6
Electric, gas, and sanitary services	3	3	0
Motor freight	12	4	1
Pipeline	0	0	1
Railroad	3	2	0
Waterway.	3	2	0

Table 5.1 (continued)

Wholesale and Retail Trade:			
Retail trade, including: food stores, automotive dealers, general merchandise stores, eating and dining places, apparel and accessories stores, furniture and appliance dealers, gasoline service stations, lumber, hardware and farm equipment dealers, drug and proprietory stores, door-to-door selling, etc.	33	8	15
Wholesale trade, including: motor vehicles and equipment, groceries, drugs, heating and electrical, dry goods and apparel, farm products and raw materials, hardware, machinery, plumbing, etc.	8	5	5

From the following comprehensive list of occupations, the student was directed to:

a. Select up to three occupations he/she intended to or hoped to enter upon leaving high school, and letter them A, B or C to show his/her first, second and third choice.

b. If he/she was planning to attend college, he/she was asked to select up to three which he/she expected to enter after college graduation and letter them X, Y and Z to show his/her first, second and third choice.

c. He/she was also asked to select up to three which he/she intended to enter by 1970 and number them 1, 2 and 3 to show his/her first, second and third choice.

Table 5.2 A Comprehensive List of Occupations

	Hope to Enter on Leaving High School			Expect to Enter on Completion of College			Goal for Employment in 1970		
	A	B	C	X	Y	Z	1	2	3
Agriculture, Forestry and Fishing									
Farmer, (dairy, fruit, livestock poultry and truck)	19	3	5	10	3	4	15	5	3
Farm hand	4	4	9	1	4	2	2	5	5
Fisherman	3	2	2	1	2	1	4	2	2
Florist, nursery	4	1	3	2	5	6	4	5	3
Grader-packer	0	2	1	0	0	1	0	3	2
Guide	1	4	2	0	0	2	1	2	2
Hatchery man	1	2	2	5	3	0	2	3	3
Hunter, trapper	5	5	6	2	3	4	3	8	6
Logger	0	3	5	3	0	3	3	0	6
(Other) Forestry	2	3	1	9	5	6	9	3	3
Amusement-Entertainment									
Actor, actress	8	7	3	7	8	8	11	6	6
Announcer (radio-TV)	1	5	5	9	5	5	5	6	7
Concession operator	1	0	3	0	0	2	0	0	1
Dancer	5	6	1	1	1	2	5	4	1
Motion picture projector operator	1	1	2	1	1	0	1	1	0
Stagehand	0	3	0	2	2	1	1	2	1
Winter-summer sports; operator-skiing, bowling, golf, etc.	11	7	6	13	11	12	11	13	8
(Other) Music	2	2	1	8	8	2	10	9	4
Building Construction									
Bricklayer, stonemason	7	1	10	4	1	1	2	1	6
Cabinet, maker, carpenter	9	5	5	1	1	1	9	5	3
Electrician	9	8	4	4	4	5	7	7	8
Glazier	1	1	0	0	0	0	0	0	0
Iron and structural steel worker	7	7	2	0	0	1	1	1	1
Millwright	0	0	1	2	0	1	3	0	1
Painter-decorator	2	2	1	1	2	0	3	3	2
Plasterer	0	1	1	0	1	0	0	0	2
Plumber-steam & gas fitter	0	1	1	0	1	0	2	0	1
Roofer	0	1	3	1	0	1	0	2	1
(Other) Contractor	0	2	0	0	0	0	2	0	1
Business-Office Occupations									
Bookkeeper, accountant, business machine operator	18	29	16	34	23	15	27	21	22
Clerk; office, hotel, bank	8	11	14	3	6	11	3	11	11
Duplicating machine operator	0	4	5	2	1	4	1	4	5
Key-punch operator-programmer	8	8	7	3	6	3	3	9	3
Receptionist	14	18	20	8	15	8	12	10	22
Secretary	39	25	9	37	19	23	43	38	24
Stenographer-typist	21	21	18	15	21	24	16	27	25
(Other) Medical secretary	2	1	5	6	2	2	6	2	3

(continued)

Table 5.2 (continued)

	A	B	C	X	Y	Z	1	2	3
Distributive Occupation:									
Automotive: rentals, sales, parking	9	4	4	4	3	2	7	6	4
Advertising: lay-out man, coperwriter	0	3	0	1	5	6	0	4	5
Cashier - clerk	3	10	11	2	1	4	1	8	4
Key-punch operator	1	0	4	0	0	0	1	0	1
Operator: hotel, motel tourist court, restaurant	3	1	2	0	2	3	1	1	4
Purchasing agent, buyer	0	1	1	7	4	6	6	4	0
Salesman, saleswoman	4	7	6	1	7	4	1	10	8
Window trimmer, display man, stockkeeper	0	0	1	1	0	2	1	1	1
Shipper-warehouser	0	0	1	1	0	0	1	1	0
(Other) Buyer, telephone operator	2	0	0	2	2	0	1	1	0
Equipment Services									
Airconditioning, refrigeration mechanic	2	3	1	3	0	1	1	2	2
Auto, aviation mechanic	22	13	9	9	4	2	19	9	11
Body-fender repairman	3	12	2	5	1	3	2	3	1
Business machines serviceman	1	2	1	2	1	1	1	2	1
Electrical appliance serviceman, heating, radio-TV	3	4	6	2	9	3	7	5	2
Furnace-heating serviceman	0	1	1	0	0	1	1	1	0
Service station attendant	1	2	7	0	1	3	1	4	6
Food Services									
Baker	2	6	4	0	1	1	2	2	2
Candy maker, confectioner	0	0	2	0	0	2	0	0	2
Chef, cook	3	5	4	2	4	2	1	5	3
Counterman, fountain worker	2	5	4	0	0	2	0	1	3
Grocer	3	1	1	0	1	1	6	4	1
Meat cutter	2	6	2	1	0	1	2	2	2
Waiter, waitress	12	15	15	2	2	4	1	7	10
(Other) Dietician, motel manager	1	0	0	1	0	1	1	0	1
Government									
Fireman, policeman	9	8	6	6	3	7	9	9	6
Guard, watchman	1	4	2	0	0	1	3	1	2
Librarian	0	1	1	0	2	5	1	3	5
Maintenance worker: parks, playgrounds, nurseries	4	5	5	0	1	1	0	5	1
Military: army, navy, airforce, marines	63	18	19	21	18	16	45	33	20
Operator: power plant, sewage plant, water plant	0	1	1	0	0	0	1	1	1
(Other) City manager, Peace Corps	1	3	2	6	7	5	6	2	5
Health Services									
Dental technician, asst.	5	0	2	2	5	5	3	4	7
Dietary assistant	0	2	3	1	5	3	0	4	3
Hospital orderly, attendant	1	3	2	1	2	3	3	0	1
Institutional housekeeper	0	2	1	0	0	0	0	1	1
Medical record librarian, technician	3	0	1	2	8	5	1	3	1
Nurse's aide	13	6	5	4	4	6	4	6	9
Office assistant: medical, dental	0	3	2	6	10	13	4	7	4
Optical mechanic	0	0	0	1	1	0	0	0	1
Practical nurse	11	11	9	12	16	8	11	16	10

(continued)

Table 5.2 (continued)

	A	B	C	X	Y	Z	1	2	3
Manufacturing - General									
Buffer, polisher, filer, grinder	0	1	1	0	0	1	0	0	0
Foundryman, smelter, pourer, furnaceman	0	0	1	0	0	1	1	0	0
Inspector	4	0	4	2	0	0	0	1	0
Heat treater	0	0	0	0	0	0	1	0	0
Machinist	5	5	6	0	0	2	0	4	3
Molder	0	0	0	0	0	0	1	0	0
Pattermaker, model maker	0	1	1	0	0	0	0	0	0
Machine operator	7	5	6	3	1	0	3	2	3
Miner, mining or quarry machine operator	2	1	0	0	0	1	0	0	0
Petroleum refinery worker	0	2	0	2	0	0	0	2	0
Set-up man	0	1	1	0	1	0	0	1	0
Sheet metal worker	1	1	3	0	0	1	0	0	2
Shipfitter	0	0	0	2	0	0	0	0	0
Tool and die maker	0	0	0	0	0	0	1	0	2
Welder: gas, arc, acetylene	2	6	1	1	1	2	4	3	3
(Other) Electronics, mason, mechanic	0	1	0	1	0	0	2	0	0
Manufacturing - Textiles and Garments									
Cutter	0	0	3	3	0	0	1	2	1
Designer	7	2	5	5	5	5	4	6	8
Dressmaker	2	7	3	0	4	4	1	5	4
Furrier	0	1	1	0	0	2	1	0	1
Loom worker	0	0	0	1	0	0	0	0	1
Glovemaker	0	0	2	1	0	0	0	0	0
Mender	0	0	0	0	0	0	1	0	0
Milliner	0	0	0	0	0	0	0	0	0
Sewing machine operator	1	0	0	1	2	1	0	2	0
Sorter	0	1	1	0	0	0	0	0	0
Stitcher	0	0	0	0	0	0	0	0	0
Upholsterer	1	1	1	0	0	1	0	0	0
Weaver	0	1	0	0	2	1	0	0	0
(Other) Retailing, packer	0	0	0	1	0	2	0	0	1
Professional									
Accountant, auditor	6	14	4	14	24	14	10	19	14
Architect	0	3	0	12	12	5	0	11	4
Engineer	3	4	2	41	20	18	15	14	8
Lawyer, judge	2	2	4	12	16	11	7	10	8
Physician, surgeon, dentist, registered nurse	13	4	4	77	30	19	53	20	12
Clergymen: priest, minister, rabbi	0	1	1	5	1	10	2	1	8
Psychologist, economist, social worker	2	4	3	19	49	24	11	29	21
Physicist, chemist, pharmacist, astronomer	0	0	2	23	23	12	18	13	9
Teacher, professor, counselor, principal	3	4	2	126	60	34	59	47	16
(Other) Physical, occupational, and recreational therapy; veterinary medicine; journalism; biologist; mathematician; artist; diplomatic service	7	1	2	53	22	10	8	15	14

(continued)

Table 5.2 (continued)

	A	B	C	X	Y	Z	1	2	3
Personal Services									
Barber	6	2	4	5	2	4	8	3	5
Beauty shop operator	37	11	10	16	14	15	27	22	20
Cleaner, dyer, presser, launderer	0	0	0	0	0	1	1	0	1
Domestic worker	3	2	3	0	2	2	1	5	4
Gardener, groundsworker	0	2	0	1	0	1	0	1	1
Janitor, porter, camp attendant	0	4	2	0	0	1	1	1	3
Nursemaid	0	2	7	2	1	4	1	3	6
Photographer	1	4	7	3	3	7	4	3	10
Shoe repairman	0	0	0	1	1	0	1	1	1
Tailor	0	0	1	0	0	0	0	0	0
(Other) Airline hostess	2	2	3	3	3	4	2	6	3
Public Utilities									
Clerk	3	2	4	0	0	0	4	3	3
Dispatcher	1	2	1	0	2	1	0	1	1
Instrument maker	1	4	0	1	0	0	0	0	0
Lineman, serviceman	3	1	1	1	0	0	4	1	4
Meter man	2	1	4	1	2	0	2	0	1
Specification writer	0	1	1	0	0	0	0	0	2
Tester	0	1	1	1	0	0	0	2	2
(Other) Telephone operator	2	1	1	0	0	0	1	0	1
Printing and Graphic Arts									
Bindery worker	0	0	0	0	0	0	0	0	0
Cartoonist, illustrator	8	2	5	3	6	4	3	5	6
Commercial artist	1	7	7	13	10	6	5	9	8
Electroplater	0	0	0	0	0	0	0	1	0
Impositor	0	1	2	0	0	0	1	1	0
Lay-out man	1	2	2	0	3	2	0	4	2
Lithographer, photo-offset man	0	0	0	0	0	1	0	0	1
Platemaker	0	0	0	0	0	0	1	0	0
Sign & showcard artist	1	2	2	0	1	3	1	1	2
Stereotyper	1	0	2	0	1	0	0	0	0
Pressman (job, cylinder, offset)	1	0	1	0	0	1	0	0	1
Typesetter, compositor	0	2	0	0	0	0	0	0	3
(Other) Advertising; writing; fashion design: commercial design; photographer; painting after art school graduation	1	0	0	4	0	1	8	1	1
Technician									
Analyst: material, process, method	4	0	2	6	10	4	4	2	10
Dispatcher	0	1	0	0	0	1	0	0	2
Draftsman	3	4	2	6	16	8	5	7	6
Engineering aide, assistant	1	2	1	6	10	6	3	1	3
Estimator	0	0	2	2	0	3	0	0	2
Inspector	1	0	1	2	5	0	3	6	1
Laboratory technician	3	2	0	6	10	16	3	11	13
Technical writer	0	1	0	1	1	0	0	1	0
Tester	1	1	1	0	0	1	0	2	0
(Other Electronic technician; X-ray technician; mechanic; radio communications	2	1	0	1	0	1	2	0	1
Transportation and Heavy Equipment									
Boat builder	3	4	2	3	1	2	1	0	2
Bulldozer operator	6	8	6	2	4	8	3	4	6
Crane, shovel operator	0	3	1	0	1	2	0	4	5
Merchant mariner	0	4	1	1	4	1	1	3	6

(continued)

Table 5.2 (continued)

	A	B	C	X	Y	Z	1	2	3
Transportation and Heavy Equipment (cont'd)									
Navigator	1	3	1	0	1	2	1	3	3
Pilot - aircraft	3	4	8	11	7	7	8	8	9
Railroad worker	0	3	2	0	1	1	2	1	0
Motor trucks	3	4	14	3	1	4	1	9	5
(Other) Airline stewardess	2	2	0	4	1	1	4	3	0

Table 5.3 Interest in Vocational Education Courses:

The table below indicates the courses of most interest to the individual at present:

Trade and Industrial Education	
Air conditioning	2
Auto mechanics	102
Barber science	15
Beauty culture	85
Bricklaying-stone masonry	9
Building construction	20
Cabinet making	4
Carpentry	31
Commercial art	45
Cooking and baking	24
Drafting-sketching	23
Electricity-electronics	22
Food production	8
Forging	4
Foundry	1
Inspection	4
Interior decoration	39
Jewelry-watchmaking	3
Machine shop	17
Painting-decorating	11
Pattern-making	5
Photography	20
Printing-lithography	3
Radio-television repair	10
Sheet metal work	6
Shoe constructiong repair	0
Tool-die making	4
Upholstering	3
Welding	21
Textile-clothing	7
Woodworking	9
Business and Distributive Education	
Accounting	68
Advertising	19
Business machines	36
Business law	29
Credits and collection	1
Data processing	4
Inventory control	1
Merchandising-selling	24
Office practice, office management, machine transcription	65
Retailing-wholesaling	19

(continued)

Table 5.3 (continued)

Business and Distributive Education (continued)	
Sales promotion	8
Secretarial practice	118
Shorthand	24
Store management	24
Window display	12
Technologies	
Aeronautical	27
Chemical	20
Communication	16
Construction-civil and building	21
Data processing	10
Drafting & design	30
Electrical	9
Electronics	5
Engineering	4
Estimating	3
Hydraulics	7
Instrumentation	1
Industrial & Prod.	3
Mechanical	5
Metallurgical	6
Textile-garment	8
Homemaking	
Growth and development of family: child care, family relationships	39
Clothing and textiles: fabric selection, construction tailoring-millinery	9
Foods and nutrition: diets, food preparation-conservation, table service	23
Health, safety & home care: nursing, first aid, personal hygiene	30
Family resources: personal finance, household mechanics, consumer buying	8
Home improvement: cleaning, laundering, selection of home furnishings	13
Agriculture, Forestry, Fishing	
Soil use and management	22
Crop production	12
Animal & poultry production	22
Agricultural mechanics	12
Farm management-agricultural economics	16
Nursery-florist operation	9
Landscaping-grounds keeping	11
Agricultural occupation other than farming: farm operation and management, finance, record keeping, leadership, farm business management	10
Public Service Education	
Police training	42
Firemanship training	7
Custodial training	2
Power plant operation	5
Water plant operation	1
Sanitary facilities operation	1
Health Services Education	
Practical nursing	51
Nurse's aide	15
Medical record librarians	4
Medical technicians	14

(continued)

Table 5.3 (continued)

Health Services Education (continued)	
Institutional housekeeping	0
Dental technicians	8
Dietary assistants	3

DUTCHESS COUNTY

The high-school students in Dutchess County completed a total of 3747 occupational-interest questionnaires. The number of responses per school was:

Arlington	456
Beacon	345
Dover	82
Millbrook	131
Our Lady of Lourdes	275
Pawling	113
Pine Plains	139
Poughkeepsie	743
Red Hook	147
Rhinebeck	123
Hyde Park	425
Tivoli	24
Wappingers	673
Webutuck	71
Total	3747

Students' Plans for Completing High School

	Number	%
Yes, I expect to graduate with my class.	3616	86
Yes, but later than my classmates.	3216	3
No, I expect to leave high school and not graduate.	21	0.5
I do not know at this time.	317	8

Students' Present Thoughts for Post High-School

	Number	%
I have a rather specific future plan for the college and/or work I would like.	2101	56
I have a plan, but I am not sure of it.	969	26
I have thought about it, but I do not know what I want to do.	571	15
I have not given it much thought.	72	2

What Students Think Actually Will Happen When They Leave High School

	Number	%
Go to work full time	498	13
Work part time and continue education part time	199	5
Enter an apprenticeship program	46	1
Attend a four-year college or university	1229	33
Attend a two-year college	672	18

(continued)

	Number	%
Take vocational course work	135	4
Attend a technical institute	70	2
Take course work in a private business school	127	3
Get married and keep house	50	1
Get married and continue working	104	3
Enter the armed forces	298	8
I do not know what I will do.	211	6
Enter nursing school	81	2

When Students Decided What to do After Leaving High School:

	Number	%
Before entering seventh grade	312	8
While in grades 7 - 9	997	26
While in grades 10 - 12	1963	52
Not yet made a decision	474	14

The Factors Which Influenced Students Most in Deciding What They Wanted to do After Leaving School:

(Students were permitted to check more than one.)

	Number
My high school courses	1025
Work experience	601
Influence of others (parents, friends, teachers, etc.)	1692
Job opportunities available	659
Economic conditions at home	173
My own abilities, interest, personality, etc.	2245
I do not know what factors have influenced my devision.	192

(Other) Armed forces - 7; Being a patient - 1; Civil Air Patrol - 2; College education needed to get job - 6: Community needs - 7; Desire for high wages - 14; Desire for higher education - 3; Hobbies - 6; Reading - 14; State employment agency

Whose Who Helped Students to Decide:

(Students were permitted to check more than one.)

	Number
Family members (parents, brothers, sisters)	2249
Relatives	697
Friends	972
Teachers	687
School counselor(s), principal(s)	982
No one helped me.	1030

(Other) Air Force and Navy personnel - 10; Clergymen - 15; College representative - 1; Dentist - 3; Doctor - 14; Employers - 12; Employment offices - 3; Private school representative - 1; State policeman - 1

Occupational Interests

Students were asked to examine carefully the following list of possible occupational areas and to select a choice for a long-time career. If they planned to go to work upon leaving high school they were asked to indicate the occupational area they thought that they would actually enter. Those planning to go to college were asked to designate the area which they might first enter upon leaving college.

Table 5.4 Occupational Interests of Students

	Long-time Career	First Employment on Leaving High School	First Employment on Leaving College
Agriculture and Agricultural Services, Forestry and Fishing:			
Farming, including dairy, fruit, livestock, poultry, truck gardening	54	40	17
Fishing, including hatchery operation	28	11	12
Florist, greenhouse, nursery	21	18	11
Forestry, tree surgery	28	17	21
Kennelman	8	7	4
Landscaping, gardening	26	14	9
Farm machinery; sales and service	13	12	7
Feed and fertilizer sales	4	2	0
Garden and lawn sales	6	4	0
Food products inspection	12	2	3
Conservation service	61	29	25
(Other) Printing, fur farming, 4-H agent	1	0	2
Building and Construction:			
Building, including plumbing, painting, electrical, masonry, carpentry, etc.	126	97	47
Highway and street	32	21	19
(Other) Carpenter, heavy equipment operator, truck driver, draftsman	11	7	1
Finance, Insurance and Real Estate:			
Banking	40	26	12
Credit institutions, including savings & Loans, Personal Finance	12	6	7
Insurance carriers, including life, accident, fire, etc.	15	6	13
Real estate, including sales, builders, developers, etc.	21	17	14
Security dealers and exchanges	9	6	6
Government:			
Armed forces (army, air force, marine, navy, etc.)	141	284	159
Federal, including Department of Defense, post office, etc.	38	22	24
State	23	13	7
Local	10	8	6
(Other) Peace Corps	4	8	23
Interpreter	7	1	5
Librarian	3	0	3
Oceanographer	2	0	3

(continued)

Table 5.4 (continued)

Manufacturing-durables:			
Electrical machinery, material and supplies	22	16	14
Fabricated metal products, e.g. cans, cutlery, wire, etc.	1	1	1
Furniture and fixtures	2	4	3
Instruments, including optics, photographic, dental, surgical, etc.	5	2	3
Iron and steel, copper, lead, zinc products	0	2	1
Lumber and wood products	10	8	5
Machinery, including engines, machine tools, office machines, electrical and electronic products, etc.	50	31	22
Ordnance (explosives)	6	5	1
Primary metals manufacture	1	2	0
Stone, clay and glass products	7	3	0
Steel making (and non-ferrous metals)	2	2	1
Transportation equipment	12	8	8
Cement manufacture	0	6	2
(Other) Assembly work, inspector	5	6	4
Manufacturing-non-durables:			
Apparel, men's and boys', women's and misses', furs, leather and leather products, etc.	12	10	12
Chemicals and allied products, including drugs, paints, soap, etc.	7	3	2
Food and allied products, including meat, dairy, canned, grains, beverages, etc.	11	4	4
Paper and allied products, including boxes, bags, tubes, drums, etc.	2	1	1
Petroleum refining, including rubber tires, leather, footwear, etc.	3	3	2
Printing, publishing and allied industries, including bookbinding, cards	16	14	9
Rubber and plastic products	2	5	2
Mining:			
Coal, anthracite	1	0	4
Coal, bituminous	1	0	2
Petroleum and gas	9	4	1
Metal	4	2	5
Quarrying (sand and gravel)	9	9	8
(Other) Minerologist, mining, geology	2	0	3
Professions:			
Accountant, auditor	71	50	58
Architect	79	27	54
Clergyman, priest, minister, rabbi, psychologist, economist, social worker, physicist, chemist, astronomer, biologist	189	68	159
Lawyer, judge, engineer	149	46	140
Mathematician, statistician	55	12	61
Physician, surgeon, dentist, pharmacist, veterinarian	105	23	85
Registered nurse	196	94	149
(Other) Teacher	231	130	333
Services:			
Amusement and recreation, except motion pictures: bowling, golf, skiing and other winter-summer sports	101	50	46
Automotive, including repair, rentals, parking, etc.	81	78	34

(continued)

Table 5.4 (continued)

Services (continued)			
Business, including credits and collections, secretarial (typing, shorthand, filing), data-processing, duplicating, selling, clerking, etc.	360	359	217
Electrical repair, including appliances, heating, radio-television	37	15	20
Hotels, motels, tourist courts, restaurants	37	14	17
Medical and health, including hospitals, offices and laboratories	101	91	100
Motion pictures, including filming, distributing, showing	33	13	8
Personal, including laundry, photography, beauty and barbershop, tailoring, cleaning and dyeing, etc.	131	114	39
(Other) Telephone operator	3	9	1
Modeling	9	4	3
Transportation-Utilities:			
Air	57	47	34
Communication	19	9	17
Electric, gas, and sanitary services	5	3	2
Motor freight	6	4	2
Pipeline	3	1	2
Railroad	3	4	2
Waterway	9	4	4
Wholesale and Retail Trade:			
Retail trade, including food stores, automotive dealers, general merchandise stores, eating and dining places, apparel and accessories stores, furniture and appliance dealers, gasoline service stations, lumber, hardware and farm equipment dealers, drug and proprietory stores, door-to-door selling, etc.	68	84	47
Wholesale trade, including motor vehicles and equipment, groceries, drugs, heating and electrical, dry goods and apparel, farm products and raw materials, hardware, machinery, plumbing, etc.	23	19	12

From the following comprehensive list of occupations, the student was directed to:

a. Select up to three occupations which he/she intended to or hoped to enter upon leaving high school and letter them A, B and C to show his/her first, second and third choice.

b. If he/she was planning to attend college, he/she was asked to select up to three which he/she expected to enter after college graduation and letter them X, Y and Z to show his/her first, second and third choice.

c. He/she was also asked to select up to three which he/she intended to enter by 1970 and number them 1, 2 and 3 to show his/her first, second and third choice.

Table 5.5 A Comprehensive List of Occupations

	Hope to Enter on Leaving High School			Expect to Enter on Completion of College			Goal for Employment in 1970		
	A	B	C	X	Y	Z	1	2	3
Agriculture, Forestry and Fishing									
Farmer, (dairy, fruit, livestock, poultry and truck)	26	11	14	21	13	12	19	8	7
Farm hand	6	6	4	1	4	2	0	2	2
Fisherman	7	7	10	5	6	8	4	4	5
Florist, nursery	8	11	8	7	4	13	4	5	10
Grader-packer	1	0	3	0	0	0	0	0	0
Guide	2	9	9	4	4	3	3	4	2
Hatchery man	5	6	9	4	4	6	4	6	3
Hunter, trapper	12	12	8	12	10	14	7	8	9
Logger	2	6	5	2	3	6	0	5	6
(Other) Forestry	7	0	0	12	0	0	5	0	0
Amusement-Entertainment									
Actor, actress	11	19	18	21	24	30	22	23	21
Announcer (radio-TV)	6	9	5	5	16	12	3	9	9
Concession operator	0	1	3	0	2	0	0	1	0
Dancer	21	14	7	13	15	10	26	10	15
Motion picture projector operator	0	4	2	1	0	1	0	2	1
Stagehand	1	2	5	1	1	1	1	3	5
Winter-summer sports; operator-skiing, bowling, golf, etc.	38	19	17	39	29	46	24	30	35
(Other) Music	14	0	0	14	0	0	20	0	0
Building Construction									
Bricklayer, stonemason	15	12	7	9	5	9	6	13	4
Cabinet maker, carpenter	24	15	10	11	6	5	10	10	10
Electrician	29	15	8	11	12	11	20	11	6
Glazier	0	0	3	0	0	1	0	1	0
Iron and structural steel worker	6	8	4	2	7	2	2	4	6
Millwright	0	2	3	0	0	1	0	0	0
Painter-decorator	12	7	3	6	4	4	6	2	3
Plasterer	0	2	2	1	0	0	0	1	1
Plumber-steam and gas fitter	5	4	4	5	0	0	1	2	1
Roofer	2	2	5	2	1	1	0	3	2
(Other) General construction	3	1	0	1	2	0	3	2	0
Ceramic tile	1	0	0	0	0	0	1	0	0
Business-Office Occupations									
Bookkeeper, accountant, business machine operator	59	52	47	63	40	36	39	41	40
Clerk: office, hotel, bank	14	21	23	13	19	17	8	17	18
Duplicating machine operator	3	8	4	6	5	7	1	3	5
Key-punch operator-programmer	15	25	28	14	14	21	13	14	23
Receptionist	23	66	89	72	30	52	26	36	44
Secretary	220	84	32	144	62	41	104	81	32
Stenographer-typist	55	73	59	20	74	33	29	67	42
(Other) Management	1	0	1	14	1	3	4	0	1

(continued)

Table 5.5 (continued)

	A	B	C	X	Y	Z	1	2	3
Distributive Occupations									
Automotive: rentals, sales parking	18	14	9	9	5	7	8	6	5
Advertising: lay-out man, copy-writer	5	8	4	10	6	7	3	4	10
Cashier - clerk	17	14	17	6	6	8	4	7	7
Key-punch operator	10	10	5	3	6	2	4	5	3
Operator: hotel, motel, tourist court, restaurant	4	12	5	3	3	5	5	2	7
Purchasing agent, buyer	4	7	10	15	9	12	3	3	5
Salesman, saleswoman	13	20	14	13	8	16	4	11	14
Window trimmer, display man, stockkeeper	1	1	4	15	4	2	1	2	1
Shipper-warehouser	1	1	3	1	1	0	0	2	1
(Other) Telephone operator	6	1	1	0	2	0	0	1	1
Model	12	4	1	4	4	2	5	2	1
Interior decorator	2	2	0	8	3	4	8	1	1
Equipment Services									
Airconditioning, refrigeration mechanic	2	9	6	3	2	2	1	2	3
Auto, aviation mechanic	45	29	26	19	14	7	38	27	13
Body-fender repairman	5	28	10	6	5	5	8	16	5
Business machines serviceman	3	4	6	3	3	2	2	3	0
Electrical appliance serviceman, heating, radio-TV	5	11	14	12	8	16	11	17	14
Furnace-heating serviceman	3	0	3	0	1	0	1	0	1
Service station attendant	6	8	15	3	3	1	6	5	7
Food Services									
Baker	4	5	8	3	3	2	2	4	3
Candy maker, confectioner	2	3	0	2	0	0	0	2	1
Chef, cook	5	8	2	6	5	3	3	5	3
Counterman, fountain worker	4	7	8	2	2	3	0	2	3
Grocer	5	2	7	3	2	1	0	2	3
Meat cutter	2	3	5	5	1	1	0	2	2
Waiter, waitress	19	22	29	4	6	8	3	12	8
Government									
Fireman, policeman	16	21	19	16	10	14	16	15	16
Guard, watchman	1	6	5	3	3	3	1	5	4
Librarian	4	1	2	4	9	17	3	11	9
Maintenance workers: parks, playgrounds, nurseries	2	4	7	0	2	5	2	4	5
Military: army, navy, airforce, marines	124	48	41	86	57	56	84	45	62
Operator: power plant, sewage plant, water plant	3	2	2	0	2	2	0	1	4
(Other) Peace Corps	1	1	0	6	9	6	0	2	0
Health Services									
Dental technician, assistant	8	11	6	13	15	10	3	12	8
Dietary assistant	5	11	7	5	10	7	3	5	9
Hospital orderly, attendant	4	5	7	3	4	2	5	6	6
Institutional housekeeper	0	0	3	1	0	0	1	0	0
Medical record librarian, technician	6	2	4	15	17	18	6	9	9

(continued)

Table 5.5 (continued)

	A	B	C	X	Y	Z	1	2	3
Health Services (continued)									
Nurse's aide	24	34	21	8	12	19	14	25	20
Office assistant: medical, dental	14	21	19	28	25	20	14	21	19
Optical mechanic	1	1	2	2	0	1	1	2	0
Practical nurse	23	23	22	13	42	30	11	28	27
(Other) Therapist	1	1	1	8	2	1	13	2	2
Manufacturing-General									
Buffer, polisher, filer, grinder	2	1	1	0	0	0	0	0	1
Foundryman, smelter, pourer, furnaceman	1	1	1	2	0	0	1	0	0
Inspector	5	1	5	1	1	0	1	3	1
Heat treater	0	1	2	1	0	2	0	0	1
Machinist	16	18	8	9	5	2	10	7	7
Molder	1	2	1	1	0	0	0	0	0
Pattermaker, model maker	2	4	5	2	0	0	1	2	1
Machine operator	8	6	12	4	3	3	5	8	5
Miner, mining or quarry machine operator	3	1	2	0	1	1	0	0	1
Petroleum refinery worker	0	1	1	1	2	0	0	0	0
Set-up man	1	1	6	1	1	1	0	2	3
Sheet metal worker	1	0	4	2	1	3	0	1	2
Shipfitter	0	0	1	1	1	0	0	0	0
Tool and die maker	6	9	6	5	2	3	3	5	5
Welder: gas, arc, acetylene	3	2	7	0	2	1	4	1	3
(Other) Assembly work	2	0	0	0	0	0	0	0	0
Manufacturing-Textiles and Garments									
Cutter	1	1	0	0	1	1	3	0	1
Designer	16	17	18	19	19	20	11	17	14
Dressmaker	4	10	12	3	2	6	3	3	7
Furrier	0	0	0	1	0	0	2	0	0
Loom worker	1	0	0	0	0	1	0	0	1
Glovemaker	0	1	2	0	0	1	0	0	0
Mender	0	0	0	0	0	0	0	0	0
Milliner	0	0	3	1	0	0	0	1	0
Sewing machine operator	1	2	6	1	1	0	1	1	2
Sorter	0	0	0	0	0	0	0	1	1
Stitcher	0	1	1	1	1	0	0	1	0
Upholsterer	1	2	5	0	1	0	1	5	0
Weaver	0	0	1	1	0	1	0	1	0
(Other) Illustrator	0	0	0	2	1	0	0	0	0
Professional									
Accountant, auditor	10	10	8	50	33	25	23	15	19
Architect	11	10	7	42	60	36	24	26	24
Engineer	18	8	6	26	68	48	76	33	25
Lawyer, judge	8	4	6	59	43	35	25	17	17
Physician, surgeon, dentist, registered nurse	46	14	11	248	76	57	124	44	27
Clergymen: priest, minister, rabbi	7	2	7	18	13	10	9	4	4
Psychologist, economist, social worker	14	26	25	10	156	82	42	76	76
Physicist, chemist, pharmacist, astronomer	0	8	2	78	87	55	40	38	23
Teacher, professor, counselor, principal	22	21	23	323	182	113	185	93	56

(continued)

Table 5.5 (continued)

	A	B	C	X	Y	Z	1	2	3
Professional (continued)									
(Other) Geography	0	0	0	0	1	0	1	0	0
Anthropology	0	0	0	2	0	0	1	0	0
Archaeology	0	1	0	2	2	0	2	1	0
Biology	3	0	0	12	4	2	11	1	0
Botany	0	0	0	0	0	2	1	0	0
Geology	0	0	0	4	0	0	4	0	0
Mathematics	0	0	0	20	9	2	8	4	2
Meteorology	0	0	0	4	0	0	1	0	0
Oceanography	1	0	0	3	0	0	3	0	0
Physics	0	0	0	1	1	0	1	0	0
Scientist	0	0	0	1	0	1	0	0	0
Zoologist	0	0	0	1	1	0	1	0	0
Veterinarian	2	0	0	12	4	1	4	2	1
Interpreter	0	0	0	6	1	0	5	1	0
Artist	0	0	0	2	3	0	1	1	0
Journalist, writer	5	1	1	20	9	5	9	2	3
Librarian	0	0	0	2	1	0	1	1	0
Mortician	1	0	0	2	2	1	1	0	0
Personal Services									
Barber	8	6	5	10	4	4	5	3	3
Beauty shop operator	112	52	41	39	20	30	49	23	32
Cleaner, dyer, presser, launderer	1	0	2	2	0	2	0	0	3
Domestic worker	0	2	11	1	2	4	2	0	3
Gardener, groundsworker	0	0	0	0	0	0	0	0	0
Janitor, porter, camp attendant	2	3	1	0	0	0	1	1	3
Nursemaid	1	7	5	3	5	9	1	9	8
Photographer	11	10	12	8	14	13	7	11	11
Shoe repairman	0	2	1	0	0	1	2	1	0
Tailor	0	4	3	0	3	1	0	2	0
(Other) Kennel man	1	0	0	0	0	0	0	0	0
Landscaper	0	0	0	1	0	0	1	0	0
Public Utilities									
Clerk	11	9	7	2	7	5	2	9	10
Dispatcher	1	1	4	1	0	2	1	2	1
Instrument maker	2	2	2	1	0	1	1	1	0
Lineman, serviceman	2	6	6	0	2	1	4	2	4
Meter man	0	1	5	1	2	1	1	0	3
Specification writer	1	2	3	1	3	0	1	1	0
Tester	2	4	3	3	1	1	1	3	0
Printing and Graphic Arts									
Bindery worker	1	1	0	0	0	2	0	1	0
Cartoonist, illustrator	8	17	13	12	26	26	7	14	17
Commercial artist	18	13	11	43	35	26	25	16	16
Electroplator	1	0	4	2	2	3	1	2	1
Impositor	0	1	0	1	0	2	0	0	0
Lay-out man	3	2	4	4	5	0	1	5	6
Lithographer, photo-offset man	6	2	1	3	3	2	4	4	3
Platemaker	0	1	2	3	1	0	1	2	3
Sign and showcard artist	2	3	5	2	11	13	0	8	5
Stereotyper	1	0	3	2	1	2	1	1	3
Pressman (job, cylinder, offset)	3	1	4	0	2	2	1	2	6
Typesetter	2	4	2	0	2	2	0	2	0
Technician									
Analyst: material, process, method	2	0	1	5	1	5	3	0	3
Dispatcher	1	1	1	2	0	4	0	2	1

(continued)

Table 5.5 (continued)

	A	B	C	X	Y	Z	1	2	3
Technician (continued)									
Draftsman	18	15	14	23	18	24	26	21	12
Engineering aide, assistant	6	5	7	11	27	14	5	12	10
Estimator	0	2	4	2	1	1	0	3	1
Inspector	5	2	4	3	2	4	4	1	4
Laboratory technician	7	8	10	22	46	29	14	20	24
Technical writer	1	3	1	0	1	8	1	2	5
Tester	3	4	1	4	5	5	0	3	5
Transportation and Heavy Equipment									
Boat builder	4	3	8	2	2	3	1	1	7
Bulldozer operator	19	26	15	15	7	15	15	12	15
Crane, shovel operator	4	5	3	2	6	3	3	6	3
Merchant mariner	2	2	3	5	3	3	1	4	2
Navigator	5	10	3	4	7	6	1	6	7
Pilot - aircraft	17	8	11	24	10	21	12	9	15
Railroad worker	1	3	4	0	2	1	0	2	1
Motor trucks	5	10	21	7	1	13	3	8	14
(Other) Airline hostess	2	4	4	3	4	3	2	5	3

Table 5.6 Interest in Vocational Education Courses:

The table below indicates the courses of most interest to the individual at present.

Trade and Industrial Education	
Air conditioning	6
Auto mechanics	108
Barber science	19
Beauty culture	246
Bricklaying-stone masonry	32
Building construction	56
Cabinet making	22
Carpentry	50
Commercial art	142
Cooking and baking	59
Drafting-sketching	80
Electricity-electronics	84
Food production	8
Forging	12
Foundry	3
Inspection	11
Interior decoration	110
Jewelry-watchmaking	11
Machine shop	72
Painting-decorating	42
Pattern making	12
Photography	51
Printing-lithography	22
Radio-television repair	42
Sheet metal work	12
Shoe construction-repair	2
Tool-die making	28

(continued)

Table 5.6 (continued)

Trade and Industrial Education (continued)	
Upholstering	4
Welding	41
Textile-clothing	9
Woodworking	29
Business and Distributive Education	
Accounting	162
Advertising	60
Business machines	83
Business law	108
Credits and collection	10
Data processing	35
Inventory control	10
Merchandising-selling	47
Office practice, office management, machine transcription	131
Retailing-wholesaling	55
Sales promotion	47
Secretarial practice	364
Shorthand	142
Store management	63
Window management	38
Technologies	
Aeronautical	85
Chemical	84
Communication	29
Construction-civil and building	58
Data processing	44
Drafting and design	122
Electrical	58
Electronics	109
Engineering	182
Estimating	6
Hydraulics	12
Instrumentation	7
Industrial and Prod.	4
Mechanical	49
Metallurgical	13
Textile-garment	13
Homemaking	
Growth and development of family: Child care, family relationships	172
Clothing and textiles: Fabric selection, construction tailoring-millinery	50
Foods and nutrition: Diets, food preparation-conservation, tables service	66
Health, safety & home care: Nursing, first aid, personal hygiene	127
Family resources: personal finance, household mechanics, consumer buying	35
Home improvement: Cleaning, laundering, selection of home furnishings	75

(continued)

Table 5.6 (continued)

Agriculture, Forestry, Fishing	
Soil use and management	38
Crop production	18
Animal and poultry production	41
Agricultural mechanics	17
Farm management-agricultural economics	21
Nursery-florist operation	26
Landscaping-grounds keeping	36
Agricultural occupation other than farming: farm operation and management, finance, record keeping, leadership, farm business management	30
Public Service Education	
Police training	93
Firemanship training	11
Custodial training	9
Power plant operation	7
Water plant operation	4
Sanitary facilities operation	5
Health Services Education	
Practical nursing	123
Nurse's aide	64
Medical record librarians	18
Medical technicians	104
Institutional housekeeping	8
Dental technicians	48
Dietary assistants	25
Subject of interest which may have been ommitted from above listing	
Conservation	6
Insurance	3
Modeling	12
Music	4
Plumbing and heating	3
Real estate	1

PUTNAM COUNTY

The high-school students in Putnam County completed a total of 651 occupational-interest questionnaires. The number of responses per school was:

Brewster	186
Carmel	200
Haldane	78
Mahopac	187
Total	651

Students' Plans for Completing High School

	Number	%
Yes, I expect to graduate with my class.	562	86
Yes, I expect to graduate, but later than my classmates.	14	2
No, I expect to leave high school and not graduate.	6	1
I do not know at this time.	36	6

(continued)

Students' Present Thoughts for Post-High School

	Number	%
I have a rather specific future plan for the college and/or work I would like.	354	54
I have a plan, but I am not sure of it.	166	26
I have a thought about it, but I do not know what I want to do.	57	9
I have not given it much thought.	20	3

What Students Think Actually Will Happen When They Leave High School

	Number	%
Go to work full time	81	12
Work part time and continue education part time	26	4
Enter an apprenticeship program	14	2
Attend a four-year college or university	190	29
Attend a two-year college	85	13
Take vocational course work	28	4
Attend a technical institute	19	3
Take course work in a private business school	38	6
Get married and keep house	9	1
Get married and continue working	8	1
Enter the armed forces	67	10
I do not know what I will do.	35	5
(Other) Most mentioned jobs or vocations which appear later in the questionnaire.		

When Students Decided What to do After Leaving High School

	Number	%
Before entering seventh grade	53	8
While in grades 7 - 9	144	22
While in grades 10 - 12	227	35
Not yet made a decision	74	11

The Factors Which Influenced Students Most in Deciding What They Wanted to do After Leaving School

(Students were permitted to check more than one)

	Number
My high school courses	188
Work experience	147
Influence of others (parents, friends, teachers, etc.)	271
Job opportunities available	100
Economic conditions at home	27
My own abilities, interest, personality, etc.	337
I do not know what factors have influenced my decision.	39
(Other) Social worker; Travel; Regents scholarships; Having no family	

(continued)

Table 5.6 (continued)

Those Who Helped Students to Decide

(Students permitted to check more than one)

	Number
Family members (parents, brothers, sisters)	361
Relatives	90
Friends	159
Teachers	153
School counselor(s), principal(s)	216
No one helped me.	140

(Other) Present employer; Representatives from different business schools; Minister; Director of admissions at college; Nurses; President Kennedy; Recruiter; Police; BOCES testing center.

Occupational Interests

Students were asked to examine carefully the following list of possible occupational areas and to select a choice for a long-time career. If they planned to go to work upon leaving high school they were asked to indicate the occupational area they thought that they would actually enter. Those planning to go to college were asked to designate the area which they might first enter upon leaving college.

Table 5.7 Occupational Interests of Students

	Long-time Career	First Employment on Leaving High School	First Employment on Leaving College
Agriculture and Agricultural Services, Forestry and Fishing:			
Farming, including dairy, fruit, livestock, poultry, truck gardening, etc.	4	1	2
Fishing, including hatchery operation	4	1	1
Florist, greenhouse, nursery	3	2	1
Forestry, tree surgery	4	0	1
Kennelman	1	2	0
Landscaping, gardening.	0	2	2
Farm machinery; sales and service	1	1	0
Feed and fertilizer sales	1	1	0
Garden and lawn sales	0	2	0
Food products inspection	3	4	1
Conservation service	7	2	5
(Other) Government hunter; game warden; artist; riding instructor	12	4	6

(continued)

Table 5.7 (continued)

Building and Construction:			
Building, including plumbing, painting, electrical, masonry, carpentry, etc.	15	15	9
Highway and street	2	6	2
(Other) Driving heavy equipment; cabinet making; cartographer	7	2	1
Finance, Insurance and Real Estate:			
Banking	9	5	2
Credit institutions, including savings & loans, personal finance	4	2	0
Insurance carriers, including life, accident, fire, etc.	2	2	1
Real estate, including sales, builders, developers, etc.	4	4	1
Security dealers and exchanges	1	2	2
(Other) Self employment, insurance salesman	2	2	2
Government:			
Armed forces (army, air force, marine, navy, etc.)	30	74	44
Federal, including Department of Defense, post office, etc.	7	3	2
State	6	3	4
Local	2	2	2
(Other) Policeman; translator; congressman; foreign service - 2; Peace Corps	7	2	3
Manufacturing-durables:			
Electrical machinery, material and supplies	1	2	0
Fabricated metal products, e.g. cans, cutlery, wires, etc.	0	0	0
Furniture and fixtures	0	1	0
Instruments, including optics, photographic, dental, surgical, etc.	1	0	0
Iron and steel, copper, lead, zinc products	0	0	0
Lumber and wood products	0	3	1
Machinery, including engines, machine tools, office machines, electrical and electronic products, etc.	4	2	4
Ordnance (explosives)	3	3	1
Primary metals manufacture	0	3	0
Stone, clay and glass products	2	0	0
Steel making (and non-ferrous metals)	0	0	0
Transportation equipment	3	1	1
Cement manufacture	0	0	1
Manufacturing-non-durables			
Apparel, men's and boys', women's and misses', furs, leather and leather products, etc.	1	2	1
Chemicals and allied products, including drugs, paints, soap, etc.	2	2	1
Food and allied products, including meat, dairy, canned, grains, beverages, etc.	0	2	0
Paper and allied products, including boxes, bags, tubes, drums, etc.	0	0	0
Petroleum refining, including rubber tires, leather, footwear, etc.	1	2	0
Printing, publishing and allied industries, including bookbinding, cards	0	3	0
Rubber and plastic products	0	3	0
Mining:			
Coal, anthracite	2	1	0
Coal, bituminous	0	2	1
Petroleum and gas	0	1	0
Metal	0	3	0
Quarrying (sand and gravel)	2	1	1
Professions:			
Accountant, auditor	13	5	14
Architect	18	4	15

(continued)

Table 5.7 (continued)

Professions: (continued)			
Clergyman, priest, minister, rabbi, psychologist, economist, social worker, physicist, chemist, astronomer, biologist	24	3	22
Lawyer, judge, engineer	25	3	22
Mathematician, statistician	13	0	9
Physician, surgeon, dentist, pharmacist, veterinarian	16	3	9
Registered nurse	32	13	30
(Other) Teacher	53	10	62
Services:			
Amusement and recreation, except motion pictures: bowling, golf, skiing and other winter-summer sports	12	12	10
Automotive, including repair, rentals, parking, etc.	19	13	3
Business, including credits and collections, secretarial (typing, shorthand, filing), data-processing, duplicating, selling, clerking, etc.	46	44	34
Electrical repair, including appliances, heating, radio-television	7	3	10
Hotels, motels, tourist courts, restaurants	4	7	3
Medical and health, including hospitals, offices and laboratories	6	8	12
Motion pictures, including filming, distributing, showing personal, including laundry, photography, beauty and barbershop, tailoring, cleaning and dyeing, etc.	18	19	2
(Other) Voice; opera singer; zoologist; actress; Peace Corps; entertainer	8	4	5
Transportation-Utilities:			
Air	11	5	5
Communication	6	2	3
Electric, gas, and sanitary services	0	2	2
Motor freight	0	2	1
Pipeline	0	3	0
Railroad	0	2	0
Waterway	0	1	0
(Other) Construction, mechanical engineering	2	1	0
Wholesale and Retail Trade:			
Retail trade, including: food stores, automotive dealers, general merchandise stores, eating and dining places, apparel and accessories stores, furniture and appliance dealers, gasoline service stations, lumber, hardware and farm equipment dealers, drug and proprietory stores, door-to-door selling, etc.	9	13	7
Wholesale trade, including: motor vehicles and equipment, groceries, drugs, heating and electrical, dry goods and apparel, farm products and raw materials, hardware, machinery, plumbing, etc.	4	4	4
(Other) buyer; policeman; modeling; baking; state trooper	5	4	6

From the following comprehensive list of occupations, the student was directed to:

a. Select up to three occupations which he/she intended to or hoped to enter upon leaving high school, and letter them A, B or C to show his/her first, second and third choice.

b. If he/she was planning to attend college, he/she was asked to select up to three which he/she expected to enter after college graduation and letter them X, Y and Z to show his/her first, second and third choice.

c. He/she was also asked to select up to three which he/she intended to enter by 1970 and number them 1, 2 and 3 to show his/her first, second and third choice.

Table 5.8 A Comprehensive List of Occupations

	Hope to Enter on Leaving High School			Expect to Enter on Completion of College			Goal for Employment in 1970		
	A	B	C	X	Y	Z	1	2	3
Agriculture, Forestry and Fishing									
Farmer, (dairy, fruit, livestock, poultry and truck)	1	1	5	1	2	2	0	3	0
Farm hand	1	3	1	0	1	1	0	2	0
Fisherman	1	2	2	0	0	1	2	3	0
Florist, nursery	3	1	0	0	0	0	0	0	0
Grader-packer	0	0	0	1	0	0	0	0	1
Guide	0	0	1	0	0	0	1	1	2
Hatchery man	0	1	0	1	0	0	0	0	0
Hunter, trapper	6	4	1	4	0	0	6	0	1
Logger	1	1	4	0	0	1	0	1	3
(Other) Forestry	0	1	2	3	1	0	1	1	1
Amusement-Entertainment									
Actor, actress	3	3	4	5	5	2	5	2	6
Announcer (radio-TV)	1	2	4	3	5	3	1	1	2
Concession operator	0	1	0	1	0	0	1	1	1
Dancer	1	5	2	2	4	4	1	5	1
Motion picture projector operator	2	1	1	0	0	1	0	0	0
Stagehand	1	2	0	0	0	0	0	0	0
Winter-summer sports; operator-skiing, bowling, golf, etc.	9	7	7	3	5	3	2	2	5
(Other) Music	3	0	0	3	0	0	4	1	0
Building Construction									
Bricklayer, stonemason	5	8	4	1	2	1	1	5	3
Cabinet maker, carpenter	9	3	3	3	1	0	5	4	1
Electrician	8	3	3	3	2	3	5	3	2
Glazier	0	0	0	0	0	1	0	0	0
Iron and structural steel worker	0	2	2	0	0	0	0	0	0
Millwright	0	0	1	1	0	0	0	0	0
Painter-decorator	3	0	0	0	0	0	1	0	0
Plasterer	0	1	1	0	0	1	0	0	1
Plumber-steam and gas fitter	2	3	0	0	0	0	0	0	1
Roofer	0	1	2	2	0	1	0	1	1
Business-Office Occupations									
Bookkeeper, accountant, business machine operator	0	0	3	1	1	1	0	0	0
Clerk: office, hotel, bank	1	1	2	0	2	2	0	0	4
Duplicating machine operator	3	4	1	0	1	3	0	1	2
Key-punch operator-programmer	4	3	5	3	3	4	5	1	5
Receptionist	1	3	10	3	3	6	1	3	0
Secretary	16	4	2	13	6	3	12	8	3
Stenographer-typist	3	11	4	0	7	7	2	8	4
Distributive Occupations									
Automotive: rentals, sales parking	2	4	3	2	1	0	3	1	1
Advertising: lay-out man, copy-writer	1	1	0	1	2	1	0	1	1
Cashier - clerk	2	4	10	0	0	0	0	1	5
Key-punch operator	0	0	0	1	0	0	1	0	0
Operator: hotel, motel, tourist court, restaurant	1	1	3	2	0	1	0	2	1

(continued)

Table 5.8 (continued)

	A	B	C	X	Y	Z	1	2	3
Distributive Occupations (continued)									
Purchasing agent, buyer	1	1	1	5	1	0	2	4	0
Salesman, saleswoman	1	2	3	3	2	2	3	3	6
Window trimmer, display man, stockkeeper	0	0	1	2	0	0	1	0	0
Shipper-warehouser	0	1	0	0	0	0	0	0	0
Equipment Services									
Airconditioning, refrigeration mechanic	1	1	2	1	0	0	0	2	1
Auto, aviation mechanic	4	11	4	2	2	1	7	8	1
Body-fender repairman	0	0	1	1	1	2	0	0	2
Business machines serviceman	0	0	1	0	0	2	0	0	2
Electrical appliance serviceman heating, radio-TV	3	1	3	4	3	2	3	4	6
Furnace-heating serviceman	0	0	1	0	0	0	0	0	0
Service station attendant	5	2	2	1	0	0	2	1	0
Food Services									
Baker	3	0	2	1	0	1	1	0	1
Candy maker, confectioner	0	4	1	0	0	0	0	0	1
Chef, cook	2	3	4	0	1	0	1	3	0
Counterman, fountain worker	0	2	2	1	0	0	1	1	0
Grocer	1	1	2	1	0	0	0	0	1
Meat Cutter	1	1	2	2	0	0	0	1	0
Waiter, waitress	0	0	0	0	0	0	0	0	0
(Other) Manager	0	0	0	4	0	0	2	0	0
Government									
Fireman, policeman	4	7	3	7	4	3	6	8	3
Guard, watchman	0	1	3	1	1	1	0	0	0
Librarian	2	1	2	0	1	4	1	2	2
Maintenance worker: parks, playgrounds, nurseries	5	2	1	0	1	4	0	3	1
Military: army, navy, airforce, marines	49	7	15	22	14	21	23	9	21
Operator: power plant, sewage plant, water plant	1	1	1	2	1	1	2	0	2
Health Services									
Dental Technician, assistant	2	2	0	2	2	1	2	2	4
Dietary assistant	2	1	0	0	1	1	0	3	2
Hospital orderly, attendant	1	1	2	0	1	1	1	1	2
Institutional housekeeper	1	0	0	0	0	1	0	0	0
Medical record librarian, technician	0	0	0	2	4	3	2	2	4
Nurse's aide	4	5	8	4	3	6	1	6	5
Office assistant: medical, dental	0	0	1	2	2	2	1	3	1
Optical mechanic	0	2	1	0	0	0	0	0	0
Practical nurse	4	2	1	5	10	9	5	8	10
Manufacturing - General									
Buffer, polisher, filer, grinder	2	0	0	0	0	0	0	0	0
Foundryman, smelter, pourer, furnaceman	1	0	0	0	0	0	1	0	0
Inspector	1	2	0	0	1	1	0	1	1
Heat treater	0	0	0	2	0	0	0	0	0
Machinist	1	1	3	1	2	1	0	2	2
Molder	0	2	0	0	0	0	0	0	1

(continued)

Table 5.8 (continued)

	A	B	C	X	Y	Z	1	2	3
Manufacturing - General (continued)									
Patternmaker, model maker	0	0	0	0	0	0	0	0	0
Machine operator	1	1	1	2	0	2	1	1	1
Miner, mining or quarry machine operator	1	0	0	0	0	0	0	0	0
Petroleum refinery worker	0	1	0	0	0	1	0	0	0
Set-up man	0	0	1	2	0	0	0	0	1
Sheet metal worker	0	2	0	0	0	0	1	0	0
Shipfitter	0	1	1	0	0	0	0	0	0
Tool and die maker	1	1	0	0	1	0	0	1	0
Welder: gas, arc, acetylene	1	0	3	0	0	0	1	2	0
Manufacturing - Textiles and Garments									
Cutter	1	0	1	1	0	0	0	0	0
Designer	2	1	4	2	3	5	2	1	4
Dressmaker	1	1	2	1	0	1	0	1	1
Furrier	1	0	0	1	0	0	0	0	0
Loom worker	0	0	0	0	0	0	0	0	0
Glovemaker	1	0	0	0	0	0	0	0	0
Mender	1	0	0	0	1	0	0	0	0
Milliner	0	1	1	0	0	0	0	0	0
Sewing machine operator	0	0	2	0	0	0	0	0	0
Sorter	1	1	0	0	0	0	0	0	0
Stitcher	0	1	0	0	0	0	0	0	0
Upholsterer	0	1	1	0	0	1	0	0	0
Weaver	0	0	1	1	0	0	0	0	0
Professional									
Accountant, auditor	0	3	1	8	2	6	11	3	5
Architect	0	0	0	8	3	3	6	8	4
Engineer	0	2	0	13	7	3	13	4	5
Lawyer, judge	0	0	2	8	9	5	4	6	1
Physician, surgeon, dentist, registered nurse	5	2	1	31	10	11	26	3	6
Clergymen: priest, minister, rabbi	1	0	2	5	1	1	4	5	2
Psychologist, economist, social worker	1	3	2	8	31	9	6	22	8
Physicist, chemist, pharmacist, astronomer	0	1	0	8	15	8	3	12	3
Teacher, professor, counselor principal	1	2	4	89	37	18	58	22	1
(Other) Biologist	0	0	0	3	0	1	2	1	0
Zoologist	0	0	0	1	0	0	0	0	0
Personal Services									
Barber	5	0	2	1	2	1	4	1	1
Beauty shop operator	26	12	2	4	2	3	11	8	6
Cleaner, dyer, presser, launderer	0	1	1	0	0	0	0	1	0
Domestic worker	2	1	0	0	0	1	1	1	0
Gardener, groundsworker	0	1	0	0	0	0	0	1	0
Janitor, porter, camp attendant	0	0	1	1	0	0	0	0	0
Nursemaid	0	3	2	2	1	1	1	0	3
Photographer	0	3	3	1	5	6	1	4	3
Shoe repairman	0	0	1	0	0	0	0	0	0
Tailor	0	0	0	0	0	0	0	0	1
Public Utilities									
Clerk	3	1	3	1	0	0	2	1	2
Dispatcher	0	0	1	0	0	0	0	2	0

(continued)

Table 5.8 (continued)

	A	B	C	X	Y	Z	1	2	3
Public Utilities (continued)									
Instrument maker	0	0	0	0	0	1	0	0	0
Lineman, serviceman	3	0	1	1	0	0	1	0	1
Meter man	0	1	1	2	1	0	0	0	0
Specification writer	0	0	0	0	0	1	0	0	0
Tester	1	1	3	0	0	0	0	0	1
Printing and Graphic Arts									
Bindery worker	0	2	1	0	0	0	1	0	1
Cartoonist, illustrator	2	2	0	1	4	1	1	5	1
Commercial artist	1	0	1	1	3	2	1	3	4
Electroplater	3	0	0	0	0	0	0	0	0
Impositor	0	0	0	0	0	0	0	1	0
Lay-out man	1	1	2	1	0	1	0	0	1
Lithographer, photo-offset man	0	1	2	0	1	0	1	1	0
Platemaker	0	0	0	1	0	0	0	0	0
Sign & showcard artist	1	1	1	0	1	0	0	0	0
Stereotyper	1	0	0	1	0	0	1	0	0
Pressman (job, cylinder, offset)	0	1	0	0	0	0	0	0	1
Typesetter, compositor	0	0	2	0	0	0	0	1	0
Technician									
Analyst: material, process, method	0	0	0	0	4	3	2	1	2
Dispatcher	0	0	1	0	0	1	0	0	0
Draftsman	2	2	1	5	7	9	7	8	8
Engineering aide, assistant Estimator	0	1	1	0	0	0	0	0	0
Inspector	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Laboratory technician	3	3	0	11	6	8	7	2	7
Technical writer	0	0	1	1	0	0	0	0	1
Tester	0	1	5	2	1	1	1	1	1
Transportation and Heavy Equipment									
Boat builder	1	1	1	2	0	1	0	2	1
Bulldozer operator	3	4	3	1	0	2	4	5	2
Crane, shovel operator	1	2	2	1	0	0	0	1	3
Merchant mariner	0	2	1	2	2	0	1	1	0
Navigator	0	2	1	1	1	5	0	1	5
Pilot - aircraft	6	2	4	2	8	6	4	5	7
Railroad worker	1	0	1	0	0	1	0	0	0
Motor trucks	1	4	5	1	0	0	1	1	3
(Other) Airline hostess	0	0	0	3	0	2	0	1	1

Table 5.9 Interest in Vocational Education Courses

The table below indicates the courses of most interest to the individual at present.

Trade and Industrial Education	
Air conditioning	4
Auto mechanics	42
Barber science	3
Beauty culture	41
Bricklaying-stone masonry	8
Building construction	19
Cabinet making	5
Carpentry	15

(continued)

Table 5.9 (continued)

Trade and Industrial Education (continued)	
Commercial art	13
Cooking and baking	20
Drafting-sketching	16
Electricity-electronics	22
Food production	0
Forging	4
Foundry	1
Inspection	4
Interior decoration	13
Jewelry-watchmaking	4
Machine shop	15
Painting-decorating	4
Pattern-making	4
Photography	17
Printing-lithography	2
Radio-television repair	5
Sheet metal work	6
Shoe construction-repair	1
Tool-die making	6
Upholstering	1
Welding	12
Textile-clothing	2
Woodworking	10
Business and Distributive Education	
Accounting	37
Advertising	18
Business Machines	25
Business law	24
Credits and collection	4
Data processing	6
Inventory control	4
Merchandising-selling	14
Office practice, office management, machine transcription	38
Retailing-wholesaling	7
Sales promotion	11
Secretarial practice	67
Shorthand	34
Store management	17
Window display	11
Technologies	
Aeronautical	18
Chemical	18
Communication	7
Construction-civil and building	8
Data processing	5
Drafting and design	27
Electrical	10
Electronics	25
Engineering	49
Estimating	5
Hydraulics	4
Instrumentation	4
Industrial and Prod.	3
Mechanical	10
Metallurgical	2
Textile-garment	1

(continued)

Table 5.9 (continued)

Homemaking	
Growth and development of family: child care, family relationships	34
Clothing and textiles: fabric selection, construction tailoring-millinery	10
Foods and nutrition: diets, food preparation-conservation, table service	12
Health, safety and home care: nursing, first aid, personal hygiene	17
Family resources: personal finance, household mechanics, consumer buying	4
Home improvement: cleaning, laundering, selection of home furnishings	8
Agriculture, Forestry, Fishing	
Soil use and management	12
Crop production	2
Animal and poultry production	11
Agricultural mechanics	1
Farm management-agricultural economics	3
Nursery-florist operation	4
Landscaping-grounds keeping	9
Agricultural occupation other than farming: Farm operation and management, finance, record keeping, leadership, farm business management	3
Public Service Education	
Police training	26
Firemanship training	5
Custodial training	2
Power plant operation	3
Water plant operation	2
Sanitary facilities operation	4
Health Services Education	
Practical nursing	38
Nurse's aide	13
Medical record librarians	4
Medical technicians	18
Institutional housekeeping	1
Dental technicians	2
Dietary assistants	4
Subjects of interest which may have been omitted from the above listing	
With the exception of the following the courses mentioned were not vocational courses.	
Heating and ventilating	1
State trooper	1
Secret services for the U.S.	1
Air Force	1
Navigation	1
Construction	2
Aviation	2
Stage hand	1

Summary

Twenty-four public high schools and two parochial high schools located in the tri-county area participated in this part of the study. Five thousand, seven hundred and fifty-eight questionnaires were returned from students in grades ten and twelve.

Eighty-five percent stated that they expect to graduate with their class and another three percent said they expect to graduate later. Students' present thoughts for post-high school included fifty-four percent who have a rather specific future plan for the college or work they would like.

What these students think will acutally happen when they leave high school is indicated: twelve percent expect to go to work full time; four percent expect to work part time and continue education part time; thirty percent expect to attend a four-year college or university; and sixteen percent expect to attend a two-year college.

About half of the students decided what they would do upon leaving high school while they were in the tenth through twelfth grade span.

The leading factors which influence students in deciding their future plans were: the influence of parents, friends and teachers; and their own abilities, interest, and personality. The leading groups who helped them decide were: family members; and school counselors and principals.

From a comprehensive list of occupations, the student was directed to: Select up to three occupations he intended to or hoped to enter upon leaving high school. The "first choices" were in the following areas ranked in order of number of students interested:

Business-Office Occupations	(338)
Government	(290)
Personal Services	(218)
Professional	(192)
Building Construction	(158)

If he planned to attend college, the student was asked to select up to three which he expected to enter after college graduation. The highest five first choices were:

Professional	1512
Business-Office Occupations	474
Government	180
Amusement-Entertainment	152
Health Services	140

Students were also asked to select first, second, and third choices of the occupation which they intended to enter by 1970. The five areas most-often mentioned were:

Professional	921
Business-Office Occupations	355
Government	203
Amusement-Entertainment	154
Personal Services	132

Ranked in order of student interest, the ten most-frequently mentioned industrial courses are listed below:

Columbia County		Dutchess County	
Auto Mechanics	102	Beauty Culture	246
Beauty Culture	85	Commercial Art 14	142
Commercial Art	45	Interior Decoration	110
Interior Decoration	39	Auto Mechanics	108
Cooking-Baking	24	Electronics-Electricity	84
Drafting-Sketching	23	Drafting-Sketching	80
Electricity-Electronics	22	Machine Shop	72
Welding	21	Cooking-Baking	59
Photography	20	Building Construction	56
Building Construction	20	Photography	51

Putnam County

Auto Mechanics	42
Beauty Culture	41
Electricity-Electronics	22
Cooking-Baking	20
Building Construction	19
Photography	17
Drafting-Sketching	16
Carpentry	15
Machine Shop	15
Commercial Art	13
Interior Decoration	13

From the point of view of student interest, the five most-frequently mentioned technologies are as follows:

Columbia County		Dutchess County		Putnam County	
Drafting-Design	30	Engineering	182	Engineering	49
Aeronautical	27	Drafting-Design	122	Drafting-Design	27
Construcation-Building	21	Electronics	109	Electronics	25
Chemical	20	Aeronautical	85	Aeronautical	18
Communication	16	Chemical	84	Chemical	18

SECTION VI

VIEWPOINTS OF PARENTS OF HIGH SCHOOL YOUTH

The parents of each of the tenth and twelfth-grade students in the high schools of the Survey Area were asked to participate in the survey by filling out a Parent's Questionnaire. After the student had completed the information on the Student's Questionnaire at school, he was asked to take home a "Parent's Guide" and a questionnaire addressed to the parent. The student was asked to discuss the choice he had made for possible occupation with his parent and to help the parent in completing the information requested in the parent's questionnaire. This section of the study deals with the findings resulting from answers to the questions asked of the parents.

Percentages indicated in this section have been figured on the basis of the total number of responses. In some cases it will be noticed that total percent does not equal one hundred since some respondents did not answer every question on the questionnaire.

COLUMBIA COUNTY

There were 915 questionnaires returned to the survey team from parents in Columbia County. The number of responses for each school is as follows:

Chatham	133
Germantown	54
Hudson	257
Ichabod Crane	175
New Lebanon	61
Ockawamick	103
Roeliff Jansen	63
St. Mary's	69
Total	915

Parents Views of Students' Plans

"Do you approve of the choice of vocation or occupation made by your son/daughter?"

	Number	%
Yes	805	88
No.	21	2
Undecided	77	8

Those parents who answered "No" or "Undecided" suggested the following vocations or occupations for their sons/daughters:

Agriculture, forestry and fishing, farming, farm services, etc.	5
Amusement-Entertainment (actor, announcer, sports, etc.)	1
Building construction (plumbing, carpentry, painting, etc.)	4
Business office (bookkeeper, secretarial, clerical, etc.)	11
Distributive (buyer, sales, advertising, shipping, etc.)	2
Equipment repair (auto)	2
Health services (hospital-aides, dental tech., etc.)	1
Home-making (housewife)	1
Insurance (underwriting, claims, adjusting)	2
Personal services (barber, beautician, laundry, tailor, hotels, etc.)	1
Printing and graphic arts (pressmen, commercial artists, etc.)	1
Public utilities (phone, gas, electric, etc.)	2
Technician (draftsmen, lab., engineering, electronic, etc.)	4
Professional (doctor, lawyer, teacher, engineer, etc.)	6
Other	13

"Other" included the following: Interior Decoration - 2; Farm; Related - 1; Dress Designer - 1; Journalism - (free lance writing) - 1; Nurse - 1; Airline Hostess - 1; State Trooper - 1; Social Anthropologist - 1; Hotel Management - 1; Therapist - 2; Geologist - 1

"Do you approve of the vocation or technical courses your child is taking or wants to take?"

	Number	%
Yes	793	87
No	23	3
Undecided	50	5

Those parents who answered "No" or "Undecided" made the following comments: (Many gave no explanation.)

"My son is graduating in June and is really not equipped to any particular vocation."

"Because it offers little or nothing for the future."

"I would like her to take typing and if possible shorthand."

"Not extensive enough in his desired field."

"Because of being set back on regents courses is unable to fulfill adequate desired course."

"We feel he would have more future security in some other field."

"Can't get a job."

"Not related to student or requirments."

"They are not comprehensive enough. They do not give him enough knowledge of the subject."

"Do you favor expanding programs in vocational and technical education for high school students?"

	Number	%
Yes	843	92
No	14	2
Undecided	48	5

"Do you favor expanding program in vocational and technical education for adults?"

	Number	%
Yes	751	82
No	27	3
Undecided	110	12

The parents selected as most-nearly describing their occupations the following:

Occupation	Father	Mother
Professional or technical	166	106
Farmer or farm manager	59	2
Manager, official, or proprietor	128	22
Clerical	23	97
Sales worker	36	15
Craftsman or foreman	170	27
Semi-skilled operator	101	48
Private house worker	3	18
Service worker	83	49
Farm laborer or farm foreman	12	0
Homemaker (housewife)	0	468
Other (Checked only)	7	8

The following table indicated the highest grade completed by the parents who returned questionnaires. The number under the grade number indicates the number of parents in the county who report having completed that grade.

	Elementary								High School				College or Technical Institute							
Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Father	1		1		2	17	13	130	41	71	55	277	31	44	16	51	21	15	19	2
Mother				3	3	2	7	80	44	77	49	366	55	37	26	64	22	4	5	

Parents indicated specialized training in the following fields:

	Father	Mother
Registered Nursing	6	57
Business School	30	93
Apprentice	37	4
Trade (not apprentice)	62	8
Armed Forces (technical)	157	12
Other	88	56

Under "Other specialized training" the fathers and mothers reported a wide variety of training with relatively few in the same field.

The 915 parents who returned questionnaires expect their children will complete grades in school as indicated by the following table. The second line indicates the total for each grade.

	High School				College				Other			
Grade	9	10	11	12	13	14	15	16	1	2	3	4
	1	2		265	19	138	15	359	33	32	28	25

In the "Other" category the parents included the following: Business School - 19; Beautician School - 8; Military - 1; Nursing - 29; Police School - 1; Professional - 19; Technical School - 4; Trade School - 8

The following are some typical suggestions made by the parents in Columbia County regarding vocational-technical education programs:

"I would suggest vocational-technical education programs be set up for 'drop-outs'."

"Cooperative services have proven what can be accomplished. Believe a full curriculum of vocational-technical education is a must in the very near future. People trained for a specific trade are certainly an asset to our society rather than a liability as many now are."

"I think there is a definite need for vocational-technical education now and that the need will get greater in the year to come."

"I would like to see more vocational opportunities for girls such as beauticians and key punch operators."

"We are very much of the opinion that a start must be made to provide vocational training. This is essential for the welfare of our community."

"Whatever the training, let's try to have the students and the teachers cultivate the use of good English at all times---oral and written."

"I took straight academic in high school preparing for college. I appreciate all I learned and use most subject matter often but left high school untrained for future employments. More actual training is needed. I want my children to have the good background of academic training plus the actual training for future employment. My husband received only vocational training and then spent most of his adult life studying academic subjects as he felt he was denied the beauty of a well rounded academic course."

"Vocational-technical education programs should not be confined to the high school students. In the next ten years the retraining or upgrading of currently employed workers will be one of the problems that the area will face. Effective night courses in a vocational school will be one means of effecting this."

"We feel a vocational school would hold the interest of learning to many of the young people who are now 'drop-outs' in high school. We're very much in favor of vocational training."

"The sooner we have a program of this type the better it will be for all."

"More capable students should be trained in the areas most needed, not in the fields where unemployment is high."

"I would like my child to be a hair dresser. It would be nice if you had this on your program."

"Believe their should be more of it---geared to the present---and foreseeable needs of industry. Would like to see a combination of basic schooling (English, arithmetic, citizenship and how to fill out income tax blanks) plus on-the-job or apprentice-type training."

"Would suggest that stenographic course of stenography and typing be extended to four years instead of two now in force."

"Evening classes for students who can't fit the subjects they like into the programs and also night classes for adults."

"More time should be used in providing a well rounded general education, rather than specialization at so young an age. Versatility rather than antiquated training courses in methods that will be old by the time the child leaves school."

"The counties named should expand in the fields of technical educational vocational training for students after high school and should provide training for the non-academic students in the field of vocational training. Specialized training is highly important in the world of today."

"A vocational high school would be especially beneficial in this area. Children of Columbia should be given the ability to further their education. A trade school at high school level would greatly reduce drop-outs of teen-agers."

"Courses to include: auto mechanics, carpentry, and any skills needed to equip high school students who can not because of limited ability go on to higher education to become capable of self support."

"It would be nice if they were less expensive and were closer to those who would like to use them, distance, means a great problem."

"To many surveys and not enough action!"

"We have no specific suggestions-but for some time we have felt that this community needed a vocational school. We were glad to see in our local newspaper that this was being considered. A vocational school would probably interest a lot of students who might decide to drop-out of a regular high school."

"I feel that it would be a most useful program both to the people of the three counties and also to the counties themselves. It is a wonderful idea and I hope it will be carried out."

"Having these programs available only at 50 miles away (Albany) 50 miles away (Poughkeepsie) does not do what is supposed to do for those students who are so inclined but find the distance a barrier-a closer set-up would help.
Something of a stricter vocational nature than that of community college would seem needed in this immediate area."

"If there could be separate technical schools, rather than courses in high school, it would be advantageous."

"If training courses such as the following (or some other course you wish to add) were offered in an evening school in this area, would you be interested in enrolling in one of these programs?"

In answer to this question 276 fathers and 404 mothers expressed interest in enrolling in one of the programs listed below. These 680 parents represent 74% of those returning questionnaires.

Parent's Interest in Occupation Extension Courses

	Father	Mother
Agricultural Machinery Technology	9	0
Agricultural Sales and Service	7	1
Auto Mechanics	13	1
Auto Body Repair and Service	16	1
Beauty Culture	3	40
Bookkeeping	5	39
Business Machine Operation	7	38
Business Math	8	5
Carpentry and Building Construction	28	4
Clerk-Typist and Receptionist	6	45
Commercial Art	4	16
Custodian Service	3	0
Drafting (Mechanical)	14	1
Dental and Medical Technology	4	19
Electric Appliance Repair	13	2
Electricity	18	0
Electronic Technology	26	0
Farm Operation and Management	20	1
Food Preparation and Service	2	31

(continued)

Parent's Interest in Occupation Extension Courses (continued)

	Father	Mother
Landscaping and Horticulture	12	16
Machine Trades	8	0
Plumbing and Heating	14	2
Practical Nursing	3	63
Printing Trades	2	0
Retailing (Salesmanship, Merchandising)	16	13
Secretarial or Stenographic Work	1	32
Sheet Metal Work	4	0
Textile Fabrication	4	6
Welding	24	0
Business Math	8	5
Other	22	36

Some of the "Other" courses listed were: Father: Algebra - 1; Architectural Drawing - 1; Banking - 2; Business Management - 1; Constructural Engineering - 1; Higher Education - 1; Machinist - 2; Masonry - 1; Music Technology - 1; Office Management - 1; Oratorical English - 1; Orderly - 1; Refrigeration and Air Conditioning - 1; Stationary Engines - 3; Sales, Industrial - 1; Strength of Materials - 1; Traffic Management - 1; Typing - 1;

Mother: Antiques, study of - 1; Banking - 3; Ceramics - 1; Cake Decoration - 3; Drive, Tractor Trailer - 1; English and Spelling - 1; Furniture refinishing - 1; Insurance - 2; Interior Decorating - 3; Kindergarten Teacher - 1; Laundry - 1; Language and Literature - 1; Library Work - 1; Music - 1; Motivational Research - 1; Nursing - 1; Oil Painting - 1; Social Service - 1; Sewing - 6; Advanced Sewing - 4; Typing - 1; Woodworking - 1.

DUTCHESS COUNTY

Dutchess County parents returned 2011 questionnaires of which 989 were signed. The number of responses per school was:

Arlington High School	290
Beacon High School	149
Dover Plains Central School	46
Millbrook High School	101
Our Lady of Lourdes High School	218
Pawling Central High School	57
Pine Plains High School	94
Poughkeepsie High School	482
Red Hook Central School	73
Rhinebeck Central School	65
Roosevelt High School	216
Tivoli Union Free School	20
Wappinger Central School	159
Webutuck Central School	41
Total	2011

Parents Views of Students' Plans

"Do you approve of the choice of vocation or occupation made by your son/daughter?"

	Number	%
Yes	1786	89
No	37	2
Undecided	140	7

Those parents who answered "No" or "Undecided" suggested the following vocations or occupations for their sons/daughters.

Agriculture, forestry and fishing, farming, farm services, etc.	6
Banking	1
Building construction (plumbing, carpentry, painting, etc.)	4
Business office (bookkeeper, secretarial clerical, etc.)	14
Distributive (buyer, sales, advertising, shipping, etc.)	3
Equipment repair (electrical-appliances, heating, etc.)	1
Food services (baker, chef, grocer, waiter, etc.)	2
Government (armed forces, state, federal, etc.)	3
Health services (hospital-aides, dental tech., etc.)	5
Home-making (housewife)	6
Manufacturing-durables (metals, machinery, lumber, electrical, etc.)	3
Personal services (barber, beautician, laundry, tailor, hotels, etc.)	4
Printing and graphic arts (pressmen, commercial artists, etc.)	4
Technician (draftsmen, lab., engineering, electronic, etc.)	6
Public services (police, fireman, etc.)	2
Professional (doctor, lawyer, teacher, engineer, etc.)	28
Other	15

Other: Accounting - 2; Aeronautical Engineer; Airplane Pilot; Budget Manager; Commercial Art; Finance; Mechanic; Music Arts; Nurse - 2; Physical Education Teacher or Athletic Coach; Professional Education; Secretary; "We think students should make this choice." "Son hasn't decided on occupation or vocation."

"Do you approve of the vocation or technical courses your child is taking or wants to take?"

	Number	%
Yes	1733	86
No	47	2
Undecided	85	4

Of those parents who answered "No" or "Undecided", the following are typical comments. Some gave explanations.

"She would like, along with many girls, take beautician course in high. Arlington should have beauty culture."

"Course is not elective. A boy who wants his M.E. should have machine shop - not print shop."

"Because I want her to go to college but she is taking business courses, but I am not interfering."

"Not enough vocational courses offered in high school to be of any particular use."

"She wants to be a beautician and Millbrook school does not teach this course."

"No mechanical course available at schools."

"I do not feel that constructive preparation for commercial art other than drafting is given. (Our students chosen field.)"

"Poor preparation for employment as dental assistant."

"I want him to concentrate on liberal arts."

"Outside of an Industrial Art Course and Business Course there are no other Vocational Courses we're aware of."

"Do you favor expanding programs in vocational and technical education for high school students?"

	Number	%
Yes	1787	89
No	45	2
Undecided	116	6

"Do you favor expanding programs in vocational and technical education for adults?"

	Number	%
Yes	1623	81
No	73	4
Undecided	223	11

The parents selected as most nearly describing their occupations the following:

Occupation	Father	Mother
Professional or technical	500	238
Farmer or farm manager	71	5
Manager, official, or Proprietor	711	59
Clerical	75	263
Sales worker	99	74
Craftsman or foreman	304	12
Semi-skilled operator	160	74
Private House Worker	6	28
Service worker	199	94
Farm laborer or farm foreman	15	2
Homemaker (housewife)	4	1089
Other (checked only)	12	15

The following table indicates the highest grade completed by the parents who returned questionnaires. The number under the grade number indicates the number of parents in the county who report having completed that grade.

	Elementary								High School						College or Technical Institute					
Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Father			4	4	5	14	16	174	80	161	135	683	75	126	45	157	58	31	68	2
Mother	2		1	2	2	4	11	120	70	158	133	839	107	101	81	137	44	5	6	

Parents indicated specialized training in the following fields:

	Father	Mother
Registered Nursing	11	94
Business School	83	281
Apprentice	82	8
Trade (not apprentice)	168	24
Armed Forces (Technical)	375	32
Other	191	137

Under "Other" specialized training the fathers and mothers reported a wide variety of training with relalively few in the same field.

The 2011 parents who returned questionnaires expect their children will complete grades in school as indicated by the following table. The second line indicates the total for each grade.

	High School				College				Other			
Grade	9	10	11	12	13	14	15	16	1	2	3	4
		5	2	470	17	262	16	908	76	77	50	64

In the "Other" category the parents included the following: Airline Stewardess - 2; Armed Forces - 2; Art School - 2; Beautician School - 20; Business School - 49; Cooking (Chef) School - 2; Dental Assistant Training - 2; Dramatic Art - 1; Modeling School - 2; Nursing - 48; Post Graduate College - 24; Social Work - 1; Technical School - 9; Therapy School - 1; Theology - 2; Trade School - 10; Vocational School - 6;

The following are some typical suggestions which were made by the parents in Dutchess County regarding vocational-technical education programs.

"Need for training in Programming, other technical work for I. B. M."

" I would like to see vocational or trade school started again."

"There is a definite need for automotive mechanics in General repairs and also in specialized repairs--our lives are in the hands of incompetents and illiterates."

"Maybe too much emphasis placed on need for higher education for high school graduates not capable or qualified for ivy league schools. Maybe we should consider using high school facilities days, nites, summers, for specialization in trades. Why not P. G. course for auto mechanics, plumbers or retailing?"

"In many areas, there is one central vocational school to which all vocational students go at varying times. Saves expense of each of a dozen schools furnishing one of its own. Surely, this would be more practical than individual schools: - a wider variety of vocational studies, and fewer teachers would more than compensate for the cost of his transportation. Same idea as our communal summer school."

"Our son has wanted to take vocational-technical courses in high school. However because of the pressure of college entrance requirements he was unable to do so. We suggest that provision be made within the framework of college preparation programs for electing some vocation-technical courses."

"Expanded vocational education opportunities and programs should be offered within the framework of the present secondary school system. There should NOT be a separate vocational or technical high school, because any advantages such a school set up would offer far outweighted by the disadvantage of its tending to become a 'dumping ground for the misfits'. Furthermore not only do many students need vocational training at the secondary-school level (because they are not 'cut out' for the traditional college taught professions), but also many students who should and are going on to college-level education could profit from a smattering at least of the practical, nuts-and-bolts application of things (lest they become too 'blue sky' bound in their approach to life). Thus vocational training within the 'regular' high-school framework would tend to create this atmosphere of desirable balances between 'practical' and 'blue sky' for the college-bound student."

"We believe that further vocational training is vitally needed in this area."

"To prevent school drop-outs and to make these potential drop-outs into qualified workers in various fields, there should either be a vocational school in the area or the high-schools should be expanded to give qualified vocational training such as auto mechanics, tool making, woodworking, etc. beautician aut et al.

While we build more and more schools, I feel we are sadly neglecting these children who cannot conform or stick to a regular high school program. BUT who could be trained for a useful vocation. They may be the minority group but what a terrible waste of American youth that could, with the proper training take a useful purposeful place in life. So many of these drop-outs drift from job to job or wind-up first in Family court and later in County court."

"Should be centrally located-provide broad range of courses-comprehensive enough to fit students from large and small schools for employment in local industry upon graduation. Possibly broadening facilities should be provided for students living at a distance."

"Teaching of specific skills might not be as important as teaching of proper habits of works and attitudes, following directions, getting along with others, taking criticism and supervision. Many industries prefer to do on-the-job training. Job-readiness is the job of the vocational training program."

"Hope this program becomes effective soon. Too much stress has been put upon college education to the detriment of the boys and girls not equipped for it. Those who do not go on to college are, for the most part, ill-prepared to earn a decent living with any future to it. They may flounder around for several years before finding their niche."

"I will favor expanding vocational training if a need is shown. I am awaiting the results the results of this survey."

"I do feel that a definite need for a vocational type of high school exists in this area. However, I am afraid that if it is started, it will wind up as a 'dumping' ground for every 'disciplinary' and hard to educate pupil in the school district."

"Should be locally sponsored and financed. Should be tailored to the needs of local people in training for local industries."

"Many students have no interest in academic studies. The vocational schools are not in sufficient number to cope with this situation."

"Perhaps the parents of 7th and 8th graders would appreciate a survey of this type. Congratulations to all superintendents for this step."

"I believe that the Beacon Area is in need of a trade school."

"Aid must be given to those drop-outs not capable of even-attending vocational school, their number is ever increasing."

"In this area where many of the people work in the two state institutions, some sort of pre-nursing training should be given."

"In this area (Dover) where most of population is employed in State Hospital or State School, pre-nursing training should be considered as many become attendants."

"My only fear for vocational technical program in high school is that some potential college students get in it by faulty guidance."

"More opportunities for adult education."

"Vocational and job training for the mental and physical handicapped."

"I think boys and girls should share on-the-job experience such as lathe operators, etc. for boys maybe hair-dressing for girls by having an hr. or two eack wk. in their program schedule enabling them to do so."

"There is a desperate need in this area for a good vocational high school! Maybe this would take enough students out of the academic high schools to ease the over crowded conditions."

"Evening courses should be available for adults who wish to further their skills."

"The slow learning high school students need more opportunities for technical training in the high school. Large high schools have these opportunities, but there is more of this type of education needed in our smaller schools."

"Every student taking a college course should be made to take additional courses so he could, if he left school at the completion of 12 years, be fitted for some employment."

"This area definitely needs a vocational high school. The emphasis and attention in our present high school is geared to the college bound student. Non regents students take second place. It is from this latter group that the majority of our drop-outs come. It would be a great incentive to these people to finish high school, if they felt they were learning a useful occupation at the same time. It would cut down on delinquency and our increasing number of unskilled, unemployed laborers."

"I would be wise to take a look at the European system where students not wishing to attend college would be trained for a specific job."

"Data Processing Programming."

"Courses in computor programming are becoming popular."

"Tailor some of the programs to the anticipated needs of business and industry in the General Geographic area we live in. "

"Certainly agree with the study guide! It's time something was done about it. My company is always unable to find enough trained people--secretaries electronic technicians or 'what have you' (cooks for the cafeteria are as scarce as technicians."

"I believe the student should have more general training in varied subjects the first two years of H. S. until they can be sure of their chosen vocation.

"Build it and fast."

"Although I said "yes" to number five, I do think that the problem should be solved in two separate schools. One for college entrance and the other for vocational training."

"New York State is 20 years behind many other states in vocational schools."

"If training courses such as the following (or some other course you wish to add) were offered in an evening school in this area, would you be interested in enrolling in one of these programs?"

In answer to this question 472 fathers and 714 mothers expressed interest in enrolling in one of the programs listed below. These 1186 parents represent 59% of those returning questionnaires.

	Father	Mother
Agricultural Machinery Technology	17	3
Agricultural Sales and Service	4	1
Auto Mechanics	57	3
Auto Body Repair and Service	11	0
Beauty Culture	3	83
Bookkeeping	13	54
Business Machine Operation	17	97
Business Math	17	17
Carpentry and Building Construction	69	6
Clerk-typist and Receptionist	3	116
Commercial Art	9	29
Custodian Service	7	2
Drafting (Mechanical)	16	3
Dental and Medical Technology	9	35
Electric Appliance Repair	36	6
Electricity	25	1
Electronics Technology	61	3
Farm Operation and Management	15	2
Food Preparation and Service	10	47
Landscaping and Horticulture	30	34
Machine Trades	14	2
Plumbing and Heating	25	1
Practical Nursing	5	118
Printing Trades	7	8
Retailing (Salesmanship, Merchandising)	29	22
Secretarial or Stenographic Work	2	88
Sheet Metal Work	6	1
Textil Fabrication	3	5
Welding	30	1
Other	40	72

Some of the "Other" courses listed were: Father: Accounting - 2; Business Administration - 4; Blue Print reading - 3; Chemistry - 2; Federal Tax - 1; German, Conversational - 1; Humanities - 1; Hydrodynamics - 1; Insurance - 3; Law - 1; Material Handling - 1; Music - 1; Hotel Management - 2; Oil Painting - 1; Personnel Relations - 1; Public Relations - 2; Public Speaking - 1; Programming for n/c Machines - 1; Real Estate - 2; Refrigeration - 1; Statistical Quality Control - 1; Shorthand - 1; Spanish, Conversational - 1; Television - 1; Tool Making - 1; Transportation Cr. - 1; Typing - 3.

Mother: Arts and Crafts - 1; Art of Chain Stencilling - 1; Business Law - 1; Ceramics - 1; Data Processing - 1; Dress Designing - 1; Dress Making - 5; Driver Education - 3; Fine Arts - 1; Furniture Refinishing - 1; High School (regular) - 1; Home Economics - 4; Insurance - 2; Interior Decoration - 8; Journalism - 1; Key Punch Operator - 5; Literature, (childrens) - 1; Municipal Government - 1; Music - 3; Nursing, Advanced - 1; Office Management - 1; Philosophy - 1; Photography - 1; Programming for Computers - 1; Psychology - 1; Public Relations - 3; Public Speaking - 1; Real Estate - 3; Refresher - 2; Spanish - 1; Sewing - 5; Advanced Sewing - 1; Social Work - 2; Speech writing - 1; Swimming - 2; Switchboard Operation - 2; Typing - 4.

PUTNAM COUNTY

Putnam County parents returned 392 questionnaires of which 157 were signed. The number of responses per school was:

Brewster	144
Carmel	69
Haldane	53
Mahopac	126
Total	392

Parents Views of Students' Plans

"Do you approve of the choice of vocation or occupation made by your son/daughter?"

	Number	%
Yes	364	98
No	5	1
Undecided	21	5

Those parents who answered "No" or "Undecided" suggested the following vocations or occupations for their sons/daughters,

Agriculture, forestry and fishing, farming, farm services, etc.	2
Amusement-Entertainment (actor, announcer, sports, etc.)	1
Business office (bookkeeper, secretarial, clerical, etc.)	2
Government (armed forces, state, federal, etc.)	3
Personal services (barber, beautician, laundry, tailor, hotels, etc.)	1
Professional (doctor, lawyer, teacher, engineer, etc.)	6

Other: Cabinet maker, mathematician, something professional, cartographer stockbroker, statistician, labor relations, nun.

"Do you approve of the vocation or technical courses your child is taking or wants to take?"

	Number	%
Yes	359	91
No	9	2
Undecided	11	2

Those parents who answered "No" or "Undecided" made the following comments:

"I prefer doctor to engineer."

"I approve the Business school he is going to go to--I do not approve of the course planned out by the school. He is not qualified as a graduate to to out and make a living."

"Not extensive enough."

"I do not agree with her plans to go on as a practical nurse because she has much better qualifications."

"I do not understand what it means except that he wants to do something in flying."

"No need for it."

"Not enough equipment--no business machines."

"Daughter is taking college preparatory course."

"Do you favor expanding programs in vocational and technical education for high school students?"

	Number	%
Yes	353	90
No	9	2
Undecided	23	5

"Do you favor expanding programs in vocational and technical education for adults?"

	Number	%
Yes	311	79
No	25	6
Undecided	44	11

The parents selected as most nearly describing their occupations the following:

Occupation	Father	Mother
Professional or technical	88	32
Farmer or farm manager	6	0
Manager, official, or proprietor	51	13
Clerical	12	62
Sales Worker	19	6
Craftsman or foreman	92	3
Semi-skilled operator	27	8
Private house worker	0	3
Service worker	49	23
Farm laborer or farm foreman	1	1
Homemaker (housewife)	2	211
Other: Well driller, Secretarial	4	4

The following table indicated the highest grade completed by the parents who returned questionnaires. The number under the grade number indicates the number of parents in the County who report having completed that grade.

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Father		2	1		4	4	2	42	21	36	30	140	8	77	7	17	9	8	9	
Mother					1	5	7	21	15	24	29	182	21	21	9	18	7		1	

Parents indicated specialized training in the following fields:

	Father	Mother
Registered Nursing	0	14
Business School	15	62
Apprentice	27	2
Trade (not apprentice)	39	7
Armed Forces (Technical)	78	3
Other	36	29

Under "Other specialized training" the 36 fathers and the 29 mothers report the wide variety of training with rarely more than two in the same field.

The 392 parents who returned questionnaires expect their children will complete grades in school as indicated by the following table. The second line indicates the total in each grade.

	High School				College				Other			
Grade	9	10	11	12	13	14	15	16	1	2	3	4
				99	7	45	3	166	23	22	11	9

Of the 65 parents who mentioned "Other", Business School was listed 19 times; Nursing School - 15; Post-graduate School - 4; Secretarial School and Law School - 3 times each; Graduate School, Masters degree, Art School, and Medical School - 2 times each. Of the fourteen plans for other training mentioned only once, R.C.A. School, Automotive Mechanics, and Barber School were the only ones specific enough to record.

The following suggestions were made by parents in Putnam County regarding vocational-technical education programs:

"I feel the schools in Putnam County should offer schooling in woodwork, cabinet making, agriculture, nurse training vocations."

"Expand the present program."

"Industry could absorb all graduates of a two or three year machine shop."

"I would suggest the programs be flexible enough to provide a transition to the changes taking place in the Technology of present trades."

"Before merging now existing high schools such as Mahopac, Carmel, and Brewster, has there been any study of the need for a vocational and technical school in Putnam County for the students who are not going to a four year college? Just an idea."

"Let us keep it in moderation. The cost is too great. I think the four years in high school should be spent in educating the minds and not in training for proficiency at a skill. Let us educate, not train."

"I am very much in favor of vocational technical training. So many students are not capable of academic studies, and this sort of training would be very valuable to them."

"I think this is an excellent idea if the decision to enroll a child in such courses is not made in haste, or for the convenience of either the school or the parents. In effect, I believe a child can be average or below in school, have an aptitude for mechanics, and still become one of our great writers, artists, directors, etc."

"Wonderful if the same recognition is given. A talented child taking vocational-technical training, and this child is not looked down upon as stupid by teachers and administrators."

"Should have had this type training available years ago. "

"If training courses such as the following (or some other course you wish to add) were offered in an evening school in this area, would you be interested in enrolling in one of these programs?"

In answer to this question, 115 fathers or 29% of the parents who returned questionnaires, together with 158 or 40% of the mothers, expressed interest in enrolling in one of the programs listed below.

	Father	Mother
Auto Mechanics	5	2
Auto Body Repair and Service	6	0
Agriculture Sales and Service	2	0
Beauty Culture	1	16
Bookkeeping	1	14
Business Machine Operation	3	20
Carpentry and Building Construction	16	0
Clerk-typist and Receptionist	0	19
Commercial Art	0	10
Custodian Service	2	1
Drafting (Mechanical)	6	0
Dental and Medical Technology	1	8
Electric Appliance Repair	10	1
Electricity	11	0
Electronics Technology	10	1
Farm Operation and Management	3	0
Food Preparation and Service	1	12
Landscaping and Horticulture	14	8
Machine Trades	1	0
Plumbing and Heating	8	0
Practical Nursing	1	29
Printing Trades	5	0
Retailing (Salesmanship, Merchandising)	6	1
Secretarial or Stenographic Work	1	19
Sheet Metal Work	1	0
Textile Fabrication	1	0
Welding	6	0
Business Math	3	1
Other	14	13

Some "Other" courses listed were Sewing mentioned three times and the following mentioned but once: The letter in parentheses following the course name indicates "F" for father and "M" for mother. Insurance - (M), Blue Print Reading - (F), Music Appreciation - (F), Public Speaking - (F), Business Law - (M), Psychology - (M, F), Business Management - (M), Dress Designing and Interior Decorating - (M), T.V. Repair - (F), Woodworking Trade - (F), Real Estate - (F), Income Tax Filing - (M), Insurance - (F), Meteorology - (F), Switchboard - (M), Ham Radio and Typing - (F), Oil Burners and Controls - (F), Furniture Refinishing - (M), Programmer; Data Processing - (F), and Driver Education - (M).

TRI-COUNTY SUMMARY

Tri-County parents returned 3318 questionnaires of which 1559 were signed. The number of responses per county was:

Columbia	915
Dutchess	2011
Putnam	392
Total	3318

Parents Views of Students' Plans

"Do you approve of the choice of vocation or occupation made by your son/daughter?"

	Number	%
Yes	2955	89
No	63	2
Undecided	238	7

"Do you approve of the vocation or technical courses your child is taking or wants to take?"

	Number	%
Yes	2885	87
No	79	2
Undecided	146	4

Parents Views Regarding Expansion of Vocational and Technical Education

"Do you favor expanding programs in vocational and technical education for high school students?"

	Number	%
Yes	2983	90
No	68	2
Undecided	187	6

"Do you favor expanding programs in vocational and technical education for adults?"

	Number	%
Yes	2685	81
No	125	4
Undecided	377	11

Parent Interest in Evening School Training

"If evening courses were offered in this area, would you be interested in enrolling in one of these programs?"

Father			Mother		
	Number	%		Number	%
Yes	863	26	Yes	1276	38
No	1598	48	No	1524	46

The total number of parents who said "yes" as indicated above (2139) represents 79% of the number (2685) who voted in favor of expanding programs in vocational and technical education for adults.

There were a total of 406 "write-in" comments regarding parents' viewpoints to an area vocational-technical school program. Of the total "write-in" comments 362 or 89% were strongly favorable; 22 or 5% were unfavorable; 22 or 5% raised significant questions regarding the implementation of the study.

SECTION VII

THE CLASS OF 1962

A complete study of the occupational needs of young people who are preparing themselves for entering employment should include some information about those who recently attended high schools in the tri-county area. The "class of 1962" was selected for this purpose since educational leaders in the survey area felt that the members of this class had been away from high school long enough to have formed some definite opinions with respect to the value of the kind of high school education they had received.

The information in this section of the study has been tabulated from replies to a questionnaire addressed to this group and is reported separately by county in the same manner as other sections of this survey.

During September 1964 questionnaires were mailed to those registered in the ninth grade in September 1958. These students would normally be expected to graduate from high school in 1962.

COLUMBIA COUNTY

Six hundred and fifty seven questionnaires were mailed by the county high schools as follows:

	Number mailed	Number returned	Percent returned
Chatham	72	18	25
Germantown	25	6	24
Hudson	214	87	41
Ichabod Crane	111	27	24
New Lebanon	82	19	23
Ochawamick	50	28	56
Roeliff Jansen	72	49	68
Saint Mary's Academy	31	18	58
Total	657	252	38

The returns were from 120 boys and 132 girls.

In answer to the question, "What grade have you completed in school?", the distribution was as follows:

High School Grade					College Year			
8	9	10	11	12	1	2	3	4
1	7	9	4	93	24	114	0	0

The "In-College" Group

One hundred and eighteen reported that they are now in college; fifty-six boys and sixty-two girls. This represents forty-seven percent of the questionnaire population and eighteen percent of the class of 1962.

Thirty eight are registered in public colleges or community colleges in New York State; fifty two in private colleges in New York State, and twenty five are attending out-of-state colleges. Three have completed their college education.

The Number in College by School

School	Boys	Girls	Total	Percent of School's Questionnaires Returned
Chatham	3	8	11	61
Germantown	2	2	4	67
Hudson	19	19	38	44
Ichabod Crane	4	6	10	37
New Lebanon	4	7	11	58
Ockawamick	4	6	10	36
Roeliff Jansen	17	8	25	51
Saint Mary's Academy	3	6	9	50

One hundred and four liked academic subjects best in high school while thirteen preferred non-academic subjects. Six reported that they did not feel that their high school work had helped them in employment. All who answered the question stated that their parents had encouraged them to continue in school.

The college students reported their "major field" including the following:

Field	Number	Field	Number
Accounting	1	Industrial Arts	1
Animal Husbandry	1	Journalism	1
Art	1	Liberal Arts	4
Business Administration	7	Landscape Architecture	1
Biology	2	Marketing	1
Chemistry	2	Mathematics	2
Classical Civilization	1	Mechanical Design	1
Classical Language	1	Medical Technology	2
Commerce and Finance	1	Metal Laboratory	1
Construction Technology	1	Music Education	2
Economics	2	Nursing	17
Education	20	Photography	1
Electronics	2	Physics	2
English	11	Political Science	1
Engineering	8	Pre-law	1
Finance	1	Printing	1
Forestry	2	Psychology	5
Government	1	Public Health	1
History	4	Secretarial Science	1
Home Economics	1		

A selection of typical comments made by these college students about their school life includes the following:

> "The study habits I acquired in high school have been beneficial in studying nursing."

> "A better guidance department--to give more information on subjects to study in high school and on schools or colleges to attend after graduation."

> "Wish high school offered more in reading improvement and speed reading."

> "As I have gone on in school I have found it more enjoyable and less of a chore."

> "I had almost no interest in my subjects at this time. Vocational training would have been far more beneficial in my case."

"Had some very excellent, well qualified teachers - especially in the science and mathematics field."

"Enough help is not given to the students in choosing their occupations; participation in a program where he could get a taste of his preferred occupation would be a big help."

"It seems to me that the teacher "taught for the Regents" - Their record is based too much on their student's regents performance, the exams themselves not being very hard, thus the more able students weren't challenged enough."

"Not too well-rounded and subjects of choice limited."

"I believe that my enjoyment of school life while in high school has been one of the leading factors in my decision to enter the teaching profession. I am looking forward to it."

Out-of-School Group

One hundred and thirty four reported that they had left school; fifty seven boys and seventy seven girls. This represents fifty three percent of the returned questionnaires and twenty percent of the "class of 1962."

The following table indicates the number of students who discontinued their education by school:

School	Boys	Girls	Total	Percent of School's Questionnaires Returned
Chatham	1	6	7	39
Germantown		2	2	33
Hudson	22	27	49	56
Ichabod Crane	6	11	17	63
New Lebanon	6	2	8	42
Ockawamick	8	10	18	64
Roeliff Jansen	11	13	24	49
St. Mary's Academy	3	6	9	50
	57	77	134	

The following is a list of reasons for not completing high school:

Reason	Number
Need for you at home	4
Difficulty in academic subjects	5
Lack of subjects which you felt would be useful to you	2
Bored with school work	9
Money reasons	4
Need to go to work	5
Marriage	4
Military Service	7

Twenty seven of the non-college group liked academic subjects while in high school and one hundred three preferred "non-academic." Sixty six felt that high school training had helped them in employment while thirty eight felt that it had not helped. Only nineteen reported that their parents had not encouraged them to remain in school. Most had held one or more jobs before their present employment. Eighty six reported that they are now employed. Seventeen indicated that they are unemployed and thirty one gave no answer to this question. Those employed indicated the following types of work:

Occupation	Number	Occupation	Number
Accounting	1	Manufacturing	8
Aircraft Service	1	Meteorology	1
Automechanics	2	Parts Man	1
Bank Teller	2	Plumbing	1
Barber	1	Practical Nurse	2
Beautician	4	Nursing Work	2
Baby Sitter	2	Printer	1
Carpentry	3	Reporter	1
Cashier	1	Retailing	7
Clerical	14	Secretarial	11
Dential Hygiene	1	Services of U. S.	13
Dress Maker	1	Steam Fireman	1
Electronics	3	Surveying	1
Farming	1	Taxidermy	1
Housewife	13	Technician	2
Laborer	8	TWX-PBX Operator	1
		Waiter	1

Seventy-eight indicated that they were satisfied with their work. Thirty-six reported that they were not satisfied.

Eighty would like a better paying job of the same type while twenty-eight would not.

Sixty-eight indicated that they would be interested in one of the programs listed below if offered in an evening school.

Course	Number Interested
Agricultural Machinery Technology	1
Auto Mechanics	4
Auto Body Repair and Service	5
Beauty Culture (Cosmetology)	3
Bookkeeping	4
Business Machine Operation	8
Business Math	1
Carpentry and Building Construction	5
Clerk-Typist and Receptionist	5
Commercial Art	3
Drafting (Mechanical)	1
Dental and Medical Technology	1
Electric Appliance Repair	1
Electricity	3
Food Preparation and Service	2
Homemaking	2
Landscaping and Horticulture	2
Machine Trades	1
Plumbing and Heating	1
Practical Nursing	2
Retailing (Salesmanship, Merchandising)	2
Secretarial or Stenographic Work	9
Textile Fabrication	1
Welding	1

In reply to the question, "In place of evening instruction, would you prefer instruction on an apprentice basis?"; forty-four said "Yes" and thirty-six "No".

Forty-six would prefer instruction given part time on-the-job and part time in school. Thirty-two said "No" to this.

"Would you take advantage of any training opportunity which might be offered even if some travel time were necessary?"

Yes 75 No 24

"Do you believe that with more training and skill development you could be happier and more successful in your work?"

Yes 95 No 24

Would like to be notified of new training programs when they are started in their area:

Yes 96 No 25

Learning and Work Preferences. The respondents were asked questions with respect to this work preference:

Prefer to work alone 45: With a crew 72

Enjoy most work which deals with:	People	73
	Things (materials)	47
	Books	9
Feel that I learn most easily from:	Books	27
	Pictures	10
	Demonstrations	94

The following is a selection of suggestions which were made by the non-college group:

"I figure a good way for people to get a trade and become skilled is for them to get a two-year trade school from a company they work for, or join the navy."

"I think beauty school should be at least a one year course instead of six months. There's too much to learn in that length of time."

"I would appreciate help in finding employment after graduation from beauty school."

"Yes - a vocational school closer to my home - nearer than Albany."

"New adult education courses at Public High School. Desire for a business machine course in the future."

"Experience and theory grouped together are far superior to one without the other."

"I believe the teachers do not push the students hard enough about learning."

"The teachers should pay more attention to the slow hard worker than to the child that gets subject matter quickly."

"I wish I was back in school."

"I wish I had continued. The only jobs I can get are waitress and factory. If anything happended to my husband I'd have to work and those jobs don't pay."

"The teachers today do not have enough time to help the people that the work comes hard to. They just help the ones that know everything and don't really need their help."

"I feel that it is most important to try and decide what definite field one wishes to enter before high school begins. I started business courses only in my junior year and Iwish very much that I had had four full years of business training instead of only two"

"I believe high school was helpful but one year of college was not much more helpful."

"I should have stayed in school."

"Too smart for my own good. Thought that leaving would make no difference."

"I don't regret the fact that I attended nursing school. It was a good experience."

"There should have been more on-the-job participation and projects in auto mechanics."

"They were very educational years. Taking a secretarial course has helped me to have the good job I now have."

"I feel my four years should have been spent more on a skill than on things of the past."

"The only thing I'd like to comment on are the Guidance Counselors. I believe they should help a student in doing what he is interested in, not discouraging jobs held since leaving school. As the case has been in plenty of girls who have graduated wishing to become beauticians; because they have taken business courses. What else could they have taken to help them."

DUTCHESS COUNTY

Over one thousand six hundred and thirty-five questionnaires were mailed to County High Schools as follows:

	Number mailed	Number returned	Percent returned
Arlington H. S.	No data	88	—
Beacon H. S.	192	70	36
Dover Jr.-Sr. H. S.	40	9	23
F. D. Roosevelt H. S.	214	69	32
Millbrook H. S.	26	16	61
Our Lady of Lourdes H. S.	174	103	59
Pawling Central S.	35	23	66
Pine Planis C. S.	67	23	36
Poughkeepsie H. S.	531	206	39
Red Hook C. S.	76	35	46
Rhinebeck C. S.	58	34	58
Tivoli U. F. S.	No data	—	—
Roy C. Ketcham H. S.	190	93	50
Webutuck C. S.	32	8	25
	1635	777	

The returns were from 377 boys and 397 girls, plus 3 unmarked.

In answer to the question, "What grade have you completed in school?", the distribution was as follows:

High School Grade					College Year			
8	9	10	11	12	1	2	3	4
0	16	24	20	223	80	303	12	2

Of the returned questionnaire population one hundred and seventy-six or twenty-three percent reported that they had failed one or more subjects in high school.

The In-College Group

Four hundred reported that they are now in college; two hundred and twenty-one boys and one hundred and seventy-nine girls. This represents fifty-one percent of the questionnaire population and about twenty-four percent of the class of 1962.

One hundred and fifty-eight are registered in Community Colleges or four-year Colleges of the University of the State of New York, one hundred and forty-seven in private colleges in New York State, and ninety-two are attending out-of-state colleges. Three did not name their college.

The Number in College by School

	Boys	Girls	Total	Percent of school's Questionnaires returned
Arlington H. S.	23	20	43	49
Beacon H. S.	17	15	32	40
Dover Jr. and Sr. H. S.	0	2	4*	44
F. D. Roosevelt H. S.	19	15	35**	50
Millbrook H. S.	4	1	5	31
Our Lady of Lourdes	40	28	68	66
Pawling C. S.	4	6	10	43
Pine Plains C. S.	6	6	12	52
Poughkeepsie H. S.	63	37	100	49
Red Hook H. S.	6	11	17	49
Rhinebeck C. S.	9	6	15	44
Tivoli U. F. S.	No data	—	—	—
Roy C. Ketcham	25	28	53	57
Webutuck C. S.	2	4	6	75
	221	179	400	

Three hundred and fifty-two liked academic subjects best in high school while twenty-eight liked non-academic subjects.

Three hundred and thirty-nine stated that their parents had encouraged them to continue in school. Twenty-one replied in the negative while forty did not answer this question.

*Sex not reported (2)
**Sex not reported (1)

The college-student reports on "major field" included the following:

Field	Number
Accounting	12
Aerodynamics	1
American studies	2
Architecture	3
Art	6
Bacteriology	1
Behavioral science	1
Biology	11
Building construction	1
Business administration	19
Business	10
Chemistry	8
Child study	1
Commercial art	3
Conservation	1
Data processing	1
Dental Hygiene	1
Design, advertising	1
Drama	1
Economics	8
Education	7
Education, business	5
Education, elementary	28
Education, Christian	1
Education, early child	1
Education, for handicapped	1
Education, music	2
Education, nursery	1
Education, physical	2
Education, secondary	6
Electronic technology	6
Engineering	9
Engineering, electrical	6
English	34
Fashion merchandising	1
Forestry	1
French	2
Foreign affairs	1
Geography	2
Government	2
History	25
Home economics	2
Hotel administration	1
Illustration	1
Income tax	1
Industrial administration	1
Industrial arts	2
Industrial and labor relations	1
International affairs	2
Landscape architecture	1
Latin	1
Liberal arts	16
Mathematics	21
Mechanical design	5
Medical technology	1
Nursing, education	1
Nursing	21
Opera	1
Pharmacy	1
Philosophy	5
Photography	1
Physics	4
Physical therapy	1
Political science	5
Pre-veterinarian	2
Pre-medical	3
Psychology	15
Public administration	1
Pulp and paper technology	1
Reading	1
Religion	1
Romance language	1
Russian	1
Science	2
Secretarial science	2
Social science	4
Sociology	11
Spanish	2
Transportation	1
Zoology	3

A selection of typical comments made by these college students about their school life include the following:

"I believe that vocational courses would be good."

"I think that high school should be run on more of a college level."

"My elementary school teacher must have done an excellent job motivating me for I have thoroughly enjoyed my school work ever since."

"... The only criticism is a lack of personal choice in the curriculum and constant pressure academically."

"My school life was most enjoyable and I feel my education in high school adequately prepared me for college."

"I feel that my education was as adequate as it could have been considering the size of the school. A larger high school could offer more and better programs."

"Very enjoyable-highest academic subjects should have been given to those who could handle them."

"_____ should have a vocational school."

"Honors classes gave good college preparation."

"It was fair. Schools should offer trades."

Out-of-School Group

Three hundred and seventy-seven reported that they had left school: one hundred and fifty-nine boys and two hundred and eighteen girls. This represented about fifty percent of the returned questionnaires and about twenty-three percent of the class of 1962.

The following table indicates the number of students who discontinued their education by school:

School	Boys	Girls	Total	Percent of school's Questionnaires returned
Arlington H. S.	19	26	45	51
Beacon H. S.	16	22	38	54
Dover Jr.-Sr. H. S.	1	4	5	56
F. D. Roosevelt H. S.	15	19	34	50
Millbrook H. S.	6	5	11	69
Our Lady of Lourdes H. S.	8	27	35	34
Pawling Central School	6	7	13	57
Pine Plains C. S.	4	7	11	48
Poughkeepsie H. S.	47	59	106	51
Red Hook C. S.	10	8	18	51
Rhinebeck C. S.	9	10	19	56
Tivoli (No data)				
Roy C. Ketcham H. S.	17	23	40	43
Webutuck C. S.	1	1	2	25
	159	218	377	

Reasons for Not Completing High School

Physical illness	11
Need at home	18
Difficulty in academic subjects	51
Lack of subjects felt to be useful to the student	30
Bored with school work	81
Money reasons	35
Need to go to work	44
Marriage	29
Military service	18

Students were permitted to check as many items as applied to them. Two hundred and seventy-one reported having completed twelve or more grades before leaving school. Sixty-four had left school before high school graduation.

Age of Leaving School

Age	15	16	17	18	19	20
Number	1	20	31	19	13	7

One hundred and twenty-six liked academic subjects while in high school and one hundred and ninety-two preferred non-academic.

One hundred twenty-three felt that high school training had helped them in employment while seventy-seven felt that it had not helped.

Only twenty-four reported that their parents had not encouraged them to remain in school.

One hundred and thirty-nine reported having held one or more jobs before the one in which they are now employed.

Three hundred and five listed the type of work in which they are now engaged. Forty-eight indicated that they were unemployed and twenty-four did not answer this question.

Those presently employed indicated the following types of work:

Occupations Reported by Young Workers

Occupation	Number	Occupation	Number
Agent	2	Driver	2
Auto mechanic	6	Electrical Work	6
Bank teller	3	Engineering Apprentice	3
Barber	1	Fireman, steam	1
Beautician	5	Gas station attendant	1
Bookkeeper	6	Guard	1
Building	4	Hospital services	9
Bus driver	1	House wife	34
Butcher	1	Housework	2
Carpenter	6	Interior decoration	1
Cashier	3	Key punch operator	3
Clerical	11	Laborer	3
Computer operator	2	Machine operator	9
Cook	1	Manufacturing	14
Counselor	1	Manager	9
Dental assistant	2	Meat cutter	1

(continued)

Occupations Reported by Young Workers (continued)

Occupation	Number	Occupation	Number
Mechanic	3	Secretarial	52
Military service	54	Service on equipment	2
Nursing	4	Stenographer	3
Nurse, Reg.	1	Surveyor	1
Nurse, Lic. Prac.	2	Teacher	1
Painter	1	Telephone operator	2
Plumber's apprentice	2	Tool maker apprentice	1
Printing	1	Typist	5
Receptionist	2	Waitress	5
Repair work	3	Window display	2
Sales work	4		

One hundred and sixty-seven reported that they were satisfied with their work while sixty-eight indicated that they were not satisfied.

One hundred and forty-one would like a better paying job of the same type while sixty-five would not.

One hundred and fifty-two indicated that they would be interested in one of the programs listed below if offered in an evening school:

Course	Number
Agricultural machinery technology	3
Auto mechanics	7
Auto body repair and service	2
Beauty culture	9
Bookkeeping	7
Business machine operation	17
Business math	5
Carpentry and building construction	5
Clerk-typist and receptionist	11
Commercial art	3
Custodial service	1
Drafting (mechanical)	10
Dental and medical technology	6
Electrical appliance repair	1
Electricity	7
Electronics technology	6
Food preparation and service	1
Homemaking	2
Household art and decoration	7
Landscaping and horticulture	2
Machine trades	4
Practical nursing	11
Printing	1
Retailing (Salesmanship, Merchandising)	3
Secretarial or stenographic work	15
Sheet metal work	2
Welding	4

In reply to the question, "In place of evening instruction, would you prefer instruction on an apprentice basis.", eighty-four said "Yes" and eighty-six "No".

One hundred and fifteen would prefer instruction given part time on-the-job and part time in school. Forty-eight said "No" to this.

"Would you take advantage of any training opportunity which might be offered even if some travel time were necessary?"

Yes 144 No 52

"Do you believe that with more training and skill development you could be happier and more successful in your work?"

Yes 190 No 43

"Would you like to be notified of new training programs when they are started in your area?"

Yes 197 No 52

Learning and Work Preferences

The respondents were asked questions with respect to their work preference:

Prefer to work alone 113: With a crew 126

Enjoy most work which deals with:	People	177
	Things (materials)	85
	Books	15
Feel that I learn most easily from:	Books	71
	Pictures	6
	Demonstrations	203

The following is a selection of suggestions which were made by the non-college group:

"Retailing courses would help me."

"Considering the job demand in the area, secretarial skills and mathematical skills are absolutely essential to everyone including those college-bound. Consider IBM."

"I feel that if I had the opportunity of selecting a vocational training course in high school I would have remained in school, as I am sure it would have been very beneficial."

"I would like on the job training on a pay basis."

"Learning by seeing and doing rather than out of a book is more helpful than any other method of teaching."

"I would like to be able to take a course in key punching."

"Specifically, printing should be more advanced (offset, photoengraving, variatype) along with classes you now have."

"I believe making it a three year course with more time given to other subjects for future use would be more satisfactory."

"A trade school instead of the eleventh and twelfth grades would have been more beneficial to me."

"Through experience I have found naval training schools more interesting than civilian school. I think it wise to use this method of training in vocational schools if possible."

"On the job training is an exemplary way to teach. As a student of this type training in the air force, I witnessed the great results this training can produce."

"I feel if I had more assistance on what sort of course or subjects to take I might have done better."

"I was encouraged to take college entrance and found it too difficult, but stayed with it anyway. I think parent and student advisers should let students decide their own courses and just be there to help and guide."

"Disappointed that no agricultural course was offered."

"They don't give you enough practical courses such as typing, and guidance programs for choosing a school for continued education is sadly lacking."

"I was very foolish to have quit school. I know now how important an education is."

"I would like _____ Central to have vocational courses."

"I would like to finish school in evening courses if I could. Then become a commercial artist."

PUTNAM COUNTY

Two hundred and ninety-seven questionnaires were mailed by the County High Schools as follows:

	Number mailed	Number returned	Percent returned
Brewster C. H. S.	61	3	5
Carmel C. H. S.	114	47	41
Haldane C. H. S.	52	30	58
Mahopac C. H. S.	70	33	47
	297	113	

The returns were from fifty boys and sixty girls. Sex not tallied, three.

In answer to the question, "What grade have you completed in school?", the distribution was as follows:

High School Grade					College Year			
8	9	10	11	12	1	2	3	4
0	4	4	3	51	14	36	1	0

Of the returned questionnaire population sixty-one or fifty-four percent reported that they had failed one or more subjects in high school; sixteen in the In-College Group, and forty-five in the Out-of-School Group.

The In-College Group

Forty-eight reported that they are now in college; twenty boys and twenty-six girls. Sex not tallied two. This represents forty-three percent of the questionnaire population and sixteen percent of the class of 1962.

Nineteen are registered in New York State or Community colleges, sixteen in private colleges in New York State, and thirteen are attending out-of-state colleges.

The Number in College by School

	Boys	Girls	Total	Percent of school's Questionnaires returned
Brewster C. S.	0	2	2	—
Carmel C. S.	8	11	21*	45
Haldane C. S.	6	3	9	30
Mahopac C. S.	6	10	16	49
	20	26	48	

*Sex not reported (2)

Forty-three liked academic subjects best in high school while five liked non-academic subjects.

Forty-five stated that their parents had encouraged them to continue in school. One replied in the negative while two did not answer this question.

The college-student reports on "major field" included the following:

Field	Number	Field	Number
Accounting	1	International Affairs	1
Agriculture	1	Languages	1
Business	4	Liberal Arts	1
Chemical Technology	2	Mathematics	1
Chinese	1	Machine design	1
Economics	1	Medical Secretary	1
Education, Biology	1	Music	1
Education, Elementary	1	Nursing	6
Education, Health & Physical	1	Philosophy and Theology	1
Education, Secondary	1	Physics	1
Education, Social Science	1	Political Science	3
Engineering	4	Psychology	1
English	2	Spanish	1
French	1	Speech Therapy	1
History	4		

A selection of typical comments made by these college students about school life include:

> "By attending college I now see the importance of establishing good study habits also the need for further education."
>
> "Students involved in the academic curriculum generally are advised and directed to take only academic courses. These are not preparation for work after school."
>
> "To me high school was a challenge."
>
> "School officials helped overcome barriers to physically disabled."

Out-of-School Group

Sixty-five reported that they had left school; thirty boys and thirty-five girls. This represented fifty-seven percent of the returned questionnaires and about twenty-two percent of the class of 1962.

The following table indicates the number of students who discontinued their education by school:

School	Boys	Girls	Total	Percent of School's Questionnaires Returned
Brewster C. H. S.	0	1	1	—
Carmel C. H. S.	11	15	26	55
Haldane C. H. S.	11	10	21	70
Mahopac C. H. S.	8	9	17	51
	30	35	65	

Reasons for Not Completing High School

Reason	Number
Difficulty in academic subjects.	4
Lack of subjects felt to be useful to the student.	1
Bored with school work.	2
Need to go to work.	1
Marriage.	1
Military service.	3

Fifty-four reported having completed twelve or more grades before leaving high school. Eleven had left school before high school graduation.

Age of Leaving School

Age	15	16	17	18	19
Number	0	3	2	6	4

Twenty-three liked academic subjects while in high school and thirty-eight preferred non-academic.

Twenty-three felt that high school training had helped them in employment while sixteen felt that it had not helped.

Eight reported that their parents had not encouraged them to remain in school.

Forty-two reported having held one or more jobs before the one in which they are now engaged.

Sixty listed the type of work in which they are now engaged. Ten indicated that they were unemployed. Undoubtedly five of the unemployed were people who considered either housework or the military unemployment.

Those employed indicated the following types of work:

Occupation	Number	Occupation	Number
Auto Mechanic	1	Laborer	1
Auto Supply	1	Maintenance	1
Bookkeeper	1	Manufacturing	5
Cashier	2	Mechanic	1
Characterization Tech.	1	Military Service	7
Clerical	6	Nurse's Aid	1
Clerk, stock	3	Photography	1
Commercial Work	1	Physical Therapy	1
Electronics Tech.	2	Secretarial	8
Equipment Operator	2	Splicer	1
Grade Foreman	1	Steam Fitter	1
Graphotype	1	Truck Driver	1
Hairdresser	1	Warehouse Man	1
Housewife	7		

Thirty-four reported that they were satisfied with their work, while twenty indicated that they were not satisfied.

Thirty-three would like a better paying job of the same type while seventeen would not.

Forty-one indicated that they would be interested in one of the programs listed below if offered in an evening school.

Course	Number Interested
Auto Mechanics	2
Auto Body Repair and Service	2
Beauty Culture	1
Bookkeeping	3
Business Machine Operation	2
Business Math.	2
Clerk Typist and Receptionist	3
Commercial Art	1
Drafting (Mechanical)	1
Dental and Medical Technology	1
Electricity	1
Electronics Technology	2
Farm Operation and Management	2
Household Art and Decoration	5
Machine Trades	1
Plumbing and Heating	1
Practical Nursing	1
Retailing (Salesmanship, Merchandising)	2
Secretarial or Stenographic Work	4
Welding	2
Physical Education	1
Refrigeration and Air Conditioning	1

In reply to the question, "In place of evening instruction would you prefer instruction on an apprentice basis.", twenty said "Yes" and twenty-five "No".

Twenty-five would prefer instruction given part time on-the-job and part time in school. Seventeen said "No" to this.

"Would you take advantage of any training opportunity which might be offered even if some travel time were necessary?"

Yes 38 No 10

"Do you believe that with more training and skill development you could be happier and more successful in your work?"

Yes 47 No 5

"Would you like to be notified of new training programs when they are started in your area?"

Yes 47 No 5

Learning and Work Preferences

The respondents were asked questions with respect to their work preferences:

Prefer to work alone 20; With a crew 23.

Enjoy most work which deals with:	People	28
	Things (materials)	22
	Books	6
Feel that they learn most easily from:	Books	11
	Pictures	4
	Demonstrations	41

The following is a selection of suggestions from the out-of-school group:

"From previous experience, instruction on-the-job as well as classroom work, is extremely helpful and I would encourage more of this."

"Have a close coordination between classroom study and on-job training, equal amounts of each."

"It's difficult to obtain a job which you are just starting new. A job placement center at school would help."

"A sounder knowledge of those subjects in school related to Math., English and practical knowledge plus the encouragement and reason for knowing these."

"Rather than have a half-day of class and a half-day of work, I believe that classes should be on an every-other week basis, therefore, it would cut down on travel time and increase educational time."

"Instructors should be part-time instructors who participate fully in their field."

"Need for business machines in our school commercial department."

"Too much training for regents--not enough in areas of more interest."

Summary

During September 1964 the high schools of the tri-county area mailed two thousand five hundred and eighty-nine questionnaires to those listed as ninth-grade students in 1958. This mailing was later followed by a letter to those who had not responded. Ultimately one thousand one hundred and forty-two useful questionnaires were returned. This is a return of forty-four percent.

It was learned that five hundred and sixty-six were in college and that five hundred seventy-six had discontinued school.

In the college group there was frequent mention of appreciation of high school teachers' efforts in their behalf and that they had enjoyed their high school life. However, some deplored their lack of reading ability and others expressed regret at not having acquired better habits of study while in high school.

About forty percent reported that they had failed one or more subjects while in high school.

In the selection of their major field of study, students appear to be following a traditional pattern with respect to foreign languages. However, one named Chinese and another Russian as his major field.

In the out-of-school group, a regret at not having made better use of the high school opportunity was mentioned frequently together with an often expressed, "I wish I were back".

Relatively few, one hundred and fifteen to one hundred and forty, are unemployed.

Of those employed two hundred and seventy-nine stated that they were satisfied with the work they are now doing.

About sixty-five percent of this out-of-school group failed one or more subjects while in high school.

"Bored with school work" was the reason most often given for leaving school. Difficulty with academic subjects was the next highest.

These young people state that they enjoy work most when it deals with people and things. Working with books was preferred by twenty-one of them.

Fifty-eight percent state that they learn most easily through shop and laboratory demonstrations.

This is obviously a small sample and further research is needed. Of the class of 1962, one thousand four hundred and forty-seven were not heard from. It would appear that the questionnaires returned represent the more-successful students.

What has been learned may provoke considerations of the need for new programs and teaching methods which should result in a more effective secondary education for these out-of-school youth.

SECTION VIII

MANPOWER NEEDS AND VIEWPOINTS OF EMPLOYERS

The information presented in this part of the survey includes data pertaining to the employment of each county's major occupational groups. Variations exist among the three counties. Since anticipated changes will not take place uniformly in all parts of the survey area, it is important to provide data on each county. To better understand the significance of the differences in the over-all employment picture, data is also provided on a national and state level to permit further comparisons.

The projected increase in population of the tri-county area infers that there will be a corresponding increase in employment. Before valid projections of future manpower needs may be made, it is necessary to know the present employment situation.

The material in this phase of the survey was obtained by: (1) Inquiry into the number of persons employed in the various occupations in the area; facts and figures were provided by several Federal and State sponsored sources. (2) Personal interviews were conducted with fifty-five key persons representing agriculture, business, industry, public institutions, labor and employers' organizations; and (3) An employers questionnaire was mailed to one thousand employers distributed throughout the tri-county area. Two hundred and twelve questionnaires were completed by the employers. The majority of returns included answers to all questions on the questionnaire.

Table 8.1 Industry Group of Employed Persons[1]

Industry Group of Employed	Number
Agriculture	1,868
Forestry and Fisheries	17
Mining	64
Construction	1,287
Manufacturing	4,944
Furniture, and Lumber and Wood Products	232
Primary Metal Industries	47
Fabric'd Metal Ind. (Incl. Not Spec. Metal)	30
Machinery, Except Electrical	836
Electrical Machinery, Equip., and Supplies	287
Motor Vehicles and Motor Vehicle Equipment	20
Transportation Equip., Exc. Motor Vehicle	4
Other Durable Goods	948
Food and Kindred Products	381
Textile Mill Products	522
Apparel & Other Fabric'd Textile Products	564
Printing, Publishing, and Allied Products	248
Chemical and Allied Products	178
Other Nondur. Goods (Incl. Not Spec. Mfg.)	647
Railroad and Railway Express Service	278
Trucking Service and Warehousing	355
Other Transportation	86
Communications	225
Utilities and Sanitary Service	143
Wholesale Trade	355
Food and Dairy Products Stores	548
Eating and Drinking Places	344
Other Retail Trade	1,420
Finance, Insurance, and Real Estate	479
Business Services	97
Repair Services	283
Private Households	447
Other Personal Services	426
Entertainment and Recreation Services	73
Hospitals	465
Educational Services: Government	654
Private	195
Wlf., Relig., & Nonprofit Membership Orgns	432
Other Professional and Related Services	484
Public Administration	914
Industry Not Reported	892
Total	17,775

1. United States Census 1960.

Table 8.2 Occupation Group of Employed Persons[1]

Occupation Group of Employed	Number
Male	
Professional, Technical & Kindred Workers	966
Accountants and Auditors	73
Architects	4
Chemists and Natural Scientists	23
Designers and Draftsmen	55
Engineers: Civil	68
Electrical	23
Industrial	0
Mechanical	41
Other Technical	24
Lawyers and Judges	42
Public Relations Men and Publicity Writers	4
Personnel and Labor Relations Workers	13
Social Scientists	9
Surveyors	12
Technicians: Medical and Dental	4
Electrical and Electronic	16
Other Eng. and Phys. Sciences	35
Other (N. E. C.)	24
Other Professional, Technical, and Kindred Workers	496
Managers, Off'ls., and Propr's., including Farm	2,173
Salaried	722
Self-Employed	1,451
Clerical and Kindred Workers	676
Bookkeepers	58
Cashiers	52
Shipping and Receiving Clerks	55
Stock Clerks and Storekeepers	66
Other Clerical and Kindred Workers	445
Sales Workers	653
Craftsmen, Foremen, and Kindred Workers	2,408
Blacksmiths, Forgemen, and Hammermen	8
Boilermakers	0
Cabinetmakers and Patternmakers	26
Carpenters	325
Cranemen, Hoistmen, and Constr. Machine Operators	31
Electricians	107
Foremen (N. E. C.)	282
Machinists and Job Setters	120
Mechanics and Repairmen	660
Millwrights	10
Plumbers and Pipe Fitters	99
Printing Craftsmen	90
Stationary Engineers	82
Tinsmiths, Coppersmiths, and Sheet Metal Workers	23
Toolmakers, and Die Makers and Setters	41

(continued)

[1] United States Census (Specially requested tabulation)

Table 8.2 (continued)

Occupation Group of Employed	Number
Other Craftsmen and Kindred Workers	504
Operatives and Kindred Workers	2,419
Apprentices	12
Assemblers	106
Filers, Grinders and Polishers, Metal	32
Furnacemen, Smeltermen, and Heaters	0
Painters, except Construction and Maintenance	55
Stationary Firemen	32
Truck Drivers and Deliverymen	542
Welders and Flame-Cutters	104
Other Operatives and Kindred Workers	1,535
Service Workers, including Private Household	622
Charwomen, Janitors, and Porters	160
Guards, Watchmen, and Doorkeepers	87
Other Service Workers	375
Laborers, including Farm	1,370
Occupation not reported	720
Total Male	12,007
Female	
Professional, Technical, and Kindred Workers	786
Accountants and Auditors	8
Chemists and Natural Scientists	0
Designers and Draftsmen	4
Social and Welfare Workers, except Group	25
Social Scientists	4
Technicians, Medical and Dental	20
Technicians, except Medical and Dental	12
Other Professional, Technical and Kindred Workers	713
Managers, Off'ls., and Propr's., including Farm	232
Salaried	106
Self-Employed	126
Clerical and Kindred Workers	1,411
Bookkeepers	175
Cashiers	50
Office Machine Operators	37
Secretaries	286
Stenographers	69
Telephone Operators	106
Typists	89
Other Clerical and Kindred Workers	599
Sales Workers	401
Craftsmen, Foremen, and Kindred Workers	82
Foremen	53

(continued)

Table 8.2 (continued)

Occupation Group of Employed	Number
Other Craftsmen and Kindred Workers	29
Operatives and Kindred Workers	1,210
Assemblers	33
Checkers, Examiners, and Inspectors, Manufacturing	50
Graders and Sorters, Manufacturing	0
Sewers and Stitchers, Manufacturing	344
Other Operatives and Kindred Workers	783
Service Workers, including Private Household	1,124
Charwomen, Janitors, and Porters	53
Other Service Workers	1,071
Laborers, including Farm	135
Occupation not reported	387
Total Female	5,768
Total Male and Female	17,775

AGRICULTURE

Table 8.3 Number of Farms, Ownership and Type[1]

	1950	1954	1959	% Change 1959 from 1950	% Change 1959 from 1954
Number of Farms					
Total Number of Farms	1,692	1,440	1,235	-22	-14
Number of Farms by Categories					
Commercial	1,175	993	881	-25	-11
Part-Time	201	165	305	+52	+85
Part-Retirement	--	--	80	--	--
Abnormal	1	--	6	+ 500	--
Average Size of Farm-Acres	154	168	187	+21	+11
Type of Ownership					
Percent of Farms Operated by:					
Full Owners	74	72	64	-14	-11
Part Owners	19	22	29	+53	+32
Managers	1	1	1	0	0
Tenants	6	5	6	0	+20
Type of Farm					
Percent Classified As:					
Dairy	38	40	43	+13	+ 8
Poultry	11	8	9	-18	+12
Other Livestock	4	4	4	0	0
Vegetable	2	1	--	--	--
General	2	5	2	0	-60
Fruit	11	10	8	-27	-20
Field Crop	--	--	2	--	--
Miscellaneous	31	32	32	+ 3	0
Off Farm Work					
Total Farms Reporting	648	546	483	-25	-12
Farms Reporting 100 days or More	450	421	351	-22	-17

1. U. S. Census of Agriculture 1959, Columbia County

Table 8.4 Number of Establishments and Employment[1]

Manufacturing, 1958	City of Hudson	County
Numbers of Establishments	23	86
Total Number of Employees	1,475	3,926
Production Workers	1,220	3,077
Textile Mill Products		630
Textile Mill Products Production		541
Machinery Except Electrical		682
Machinery Except Electrical Production		381

Wholesale Trade, 1958	City of Hudson	County
Number of Establishments	21	48
Number of Employees	153	295

Retail Trade, 1958	City of Hudson	County
Number of Establishments	243	693
Total Number of Employees	738	1,615
Food Stores	42	124
Eating, Drinking Places	46	153
General Merchandise Group Stores	11	25
Apparel, Accessory Stores	30	38
Furniture and Home furnishing Stores	26	38
Automotive Dealers	17	40
Gasoline Service Stations	7	80
Lumber, Hardware and Farm Equipment Stores	10	53
Drug Stores	10	15
Other Retail Stores	40	110
Non-store Retailers	7	17

Service Trades, 1958	City of Hudson	County
Number of Establishments of Selected Services	106	283
Total Number of Employees	217	538
Active Proprietors	102	274
Number of Establishments:		
Hotels, Motels & Tourist Courts	n. a.	46
Miscellaneous Business Services (Excludes Auditing, Accounting and Bookkeeping)	n. a.	18
Auto Repair, Auto Services & Garages	12	35
Miscellaneous Repair Services	n. a.	35

1. Business Fact Book, 1962 Mid Hudson Area. Part I "Business and Manufacturing". Albany: Department of Commerce

Table 8.5 Place of Work of Residents[1]

April 1960

	Number	Percent of Total
Employed Residents of Columbia Co., Total	17,337	100.0
Place of Work		
Columbia Co.	13,574	78.3
Albany Co.	837	4.8
Albany	(717)	(4.1)
Rensselaer Co.	480	2.8
Troy	16)	(0.1)
Berkshire Co.	425	2.5
Pittsfield	(337)	(1.9)
Non Metro	(68)	(0.4)
Dalton & Lennox	(20)	(0.1)
Lee	(0)	(0.0)
Dutchess Co.	413	2.4
Schenectady Co.	20	0.1
Schenectady	(4)	(0.0)
Saratoga Co.	4	0.0*
Elsewhere	730	4.2
Place of work not reported	854	4.9

* Less than 0.05 per cent

Note: Based on a 25 percent sample
City data in parenthesis included in County total

It is estimated that twenty one percent of the county's total labor force commutes to work outside the county. A large portion of these people work in the Albany-Rensselaer area.

1. United States Department of Commerce
Bureau of the Census. Unpublished Tabulations

Table 8.6 Industry Group of Employed Persons[1]

Industry Group of Employed	Number
Agriculture	2,354
Forestry and Fisheries	8
Mining	297
Construction	3,569
Manufacturing	19,848
Furniture, and Lumber and Wood Products	319
Primary Metal Industries	73
Fabric'd Metal Ind. (Incl. not Spec. Metal)	173
Machinery, Except Electrical	11,338
Electrical Machinery, Equip., and Supplies	860
Motor Vehicles and Motor Vehicle Equipment	39
Transportation Equip., Exc. Motor Vehicle	33
Other Durable Goods	694
Food and Kindred Products	769
Textile Mill Products	511
Apparel & Other Fabric'd Textile Products	1,173
Printing, Publishing, and Allied Products	2,268
Chemical and Allied Products	182
Other Nondur. Goods (Incl. not Spec. Mfg.)	1,416
Railroad and Railway Express Service	480
Trucking Service and Warehousing	551
Other Transportation	443
Communications	622
Utilities and Sanitary Service	826
Wholesale Trade	1,157
Food and Dairy Products Stores	1,542
Eating and Drinking Places	1,317
Other Retail Trade	4,994
Finance, Insurance and Real Estate	1,582
Business Services	1,026
Repair Services	573
Private Households	1,475
Other Personal Services	1,343
Entertainment and Recreation Services	265
Hospitals	5,152
Educational Services: Government	1,952
Private	1,899
Welf., Relig., & Nonprofit Membership Orgns.	758
Other Professional and Related Services	2,433
Public Administration	2,041
Industry not Reported	3,344
Total	61,851

1. United States Census, 1960

Table 8.7 Occupation Group of Employed Persons[1]

Occupation Group Employed	Number
Male	
Professional, Technical, & Kindred Workers	7,555
Accountants and Auditors	339
Architects	11
Chemists and Natural Scientists	306
Designers and Draftsmen	371
Engineers: Civil	212
Electrical	922
Industrial	180
Mechanical	503
Other Technical	326
Lawyers and Judges	198
Public Relations Men and Publicity Writers	28
Personnel and Labor Relations Workers	100
Social Scientists	91
Surveyors	28
Technicans: Medical and Dental	48
Electrical and Electronic	556
Other Eng. and Phys. Sciences	777
Other (N. E. C.)	108
Other Professional, Techinical, & Kindred Workers	2,451
Managers, Off'ls., & Propr's., incl. Farm	4,787
Salaried	2,646
Self-Employed	2,141
Clerical and Kindred Workers	2,696
Bookkeepers	125
Cashiers	85
Shipping and Receiving Clerks	209
Stock Clerks and Storekeepers	293
Other Clerical and Kindred Workers	1,984
Sales Workers	1,971
Craftsmen, Foremen, and Kindred Workers	7,913
Blacksmiths, Forgemen, and Hammermen	8
Boilermakers	4
Cabinetmakers and Patternmakers	110
Carpenters	841
Cranemen, Hoistmen, & Constr. Machine Operators	43
Electricians	288
Foremen (N. E. C.)	743
Machinists and Job Setters	548
Mechanics and Repairmen	2,021
Millwrights	4
Plumbers and Pipe Fitters	297
Printing Craftsmen	595
Stationary Engineers	443
Tinsmiths, Coppersmiths, and Sheet Metal Workers	88
Toolmakers, and Die Makers and Setters	384
Other Craftsmen and Kindred Workers	1,496
Operatives and Kindred Workers	6,940
Apprentices	45
Assemblers	676
Filers, Grinders, and Polishers, Metal	193
Furnacemen, Smeltermen, and Heaters	21
Painters, except Construction and Maintenance	61

(continued)

1. United States Census 1960 (Specially requested tabulation)

Table 8.7 (continued)

Occupation Group of Employed	Number
Stationary Firemen	66
Truck Drivers and Delivermen	1,574
Welders and Flame-Cutters	93
Other Operatives and Kindred Workers	4,211
Service Workers, including Private Household	4,453
Charwomen, Janitors, and Porters	497
Guards, Watchmen, and Doorkeepers	780
Other Service Workers	3,176
Laborers, including Farm	2,867
Occupation not reported	2.405
Total Male	41,587
Female	
Professional, Technical, & Kindred Workers	3,031
Accountants and Auditors	46
Chemists and Natural Scientists	24
Designers and Draftsmen	16
Social and Welfare Workers, except Group	36
Social Scientists	19
Technicians, Medical and Dental	57
Technicans, except Medical and Dental	73
Other Professional, Technical, & Kindred Workers	2,760
Managers, Off'ls., & Propr's., incl. Farm	613
Salaried	328
Self-Employed	285
Clerical and Kindred Workers	5,475
Bookkeepers	707
Cashiers	268
Office Machine Operators	189
Secretaries	1,508
Stenographers	241
Telephone Operators	402
Typists	340
Other Clerical and Kindred Workers	1,820
Sales Workers	1,471
Craftsmen, Foremen, and Kindred Workers	400
Foremen	146
Other Craftsmen and Kindred Workers	254
Operatives and Kindred Workers	3,218
Assemblers	660
Checkers, Examiners, and Inspectors, Manufacturing	292
Graders and Sorters, Manufacturing	4
Sewers and Stitchers, Manufacturing	699
Other Operatives and Kindred Workers	1,563
Service Workers, incl. Private Household	4,373
Charwomen, Janitors, and Porters	96
Other Service Workers	4,277
Laborers, including Farm	154
Occupation not reported	1,529
Total Female	20,264
Total Male & Female	61,851

AGRICULTURE

Table 8.8 Number of Farms, Ownership and Type[1]

Item	1950	1954	1959	% Change 1959 from 1950	% Change 1959 from 1954
Number of Farms					
Number of farms by categories:					
Commercial	1,239	1,038	803	-35	-23
Part-time	200	75	155	-23	+107
Part-retirement	NA	NA	65	NA	NA
Abnormal (Institutional Farms)	20	29	3	-85	-90
Total Number of Farms	1,729	1,310	1,027	-41	-22
Average Size of Farm - Acres	176	205	232	+32	+13
Type of Ownership					
Percent of farms operated by:					
Full Owners	70	66	57	-18	-14
Part Owners	19	24	29	+53	+21
Managers	4	2	5	+25	+150
Tenants	7	8	9	+28	+12
Type of Farm					
Percent classified as:					
Dairy	44	46	47	+7	+2
Poultry	9	9	10	+11	+11
Other Livestock	5	8	6	+20	-25
Vegetable	3	1	1	-67	0
General	3	3	2	-33	-33
Fruit	6	5	8	+33	+60
Field Crop	-	1	-	--	--
Miscellaneous	30	27	26	-13	- 4
Off-Farm Work					
Total farms reporting	629	502	358	-43	-29
Farms reporting 100 days or more	472	371	265	-44	-28

1. United States Census of Agriculture, 1959, Dutchess County.

Table 8.9 Number of Establishments and Employment[1]

Manufacturing 1958	Beacon	Pough-keepsie	Wappingers Falls	County
Number of Establishments	34	81	6	214
Total Number of Employees	2,662	4,885	133	22,093
Production Workers	2,240	3,553	116	12,198
Food and Kindred Products				715
Textile Mill Products				601
Apparel and Related Products				1,352
Printing and Publishing				1,984
Rubber and Plastic Products				543
Machinery, Except Electrical				14,383
Electrical Machinery				n. a.

Wholesale Trade 1958	Beacon	Pough-keepsie	Wappingers Falls	County
Number of Establishments	9	132	2	192
Total Number of Employees	32	1,004	-	1,417

Retail Trade 1958	Beacon	Pough-keepsie	Wappingers Falls	County
Number of Establishments	589	3,816	254	6,833
Proprietors of Unicorporated Business	170	642	79	1,798
Food Stores	33	149	23	341
Eating and Drinking Places	41	122	14	410
General Merchandise Group Stores	9	28	1	81
Apparel, Acessory Stores	22	77	4	135
Furniture, Home Furnishing Equipment Stores	6	50	3	89
Automotive Dealers	9	32	2	93
Gasoline Service Stations	12	63	7	215
Lumber, Building Materials, Hardware, Farm Equipment	8	33	5	97
Drug Stores	7	22	6	58
Other Retail Stores	21	101	5	241
Nonstore Retailers	9	24	3	61

1. Business Fact Book 1962, Mid Hudson Area, Part 1, "Business and Manufacturing". Albany: Department of Commerce.

Service Trades 1958

	Beacon	Pough-keepsie	Wappingers Falls	County
Number of Establishments	80	322	30	840
Number of Employees	190	1,027	85	2,220
Active Proprietors	78	302	31	795
Personal Services:				
Number of Establishments	46	181	16	384
Auto Repairs, Auto Services Garages	3	32	2	77

Selected Services

	Number of Establishments	Number of Employees	Number of Active Proprietors
Personal Services, Barbers, Beauticians, Laundries, Cleaners, Undertakers, Photo Studios, Reducing Salons,	384	647	390
Hotels, Motels, Trailer Parks, Camps	104	632	96
Auto Repair, Auto Services, Garages	77	166	77

Table 8.10 Place of Work of Residents[1]

April 1960

	Number	Percent of Total
Employed Residents of Dutchess Co., Total	60,187	100.0
Place of Work		
Dutchess Co.	53,374	88.7
New York Standard Metropolitan Statistical Areas (Westchester, Rockland, N. Y. C.)	1,210	2.0
New York City	(627)	(1.0)
Ulster Co.	900	1.5
Putnam Co.	334	0.6
Orange Co.	212	0.4
Litchfield Co., Conn. (non-metro)	161	0.3
Columbia Co.	124	0.2
Fairfield Co., Conn. (non-metro)	24	0.0*
Berkshire Co., Mass. (non-metro)	4	0.0*
New Haven Co., Conn.	4	0.0*
Waterbury	(4)	0.0*
Waterbury metro belt	(0)	(0.0)
Beacon Falls	(0)	(0.0)
Elsewhere	440	0.7
Place of work not reported	3,400	5.6

* Less than 0.05 percent

Note: Based on a 25 percent sample.
City data in parenthesis included in County total.

About 11.3% of the working force commuted to work outside the county.

1. Source: United States Department of Commerce Bureau of the Census, Unpublished Tabulations

Table 8.11 Industry Group of Employed Persons[1]

Industry Group of Employed	Number
Agriculture	331
Forestry and Fisheries	8
Mining	21
Construction	1,445
Manufacturing	2,205
Furniture, and Lumber and Wood Products	55
Primary, Metal Industries	78
Fabric'd Metal Ind. (Incl. not Spec. Metal)	88
Machinery, except electrical	418
Electrical Machinery, Eauip., and Supplies	305
Motor Vehicles and Motor Vehicle Equipment	56
Transportation Equip., Exc. Motor Vehicle	89
Other Durable Goods	192
Food and Kindred Products	149
Textile Mill Products	33
Apparel & Other Fabric'd Textile Products	134
Printing, Publishing, and Allied Products	426
Chemical and Allied Products	27
Other Nondur. Goods (Incl. not Spec. Mfg.)	155
Railroad and Railway Express Service	444
Trucking Service and Warehousing	127
Other Transportation	92
Communications	223
Utilities and Sanitary Service	197
Wholesale Trade	370
Food and Dairy Products Stores	303
Eating and Drinking Places	292
Other Retail Trade	898
Finance, Insurance, and Real Estate	476
Business Services	174
Repair Services	216
Private Households	268
Other Personal Services	280
Entertainment and Recreation Services	107
Hospitals	309
Educational Services: Government	546
Private	195
Welf., Relig., & Nonprofit Membership Orgns.	358
Other Professional and Related Services	457
Public Administration	438
Industry Not Reported	1,042
Total	11,822

1. United States Census 1960

Table 8.12 Occupation Group of Employed Persons[1]

Occupation Group of Employed	Number
Male	
Professional, Technical, & Kindred Workers	1,217
Accountants and Auditors	28
Architects	0
Chemists and Natural Scientists	21
Designers and Draftsmen	76
Engineers: Civil	53
Electrical	32
Industrial	12
Mechanical	44
Other Technical	41
Lawyers and Judges	57
Public Relations Men and Publicity Writers	9
Personnel and Labor Relations Workers	13
Social Scientists	20
Surveyors	10
Technicians: Medical and Dental	0
Electrical and Electronic	41
Other Eng. and Phys. Sciences	34
Other (N. E. C.)	4
Other Professional, Technical, and Kindred Workers	716
Managers, Off'ls., and Propr's., including Farm	1,068
Salaried	594
Self-Employed	474
Clerical and Kindred Workers	397
Bookkeepers	17
Cashiers	30
Shipping and Receiving Clerks	25
Stock Clerks and Storekeepers	36
Other Clerical and Kindred Workers	289
Sales Workers	556
Craftsmen, Foremen, and Kindred Workers	2,171
Blacksmiths, Forgemen, and Hammermen	0
Boilermakers	4
Cabinetmakers and Patternmakers	29
Carpenters	259
Cranemen, Hoistmen, & Constr. Machine Operators	17
Electricians	76
Foremen (N. E. C.)	152
Machinists and Job Setters	139
Mechanics and Repairmen	537
Millwrights	0
Plumbers and Pipe Fitters	106
Printing Craftsmen	77
Stationary Engineers	101

(continued)

1. United States Census 1960 (Specially requested tabulation)

Table 8.12 (continued)

Occupation Group of Employed	Number
Tinsmiths, Coppersmiths, and Sheet Metal Workers	26
Toolmakers, and Die Makers and Setters	25
Other Craftsmen and Kindred Workers	623
Operatives and Kindred Workers	1,024
Apprentices	27
Assemblers	56
Filers, Grinders, and Polishers, Metal	8
Furnacemen, Smeltermen, and Heaters	0
Painters, except Construction and Maintenance	0
Stationary Firemen	4
Truck Drivers and Deliverymen	338
Welders and Flame-Cutters	21
Other Operatives and Kindred Workers	570
Service Workers, including Private Household	440
Charwomen, Janitors, and Porters	44
Guards, Watchmen, and Doorkeepers	60
Other Service Workers	336
Laborers, including Farm	661
Occupation not reported	838
Total Male	8,372
Female	
Professional, Technical, & Kindred Workers	533
Accountants and Auditors	0
Chemists and Natural Scientists	0
Designers and Draftsmen	0
Social and Welfare Workers, except Group	9
Social Scientists	0
Technicians, Medical and Dental	0
Technicians, except Medical and Dental	16
Other Professional, Technical and Kindred Workers	508
Managers, Off'ls., and Propr's., including Farm	160
Salaried	90
Self-Employed	70
Clerical and Kindred Workers	1,126
Bookkeepers	196
Cashiers	49
Office Machine Operators	46
Secretaries	232
Stenographers	38
Telephone Operators	35
Typists	56
Other Clerical and Kindred Workers	474
Sales Workers	201
Craftsmen, Foremen, and Kindred Workers	17
Foremen	0
Other Craftsmen and Kindred Workers	17
Operatives and Kindred Workers	318
Assemblers	42

(continued)

Table 8.12 (continued)

Occupation Group of Employed	Number
Checkers, Examiners, and Inspectors, Manufacturing	25
Graders and Sorters, Manufacturing	4
Sewers and Stitchers, Manufacturing	21
Other Operatives and Kindred Workers	226
Service Workers, including Private Household	645
Charwomen, Janitors, and Porters	25
Other Service Workers	620
Laborers, including Farm	20
Occupation not reported	430
Total Female	3,450
Total Male & Female	11,822

AGRICULTURE

Table 8.13 Number of Farms, Ownership and Type[1]

Item	1950	1954	1959	% Change 1959 from 1950	% Change 1959 from 1954
Number of Farms					
Number of Farms by Categories:					
Commercial	177	143	91	-49	-36
Part-Time	47	40	65	+38	+62
Part-Retirement	NA	NA	11	NA	NA
Abnormal (Institutional Farms)	--	--	--	--	--
Total Number of Farms	319	220	156	-51	-29
Average Size of Farm - Acres	135	165	167	+24	+ 1
Type of Ownership					
Percent of Farms Owned by:					
Full Owners	76	67	62	-18	- 7
Part Owners	9	20	18	+100	-10
Managers	4	3	8	+100	+167
Tenants	11	10	12	+ 9	+20
Type of Farm					
Percent Classified as:					
Dairy	34	29	19	-44	-34
Poultry	8	13	13	+62	0
Other Livestock	8	4	10	+25	+150
Vegetable	1	--	--	--	--
General	--	4	--	--	--
Fruit	1	2	4	+300	+150
Field Crop	--	--	--	--	--
Miscellaneous	48	48	54	+12	+12
Off Farm Work					
Total Farms Reporting	134	95	64	-52	-33
Farms Reporting 100 Days or More	111	90	56	-50	-38

1. United States Census of Agriculture 1959. Putnam County.

Table 8.14 Number of Establishments and Employment[1]

Manufacturing 1958	Numbers
Number of Establishments	28
Total Number of Employees	547
Production Workers	423

Wholesale Trade 1958	Numbers
Number of Establishments	18
Total Number of Employees	66

Retail Trade 1958	Numbers
Number of Establishments	443
Total Number of Employees	1,013
Number of Proprietors	441
Apparel Accessory Stores, No. of Establishments	10
Furniture, Home Furnishings Equipment Stores	22
Automotive Dealers	21
Gasoline Service Stations	50
Lumber Building Materials, Hardware, Farm Equipment	31
Drug Stores	12
Other Retailers	54
Nonstore Retailers	15

Service Trades 1958	Numbers
Number of Establishments	191
Total Number of Employees	286
Number of Proprietors	184
Kind of Business:	
Personal Services, Barber and Beauty Shops, Laundries and Cleaners, Photo Studios, Undertakers and Reducing Salons	62
Auto Repair, Auto Services, Garages	25

1. Business Fact Book 1962, Mid Hudson Area, Part I "Business and Manufacturing". Albany: Department of Commerce.

Table 8.15 Place of Work of Residents[1]

April 1960

	Number	Percent of Total
Employed Residents of Putnam Co., Total	11,447	100.0
Place of Work		
Putnam Co.	5,307	46.4
New York Standard Metropolitan Statistical Areas	3,868	33.8
Westchester Co.	(2,715)	(23.7)
New York City	(1,110)	(9.7)
Rockland Co.	(16)	(0.1)
Bal. of N.Y. SMSA	(27)	(0.2)
Fairfield Co., Conn.	36	0.3
Stamford	(29)	(0.3)
New Canaan, Darien and Greenwich	(7)	(0.1)
Bridgeport, Conn. SMSA	4	0.0*
Bridgeport	(4)	(0.0)*
Bridgeport Metro Belt	(0)	0.0
Bal. of Bridgeport SMSA	(0)	0.0
Waterbury, Conn. SMSA	0	0.0
Waterbury	(0)	(0.0)
Waterbury Metro Belt	(0)	(0.0)
Bal. of Waterbury SMSA	(0)	(0.0)
New Haven Co., Conn.	0	0.0
New Haven	(0)	(0.0)
Elsewhere	1,188	10.4
Place of work not reported	1,044	9.1

* Less than 0.05 percent

Note: Based on a 25 percent sample.
City data in parenthesis included in County total.

It is estimated that 53.6% of the county's working force commutes to work.

1. United States Department of Commerce
Bureau of the Census, Unpublished Tabulations.

Facts, Figures, and Opinions of Employers

Who Are Interested in Vocational-Technical Education

The survey sought to determine how employers recruited new help; what opinions they held in connection with vocational education; in what occupations they would consider hiring of vocational-technical high school graduates; the number of workers they now employ; and their estimate of the changes in their employment figures for the next three years.

Table 8.16 The Types of Business and Industrial Firms that Responded to the Questionnaire

Industry or Business	Columbia	Dutchess	Putnam	Total
Agriculture, Dairy, Fruit, Landscaping Floriculture	1	4	1	6
Auto Sales, Repair and Service	6	13	5	24
Appliance Repair	1	2	1	4
Beauty Parlor	1	4	1	6
Building Trades (All Crafts)	4	24	4	32
Cabinet Maker	-	2	1	3
Dental Laboratory	-	2	-	2
Education	1	1	-	2
Eating Establishments	1	8	-	9
Banking, Insurance, Real Estate	4	7	1	12
Foundry	1	1	1	3
Hospital	1	4	-	5
Laboratory Research	-	1	1	2
Laundry and Dry Cleaning	1	1	-	2
Manufacturing Firms	11	26	2	39
Merchandising, Wholesale and Retail Trades	7	13	10	30
Printing and Publishing	1	7	2	10
Transportation	1	1	-	2
Utilities	3	2	1	6
Miscellaneous	5	8	-	13
Total	50	131	31	212

Employers' Responses to the Question: "How Do You Generally Hire New Employees?"

Items	Columbia	Dutchess	Putnam
At Gate	21	36	14
New York State Employment Service	20	39	3
Private Employment Agency	1	20	4
Union	--	6	2
Other Employees	18	63	18
Newspapers	9	24	7
Schools	2	6	5
Miscellaneous	4	22	1

Many of the employers answered the above question by indicating that they utilized a combination of several of the means mentioned. New York State Employment Service is well recognized in Columbia and Dutchess counties but is not considered as effective in Putnam County. As indicated by these employers, it does not appear that the schools are doing an adequate job in job placement in any of the counties. With the exception of employment of office personnel, no employer mentioned that he contacted the high schools when seeking new employees.

Employers' Responses to the Question: "Do You Favor the Idea of Expanding Programs in Vocational-Technical Education?"

A. For High School Students:

Answers	Columbia	Dutchess	Putnam	Total
Yes	46	112	26	184
No	0	4	2	6
Undecided	1	4	1	6

B. For Adults:

Answers	Columbia	Dutchess	Putnam	Total
Yes	37	106	23	166
No	0	4	3	7
Undecided	8	9	2	19

From the responses to this question, ninety-four percent of the employers who answered the questionaire indicated that they would like to see vocational-technical programs expanded for high school students, 86.5 percent of the same employers are also in favor of expanding (evening) vocational programs for adults.

Employers' Responses to the Question: "Could an Expanded Local Vocational-Technical Program Help to Meet Your Needs?"

Answer	Columbia	Dutchess	Putnam	Total
Yes	32	82	24	138
No	7	20	7	34
Undecided	11	23	0	34

Sixty-seven percent of the two hundred and six employers who answered this question answered it in the affirmative. About two-thirds of the employers indicated they can use people with the type of training that can be provided in a vocational-technical program.

Employers' Responses to the Question: "Would Your Firm Be Interested in a Cooperative Work Study Program?"

Answer	Columbia	Dutchess	Putnam	Total
Yes	27	54	14	95
No	15	52	13	80
Undecided	8	25	5	38

Forty-four and one-half percent of the employers indicated an interest in a cooperative work-study program. Of the 37.5 percent that answered in the negative, many said that their business was too small to take part in such a program but that they saw a need for it in the area.

"Write-in" Comments from the Employers' Questionnaire

A selection of comments submitted by employers includes the following statements:

"There are no schools in this area that teach my line of work. I would be interested in employing a student of a cooperative work-study program because good auto-body men are hard to find. It seems, working with your hands has become a past art."

"I am willing to contribute educational technical props and advice to a bonafide school program."

"A Vocational-Technical program should be one that calls upon interested employers to get together to advise the school authorities and assure the students of jobs."

"Vocational education is excellent and should be introduced in all school systems. It is unfortunate indeed that todays high school programs are designed mostly for those who intend to go to college and fall far short of educating those who wish to pursue work in the trades. In fact, the impression one receives is that unless a person is college educated in highly technical fields his future is a failure and he is considered an inferior person. This is intolerable, and I certainly feel that vocational training would help to change this attitude. It would also cut down on the percentage of school dropouts."

"At present there is not much being done along the line of training employees for the construction trades.---: There is need for an expansion of all types of trade programs."

"Teach a kid a trade and even if he should 'drop out', the little bit he did learn would make him more employable."

"All work requires skill, ability, interest, background and dependability. ---The untrained are almost useless to us."

"It is very evident that there is an abundance of unskilled labor. Vocational training is becoming more and more needed each year."

"A work-study program would be of great value."

"I Have to send much of our work to our plants in other sections of the country because I can't find trained machine shop help in this area."

"I need toolmakers. I have had no applicants for this job for the past two months."

"Many of the High-School dropouts who have come here looking for work will tell you that they have no experience. We have hired some of them.---. We are fed up with the inexperienced."

"I believe that there would be fewer dropouts if good vocational courses were offered in all high schools."

"Vocational training----, would raise the labor standards of the area."

"We have our own training program, but a school training program would help greatly."

"The Vocational-Technical courses must not be a dump for undisciplined and disinterested students. But any one willing to learn to work at some skilled occupation should be given an opportunity to learn it."

Table 8.17 Employers' Replies to Question: "For What Payroll Titles Would You Be Willing to Hire High School Graduates With Two or Three Years of Vocational-Technical Training?"

Occupation	Number of Employers' Responses Columbia	Dutchess	Putnam	Total
Auto Mechanic	5	2	2	9
Auto Mechanic's Helper	-	2	-	2
Auto Body Mechanic	-	-	1	1
Auto Body Apprentice	-	-	1	1
Auto Body Polisher	-	-	1	1
Auto Lubrication Man	-	-	1	1
Auto Parts Man	3	1	-	4
Appliance Service Man	1	3	-	4
Appliance Service Helper	-	1	-	1
Assembly Workers	1	4	-	5
Addressograph Operators	-	1	-	1
Baker	-	3	-	3
Beautician	-	-	1	1
Building Maintenance Men	3	4	-	7
Butcher	-	1	-	1
Cable Winder	-	1	-	1
Cabinet Maker	1	1	-	2
Cabinet Maker Apprentice	-	1	-	1
Carpenter	1	3	3	7
Carpenter-Side Wall Man	-	1	-	1
Carpenter's Apprentice	-	2	-	2
Carpenter's Helper	-	1	-	1
Cooks	-	7	-	7
Coremaker Apprentice	-	1	-	1
Custodian	1	-	-	1
Dietician	-	1	-	1
Display Person	1	-	-	1
Dyers	-	1	-	1
Electrician	-	3	-	3
Electrician's Helper	2	1	1	4
Formica Worker	-	-	1	1
Fuel Oil Driver	-	-	1	1
Gas Station Attendant	-	2	-	2
Heavy Equipment Operators	-	1	-	1
Horticultural Worker	-	1	-	1
Inspector (Bedspreads)	-	1	-	1
Kitchen Help	-	2	-	2
Knitter	-	1	-	1
Laboratory Aid Medical	-	1	-	1
Laborers-Farm, Utility Co.	2	2	1	5
Machinist	1	2	-	3
Machinist Helper	1	2	1	4
Machine Operator	1	6	-	7
Mason	-	1	-	1
Metal Finisher	-	2	-	2
Meter Reader	1	-	-	1
Mill Hand	-	1	-	1

(continued)

Table 8.17 (continued)

Occupation	Number of Employers' Responses Columbia	Dutchess	Putnam	Total
Model Maker Apprentice	1	1	-	1
Molder Apprentice	-	1	-	1
Nursery Men	-	1	1	2
Nurse's Aide	-	2	-	2
Office Personnel	11	15	5	31
Secretary	2	4	-	6
Stenographer	-	1	-	1
Teller-Bank	3	2	-	5
Packer	-	1	-	1
Pattern Maker Apprentice	1	1	-	2
Pipe Fitter	-	1	-	1
Plumber	-	3	-	3
Plumber's Helper	1	-	-	1
Plumber's Apprentice	-	2	-	2
Plumber's Stock and Shop Man	1	-	-	1
Salad Girls	-	1	-	1
Sales Clerks	1	2	2	5
Salesman	2	9	-	11
Sewing Machine Operators	2	5	-	7
Sheet Metal Mechanic	-	4	-	4
Slitter (Paper Box)	-	1	-	1
Stock Clerk	-	2	-	2
Roofer Apprentice	-	1	-	1
Tree Specialist	-	1	-	1
Technicians:				
Chemical	-	1	1	2
Dental	-	1	-	1
Mechanical	-	3	-	3
Draftsman	1	4	-	5
Truck Driver	2	2	1	5
Waitresses	-	2	-	2
Warper	-	1	-	1
Welder	2	4	-	6
Yardman (Boat)	-	1	-	1
Yardman (Lumber)	1	1	-	2
Upholsterer	-	1	-	1

By an examination of Table 8.17, it can be seen that there are many occupations for which employers would be willing to hire trained high school graduates. Unfortunately, in some of these jobs there are few workers and therefore few opportunities for occupational entrance. Nevertheless, personnel for these occupations can be trained in either cooperative work-study programs or in evening extension programs for adults.

What is the Present Working Force and Projection for Future Employment?

Columbia County: The 45 employers that answered this question employ 1,975 workers. Employers estimated the following changes in their working force over 1964 in percent as follows:
1965---37 Employers estimated a 15.9% increase.
1966---31 Employers estimated a 24.5% increase.
1967---31 Employers estimated a 31.9% increase.

Dutchess County: The 121 employers that answered this question employ 16,376 workers. Employers estimated the following changes in their working force over 1964 in percent as follows:
1965---92 Employers estimated a 2.7% increase. *
1966---71 Employers estimated a 2.8% increase.
1967---63 Employers estimated a 4.0% increase.

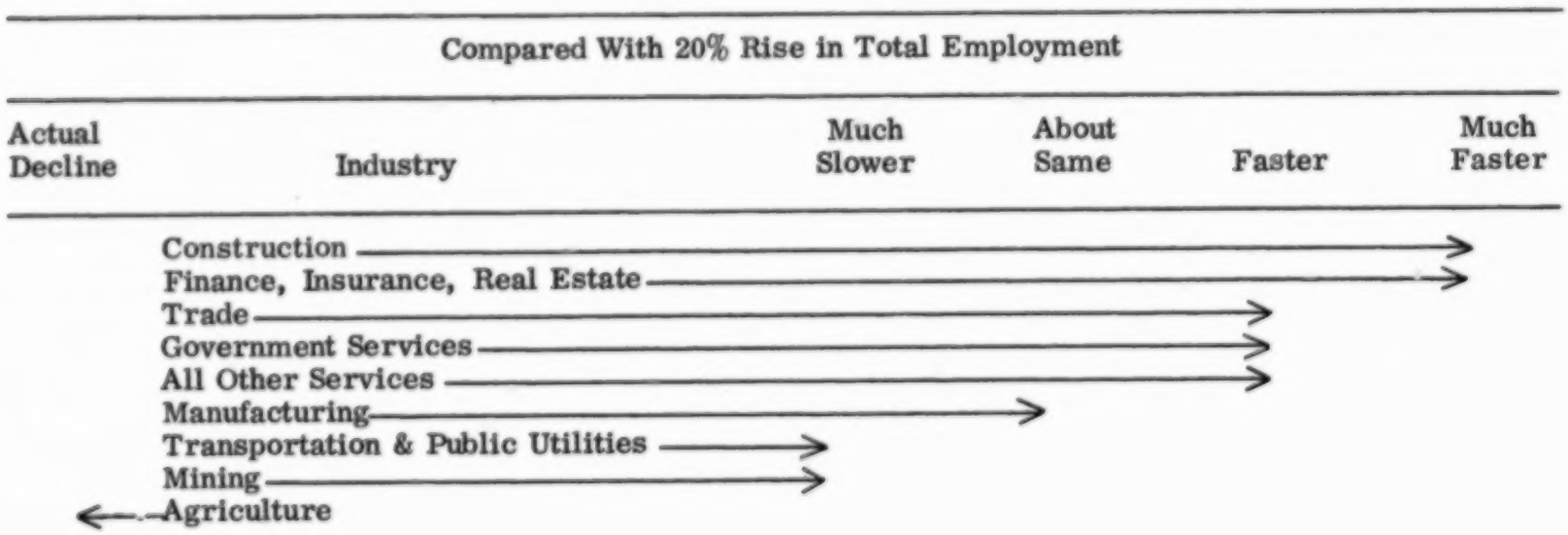
Putnam County: The 26 employers that answered this question employ 908 workers. Employers estimated changes in their working force over 1964 in percent as follows:
1965---17 Employers estimated a 9.5% increase.
1966---16 Employers estimated a 20.5% increase.
1967---13 Employers estimated a 31.5% increase.

---

* Excluding a large corporation in Dutchess County that does not expect an increase in employment, a 31.8% increase is expected by the other employers in the county by 1965.

From the above estimated figures, it can be seen that if the employment projection of the large corporation in Dutchess County is excluded, the increase of the rest of the working force in each of the three counties will average out to slightly over 10% each year for the next three years.

The Growth of the Major Industries in the United States[1]



Between 1960 and 1970 it is estimated that employment will rise about twenty percent in the United States in total employment of workers.

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1. Manpower, Challenge of the 1960's. U. S. Department of Labor.

The changing needs of industry in New York State will affect the employment of workers in the future. The skill requirements of individual industry groups will change as a result of advances in production and service methods. The table below gives a summary of some of the expected changes.

Table 8.18 Estimated Number of Jobs in New York State[1]

(In thousands)

Occupation	1957	1965	1970	Percent Change from 1957 to 1965	Percent Change from 1957 to 1970
Total	7,331	8,160	8,703	+11.3	+18.7
White-collar occupations	3,481	4,052	4,424	+16.4	+27.1
Professional, technical and kindred workers	816	1,044	1,184	+27.9	+45.1
Managers, officials and proprietors	792	881	948	+11.2	+19.7
Clerical and kindred workers	1,310	1,493	1,609	+14.0	+22.8
Sales workers	563	634	683	+12.6	+21.3
Manual occupations	2,668	2,810	2,913	+ 5.3	+ 9.2
Craftsmen, foremen and kindred workers	901	1,010	1,083	+12.1	+20.2
Operatives	1,446	1,498	1,541	+ 3.6	+ 6.6
Industrial laborers	321	302	289	- 5.9	-10.0
Service workers	987	1,123	1,206	+13.8	+22.2
Farmers, farm managers and farm laborers	195	175	160	-10.3	-17.9

The major changes in New York State between 1957 and 1970 are estimated to include a rapid growth in the number of white collar workers, a 20.2% growth in craftsmen and kindred workers, a 22.2% growth of service workers, and a considerable decline in numbers of laborers and people working on farms.

1. Jobs 1960-1970 The Changing Pattern. Albany: New York State Department of Labor, 1960.

Table 8.19 Estimated Number of Craftsmen, Foremen and Related Jobs in New York State[1]

Occupation	1957	1970	Percent Increase
Total	901,000	1,083,000	20.2
Construction trades	246,900	305,000	23.5
Printing Trades	53,000	56,000	5.7
Metalworking crafts	137,200	163,200	19.0
Mechanics and repairmen	183,200	237,100	29.4
Foremen	103,400	126,000	21.9
All other craftsmen	177,300	195,700	10.4

Table 8.20 Estimated Number of Technicians and Related Jobs in New York State[1]

Occupation	1957 (000's)	1970 (000's)	Percent Increase
Technicians, total	97.8	159.3	62.9
Technicians, engineering and physical science	28.6	46.4	62.2
Technicians, medical and dental	12.1	23.0	90.1
Technicians, electronic	18.0	27.8	54.4
Designers tool	2.5	3.9	56.0
Designers, except tool	11.1	13.6	22.5
Draftsmen	23.2	41.2	77.6
Surveyors	2.3	3.4	47.8

1. Ibid.

Summary

The tables of factual information in this section were based on materials obtained from the Business Fact Book and from the United States Census. This information will give the reader details of occupations and employment in each of the three counties. Much of this material was used by the survey team in formulating conclusions and recommendations which are included in Section IX of this study. These data will also be found useful by persons involved in planning curriculum and courses for area centers for vocational-technical education.

The total employment situation for the tri-county area shows a work-force of ninety one thousand, four hundred and forty-eight of which seventeen thousand,seven hundred and seventy-five work in Columbia County; sixty one thousand, eight hundred and fifty-one work in Dutchess County; and eleven thousand, eight hundred and twenty-two are employed in Putnam County. Many people, living in the survey area, commute to work outside their county of residence. This fact should be taken into consideration when planning programs of training for entering employment.

The information obtained from a questionnaire indicates that ninety-four percent of the employers in the survey area were convinced of a need for expanding vocational-technical programs for high school students. Eighty-seven percent of these employers indicated a need for vocational-technical training and extension courses in the evening for employed adults.

The pattern of Agriculture in the survey area follows a national trend of decreasing employment on the farms. It is probable that needs for agriculture education will remain static during the next few years with the current trend of expanding the curriculum to include such industries related to agriculture as food processing, farm machinery, and other related areas. Nationally, it is expected that employment of non-skilled labor will continue to decrease in the future. However, most of the other occupations are expected to increase. This is especially true in the areas of "services", "trades" and "construction". Employers in the survey area reported probable increases in employment at a rate of ten percent per year in the next few years.

Although large increases in population are anticipated in projections by the Census Bureau, there are many occupational areas which are not large enough to justify unit vocational courses in an area center. High schools throughout the State of New York service these smaller occupational areas with employees by means of cooperative work-study programs. Forty-five percent of the employers indicated an interest in cooperative education programs as a means of training new employees. On the same questionnaire, many additional employers indicated that they, themselves, could not take part in a cooperative program, but they were in favor of this type of occupational training.

SECTION IX

CONCLUSIONS AND RECOMMENDATIONS

Based upon the facts gathered and included in detail in other sections of this survey, there are several questions which have arisen concerning the future of vocational-technical education in the survey area. The survey team has stated these questions and then answered them with their recommendations which are based upon a review of the facts as reported. In this section, suggestions for the location of three area vocational-technical centers are included together with suggested programs and courses to be considered in each of the three centers. This section of the survey also includes some guidelines for the implementation of a three-county area vocational-technical program through the services of the same committee structure which made this survey possible.

This Survey which combined the three-county area of Columbia, Dutchess, and Putnam Counties was structured in this way for the convenience of making the survey. In Implementing the recommendations of this survey, consideration should be made of other similar studies which will be available for counties adjacent to this area and also the nearby counties on the western shore of the Hudson River. Each of the area centers which have been recommended in this report should be phased into the entire State plan for vocational-technical education on an area basis regardless of county or study-area boundaries.

Is there need for area vocational-technical education centers?

Nationally there are now more than one million young men and women under twenty-two who have left school and are not at work. At any given time thirty percent of the high school dropouts will be unemployed. High School graduates average fifteen percent unemployed.[1] The alarming incidence of delinquency and crime among jobless youth is well documented.[2] It is almost the unanimous opinion of school administrators, employers, and parents who were contacted by the survey team, that the schools should provide more vocational, technical, and occupational training for the youth who will be eligible to enter the labor market at the completion of their high school education. Many felt that an area vocational-technical program will make high school education more meaningful to potential dropouts and thus give them an incentive to finish their high school education.

Rural youth who seek to earn their living on the farm, in the city, or in urban communities have long been deprived of the opportunities offered through vocational education programs. Area vocational centers located near the centers of large population concentrations will permit the expansion of the number and variety of specialized vocational-technical courses available to all secondary students and adults in the tri-county area.

The results of this survey of student's occupational interests; parent's viewpoints toward expansion of vocational-technical education on the secondary-school level; and employer's reactions to occupational training indicate an unquestionable need for an area program for vocational-technical and occupational training for students who expect to enter employment upon graduation from high school.

Will transportation pose a major problem in the establishment of area centers which will serve all youth?

The location of the proposed centers for vocational-technical education is within a maximum radius of twenty miles of all the school districts of the area which each center is proposed to serve. It is recommended that each center be located near a major highway outside city limits in order to make the center readily accessible for transportation by bus-from the home school districts. There is no doubt that transportation will present some problems which may be resolved by establishing transfer centers where smaller groups of students may be bussed part way to the area center and then transferred to another bus for the balance of the trip. At present, some students attending a BOCES center for trade courses are transported entirely across (west to east) Putnam County for one-half of the school day and return to their home school for required courses of the other half of the day.

1. Venn, Grant, Man, Education and Work. Washington, D.C.: American Council on Education, 1964.
2. President's Committee on Youth Employment, The Challenge of Jobless Youth. Washington, D.C.: Government Printing Office, 1963.

Will the vocational-technical student be handicapped by being separated from his home school and classmates who pursue programs of an academic nature?

The proposed plan does not separate the student from his home school. By using the vocational-technical facility for courses of a specialized nature, the student will return to his home school for half of the school day and will therefore be able to participate with his class in extra-curricular activities. A well planned area center of this type will make it possible to accommodate approximately twice the number of students on a half-day basis.

Would it be feasible to use existing school buildings or add to present facilities to provide space for an area center for vocational-technical education?

Almost every school in the survey area is growing and will need all of the available space it can get within the next decade. Each of the counties is growing rapidly in population. An area center located in a new building away from any of the present local school district buildings will reduce some of the over-crowding anticipated in the near future. The highly-specialized character of vocational-technical education requires a special building designed to meet the special needs and to house the necessary equipment. One reason for the difficulties experienced by many vocational programs of a generation ago was the lack of adequate building facilities and equipment for the establishment of a quality program.

Should an area center for vocational-technical education be available to all youth?

The majority of school administrators in the survey area felt that an area center should serve not only the average high school student but should have programs geared to the needs of those who find difficulty in learning traditional academic subjects as well as those of the more-gifted youth whose interests may be in the technical subjects. Selection of students for admission to an area vocational-technical center will be the responsibility of a competent guidance staff in the home school districts. Provision must be made for coordinating the guidance programs in all of the schools within the area center. This coordination will necessitate a chief guidance director for each area center.

Would an area vocational-technical center duplicate the function of the existing programs of the Dutchess Community College?

Programs of study in the Dutchess Community College do not emphasize occupational skills of a manual nature. The practical courses in this two-year college emphasize the technologies on a post-high school level. Dutchess Community College and the proposed area centers could work cooperatively in the areas of vocational-technical education. Programs on the collegiate level could complement the area programs on the secondary level.

Would students attending the proposed area centers for vocational-technical education be eliminated from college entrance on the basis of their specialization in a vocational or technical curriculum?

Although the main purpose of establishing the area centers for vocational-technical education is to provide occupational training for those who will be available for employment when they graduate from high school, attendance in an area vocational-technical center could add to the qualifications of students planning to enter community colleges, technical institutes, or even engineering colleges. A course in metals or electronics technology would be an excellent experience for a student anticipating entering a mechanical engineering curriculum. Drafting, printing, commercial art, and all phases of technology on the secondary level would provide good background for continuing education on the collegiate level.

What vocational courses might serve those on the lower end of the educational scale?

Area vocational centers should serve those on the lower end of the educational scale with special occupational courses many of which fall into the general category of semi-skilled occupations. In addition to courses needed for a general high school diploma, the area center could provide the less-gifted students with an opportunity to acquire the necessary skills to enter employment.

How will the proposed area vocational-technical centers serve the needs of the unemployed?

The area vocational-technical centers should have programs for occupational retraining for those who have been unemployed because of the shift in manpower needs due to automation and other technological developments. Special programs should also be considered to train those young adults who have dropped out of high school without receiving occupational training and are unemployed or need training for a better job.

How can training be given to students in occupations which require only a few workers and correspondingly only a small number need training?

There is a great need for more industrial-cooperative programs for the training of high school students through a supervised work-experience program. Many of the employers in the survey area indicated an interest in a program of cooperative supervised work experience. In schools where such programs have been established, there has been a noticeable decline in the drop-out rate. It is recommended that any plans for an area vocational-technical center include provision for supervised work experience for the occupations which can best be serviced by this program.

Should business education courses be taught in the home high schools as at present?

The survey team recommends that the business education courses which are now offered in the home schools be continued. It is possible that, with a larger variety of vocational courses available from which the student may choose, more care may be taken in the selection of students for entrance into the vocational business curriculum. Some advanced courses in vocational business education might be offered in area centers for the use of home schools in which enrollments would not be large enough to justify such offerings.

What about vocational homemaking?

It is recommended that homemaking education be retained in the home schools which now have these programs. There is an expressed need for occupational courses in child care, and in textile fabrication. These vocational areas of homemaking education can best be served through the facilities of an area center.

Is there a need for more emphasis on agriculture education?

With declining employment on the farms there has been a corresponding decrease in enrollment in vocational agriculture. Several schools which had agriculture programs in the past have given up the programs entirely or, in some cases, they have joined with other school districts in an agriculture education program offered by the BOCES in District One of Columbia County. In the opinion of the survey team, it would be more economical to include an agriculture education program in one or two of the area centers and make this phase of vocational educational available to as many secondary students as could benefit by such a program. In addition to the courses presently taught, there is an indicated need for courses in landscaping and horticulture.

How will an area vocational-technical program effect the industrial arts program in the home high schools?

The industrial arts program will continue to serve the needs of secondary school students in the home schools. The increasing importance of our modern industrial society makes industrial arts a very important subject area in the general education of all youth. It is recommended that the present industrial arts program emphasize the pre-vocational objective, especially in the ninth grade. This should enable a student to more intelligently choose a program of trade or industrial education offered in the area center.

How will schools which are presently offering courses in vocational education cooperate with the new area centers?

Existing programs in trade, industrial, and technical education should transfer their courses and programs to the proposed area centers. The new area centers will need the services of the experienced teachers and administrators who are familiar with the operation of a vocational program in the organization of the new area centers. Equipment which is now being used and which is not obsolete should be transferred to the area center to augment the new equipment which will be necessary for an effective program.

Area Vocational-Technical Centers

In order to provide needed vocational-technical programs for the school districts which are located in the sparsely populated areas of our state, it is proposed that area centers be established which will serve several school districts. The advantages of a few large centers for vocational-technical education as opposed to many smaller local programs is that of economy and efficiency. Each of the three centers proposed by the survey team will serve a cluster of school districts which have been selected after taking into consideration high school enrollments in grades ten through twelve in the local schools and also the geographical location of the high school districts. Since transportation is seen to be a major problem, the proposed centers have been located near major highways to keep transportation time to a minimum. County lines were not considered as a factor in arriving at the location of the centers although each of the proposed centers serve a major portion of the school districts in their respective counties.

COLUMBIA CENTER

The proposed area center near the City of Hudson should be located somewhere off Route 66 between Hudson and Chatham. A location about five miles north-east of Hudson would place the center encompassing New Lebanon and Tivoli within a twenty mile radius. The Columbia Center would serve districts with a gross enrollment of 2,421 in grades ten through twelve.

DUTCHESS CENTER

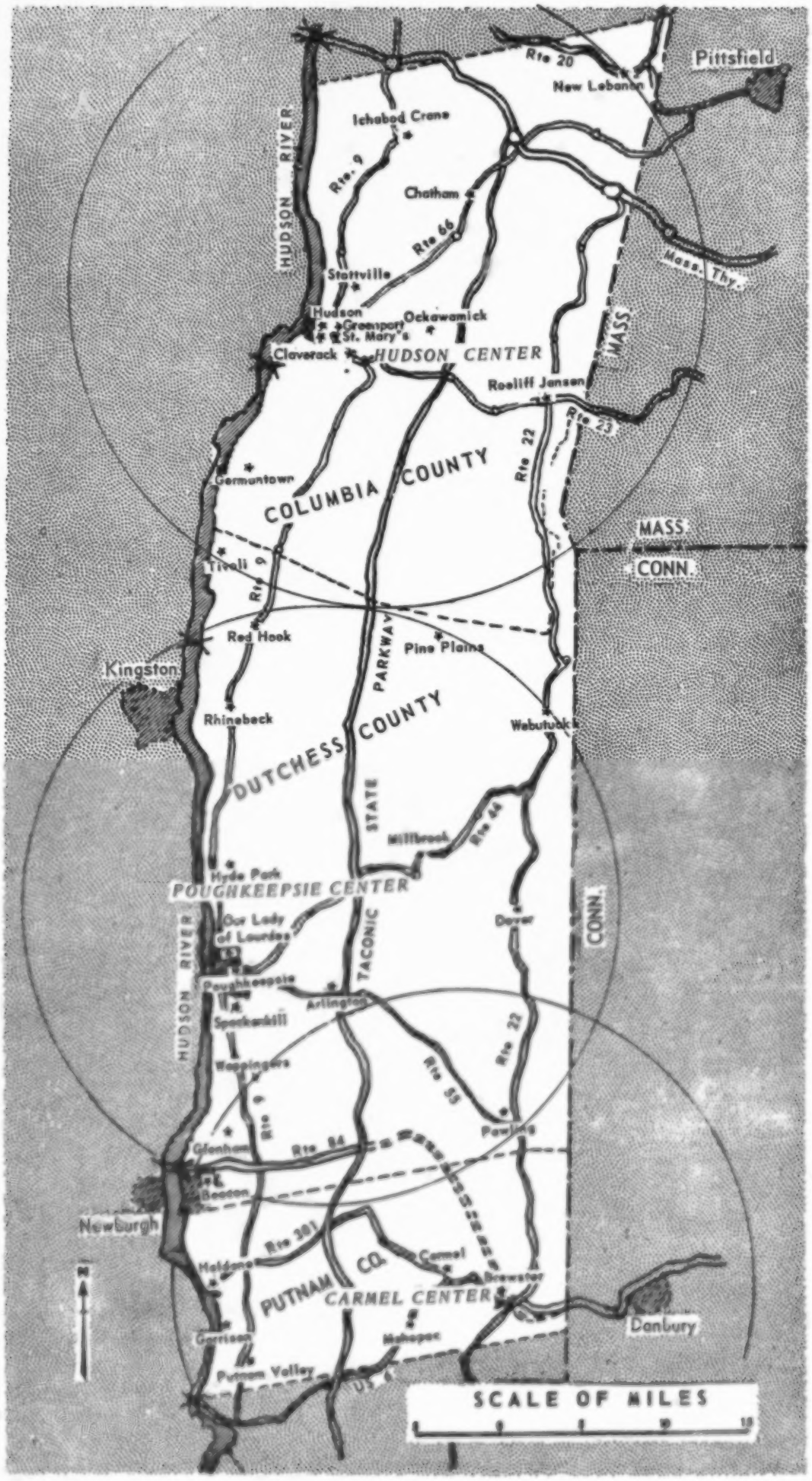
It is proposed that an area center be located off Route 44, about five miles north-east of the City of Poughkeepsie. An eighteen mile radius from this point on the map would encircle almost the entire area of Dutchess County. The City of Beacon and the town of Pawling have not been recommended for this center since the completion of Interstate Highway 84 will make an excellent route from Beacon to the Carmel Center. Pawling is also nearer to the Carmel Center with good direct transportation on Route 22. The Dutchess Center includes districts with a gross enrollment of 6,581 students in grades ten through twelve.

PUTNAM CENTER

A third area center is proposed to serve the area of southern Dutchess County and the school districts in Putnam County. The proposed location of the Putnam Center is somewhere near Route 6 in or near the town of Carmel. This location would place all of the school districts served by the center within an eighteen mile radius. This center for vocational-technical education would serve districts with a gross enrollment of 2,521 students in grades ten through twelve. In planning programs and facilities for the Putnam Center, an investigation of the plans for area vocational-technical centers in northern Westchester should be kept in mind. It is possible that the Putnam Center could also serve communities in northeastern Westchester County.

Programming

Secondary school programs in trade and technical education require an instruction period of three hours per day in a shop or laboratory for each school day. Programs are generally for two or three school years although preparation in some occupations might be covered in a shorter period of time. It is the opinion of the survey team that the present offerings in homemaking, business education, distributive education, could be best conducted in the high schools in the local districts. It is possible that some advanced and special courses in the above-mentioned fields of vocational education will require the facilities of the area center in order to conduct courses efficiently and economically.



PROPOSED LOCATION OF AREA CENTERS

It is recommended that the proposed area centers should also serve young adults who need occupational training in a post-high school program. These centers will also provide facilities for adults to extend their occupational competency in evening courses. Labor organizations may also be interested in using the area centers for trade apprenticeship classes.

There are two possible plans for programming students who attend area vocational schools. One plan calls for the students to be transported from their home to the area center and to provide a complete high school program including shop and related courses at the center. A second plan is based on the opinion of many educators who feel that it is very important not to segregate the vocational and technical students from their classmates in their home school. They recommend that students attending area vocational-technical centers, spend one half of the school day at the area center taking the shop or laboratory courses, and the other half of the school day at their home school. At their home school, the students would study the academic and related subjects required for graduation from their home school and would also be available to participate in extra-curricular activities with the classmates they have known throughout their schooling.

Table 9.1 Recommended Centers for Area Vocational-Technical Programs

COLUMBIA CENTER
(20 mile radius)

School Districts	Enrollment grades 10 - 12
Chatham	371
Claverack	---
Germantown	157
Greenport	----
Hudson	697
Ichabod Crane	359
New Lebanon	198
Ockawamick	220
Roeliff Jansen	225
Saint Mary's	159
Tivoli	35
Total	2421

DUTCHESS CENTER
(18 mile radius)

School Districts	Enrollment grades 10 - 12
Arlington	950
Dover	730
Hyde Park	166
Millbrook	874
Our Lady of Lourdes	762
Pine Plains	238
Poughkeepsie	1293
Red Hook	295
Rhinebeck	231
Spackenkill	90
Wappingers	1288
Webutuck	175
Total	6581

PUTNAM CENTER
(18 mile radius)

School Districts	Enrollment grades 10 - 12
Beacon	730
Brewster	433
Carmel	387
Garrison	46
Haldane	161
Mahopac	378
Pawling	219
Putnam Valley	167
Total	2521

Selection of Courses

A listing of possible courses for consideration in each of the three area vocational centers has been formulated after consideration of the expressed interests and needs of tenth and twelfth grade students, the interests and needs of their parents, the expressed interests and needs of young adults, and also manpower needs as indicated in Section VIII of this survey.

The first step in formulating this list was to tabulate the courses most frequently mentioned by those who participated in the survey. Separate tabulations were made for each county in order to aid in course planning for each center.

Manpower needs were determined by selecting occupational areas which are most likely to absorb the trained persons within the entire tri-county area. The list of manpower needs was tabulated after considering national trends in employment; employment conditions in the survey area; and expressed needs of employers. Current trends indicate that employment opportunities for a beginning employee often are located outside the county in which he is trained. In organizing courses to be included in an area center, consideration should be given to occupational opportunities in a larger region than that of the boundaries of this study. Trends which indicate potential growth of the use of automated equipment will require consideration of new jobs and skills for beginning employees.

Table 9.2 Courses Mentioned Most Frequently by Survey Participants

Columbia County

Course	Students	Parents
Accounting	x	
Aeronautical Technology	x	
Auto Mechanics	x	
Beauty Culture	x	x
Bookkeeping		x
Business Law	x	
Business Machine Operation	x	x
Carpentry and Building Construction		x
Clerk Typist		x
Commercial Art	x	x
Dental-Medical Technology		x
Drafting, Mechanical	x	
Electricity		x
Electronics Technology	x	x
Farm Operation-Management		x
Food Preparation and Service	x	x
Growth and Development of Family Child Care, Family Relationships	x	

(continued)

Table 9.2 (continued)

Course	Students	Parents
Health, Safety and Home Care, Nursing First Aid and Personal Hygiene	x	
Interior Decoration	x	
Landscaping, Horticulture		x
Merchandising, Selling	x	x
Machine Transcription	x	
Office Practice and Management	x	
Police Training	x	
Practical Nursing	x	x
Secretarial Practice	x	x
Shorthand	x	x
Store Management	x	
Welding		x

Table 9.3 Courses Mentioned Most Frequently by Survey Participants

DUTCHESS COUNTY

Course	Students	Parents
Accounting	x	
Aeronautical Technology	x	
Agriculture; Machinery Technology		x
Auto Mechanics	x	x
Beauty Culture	x	x
Bookkeeping		x
Business Law	x	
Business Math		x
Business Machine Operator		x
Carpentry and Building Construction		x
Chemical Technology	x	
Clerk-typist, Receptionist		x
Commercial Art.	x	x
Drafting, Mechanical	x	x
Dental Technology		x
Electrical Appliance Repair		x
Electricity		x
Electronics Technology	x	x
Engineering Technology	x	
Food Preparation and Service		x
Growth and Development of Family, Child Care and Relationship	x	
Health, Safety and Home Care, Nursing, First Aid and personal Hygiene	x	
Interior Decorating	x	
Landscaping and Horticulture	x	
Mechanical Technology	x	
Office Practice and Management	x	
Plumbing and Heating		x
Police Training	x	
Practical Nursing	x	x
Retailing		x
Shorthand	x	
Welding		x

Table 9.4 Coursts Most Frequently Mentioned by Survey Participants

PUTNAM COUNTY

Course	Students	Parents
Auto Mechanics	x	
Beauty Culture	x	x
Bookkeeping	x	x
Business Machine Operation		x
Carpentry and Building Construction		x
Clerk-typist, Receptionist		x
Drafting, Mechanical	x	
Electrical Appliance Repair		x
Electricity		x
Electronics Technology		x
Food Preparation and Service		x
Growth and Development of Family Child Care and Relationship	x	
Landscaping and Horticulture		x
Office Practice and Management; Machine Transcription	x	
Secretarial Practice and Stenography	x	x
Shorthand	x	

Table 9.5 Manpower Needs in the Tri-County Area which Could be Met by an Area Vocational-Technical Program

Indicated Manpower Need	Columbia	Dutchess	Putnam
Auto Mechanics	x	x	x
Beauty Culture		x	x
Building Maintenance	x	x	x
Carpentry and Building Construction	x	x	x
Drafting, Mechanical		x	
Electricity	x	x	x
Electronics Technology		x	
Food Preparation and Service	x	x	x
Landscaping and Horticulture			x
Machine Trades		x	
Office Practice and Management		x	
Plumbing and Heating		x	
Printing		x	
Practical Nursing		x	x
Shorthand	x	x	x
Textile Fabrication (Garment)	x		
Welding		x	
Work-Experience (Industrial Co-op)	x	x	x

Possible Programs and Courses for Consideration

Based upon the needs and interests of the high school students, the interests of their parents, and also the indicated manpower needs in the Tri-County area, a list of programs and courses has been made from which selections may be made when planning programs for the proposed area centers.

Table 9.4 (continued)

		Home School	Columbia	Dutchess	Putnam
Agriculture	Landscaping & Horticulture				x
Agriculture	Present Courses	x	x		
Business Ed.	Present Courses	x			
Business Ed.	Business Machine Operation			x	
Business/ Distributive Ed.	Retail Sales	x	x	x	x
Business/ Distributive Ed.	Store Management		x	x	x
Homemaking Ed.	Foods, Preparation & Service		x	x	x
Homemaking Ed.	Textile Fabrication (Garment)		x		
Industrial Co-operative Ed.			x	x	x
Technical	Drafting, Mechanical			x	x*
Technical	Electronics			x	
Technical	Data Processing			x	
Trade & Industrial	Auto Mechanics		x	x	x
Trade & Industrial	Beauty Culture			x	x
Trade & Industrial	Building Maintenance		x	x	x
Trade & Industrial	Carpentry & Building Const.			x	x
Trade & Industrial	Electricity			x	
Trade & Industrial	Machine Trades			x	
Trade & Industrial	Practical Nursing		x	x	
Trade & Industrial	Hospital Aid		x	x	x
Trade & Industrial	Plumbing & Heating			x	
Trade & Industrial	Printing			x	
Trade & Industrial	Textile Fabrication		x		
Trade & Industrial	Welding			x	
Work-Experience			x	x	x

* Based upon possible employment outside of the county.

Recommendations for the Implementation of the Study

Based upon the findings reported in other sections, and the conclusions which have been drawn from these findings, the following recommendations are made for the implementation of an area program for vocational-technical education to serve this tri-county area. There is much that lies ahead before the impact of an area program will have its effect on students for which it is designed. It is therefore absolutely essential for those in whom the leadership and authority has been entrusted to act with dispatch upon these recommendations. All phases of this survey indicate a mandate to the educational, business, professional, industrial, and lay leaders of this three-county community to provide the needed vocational, occupational, and technical training for those students who can benefit by these programs.

1. The first step involves the agreement of the executive committee upon attendance areas to be served by each of the centers. The attendance areas which have been suggested are recommended after careful analysis of all factors concerned. It is reasonable to assume that some minor revisions will be made in locations on the fringe of an area center. Districts located in these areas might conceivably participate in each of two centers and thus take advantage of a greater range of vocational choice in the program available to the student. City or county lines should not be considered a restriction. The most economical approach to planning area centers requires establishing them in such a location that they will serve a tenth-to-twelfth grade base for more than two thousand students.

2. Appoint a Director of Vocational Education who will assist the executive committee and the boards of education in each of the three area centers in preliminary plans for buildings, equipment, courses and staffing.

3. Plan a vocational-technical program for each area center using the suggested course listings on page 140 and also by referring to other sections of the survey as a guide. The Executive and Policy Committee should appoint three curriculum subcommittees, one for each area center. These committees, made up of members of the Advisory Committee and Planning-Action Committee, should be charged with determining the courses to be offered in each of the centers. These course offerings should then be further screened by members of the Executive Committee to coordinate the offerings in each of the three areas. Consultation with members of the staff of the Division of Vocational Education, State Education Department should be made before final course plans are formulated.

4. Determine site locations.

5. Make preliminary plans regarding the teaching staff and administrative personnel necessary for establishing each center.

6. Consider the possibility of improving existing programs in local district schools which have a direct relationship to vocational-technical education. Some courses would not require new facilities and could be offered in the medium size high schools. Vocational agriculture might best be taught in local schools in the eastern part of Dutchess and Columbia Counties by consolidating present programs in three or four central locations and making these courses available to schools which cannot justify the program alone. Vocational distributive education, vocational business education, and work experience programs could all be offered at a reasonable cost in existing facilities. Basic academic subjects especially designed to meet vocational and occupational needs could be taught in the traditional classroom in the home school.

7. Strengthen the existing subject areas which will feed students into an area vocational or technical program. The pre-vocational aspects of industrial arts, basic homemaking, and beginning business education courses could aid potential vocational and technical students in their selection of occupational areas of interest.

8. Strengthen the guidance services in the local schools by providing greater emphasis on vocational guidance. Consider having a guidance director on the staff of each area center for the purpose of coordinating the selection practices in each of the participating high schools and also to establish placement services for the graduates of vocational programs.

9. Consult with the State Education Department, Division of Vocational Education for assistance in financial planning and for the latest information about funds available from federal and state sources for building, equipping, and staffing area vocational schools.

COMMITTEE STRUCTURE

Executive and Policy Committee

Roderick E. Ayer, Superintendent
Hudson City School District
Hudson, New York

Walter Clifford, Superintendent
Hyde Park Central School
Hyde Park, New York

Monsignor Matthew J. Cox, Assistant Superintendent
Arch Diocese, Dutchess and Putnam Counties
Poughkeepsie, New York

Michael Griffin, Superintendent
Arlington Central School
Poughkeepsie, New York

Stanley Hoffman, District Superintendent
Putnam County
Carmel, New York

Harold Holmes, District Superintendent
Second Supervisory District, Columbia County
Copake, New York

Dr. Edwin L. Hunger, Superintendent (Chairman)
Poughkeepsie City School District
Poughkeepsie, New York

E. Joseph Kegan, Superintendent
Wappingers Central School
Wappingers Falls, New York

Cecil Mapes, District Superintendent
First Supervisory District, Columbia County
Chatham, New York

Donald J. Sipe, Superintendent
Beacon City School District
Beacon, New York

Roscoe Williams, District Superintendent
Dutchess County Sole Supervisory District
Red Hook, New York

Planning and Action Committee

Columbia County - District #1

Name	Position	School System
Richard Kraham	Principal of H. S.	Chatham Central
James J. Costigan	District Principal	Chatham Central
Frank H. Sommer	Guidance	Chatham Central
Leverett F. Mansfield	District Principal	Ichabod Crane Central
John P. Nabozny	Guidance	Ichabod Crane Central
Walter B. Howard	District Principal	New Lebanon Central
Glen Q. Hall	Guidance	New Lebanon Central
James R. Van Alstyne	Principal	Stottville Union Free School

Columbia County - District #2

Robert R. Cullen	Principal	Claverack Union Free School
Lester H. Benson	Supervising Principal	Ockawamick Central
Howard Rhodes	Guidance	Ockawamick Central
George J. Zimmerman	Supervising Principal	Germantown Central
* H. R. Mortensen		Germantown Central
Douglas Brown	Guidance	Germantown Central
Jack L. Roosa	Principal	Greenport School
Hughes Dearlove	Supervising Principal	Roeliff Jansen Central
Robert Inglis	Guidance	Roeliff Jansen Central

City of Hudson

Paul Westfall	Sr. H. LS. Principal	Hudson
Harold Golding	Guidance	Hudson
Sister Catherine Bede		St. Mary's Academy
Msgr. Thomas Lenahan	Principal	St. Mary's Academy

Dutchess County

Dr. Robert C. Whitsitt	District Principal	Dover Union Free School
Miss Margaret Carey	Guidance	Dover Union Free School
John Vale	District Principal	Glenham
* Mrs. Gladys Karolak		Glenham
Glenn E. Manning	District Principal	Millbrook Central
Forrest Hill	Guidance	Millbrook Central
John R. Wagner	District Principal	Pawling Central
Douglas J. Higgins	Guidance	Pawling Central
Francis W. Stanton	District Principal	Pine Plains Central
Edward Roche	Elementary Supervisor	Pine Plains Central
Robert Francis	Guidance	Pine Plains Central
Russell J. Keefe	District Principal	Red Hook Central
Richard W. Barringer	Secondary Principal	Red Hook Central
Donald F. Green	Guidance	Red Hook Central
Lawrence A. Gilmour	District Principal	Rhinebeck Central
Erwin Kane	Guidance	Rhinebeck Central
Orville A. Todd	District Principal	Spackenkill Union Free
Herbert Bender	Secondary Principal	Spackenkill Union Free
Robert Noska	District Principal	Tivoli Union Free
* Gerald Douglass		Tivoli Union Free
Myron J. Rindsberg	District Principal	Webutuck Central
Jose Bertomen	Guidance	Webutuck Central

* Persons involved in the early phases of the study who have changed their position before study was completed

Name	Position	School System
	Arlington	
Donald Nelson	Principal	Arlington Central
Paul Lacy	Guidance	Arlington Central
John Stewart	Dir. of Ind. Arts	Arlington Central
	Beacon	
John Williamson	Principal	Beacon High School
John T. Klepper	Guidance	Beacon High School
	Hyde Park	
Gilbert Pearson	H. S. Prin. (Roosevelt H. S.)	Hyde Park Central
Sid Ayers	Guidance (Roosevelt H. S.)	Hyde Park Central
	Poughkeepsie	
Frank Bugar	Principal	Poughkeepsie High School
Carlton Durfey	Dir. Voc. Ed.	Poughkeepsie High School
Dr. Irving Fersh	Dir. Pup. Per. Ser.	Poughkeepsie High School
Monsignor Matthew J. Cox	Assistant Superintendent	Our Lady of Lourdes H. S.
	Wappingers Falls	
Ben F. Ingraham	H. S. Principal	Wappingers Central
Miss Georgianna L. Gurney	Guidance	Wappingers Central
	Putnam County	
Peter Housekeeper	District Principal	Mahopac Central
Thomas Cunningham	Guidance	Mahopac Central
Robert Kristeller	District Principal	Carmel Central
Louis Wilson	Guidance	Carmel Central
Harold B. Wood	District Principal	Brewster Central
John Daley	Guidance	Brewster Central
Robert G. Roda	District Principal	Haldane Central
Mae Alexander	Guidance	Haldane Central
Samuel C. Pagano, Jr.	Principal	Garrison Union Free School
Vincent Ganoi	Vice-Principal	Putnam Valley Central

Advisory Committee

Columbia County - District #1

Name	Representing	School System
Frederick H. Popans	Board of Ed. - Agriculture	Chatham Central
Mark Ludescher	Streeter Store Fixtures, Inc.	Chatham Central
James Salerno	Columbia Corporation	Chatham Central
Joseph Kilcer	Agriculture	Stottville Union Free
The Hon. Willard Drumm	State Assembly	Ichabod Crane Central
John Myers	Reilly Corporation	Ichabod Crane Central
Donald Bennett	V & O Press	Ichabod Crane Central
Joseph E. Benson	New York Telephone Co.	New Lebanon Central

Columbia County - District #2

Name	Representing	School System
William Rogers	Hillsdale Chamber of Commerce	Roeliff Jansen Central
Albert C. Bristol	A. C. Bristol Lumber & Supply Corp.	Roeliff Jansen Central
Richard Lasher	G. L. F.	Germantown Central
O. Clay North	Ghent Wood Combing Co.	Ockawamick Central
Stanford Card	Plumbing Business	Claverack Union Free
John Hotaling	Farming & Insurance	Claverack Union Free
Charles Bereheimer	Textile By Products	Greenport School
Alfred Marchisio	Farm Manager	Germantown Central

City of Hudson

Moses Sweetgall	Hudson Board of Education	Hudson
Daniel Egan	N. Y. S. Employment Office	Hudson
Arthur Koweek	Hudson Planning Commission	Hudson
Charles Witham	Electrical Contractor	Hudson
Mrs. Elizabeth O'Rourke	High School Guidance	Hudson

Dutchess County

Mrs. John H. Spenard	Housewife	Dover Union Free
Wencel A. Neumann, Jr.	Industry	Millbrook Central
James D. Benson	Legal Business	Pawling Central
Frank Hedges	Farming	Pine Plains Central
William Landauer	Farming	Red Hook Central
James Luftus	Business	Rhinebeck Central
Mrs. James Bourne	Education	Rhinebeck Central
Norman Carter	Board of Education	Spackenkill Union Free
Roy Denniston	Education	Webutuck Central
Noel Schetter	Business (Insurance)	Glenham Union Free
Howland S. Davis	Business	Tivoli Union Free

Arlington

James Neighbors	Schatz Federal Bearing Co.	Arlington Central
Robert Stearns	Board of Education	Arlington Central
Kenneth Knaps	Board of Education	Arlington Central
Raymond Erickson	Central Hudson Corporation	Arlington Central

Beacon

Harry Allred	Board of Education	Beacon
Dr. Robert Conary	Chamber of Commerce	Beacon
Dr. Robert T. Frankel	Beacon Planning Board	Beacon
Mrs. Johnson Morgan	Social Service	Beacon

Hyde Park

William Young	Board of Education	Hyde Park Central
Russell Hadden	Schatz Federal Bearing Co.	Hyde Park Central
Paul Towner	N. Y. Telephone Co.	Hyde Park Central
Robert McKinney	Dutchess Community College	Hyde Park Central
Dr. Lewis Fibel	Dutchess Community College	Hyde Park Central

Name	Representing	School System
	Poughkeepsie	
Frank J. DeGilio	Board of Education	Poughkeepsie
Benjamin Van Wickler	Mid-Hudson Industrial Assoc.	Poughkeepsie
Wilbur R. R. Winans	Chamber of Commerce	Poughkeepsie
Catherine Jackson	Practical Nursing Assoc.	Poughkeepsie
Mrs. Foster Carl	P. T. A.	Poughkeepsie
Dr. William J. Hageny	Mid-Hudson School Study Council	Poughkeepsie
Theron Yawn	N. Y. S. Employment Service	Poughkeepsie
Thomas Soules	Personnel Manager, I. B. M.	Poughkeepsie
James McGarrah	Sales Mgr., Montgomery Ward	Poughkeepsie
	Wappingers Falls	
Eugene Conte	Central Hudson G. & E. Corp.	Wappingers Central
Knight Brown	W. F. Chamber of Commerce	Wappingers Central
William Sorenson	Trade Unions	Wappingers Central
Ronald Hayes	I. B. M. & Citizens Advisory Committee	Wappingers Central
William Bowen	WCS Faculty (Member of Industrial Arts Dept.)	Wappingers Central
	Putnam County	
Douglas Brownell	I. B. M.	Haldane Central
Roderick Carr	Manager, Shell Oil (Retail)	Mahopac
Leo Corkery	I. B. M.	Brewster Central
Richard DeRham	Architecture	Garrison Union Free
Thomas Ely	Butterfield Memorial, Medicine	Haldane Central
Stuart Engelman	Cosmetology	Mahopac
Cortland Fish	Building Construction	Carmel Central
James Flanagan	Retail, Liquor	Carmel Central
Paul Freeman	Dentistry	Brewster Central
Charles Hemming	U. S. Plywood, Research	Brewster Central
Samuel Hickman	Retail, Dry Goods	Carmel Central
Art Jennings	Steel Castings	Brewster Central
Father Peter Marks	Minister, Episcopal Church	Mahopac Central
John Miggins	Machine Tooling	Brewster Central
Donald Mossman	Electronics	Brewster Central
Nicholas Piazza	Automobile Sales	Brewster Central
Walter Pilner	Masonry, Sales, etc.	Carmel Central
Merritt Ryder	Banking	Carmel Central
Fred Schneider	I. B. M.	Mahopac Central
Howard White	County Extension Service	Carmel Central

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Bureau of Business and Distributive Education

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VT 001 309
Strengthening Vocational Education in San Joaquin County. Phase II, Planning for Implementation.

Pacific Research Center, Inc., Palo Alto, Calif.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 66 166p.

*VOCATIONAL EDUCATION; *MASTER PLANS; *EDUCATIONAL IMPROVEMENT; ADVISORY COMMITTEES; *OCCUPATIONAL GUIDANCE; *PROGRAM PLANNING; PUBLIC RELATIONS
SAN JOAQUIN COUNTY; CALIFORNIA

The objective of this second phase of a three-phase project was to implement recommendations of Phase I by organizing a working unit and determining county feeling about a vocational education program and how best to organize, administer and finance such a program. Developments were (1) The county superintendent of schools assumed leadership of the implementation plan, (2) Advisory and implementation committees were appointed, (3) Results of the study and the organizational plans were publicized by means of a community symposium and by use of news media, (4) Several new programs centered on occupational areas were developed at an interdisciplinary curriculum development workshop for 54 teachers, (5) Guidance and counseling personnel developed a booklet for evaluating the occupational programs, (6) A first draft of a master plan for occupational education and its support was presented to the advisory and implementation committees, and (7) Proposals for the funding of programs in relation to the project were advanced. Phase I and II accomplished the structuring of a framework for establishing a vocational education program in the county. A second conference will prepare for the last phase of the project. (SL)

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Phase II

VT 01209

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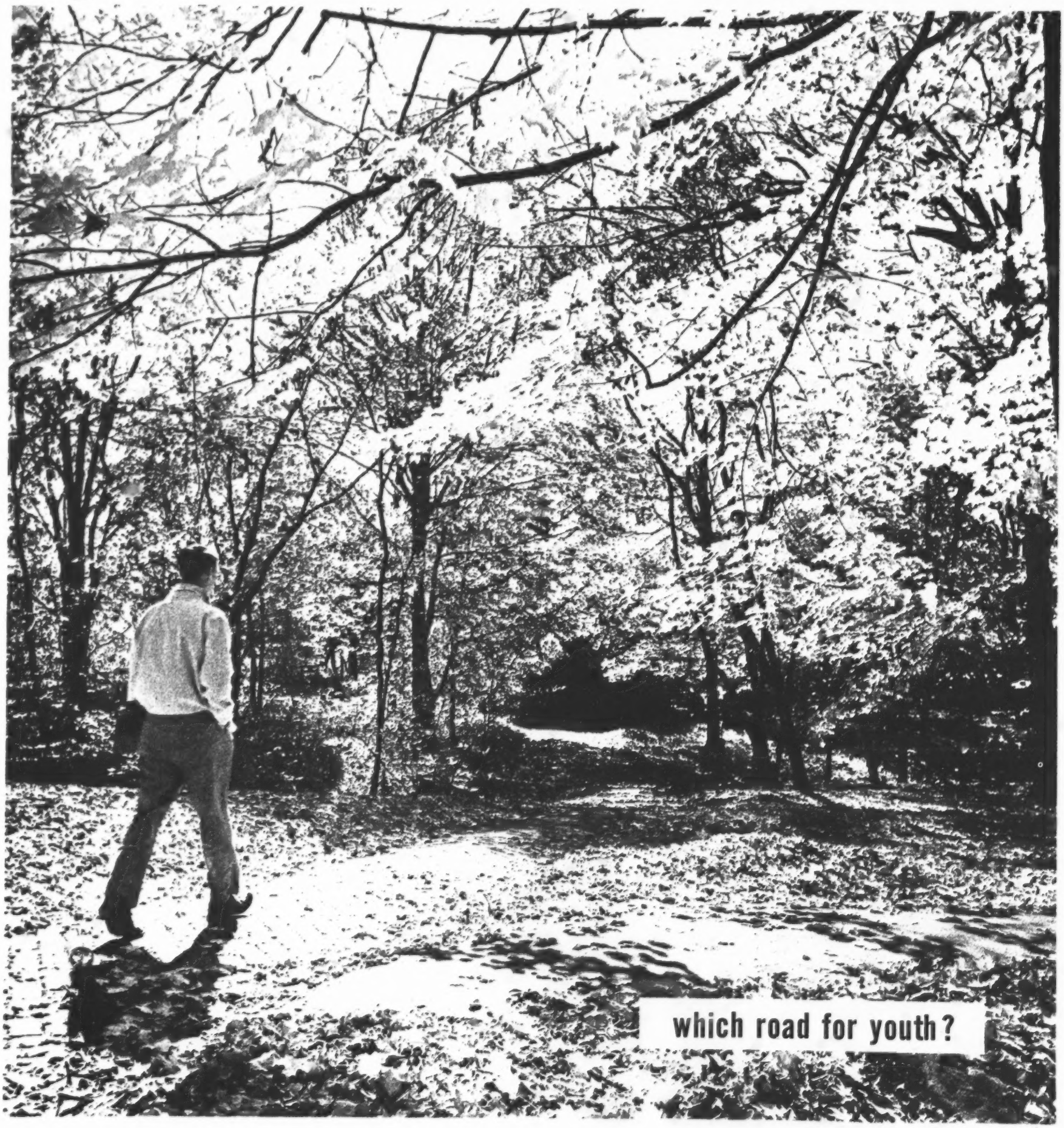
STRENGTHENING vocational education in san joaquin county

planning for phase II: IMPLEMENTATION



STRENGTHENING vocational education in san joaquin county

planning for phase II: IMPLEMENTATION

prepared for

san joaquin county superintendent of schools

by pacific research center, inc.
palo alto, california

1966

a research project supported in part by federal funds administered by the state department of education

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Concluding highlight of Phase II activities was the Occupational Education Symposium held at San Joaquin Delta College on May 23, 1966 (See p. 21). Featured speaker was Wesley P. Smith (right), State Director of Vocational Education, shown here with Dr. Gaylord A. Nelson, San Joaquin County Superintendent of Schools.

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Administrative Services

Joseph Acosta, Vocational Education Coordinator

SAN JOAQUIN COUNTY VOCATIONAL EDUCATION PROJECT

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1965-66

Joseph Acosta, Chairman
Vocational Education Coordinator
San Joaquin County Schools

Leonard M. Beeman
Secondary Education Coordinator
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Dr. Gaylord A. Nelson
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Harry A. Quaill
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California State Department of Employment

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Stockton Unified School District

Harold J. Whitlock
District Superintendent
Escalon Union High School District

John Wilber
District Superintendent
Manteca Unified School District

45

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Farmer
Escalon

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San Joaquin Delta College
Stockton

Eric Biedermann
Best Fertilizer Company
Lathrop

Richard Boyd
State Department of Employment
Stockton

Floyd Carmichael
San Joaquin County
Apprenticeship Council
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Stockton

Clarence Diffenderfer
Stockton Record
Stockton

John Erb
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Tracy

Dale Heikkinen
Student
Stockton

Robert Highfill
Contractor
Stockton

Walter Hogan
Blow Pipe Co., Inc.
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David Johnson
State Division of Apprenticeship Standards
Stockton

Leon Kessinger
Plumbers and Steamfitters
Local 492
Stockton

David C. Miller
Pacific Research Center, Inc.
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Anthony Maniscalco
Center for Technological
Education
San Francisco

Robert Neumiller
Placement Counselor
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Joseph Phelps
Port of Stockton
Stockton

Loren Powell
San Joaquin County Supervisor
Stockton

Harold Riley
Dunlap Electronics
Stockton

Richard Rippy
National Cash Register Co.
Stockton

George Schmiedt
Farmer - President, Lodi
High School Board
Acampo

Carl Steinhart
Zukerman Company
Stockton

Frank Stocking
Lodi Unified School District
Lodi

John Strangman
Schneider Vocational School
Stockton

Mrs. Clara Tucker
Bank of Stockton
Stockton

Robert West
Stockton Record
Stockton

Richard S. Yoshikawa
San Joaquin Delta College
Board of Trustees
Stockton

F O R E W O R D

This is the final report of Phase II of the San Joaquin County Vocational Education Project. It is comparable to the final report for Phase I, Strengthening Vocational Education in San Joaquin County.

As outlined in this report, this second or implementation phase has been subdivided into two parts: planning for implementation, and implementation itself.

Planning for implementation has now been essentailly completed, and implementation proper will begin with the convening of the second Powerhouse Action Conference on October 7-8, 1966.

It is with a sense of achievement that this report is submitted. The prospects for an ambitious, innovative program in San Joaquin County appear excellent.

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I introduction

Section I

INTRODUCTION

The scope, complexity, and urgency of the task being undertaken in San Joaquin County through the Vocational Education Project can be admirably summed up by use of an excerpt from a report of the National Commission on Technology, Automation, and Economic Progress. Speaking of the American economy as a whole, it said:

> Unemployment has been concentrated among those with little education or skill, while employment has been rising most rapidly in those occupations generally considered to be the most skilled and to require the most education. This conjunction raises the question whether technological progress may induce a demand for very skilled and highly educated people in numbers our society cannot yet provide, while at the same time leaving stranded many of the unskilled and poorly educated with no future opportunities for employment. . . . If the relative disadvantages of the unskilled and uneducated have increased in recent years, the main reason is that the economy is more, not less, likely to run out of skilled and educated men and women. . . . The individual's education and skill are important determinants of his relative ability to compete for jobs. The education and skill of the labor force is important to the economy's viability. . . . Together education, skill, and technology, along with other factors, determine the structure of employment and unemployment.[1/]

It was with these crucial realities fixed firmly in mind that the San Joaquin County Vocational Education Project was instituted in 1964. Under the leadership of Dr. Gaylord A. Nelson, County Superintendent of Schools, a series of community meetings was held to discuss vocational education in San Joaquin County. Support for the study from educators and from other citizens as well was immediate. A countywide Vocational Education Project Committee was established, chaired by Joseph Acosta, Vocational Education Coordinator in the county superintendent's office. Ultimately, a proposal outlining and requesting financial support for

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1/ Technology and the American Economy: Report of the National Commission on Technology, Automation, and Economic Progress. February 1966.

the project was submitted to the State Department of Education and was funded. The objectives of the project and of the Phase I study report, as outlined in the original proposal, are reproduced below for convenient reference.

Objectives of the Project

The proposal submitted to the State Department of Education divided the project into three phases: Phase I - The Survey; Phase II - Implementation; Phase III - Follow-up. The objectives for the project are as follows:

1. Modify existing high school and junior college curricula to provide pre-vocational and vocational training for students who are not expected to go on to a baccalaureate program.
2. Offer those high school students who might generally be expected to drop out of school an opportunity to motivate themselves by providing them with training which will be of value to them in seeking vocational opportunities.
3. Provide all students with better preparation for fulfilling their vocational goals by making available to them training opportunities which are not now available.
4. Relate the needs of prospective employers to the educational program to insure a curriculum which has specific and practical value to each student.
5. Determine the types of programs needed in San Joaquin County.
6. Provide informational services to students to assist them in making realistic vocational choices and to counselors to aid them in providing realistic vocational counseling services.

Objectives of Phase I - The Survey

The study, Strengthening Vocational Education in San Joaquin County, represented Phase I of the Project. Its objectives were:

1. To examine present and future occupational opportunities and needs in San Joaquin County.
2. To inventory existing vocational education programs and facilities.
3. To assess the attitudes and opinions toward vocational education of students, counselors, educational administrators, and employers.
4. To recommend a program for strengthening vocational education in San Joaquin County.

Objective of Phase II - The Implementation

The objective of Phase II, referred to as the Implementation Phase, was to act upon the proposed plan of action recommended by the survey report produced during Phase I of the project. The plan proposed, however, was so comprehensive and necessarily complex (involving, as it does, so many different leaders, agencies, and jurisdictions) that Phase II had to be divided into two parts: a) planning and organization; and b) practical action in the districts. In effect, the practical objective of this second year of the project was to perform planning for actual implementation.

Method of Approach

The method of approach used in Phase II varied with the task. It is, therefore, discussed as part of the appropriate section in the body of this report.

Staff

Inevitably, in planning for implementation, many different groups and individuals within and outside of San Joaquin County were constructively involved in Phase II activities. Dr. George W. Ebey, president

of Pacific Research Center, Inc. (successor to George Ebey Associates, consultant to Phase I of the project), continued as principal consultant to the project. He was assisted by Max R. Tadlock, PRC vice president, and by David C. Miller of the PRC staff.

Definitive assistance was provided by the Center for Technological Education, San Francisco State College, under the leadership of Dr. George Champion, director. Center for Technological Education participants included Anthony Maniscalco, assistant director; Professor Robert Craig, San Francisco State College; Dr. Robert Weisgarber, director of the audio-visual center, San Francisco State College; and Winston Howe, head of the industrial arts department, De Anza High School, Richmond.

Professor H. Bonner McDaniel of Stanford University, a nationally known authority on educational counseling, gave substantial aid in conducting counselor workshops.

Joseph Acosta, County Vocational Education Coordinator, continued in the crucial coordinating role of chairmain of the Implementation Committee and executive secretary of the County-wide Advisory Committee, in addition to his many other activities reported subsequently. The members of the Implementation and Advisory committees also made important contributions to the project. Special mention should be made of the time and effort expended by Eric Biedermann, Best Fertilizer Company, in his role as chairman of the County-wide Advisory Committee.

Special mention must also be made of the separate but vitally related County Office of Education project headed by Leonard Beeman, of the county office, and Donald E. Cerqui, Diamond Walnut Growers, Inc., who, as co-directors, organized and administered the highly successful First San Joaquin County Occupational Guidance Center in March 1966. Mrs. Yvonne Blackmun should also be commended for the untiring work and time given as coordinator of the center and in other activities.

As in the past, the project enjoyed the enthusiastic and vigorous support of Dr. Gaylord A. Nelson, County Superintendent of Schools. He was assisted in his direction and supervision of the project by J. Hamilton Hodgson, County Associate Superintendent; and A. Neil Hafley, County Assistant Superintendent.

Acknowledgements

Appreciation is expressed to the scores of citizens throughout the county who participate in the Advisory and Implementation committees, who assisted in the spring symposium, who played an important role in the Occupational Guidance Center, and who in general, through their actions and support, have provided the principal momentum for Phase II of the project.

Dr. Julio L. Bortolazzo, president of College of San Mateo and former president of San Joaquin Delta College, made a dynamic summing up of Phase II in his concluding remarks at the spring symposium, and his gracious assistance is gratefully acknowledged.

Special acknowledgement is also extended to Wesley P. Smith, State Director of Vocational Education, for his continuing support of the project and for his participation in the spring symposium.

Particular appreciation is given to the Center for Technological Education, San Francisco State College, whose services were made available without charge to the project. (CTE is supported jointly by San Francisco State College and a major Ford Foundation grant.)

II summary of action

SECTION II

SUMMARY OF ACTION

During the course of Phase II: Planning and organizing for implementation, conducted in the 1965-66 school year, much has been achieved. Much remains to be done, for in a new comprehensive program, involving many cooperative relationships, implementation and the planning for it are complex. Following is a summary of the year's developments and accomplishments.

1. An action planning meeting was recommended by the Vocational Education Project Committee upon its acceptance of the Phase I survey report. The meeting, now known as the Powerhouse Action Conference, was convened October 29, 1965 by County Superintendent of Schools Gaylord A. Nelson at the PG&E Powerhouse on Tiger Creek. Attending with the VEP Committee members were the superintendent and president, a member of the board of trustees (or their respective designate) of each San Joaquin County high school district and San Joaquin Delta College, as well as representatives of the County Superintendent of Schools Office, San Francisco State College Center for Technological Education, and Pacific Research Center, Inc.

2. Organization for implementation and communication to the community of the study findings were marked as of prime importance by the Powerhouse Action Conference participants, in their concurrence with the recommended plan of action of the survey report. It was agreed that the logical agency to assume the leadership role was the County Superintendent of Schools Office.

3. An Implementation Committee was appointed by the county superintendent. It included the county superintendent of schools, the president of San Joaquin Delta College, and the district superintendents of each high school district

in the county, the manager of the Stockton State Department of Employment office, the county vocational education coordinator, and representatives from the State Department of Vocational Education, the Center for Technological Education, and Pacific Research Center, Inc.

4. Acting upon suggestions from the Implementation Committee, the county superintendent appointed an Advisory Committee consisting of persons representing business and industry, labor, government, the professions, students, and education-oriented civic organizations. The Advisory Committee, as well as the Implementation Committee, has held a series of productive meetings during the year.

5. Intensive efforts were made to publicize the results of the study and the organizational plans. Media used were speeches, newspapers, a summarizing pamphlet, radio, television, and a sound motion picture.

6. An interdisciplinary curriculum development workshop, organized by the Center for Technological Education, was given in Stockton for academic credit at San Francisco State College. A total of 54 teachers enrolled, representing seven high schools and a senior elementary school. As a result, several new programs centered on occupational areas will be inaugurated this fall.

7. An occupational guidance booklet and checklist was developed for evaluating these programs throughout the county. This checklist was prepared by a committee of counseling and guidance personnel from San Joaquin County high school districts and San Joaquin Delta College, and by representatives from the Center for Technological Education and Pacific Research Center, Inc. Coordination and leadership were provided by the County Superintendent of Schools Office and a project consultant from Stanford University. After a trial in the county, the checklist will be published for wider distribution.

8. A master plan for occupational education was drafted and deliberated in detail by the Implementation and Advisory committees. The second draft will be presented for consideration at the second Powerhouse Action Conference to be held October 7-8, 1966. A portion of the plan relates to the countywide tax for a regional occupational center made possible by state legislation, as discussed at several meetings of the Implementation Committee.

9. A community symposium was held in May at San Joaquin Delta College to recount the progress on the project and to exchange views on future directions. Key speakers were Wesley P. Smith, State Director of Vocational Education, and Dr. Julio L. Bortolazzo, president, College of San Mateo.

10. Proposals for the funding of programs in relation to the project were prepared and are in process. A proposal for funds to continue implementing activity has been approved by the State Department of Education.

A sound start has been made on this significant program which has attracted attention and comment both inside and outside the county. The organizational mechanisms have been developed, the cooperative working relationships established, and the master plan for a countywide vocational education program drafted for approval early in the coming school year.

III background information: the phase I survey report

SECTION III

BACKGROUND INFORMATION: THE PHASE I SURVEY REPORT

A resume of Phase I activities in pursuit of its objectives is given briefly for convenient reference. The objectives were:

1. To examine present and future occupational opportunities and needs in San Joaquin County;
2. To inventory existing vocational education programs and facilities;
3. To assess the attitudes and opinions toward vocational education of students, counselors, educational administrators, and employers; and
4. To recommend a program for strengthening vocational education in San Joaquin County.

Conduct of the Study

The study was conducted as follows: An extensive literature search was made, resulting in the creation of a special reference library. Activities in the field were closely and continuously coordinated with the Vocational Education Project Committee through its chairman, Joseph Acosta. Numerous meetings were held with the VEP Committee as a whole and with individual members to obtain their suggestions, guidance, and information.

The VEP Committee organized separate subcommittees in the areas of agriculture, business, distribution, industry, and services for the purpose of providing additional input and guidance for the study. Interviews were conducted at every high school in the county and in the Stockton Unified School District with directors of guidance, consultants in business education and homemaking education, and assistant superintendents. The most recent high school accreditation reports were also reviewed.

The president and other key personnel at San Joaquin Delta College were interviewed in depth, and their responses were supplemented by the college's current accreditation report and by other documents. Special, carefully constructed questionnaires were distributed to all senior high school and junior college counselors and separate questionnaires were given to all public high school seniors and Schneider Vocational School students, and to technical-vocational education students at San Joaquin Delta College; the percentage of return from both sets of questionnaires was high.

Finally, more than 100 persons were interviewed throughout the county, representing employers, employer associations, labor unions, and other organizations knowledgeable about the local labor market. The result of all these efforts provided the raw information used in formulating the final study report.

Findings of the Study

An abstract of Section II of the final study report, "Summary, Conclusions, and Proposed Plan of Action," is given below:

Counselors, educational administrators, and employer representatives were agreed that the county's vocational education program should be substantially enlarged and improved. It was established that the county's economy exhibited a high and persistent rate of unemployment, relatively low income levels, and a tendency for young males entering the labor force to leave the county in search of work.

As for employment trends by industry, agricultural employment was found to be in a steady decline, although this was offset by some recent expansion of employment in manufacturing, and by a spurt, possibly temporary, in contract construction. The economy was found to be in transition to a service economy, but automation was seen to be making significant inroads in employment in this field.

As for occupational trends, the information available at the time of the survey was inadequate in terms of both extent and currency. Such data as were available (principally the 1960 Census) verified that:

-- Service industry employment gains exceeded other fields slightly.

-- Employment in sales occupations was only some 7 percent of the work force.

-- Clerical and related occupations were increasing at an extremely rapid rate.

-- Professional and technical occupation opportunities had doubled between 1950 and 1960 but were still at the very low level of fewer than 3 percent.

-- Skilled trade and craft opportunities were increasing but at a very low rate, and with actual declines in certain fields.

-- Jobs for equipment operators increased at a better than average rate during 1950-1960, but some unemployment was experienced near the end of the decade.

-- Jobs in agriculture and related industries were sharply in decline.

Upon assessing the status of vocational education in the county, it was established that all county high schools offered some vocational education but were comprehensive, with the exception of Schneider Vocational School in Stockton. Programs for adult and continuing education were found to be limited in number and in scope. It was determined that the largest single source of vocational education in the county was San Joaquin Delta College. A fundamental lack of coordination and articulation of vocational education programs among the various institutions and between the various levels was clearly revealed by the study.

A Proposed Plan of Action

Having established the status of the matter, the consultant submitted a proposed plan of action, incorporating the following elements:

1. Appointment of a countywide vocational education coordinating and steering committee composed of representatives from each high school and unified district, San Joaquin Delta College, the State Department of Employment, and the County Superintendent of Schools Office.

2. Development of a master plan (embracing participation by organizations within the schools and within the community at large) to establish specific goals and objectives, and to organize, execute, and evaluate suitable programs; designation of "master vocational counselors" at each school, with a strengthened counseling leadership role by the county superintendent; planning of non-credit courses and short courses in pertinent occupational areas; continuing collection and analysis of occupational information in order to develop suitable programs.

3. Designation of facilities and equipment required to provide both an immediate and a long-range vocational education program suited to the needs of the county.

4. Recommendations for immediate action by local districts, including such matters as establishing closer liaison with local employers; creating or expanding work-experience programs; making greater use of community resources; developing pre-technology programs articulated with San Joaquin Delta College offerings; updating knowledge of counseling and guidance personnel; improving the image of vocational education; planning for use of funds under the Vocational Education Act of 1963; exploring interdistrict agreements for specific programs; studying methods for improving continuing education; and participation in countywide activities such as workshops and career days.

These, then, were the highlights of the study report which constituted the principal result of Phase I of the project.

IV planning for implementation

Phase II began with the Powerhouse Action Conference

SECTION IV

PLANNING FOR IMPLEMENTATION

Introduction

This year was devoted to careful, intensive organization followed by a vigorous effort to determine the feeling of the county community about a vocational education program and how best to organize, administer, and finance such a program. As the balance of this report will indicate, these objectives were substantially achieved.

The Powerhouse Action Conference

Phase II of the project essentially began October 29, 1965. On that day, a meeting of the Vocational Education Project Committee (called by County Superintendent Gaylord A. Nelson) was held at the PG&E Powerhouse on Tiger Creek. In attendance were 25 persons, district superintendents and boards of trustees members representing each of the county's high school districts and San Joaquin Delta College, the County Superintendent of Schools Office, the Stockton office of the California State Department of Employment, the Center for Technological Education (San Francisco State College), and Pacific Research Center, Inc. (project consultant as corporate successor to George Ebey Associates). A complete roster of attendance at the Powerhouse Action Conference appears as Appendix A of this report.

Opening the conference, Dr. George Ebey, president, Pacific Research Center, Inc., made an extensive presentation of the methodology and findings in the Phase I study report, Strengthening Vocational Education in San Joaquin County. (A summary appears as Section III of the present report.) Having completed his presentation, Dr. Ebey charged the conference with reviewing the report for the purpose of further developing the proposed plan of action, keeping in mind pertinent legislation and developments which might have occurred after the report had been drafted. The conference was thereupon divided into four study groups, chaired

respectively by Wilbur B. Salmon, San Joaquin Delta College; C. C. Wirtz, Lodi Union High School District; Arthur Becker, Stockton Unified School District; and Dr. George Champion, Center for Technological Education.

Findings of the Powerhouse Action Conference

Details of the several group study reports may be found in the minutes of the Powerhouse Action Conference. Major points emerged which defined the central issues of the year's activities. These were:

-- An assertion that central planning and direction is essential, combined with the suggestion that the county superintendent of schools is the most obvious source of leadership.

-- An urgent awareness of the importance of counseling in vocational education, and of the general inadequacy of existing counseling programs.

-- A pronounced uncertainty as to the precise pattern of organization to be pursued, means for financing the program, and determining the nature and geographic distribution of the curriculums to be offered.

Recommendations of the PAC

In general, the VEP Committee enthusiastically endorsed the study findings, and made the following major recommendations:

1. that the VEP Committee be reconstituted as the Implementation Committee recommended in the study report, but now to consist of all district superintendents in the county, including the junior college district; Joseph Acosta, representing the county superintendent's office; a representative from the Center for Technological Education; and a representative from the project consultant, Pacific Research Center, Inc. Further, it was recommended that this committee be chaired by Mr. Acosta.

2. that the Advisory Committee recommended in the study report also be appointed, to consist of representatives from business and industry, labor, government, the professions, and education-oriented civic organizations. Further, it was recommended that

Mr. Acosta be named secretary of this group in order to maintain adequate communication and coordination between the two committees. (The Powerhouse Action Conference foresaw that direct responsibility for organizing the new vocational education program would reside in the Implementation Committee, while the Advisory Committee would represent the sense of the county community before the Implementation Committee. In practice, this has proved to be the case, with the Implementation Committee posing a continuing series of questions to the Advisory Committee; that committee considers these at length and gives the product of its deliberations to the Implementation Committee.)

3. that the offer of the Center for Technological Education to assist in defining and planning new curriculums be accepted.

In retrospect, the Powerhouse Action Conference is regarded as a watershed in the history of the project because it afforded formal community recognition of the dimensions of the vocational education problem in the county, as well as a commitment by the community to respond comprehensively to the challenges which that problem represents.

Community Communication Efforts

Throughout this project, it has been recognized by all parties concerned that comprehension by and active support of the community is essential to success. It was to achieve this community understanding and involvement that the VEP Committee was organized. It was to the same end that the Powerhouse Action Conference was held as Phase II of the project was inaugurated.

Immediately following that conference, it was acknowledged that the findings of the study report and the recommendations of the Powerhouse Action Conference must be conveyed to the community. A successful effort was made to insure that the study and the conference were adequately reported by the local press; a radio program on this same subject also was broadcast.

Telecast on KOVR

Perhaps the single most important communication project in the early part of Phase II, however, was a television broadcast made on Station KOVR on December 19, 1965. This 30-minute program consisted of a panel presentation by Dr. Gaylord A. Nelson, Dr. George W. Ebey, and Raymond M. Jansen, superintendent, Lodi Union High School District. The findings of the study were summarized by Dr. Ebey, and there followed a discussion of the report's significance for the county by members of the panel. Concluding the program, two students from Lodi Union High School, Mary Anna Tuma and Carter Bryant Dow, posed questions to the panel as to the significance of the project to their futures.

A Documentary Film

Perceiving that the broadcast quickly and effectively conveyed a summary of the project to date in terms of general understanding, Mr. Acosta arranged to have the video tape of the program copied on to 16 mm. sound film. Subsequently, he has presented this film to a variety of groups and organizations throughout the county and at a vocational guidance workshop held at California State Polytechnic College at San Luis Obispo.

To the same end of informing the general community, copies of the complete final study report were distributed to every member of the Implementation and Advisory committees, to public agencies and offices, and to a number of other key persons as well. A brief summary of the highlights of the study was also prepared as a pamphlet, and several hundred of these have been distributed.

These communicative activities have been further supplemented by speeches to various community audiences in the county from the beginning of Phase II to the present, principally by Mr. Acosta, but also by Dr. Nelson, Dr. Ebey, and other speakers.

Outside Interest

While not bearing directly on the county's internal problems, it is also indicative of the project's importance that a considerable amount of interest has been elicited from outside the county. Copies of the

Speakers at the spring symposium at San Joaquin Delta College included (l. to r.): Wesley P. Smith, State Director of Vocational Education; Dr. Julio L. Bortolazzo, President, College of San Mateo; Dr. George W. Ebey, President, Pacific Research Center, Inc.; Eric Biedermann, Best Fertilizer Company; Joseph Acosta, San Joaquin County Schools Vocational Education Coordinator; and Professor Robert Craig, San Francisco State College.

complete report, for example, have been sent upon request to points as distant as Washington, D. C., and Honolulu, Hawaii. The filmed discussion of the project, with additional remarks by Dr. Ebey, was presented to the California Junior College Association Research and Development Conference at Asilomar, California, during the weekend of March 10-12, where considerable interest was expressed. The film was shown again, and discussed by a panel of vocational and technical educators on March 14 at the National Convention of the Association for Supervision and Curriculum Development, meeting in San Francisco. The film was also viewed at a meeting of the Contra Costa County vocational education organization.

The meetings of the Implementation and Advisory committees, the particulars of which are presented in subsequent paragraphs, increased community understanding about the project. Teacher and counselor workshops, to be described later, also served this end.

The Occupational Education Symposium

Perhaps the most elaborate and certainly the most recent communicative activity, culminating this phase of the project, was the Occupational (Vocational) Education Symposium held at San Joaquin Delta College on May 23, 1966. The three-hour evening program was attended by residents from throughout the county. Addresses on the status of vocational education generally and the San Joaquin County project specifically were made by:

Dr. Gaylord A. Nelson, San Joaquin County Superintendent of Schools
Wesley P. Smith, Director of Vocational Education, California State Department of Education
Dr. Julio L. Bortolazzo, President and Superintendent, San Mateo Junior College District, College of San Mateo
Dr. George W. Ebey, President, Pacific Research Center, Inc.
Robert C. Craig, Associate Professor, San Francisco State College
Eric B. Biedermann, Personnel Manager, Best Fertilizer Company
Joseph Acosta, Vocational Education Coordinator, San Joaquin County Schools

On display were exhibits describing the San Joaquin County project, typical interdisciplinary programs aided by the Center for Technological Education, and the San Joaquin County Schools Occupational Guidance Center. Of special interest--and a productive feature--was a question-

and-answer session between the panel members and the audience. It was felt by those concerned that the symposium succeeded in registering the existence and significance of the project upon citizens and educators at both the county and state levels.

In summary, Phase II communication activities emphasized that support for an ongoing program and initiative for making extensions or revisions in it must emerge directly from the groups and individuals to be served by the program.

The Implementation Committee

Pursuant to one of the recommendations made by the Powerhouse Action Conference, an Implementation Committee was quickly organized and held its first meeting November 17, 1965, some two weeks after the conference. A complete roster of the Implementation Committee membership appears as a foresection to this report.

Meeting frequently during the course of the year, the Implementation Committee through its deliberations has become the principal instrumentality through which the initial general desire to "do something" has crystallized into a direct confrontation of the many stubborn, complex problems involved in the actual establishment of a satisfactory new program for vocational education in the county. In historical sequence, the committee has considered organization and management of the project, counseling, workshops, the master plan, and, most recently, the physical, financial, and institutional arrangements for the program.

Advisory Committee Recommended

At its very first meeting, the Implementation Committee acted upon a second recommendation of the Powerhouse Action Conference, namely, the establishment of an advisory committee. It was agreed that such a committee was required, and that it should represent every element in the community as a whole, including business, agriculture, industry, the labor and trade apprenticeship councils, government, professional groups (including teacher and counselor organizations), civic groups (such as the PTA, AAUW, BPW, and the Chamber of Commerce), and perhaps students as well. The Implementation Committee solicited suggestions and nomina-

tions for the advisory committee. Ultimately, acting in accordance with the Powerhouse recommendation and the wishes of the Implementation Committee, Dr. Nelson appointed the County-wide Advisory Committee.

The suggestions and active assistance of Implementation Committee members were also of instrumental importance in communicating with the total community about the project.

Counseling Problems

The need to improve counseling efforts which had been expressed so generally and strongly by the Powerhouse Action Conference was an early, and is a continuing, concern of the Implementation Committee. It was this concern which ultimately led to the successful countywide counselor workshop, organized at the initiative of the Implementation Committee. It will be well, however, to touch briefly on the Implementation Committee's own deliberations of the matter, especially as voiced in its meeting of December 7, 1965.

After having heard a report from the project consultant on a November 23rd meeting of the principals, vice principals, and counselors, the committee made an extensive review of the whole subject of counseling. It recommended additional use of career centers, such as the one then scheduled for March 14-18, 1966 by the County Office of Education. The committee also approved the ideas of occupational materials centers in local schools, pertinent field trips, career day programs, and an effort to counsel parents and faculty members as well as students.

To the end of furthering the professional development of counselors, the committee went on record as approving the inclusion of courses in vocational education and vocational counseling in university curriculums for counselors; released time for counselors to assist in vocational curriculum development; encouraging counselors to use student self-assessment techniques, to make more direct observation of career fields, and to conduct more group counseling programs; helping counselors to identify new career fields and to make available to students occupational information pertinent to their field of interest; development of pilot programs; and, in general, endorsing any effort to give effective counseling assistance to all students, not merely the 60 percent of the

student body counseled in typical existing programs. It was the committee's consensus that more time, money, effort, and materials were needed by counselors in order to provide them with the qualifications and, more importantly, the high motivation required for effective performance.

FEAST Trip

Responding to the desire of the committee to monitor innovative vocational education programs elsewhere, a one-day field trip for the Implementation Committee was arranged through the joint efforts of the Center for Technological Education and Pacific Research Center, Inc. On March 21, 1966, FEAST (Food Education and Service Technology) and pre-technological programs in operation were visited at Oakland Technical High School and at Pacific High School in San Leandro. A description of the FEAST program at the junior college level was also given during a visit to City College of San Francisco, and a description of the D-A-I (Design-Art-Industry) program at San Francisco State College concluded the trip.

The Master Plan

The Implementation Committee has performed what is perhaps its most strategic activity in developing the master plan for the program. In evolving this plan, the committee identified and then contended with the issues constituting the principal barriers to establishment of an actual program.

These issues included: determining which occupational areas should be included in the program and for what reason; finding a philosophy and plan which could effectively encompass the varying resources, problems, and desires of the several and dissimilar districts to be served; recognition of the need for central direction and coordination impeded by a certain reluctance to relinquish local administrative or financial prerogatives; and definition of the role of San Joaquin Delta College. In identifying and seeking to resolve these issues, the Implementation Committee--with the able assistance of the County-wide Advisory Committee--has performed an admirable community service and has set the pace for every activity reported here.

The County-wide Advisory Committee

Advisory committees perform a function which may be either frustrating and disorganizing or releasing and creative, depending purely on their leadership and attitudes. These characteristics stem directly from the function of such a committee, which is to advise without having the authority to see that its advice is acted upon. San Joaquin County, in its County-wide Occupational Education Advisory Committee, has been extremely fortunate, therefore, in having a committee which has accepted the constructive challenge of its role, under the leadership of its chairman, Eric Biedermann, personnel director, Best Fertilizer Company. The committee quickly evolved from a loose-knit group, well-intentioned but uncertain how best it might serve the project, into a puissant forum which has consistenly stimulated enthusiastic participation by members representing every segment of the community. A roster of the committee's membership appears in the front of this report.

Coming into existence in February 1966, the committee accepted its charge from Joseph Acosta, representing County Superintendent Nelson, and proceeded to organize. Mr. Biedermann was elected chairman of the committee at its first meeting, and Mr. Acosta was appointed secretary, in accordance with the Powerhouse Action Conference recommendation that he serve on both the Implementation and Advisory committees in order to effect the most efficient cooperation between them. The committee early established that it would function by replying to questions posed by the Implementation Committee.

This decision was reached after the February meeting at which the committee examined the first working draft of the master plan for vocational education, as submitted by Pacific Research Center, Inc. The committee made comments on the plan, but felt that its actual development should be a function of the Implementation Committee. Responding to that action, the Implementation Committee then tendered a list of questions to the County-wide Advisory Committee, which were studied at its March 15th meeting. Questions included:

-- How can we obtain occupational information as to the needs and trends for the county, state, and nation?

-- How can we conduct surveys to get occupational information in the county?

-- How can we identify, collect, organize, reproduce, disseminate, and continuously update resource material for the programs?

-- How can we keep the community informed about the purpose, plans, effectiveness, and problems of the program?

-- How can the community give the project service?

The County-wide Advisory Committee made substantive and constructive replies to such questions in its meetings. Details are given in the committee's meeting minutes. The principal matters considered by the committee are reported below.

Occupational Trends

The committee recognized that the rate of change in the economy makes it essential for occupational education to be responsive to occupational trends. It was further pointed out that the geographic mobility of the county's work force makes it important that opportunities for future employment outside as well as inside the county must be taken into account in revising occupational education programs. At the same time, it was realized that a program which requires local support clearly must place primary emphasis on local manpower requirements.

Occupational Information

The committee devoted substantial time to identifying sources of information related to occupational trends, and to considering how such data could best be integrated and made available to the community. While information was obtained about such sources and suggestions were made for organizing such data, the committee was unable to make a definitive statement on this matter.

Mr. Acosta, however, expressed the desire to formulate a suitable proposal. Since it was acknowledged that more information and guidance were required, he is making a field trip this summer to parallel projects in Southern California, including San Diego. It is expected that a proposal for development of an occupational information program and/or

facility will be forthcoming within the next year.

Occupational Education Standards

In the course of its meetings, the County-wide Advisory Committee found itself considering the question of quality and standards in occupational education. The consensus appeared to be that, since occupational education requirements have increased substantially during the last several years, the once-prevalent attitude of using vocational education programs as a "dumping ground" for students unable to pursue academic programs could no longer be tolerated. Such a practice was deemed unfair both to those students who can profit from such a program and to those forced into it even though prospects of success are dim.

At the same time, it was recognized that the county's educational system must provide for all students. It was pointed out that the community is unlikely to support improved occupational education standards if no provision is made for students who can benefit neither from academic curriculums nor strengthened occupational education programs.

Initiation of Occupational Education

The committee considered the question of when in the curriculum occupational concepts should be introduced. One of the members maintained that occupational education should be an integral part of every student's career from elementary school until entry into gainful employment, and the committee recognized the pertinence of this point. At the same time, it was recognized that there is a trend toward delaying specific, specialized occupational training until immediately before placement. A related point (actually introduced by Dr. George Champion at the Powerhouse Action Conference some months earlier) was that education for gainful employment can be made successfully at any academic level, depending upon the sophistication of the skill for which the education is offered.

While the committee reached no formal conclusion, the apparent consensus was that exposure to the working world should be made as early and as continuously as possible, but that advanced training--especially that requiring extensive capital equipment--should be deferred to the

secondary or junior college level as much because of the expenditures involved as to insure the currency of the skills of those entering the work force.

Occupational Counseling

The committee reaffirmed the opinion that current counseling programs in San Joaquin County were inadequate but it was unable to offer a satisfactory solution to the problem. The national concern about and inability to deal with this problem was noted.

One committee member's suggestion does deserve special mention. He proposed that regular public appearances by representatives of the numerous professions and trades be organized. He further suggested that such appearances could be scheduled and advertised on an annual basis and might well be held in public libraries. If this plan were followed, students and parents interested in a given occupation would have direct and convenient access to responsible persons working in that occupation.

In the course of its meetings, the committee also touched on most of the general issues in occupational education; those mentioned briefly above, however, were among the outstanding matters investigated, and suggest the tenor of the committee's contribution to the project. The County-wide Advisory Committee is fulfilling its mission of seeking to determine and to communicate the community's wishes and opinions about occupational education in the county.

Interdisciplinary Teacher Workshop

Following through on a commitment made at the Powerhouse Action Conference, the Center for Technological Education, San Francisco State College, conducted an interdisciplinary workshop for San Joaquin County teachers during the spring semester, 1966. The Center originated the interdisciplinary approach to technological education and is currently working with more than 20 programs at the secondary and junior college levels.

The workshop, which was given for academic credit through the extension division of San Francisco State College, was taken on that

basis by 45 teachers and audited by 9 more for a total attendance of 54 persons, comprising interdisciplinary teams from Escalon, Linden, Manteca, Tracy, and Lincoln districts, and from Franklin and Stagg high schools in Stockton. Instructors for the workshop were Robert Craig, associate professor of education at San Francisco State College and consultant coordinator of the Center for Technological Education; and Winston Howe, team participant in the original pre-technological program at De Anza High School in Richmond several years ago, and presently head of the industrial arts department there.

Objectives of the teacher workshop were as follows:

1. To convey the history and philosophy of other pre-technological education programs now in operation in the Bay Area.
2. To review and outline procedures for curriculum writing.
3. To give teachers an opportunity to work together in interdisciplinary teams in developing programs which would best meet the needs of their respective schools.

Teacher teams were organized during the initial meeting held February 10th at the San Joaquin County Instructional Materials Center. The teams met weekly in their respective districts. The second general meeting on April 14th was conducted by Dr. Robert Weisgarber, director of the audio-visual center at San Francisco State College. He discussed interdisciplinary use of media and materials; this made it possible to develop instructional materials as the various curriculums were being written. The weekly workshop meetings then continued through April and May, concluding with the general community symposium held at San Joaquin Delta College on May 23rd.

New Programs Planned

The result of this workshop was a set of program guides for new curriculums in occupational education to be introduced this fall. Curriculums have been confirmed and students selected for new programs at Tracy, Manteca, and Lincoln, and at Franklin High School in Stockton. The program areas are:

1. Linden: Modern farm engineering, agricultural science, and mathematics for a rural school.

2. Manteca: Pre-engineering technology.

3. Lincoln: Pre-engineering technology.

4. Stockton:

   Franklin High School: Electronic technology.
   Stagg High School: In progress.

5. Tracy:

   Senior Elementary School: Electronic technology.
   Union High School: Automotive technology.

6. Escalon: In progress.

Professor Craig reported that, while some teams made more progress than others, much has been done overall to change the pattern of program development. At the request of the participants in this year's workshop, the Center for Technological Education has recommended a second workshop for 1966-67, and it is expected that this workshop will indeed be held.

Counselor Workshop

Responding to the expressed need for a fresh approach to vocational counseling, the County Superintendent of Schools Office, with the assistance of Pacific Research Center, Inc. and the Center for Technological Education, conducted a workshop for counselors and educational administrators responsible for counseling activities. At the first meeting held December 6, 1965, specific details of requirements for improving counseling efforts were deliberated. A brief summary of the group's findings follows:

Generally speaking, more of everything is needed:

-- time for counseling.

-- money for acquisition of resources.

-- collection of vocational education materials in a suitable form.

-- and, most of all, support and encouragement by the community and by school administrators for counseling programs.

Counselors should be given released time to:

Participate in guidance centers.

Develop occupational literature files and lists of resource persons.

Become familiar with the goals and interests of individual students.

Conduct research.

Make professional visits to employers.

Conduct group counseling.

Improve their general professional skills and knowledge about the changing world of work.

As for the students, they and their parents need easy access to a comprehensive, constantly updated occupational information center. They need the opportunity to visit on the job in fields of occupational interest, and to talk with individuals working in those fields. Student contact with counselors should begin in the ninth year at the latest, and preferably before then. There should be sufficient opportunities for students to be counseled in the company of their parents. There should be counseling for all students, including adults, not only for the top 60 percent of the student body.

At the suggestion of the project consultant, and with the financial assistance of the Center for Technological Education, Dr. H. Bonner McDaniel of Stanford University, noted national authority in educational counseling, met with the counselors on two separate occasions. Dr. McDaniel stressed acceptance of the student as a person in order to build self-respect and self-confidence. He emphasized the importance of cumulative data for counseling, as well as a systematic gathering of information on occupational alternatives. He asserted that helping students make tentative occupational decisions is extremely valuable, as are efforts to localize current information on employment opportunities.

He also mentioned the importance of early and continuous involvement of the student in counseling, with parents, community leaders, and educators all playing active roles. Dr. McDaniel made available a variety of professional materials relating to counseling.

Counseling Evaluation Checklist

As a result of the counselor workshop, a comprehensive booklet and checklist for evaluation of counseling programs especially designed for San Joaquin County schools was developed for distribution in the fall of 1966. The document, Appraising the Adequacy of the School's Vocational Guidance Program, is reproduced as Appendix B of this report. It was the joint product of the San Joaquin County Superintendent of Schools Office, the State Department of Vocational Education, the State Department of Employment, the San Joaquin County high school districts, San Joaquin Delta College, San Francisco State College Center for Technological Education, and Pacific Research Center, Inc. It is considered that this document will be of great value in defining the needs of counseling programs in the county as a preliminary to proposing corrective action.

Counseling Proposal Development

In parallel with the counselor workshop, the Center for Technological Education, represented by its assistant director, Anthony Maniscalco, has been working with a small group of counselors and administrators in the county to develop a proposal for serving, analyzing, predicting, and improving countywide communication among schools and industry with respect to occupational information, placement, and general liaison. As of the date of this report, a proposed statement of objectives for the project has been formulated and is under consideration.

Occupational Information Center

As has been mentioned, Joseph Acosta, of the County Superintendent of Schools Office, is pursuing the indicated need for an occupational information center. Having studied the matter, he has made preliminary explorations in cooperation with Pacific Research Center, Inc.; he is

making a field trip this summer to experimental projects in San Diego and other Southern California counties prior to writing a comprehensive proposal.

Occupational Guidance Center

One of the most important accomplishments of the year was made under the direction of Leonard Beeman, County Coordinator of Secondary Education, with the close cooperation of Donald E. Cerqui, Diamond Walnut Growers, Inc., who served as co-director. This was the First San Joaquin County Occupational Guidance Center, held at the county fairground March 14-17, 1966. Formal planning for the center began as long ago as 1964 when George Cornwell, Pacific Gas & Electric Company, Stockton, and president of the San Joaquin County Industry-Education Council, suggested such a project to Dr. Nelson and to A. L. Buffington, general manager, Diamond Walnut Growers, Inc.

After a visit to the highly successful Occupational Guidance Center in San Mateo County, a local survey revealed strong endorsement by representatives from labor, industry, business, and education for the institution of such a program in San Joaquin County. This led to formation of a countywide steering committee and ultimately to the guidance center, funded by the County Superintendent of Schools Office with money made available under Title V-A of the National Defense Education Act, as well as by contributions from the San Joaquin County Board of Supervisors and numerous organizations and service clubs throughout the county.

Basically, the center is a means of bringing secondary school students into brief but direct contact with actual representatives from a variety of occupations in a setting where information is effectively conveyed through formal presentations and question-answer sessions. A roster of the Advisory-Steering Committee for the center appears as Appendix C of this report.

Scope of the Occupational Guidance Center

The center was attended by 4,950 students from 16 county schools, including Bidwell, Edison, Escalon, Franklin, John Sutter, Lincoln,

Linden, Lodi, Manteca, Ripon, Ripon Christian, St. Mary's, Schneider Vocational, Stagg, Tracy, and Stockton Unified School District Continuation. Giving information to the students attending the center were 102 consultants from 43 occupational areas including agriculture, forestry, finance, insurance and real estate, advertising, electrical engineering, electronic engineering, civil and aeronautical engineering, fine arts, medicine, dentistry, pharmacy, veterinary science, laboratory and chemical technician, medical assisting, nursing, U. S. Army and Air Force, U. S. Navy and Marines, missiles technology, secretarial services, data processing, biology, journalism, law enforcement, legal professions, library science, religion, psychology and sociology careers, teaching, telephone careers, airline hostess, airline pilot, air traffic agent, architecture and interior decorating, cosmetology, home economy and fashion designing, automotive technology, carpentry, electricity, electronics, operating engineering, culinary arts and meat cutting, purchasing, and apprenticeship.

Evaluation reports on the center were submitted by the students, teachers and counselors, industrial consultants, and by the center's co-directors. Enthusiasm for the center was widespread and a number of suggestions were made for enlarging and strengthening the program in future years. It is anticipated that the Occupational Guidance Center will become an annual institution in San Joaquin County and that it will fill a gap that has long been felt. While, as Dr. Nelson has said, "A one-shot program is not a cure-all," it is a step in the right direction and possibly a focal point for stimulating guidance by the home, the school, and the business community. It is to be presumed that those who cooperated in conducting the center gained at least as much in understanding and communicating with each other as was gained by the students for whom the center was intended.

The Master Plan for Occupational Education in San Joaquin County

One of the major recommendations of the Powerhouse Action Conference was that a master plan for occupational education in the county be developed. In the ensuing year, continuing thought and discussion were devoted to this top-priority subject. A first working draft of such a

plan was developed by the project consultant and presented in February for study and exploration by the County-wide Advisory and Implementation committees. Consideration of this draft plan revealed substantial issues which have not yet been but which must be resolved before an effective countywide program can be established. These include determining the pattern of leadership, agreeing upon the physical and organizational setting, devising a feasible financial plan, and distributing responsibility in such a way as to maximize effective cooperation and coordination while maintaining local control of students and programs.

Central Issues of the Master Plan

Out of the master plan deliberations, several central issues emerged. These were: What is to be the role of San Joaquin Delta College in occupational education for high school students in the county? Shall the voters be asked to approve a tax under the provisions of Senate Bill 930 for the purpose of supporting a new occupational education program? Precisely how could such a tax legally be used? How could it equitably be used to satisfy the differing needs of the small and large school districts?

Role of San Joaquin Delta College. The role of San Joaquin Delta College in the program now seems to have been somewhat clarified. The minutes of the June 2nd meeting of the college administrative council contained the following statement:

> A motion was made by Mr. McNeilly, seconded by Dr. Holton, that the council give an expression of their attitude concerning the inclusion of high school students, namely: that if the need is present and financial and other arrangements can be worked out, the council endorses the idea of accommodating high school students in the technical classes.

This motion was reported to and discussed by the County-wide Advisory Committee at its last meeting of the year on June 7, 1966. It was pointed out that the resolution expresses the consensus of the administrative council only, and has not yet been acted upon by the junior college board. The committee concluded that the resolution should be construed to encompass accomodation for high school students in all technical division classes at the college. The committee passed a reso-

lution endorsing the council's action and forwarded it to the San Joaquin Delta College Board of Trustees.

While the junior college administrative council's action is only a beginning, it is significant. As one member of the County-wide Advisory Committee remarked, "Finally, we have someone who says, 'We will accept high school students'". The issue was further complicated by the defeat of construction bonds for the new San Joaquin Delta College campuses in the June 1966 election.

Taxation Considerations. Another complex matter is the issue of taxes authorized under Senate Bill 930. This bill provides that a tax assessment of no more than ten cents per $100 assessed property valuation can be levied for the purpose of establishing regional occupational centers for all or part of a county, including a maximum of five cents taxation for capital outlays. Unfortunately, no final legal interpretation has been made as to whether part of the tax can be used only for planning a new physical facility or, alternatively, whether a part of the tax may be used to plan for new programs and equipment in existing facilities. In this uncertain situation, some school districts have been understandably reluctant to endorse the tax proposal, especially smaller districts in the outlying regions of the county.

Possible Alternatives

These issues were confronted squarely by the Implementation Committee at its last meeting of the school year on May 31, 1966. Four alternative courses for action were proposed:

1. Interdistrict agreements among the high schools
2. All programs organized and directed through San Joaquin Delta College
3. Comprehensive programs in the high schools
4. No action of any kind

After prolonged deliberation, the committee decided that the project consultant should make specific recommendations for consideration and action by a second Powerhouse Action Conference, now scheduled for

October 7-8, 1966. It is intended that this conference will decide on the precise action to be pursued in establishing the countywide occupational education program and that the consensus of the conference will be upheld by all parties.

Pursuant to this decision, the project consultant staff conducted a series of interviews with school district administrators throughout the county in order to develop a constructive, reasonable proposal on which to base a pilot program. Additionally, using the responses made by the County-wide Advisory and Implementation committees to the first working draft of the master plan, PRC is preparing a revised draft of the master plan. Work is well-advanced on this second draft, and it is believed that an acceptable master plan for occupational education in San Joaquin County will be forthcoming shortly.

V conclusion

SECTION V

CONCLUSION

"If you think you have troubles, wait until you hear about mine." Like all cliches, this expresses a prevalent truth in human affairs and one most pertinent to San Joaquin County's occupational education project.

No one associated with the project is satisfied. No one is complacent about the progress which has been made so far. Everyone is troubled as he comes to grips with the situation. The consensus to resolve the financial and organizational issues has not yet been completed. San Joaquin Delta College faces delays in building its new campuses just as the college has indicated its willingness to take part in an occupational education program. In view of these facts, what has been accomplished?

Two years after the study was first suggested, the project exists, is in force, and its momentum is growing. Membership on the Implementation and County-wide Advisory Committees is stable, and the members are vigorously engaged in executing their responsibilities. A member of the San Joaquin Delta College Board of Trustees has joined the County-wide Advisory Committee. A county supervisor has evidenced interest in the work of that committee and his desire to attend its meetings. Individual school district superintendents have made known their disposition in principle to make new interdistrict agreements.

The Ford Foundation, through the Center for Technological Education, has indicated its awareness of the project and an appreciation of its importance. The California State Department of Vocational Education is assigning a representative to the Implementation Committee, participated in the spring community symposium, and has shown a willingness at the highest level to maintain its interest in the project. Individuals in other counties and states have requested information on developments in the program. Business and community leaders are increasingly involved,

as witness the scores who made extensive contributions of time and effort to the Occupational Guidance Center.

As was the case two years ago, San Joaquin County (along with many others) remains caught up in the sweep of technological and economic change. The cost of all forms of education--perhaps occupational education especially because of its necessarily great investment in equipment--is increasing steadily. The discrepancy between the number of students to be taught and the number of teachers available to teach them is greater now by a significant amount than it was in 1964. Further, looking around the nation, and particularly around California, there is apparently no "magic wand" by means of which the complex problems in this field can be dispelled with a single stroke. Rather, there is ample evidence that many communities have been unable even to begin examining their requirements.

All this is not to say that San Joaquin County should be complacent. While the problems of occupational education most certainly will remain with us, creative and practical solutions are certain only if imagination is supported by a vigorous effort and by the conviction that solutions can be found. Solutions to any human problem are found in the resources, capacity, and will of the people involved. When one examines the persistence, the vigor, and the imagination with which the people of San Joaquin County are attacking the problems of occupational education, the prospect is excellent. The campaign has been mounted, it is being continued, and important milestones already have been passed. Other important ones lie directly ahead, such as the second Powerhouse Action Conference. The most reasonable forecast, therefore, is that the program this year can be expected to yield rich dividends from the great investment of effort which has been made by every element in the community throughout the course of the project.

appendixes

appendix a
powerhouse action conference roster

APPENDIX A

POWERHOUSE ACTION CONFERENCE ROSTER
October 29, 1965

Joseph Acosta
Vocational Education Coordinator
San Joaquin County Schools

E. T. Barnett
Director, Technical and Vocational Center
San Joaquin Delta College

Arthur Becker
Assistant Superintendent
Stockton Unified School District

Leonard M. Beeman
Secondary Education Coordinator
San Joaquin County Schools

Dr. Burke Bradley
President
San Joaquin Delta College

Dr. George Champion
Director
Center for Technological Education

Albert E. Culhane
Board of Trustees
Lincoln Unified School District

Dr. George W. Ebey
President
Pacific Research Center, Inc.

John A. Erb
Board of Trustees
Tracy Joint Union High School District

Edward Fatzer
Dean of Instruction
Manteca Unified School District

James R. French
District Superintendent
Tracy Joint Union High School District

Peter Gaines
Board of Trustees
Stockton Unified School District

Willard T. Hancock
District Superintendent
Lincoln Unified School District

John W. Hawkins
Administrative Assistant
Escalon Union High School District

J. Hamilton Hodgson
Associate Superintendent
San Joaquin County Schools

Walter Hogan
Board of Trustees
Escalon Union High School District

Raymond M. Jansen
District Superintendent
Lodi Union High School District

Edward J. Marugliano
Board of Trustees
Linden Union High School District

Jack L. Molini
District Superintendent
Linden Union High School District

Dr. Gaylord A. Nelson
Superintendent of Schools
San Joaquin County

Wilbur B. Salmon
Board of Trustees
San Joaquin Delta College

George W. Schmiedt
Board of Trustees
Lodi Unified School District

John L. Strangman
Principal
Schneider Vocational School

Edward Watson
Stockton Office
State Department of Employment

C. C. Wirtz
Board of Trustees
San Joaquin Delta College

appendix b
occupational guidance checklist

APPENDIX B

APPRAISING THE ADEQUACY OF THE SCHOOL'S VOCATIONAL GUIDANCE PROGRAM BY ADMINISTRATORS, COUNSELORS, STUDENTS, FACULTY

Developed as part of the Vocational Education Project

A joint effort of the County Superintendent of Schools Office, State Department of Vocational Education, State Department of Employment, San Joaquin County High School Districts, San Joaquin Delta College, San Francisco State College Center for Technological Education, and Pacific Research Center, Inc.

This document provides a series of critical questions pertaining to the various elements of an effective vocational guidance program. This appraisal guide may be used either for the purpose of self-study by a school group or with the added objectivity of an outside consultant or committee. This work group from the San Joaquin County Schools suggests that the school that has an adequate program can answer yes to all of these questions. Questions which cannot be thus positively answered represent areas which need further development.

Dr. Gaylord A. Nelson
Superintendent
San Joaquin County Schools
June, 1966

INSTRUCTIONS

This booklet was developed to be used as a check list for appraising the adequacy of the school's vocational guidance program.

This booklet can be used by the administrator, counselor, faculty, and students.

The accompanying answer sheet is designed so that the questions can be answered in the designated group column pertaining to the person making the appraisal. Also, the questions which do not apply to the particular group are blocked out. Only those questions not blocked out in the columns should be answered.

EXAMPLE (an administrator answering question)

SECTION	STUDENT		FACULTY		ADMINISTRATOR		COUNSELOR	
	yes	no	yes	no	yes	no	yes	no
I.								
1.	XXXX	XXXX	XXXX	XXXX				
2.	XXXX	XXXX						
3.			XXXX	XXXX				

I.
GENERAL ADMINISTRATION

1. Does the administration provide excellent leadership and support in developing the occupational guidance program?

2. Is there a definite program to gain the full support of and to involve the total faculty, the home, and appropriate community agencies and leaders?

3. Are there sufficient funds, facilities, and qualified personnel to provide an excellent occupational guidance program?

II.
ORIENTATION PROGRAM

1. Is there a coordinated and continuing occupational orientation program for all students beginning in the elementary program and continuing through the community college?

2. Does the occupational orientation program provide:
   a. Direct student contact with the world of work?
   b. Parent conferences?
   c. Specific and extensive community involvement?

3. Does the program provide sufficient experiences and test results that the student can make a satisfactory self-appraisal of his abilities and interests?

III.
APPRAISING PROCEDURES FOR STUDYING INDIVIDUAL DIFFERENCES FOR OCCUPATIONAL USE

1. Is the occupational counselor provided with accurate, complete information regarding each student, and is it interpreted to students and teachers?

2. Is this information accumulated and maintained in an efficient, usable manner with sufficient clerical help?

IV.
OCCUPATIONAL COUNSELING

1. Is there an effective, well coordinated placement service?

2. Is there an effective, systematic, ongoing follow-up program which has impact upon curriculum development and guidance programs?

3. Does the county and each secondary school district have a qualified professional providing full-time leadership to the coordination and development of occupational guidance? Does this person have the personnel, materials, and space necessary to do his job effectively?

4. Does each high school have a qualified professional responsible for the coordination and implementation of the occupational guidance program? Does he have the resources necessary to perform his functions adequately?

5. Is there a continuing program for upgrading the competence and knowledge of the counseling staff in the field of occupations?

6. Is the occupational guidance program throughout the county coordinated with related occupational programs, such as MDTA and NYA?

7. Are the objectives of the total occupational program clearly defined?

8. Is there a major evaluation at least every four years to determine how effective these objectives are being achieved?

9. Do the elementary schools of the county acquaint children with the world of work, particularly with respect to the industries and occupations in their community and regions?

10. Do members of the staff regard vocational counseling as a specific activity which involves certain definite knowledges and skills?

11. Are vocational counselors selected on the basis of the personal traits, experience, and training which equip them to deal with career decision problems effectively?

12. Are vocational counselors used as resource persons by other members of the staff?

13. Is the vocational counselor involved in the school's curriculum development program?

V.
APPRAISING INFORMATION SERVICE

1. Does the school have a systematic program for acquiring educational-vocational information materials--National, regional, and local?
2. Is there evidence that advancing technological methods are being used for handling, processing, storing, and recovering information?
3. Is this information made positively accessible in classrooms, libraries, and guidance offices?
4. Are specific leadership assignments and budget allowances made for keeping these materials current?
5. Is career guidance information disseminated to the student at a time appropriate for the decision-making necessary at his developmental level?

VI.
APPRAISING THE GROUP GUIDANCE PROGRAM

1. Is there a well planned program of group guidance being carried out in the school? Are these group guidance activities planned in such a way that they help prepare students to make decisions relative to their programs and vocational goals?
2. Do occupational guidance counselors have the necessary training or personal background necessary for effective occupational group guidance? Are they provided with necessary materials or clerical help, and is there an opportunity provided for occupational in-service time for counselors and teachers in occupational group guidance?

VII.
APPRAISING GUIDANCE CURRICULUM RELATIONSHIPS

1. Do members of the guidance staff regularly participate with curriculum development groups and programs in the school?
2. Does the guidance staff analyze, organize and present to the total staff data on individual characteristics of students for the purpose of assisting in the evaluation and improvement of the school's curriculum?

3. Are students who would benefit by special curricular adaptations to individual handicaps or special abilities identified and reported to the staff?

4. Do teachers plan the content of their courses and their classroom activities with regard to available information concerning the problems, interests, and abilities of students?

5. Are regular follow-up studies of both graduates and dropouts carried on? Is the information gained meaningfully communicated to teachers and curriculum development groups?

6. Is there evidence that these findings have resulted in appropriate curriculum change?

7. Do the administrative and curricular practices of the school foster attitudes of belonging and student participation in the whole range of school activities for vocational students?

VIII.
APPRAISING GUIDANCE - COMMUNITY RELATIONSHIPS

1. Is specific machinery set up for teachers to observe different neighborhoods, industries, business, and services of the community?

2. Are specific data gathered and disseminated to describe the various socio-economic, racial, educational-occupational groups from which the students come with particular reference to the educational and career horizons and limitation for these young people?

3. Are periodic studies made and disseminated to all school staff members of the significant local trends in population and industrial development and community-organizational structure as these relate to opportunities for youth in the community?

4. Is there a community-industry-educational council or committee which participates in planning, operating and evaluating this guidance function?

5. Does the guidance staff maintain direct personal relationships and effective interaction plans with all agencies serving youth? These should include employment agencies, both public and private, recreational departments, and other agencies, as well as psycho-diagnostic and treatment facilities.

6. Is there a person with specific assignment for leadership?

IX.
APPRAISING PLACEMENT SERVICES

1. Does the school provide an organized placement service that is adequate in terms of the needs of its students?
2. Are public employment services and other community resources used to good advantage in developing school placement services?
3. Is assistance provided for all students (including graduates and dropouts) who need help in securing employment?
4. Are students kept informed as to the placement services provided by the school?
5. Does the school have a central placement desk or office which encourages students to use the services?
6. Are the placement activities of different staff members coordinated in such a manner that periodic reports on all school placements are available to the staff and general public?
7. Are efforts made to maintain frequent and regular contacts with potential employers of students, dropouts, and graduates?

X.
APPRAISING FOLLOW-UP PROGRAM

1. Are students who drop out of school interviewed as they leave in order to secure information concerning their reasons for leaving and their plans?
2. Is follow-up study data used to help students make decisions?

ADMINISTRATOR-COUNSELOR-FACULTY-STUDENT ANSWER SHEET

Appraising the Adequacy of the School's Vocational Guidance Program

SCHOOL _____ DATE _____

SECTION	STUDENT		FACULTY		ADMINISTRATORS		COUNSELORS	
	yes	no	yes	no	yes	no	yes	no
I.								
1.	XXXXXXX		XXXXXXX					
2.	XXXXXXX							
3.			XXXXXXX					
II.								
1.								
2.								
a.								
b.								
c.								
III.								
1.								
2.	XXXXXXX		XXXXXXX					
IV.								
1.								
2.	XXXXXXX							
3.	XXXXXXX		XXXXXXX					
4.	XXXXXXX							
5.	XXXXXXX		XXXXXXX					
6.	XXXXXXX		XXXXXXX					
7.	XXXXXXX							
8.	XXXXXXX							
9.			XXXXXXX					
10.	XXXXXXX							
11.	XXXXXXX						XXXXXXX	
12.	XXXXXXX							
13.	XXXXXXX							
V.								
1.	XXXXXXX		XXXXXXX					
2.	XXXXXXX		XXXXXXX					
3.								
4.	XXXXXXX		XXXXXXX					
5.					XXXXXXXX			
VI.								
1.								
2.	XXXXXXX							
VII.								
1.	XXXXXXX							
2.	XXXXXXX							
3.	XXXXXXX							

ADMINISTRATOR-COUNSELOR-FACULTY-STUDENT ANSWER SHEET (Cont.)

SECTION	STUDENT		FACULTY		ADMINISTRATORS		COUNSELORS	
	yes	no	yes	no	yes	no	yes	no
VII.								
4.	XXXXXXX				XXXXXXXX			
5.	XXXXXXX							
6.	XXXXXXX							
7.								
VIII.								
1.	XXXXXXX						XXXXXXXX	
2.	XXXXXXX							
3.	XXXXXXX							
4.	XXXXXXX		XXXXXXX					
5.	XXXXXXX		XXXXXXX					
6.	XXXXXXX		XXXXXXX					
IX.								
1.								
2.	XXXXXXX							
3.								
4.			XXXXXXX		XXXXXXXX		XXXXXXXX	
5.								
6.	XXXXXXX							
7.	XXXXXXX		XXXXXXX					
X.								
1.	XXXXXXX		XXXXXXX					
2.								

appendix c

san joaquin county occupational guidance center advisory - steering committee

APPENDIX C

FIRST SAN JOAQUIN COUNTY OCCUPATIONAL GUIDANCE CENTER

ADVISORY - STEERING COMMITTEE

Alfred Anderson
Wells Fargo Bank

Elson Barnett
San Joaquin Delta College

Arthur Becker
Stockton Unified School District

Leonard Beeman
County Schools Office

A. L. Buffington
Diamond Walnut Growers, Inc.

Donald Cerqui
Diamond Walnut Growers, Inc.

George Cornwell
Pacific Gas & Electric Company

Alfred Culhane
Stockton Chamber of Commerce

Eva Dalander
County Schools Office

Roger Davey
Stockton Unified School District

Brain Dobrow
San Joaquin Local Health District

Naomi Fitch
San Joaquin Delta College

Dorothy Fleisig
Tracy Union High School

Howard Gibson
Building Trades Council

Harley Harris
Central Labor Council AFL

Stanley Hewlett
Public Accountant

George Janicula
Lincoln High School

Irene Jurgensen
Lodi Unified School District

Jack L. Molini
Lincoln Unified School District

Joseph O'Leary
Ripon Unified School District

Robert Plummer
Teamsters General Local #439

David Solberg
Pacific Gas & Electric Company

Jack Stirton
Stockton Unified School District

Frank Stocking
Lodi Unified School District

Boyd Thompson
San Joaquin County Medical Society

Hal Vennes
State Department of Employment

Edward Watson
State Department of Employment

Walter Winsborrow
Pacific Gas & Electric Company

VT 001 316
Tule, James O.
A Comprehensive Guidance Program for the Area Vocational-Technical School.

Carbon County School Districts, Pa.
Carbon County Area Vocational-Technical School, Jim Thorpe, Pa.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 66 176p.

*AREA VOCATIONAL SCHOOLS; *OCCUPATIONAL GUIDANCE; ORIENTATION; JOB PLACEMENT; GRADUATE SURVEYS; PUBLIC RELATIONS; TESTING; ADMISSION CRITERIA; *GUIDANCE PROGRAMS; SURVEYS; *PROGRAM DEVELOPMENT; GUIDELINES CARBON COUNTY; PENNSYLVANIA

Vocational-technical schools were surveyed to determine present guidance procedures, and resulting information was used to help establish a comprehensive guidance program. The orientation of students is extremely important in guidance programs because students who have inaccurate and limited knowledge will make inadequate decisions. Some means to be used in orientation to vocational-technical schools are assembly programs, films and slides, school publications, guided tours, published articles, radio and television programs, newsletters, and special summer courses. Student selection by counselors will be based on age and grade level, physical defects, academic record, discipline record, attendance and tardy records, test scores, and recommendations. Tests as guidance instruments are to be used both for predictive and descriptive purposes. Aptitude Test Battery, interest inventories, and reading tests will be part of a uniform comprehensive testing program recommended for use in the county. Job placement will be a cooperative operation of vocational instructors, the student service coordinator, and the State Employment Service. Since graduate followup information is useful but difficult to obtain, birthday cards and newsletters are to serve as vehicles for followup questionnaires. (1) Course offerings, (2) admission, interview, and questionnaire forms, (3) a list of schools visited, and (4) a bibliography are included. (EM)

VT 001 316

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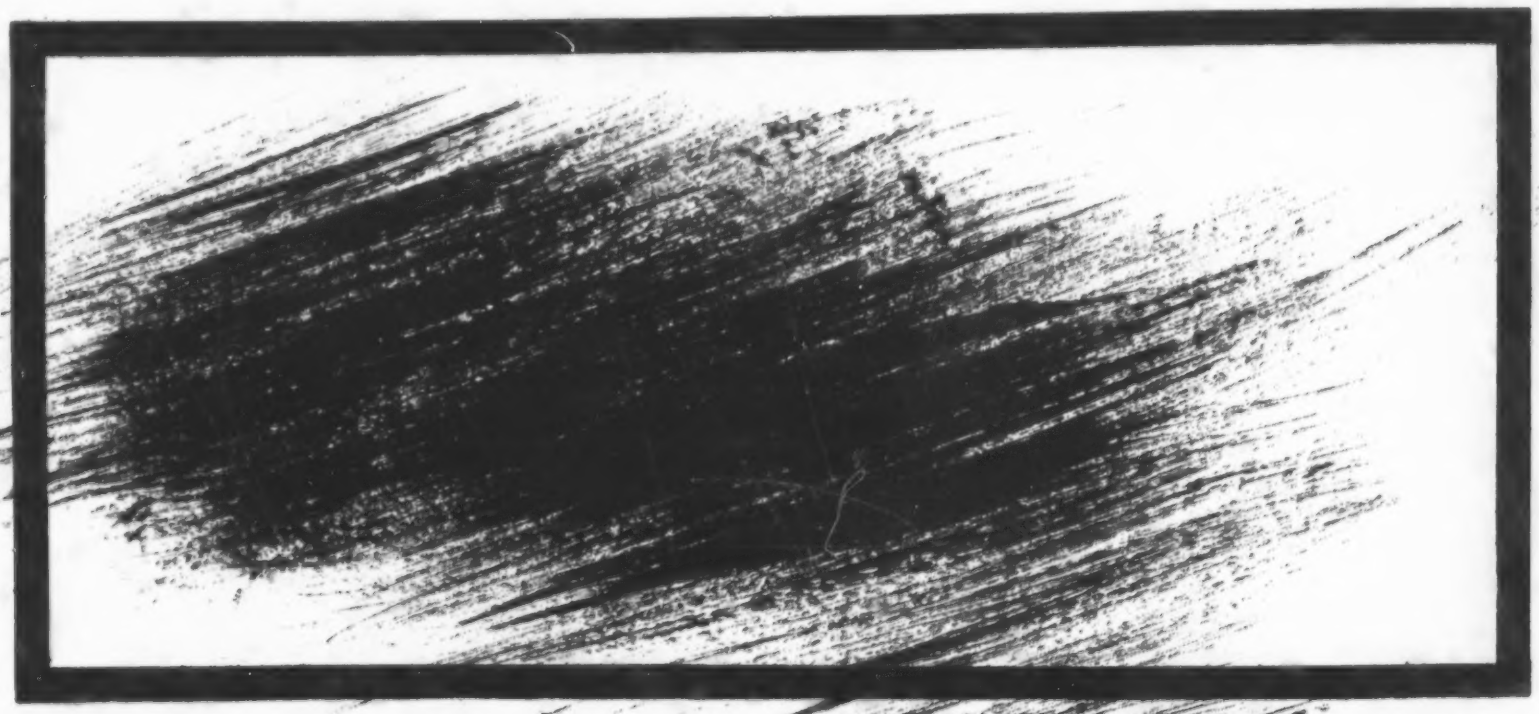

A COMPREHENSIVE GUIDANCE PROGRAM

FOR THE

AREA VOCATIONAL-TECHNICAL SCHOOL

VT001316

A COMPREHENSIVE GUIDANCE PROGRAM FOR THE AREA VOCATIONAL-TECHNICAL SCHOOL

Research Project 16002

This Study Was Conducted Through The Cooperation of the Carbon County School Districts and the Carbon County Area Vocational-Technical School

1966

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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The research reported herein was supported by the cooperative effort of the Bureau of Vocational, Technical and Continuing Education of the State Department of Public Instruction for the Commonwealth of Pennsylvania.

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Director

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Edward Smith - Guidance Specialist, Department of Public Instruction

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Ernest Koegel - Guidance Counselor, Lehighton Area Union School District

Emma Schlegel - Guidance Counselor, Palmerton Area School District

Michael Bonner - Guidance Counselor, Panther Valley Joint Schools

John Timko - Guidance Counselor, Weatherly Area Joint Schools

Project Supervision

R. N. Davenport - Superintendent of Schools, Carbon County

James O. Tule - Director, Carbon County Area Vocational-Technical School

Secretary

Darlene Witt

ACKNOWLEDGMENTS

The initial idea for this research project, plus the subsequent work involved in developing the written request was performed by Mr. James O. Tule, the present Director of the Carbon County Area Vocational-Technical School. He also contributed many ideas and suggestions during the actual development of the study. Without his encouragement and assistance this project would not have been possible.

Mr. R. N. Davenport, Carbon County Superintendent of Schools and the Assistant County Superintendent, Mrs. Esther Gross also contributed valuable counsel.

The information obtained in interviews with the following people form the basis for much of the thinking in this report. Many thanks to: Mr. Robert Hontz and Mr. Edward Smith, Guidance Specialists from the Pennsylvania Department of Public Instruction; Mr. George W. Elison, Director of Vocational Education in the Allentown Vocational-Technical School, Allentown, Pennsylvania; Mr. Robert A. Nagle, Director, Mr. William Loomis, Coordinator, and Mr. Stephen Mott, Student Service Coordinator, Area Vocational-Technical School, Easton, Pennsylvania; Mr. Franklin J. Brown, Guidance Counselor, Area Vocational-Technical School, Bethlehem, Pennsylvania; Mr. Robert Miller, Guidance Counselor Coordinator, Bucks County Technical School, Fairless Hills, Pennsylvania; Mr. Frank E. Stewart, Acting Principal, Brooklyn Technical High School,

Brooklyn, New York; Mr. Harold J. Peck, Director, and Mr. Brad Hartman, Director of Guidance, Central Dauphin High School, Harrisburg, Pennsylvania; Mr. Irvin Wheatley, Director of Guidance, Seaford High School, Seaford, Delaware; Mr. Frederick C. Kerr, Guidance and Curriculum Director, Upper Bucks County Area Technical School, Perkasie, Pennsylvania; Mr. James Finn, High School Coordinator, and Mr. Richard Paulson, Vocational Counselor, Williamsport Area Community College, Williamsport, Pennsylvania.

Mr. Clyde Messinger, Area Coordinator for Industrial Education, Department of Public Instruction, also contributed material which aided in the preparation of this manuscript.

A final word of thanks to Miss Darlene Witt, a most competent secretary, for her devoted work.

The following outline represents the initial request for funds to finance the Guidance Research Project.

A COMPREHENSIVE GUIDANCE PROGRAM FOR THE AREA VOCATIONAL-TECHNICAL SCHOOL

1. *Problem:*

There is a definite lack of knowledge for the implementation of an effective comprehensive guidance program for the Area Vocational-Technical School. To date, vocational guidance programs in Pennsylvania have been in lock step with the comprehensive high school guidance programs which are basically college-preparatory oriented. Current methods and techniques are not applicable to the Area Vocational-Technical School. New programs of orientation, diagnostic testing, continuous guidance, follow-up, placement, and evaluation will become the keystone to success for the Area Vocational-Technical School. Guidance Counselors and their programs play an important role in the identification of students selected for the Area Vocational-Technical School.

2. *Background Information:*

Identification of this problem can be recognized only after a review of current facts.

a. Comprehensive guidance programs for Area Vocational-Technical Schools are limited in number.

b. Current programs center around school achievement and I.Q.

c. Too many programs are designed for student acceptance or rejection, and not successful placement.

d. There is a definite lack of guidelines for the development of a sound comprehensive Vocational Guidance Program.

3. *General Description, Importance, and Need:*

It is the belief of the applicant that there is great need for a sound comprehensive guidance program to be developed within the Area Vocational-Technical School. It

46

is the belief of the Advisory Committee that such a guidance program will be a major factor in students' educational success. Major emphasis of current programs has been in the area of college-oriented students.

4. *Objectives:*

a. To develop guidelines for an effective comprehensive guidance program to be implemented in the Area Vocational-Technical Schools in Pennsylvania. This development to be based upon a study, analysis, and evaluation of:

(1) Existing programs.
(2) Basic tests and measuring devices.
(3) Successful guidance methods and techniques currently employed.
(4) Student placement and employment.
(5) Student follow-up.
(6) Program evaluation and appraisal.

b. To develop a comprehensive written report, entitled, *"Guidelines for a Comprehensive Guidance Program for the Area Vocational-Technical School"*, for distribution to all existing and proposed Area Vocational-Technical Schools and the Department of Public Instruction.

5. *Advisory or Consultant Group:*

Robert Hontz -- Director of Guidance and Testing, Department of Public Instruction.
Clyde Messinger -- Area Coordinator for Industrial Education, Department of Public Instruction.
Michael Hudasky -- Guidance Counselor, Jim Thorpe Area Joint Schools, Jim Thorpe, Pennsylvania.
Ernest Koegel -- Guidance Counselor, Lehighton Area Union School District, Lehighton, Pennsylvania.
Emma Schlegel -- Guidance Counselor, Palmerton Area School District, Palmerton, Pennsylvania.
Michael Bonner -- Guidance Counselor, Panther Valley Joint Schools, Lansford, Pennsylvania.
John Timko -- Guidance Counselor, Weatherly Area Joint Schools, Weatherly, Pennsylvania.

6. *Procedures, Methods, Mechanics:*

The major elements of this program will be:

a. To visit current vocational guidance programs now being used, to study these programs, analyze and evaluate their effectiveness, to disseminate all information accumulated, select the most effective methods and techniques in guidance and develop it into a program for the Carbon County Area Vocational-Technical program. I think the first procedure in such a study would be the employment of a guidance director who will serve the Carbon County Area Vocational-Technical School.

b. Establish meetings with the selected Advisory Committee to review the objectives of this program and to develop criteria for the study.

c. To develop a school visitation schedule.

d. To develop methods for recording and analyzing information secured through visitations and observations.

e. To conduct visitations which will provide the desired information, and to analyze and record observations of these visitations.

f. Evaluate and disseminate the collected information.

g. Develop a comprehensive guidance program for Carbon County Area Vocational-Technical School.

h. Implement the proposed program.

i. Re-evaluate methods and procedures developed.

7. *Personnel:*

The following people shall participate in this proposed study:

a. Local Director of Vocational-Technical Education, James O. Tule, will devote whatever time is required to provide proper supervision for this study.

b. Guidance Director - Time devoted to this project - 1 year, full time. This person should be a qualified guidance director. One who has had experiences in education; one who has had experiences in the industrial field of work; one who is capable, progressive, and aggressive. It shall be the responsibility of this guidance director to develop, proceed, and follow through the objectives of this study.

c. Area Coordinator for Vocational-Technical Education, State of Pennsylvania - Clyde Messinger. This person shall act as a consultant.

d. Local School Guidance Counselors (5) - Michael Hudasky, Jim Thorpe Area Joint Schools; Ernest Koegel, Lehighton Area Union School District; Emma Schlegel, Palmerton Area School District; Michael Bonner, Panther Valley Joint Schools; and John Timko, Weatherly Area Joint Schools. Time devoted shall be as required. Capacity - Advisory Committee and consultants.

e. Guidance Consultant - Robert Hontz, Department of Public Instruction. Consultant as required.

8. *Administration - Supervision:*

The Director of Vocational-Technical Education for Carbon County Area Vocational-Technical School shall be responsible for the administration and supervision of the proposed study. Throughout the study, meetings for coordination and development of the proposed study will be called as necessary; in addition to bi-weekly scheduled meetings, at which time complete reviews, future developments and planning will be considered.

9. *Time Schedule:*

I propose that one year (12 months) be devoted to this study. That this study begin on June 15, 1965, and continue until June 15, 1966. I further propose that a re-evaluation be completed during the month of July in the years 1967, 68, 69, and 70, so that as this program is developed, a continual revision and evaluation shall be made over a five-year period. I would propose the following 12 months' schedule, however, reserving the right to change the time schedule allowing whatever flexibility is necessary for the successful completion of this project. Preparatory study - 1 month; School visitation and assembly of materials - 2 months; Analysis of study - 1 month; Development of local program - 1 month; Implementation of program - 6 months; Evaluation of the program - 1 month.

10. *Evaluation:*

It will be very difficult to evaluate the success of such a program within a short period of time. It is for this reason that I have included in my time schedule a

re-evaluation to be submitted over a period of five years. Through a study of the success and enthusiasm of the students, and cooperating schools, we will be able to determine the effectiveness of a comprehensive guidance program. The evaluative procedures to be employed would be the responsibility of the vocational guidance director and his advisory committee.

11. *Facilities:*

The Carbon County School Board shall provide office facilities, as required, to satisfactorily conduct this program.

12. *Report:*

The Carbon County Area Vocational-Technical School shall provide the State Department with copies of all information gathered and developed through this study. It shall provide minutes of all advisory committee meetings; it shall provide copies of studies, analyses, and evaluation materials as collected and are pertinent to this study. It shall provide the State with copies of guidelines to be used in the development and implementation of a comprehensive orientation guidance and follow-up program for use in Area Vocational-Technical schools. The school shall provide the opportunity to anyone who wishes to visit, a review of the program as developed, and an opportunity to discuss with any school personnel the purpose and effectiveness of the program.

INTRODUCTION

This study was designed to accomplish two main objectives: (1) to survey a number of vocational-technical schools to determine what guidance procedures are presently being used, and (2) to use this information to help establish a comprehensive guidance program for vocational-technical education in Carbon County.

In order to facilitate the study of existing guidance programs in vocational-technical schools, five specific areas were selected for concentration: orientation, student selection, testing, job placement, and follow-up.

Orientation involved the study of methods being used to inform students, parents, and teachers of the opportunities available through vocational-technical education. Since this form of education is relatively new to Carbon County, much time was devoted to developing and presenting vocational information to students and adults.

Methods of selecting students to attend vocational-technical schools offered the opportunity to evaluate present procedures and make recommendations. The use of tests as guidance tools in counseling and the extent of their use as a selection device was also ascertained.

How are students placed in business and industry after graduation? Who is responsible for placement? Why? What happens to these students after they are placed? How

effective has their training been? How successful are these students? What percentage of these students decide to go on for further schooling? These and many more questions formed the basis of inquiry for this study.

To facilitate the dissemination of vocational school information, a Guidance Advisory Committee was established in Carbon County composed of guidance counselors from each of the participating schools in the district. A guidance specialist from the Department of Public Instruction was also part of the committee. This committee met monthly to discuss the collected information and to help establish a guidance program for the county. The cooperation of this committee proved extremely helpful in the tremendous task of explaining the purposes of vocational education to students and interested adults. Although the committee met for 2 1/2 to 3 hours each month, this proved to be insufficient time to discuss the many facets of vocational-technical school training. The number of students requesting Data Processing, for instance, actually doubled, after a representative of the IBM Company spoke to the counselors. If a representative from each course area in the school could have outlined employment opportunities in his field, this would have enabled guidance personnel to counsel more effectively.

There appears to be a number of obstacles preventing guidance counselors and vocational educators from doing a more effective job. The following statements are based upon observations and deductions after numerous vocational school

visitations and conversations with vocational educators and counselors.

According to Dr. Franklin J. Keller, in his excellent study of *Vocationally Talented Pupils*, "On the whole, the vocational education process suffers more from inadequate (underlining mine) guidance than it does from competing academic education." Because of inadequate guidance many vocationally talented students are lost. Why? Why are these students not identified and counseled? Since the purpose of guidance is to help students make decisions relative to their potentialities, somewhere the system is not functioning properly.

Many teachers have had no experience in trades that are taught in vocational schools. Because of this, they lack understanding and tend consciously and unconsciously to demean vocational education. Their background experience is college oriented, and their advice to students is naturally predicated along these lines. Vocational educators complain that many counselors, especially women, have likewise not had industrial experience and tend to favor professional occupations over manual trades. It might be noted that our society as a whole, and parents in particular, share in this overemphasis on professional level jobs. Much of this overemphasis can be attributed to the educational hysteria engendered when the Russians launched Sputnik I. Educational critics pointed to the fact that many students who were capable of doing college level work were not going to college. Since this was a terrible

waste of our country's human resources, a campaign was immediately launched to extoll the virtues and rewards of a college education.

If we assume that 40% (an extremely liberal figure) of the school population is capable of four years of college training, and approximately 30-35% actually attend college, then this campaign was aimed at a very small portion of our total school population. However, the results of this campaign have had a tremendous effect on the thinking of people concerning jobs. Professional level jobs have increased in status and prestige to the extent that parents and students feel they cannot be completely successful without the college degree. According to Darley and Hagenah, "In a relatively mobile society such as ours, job titles and the hierarchical arrangement of jobs by perceived prestige and status levels represent the American equivalent of aristocracy."

When students are asked, "Should everyone go to college?" The answer is variably, yes. This type of reasoning should be followed by qualifying statements. Statements which many times are not forthcoming.

When students think of advanced schooling, they invariably think of four year college programs. Junior and Community College programs have not been adequately incorporated into the thinking of 9th grade students ready to make decisions which may affect the rest of their lives. Thus many vocational and technical level programs which will, in the future, require

more and more advanced schooling in two year colleges are not given adequate consideration.

Abraham H. Lass, Principal of the Abraham Lincoln High School in Brooklyn, in an article for the *Saturday Review* stated, "There is too little thinking about why a student should go to college, or even if; the emphasis is simply on where. It is a mischievous and destructive myth that everyone must go to college (preferably a four-year liberal arts college), that all wisdom and decency reposes with the college educated."

Vocational education must constantly strive to improve its image in order to combat the fact that job status is constantly associated with a college degree. John Gardner has stated, "The society which scorns excellence in plumbing because plumbing is a humble activity and tolerates shoddiness in philosophy because it is an exalted activity will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water."

Pressures from the community, from parents, and from academic educators have helped to overemphasize college education. Many counselors have succumbed to this pressure and consequently overemphasize college counseling. The fact that more usable information is available for college counseling than for vocational counseling is also an important factor.

Because of this, guidance has become alienated from vocational education. Distrust of guidance counselors by

vocational educators has caused many of the problems discussed above. A lack of guidance personnel in vocational schools has prevented the adequate distribution of materials necessary for students to make vocational decisions.

Guidance counselors motivate many students to undertake college level work. How much do they influence students to begin vocational training? Vocational educators would probably answer "very little". And according to the following report they would be justified in this accusation. In a summary report *The Process and Product of T & I School Level Vocational Education in the United States: The Product*, "The rank order of sources reported by graduates to have influenced them in vocational course selection in high school, and the percent of students indicating each, are as follows: job opportunity, 43%; parents, 28%; friend of same age, 22%; books and magazines, 17%; school teachers, 15%; school counselor, 12%." These figures indicate that guidance counselors could be a much stronger factor in vocational decision making if they more adequately presented job opportunities.

The lack of adequate guidance in vocational-technical education appears to have been caused by a lack of communication between guidance counselors and vocational educators. It is the sincere hope of the author, that this report will serve to draw vocational educators and guidance counselors closer together in order to better serve the total educational needs of all students.

The following recommendations and conclusions are based upon the total research efforts of this project.

1. *Guidance Counselors should be included on the staff of every vocational-technical school.*

This person should be capable of developing vocational guidance material for use by counselors in the participating school districts. He should be capable of establishing an effective public relations program, and should serve as a resource person for vocational orientation programs. He should assist the home schools in carrying out the student selection policy, and be directly responsible for the final selection of students. He should maintain close contact with business and industry in order to determine employer and employee needs for curriculum development, student placement, and counseling. He should maintain a constant follow-up of all graduated students to determine their progress and to secure information from them relative to the effectiveness of their vocational school training. He should perform all the other services normally associated with guidance such as individual counseling, testing, referrals, parental conferences, development of effective permanent records, and information and guidance on advanced schooling.

This guidance coordinator should be selected on the basis of his ability to perform the above services. Business or industrial experience should not be a prerequisite for employment in a vocational-technical school.

2. *Vocational-Technical schools should provide appropriate vocational education for the bright as well as the dull.*

The problem of the school becoming a "dumping ground" can be avoided through effective guidance services. Thus schools which are able to offer students a choice of academic, business, and vocational-technical training should be meeting the educational needs of almost all secondary school youngsters.

3. *The vocational-technical school "image" should be improved.*

This can be accomplished to a large extent, by the presentation of accurate, up-to-date information on opportunities available through this form of education.

The logical person to assume this responsibility is the guidance counselor in the vocational school. All forms of communication media should be utilized in the dissemination of this vocational information.

4. *A good vocational-technical school "image" will be dependent on good public relations.*

It would appear that the most successful vocational schools, are those which have the best, most insistent, programs of public relations. Public acceptance appears to vary with public knowledge.

5. *Vocational-Technical education must be flexible.*

It must be capable of changing as rapidly as business and industry change. It must be capable of developing curriculums which take into account the fact that most of today's students will change jobs from three to six times during their working life. This means that the vocational school, even more than any other type of school, must be constantly experimenting.

6. *Vocational-Technical education must be continuous.*

Vocational orientation should start in the elementary school, and continue through the junior high school years. Vocational training should begin on the secondary school level, and also be available to all adults on a post high school level who are interested in vocational advancement or re-training.

7. *Vocational guidance must also be a continuous service available to elementary, secondary, and post high school students.*

Research on career development has proven that vocational guidance can no longer be viewed as a one time event. Every effort should be made to develop vocational materials which can be used on all educational levels. Guidance programs should then be developed to effectively utilize this material.

8. *Vocational education must more effectively utilize industrial arts and home economics teachers.*

These teachers are in a unique position to offer vocational orientation and counseling at a time when students must explore all possible alternatives in order to make intelligent vocational decisions. The ideal program would be to have all teachers use vocational information in conjunction with their subject matter.

9. *More effective use should be made of trade advisory committees.*

Those schools with the best employment records and the best public image also had the most effective system of trade and advisory committees.

10. *Every effort should be made to discover how vocational students differ from other students.*

These students should be tested, interviewed, and observed in an effort to develop objective criteria for use in counseling all students.

11. *Orientation programs should be developed which would enable interested students to take exploratory courses in the vocational-technical field.*

This is presently being done very effectively in summer programs.

12. *The term "job training for the non-college bound" should be dropped.*

Since many vocational areas require advanced schooling in junior or community colleges, the above term is no longer accurate.

13. *The vocational school curriculum should be geared to employment trends on a nation-wide basis and not confined to local industries.*

The need of local industries could be met through adult level programs. With the use of computers, information on employment opportunities anywhere in the country can be instantly available. Since our society is becoming more and more mobile, students should be made aware of all available job opportunities.

14. *More recognition should be given to outstanding vocational-technical school students.*

Vocational school achievement as well as academic achievement should be commended. This will serve not only as a motivational device, but also as a public relations release.

ORIENTATION

Education must constantly strive to make available to students the widest possible range of educational opportunities. With the development of Area Vocational-Technical Schools, this educational range is being increased. The problem now becomes, how can we help students make decisions? Since the primary purpose of guidance is to help people choose wisely from among the alternatives available to them, much of the help must come from guidance counselors.

Students who have inaccurate and limited knowledge of possible choices will make inadequate decisions. Thus the orientation of students will be an extremely important phase of any guidance program.

Many vocational educators feel that guidance services in the high schools have concentrated on students planning to enter college. In many cases this is true, but guidance counselors are not entirely to blame. Lack of adequate and accurate information concerning vocational-technical schooling is partly at fault. Colleges are constantly striving to present their programs in the best possible light. Their catalogs contain accurate information concerning the type of student who is most successful, information on why students are not able to succeed, and much additional information which a counselor can use to help a student arrive at a realistic decision. This information is presented in booklets of the highest quality of

paper, printing, and color photography. Thus when students read these catalogs they immediately form an impression of the school. The image a school projects begins with the presentation of its educational opportunities. The ease with which counselors can use this information in guiding students has been a contributing factor in the overemphasis on college counseling.

It must be remembered that counselors are not in the recruiting business, but they are constantly striving to accumulate information which can be used to point out to students all the possible educational alternatives that are available to them. Vocational education has not, as yet, done an adequate job of making available to students information on all the opportunities available through this type of schooling.

Since this report is primarily interested in guidance for vocational-technical schools, let's discuss how students receive information about vocational programs. A gross generalization would be that most students receive information through assembly programs. These programs are usually presented to 9th grade students, and in many cases 7th and 8th graders are present also. Thus a student may witness three assembly programs before he is asked to make a decision.

These assembly programs present information in a variety of ways. The program may be handled by the director of the vocational school, who talks briefly about the programs available and then may show a film. Some schools have made their own motion pictures. A very popular film available

through the Department of Public Instruction, is the Bucks County Technical School film. Some schools have developed a series of 35 mm slides which can be used to illustrate talks. Many programs feature discussions by the vocational instructors in various shops. Representatives from business and industry who are familiar with vocational programs, and who may have hired graduates from the school often speak in assembly programs. If the vocational school has a guidance counselor, he may present information which has been gathered by his office pertaining to the opportunities available through vocational-technical training.

Very effective programs have been developed which present vocational students. These students give their personal opinions of the school, and their reasons for selecting this training. For instance, a girl may appear wearing a cosmetology uniform, and if she speaks well and is enthusiastic about her work, she will do a great deal to motivate students to inquire further about the program. Keeping in mind the necessity to promote the vocational image, caution should be used in the selection of any speaker for a school program.

Naturally, assembly programs are not the only methods of orientation. Another source of information dissemination is the brochure or booklet prepared especially to present information on the various course offerings. These booklets are, in many cases, the sole source of information on vocational schooling. They are usually prepared by the administration,

and then produced by the students in the print shop. Some are very good, but most of these booklets present a poor and inadequate summary of vocational education. When drawings are included from the commercial art department, if carefully selected, they are an asset. However, the formats of these books are usually poorly done. If the information was augmented by counselors in group guidance classes and individual counseling sessions, it would probably prove sufficient. However, this does not appear to be the case. In most cases the vocational school bulletin becomes the sole source of information and many students, in conjunction with their parents, make decisions based upon information presented in vocational school publications.

The logical argument against improving the quality of vocational school bulletins is expense. Printed material costs money. Therefore if printed communication is limited, guidance counselors must assume a larger share of the responsibility of informing students of vocational-technical school opportunities.

With the improvement of vocational school communications, other school departments may become alarmed. The business department, for instance, may claim that vocational educators are using undue influence in an attempt to recruit students. This is a normal reaction. On the other hand, it just might stimulate every department to do a better job of

orienting students. Most counselors would probably welcome some competition in orientation in order to more effectively present the myriad of opportunities available to students today.

Getting back to vocational school publications, how do they compare with college publications? Do they tend to perpetrate the myth that colleges prepare first class citizens and vocational education trains second best? The hierarchical arrangement of jobs by perceived prestige and status levels should be constantly discouraged. Guidance counselors and other teachers who tend to perpetrate this thinking by demeaning vocational education are examples of our failure to eliminate faulty thinking even in educators. This is not an argument to upgrade vocational information in order to influence students to select this training over college, it is merely an observation of how the overemphasis on college level jobs has caused students to make unwise decisions.

If success in counseling would be measured by the number of students who start four-year colleges and then drop out, we would have to conclude that we have not done a very good job. On the other hand, if some of these college dropouts had arrived in college through another route, maybe these statistics might change. For instance, many students interested in engineering become discouraged in their first two years of college because the work is predominately liberal arts. They are, for the most part, mechanically inclined and anxious to do this type of work. Some schools are beginning to realize this, and now offer the mechanical phase first and the

liberal arts phase later. When this is done the student is immediately immersed in the type of schooling he wants. After two years, he is more mature and more capable of handling the liberal arts phase of his program.

This same process has occured with some students who arrive at advanced schooling through vocational-technical training. A gifted student may be bored with book learning, he wants to become physically engaged in some form of schooling where he can see tangible results. After two or three years of this training, he now realizes that advanced schooling is necessary if he is to continue to progress in his chosen career. This type of vocational maturation is far more effective because it deals with concrete experiences as opposed to vicarious experiences necessary in the academic curriculum.

Another form of orientation is the guided tour through the vocational school. Although this is done in many schools, a lack of time prevents students from adequately understanding vocational programs. A half a day or a whole day is not enough time. To make adequate use of this form of orientation, it should begin in the elementary school. Vocational information should be presented on the elementary level. Discussion of training for various occupations could logically lead into a tour of the vocational-technical school. During junior high school group guidance classes, another tour could be arranged. Finally, a 9th grade tour prior to course selection time.

In order to keep all educators cognizant of vocational opportunities, tours should be planned for teachers, administrators, and counselors. Parents and interested adults can tour the school facilities during open house programs. Counselors from participating high schools should be encouraged to visit the school monthly. Talking to students from their school will help to keep counselors informed of all aspects of the vocational-technical program. Talking to vocational instructors will give counselors insight into the type of student who benefits most from this schooling. The reverse is also true, students who are least successful can be more readily identified.

It would seem that we are unduly emphasizing tours as a means of orientation, and yet, this is only a part of the total picture. As the counselor in the vocational school develops information, these facts can be displayed in a prominent place in each shop, and can be easily assimilated by touring groups. Likewise the instructors can develop a thumbnail sketch of the general purpose of his particular trade for presentation to these interested groups.

Getting information to adults is sometimes very difficult. Every effort should be made to develop a program of information dissemination. The counselor within the vocational-technical school should become a public relations expert. Since his job is to collect and distribute information, he is the logical person to coordinate these activities. He should make it a point to present information about the school

to all service clubs and other interested organizations on a yearly basis. He should encourage the P.T.A. to have a program each year on some phase of vocational schooling. An open house program, if well-planned, could be an excellent means of telling the vocational story. Frequent and well-written articles explaining various programs within the school should be developed for use in local newspapers. Radio and T.V. programs should also be developed for use from time to time.

In establishing a guidance program for the Carbon County Area Vocational-Technical School, the author of this study prepared 16 articles for newspaper publication. Six five-minute T.V. programs, utilizing 35 mm slides, were developed for presentation over a six-week period. Four radio interviews were presented, and ten one-minute spot announcements were written and taped. These spot announcements were played at different intervals during the day for a one-week period. One issue of a local T.V. programming paper was devoted to the Area Vocational-Technical School. This paper is delivered to 5,700 families within Carbon County. It would appear that the total coverage, radio, T.V., newspapers, service club talks, P.T.A.'s, and adult programs would be such that most citizens of this area would be adequately informed. Although we have not made a survey, we know judging from the type of questions being asked, that many people are still either misformed or not informed at all. Thus the orientation program must constantly make use of all means of communication in order to keep accurate,

up-to-date information continually before the public.

Some vocational schools have developed monthly newsletters to keep students, teachers, and counselors continuously up-to-date on vocational information. This serves as a constant reminder of the many opportunities available through vocational training. This news media can be developed into a very effective form of communication.

Once a school is established, the vocational students themselves will serve to inform teachers and most especially other interested students. Youngsters tend to accept the judgments of their peer group much more readily than adult guidance. If the programs are good, and the students well-trained, job placement is facilitated. Information on job placement and starting wages will travel very quickly through the participating school districts. Much of the success or failure of the school is determined by the opinion of the students in the vocational-technical school.

In order to adequately inform students of the tremendous changes taking place within the world of work, group guidance classes to study vocations is extremely important. Vocational information should also be available on an elementary level. More and more schools are realizing the necessity for elementary school guidance. Elementary guidance counselors, working in conjunction with senior high and vocational school guidance personnel, could develop a program which would progress from elementary to junior high school, and hopefully continue on past high school to a post high school level. By the time a

student reaches the end of 9th grade when he must decide on the course he is to pursue for the next three years, he will have had an opportunity to study all possible alternatives available to him.

Group guidance classes in 9th grade could be a culmination of many of the guidance activities begun in the elementary school. The use of the General Aptitude Test Battery as a method of motivating students to analyze themselves in relation to vocational aptitudes should be part of the program. The interpretation of test results can be explained in more detail in a guidance class than in individual counseling sessions. In fact, individual counseling can be much more effective when students have been given preliminary information in a class session.

The use of interest inventories will also stimulate vocational planning. According to Dr. Leona E. Tyler, "The research carried on with interest inventories has made it more and more evident that this test is an extremely useful tool for assessing aspects of a person's total motivational pattern that determines what kind of occupational situation he will find congenial." (A more detailed description of the use of tests will be found in the testing section.)

The use of home economics and industrial arts teachers to help in the dissemination of vocational information should be thoroughly explored. Vocational information could be developed as an intregal part of these curriculums. These

teachers are in a unique position to present occupational information in conjunction with their teaching. Many teachers, and home economics and industrial arts teachers in particular, are in a position to offer vocational orientation and counseling at a time when students are beginning to develop a more intensive interest in various forms of work. Vocational education is actually an extension and intensification of many of the principles taught in industrial arts programs. What better way could these industrial arts principles be taught than to have available in a nearby vocational-technical school, training facilities that could be explained as the extenuation of much of the same training received in industrial arts. Vocational education and industrial arts mutually enhance each other and should strive to work cooperatively.

The Girard College School in Philadelphia has an ideal vocational orientation program. Beginning in 6th grade, students are given a semester of each of the vocational courses available in the school. This enables a student to get first hand experience in all available trades. Upon completion of the 10th grade, students then select the area in which they will specialize. Half of the student's time, during the 11th and 12th grade is then devoted to training in his chosen occupation. Girard College is not a public institution and is therefore unique in this form of educational planning.

The Sussex Vocational-Technical Center in Delaware is an example of a good program of vocational orientation in a public school system. Seaford High School, which is one

of the participating schools, begins group guidance classes in 7th grade. Classes are held daily for a six-week period. During this time, students receive information on jobs and material on course offerings at the Vocational-Technical Center. Group guidance classes continue in the 8th grade. A motion picture, which was made at the vocational school, is shown to all students. During this six-week period students are given tests and continue studying vocational information. In 9th grade, all students are counseled individually. Students selecting the vocational-technical program then spend a day visiting the school.

A summer program for orientation and course placement is available for a six-week period. Students are encouraged to enroll in this program, but it is not mandatory. Students rotate through six to eight shops, spending approximately five one-half day periods in each area. All participating schools give the General Aptitude Test Battery to 9th grade students. These results, plus the results of additional tests, are available and are used to counsel all students. Mr. Irvin Wheatley, Director of Guidance at Seaford High School, serves as the guidance counselor for the summer orientation program. Thus, he is familiar with guidance procedures and capable of interpreting all test results to each student.

Another orientation program of merit was developed by the Williamsport Technical Institute which is now the

Williamsport Community College. This program, known as the Vocational Diagnostic Program, was initially designed for the physically handicapped. However, the program has expanded and now includes services for anyone interested in a vocational-technical program. The program consists of four weeks of intensive counseling, testing, and trial shop work. A tuition fee is charged for these services, which are offered on a post high school level. This type of student evaluation and program orientation utilizes work experience or job trial methods which are similar to the Girard College and Sussex County programs. These programs are quite comprehensive in scope and could serve as models in the development of orientation programs for vocational-technical schools.

All three orientation programs described above utilize trial shop experience. This is certainly the best method for effective decision making. It would appear that in order to incorporate trial experience into vocational-technical school decision making, the program would have to be done in the summer. If vocational educators were hired on a ten or eleven-month basis, this orientation program could be accomplished in the same manner as that presently being done in the Sussex County School.

According to Mr. Grant Venn in *Man, Education, and Work*, "Sound occupational choice is made in direct proportion to information, guidance, and opportunities available to the

individual." The principle of sound occupational choice is the raison d'etre for guidance in vocational-technical education.

STUDENT SELECTION

Each vocational-technical school and comprehensive high school has developed its own procedure for student selection. No two schools are exactly alike. In some schools, the director makes the final student selection. These directors feel they are better qualified than anyone else to select students. They have established criteria, based upon their years of experience, which they feel is equal or superior to other methods of selection. Much of the evaluative criteria used by these directors is highly subjective. However, it must be noted that no selection procedure is entirely valid. In fact, if the sole factor in selection were I.Q. tests, it may well be that this method would correlate just as highly with eventual job success as any other method.

When directors assume the responsibility for determining which students will benefit most from vocational training, there is a tendency to eliminate many students with poor discipline records and below average intelligence. Directors can very well justify this line of reasoning. Students who are discipline problems could endanger their own life and the lives of their classmates in this type of schooling. The factor of intelligence is justified by the statement, if the student cannot satisfactorily complete the course, he cannot be placed in a job for which he was trained -- a primary purpose of vocational education.

It must be remembered that vocational educators need students to justify their programs. Thus, most students who show an interest in vocational schooling are accepted. The actual selection process is primarily centered around two or three courses which prove to be extremely popular. If 50 positions are available for cosmetology, and 80 students are interested, how do you determine which 50 students would make the best cosmetologists? There are no standard tests. What do you use? Artistic ability? Neatness? Personal cleanliness? Interest? Grades? Teacher recommendations? A trial period? These problems remain to be solved. Guidance counselors who are highly trained to evaluate student ability, would be the first to confess a lack of adequate criteria. However, guidance counselors working in conjunction with vocational educators are in a much better position than anyone else to determine selection procedures.

Many vocational schools let the orientation and selection of students up to the participating schools, but reserve the right to accept or reject any student. Guidance counselors in the home high school then become responsible for student selection. This method has proven unsatisfactory because most counselors do not believe that they have sufficient objective criteria to justify selection. They counsel students, but they do not make decisions for them. Vocational educators are beginning to realize that a guidance counselor in the vocational school, to act as a coordinator with guidance

personnel from the participating school, will facilitate information needed to help students make realistic decisions.

A guidance coordinator, working with counselors, can help to establish orientation and counseling procedures which will prevent student selection from becoming a major problem.

Let's assume that students are effectively oriented. They know what courses are available, they understand all possible alternatives, and they have evaluated their abilities. They are now counseled and made to realize that some vocational courses, such as auto mechanics, tend to have more students than positions. They are asked to evaluate a second and third vocational choice in the event their first choice is not available. When this procedure is followed, students tend to be much more realistic in their course selection. The question still remains, however, what do you do with students who have gone through this process and certain courses are still overcrowded? Obviously someone or some group must decide which students can be accepted and which students cannot. Let me repeat that there is no objective criteria which is 100% valid. However, the final decision should be the responsibility of the vocational school. The guidance coordinator, after conferring with the home school counselor and the student in question, should make the decision. This will enable the vocational school counselor to select the best qualified students after examining the qualifications.

of all students from the participating schools.

One school has set up arbitrary cut off points on three tests which they consider to be relevant. All students must have a minimum I.Q. of 85. They must also score above the 35% on the Bennett Mechanical and the Minnesota Paper Form Board Tests. Naturally, the percentage of students who would score below these levels would be extremely small. This selection procedure has apparently not been highly successful because this school now accepts as many students as possible, and then the student either makes the grade or is returned to the home school. No figures are available to substantiate their selection procedure based on these tests. When test scores are used, local norms should be developed to validate the use of the tests.

A number of factors have been developed for use in student selection. Heading the list would be standardized tests. (Testing is dealt with more extensively in another section of this report.) There is no general agreement on exactly what tests should be used. Many vocational educators feel that a high percentage of student failure is due to reading deficiencies, and would therefore recommend a reading test. Some feel an I.Q. test would be sufficient since, as a rule, the higher the I.Q. the greater are the chances of success in vocational training. Although there are numerous aptitude tests available, the results of these tests are used less frequently than one would expect. And yet, it would appear

that aptitude tests offer the most hope for the development of objective criteria. Interest inventories are used even less frequently than aptitude tests. This is explainable, and yet, vocational educators feel that a strong interest is, many times, the most important factor to be considered in selection. Achievement test scores are only used in conjunction with other tests and would not be considered as an important selective device.

Another factor used in judging students is scholastic performance from the elementary school up until the end of 9th grade. Greater emphasis is usually placed on achievement during a student's last three years.

A third factor is a student's interests, activities, and hobbies. A boy who is seriously contemplating a career in electronics usually has developed his interest to the point whereby his leisure activities tend to include some form of electrical or electronic activity. However, some hobbies may be misleading. For instance, most boys are interested in cars and many have jalopies which they are continuously tinkering with. A few of these boys may want the auto mechanics course in order to learn enough to keep their car on the road. Therefore, when interest is used as a selection factor, counselors should determine the reasons for the interest. Interests determine motivation and should be evaluated carefully. As an example, many students develop interests based on environmental opportunities. Their parents fish -- they

fish. Their mother wanted to be a nurse so the daughter hears only the virtues of nursing. What about data processing or welding? How does a student develop an interest in these areas if he or she is completely oblivious of their existence? As educators, we owe it to students to do everything in our power to broaden the base of a student's thinking. We should give them a bird's eye view of the world, not a worm's eye view. The point is, interests can be misleading.

The recommendations of various teachers is another factor used in selection and one which could be very effective. The inclusion of teachers tends to foster the idea of vocational education being an intregal part of academic education. It also helps to make teachers realize that guidance is not the sole responsibility of the counselor. Teachers might also become more cognizant of the interdependence of education and work. This statement has been made elsewhere in this report but it bears repeating -- our society is rapidly approaching the time when education and work will become synonymous. The industrial arts teacher and the home economics teacher should become key people in recommending students for vocational-technical training. Their services should also be solicited for orienting students.

Student discipline and tardy records are factors which cannot be overlooked in student selection. The safety factor in vocational education necessitates screening all applicant's behavior records. If a student has a record of an emotional

disorder, this must be noted and investigated. A student's attitude is always an important consideration in any selective process.

The attendance record of a student is also considered. Poor attendance is usually a sign of poor health or an emotional problem. If a student is sickly, certain forms of vocational training could be a health hazard. Poor attendance for other reasons is usually indicative of poor adjustment and should be carefully studied. A student who is faced with constant failure in school may feign illness to escape reality. On the other hand, this same student may be vocationally talented and success in the vocational school could serve to rehabilitate him.

All of the above factors are used in part or wholly as criteria for admission to vocational education. Each factor, considered individually, could be questioned, and proven to be inadequate as a predictor. However, when all factors are considered together, the weakness of one is offset by the strength of another. When all factors are considered, the selection procedure maintains a flexibility which prevents many of the errors of a rigid set of standards. Guidance counselors, like vocational educators, want all students to have an equal opportunity in selecting educational training. If students are adequately informed and given an opportunity to select from a wide variety of alternatives, vocational education will never lack students.

The philosophy behind the selection process in one school was summarized in two questions: (1) will the student benefit from vocational training, and (2) can he or she be trained to a level of competency to insure employability? Depending on the reader's frame of reference, this first question could be interpreted somewhat differently. To a vocational educator the interpretation might be quite simple. To determine whether the student will benefit from vocational education would depend on his interest, his ability to complete the course, and his eventual placement in a job. To a guidance counselor the question becomes much more complex. Guidance today does not limit itself to the classical concept of matching youth with jobs and disseminating information. Guidance counselors are concerned with theories of vocational development and with self concept theories relative to this development. Counselors are interested in the type of person that evolves through educational experiences. They are interested in a student's values and needs as well as his vocational abilities. Perhaps guidance is trying to bite off more than it can chew. Perhaps we are underestimating the sensitivity and perceptiveness of vocational educators. The point is, however, that the selection process to a guidance counselor is a much more involved process and his concern is heightened by the fact that the extensive use of the subjective evaluations means someone is playing God.

The following is an outline of the student selection policy adopted by the guidance counselors in Carbon County.

I. *Orientation:*

A. The home school will be responsible for the orientation of students, parents, and teachers.

1. The Area Vocational-Technical School staff will assist in this program in any way possible.

II. *Student Application:*

A. Students interested in vocational-technical school training will file an application form with the Guidance Counselor in his or her home school.

III. *Counseling of Students:*

A. After students have received as much vocational-technical school information as possible, they should be counselled individually.

1. When talking with students, counselors should keep in mind areas which tend to become overcrowded and also the following factors.

IV. *Factors Used in Student Selection:*

A. All students must have completed 9th grade.

B. All students must be at least 14 years of age.

C. Physical defects must be noted.

D. Academic record will be a factor.

E. Discipline record will be noted.

F. Attendance and tardy record will be considered.

G. Appropriate test scores will be a factor.

H. Recommendations from various teachers will be helpful.

I. Acceptance of all students will be on a provisional basis for the first semester.

V. After completing the first four steps, counselors will then submit all final application forms to the Area Vocational-Technical School.

A. Students will then be grouped according to their first choice.

1. If no areas are overcrowded, all students will be placed in their first choice.

B. The records of all students in overcrowded areas will be examined.

1. Those students who are obviously the best qualified will be accepted first.

2. Questionable cases will be discussed with the home school counselor.

3. Every effort will be made to maintain a balance of students from each of the schools.

TESTING

"Tests cannot measure vocational ability as well as an all-out exploratory program of work projects. The result of real work is certainly more indicative of skill than is the score on a scaled-down artificially contrived paper test. However, if intensive vocational shop tryouts are not available, the next best guidance tool is testing." This statement, by Dr. Franklin J. Keller, summarizes the authors feeling concerning testing for vocational-technical schools.

Tests can be extremely useful guidance instruments. Where testing fails, the failure is usually due to faulty test interpretation rather than to the validity of the test. Tests are based on statistical concepts which should be thoroughly understood by the interpretor. This understanding is essential when tests are used as predictive devices. A good example of the use of statistical concepts in prediction is that used by the weather bureau. When meterologists use instruments to measure various atmospheric conditions, the results are gathered together and interpreted in order to predict the weather. They are guessing whether it will rain or not, but they are educated guesses based on their test results. Their tests are not 100% accurate and thus they make mistakes. However, they absolve themselves of criticism by predicting according to a statistical concept upon which all tests are based. Weathermen no longer say it will rain or it

will not rain; they say there is an 80% probability of rain tomorrow. Thus, if it does not rain, the answer can be found in the fact that for every five days in which the same atmospheric conditions exist, in one of these five days it will not rain. In other words, tests increase the number of times the prediction will be right. It does not make one infallible.

Although tests are frequently used as predictors, a far more important use of tests is for descriptive purposes. A student must know something about himself in order to make a decision. How much ability do I have in comparison to the people I will be competing with to get an education or a job? If I want to be a welder, how do my abilities compare with people who are successful welders? Describing to a student how he compares with other people, also affords the counselor an opportunity to explain the uniqueness of each individual. In order to choose wisely among all the vocational alternatives available, a student must know how he is like other people, as well as how he differs from other people. Accurately interpreting this information to students is a vital function of any guidance program.

Tests are developed as scientifically as possible. They are objective criteria which, when used in conjunction with other student evaluations, enable competent users to help students make wise decisions. They have proven to be far superior to subjective evaluations and their use will

help in making vocational schools more efficient.

Let's discuss first what tests are being used and how. Most vocational schools have access to a student's permanent record card on which are recorded all test results since a student entered school. The person in the vocational school responsible for selection, counseling, and placement, should make use of all available information on each student. The more information available the more effective is the counseling.

I.Q. tests should never be used as the sole criterion for any purpose of prediction. All the vocational schools visited had access to I.Q. scores. These tests included the Otis, California Mental Maturity, Lorge Thorndike and Henmon-Nelson. When I.Q. scores are used in conjunction with other evaluative criteria, the non-verbal I.Q. may be more appropriate for vocational education than the verbal score. If the I.Q. test scores were the only basis used for selection, and it is questionable that this has ever been done, the odds would naturally favor more successful predictions for higher level I.Q.'s. However, studies indicate that talent and creativity cannot be measured by I.Q. tests. These tests <u>alone</u> should not be used to measure acceptability.

Achievement tests are useful to help formulate an accurate picture of a student's development, but are little help as a selective device. One school, because of a lack of time, used three basic test results; one of which is an I.Q.

and the other two are achievement tests. No aptitude test is administered and the interest inventory is optional. Needless to say the students are being short changed in this program. In 1962 when Dr. Keller completed his study of 100 vocational-technical schools, 49 of these schools were giving no tests at all for admission. It would probably be much better to eliminate tests, than to attempt to give vocational counseling with only I.Q. and achievement test results available. Vocationally-talented students cannot be identified with these instruments.

The intelligent use of aptitude tests should be part of any comprehensive testing program. A number of excellent aptitude tests are available for use in vocational counseling. The Differential Aptitude Test measures verbal, numerical, abstract, spatial, mechanical, clerical, grammar, and spelling aptitudes. Ease of administration has encouraged a wide-spread use of the DAT. Most vocational schools who use this test, are more interested in mumerical, spatial, abstract, and mechanical scores than the other three. When this test is used in conjunction with an interest inventory, students are motivated to analyze their abilities and interests as they relate to various kinds of jobs. For instance, a student may score high in mechanical aptitude as well as mechanical interest. With this information, he begins to realize that here is an area in which he has more potential than most people. He knows that, with adequate training, he could probably excel in this

field. Without an aptitude test, he might never have realized he possessed this potential. According to Dr. Donald E. Super, in his critique of the DAT, "Its occupational norms and validity data are still too limited; however, for it to be used with confidence for differential vocational prediction or counseling."

The General Aptitude Test Battery measures intelligence, verbal aptitude, numerical aptitude, spatial aptitude, form perception, clerical perception, motor coordination, finger dexterity, and manual dexterity. The GATB norms are expressed in terms of occupational aptitude patterns. Each pattern consists of the cutting scores (minimum scores) established for each of three key aptitudes required by a job family of similar occupations. Pattern three, for example, consists of G - Intelligence, N - Numerical, and S - Spatial aptitude with minimum scores of 125 on G, and 115 on N and S. Occupations covered by this pattern are Laboratory Science Work, Engineering and related jobs.

Some 36 occupational aptitude patterns have been developed so far, and research is constantly being done to keep up with changes due to technological advancements. This permits students to view their aptitudes in terms of broad groups of occupations rather than in terms of individual occupations. This inherent flexibility allows students to explore many different job possibilities.

Norms on the GATB are now available for 9th grade students. These youngsters, who must make a tremendously important educational decision, have only a vague, unstructured idea of various courses of action. They need to know what their limitations are. Ann Roe has stated, "The high school norms for the GATB should be of considerable value. For example, when a 9th grader is trying to decide whether he should head toward college or toward a technical school, we ought to be able to make a prediction about where he is likely to stand in comparison with other applicants for technical schools in the abilities required there, as well as to predict whether or not he will qualify for college." She also points out, that accumulation of minimum scores would facilitate decisions as to the probability that a student could qualify at all for a given occupation.

Many students in 9th grade need help in the location and formulation of promising courses of action. They need a device which gives them a realistic framework in which they can operate. The GATB helps a student discover what his occupational limitations are.

Dr. Gene Bottoms, Georgia State Supervisor of Vocational Guidance, who is presently working on a more extensive but similar research grant, has developed statewide norms based on the Dailey Vocational Tests. These norms are presented in a booklet entitled, *Counselor's Guide to Georgia Area Vocational-Technical Schools*. After students have taken the

aptitude tests, the results are explained to them by counselors with the use of this booklet. For instance, a student interested in electrical construction can compare his percentile rank with that of other students presently enrolled in Vocational-Technical Schools.

Dr. Bottoms points out that the Dailey Vocational Tests are not designed to become an admissions instrument. Most of the schools plan to continue their use of the GATB as their selection criterion. The development of norms for the Dailey Vocational Tests has been done primarily to assist students in selecting the course to be pursued. Examination of the content of the Dailey Vocational Tests and the GATB indicates that the two are related and there should be little conflict between scores made on the two tests.

Georgia has made tremendous strides in up-grading the image of vocational education within the state. They have collected information on industrial and business opportunities available through vocational training; they have done follow-up studies on graduates; and then presented this information by means of high quality booklets, posters, filmstrips, T.V. programs and newspaper releases. They feel that students have not been adequately informed of vocational-technical school opportunities, and that much of the information that had been available was poorly presented and of inferior quality in comparison with communication publications by colleges. By improving their communication media, they have improved the vocational school image, and increased enrollments.

No attempt was made in this study to thoroughly investigate all available aptitude tests. Only tests presently being used in the schools visited were seriously considered. However, information on aptitude and other tests, supplied by the *5th Mental Measurement Yearbook* by Buros, and *The Use of Multifactor Tests in Guidance* by the American Personnel and Guidance Association, were carefully studied.

The GATB was felt to be the best aptitude instrument for use in orientation and selection of students to attend Area Vocational-Technical Schools. The specific use of this test battery is explained in part II of this report under, Testing for the Carbon County Area Vocational-Technical School.

Of all the testing instruments available, interest inventories and personality tests are the least reliable. However, research indicates that interest inventories may be useful for assessing certain aspects of a student's total motivational pattern that determines what kind of occupational situation he will find congenial. Much of this research has been done on the Strong Vocational Interest Blank. This instrument has proven to be the best device for measuring interest. Its use on a 9th grade level, however, would be limited. It is difficult to score and it is geared primarily to professional and managerial level jobs and does not have relevance for non-college students.

Another fundamental weakness of interest inventories is the fact that they tend to perpetuate the status quo. Norms are established to indicate how students resemble present workers. This disqualifies students who may be innovators. A student who varies from the established norm for a certain occupation could possibly possess motivation which cannot be measured by present testing devices. The fact that student interests are developmental in nature is likewise not measurable by today's interest inventories. The growth of interest, like career development, is extremely difficult to ascertain through testing. Tests describe how an individual reacts at the time of testing, but its predictive value is lessened because of the constant growth of the student.

With these thoughts in mind, let's consider the possible uses of an interest inventory. The Kuder Vocational Interest Inventory measures nine areas of interest. It can be used as a tool to help students in 9th grade structure their thinking about occupations. The D.O.T. has well over 20,000 job descriptions. What method should be used to study job opportunities? One suggestion would be to use the GATB as a motivational device to stimulate occupational thinking. This has been explained in the Carbon County Area Vocational-Technical School guidance program. Another device for motivation could be the Kuder Vocational Interest Inventory. When this instrument is used in a group guidance class, where its limitations can be explained before the results are interpreted,

it can serve a very useful purpose. For instance, negative results on the Kuder have been found to be more indicative of occupational dislike than positive results are for like. Thus, by a judicious use of results, a student can begin to narrow down his occupational exploration without fear of an excessive limiting of his possible alternatives. Occupational exploration must begin somewhere, and interest is a proven factor in job satisfaction success.

The Hackman-Gaither Interest Inventory is a more recent interest measurement and could be used as well as the Kuder. Since both these instruments are easily administered and scored, the choice is up to the discretion of the counselor.

All tests can be classified as intelligence, achievement, aptitude, interest, or personality. For counseling purposes, the more test results available the more accurate the decision process will be. Therefore, counselors should have available a complete, up-to-date testing record on each student. However, it would not be necessary to have 9th grade test results from each of these five areas, unless for some reason, a student would have no test record at all. Only two testing areas are recommended: A multifactor aptitude test and an interest inventory.

Personality tests are less valid than any other test and appear to have little use in vocational counseling at the present time. However, a student's personality is definitely a factor in educational and vocational training.

Students training for jobs in the service areas, where they are required to meet and deal with the public, must possess certain personality traits. If these traits could be accurately measured by a testing device, it would be extremely beneficial. The author has used various personality tests in 8th grade group guidance classes, but they have proven to be of little value except as a catalyst to stimulate thinking about mental health. As these tests become more valid, they will serve a useful function.

PLACEMENT

The placement of vocational-technical school graduates into business and industry is done in a variety of ways. In many schools, placement is done almost exclusively by the individual shop instructors. These schools feel this enables the teachers to keep abreast of industrial changes. It also affords instructors the opportunity to check on graduates. If previously placed graduates are not measuring up, the instructor receives this information directly from the employer. This constant contact with industry provides the stimulus to keep programs up to date. One school system felt that the industry-teacher relationship was important enough to warrant the hiring of a floating teacher. This enables each shop instructor to spend one full day every three weeks in industrial visitations. When industry is kept informed of educational programs, they are quick to get in touch with the school when various jobs need filling. Instructors know their students better than anyone else. If they are completely honest with employers concerning a student's accomplishments and potential ability, they can develop a harmonious working relationship with industry.

Accurate records should be maintained on each student. These records should indicate a student's achievement as well as his attitude, attendance, and growth potential. For the student's sake as well as the employer's, honest evaluations should be given during placement.

In another school, placement is done almost entirely by the vocational school counselor. Recommendations from shop teachers are given to prospective employers by the counselor. Valuable information is obtained by the counselor in his contact with industry which enables him, like instructors, to keep abreast of industrial changes. This information is necessary for more effective counseling.

In the majority of the schools visited, placement is a cooperative procedure between the guidance counselor, the State Employment Service, and the vocational school instructor. This system enables instructors and counselors to enhance their background information, and at the same time make use of the industrial contacts developed by the employment service.

It would seem that this last method of student placement would be the most effective for all concerned. It enables counselors and instructors the industrial contact necessary for better teaching and counseling, and it utilizes the resources of the Employment Service. No school could possibly duplicate the vast amount of material and contacts available through the State Employment Office. With our highly mobile society, these services are being extended to serve the country as a whole rather than a local area. Eventually, the Employment Office will have available job statistics from all parts of the country. A student completing a course in chemical technology in Pennsylvania may decide, because of the availability of jobs, to

work in California. When we begin to take a more universal view of job opportunities, training courses can become more extensive. Vocational training should not be limited to jobs available in the immediate area, it should offer courses which are in demand throughout the country. This information can be given to students to enable them to make a decision based on their abilities and interests, and not solely upon job openings in the immediate vicinity of the school.

Job placement is a primary concern of vocational-technical education. If students are unable to obtain satisfactory working positions, vocational school training becomes worthless. However, career development is a continuous process, and in the future, job changes will become more prevelant. Many students will change jobs from three to six times in the course of their working life. Thus, vocational education should not be judged successful or unsuccessful according to the number of students placed in jobs for which they were trained. According to Dr. Donald Super, students will go through various stages in their career development. The stage at which they tend to maintain the work they are engaged in does not come until the worker is in his late twenties or early thirties. Students completing vocational school training at the age of 17 or 18, cannot be expected to enter and remain in the job for which he or she was trained. To use initial job placement as the sole criteria of vocational school effectiveness if unrealistic.

To some students this training may have a negative effect. That is, they may decide after completing the training that this is not the type of work they want to do. They may go into a related line of work or they may take additional schooling for completely different work. These students have grown through their experience in the vocational school. They have not been poorly counseled. They have used their educational experience to arrive at a more mature decision.

Fortunately, most students, by means of vicarious experiences, are able to arrive at adequate vocational choices. The constant development of materials which can be used in decision making should be the goal of all educators. The integration of vocational development with academic development will help in the decision-making process.

STUDENT FOLLOW-UP

In order to ascertain the effectiveness of any program, follow-up information is necessary. This information can then be used in counseling students, in curriculum adjustment, and for developing more effective orientation programs.

All of the schools visited agreed that information on graduated students, who have been out of school for awhile, would be extremely beneficial. However, most of these schools have been unsuccessful in obtaining this information. They do have information on the status of students who have just graduated. This information is necessary to complete a form required by the State. Thus, information such as the number of students entering jobs directly or indirectly related to training is available, and also the number of students who enter the Armed Forces or get married. This type of information is good. However, in order to get maximum usage of follow-up data, the disposition of students after one year, three years, and five years is necessary. Realizing this, most schools have attempted at one time or another, through questionnaires, to obtain this information. Returns are usually so poor that these schools feel the results are not valid. The problem becomes one of developing methods of getting better returns on requested data.

Various methods have been used to increase the returns on questionnaires. The most effective methods is the

use of a birthday card. Former students receive, on their birthday, a greeting card which serves a dual purpose. It is a personal birthday greeting and a request for information. If students are informed, while in school, of the necessity for this information, the returns are usually better. Thus orienting students, plus the use of birthday cards, has produced in some schools statistically usable returns.

What information is usable? Most questionnaires ask for the student's name, where he is employed, his rate of pay, kind of work, advanced schooling, whether he is in the Armed Forces, if so, what kind of work is he doing, etc.; and perhaps a request to evaluate his vocational school training. Some areas could be more detailed, but increasing the size of the questionnaire tends to decrease the returns. Basically, the information requested should be vocational in nature. The kind of job, the qualifications necessary, chances for advancement, hours of work, wages and potential increments, new methods of work not taught at the vocational school, etc. This data would be extremely helpful to educators as well as potential students.

Another method which could be explored for possible students' follow-up, is a form of newsletter. Since vocational schools will offer adult programs for the upgrading of job skills, as well as vocational courses, this information could be distributed in the form of a newsletter. An explanation of the need for follow-up studies could be briefly presented

along with a questionnaire. If the newsletter contains news of former students, it will more than likely be read and answered.

Follow-up studies have two major purposes: (1) to evaluate the effectiveness of the vocational education program, and (2) to maintain contact with previous students in order to obtain information about post-school history and to help students in their educational or vocational progress.

To summarize, follow-up information could be used in the following ways: (1) using the results for curriculum revision; (2) improving the guidance program, through a study of successful and unsuccessful cases; (3) helping previous students in need of further service; (4) studying selected groups of students (perhaps those scoring high or low on certain phases of an aptitude or interest test); (5) presenting information to incoming pupils about the post-school educational and work histories of previous graduates; and (6) interpreting follow-up data to the faculty so that they understand better what is happening to their students and are aware of the outcomes of the vocational-technical program.

It is recommended that follow-up studies be done on a one year, three year, five year, and possibly a ten year basis. Returns should then be constantly evaluated in light of increasing technological changes. (See Part II of this report for a sample follow-up questionnaire to be used by the Carbon County Area Vocational-Technical School.)

CARBON COUNTY AREA VOCATIONAL-TECHNICAL SCHOOL GUIDANCE PROGRAM

PHILOSOPHY

The guidance function is essentially one of helping people choose wisely from among the alternatives available to them. We do this by encouraging students to study themselves in relation to their present and future opportunities. We are less concerned with what students choose as we are that they have the widest possible range of opportunities from which to choose. As counselors we are not interested in making students decide, but in helping them arrive at realistic decisions. We are less interested in the something they become as the someone they become. Our primary concern then becomes one of helping individuals to make choices based on increased self and environmental understandings. If the guidance program is working properly, students in the vocational-technical school should be those students who have arrived at this decision after careful consideration of all available alternatives. We assume that these students are capable, with adequate counseling, of making rational decisions. Therefore, most students enrolled in vocational-technical education should be persons having reasonable chances for success in the curriculum of their choice.

A counselor's primary allegience must be to his counselee, not to vocational education. Vocational educators, as well as counselors, must have confidence that given adequate information

and time to choose from among alternatives, most students will choose wisely and sensibly. We must uphold the right of the individual to lead his own life and to believe that most individuals can and will accept the responsibilities which accompany this right.

A commonly held perception is that students should choose to do that in which he or she can be most successful. If we accept this perception, our country would be faced with a continuing under-development and under-utilization of talent in our society. Some students will elect the sure, safe route to success while others will select routes involving risk of failure. The counselor's function is not to arbitrarily decide that one decision is more desirable or worthwhile than another. Rather, the counselor should help the individual to fully understand the alternatives available to him. The final decision is made by the student not the counselor. Counselors must allow the risk function to operate without prejudging the desirability or lack of desirability of decisions students make with respect to the risks they are willing to take. Therefore, if the guidance program is successful, there will be some students in the vocational-technical school who are capable of successfully completing the most difficult academic sequence, and some students whose chances for successful completion of the course is questionable. However, most of the students who are enrolled will have a more reasonable chance of success in vocational education than they would have

in a highly academic curriculum.

If the only measure used to compare students in the college preparatory curriculum with those in vocational education is one which best predicts success in college (intelligence tests), then vocational education students would, on the average, be expected to score lower. Guidance counselors will realize this and need not apologize for it.

Another factor which counselors must consider is the rapidity with which our occupational society is currently changing. Young people need to develop flexibility in anticipating and meeting change. Counselors must discard once and for all the notion of vocational guidance as a single event at a certain stage in a student's life. The uncertainty involved in the constantly changing work roles will require an expanded program of guidance and counseling. Vocational guidance must be made a continuous process starting in early childhood and extending into the adult years.

Counselors must realize that work and education may soon be synonymous and that there is no dichotomy between a technical and a liberal education. There is no adequate technical education which is not liberal and no liberal education which is not technical. Education should turn out a student with something he knows well and something he can do well.

Vocational guidance and educational guidance are interdependent and mutually enhance each other. They are not at cross purposes. At the present time, there is a crucial

need for vocational education to really become a part of education and not apart from the rest of education.

ORIENTATION

The participating school districts will be responsible for the orientation of students, parents, and teachers. The Area Vocational-Technical School staff will assist in the orientation program in any way possible.

Guidance brochures will be available to explain the programs and policies of the school. Additional written material on specific courses is also available and will continue to be developed and disseminated to the schools as the programs develop. A regular system of communication will be developed to keep students, parents, counselors, and teachers constantly informed of the opportunities available in the Area Vocational-Technical School. Thirty-five millimeter slides are available depicting vocational-technical classes in operation. With the opening of school, additional colored slides will be made of all phases of the vocational-technical program.

Beginning with the school term 1966-67, guided tours of the school will be arranged with each home school. It is hoped that all 9th grade students in Carbon County will have the chance to see and hear the opportunities available in this form of education. These tours will not be limited to 9th grade. Junior high school students as well as elementary students will be encouraged, through tours of the vocational school, to learn more about the world of work. Guided tours for teachers

will also be arranged as part of an in-service training program. The success of vocational-technical education in Carbon County depends on well-informed educators -- all educators.

A similar program will be planned for all parents and interested adults. Orientation programs are not one time affairs. They must be continuous with a degree of flexibility that will insure their constant growth.

We feel students should begin their study of occupations on the elementary level. In order to encourage this, material will be developed for use in the elementary school. Additional material for the junior high school will be developed for use in the industrial arts and home economics curriculums. In order for this material to be used effectively, industrial arts and home economics teachers must be convinced of the educational soundness of this procedure. These particular teachers can contribute immeasurably to the tremendous task of orienting students to the myriad opportunities available to them through various forms of education. Let me emphasize again that intelligent decisions can only be made when the individual has had an opportunity to study all possible alternatives. This material will be developed and disseminated upon approval of all guidance counselors and subject matter teachers involved. It is hoped that this cooperative guidance project will serve as a motivating factor in the development of a truly comprehensive guidance program which will extend from elementary school through postgraduate training.

It is recommended that group guidance classes be established for all 8th or 9th grade students. This will enable students to systematically study all possible educational and occupational alternatives. It would also enable counselors to administer and interpret various tests such as aptitude, interest, and achievement tests. Having all students together as a group affords a counselor the opportunity to cover a great deal of information that could not possibly be dealt with in individual counseling sessions. When students have been exposed to all possible alternatives available to them, then individual counseling sessions will be much more fruitful.

As an intregal part of this group guidance class, it is suggested that the General Aptitude Test Battery be administered to all students. The interpretation of the results of this test could then be used as the motivating device to stimulate students to analyze their abilities in relation to the possible vocational opportunities available to them. This test would be an excellent device to generate interest in the study of occupations. The GATB covers all occupational phases from unskilled jobs up through those occupations which require a college degree.

It is estimated that man's knowledge is doubling every twelve years. In order to effectively utilize this fantastic growth in knowledge, the computer will become an absolute necessity. This knowledge explosion and the use of automated equipment is naturally affecting all kinds of jobs. One of the greatest obstacles facing guidance as it pertains to young people,

is how to adequately inform students of these tremendous changes. It cannot be done in individual guidance sessions. We must insist that students have the opportunity to systematically study the "world of work".

Upon completion of the guidance class, students will be required to make a decision concerning the curriculum they will pursue. At this time it would be advisable to counsel all students individually.

STUDENT SELECTION

Students interested in vocational-technical school training will file an application form with the guidance counselor in his or her home school.

The following factors should be used in counseling students:

1. All students must have completed 9th grade.
2. All students must be at least 14 years of age.
3. *Physical Defects* - Any physical defect must be noted on the application form. A physical defect will not necessarily prevent a student from attending the vocational-technical school, but must be considered in light of the student's chosen area. Note should also be made of any emotional history.
4. *Academic Record* - A student's academic record should be considered as it pertains to the specific area in the vocational-technical program the student wishes to enter. For instance, students with severe reading deficiencies would be handicapped in all of the technical courses and some of the vocational courses. Mathematical deficiencies would also be a handicap in many courses.

5. *Discipline Record* - The discipline record of a student will give evidence of present maturity, acceptance of responsibility, and respect for authority. These qualities are important for success in vocational-technical school training, and industrial employment. Lack of self-discipline could lead to behavior which would endanger the safety of other students.

6. *Attendance and Tardy Record* - Industry will not tolerate excessive absence or tardiness. Since the nature of the training program is for gainful employment, students must maintain a good attendance record. Failure to do so, could result in dismissal from the vocational-technical school.

7. *Test Scores* - All test scores given within the last three years should be noted on the application form. GATB test results should be used as a counseling guide. All other test results such as I.Q., achievement, interest inventories, special aptitude tests, and personality tests should be noted, but should not be used as the sole criteria for possible success in vocational education. A testing program will be developed within the vocational-technical school and local norms established. These test results will then be available to counselors for use as guidance tools.

8. *Recommendations* - Recommendations from various teachers will be extremely helpful in students selection. All students must be recommended by their guidance counselor. Other teacher recommendations that will be helpful are: industrial arts, home economics, art, math, and homeroom teachers.

9. *Acceptance* - Acceptance of all students will be on a provisional basis for the first semester.

Students will have the benefit of home school and vocational school guidance services. Periodic visits to the school by counselors will serve to keep counselors well-informed of all aspects of vocational training necessary for effective counseling. Course changes by students will be the responsibility of the vocational-technical school counselor. Problems arising

from students wishing to drop vocational training and return to the home school will be handled by the vocational school counselor in cooperation with the student's home school counselor.

TESTING

The use of tests as a guidance tool is a foregone conclusion. The question is, what tests and how do we use them?

The effectiveness of a test will depend on four basic characteristics: (1) description, (2) prediction, (3) timelessness, and (4) multipotentiality. A test must describe a student so the counselor can see him as he is at the time of testing. It must predict, as accurately as possible, what he will be like and what he may do at some future date. A test must also be timeless in order to be usable over a long period of time. And finally a test should be like the people it tests, multipotential.

Naturally, no test is 100% valid or reliable, but the more statistics that are available, the better counselors can judge validity and reliability. The most important feature of the General Aptitude Test Battery is the mass of data which has been accumulated. According to Dr. Lloyd G. Humphreys, Professor of Psychology at the University of Illinois, "Such data are of primary importance for selection or guidance purposes."

The GATB measures nine different aptitudes and has been completely factor analysized. It has been standardized on

the working population from professional level jobs down to unskilled jobs. Scores can be broken down into 36 occupational families with 806 related jobs.

The GATB is a complete testing program measuring general intelligence, math aptitude, reading ability, and mechanical aptitude. It is applicable for college bound students as well as vocational students. The goal of vocational guidance at the junior high school level is the broadening of occupational horizons rather than the premature narrowing of choices. Counselors should strive to maximize the individual's potentialities rather than merely screen him in relation to a few requirements. Students should be provided with a broad career orientation program in the 8th or 9th grade in order to facilitate the making of specific curricular choices required by our educational system.

According to Dr. Donald E. Super, Columbia University, who is recognized as the leading authority on career planning and development, "I am quite impressed with both the technical problems and the practical importance of the administration of tests that have shown occupational significance, such as the GATB, to youngsters when they are about the 9th grade level. This is the choice point. This is where curricula are chosen. The decision may be changed later, but at least a preliminary decision as to type of curriculum is made and these curricular choices are, after all, pre-occupational, whether they are choices of the academic curriculum which is pre-

professional, or the commercial curriculum which is pre-business, or the technical curriculum which is pre-trade. Obviously, it is to the advantage of the student and of the school to have data that help the youngster to choose a curriculum which is oriented toward the type of work and the way of life that he is going to enter or that he may enter eventually."

The GATB is now available for purchase and use in junior and senior high schools. Norms have been established for 9th grade students. Given on a 9th grade level these tests can be used for a variety of guidance functions. Not only will they help to broaden the occupational thinking of a student, but they can also be used as predictors of general school success. The scores derived from the intelligence, verbal aptitude, numerical aptitude and clerical perception parts of the battery are highly related to high school success. There is also considerable evidence that the GABT has a substantial relationship to college success. There is probably no other aptitude test that has been researched as widely and extensively as the GATB.

The following is a summarization of the use of the GATB on a 9th grade level:

1. The scores made on each of the GATB aptitudes can be interpreted to a group guidance class and then individually in a counseling interview. This will assist the student to grow in self-understanding if he is encouraged to evaluate the scores in relation to other information he knows about himself and his past achievements.

2. Counselors can assist students to identify particular aptitude scores which are high. Some students may possess special skills which cannot be easily discovered by regular academic-type tests. The vocational implications of these special skills should then be discussed with the student.

3. The Occupational Aptitude patterns (36) can provide a basis for helping students to learn the test-measured aptitudes which have been objectively and subjectively identified with occupational fields of work. The student may wish to discuss the aptitudes considered important for certain occupations of interest to him, or he may reverse the process and explore the occupational fields related to his aptitude scores.

4. The GATB may be used as a means to motivate vocational planning or study on the part of individual students or of group guidance classes. The test will provide a means to initiate exploration of occupations. The occupations listed in the GATB materials are coded according to the Dictionary of Occupational Titles.

5. The G, V, and N scores on the test can be used as measures of scholastic aptitudes. These measures compare favorably with other tests of school learning ability.

6. The GATB offers help in identifying student skills, in addition to academic skills, which are related to learning potential in a vocational-technical school program.

In conjunction with a group guidance program, an interest inventory could also be used as a motivational device to assist in the study of occupations. Since occupational interest is a developmental process, the results of inventories should not be used as the sole criteria for vocational counseling. However, the results of interest inventories can serve to stimulate additional interest in occupations.

The results of the Kuder Vocational Interest Inventory can be used to explain the need for interest as well as aptitude in arriving at decisions of vocational choice. Educational planning as well as vocational planning must consider an individual's interests and values as well as his aptitudes and achievements.

Since tests help to describe a person as he now is and can be used in conjunction with other factors to help predict what he may do, then the use of any other test results will also prove helpful. Intelligence tests, achievement tests, and personality tests will serve to fill in many additional details concerning an individual's educational and vocational potentiality.

According to vocational educators many of the students who are unable to successfully complete vocational-technical courses are unable to do so because of severe reading deficiencies. Since the vocational-technical school will only accept students who have completed the 9th grade, it is hoped that these students will have enough reading ability to handle vocationally-related reading material. It would seem that a student who has been able to complete 9 years of academic training cannot be sufficiently retarded in reading to be incapable of vocational training. Most students who drop out of school because of a reading deficiency tend to do so prior to 10th grade. Therefore a special reading test at the 9th grade level does not appear to be critical for counseling

toward vocational education.

It would seem advisable to consider any test results that may be available, with emphasis placed upon the results of tests which have been given within the past three years.

Students have been selected for the 1966-67 school term on the basis of the recommendations of the home school guidance counselors. It was felt that not enough time was available this first year to incorporate a complete testing program. The only exception was in Data Processing. All students electing this course, were tested with the IBM Aptitude Test. According to the manual of this test, any student scoring below 35 would be in jeopardy of not being able to successfully complete the course. Since this test was normed on post high school students with a mean age of 30.2 and a mean educational level of 14.3 years, it was decided to drop the cut off point to 30. Students scoring below 30 were recounseled. Counselors were asked to consider other factors such as educational achievement, personality, etc., and then make another recommendation in line with the student's reevaluation of his decision. Some students scoring below 30 will be accepted, but only upon the recommendation of the school counselor. When enough test results are available, local norms will be developed for Data Processing.

Due to a lack of uniformity in test results, for the 1966-67 school term, all students accepted will be tested during the first year. A comprehensive testing program will be

developed within the vocational-technical school to begin the development of local norms. It is hoped that a similar testing program will be developed in the participating high schools, since the test results will be invaluable guidance tools in counseling students. If a uniform testing program could be developed for Carbon County, it would facilitate the development of these local norms.

CUMULATIVE RECORDS

An extensive cumulative record system will be developed for all students in the vocational-technical school. Effective counseling whether educational, vocational, or personal, can only be done with the aid of complete and accurate records. The Student Service Coordinator in the vocational-technical school will be a guidance counselor, and his function will be similar to that of counselors in the participating schools. Thus, the cumulative record folder will serve the same purpose in the vocational school as it does in the home high schools. Extensive information on each student's training within the vocational-technical school will also be an important part of the permanent record. This information will be used in counseling students. It will also be used, to a limited extent, when students are placed in industry. The development of a complete and accurate record on each student is vital to the effective functioning of guidance services.

COUNSELING

With the inclusion of a guidance counselor within the vocational-technical school, guidance services are now being extended and specialized. All guidance services normally found in academic high schools will now be available in the vocational-technical school. These services will include educational counseling, many vocational students will continue their training in a junior or community college; personal counseling, many personal problems may be inherent in the vocational education program; and vocational counseling which will become highly specialized as it pertains directly to the occupational training offered in the vocational-technical school.

Vocational counseling is, and will continue to be, part of the guidance function in all schools. However, the Student Service Coordinator will specialize in vocational counseling in much the same manner as some counselors specialize in college placement. He will become an expert on the specific courses offered at the vocational-technical school. These 15 areas, plus all jobs which may be related to these areas will be a primary concern of the Guidance Coordinator.

The constant accumulation and updating of material which pertains to vocational-technical education will be continuously disseminated to counselors and students through the vocational-technical school counselor.

JOB PLACEMENT

The primary purpose of vocational-technical school training is employment. Every effort will be made to place students in business or industry. Job placement will be a cooperative operation among the vocational instructors, the State Employment Service, and the Student Service Coordinator. When placement is handled by the vocational-technical school, it enables the instructors and the counselor to keep abreast of the latest technological advances. Constant contact with industry helps to develop a well-rounded curriculum. It develops industrial contacts for future student placement, and also helps in the follow-up of students.

Information obtained in student placement can also be used as part of the orientation program. For instance, statistics on the number of students placed, beginning salaries, advancement of past students, etc., is the type of information that students and parents can understand. This information is made up of concrete facts, and not abstract platitudes.

Job placement is one indication of vocational-technical school success. However, this should not be considered the sole criterion. How many students select the academic course and then don't go to college? How many students select the business curriculum, but do not accept jobs in this field? These facts are not used to discredit these courses of study, why should similar statistics be used as a yardstick to measure vocational school success? Naturally, as counselors, we would like to

feel that we have been so successful in counseling students that all students will directly benefit from the training they have elected. This is unrealistic. Some students will benefit from their training indirectly, by going into related fields of work. Perhaps this training will serve to motivate some students to drop vocational schooling and enter a completely different field of study. These cases should be considered successes not failures.

Many factors enter into final job placement. We cannot isolate one or two facts and expect to develop realistic criterion of success.

FINAL INTERVIEWS

A constant effort will be made to develop objective criteria for the evaluation of students. Various tests, counseling sessions and follow-up studies will be done in an effort to gather data which can be used to determine which students would benefit most from vocational-technical school training. Longitudinal studies, such as "Project Talent", and GATB follow-ups, are proving helpful in predicting student success in various job training programs. This information, in conjunction with the development of local test norms, will supplement orientation programs and aid in the counseling of students.

There are many reasons why students decide to terminate their education. If a student decides to drop out, every effort should be made to determine why. A final interview

sheet has been developed to help answer this question. This questionnaire is actually an evaluation sheet. It requires the student to reevaluate his reasons for leaving the program and it affords him an opportunity to critize his training course. This evaluation report will be completed by the counselor through a final interview with the student. Every effort will then be made to utilize this information in a constructive manner.

Information obtained in these interviews can be used to evaluate the orientation program, to augment counseling procedures, and to adjust curriculums. It should be remembered that students leaving the program are not always indications that the program is a failure, on the contrary the course may have served to guide a student into a more satisfying line of endeavor.

FOLLOW-UP

In evaluating a program, follow-up studies are essential. The information obtained would be invaluable for the orientation program, for augmenting counseling techniques, and also for curriculum adjustments.

The difficulty with most follow-up studies is the lack of cooperation on the part of the people being surveyed. However, this information need not be obtained by questionnaires alone. Much follow-up information can be obtained by the vocational instructors in their job placement service.

The questionnaire, however, will probably be the main source of obtaining the necessary information. Knowing that returns tend to be low, certain steps can be taken while students are still in school. The importance of this information can be stressed by instructors during the course of study. If the esprit de corps of the vocational school is developed and maintained, this will also help. The more pride a person has in his school, the more likely he will return requested information.

The form used can be developed into a type of birthday greeting card and mailed at the appropriate time. The accumulation of this information will then become an annual event. This could serve a dual purpose. Constant communication with students will invariably lead to more contacts for possible placement.

This utilization of the alumni could be developed further in much the same way it is done in colleges. A short bulletin or information about the school could be enclosed with the questionnaire. Retraining programs could be listed, and students encouraged to upgrade their skills. Counseling would be available, and might prove to be far more valuable at this level than it was at the high school level.

Naturally students would be offered the opportunity to make suggestions concerning the curriculum. This information, tempered by actual job experience, would supplement suggestions obtained from the craft committees.

The constant evaluation of the vocational-technical school by students, teachers, and industry will help prevent the lock step type of education which still hampers much of education today.

CARBON COUNTY AREA VOCATIONAL-TECHNICAL SCHOOL

COURSE OFFERINGS

1966-1967

		No. of Years	Boys or Girls
VOCATIONAL OCCUPATIONS:	Auto Body Repair	3	Boys
	Auto Mechanics	3	Boys
	Carpentry & Cabinet Making	3	Boys
	Commercial Art	3	Boys or Girls
	Electrical Construction	3	Boys
	Machine Shop	3	Boys
	Welding	3	Boys
SERVICE OCCUPATIONS:	Cosmetology	3	Boys or Girls
	Distributive Education	1	Boys or Girls
	Food Preparation	3	Boys or Girls
	Practical Nursing	1	Girls
TECHNICAL OCCUPATIONS:	Chemical Technology	2	Boys or Girls
	Data Processing	1	Boys or Girls
	Drafting Technology	3	Boys or Girls
	Electronics	3	Boys or Girls

CARBON COUNTY AREA VOCATIONAL-TECHNICAL SCHOOL
Jim Thorpe, Pennsylvania

APPLICATION FOR ADMISSION

PLEASE PRINT

HOME HIGH SCHOOL _____
DATE _____ GRADE _____
NAME _____ SEX _____ AGE ____ BIRTH DATE _____
Last First
ADDRESS _____ PHONE _____

HEALTH: FAIR ___ GOOD ___ EXCELLENT ___ PHYSICAL DEFECTS _____

GRADES 1ST SEMESTER:

DAYS ABSENT THIS YEAR _____

ENGLISH _____ READING _____
HISTORY _____ SCIENCE _____
BIOLOGY _____ GEOMETRY _____
PHYSICS _____ ALGEBRA _____
MATH _____ FOR.LANG. _____
LATIN _____ GEOGRAPHY _____
HEALTH _____ PHYS.ED. _____
ART _____ TYPING _____
INDUSTRIAL ARTS _____
HOME ECONOMICS _____
MECHANICAL DRAWING _____
BOOKKEEPING _____

FIRST CHOICE _____
COUNSELOR RECOMMENDATION _____

SECOND CHOICE _____
COUNSELOR RECOMMENDATION _____

THIRD CHOICE _____
COUNSELOR RECOMMENDATION _____

TEST SCORES (WITHIN LAST 3 YEARS)

	Name of Test	Date	Results
ACHIEVEMENT			
APTITUDE			
I.Q.			
INTEREST			
READING GRADE LEVEL			

	Name	Occupation	Firm Name & Address	Education or Training
FATHER				
MOTHER				

STUDENT'S SIGNATURE _____ PARENT'S SIGNATURE _____

RETURN COMPLETED FORM TO YOUR COUNSELOR AS SOON AS POSSIBLE

CARBON COUNTY AREA VOCATIONAL-TECHNICAL SCHOOL
Jim Thorpe, Pennsylvania

FINAL INTERVIEW REPORT

NAME _____ DATE _____

ADDRESS _____ PHONE _____

HOME HIGH SCHOOL _____ GRADE _____

COURSE _____ INSTRUCTOR _____

VOCATIONAL SCHOOL GRADES:

_____
_____
_____
_____
_____
_____

HOME SCHOOL GRADES:

ENGLISH _____ MATH _____
HISTORY _____ SCIENCE _____
OTHERS _____
_____
_____
_____

REASONS FOR FAILURE OR TRANSFER: (poor attendance, truant, poor reading ability, poor math ability, poor test grades, misbehavior, lack of interest, inability to get along with instructor, etc.)

COUNSELOR'S RECOMMENDATION:

1. _____Return to home school
2. _____Course transfer

Reason for transfer:

HAVE PARENTS BEEN NOTIFIED? _____YES _____NO

PARENTS' REACTION:

ADDITIONAL STUDENT INFORMATION: (poor economic status - parental problems - peer group acceptance - emotional or psychological problem - involvement with police - disciplinary action in home school - etc.)

EXTRA CURRICULAR ACTIVITIES:

STUDENT'S OPINION OF THE VOCATIONAL-TECHNICAL SCHOOL: (courses - instructors - etc.)

CARBON COUNTY AREA VOCATIONAL-TECHNICAL SCHOOL
Jim Thorpe, Pennsylvania

FOLLOW-UP QUESTIONNAIRE

A birthday greeting card will be developed. This questionnaire will be attached to the card. Graduates will be asked to answer the questions, detach the card, and mail it.

The following information will be requested:

NAME _____ TELEPHONE _____

PRESENT ADDRESS _____

ARMED FORCES _____ BRANCH _____

VOCATIONAL SCHOOL COURSE _____

EMPLOYED BY _____

EMPLOYER'S ADDRESS _____

PRESENT SALARY _____

DESCRIBE THE TYPE OF WORK YOU DO _____

_____

_____

_____

DO YOU PLAN ANY ADDITIONAL SCHOOLING? _____

WHAT KIND? _____

_____

HAS YOUR VOCATIONAL SCHOOL TRAINING BEEN HELPFUL? _____

IF NOT, WHY NOT? _____

_____

_____

_____

_____

_____

IF UNEMPLOYED, GIVE POSSIBLE REASONS FOR INABILITY TO OBTAIN JOB _____

_____

_____

_____

SCHOOLS VISITED

1. Allentown Vocational-Technical School
   40 North 17th Street
   Allentown, Pennsylvania

   George W. Elison, Director of Vocational and Adult Education
   Blair Dreisbach, Coordinator Vocational Education

2. Area Vocational-Technical School, Attendance Area I
   Northampton County
   Linden and Laurel Streets
   Bethlehem, Pennsylvania

   Joseph Rispand, Director
   Leonard Andrucci, Coordinator
   Franklin J. Brown, Guidance Counselor

3. Area Vocational-Technical School, Attendance Area II
   Northampton County
   25th Street and William Penn Highway
   Easton, Pennsylvania

   Robert A. Nagle, Director
   William Loomis, Coordinator
   Stephen Mott, Coordinator of Student Services

4. Bucks County Technical School
   Wister Road
   Fairless Hills, Pennsylvania

   George M. Schaffer, Principal
   Thomas Brownback, Administrative Assistant
   Herbert Mandell, Coordinator of Supplies and Director of Adult Evening School
   Robert Miller, Guidance Counselor Coordinator

5. Brooklyn Technical High School
   29 Fort Greene Place
   Brooklyn 17, New York

   William Pabst, Principal
   Frank E. Stewart, Acting Principal
   Lowell K. Sanders, Chairman of Guidance

6. Central Duaphin High School Vocational-Technical Education
   Harrisburg, Pennsylvania

   Harold J. Peck, Director
   Brad Hartman, Director of Guidance

7. Sussex County Vocational-Technical Center
   Georgetown, Delaware

   Okey E. McCourt, Director
   Irvin Wheatley, Director of Guidance
   Seaford High School (Participating School District)

8. Upper Bucks County Area Technical School
   Perkasie, Pennsylvania

   H. James Ross, Principal
   Frederick C. Kerr, Guidance and Curriculum Coordinator

9. Williamsport Area Community College
   (formerly Williamsport Technical Institute)
   Williamsport, Pennsylvania

   Kenneth E. Carl, Acting President
   James Finn, High School Coordinator
   Richard Paulson, Vocational Counselor

Additional information was obtained from printed materials from the following schools:

1. Eastern Montgomery County Area Vocational-Technical School
   175 Terwood Road
   Willow Grove, Pennsylvania

2. Forbes Trail Area Technical School
   Industrial Park
   Monroeville, Pennsylvania

3. *Guidelines for Pupil Personnel Services in Area Vocational-Technical Schools in Kansas*

   By: R. W. Hogard
   Vocational Guidance Services
   State Board for Vocational Education
   Topeka, Kansas

4. John O'Fallon Technical High School
   5101 Northrup Avenue
   St. Louis 10, Missouri

5. Milton Area Senior High School Vocational Department
   Milton, Pennsylvania

6. Nebraska Vocational-Technical School
   Milford, Nebraska 68405

7. North Georgia Technical and Vocational School
   Clarkesville, Georgia

8. North Montco Area Vocational-Technical School
   Sumneytown Pike
   Towemenein Township, Pennsylvania

9. *Program Practices in Connecticut Vocational-Technical Schools* -- Evaluative criteria for guidance programs.

   Bureau of Vocational-Technical Schools
   State Department of Education
   Hartford, Connecticut
   July, 1965

10. Somerset County Vocational and Technical Schools
    County Administration Building
    Sommerville, New Jersey

11. South Georgia Technical and Vocational School
    Americus, Georgia

12. Valdosta Area Vocational-Technical School
    Route 1 Box 211
    Valdosta, Georgia

13. A brief summary of guidance services available in vocational-technical schools in the State of Minnesota was supplied by Reynold Erickson, State Supervisor of Guidance.

BIBLIOGRAPHY

Anastasi, Anne, *Psychological Testing*, Second Edition, New York, The Macmillan Company, 1961.

Avent, Catherine, *Studies in Teaching Occupations in Great Britain*, The Vocational Guidance Quarterly, Vol. 14, No. 2, Winter, 1965-66.

Bennett, George K., Seashore, Harold G., Wesman, Alexander G., *The Differential Aptitude Tests: An Overview*, The Use of Multifactor Tests in Guidance, A reprint Series from the Personnel and Guidance Journal, September, 1956, through September, 1957.

Borrow, Henry, *Man in a World at Work*, Boston, Houghton Mifflin Company, 1964.

Bottoms, Gene, *Counselor's Guide to Georgia Area Vocational-Technical Schools*, Georgia State Department of Education, Atlanta, Georgia, 1965.

Brayfield, A. H., *Vocational Counseling: A Reappraisal*, Minneapolis, University of Minnesota Press, 1961.

Day, Sherman, R., *Teacher Influence on the Occupational Preferences of High School Students*, The Vocational Guidance Quarterly, Vol. 14, No. 3, Spring, 1966.

Dictionary of Occupational Titles, Third Edition, Volumes I & II, 1965, U.S. Department of Labor, Washington, D. C.

Dilley, Josiah, *Decision-Making Ability and Vocational Maturity*, The American Personnel and Guidance Journal, Vol. XLIV, No. 4, December, 1965.

Droege, Robert C., *GATB Longitudinal Maturation Study*, The Personnel and Guidance Journal, Vol. XLIV, No. 9, May, 1966.

Droege, Robert C., *Validity Extension Data on the General Aptitude Test Battery*, The Vocational Guidance Quarterly, Vol. 14, No. 1, Autumn, 1965.

Dvorak, Beatrice, J., *The General Aptitude Test Battery*, Personnel and Guidance Journal, November, 1956.

Eisen, Irving, and Feingold, Winifred, *Using Multiple Cut-Off Criteria for Interpreting Aptitude Test Scores*, The Vocational Guidance Quarterly, Vol. 12, No. 3, Spring, 1964.

Follow-Up Study -- 1963 Graduates of Trade and Industrial Programs in Public Vocational and Technical High Schools, in the North Atlantic Region, Printed by Rutgers - The State University, New Brunswick, New Jersey.

From School to Work, Highlights From a Study On - The Early Employment Experience of Youth in Seven Communities 1952-1957, U.S. Department of Labor, Washington, D. C., March, 1960.

Gribbons, Warren D., *Changes in Readiness for Vocational Planning from the Eighth to the Tenth Grade*, The Personnel and Guidance Journal, Vol. XLII, No. 9, May, 1964.

Gribbons, Warren D., and Lohnes, Paul R., *Shifts in Adolescents' Vocational Values*, The Personnel and Guidance Journal, Vol. XLIV, No. 3, November, 1965.

Gunn, Barbara, *Children's Conceptions of Occupational Prestige*, The Personnel and Guidance Journal, Vol. XLII, No. 6, February, 1964.

Hoyt, Kenneth B., *The Challenge of Guidance to Vocational Education*, Paper presented at The American Vocational Association Convention, Miami, Florida, December 7, 1965.

Imperatives in Education, American Association of School Administrators, Washington, D. C., 1966. Commission Report, Shirley Cooper, Chairman.

Ingersoll, Ralph W., and Peters, Herman J., *Predictive Indices of the GATB*, The Personnel and Guidance Journal, Vol. XLIV, No. 9, May, 1966.

Kaback, Goldie Ruth, *Occupational Information for Groups of Elementary School Children*, The Vocational Guidance Quarterly, Vol. 14, No. 3, Spring, 1966.

Lee, Billie Louise, and King, Paul, *Vocational Choices of Ninth Grade Girls and Their Parents' Occupational Levels*, The Vocational Guidance Quarterly, Vol. 12, No. 3, Spring, 1964.

McCall, John N., *Trends in the Measurement of Vocational Interest*, Review of Educational Research, Educational and Psychological Testing, American Educational Research Association, Vol. XXXV, No. 1, February, 1965.

Moughamian, Henry, *General Overview of Trends in Testing*, Review of Educational Research, Educational and Psychological Testing, American Educational Research Association, Vol. XXXV, No. 1, February, 1965.

Murphy, James M., *Handbook of Job Facts*, Third Edition, Science Research Associates, Inc., Chicago, 1963.

New Horizons in Vocational-Technical Occupational Education, Report of Southeastern Pennsylvania Regional Seminar for Secondary Principals and Counselors, June 28-30, 1965.

Occupational Outlook Handbook, 1966-67 Edition, Bulletin No. 1450, Washington, D. C., Bureau of Labor Statistics, United States Department of Labor.

Overs, Robert P., and Deutsch, Elizabeth C., *Sociological Studies of Occupations*, The Personnel and Guidance Journal, Vol. XLIV, No. 7, March, 1966.

Perrone, Philip A., *Values and Occupational Preferences of Junior High School Girls*, The Personnel and Guidance Journal, Vol. XLIV, No. 3, November, 1965.

Project Talent, Report of the Eleventh Grade Follow-Up Study, John C. Flanagan, Responsible Investigator, William W. Cooley, Project Director, University of Pittsburgh, April, 1965.

Review of Educational Research, Educational and Psychological Testing, American Educational Research Association, Vol. XXXV, No. 1, February, 1965.

Roberts, Roy W., *Vocational and Practical Arts Education*, History Development, and Principles, New York, Harper and Brothers, 1957.

Roe, Ann, *The Psychology of Occupations*, New York, John Wiley and Sons, Inc., 1956.

Roeber, Edward C., *The School Curriculum and Vocational Development*, The Vocational Guidance Quarterly, Vol. 14, No. 2, Winter, 1965-66.

Rosen, Howard, *Vocational Education -- Training for Yesterday's Jobs?* Occupational Outlook Quarterly, Vol. 10, No. 2, May, 1966, U.S. Department of Labor, Washington, D. C.

Ross, Arthur M., *Counseling and the World of Work in the 1970's*, Occupational Outlook Quarterly, Vol. 10, No. 2, May, 1966, U.S. Department of Labor, Washington, D. C.

Rothney, John W. M., *What are High School Graduates Doing Ten Years after High School?* The Vocational Guidance Quarterly, Vol. 13, No. 2, Winter, 1964-1965.

Sinick, Daniel; Gorman, William E., and Hoppock, Robert, *Research on the Teaching of Occupations*, 1963-64, The Personnel and Guidance Journal, Vol. XLIV, No. 6, February, 1966.

Super, Donald, *The Psychology of Careers*, New York, Harper and Row, Publishers, 1957.

Super, Donald E., *The Use of Multifactor Test Batteries in Guidance*, The Use of Multifactor Tests in Guidance, A Reprint Series from the Personnel and Guidance Journal, September, 1956, through September, 1957.

The Use of Multifactor Tests in Guidance, A Reprint Series from The Personnel and Guidance Journal, September, 1956, through September, 1957.

Thompson, O. E., *Occupational Values of High School Students*, The Personnel and Guidance Journal, Vol. XLIV, No. 8, April, 1966.

Thorpe,-Robert P., and Campbell, David P., *Expressed Interests and Worker Satisfaction*, The Personnel and Guidance Journal, Vol. XLIV, No. 3, November, 1965.

Venn, Grant, *Man, Education, and Work*, American Council on Education, 1785 Massachusetts Ave., N.W., Washington 36, D. C., 1964.

Vocationally-Talented Pupils, Research Project No. 1038, Division of Field Studies and Research, Rutgers - The State University, New Brunswick, New Jersey, 1962, Franklin J. Keller, Director.

Wellington, John A., Olechowski, Nan, *Attitudes Toward the World of Work in Elementary School*, The Vocational Guidance Quarterly, Vol. 14, No. 3, Spring, 1966.

Wrenn, C. G., *The Counselor in a Changing World*, Washington, American Personnel and Guidance Association, Commission on Guidance in American Schools, 1962.

Young Workers: Their Special Training Needs, Manpower Research, Bulletin No. 3, May, 1963, U.S. Department of Labor, Washington, D. C.

APPENDIX

The following radio scripts were prepared and presented on local radio stations. The first script was developed for an interview program. This program, approximately 15 minutes long, was taped and played on several occasions. Feeling that this was not adequate coverage, ten, one-minute scripts were prepared and played from time to time throughout the broadcasting day for a period of one week. This type of information distribution proved to be the more effective method.

RADIO SCRIPT

Question: Would you tell us something about your work as a Guidance Research Director?

Answer: Yes, I would be glad to. Carbon County has been given a $15,000 Federal Research Grant to study guidance programs in Area Vocational-Technical Schools. As Director of this program, I have been visiting vocational schools in Pennsylvania, New York, New Jersey, and Delaware to collect guidance information. We are now using this information to develop a comprehensive guidance program for students in Carbon County who wish to take Vocational-Technical School Training. When I say we, I mean our Guidance Advisory Committee which is composed of guidance counselors from each of the schools in the County and also two guidance specialists from the Department of Public Instruction in Harrisburg.

Question: What is Vocational-Technical Education?

Answer: Vocational-Technical School education is training for specific occupations such as welding, auto mechanics, practical nursing and so on. It is primarily for non-college bound students. However, a certain percentage of students taking technical level subjects,

such as chemical technology, drafting technology, data processing, and electronics do go on to two and four year colleges. This depends, naturally, on whether they can take the necessary academic subjects in their home high school. However, 80 to 90% of vocational-technical school students go directly to work upon graduation from high school. The training they receive gives them a salable skill. A skill which industry is willing to buy. The jobs these students receive can be classified as skilled or semi-skilled and are in demand throughout the country.

Question: What is an Area Vocational-Technical School?

Answer: An Area Vocational-Technical School is a cooperative venture. If any one high school in Carbon County would attempt to offer 15 additional educational offerings, the cost would be prohibitive. However, when the cost is shared by five schools, as it is in Carbon County, then the program becomes feasible. Thus, the area vocational-technical school is an extension of each of the high schools in our County. For example, Jim Thorpe, can now offer its students 18 courses of study instead of just three.

Question: When will the area vocational-technical school open and who will be eligible to attend?

Answer: The area vocational-technical school will open in September, 1966. Any student in grades 10, 11 and 12 in any area high school is eligible to apply for admission.

Question: How many students will be accepted?

Answer: The school will be able to accommodate over 600 students. This is approximately 25% of all students in Carbon County in grades 10, 11, and 12.

Question: What courses will be offered in the area vocational-technical school?

Answer: At the present time, we can offer a student a choice of 15 different courses. These courses can be divided into three different occupational levels: Vocational, Service, and Technical. The vocational courses are Auto Body Repair, Auto Mechanics, Carpentry, and Cabinet Making, Commercial Art, Electrical Construction, Machine Shop, and Welding. The service

occupations include Cosmetology, Distributive Education, Food Preparation, and Practical Nursing. Technical level occupations are Chemical Technology, Data Processing, Drafting Technology, and Electronics.

Question: Vocational, Service, and Technical Education. How do they differ?

Answer: Vocational level jobs have two basic requirements: knowledge or "know how" and ability to do the job. These two requirements are equally divided - know how is 50% of the course and actually doing the work is the other 50%. The same applies for service courses, however, a third factor must also be considered and that is the ability to meet and get along well with people. Since all these service occupations require meeting the public, the personality factor is important. Technical level courses are difficult, complex subjects and require much more abstract thinking and learning from books. A higher reading level, plus advanced mathematics are necessary. In technical level courses the "know how" requires 75% of available time and the actual doing only 25%.

Question: Since the area vocational-technical school is a separate school, will they have their own athletic teams?

Answer: No. Actually the area vocational-technical school is not a separate school -- it is an extension or additional department of each of the area high schools. In the past, students had a choice of an Academic Course, a Business Course or a General Course. Now students have 15 additional courses to choose from. The area vocational-technical school merely broadens the educational offerings available to students.

Critics of education often claim that educational offerings are too narrow. They claim we are only interested in students who have the ability to go to college.

Well, the people in Carbon County can be proud of the fact that they are now making it possible for non-college bound students to develop skills which will enable them to get a good job, and they will also have acquired the necessary background to advance more rapidly in their chosen occupation.

Question: How much time will a student spend in the area vocational-technical school?

Answer: Most of the courses are three-year courses. This means that students will begin in 10th grade and finish at the end of 12th grade. He or she will spend half of their total school time in their home high school and the other half in the area vocational school. If this is done on a half-day basis, then a student would spend, let's say, the morning school session in their home high school and then they would be bussed to the area vocational-technical school for the afternoon session.

Question: What about eating? Will the area vocational-technical school have a cafeteria?

Answer: Yes. Students may eat in the vocational-technical school cafeteria or bring their own lunch. If you remember, one of the service courses is Food Preparation. Students in this course will help prepare and serve food not only to students but to the faculty as well. In all the schools I have visited this works out very well, and I might add, the service and the food are excellent.

Question: What factors will be considered in the selection of students to attend the Area Vocational-Technical School?

Answer: Students will be selected according to their ability to profit from this type of education. If they do not have the ability to complete a specific course, than trying to place them in a job after graduation would be difficult. We would like to feel that all students who satisfactorily complete these courses will be placed in jobs for which they have been trained.

The Guidance Advisory Committee feels that the following factors will help determine which students will benefit from Vocational-Technical Education.

(1) A student's academic record: the more difficult the course the higher the level of academic achievement.

(2) A student's physical condition. Certain physical handicaps could prevent a student from taking certain courses.

(3) A student's discipline record is extremely important. Students who constantly get into trouble in their home high schools would present a problem because of the strict safety regulations in most vocational courses. A student's attitude will be a distinct factor in selection.

(4) Another factor which must be considered is a student's attendance and tardy record. Because certain courses will require state certification upon the completion of a specified number of hours, good attendance is mandatory.

(5) Test scores will be another factor. Intelligence tests, achievement tests, reading ability, aptitude tests, and interest inventories will all furnish valuable information.

(6) A final factor in student selection and by far one of the most important will be the recommendations from various teachers. All students must be recommended by their guidance counselors. Other recommendations that will be extremely helpful will be industrial arts teachers, home economics teachers, art teachers, math teachers, and homeroom teachers. These teachers know the students much better than we do and they are in a position to render a great service in helping to determine which students would benefit most from vocational-technical school education.

Question: What is being done to inform students about the Area Vocational-Technical School?

Answer: Getting accurate information to students, parents, and teachers is a big job. We have been presenting this information to students and teachers by means of assembly programs. We have a film which explains vocational-technical school education and this has been, or will be shown to all students who will be eligible to attend the vocational-technical school next year. We have also been invited to speak at various community meetings and P.T.A.'s in order to answer the questions of parents and interested adults.

Here again, when I speak of we, I mean Mr. James Tule who is the director of the area vocational-technical school and myself.

We have prepared a Guidance Booklet which outlines all of the information pertaining to the school. The first half of the Guidance Booklet contains policies and procedures for the operation of the Area Vocational-Technical School. These policies have been established by the Professional Advisory Committee which is composed of all Chief School Administrators and members of the local school boards. The latter part of the booklet contains information on the 15 course offerings. These booklets are available to any interested student and adult and can be obtained by contacting the guidance counselors in their high schools.

We would like to thank the newspapers and radio stations for their part in helping to disseminate this information.

RADIO SCRIPT

This is Thomas Foley, Carbon County Guidance Research Director. Are you familiar with the new educational opportunities available through the Carbon County Area Vocational-Technical School? Fifteen new educational courses will be offered to students in grades 10, 11, and 12. These courses will prepare boys and girls to enter the labor market as skilled or semi-skilled workers. According to a thirteen-state survey, done in 1963, 94% of all vocationally-trained students looking for work were placed in jobs. Students who select vocational-technical schooling will spend 1/2 of the day in their own high school and the other half of the day in the area vocational-technical school. Students will graduate from their home high school. They will also participate in all extra-curricular activities in their own high school. The Area Vocational-Technical School is part of the public school system. Students will not have to pay for this training.

RADIO SCRIPT

This is Thomas Foley, Carbon County Guidance Research Director. Critics of education often claim that educational offerings are too narrow. They claim we are only interested in students who have the ability to go to college. Well, the people of Carbon County can be proud of the fact that they are now making it possible through the Carbon County Area Vocational-Technical School for non-college bound students to develop skills which will enable them to get good jobs and to advance more rapidly in their chosen occupations. Beginning in September students in grades 10, 11, and 12 will have the opportunity to select such courses as Auto Mechanics, Auto Body Work, Carpentry and Cabinet Making, Commercial Art, Electrical Construction, Machine Shop, and Welding. Additional courses will offer Cosmetology, Distributive Education, Food Preparation, and Practical Nursing. Technical courses will include Data Processing, Drafting Technology, and Electronics. In order to make intelligent decisions, students as well as parents should know what opportunities are available.

RADIO SCRIPT

This is Thomas Foley, Carbon County Guidance Research Director. What factors will be considered in helping to guide students who are interested in Vocational-Technical School training? Naturally a student should possess the ability to

profit from the type of training he has chosen. If he does not have the ability to complete a chosen course, he would be wasting time which could be better utilized in some other area. We would like to feel that all students who satisfactorily complete these courses will be placed in jobs. Another factor that will be considered is a student's discipline and tardy record. A student with a poor attitude would only be a safety hazard in this type of schooling. A final factor in student selection and by far one of the most important will be the recommendations of teachers and guidance counselors. The Carbon County Area Vocational-Technical School is working very closely with all of the high schools in order to provide students with the necessary information for making intelligent and realistic decisions. Parents can help in this decision making, but only if they are well-informed and know what opportunities are available.

RADIO SCRIPT

This is Thomas Foley, Guidance Research Director for Carbon County. Drafting Technology is a program that offers training for the draftsman at a technical level. A level between the skilled draftsman and the engineer. A course in Drafting Technology will be offered in the Carbon County Area Vocational-Technical School beginning in September. This three-year course will train students to transform sketches, specifications, and notes furnished by engineers and architects

into detailed drawings for skilled draftsmen. Students in this course must have a good background in math. Another course which will be offered on a three-year basis is Carpentry and Cabinet Making. Students in this course will learn form work, roofing, frame work, mill work, and the skills necessary in cabinet making. Carpentry is one of the largest single construction trades, and will offer excellent employment opportunities for skilled craftsmen.

RADIO SCRIPT

This is Thomas Foley, Carbon County Guidance Research Director. Within the last few years, there has been a tremendous increase in the use of computers. In order to train students to use the various equipment in this field of work, a course in Data Processing has been developed by the Carbon County Area Vocational-Technical School. This one-year course, offered to 12th grade students, will train them to use keypunch machines and to learn the basic fundamentals for the operation of computers. These students should possess logical, analytical type minds. Another course which will be offered in September and which is very popular with boys is Auto Mechanics. This course will cover everything from engine diagnosis, tuneup, and repair, to chassis repair and lubrication. This shop will be supplied with all the latest equipment. A boy who successfully completes this three-year course should be a skilled mechanic.

RADIO SCRIPT

This is Thomas Foley, Carbon County Guidance Research Director. The Carbon County Area Vocational-Technical School will accommodate 672 students in 15 different courses of study. A course which has proven to be very popular with the girls is Cosmetology. This is a three-year course beginning in 10th grade. Students completing this course are prepared to take the state examination for a practicing license. Another course which will be offered in September is Electrical Construction. This course will train students to install electrical wiring, switches, lighting fixtures, and other electrical equipment. This is also a three-year course beginning in 10th grade. The demand for Electricians will continue to grow. According to the Department of Labor, the tremendous increase in construction and the increasing installation of automatic machinery will necessitate an increase in the demand for skilled Electricians.

RADIO SCRIPT

This is Thomas Foley, Carbon County Guidance Research Director. Did you know that in Pennsylvania one out of every five employed persons is working in the wholesale or retail distribution of goods? Selling is big business. In order to train students for this type of work, the Carbon County Area Vocational-Technical School will offer a one-year course in Distributive Education. This program is a cooperative

enterprise and will use both the facilities of the school and the marketing and merchandising resources of the community. Students will receive supervised "on the job" training. Another course which will be available in September is a three-year course in Electronics. This is a technical level subject and will require students to understand the basic principles of radar, zonar, micro wave, and television. Students who successfully complete this training will be able to secure employment as electronic technologists. These jobs are para-professional level jobs and are classified between the skilled craftsmen and the professional.

RADIO SCRIPT

This is Thomas Foley, Carbon County Guidance Research Director. The demand for people trained in Food Preparation is growing by leaps and bounds. Competent chefs, restaurant managers, and food service specialists are in short supply. The Carbon County Area Vocational-Technical School will offer a three-year course in Commercial Food Preparation beginning in 10th grade. Students in this course will learn cooking, baking, food purchasing and many other related jobs. Students will prepare and serve all the meals in the student and faculty dining rooms as part of their practical experience. Welding is another course which will be available to students entering 10th grade. Welding is found in a wide range of industries including machinery, cars, planes, ships, boilers, tanks, and

all forms of fabricated structures. Students will learn to weld aluminum and stainless steel using heliarc equipment. They will also learn gas cutting and arc welding. Employment opportunities for welders are very good.

RADIO SCRIPT

This is Thomas Foley, Guidance Research Director for Carbon County. Many students in school today are interested in careers in the field of art. Beginning in September, the Carbon County Area Vocational-Technical School will offer a three-year course in Commercial Art. Students in this course will be trained in lettering, water color, poster techniques, silk screen processes, sign painting and other Commercial Art practices. In order to successfully complete this course, students should possess artistic ability. Another course which appears to be popular with the boys is Auto Body Repair. In the United States today there are over 72 million automobiles. These cars are constantly being damaged, and competent men are needed to repair them. The Auto Body Repair course will be a three-year course beginning in 10th grade. Students will study frame straightening, refinishing, upholstering, glass replacement, and spray painting. Skilled craftsmen in this area are in short supply, and many good jobs are available.

RADIO SCRIPT

This is Thomas Foley, Guidance Research Director for Carbon County. According to the Department of Labor, skilled machinists will have no difficulty finding a job. The Carbon County Area Vocational-Technical School will offer a three-year course in Machine Shop Practice. This course, beginning in 10th grade, will train students to become proficient in the use of all the different machines normally found in industry today. Students contemplating a career as a machinist should have a good background in math and have the patience to work with pains-taking accuracy. Another course which will be offered in September is Practical Nursing. This course is available to students in 12th grade. They will spend their senior year learning the basic fundamentals of nursing, then upon graduation from high school they will work from 12 to 14 weeks in a hospital. At the completion of this on-the-job training students will be eligible to take the State Licensing Examination for certification. A licensed Practical Nurse should have no difficulty finding employment.

RADIO SCRIPT

This is Thomas Foley, Carbon County Guidance Research Director. With the opening of the Carbon County Area Vocational-Technical school in September, students from our area will have 15 new courses of study to choose from. A few of these subjects

are auto body repair, chemical technology, electronics, drafting, and welding. Students, who in the past, were limited to Academic, Commercial, or General Education will now have to plan their future with 15 additional topics in mind. This decision is an extremely vital one in the life of any student. Parents can help, but only if they are well-informed. Too often poor decisions are based on faulty information.

To receive accurate information on this topic, I urge you to attend the Jim Thorpe Area PTA meeting, Monday, March 14. Mr. Newton Davenport, Carbon County Superintendent of Schools; Mr. James Tule, Director of the Vocational School; and I, will form a panel to discuss this all-important question.

Won't you plan to be there, too?

The following T.V. scripts were prepared for five to ten minute interview-type programs. On most occasions, the script was used merely as an outline.

T.V. SCRIPT

Question: Last week we saw pictures of the vocational school building. Tonight Mr. Foley is going to discuss the various courses which will be offered there. Just how many different courses will be available?

Answer: Students will have a choice of 15 different courses of study. In order to better explain how these courses differ, we have broken them down into three groups. One group will include all vocational level courses such as:

1.	Auto Body Repair	3 yrs.	Boys
2.	Auto Mechanics	3 yrs.	Boys
3.	Carpentry & Cabinet Making	3 yrs.	Boys
4.	Commercial Art	3 yrs.	Boys & Girls
5.	Electrical Construction	3 yrs.	Boys
6.	Machine Shop	3 yrs.	Boys
7.	Welding	3 yrs.	Boys

These vocational level courses prepare a student for work at the skilled craftsmen level. 50% of the student's time will be spent in learning the "WHY" of the job and the other 50% will be spent learning the "HOW". Another way of putting it would be that half of the time is theoretical or book learning and half of the time is actually working with your hands.

Another group will include all service level courses. These courses prepare a student to perform acts of service for other people. These courses require three aptitude levels:

1. The know "WHY"
2. The know "HOW"
3. And the ability to meet and get along with people.

These courses will include:

1.	Cosmetology	3 yrs.	Girls & Boys
2.	Distributive Education	1 yr.	Girls & Boys
3.	Food Preparation	3 yrs.	Girls & Boys
4.	Practical Nursing	1 yr.	Girls

The third group of courses are the technical level courses. These courses differ from the others in that technical level subjects require 3/4 of the student's time learning the theory or the "WHY" of the work. Only 1/3 of the time is spent learning manipulative skills or working with your hands. These courses include:

1.	Chemical Technology	2 yrs.	Girls & Boys
2.	Data Processing	1 yr.	Girls & Boys
3.	Drafting Technology	3 yrs.	Girls & Boys
4.	Electronic Technology	3 yrs.	Girls & Boys

These courses prepare a student to work at a level between the skilled craftsman and the engineer or professional. They are difficult courses and will require much studying.

Question: Who will be eligible to apply for these courses?

Answer: Any student in the county in grades 10, 11 or 12. Information and application forms are available from the Guidance Counselors in all high schools. Parents and interested adults may also obtain information by contacting the guidance counselor in their local school. A guidance bulletin has also been prepared and is available to any interested person. This booklet lists all courses and the necessary qualifications for acceptance.

Question: Are the qualifications for acceptance the same for all courses?

Answer: No - qualifications differ according to the course. For instance, technical level courses will require a more extensive background in math. Service occupations will require a person with a pleasant personality and so on. Students will be helped by their guidance counselors to select those courses which would be most beneficial for them.

Question: When students graduate will they be helped to secure employment?

Answer: Yes - Since students will be selected on the basis of their ability to successfully complete the course, we will then do everything possible to see that students are placed in jobs for which they have been trained. Incidentally, this will be part of the guidance program in the Vocational School.

Question: What will you discuss next week?

Answer: Next week I would like to begin discussing more in detail each of the 15 course offerings. I have pictures of each of the courses as they are now being taught in nearby Area Vocational-Technical Schools. I would like to show these pictures and also discuss each of the courses.

T.V. SCRIPT

Question: Last week Mr. Foley outlined the various courses which will be offered at the Vocational-Technical School. Tonight he plans to go into more detail about some of these courses. Just what courses will you discuss this evening?

Answer: I would like to show some slides and talk about four courses which will be offered this September. The first course is Electronics.

Electronics is a technical level subject. This means that students will be trained to qualify for pre-professional or para-professional level jobs. (Jobs between the skilled craftsmen and the professional.) Electronic technologists work with micro waves, zonar, radar, television, the electric eye, and other forms of advanced communications. To qualify for this training students must have a good background in math and be willing to work hard and study difficult material.

This first picture was taken in the Electronics laboratory in the Easton Vocational School. You can see some of the complex equipment being used in this class.

The next slide, taken in the Bucks County Vocational School shows how the classroom is utilized in conjunction with the lab.

Two-thirds of a student's time will be spent learning the principles underlying the use of various testing devices.

Question: Electronics is a technical course. Do you have anything for a student interested in art?

Answer: Yes we do. We will offer a course in Commercial Art. This program will be three years long beginning in the 10th grade.

Since success in the field of art is dependent upon talent, students interested in this type of work should possess artistic ability.

The course will include such things as lettering, water color and poster techniques, silk screen processes, sign painting, and other Commercial Art practices.

This picture is a Commercial Art class in the Bucks County Vocational School.

Question: We have seen a technical and a vocational level course. What about a service occupation?

Answer: We actually have four courses in service occupations. Cosmetology, Distributive Education, Practical Nursing, and Food Preparation. The one I have chosen for tonight is Food Preparation.

The demand for people trained in Food Preparation is growing by leaps and bounds. Competent chefs, restaurant managers, and food service specialists are in short supply. This course will train students in all of these areas.

A student will learn cooking, baking, food purchasing and many other related jobs.

The Vocational-Technical School will have its own cafeteria. The preparation and serving of this food will be done by students in the Food Preparation course.

This second picture is the faculty dining room at the same school. The preparation and serving of all food in this dining room is done by students.

Question: Well, that's three courses. What is another program that will be available in September?

Answer: Another vocational level course is Welding.

Welding is a three-year course and students will learn such things as the welding of aluminum and stainless steel using heliarc equipment. He will also learn gas cutting of metals and gas and arc welding.

Employment opportunities for welders are very good. Welding is found in a wide range of industries. Machinery, cars, planes, ships, boilers, tanks, fabricated structures all require some form of welding.

Both of these pictures were taken in the Upper Bucks Vocational School. Notice the individual booths. Student safety is an essential part of all programs. Students will be well protected against injury.

Well, that's it for this evening. Next week I will discuss four more courses in the Carbon County Area Vocational-Technical School.

T.V. SCRIPT

Introduction: Last Thursday we discussed four of the courses which will be offered in the Carbon County Area Vocational-Technical School: Electronics, Commercial Art, Food Preparation and Welding. What courses will you cover this evening?

Answer: I would like to show some slides and discuss four more courses. One of the most popular courses which will be offered in September is Auto Mechanics. Since this course will have more applicants than available positions, only those students who seriously plan to follow this line of work will be accepted.

This course will cover everything from engine tune-up, diagnosis, and repair to chassis repair and lubrication. As this picture shows, students will work on actual cars. All necessary equipment to service cars will be available.

On this next slide, which was taken in the Easton Vocational School, you can see a teaching model of a car. In the background is a visual car alignment pit.

Question: Won't the cost of equipment make this form of education expensive?

Answer: Yes, that is true. That's why most school districts by themselves could not offer this type of education. However, when five districts share expenses and the Federal and State Government chip in, it becomes possible.

Another course which necessitates a great deal of equipment is the Machine Shop.

You can see on this slide all the various pieces of equipment which are necessary to turn out a well-trained machinist.

Here's another picture of a machine shop. Notice how well-lighted these rooms are.

Students who want machine shop should have a good background in math, and have the patience to work with painstaking accuracy.

Question: The courses we have discussed so far are for boys. What are some courses girls can take?

Answer: Last week we discussed two such courses - Commercial Art and Food Preparation. Another course is Practical Nursing.

This course is only offered to seniors. All their theory work will be taken at the Vocational School. Then when they graduate they will work in a hospital for a 12 to 14 week period. At the end of this time they are eligible to take the State Licensing Exam for certification.

Here is a picture showing some of the facilities in a course of this nature.

This picture shows some additional facilities.

Question: There is always a demand for people in the field of selling. Do you have a course in this area?

Answer: Yes, we do. Distributive Education is a course which will cover all phases of selling. In Pennsylvania, one out of every five employed persons is already working in fields covered by Distributive Education.

These students will learn business operations, advertising, buying and so on.

This slide shows students operating their own store which is located within the school.

This next picture shows a girl working in a display case.

That's it for this week.

T.V. SCRIPT

Introduction: Last Tuesday Mr. Foley discussed four of the courses which will be offered in the Carbon County Area Vocational-Technical School. Tonight he plans to discuss three more courses. Where do we start?

Answer: I would like to start with a course which is very popular with the girls -- Cosmetology. This will be a three-year course beginning in 10th grade. Students completing the course will be prepared to take the State Examination for a practicing license.

This slide shows typical facilities for this type of training.

On this next slide you can see that practical experience in hairdressing is obtained by styling the hair of girls in the class and also women from the community.

Since the demand for this course will probably exceed the available positions, certain qualifications will be important. For instance, the ability to

meet and get along well with people, and personal cleanliness and neatness.

Question: Cosmetology is generally thought of as a woman's occupation. Are there not many men who have been highly successful in this type of work?

Answer: Yes, in fact many men who enter this field are extremely successful. This course will be available for girls or boys.

Question: How about Electrical Construction? Is this for boys only?

Answer: Yes. Electrical Construction will train boys to install electrical wiring, switches, lighting fixtures, and other electrical equipment.

In this slide you can see boys working on various pieces of electrical equipment. In the background is a structure which is similar to a house. This affords practical experience.

This next slide shows additional facilities in Electrical Construction.

Question: Electricians are always in demand. How about the future for this type of employment?

Answer: Well, according to the Department of Labor, with the tremendous construction demands and the installation of automatic machinery, electricians will have plenty of work.

Question: Speaking of automation, do you have any courses which will train students to work computers?

Answer: Yes, we do. Data Processing will teach keypunch operation and also the basic fundamentals for computer operation.

Here is a picture of the type of equipment necessary to train students in Data Processing.

This picture shows a student actually working with a computer.

This last picture is a close-up of a computer being used in the Upper Bucks Technical School.

Question: How will a student qualify for Data Processing?

Answer: Interested students will be given an IBM Aptitude test. The results of the aptitude test plus the recommendation of the guidance counselor will form the basis for qualification.

Question: Sounds interesting. What about next week?

Answer: Next week I should be able to complete the rest of the available courses.

T.V. SCRIPT

Introduction: Last Tuesday Mr. Foley discussed three courses which will be offered in the Carbon County Area Vocational-Technical School in September. Tonight he plans to conclude these discussions with an explanation of the final three courses. What are these final three courses?

Answer: Auto Body Repair, Carpentry and Cabinet Making, and Drafting Technology.

Let's start with Auto Body Repair. This is a three-year course beginning in 10th grade. These students will be taught frame straightening, body and fender repairs, refinishing, upholstering, glass replacement, and spray painting. Here is a picture of a typical Auto Body Shop.

The Auto Body course is one of the three most popular courses with the boys. The other two are Auto Mechanics and Machine Shop.

Question: There seems to be a demand for Drafting Technologists. Isn't this a popular course with the boys?

Answer: No, for some reason it is not. I don't know why because this is a course which will train students to work at a level between the skilled craftsmen and the professional engineer or architect. These jobs pay very well and there is a constant demand for technologists.

This picture gives you some idea of the type of facilities for this class.

Here is another picture of Drafting facilities.

Question: Don't drafting students have to have a good background in math?

Answer: Yes, they do. In fact, the Area Vocational-Technical School plans to have a full-time academic math teacher to give these students the additional math they will need.

Question: Could a girl take this course?

Answer: Yes, in fact I would like to see more girls become interested in this area.

Question: Carpentry and Cabinet Making, I see is next. Is this a good area for a boy to be trained in?

Answer: Yes, it is. In fact, carpentry is one of the largest single construction trades. Boys in this course will learn form work, roofing, frame work, mill work, and the skills necessary in cabinet making.

Here is a picture of the Carpentry Shop in the Easton Area Vocational-Technical School.

Notice the frame of a house there in the background. This provides practical experience. Next year the vocational school plans to build an actual house.

This last picture is the Carpentry Shop in the Upper Bucks Vocational-Technical School.

That completes all the courses that we will have to date. I would like to thank you and the television station for your cooperation in making it possible to give this information to parents and interested adults.

NEWSPAPER ARTICLES

The following 16 newspaper articles were prepared and distributed to all newspapers serving residents in Carbon County.

GUIDANCE IN VOCATIONAL EDUCATION

Students in Carbon County are presently being counseled by guidance counselors in their high schools concerning the many opportunities available in the soon-to-be-opened Carbon County Area Vocational-Technical School. These guidance services can help students and parents make realistic educational and vocational decisions.

According to Dr. Kenneth Hoyt from the University of Iowa, "We in guidance consider our function to be essentially one of helping people choose wisely from among the alternatives available to them. We do this by encouraging the student to learn, think, consider, and decide about himself and his opportunities. We don't consider it nearly so important what people choose as we do that they choose from the widest possible range of opportunities. We aren't as concerned about what the student decides about his opportunities as we are what he decides about himself in relation to these opportunities. We don't want to make people do things -- we want to let them find ways of doing things. We aren't as interested in the something they become as the someone they become."

We are experiencing the most rapid rate of occupational change in the history of this country. The rise and fall of specific occupations makes it mandatory that we discard the notion that vocational guidance is a one-time event. Students graduating today can expect to change the type of work they do from three to five times during the course of their working life. Thus, vocational guidance should be a continuing service available to people whenever the need arises. Make an appointment with your guidance counselor. Find out what additional opportunities are available in vocational-technical education.

VOCATIONAL-TECHNICAL SCHOOL EDUCATION

What are some of the advantages for Carbon County through Vocational-Technical School Education?

(1) More students will complete high school.

(2) More students will become employable.

(3) More students will qualify for better jobs.

(4) Adults can learn new trades.

(5) Adults can be retrained.

(6) Drop-outs can continue their education.

(7) Special courses can be offered to meet the needs of industry, labor and business.

(8) Business, Labor and industry can be supplied with the technicians they need to meet technological advances.

(9) Business, labor and industry are attracted to areas capable of producing trained manpower.

(10) By having more productive citizens, area buying power will be increased and economic growth stimulated.

(11) Better trained people make better citizens, and help lower welfare costs.

Among the objectives of vocational education are: to prepare students for the world of work, to provide employable skills, and to meet the needs of industry. Industrial job placement is therefore one of the indicators of the success of vocational education.

According to a 1963 survey of 13 states in the North Atlantic region, 94% of all graduating vocational-technical school students seeking employment were placed.

In addition to being able to secure entry jobs, the graduates of this follow-up study should be able to be retrained more readily should the need arise. They should thus feel a higher degree of job security than youth with no skill training who enter the job market directly upon graduation from high school.

In 1963, 13,610 vocational-technical school graduates of the North Atlantic region were employed in jobs related to their training. Their entry pay in these jobs was close to 45 million dollars. Assuming these people are employed for 30 to 40 years, there is no doubt that investment in vocational education pays extremely high dividends.

AUTOMOBILE MECHANICS

When a person pays $3,000 or more for an automobile, he is usually quite concerned about who services and repairs it. Good automobile mechanics are hard to find. Why? One reason is that there are over 72 million automobiles on the road today, and only a little over 700,000 mechanics to service and repair them. Thus, the demand for skilled mechanics is constantly increasing.

In September, 1966, the Carbon County Area Vocational-Technical School will offer a course in Auto Mechanics. This program will provide students with a working knowledge of all phases of automobile repair and maintenance. Units of work will include: engine tuneup, diagnosis and repair; chassis lubrication, maintenance and repair; and general services and maintenance.

Students considering this training should have good mechanical aptitude and a keen interest in pursuing this type of work after graduating from high school. This course usually has more applicants than it is possible to accept. Thus, a student can expect stiff competition for the available positions.

One of the advantages of this type of work is the fact that jobs are available in every section of the country from the largest cities to the smallest towns. Most auto mechanics work in shops employing from one to five mechanics and modern repair shops are usually well-ventilated, lighted and heated.

How much you earn will depend on how good you are. Salaries range from $2.25 an hour in Tennessee to better than $4.00 an hour in California. Trained mechanics setting up their own shops, may do better.

If you are interested in this line of work, you should discuss it very carefully with your guidance counselor and anyone else who may be able to help you.

AUTO BODY REPAIR

With the millions of automobiles on our highways today, we must have specialists to do body and fender repair work on damaged automobiles.

The Carbon County Area Vocational-Technical School will offer a course in Auto Body Repair Work beginning in September, 1966. This shop will have all the modern facilities to train young men for this never-ending trade of repairing and refinishing automobile bodies. Students will learn to weld, solder, shrink metal, form metal, use power jacks, and handle frame tools. Training will also include automobile painting. A student will learn to match thousands of different shades of color so that the damaged part, when repaired, will look new.

Employment opportunities for Auto Body Specialists are very good. Millions of dollars are spent every year on the repair of automobile bodies. According to the 1964 edition of

the Occupational Outlook Handbook which is published by the U.S. Department of Labor, some auto body repairmen in large cities earn more than $10,000 a year. This is the exception rather than the rule; however, average salaries in this field are constantly improving. Most skilled body repairmen are paid a percentage of the labor cost charged to the customer. Each repair job is assigned a fixed labor charge and the highly-skilled bodyman can earn considerably more than the average because he is able to make repairs in less time.

A student contemplating a career as a specialist in Auto Body Repair should have a sincere desire to do this type of work. Mechanical aptitude and interest are also good indications of potential success in this job.

Your guidance counselor can give you any additional information you may need, and he will also help you decide whether you are qualified for this line of work.

CARPENTRY & CABINET MAKING

Carpenters, the largest single group of building trades workers, are employed in almost every type of construction activity. They erect the wood framework in buildings, including sub-flooring, sheathing, partitions, floor joists, studding and rafters. When the building is ready for trimming, they install molding, wood paneling, cabinets, window sash, door frames, doors, and hardware, as well as build stairs and lay floors. They build

forms used to enclose concrete for bridges, buildings and other structures. Carpenters also saw, fit, and assemble plywood, wallboard, and other materials. Because of the wide scope of the work performed in the trade, many carpenters will specialize in a particular type of work such as installing acoustical paneling, or laying hardwood floors, etc.

Most carpenters work in the construction industry and are employed mainly by contractors and homebuilders at the construction site. Carpenters are mostly employed in new construction, however, a large number are employed on alteration or modernization work.

The Carbon County Area Vocational-Technical School will offer a three-year course in Carpentry and Cabinet Making beginning in September, 1966. Students interested in this type of work usually enjoy working out-of-doors. They possess some mechanical aptitude and also physical stamina.

Tens of thousands of job openings will be available each year. Young men who receive well-rounded training, such as that offered at the Vocational-Technical School, will have especially long-range job opportunities.

A 1962 survey of workers in 53 large cities revealed that salaries for carpenters ranged from $2.50 an hour to $5.05 an hour. Salaries depend on type of work and location.

Students contemplating carpentry as a career should discuss this very carefully with their Industrial Arts Teacher, their guidance counselor, and any other adult that may be able to furnish them with pertinent information.

COMMERCIAL ART

Artwork designed to attract the attention of readers and to stimulate their interest in particular products and ideas is found in most newspapers, magazines, and other publications. Illustrations used in advertisements and editorial features are prepared by commercial artists who also work on television commercials and movie cartoons, industrial and other films, fashion illustrations, greeting card and book illustrations and design, packaging, wallpaper and textile designs, and many other kinds of artwork. They may also design and illustrate displays, posters, and direct mail advertising.

An estimated 50,000 commercial artists were employed in early 1963; about one-fourth were women. Most commercial artists are employed in big cities, however, many work as free-lance artists selling their art work to any available customers.

Artistic ability and interest are most important qualifications for success in this field.

The Carbon County Area Vocational-Technical School will offer a three-year course in Commercial Art. The course will include lettering, sign painting, silk screen processes, displays, illustrations, watercolor and poster techniques, and commercial art practices. Upon completion of high school, commercial art students may continue their training in various art schools throughout the country.

Employment and advancement opportunities for talented and well-trained commercial artists in most kinds of work are expected to be good throughout the rest of the 1960's.

After a few years of experience, qualified artists may expect to earn $100 to $150 or more a week. Art directors, designers, executives, well-known free-lance illustrators, and others in top positions generally have much higher earnings, many beyond $15,000 a year.

Before making a final decision, students should talk with their art teacher and check the opportunities in this field very carefully with their guidance counselor.

COSMETOLOGY

Cosmetologists or beauty operators, beauticians, or hairdressers, as they are sometimes called, provide their customers with a variety of services, largely related to the care of the hair. They give permanent waves and cut, style, shampoo, set, straighten, bleach or tint the hair. Beauticians may also give manicures and scalp and facial treatments, provide makeup analysis, shape eyebrows, tint eyebrows and eyelashes, and arrange wigs and chignons. In small shops operators are required to do all types of work, but in large salons they may specialize in different phases of work such as hair styling, hair coloring, etc. Men are more likely to specialize than women. In fact, more than 10% of employed beauty operators are men.

Cosmetologists are employed mainly in private shops and salons, department and specialty stores, and hotels located in all parts of the country. Employment opportunities are more prevelant in urban areas, however, small town operators are finding the customer load to be more than adequate. Competition for customers will increase and thus the more highly skilled beauticians will be the most successful.

A three-year course in Cosmetology will be offered at the Carbon County Area Vocational-Technical School beginning in September of 1966. Because of the popularity of this course, more applications are received than positions are available. Students interested in this type of work should have the ability to meet and work with people. They should also possess personal cleanliness and neatness.

The training offered in the Area Vocational-Technical School will meet all requirements for state licensing. Upon completion of the course students will take the state examination for a practicing license.

Students interested in Cosmetology should discuss the advantages and disadvantages of this work very carefully with their guidance counselor before making a final decision.

DATA PROCESSING

The need for skilled personnel in the field of Data Processing is increasing rapidly. It is estimated that the Data Processing industry will employ three million people

by 1970. Data Processing is presently used in banking, business administration, retailing, transportation, engineering, law, and even medicine.

Industry and business are training their own employees, but they have not, and will not, go into the area of Public Education. This educational void is presently being filled by Private Vocational Schools. We in Carbon County are now in a position to offer Data Processing and Computer Programming to any eligible 12th grade students as part of their high school educational program.

Units of work will include: functional wiring principles, numbering systems, Boolean algebra, fundamental of programming, machine accounting, and keypunch operation.

Plans call for the purchasing of the following equipment:

IBM Printing Keypunch
IBM Interpreting Card Punch
IBM Sorter W/Card Counter
IBM Collator
IBM Accounting Machine
IBM Reproducing Punch
IBM 1130 Computing System
1131 Central Processing Unit 8K
W/Attachments 3616-1132-3854
Adapter and 4454-1442

The instructor should hold a B.S. degree in either engineering, mathematics, physics, or business administration with a math background. Advanced degrees and IBM schooling are desirable. The instructor should have two to five years experience in data processing.

Student qualifications for Data Processing are:

Completion of 11th Grade
Background in Business Education
Above average Math Ability
Successful Completion of IBM Entrance Examination
Recommendation of Business Teacher and Guidance Counselor

Interested students should contact their guidance counselors for additional information.

DISTRIBUTIVE EDUCATION

Did you know that one out of every five employed persons in the State of Pennsylvania is working in a field covered by Distributive Education.

Distributive Education includes all occupations directly engaged in merchandising of retail or wholesale goods and services. Efficient marketing and merchandising activities enable the consumer to obtain readily the goods and services that are available.

A good background in Distributive Education includes economics, advertising, store organization, salesmanship, management, interior and window display, retail mathematics, textiles, business law, and merchandising.

If a student shows initiative and imagination, there is no limit to how far he may advance. Job opportunities are unlimited. Many students trained in Distributive Education

become buyers for stores, store managers, fashion assistants, stock control supervisors, enter advertising occupations, and are engaged in all phases of selling.

Salaries vary and are dependent on type of work and locality. Many sales people average $75 to $150 a week. Buyers and store managers average between $5,000 and $10,000 a year.

Distributive Education will be offered at the Carbon County Area Vocational-Technical School beginning September, 1966. The program is a cooperative enterprise using both the facilities of the school and the marketing and merchandising resources of the County. Supervised "on the job" training will be provided.

Students who are most successful in this field usually have pleasant personalities, and like to meet and work with people.

Since Distributive Education covers so many different job areas, specific questions should be directed to your guidance counselor.

DRAFTING TECHNOLOGY

In making a space capsule or an electric iron, a nuclear submarine or a television set, a bridge or a typewriter, manufacturing and construction companies need detailed plans giving dimensions and specifications for the entire object and each of its parts. The workers who draw these plans are draftsmen.

Drafting technicians translate the ideas, rough sketches, specifications, and calculations of engineers, architects, and designers into working plans for draftsmen who further develop this material into working plans for skilled craftsmen. Drafting technology is a program that offers training for the draftsman at a technical level. The drafting technician will work at a level between the engineer and the skilled draftsman.

The Carbon County Area Vocational-Technical School will offer a three-year course in Drafting Technology. Students who are successful in this type of work usually possess average or better math ability, and do well in courses like mechanical drawing. If you like precision drawing and working with details, check with your guidance counselor for additional material on this subject. Incidentally, 6% of all workers employed in the field of drafting were women.

Once a student has acquired a basic background in drafting he may specialize in a particular field such as mechanical, electrical, electronic, aeronautical, structural, or architectural drafting. Additional schooling on a college level is available for those students wishing to further their specialization.

Opportunities for Drafting Technologists at the present time are unlimited. Due to the nature of the work and the skill level involved, Drafting Technology cannot be automated and the

supply of qualified workers cannot meet the demand.

Salaries of Drafting Technicians range from $5,000 to $10,000 a year, depending on the type of work and location.

ELECTRICAL CONSTRUCTION

The Carbon County Area Vocational-Technical School will offer a three-year course in Electrical Construction work beginning in September, 1966. This course is a broad, basic, well-balanced program in practical electricity. A student is taught to install electrical wiring, switches, lighting fixtures, and other electrical equipment. Practical experience and knowledge in the field of armature and motor repair and rebuilding are also a feature part of this course. This training will enable a student to work as a construction electrician or a maintenance electrician.

Most construction electricians work for electrical contractors. Substantial numbers are self-employed. Others work for government agencies or business establishments.

The number of construction electricians is expected to rise substantially during the remainder of the 1960's and in the longer run, primarily because of the large increase anticipated in construction activity. Other factors which are expected to contribute to the growth of this trade are greater requirements for electric outlets, switches, and wiring in homes to accommodate the increasing use of appliances and air-conditioning systems;

and the extensive wiring systems needed for the installation of electronic data processing equipment and electrical control devices being used increasingly in commerce and industry.

Hourly wage rates of construction electricians are among the highest in the skilled building trades. A 1962 survey indicated that minimum union wages ranged from $3.30 an hour in North Carolina to $5.02 in California. Salary is naturally dependent upon type of work and geographical location.

Students who are contemplating this type of work should have average mathematical ability and an interest in electricity.

Be sure to check with your guidance counselor for additional material, before making a final decision.

ELECTRONICS TECHNICIAN

The Carbon County Area Vocational-Technical School will offer a three-year course in Electronics Technology beginning in September, 1966.

Electronics technology includes radio, radar, sonar, telemetering, television, telephony, and other forms of communication; industrial and medical measuring, recording, indicating, and controlling devices; navigational equipment; missile and spacecraft guidance and control instruments; electronic computers; and many other types of equipment using vacuum tubes and semi-conductor circuits. Because the field is so broad, technicians generally specialize in one area.

Electronics technicians work with engineers and scientists in the field of electronics and need a strong background in theory and mathematics to enable them to handle complex technical work above the level of routine operating and repair jobs. Many students upon completion of this three-year course will continue their schooling in a two-year junior college.

Salaries in this field are based upon type of work and location. Most electronics technicians earn between $4,000 and $10,000 a year. In 1962, 12% of the people employed in this field were women. Advance schooling will naturally increase a person's earning potential.

Employment opportunities for qualified technicians are excellent. This field is growing so rapidly that schools are unable to meet the demand.

Students who are successful in this type of training have average or better ability in mathematics and usually average or better grades in all other subjects. They are willing to work hard and to study difficult material.

If you are considering this field of work, it would be advisable to talk to your math teacher, your guidance counselor and anyone else who could give you additional information.

FOOD PREPARATION

If you like to prepare food, jobs are available in restaurants, hospitals, schools, hotels, stores, private clubs, railroad dining cars, and aboard luxury liners cruising vacation spots all over the world. Thus, a qualified person in this area can choose not only the setting in which he will work, but also the area of the country he likes best.

How much you earn will depend on how good you are. Chefs and head cooks may earn up to $15,000 a year. Some chefs with national reputations receive more than $25,000 a year. However, the average salary range is between $5,000 and $10,000 a year depending on the type of work and the locality. Approximately 50% of the chefs and cooks in this country are women.

The demand for qualified people in this field is constantly increasing due to population growth, added leisure time, and higher incomes. Many people engaged in food preparation jobs become managers or assistant managers of eating establishments. Some become specialists in preparing particular types of food and thus increase their earning potential.

The Carbon County Area Vocational-Technical School will offer a course in Food Preparation. This course offers training in all aspects of food preparation and service. The program of instruction will follow a planned procedure through the presentation of theoretical instruction in subjects such

as principles of cookery, baking, accounting, and the purchasing of food. This will be followed by individual practical application through the student cafeteria, and the faculty cafeteria of the Vocational-Technical School. Under the direction of the instructor and with the assistance of professional personnel, it will be the responsibility of the students within this class to plan for and prepare all meals served within the school facilities.

People who are most successful in this line of work usually possess physical stamina, the ability to work under pressure during busy periods, and a keen sense of taste and smell.

For additional information on opportunities in food preparation, check with your guidance counselor.

MACHINE SHOP

The all-round Machinist is a skilled metal worker who makes parts with machine tools. A Machinist can set up and operate most types of machine tools. His wide knowledge of shop practice and the working properties of steel, cast iron, aluminum, brass, and other metals, and his understanding of what the various machine tools do, enable him to turn a block of metal into an intricate part meeting precise specifications. A well-trained machinist selects the tools and material required for each job and plans the cutting and finishing operations in order to complete the finished work according to blueprint or written

specifications. He often uses precision measuring instruments such as micrometers to measure accuracy to thousandths and even millionths of an inch.

A three-year course in Machine Shop practice will be offered to students in Carbon County in September, 1966, at the Area Vocational-Technical School. Students interested in becoming Machinists should be mechanically inclined and temperamentally suited to do highly accurate work that requires concentration as well as physical effort. A good background in mathematics is helpful.

Employment opportunities for skilled Machinists will continue to increase, especially in maintenance shops, as industries continue to use a greater volume of complex machinery and equipment. Some companies require their machinists to take advance courses in mathematics and electronics, at company expense, in order to operate numerically-controlled machine tools which are becoming more prevelant.

Salaries are dependent on type of work and location and range from $2.00 an hour to more than $5.00 an hour.

An important advantage of this occupation is that Machinists can be employed in almost every locality and industry because their skills are required to maintain all types of machinery.

Students wishing additional information on this subject should consult their industrial arts teacher and guidance counselor.

PRACTICAL NURSING

Licensed practical nurses assist in the care and treatment of the physically and mentally ill, under the direction of physicians or professional nurses. As members of a nursing team, they perform many of the less complex tasks, thus freeing professional nurses for more skilled and specialized duties. Practical nurses usually give prescribed treatments and medications, take patients' temperatures, pulse, and blood pressure readings, and help with bathing and other personal hygiene tasks. They may also provide nursing care for newborn babies and their mothers, the handicapped, the chronically ill, or the convalescent. In doctors' offices, practical nurses assist physicians or professional nurses in the examination of patients, give simple medications or treatment as directed, make routine laboratory tests, and perform some clerical tasks.

Beginning in September, 1966, students in Carbon County will be eligible to take a course in Practical Nursing from the Area Vocational-Technical School. The course will be divided into pre-clinical or classroom instruction, and clinical instruction which will consist of on-the-job training in a local hospital. Since a Practical Nurse must be 18 years old to be licensed, students will receive their hospital training after graduating from high school.

Students considering this type of work should have a sincere desire to help sick people. Also important are tact,

patience, understanding, emotional stability, dependability, and good physical health.

Licensed Practical Nurses are expected to have excellent employment opportunities. Many opportunities will arise due to population growth, extended medical coverage programs, the increasing health consciousness of the public, and many other factors affecting the demand for all types of health care.

Average weekly salaries of Practical Nurses in hospitals in 15 metropolitan areas surveyed during 1960 ranged from $42 a week in Georgia to $75.50 a week in California. The Federal Government in 1963 hired Practical Nurses at starting salaries of $3,820 a year.

For additional information on Practical Nursing see your guidance counselor.

WELDING

Did you ever stop to think how much your every day life is influenced by the art of welding? The food you eat has been refrigerated, and refrigeration units require welding. The water you use to wash comes from pipes requiring welding. Transportation; your car, the train, a bus, all require some forms of welding.

A person skilled in the art of welding can work in shipbuilding, structural engineering, automotive, and aircraft industries, guided missiles, nuclear energy, railroads, radio, television, and appliances.

Opportunities are unlimited. Here are some of the jobs available to people skilled in various areas of welding:

(1) Welding Operator
$1.70 to $2.50 an hour
(2) Welder
$2.00 to $4.50 an hour
(3) Welder-Fitter
$2.50 to $4.50 an hour
(4) Specialist Welder
$2.20 to $4.70 an hour
(5) Welding Supervisor
$3.00 to $4.50 an hour
(6) Welding Analyst
$2.50 to $4.50 an hour
(7) Welding Technician
$5,000 to $10,000 yearly
(8) Welding Inspector (Assistant & Senior)
$5,000 to $10,000 yearly
(9) Welding Foreman
$7,000 to $10,000 yearly
(10) Welding Engineer
$6,000 to $14,000 yearly
(11) Welding Development Engineer
$6,000 to $14,000 yearly
(12) Welding Research Engineer
$6,000 to $14,000 yearly
(13) Sales Engineer
$6,000 to $20,000 yearly
(14) Technical Write and/or Editor
$6,000 to $15,000 yearly

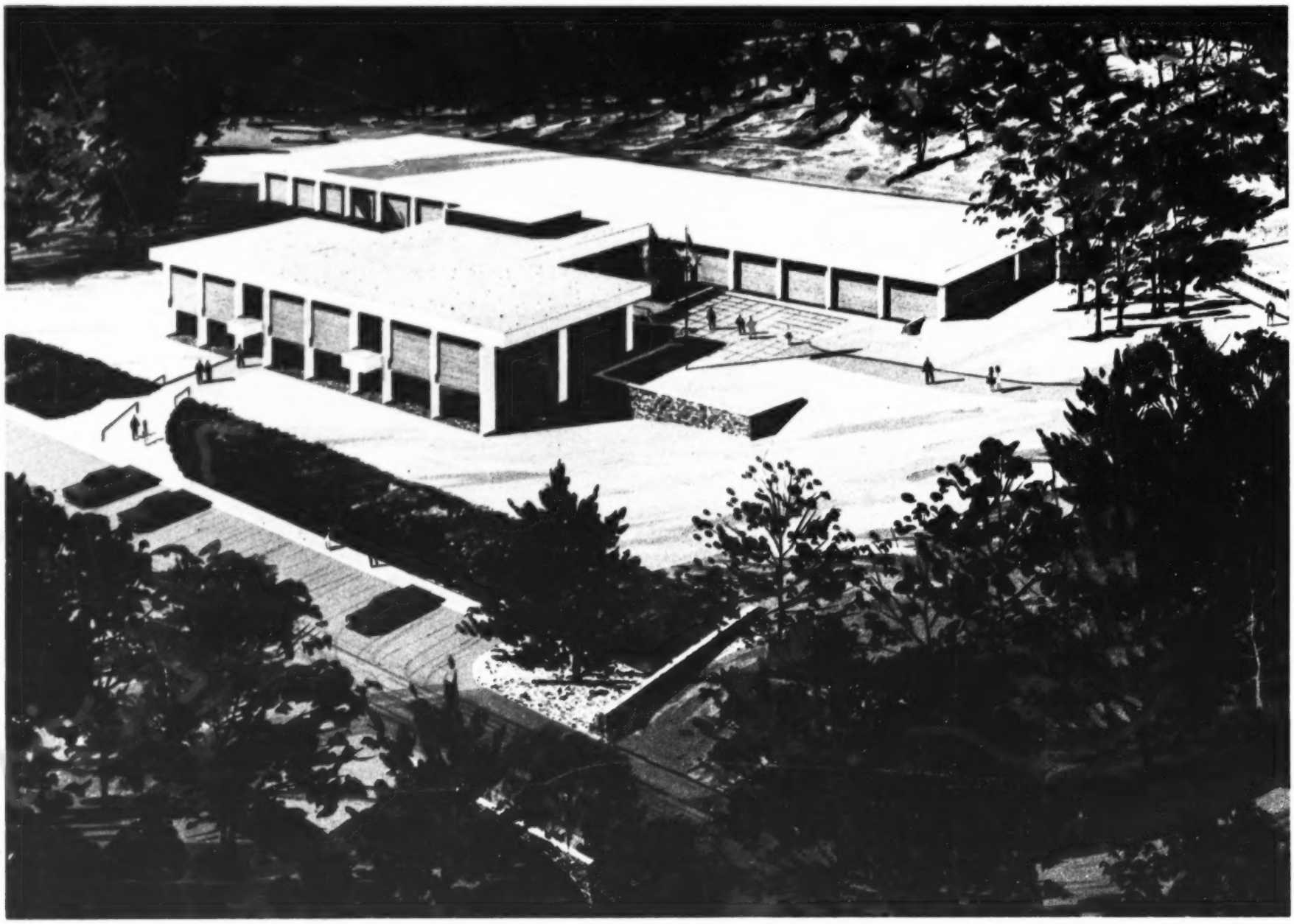
Most of these jobs require a high school diploma plus vocational school training. As the skill level advances a college degree is required.

Welding will be offered as one of the courses in the Carbon County Area Vocational-Technical School. It is a three-year course which requires mechanical aptitude and interest, manual dexterity, and good eye sight.

Students wishing to pursue welding beyond the high school level, may work toward a two-year Associate Degree in a Community College such as Williamsport.

In our society, technological advances are rapid. Most jobs are constantly being up-graded. More and more education is necessary to keep pace with industry. Welding jobs are no exception.

For specific information on any of the above listed jobs contact your guidance counselor.



GUIDANCE BULLETIN

Carbon County **AREA VOCATIONAL-TECHNICAL SCHOOL** Jim Thorpe, Pa.

VOCATIONAL-TECHNICAL EDUCATION

Guidance Bulletin

for

Attendance Area 12

serving

Palmerton, Lehighton, Jim Thorpe

Panther Valley and Weatherly School Systems

Carbon County

Area Vocational-Technical School

Jim Thorpe, Pennsylvania

November 1, 1965

CARBON COUNTY AREA VOCATIONAL-TECHNICAL SCHOOL

JIM THORPE, PENNSYLVANIA

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PREFACE

This brochure has been specifically prepared for informational and guidance purposes. It is concerned with the development of the Carbon County Area Vocational-Technical School and its educational purpose.

The Carbon County Area Vocational-Technical School is not a separate school within the county, but is an extension of all high schools in the county. It is an integral part of all secondary school programs, offering opportunities to gain knowledges and skills of a vocational and technical nature.

The function of the Vocational-Technical School as a service center is significant in that the student will not segregate himself from his home school, but will retain all his local identity and attend the Area Vocational-Technical School on a part-time basis. The student will spend approximately fifty percent (50%) of his school time in his or her home high school and the remaining fifty percent (50%) of his school day in the Area Vocational-Technical School. General education subjects, such as science, mathematics, English, history, and physical education will be taught in the home school, while the Area Vocational-Technical School will provide instruction in practical and theoretical trade practices and techniques. This objective is to make available to all students of the county, marketable skills and vocational competencies. Students may continue to participate in extra-curricular activities of his or her home high school.

The future is bright for craftsmen, tradesmen, and technicians through service, effort, and hard work. The Vocational-Technical School offers opportunities for the youth and adults of Carbon County.

POLICIES

Student Acceptance:

The Carbon County Area Vocational-Technical School reserves the right to select students on a basis of their age and their ability to profit from instructions offered. This will be determined through multiple factors. Entering students will be required to take a battery of tests. These test results will provide information to enable students to make more realistic vocational decisions. Recommendations from industrial arts and homemaking teachers, guidance counselors, and principals, will also be given consideration. In extreme cases, enrollment will be considered on a probationary basis. Every effort will be made to meet the needs of each student. Final decision for acceptance will be made by the vocational school after consultation with home guidance staff.

Guidance and Counseling:

The Vocational-Technical School will be staffed with a Student Service Coordinator, (Vocational Guidance Counselor) who will coordinate the school's guidance program with its member schools. All pre-enrollment orientations will be carried out in the home high school. Upon registration, students will be requested to make a first, second, and third choice. Individual fitness will then be considered in course placement.

Attendance:

The most frequent question asked by employers is, "Has this student been dependable and regular in his attendance?" This is a most important factor. Good and faithful attendance will be required. Days of absence cannot be made up. Student attendance will be kept on a clock-hour basis. This procedure is used so that records will show the number of hours of training accrued during a student's attendance. This time record will be used for apprentice and licensing purposes in some areas of training.

Record Keeping:

An accurate and comprehensive system of records will be kept for each student. These will include grades, attitudes, attendance, personal characteristics, safety records, and hours of instruction.

Grading:

Grades will be issued in accordance with the home school system. Students who fall below standard will be required to upgrade their current status or be dropped from the program.

Placement Service:

The school will retain a placement service program and

will assist all students in securing employment upon graduation. The school will also work cooperatively with the Pennsylvania State Employment Service. Recommendations for employment will be based upon the student's accumulative record.

Student Dress:

Modesty and sensible dress are encouraged. Sloppy or untidy dress will not be tolerated. In some areas students will be required to wear clothing commonly worn in their trade, craft, or service.

Student Conduct:

Smoking will not be permitted. Students will be expected to conform to all the rules and regulations as established by the Vocational-Technical School. Discipline is an important phase of the student's training. Records will be kept by instructors on student attitude and behavior. These records will be important in placing a student in a job after graduation. Horse play, destruction of property, and stealing will not be tolerated. Failure to conform to these rules may result in dismissal from the Vocational-Technical School.

Safety:

The school will require that all students adhere to its

strict safety program. Students who practice faulty safety procedures will be down graded and if such practices continue, suspension from the Area Vocational-Technical School may result. The individual welfare of every student is our chief concern.

Cafeteria Service:

The Area Vocational-Technical School will provide a school lunch program. All students will be invited to take advantage of the school lunch program. Whether a student purchases his or her lunch from the school or carries it from home, eating will be permitted only in the cafeteria area.

Transportation:

Transportation to the school will be provided by school buses from every high school or vicinity.

The County School Board:

The County School Board is the legal operating and controlling authority of the Carbon County Area Vocational-Technical School.

Advisory Council:

The General Lay Committee, the Professional Committee, and the Craft Committees of the school, will act as advisory

groups to assist the County School Board in developing curriculum and operating guide lines.

Student Schedule:

A student's request for a change of course within the Vocational-Technical School must be submitted no later than the end of the first semester of his or her sophomore year. One change only will be permitted. The final decision for this change will result from a conference among the student, the instructor, guidance personnel, and the Area Technical School chief administrator.

Student Dismissal:

A student enrolled in an Area Technical School program may be required to drop his Area Technical School program and return to his home school as a result of a joint conference among the student, his instructor, the Area Technical School chief school administrator, and guidance personnel, if:

1. His attitude and conduct endanger the safety or hinder the progress of the other members of the class.
2. It becomes evident after a reasonable period of time that he will not succeed in the program in which he is enrolled and that he cannot profit therefrom.

In any event the local district chief school administrator shall be informed of such conferences and outcomes.

"He Who Hath a Trade Hath an Estate."-Benjamin Franklin

HIGH SCHOOL COURSE OFFERINGS

The Curriculum:

Auto Body Repair
Auto Mechanics
Carpentry and Cabinet Making
Chemical Technology
Commercial Art
Cosmetology
Data Processing
Distributive Education
Drafting
Electrical Construction
Electronics
Foods Preparation
Machine Shop
Practical Nursing
Welding

AUTO BODY REPAIR

With the millions of automobiles on our highways today, we must have capable men to repair cars which have been damaged. The auto body shop in the Area Vocational-Technical School has all the modern facilities to train young men for this never-ending trade of repairing and refinishing automobile bodies.

The young man who has decided to learn the body and fender repair trade is not only faced with acquiring skills with the hand tools, but he must also learn to weld, solder, shrink metal, form metal, use power jacks, frame tools, and numerous other pieces of equipment.

The bodyman and painter must be artistically inclined. He has to work with all sorts of contours and flat pieces of sheet metal. He must also be able to paint and match thousands of different shades of colors so that the damaged panel when repaired will look like the original panel.

UNITS OF WORK: Frame Straightening - Body and Fender Repairs - Refinishing - Upholstering - Glass Replacement - Spray Painting Techniques

QUALIFICATIONS: Completion of the 9th Grade
Mechanical Aptitude and Interest
Good Eyesight
Physical Stamina
Recommendation of Guidance Counselor
Recommendation of Industrial Arts Teacher

EMPLOYMENT OPPORTUNITIES:

Collision work has grown tremendously with the increased production of cars. Millions of dollars are spent every year on the repair of automobile bodies. Enlargement of car bodies and the streamlining of the sheet metal require skilled craftsmen to do repair work. For the man who has acquired the necessary skills, attractive pay and steady employment are possible.

RELATED JOBS:

Auto Painter - Metal Finisher - Industrial Spray Painter - Welder - Gas Station Owner - Sheet Metal Worker - Upholsterer - Insurance Adjuster - Auto Parts Supplier

AUTO MECHANICS

The Automotive Mechanics Program provides high school students with a working knowledge of all phases of automobile repairs and maintenance. The growing demand for trained mechanics accelerated by increased production of modern cars has opened the doors of automotive service to thousands of young men. A definite shortage of skilled mechanics now exists and all available forecasts report an ever more serious shortage in the next few years.

The objective of the Automotive Shop in the Area Vocational-Technical School is to familiarize the student with the complete automotive trade, putting the greatest emphasis on Automotive Maintenance. The student will also spend some time on the other aspects of the automobile industry as well as cover the important facts of allied trades. The automotive field employs one out of every seven people who are working in the United States today. Any boy with the determination to study, and the stamina to work hard, can advance rapidly in this field. This course is not intended for those interested in this training as a hobby.

UNITS OF WORK: Engine Tuneup Diagnosis and Repair - Chasses Maintenance - General Services and Maintenance - Chassis Repair and Lubrication

QUALIFICATIONS:
Completion of 9th Grade
Mechanical Aptitude and Interest
Willingness to Learn
Recommendation of Guidance Counselor
Recommendation of Industrial Arts Teacher

EMPLOYMENT OPPORTUNITIES:

With 72 million automobiles on the road today, the opportunities for employment in this field are very good. Good pay and working conditions attract many mechanics, but lack of technical training prevents even higher wages and greater advancement. Training in this area may also lead to other types of related employment.

RELATED JOBS:

Automobile Salesman - Specialty Mechanic - Shop Foreman - Service Manager - Gas Station Owner - Auto Parts Manager - Auto Mechanic Teacher - Insurance Adjuster

CARPENTRY AND CABINET MAKING

Carpentry is one of the largest single construction trades. The work of a Carpenter is quite extensive, including: form work, frame work, roofing, staircase, mill work, and in some instances, extends into the field of cabinet making. The cabinet maker is essentially a worker who performs such jobs as cutting, shaping, and assembling high grade articles of furniture. However, in both cases the carpenter and cabinet maker must have knowledges and skills in the use of both hand and machine woodworking tools and equipment.

The objective of this program is to provide the student with a well-rounded program that will allow him to specialize in either the field of carpentry or cabinet making.

UNITS OF WORK: Reading Plans and Blue Prints - Cost Estimating - Fundamental Use of Hand Tools - Fundamental Use of Woodworking Machines - Framing - Roofing - Exterior Finish - Interior Finish - Fundamentals of Cabinet Making - Wood and Lumber Identification and Grading

QUALIFICATIONS:
Completion of 9th Grade
Mechanical Skill
Physical Stamina
Safe Working Habits
Ability to Read Drawings
Recommendation of Guidance Counselor
Recommendation of Industrial Arts Teacher

EMPLOYMENT OPPORTUNITIES:

The outlook is excellent for skilled carpenters in the construction industry. Jobs can be found with contractors, lumber companies, and governmental agencies.

RELATED JOBS:

Cabinetmaker - Carpenter - Furniture Maintenance and Repair - Model Making - Mill Work - Machine Operations - Floor Layer - Estimator - Roofer - Painter

CHEMICAL TECHNOLOGY

The student specializing in this area may work with industrial chemists or chemical engineers in the development, production, and use of chemical products and equipment. Chemical technologists may assist in the conduction of experiments to analyze various characteristics of different substances. They may also perform tests to determine whether particular substances are present and if so in what quantity. Modern electronic equipment will be used in the study of chemical principles.

UNITS OF WORK: Elements of Chemistry - Elements of Physics - Qualitative Analysis - Analyses by Instrumentation - Introduction Research

QUALIFICATIONS:
Completion of 10th Grade
Above Average Ability in Mathematics
Above Average Ability in Science
A Strong Interest for Analytical Type Work
Recommendation of Guidance Counselor

EMPLOYMENT OPPORTUNITIES:

Employment opportunities are excellent. The chemical industry is expanding rapidly and skilled chemical technologists are in great demand. The largest number of chemical technicians are presently employed in research work.

RELATED JOBS:

Chemical Salesmen - Control Analysts - Laboratory Supervisors - Laboratory Technicians - Research Assistant

COMMERCIAL ART

The field of commercial art is wide and varied. It includes drawing and designing illustrations for advertising copy, books, magazines, and newspapers. Also, creating designs for billboards and posters. Technical illustrators, retouch artists, layout and paste up artists, medical illustrators, animators, cartoonists, lettering artists, package designers, sign painters, and designers, display designer, and photographic material are all forms of commercial art.

The major emphasis for the young men and women trained for these skilled jobs is placed on manual accomplishments in the skills of art production, technical features of composition, display, color theory, and many others.

UNITS OF WORK: Lettering - Sign Painting on Various Materials - Silk Screen Processes - Displays - Illustrations - Watercolor and Poster Techniques - Anatomy - Commercial Art Practices

QUALIFICATIONS:
Completion of the 9th Grade
Must have Ability in Creative Art and Design
Must Submit a Portfolio of Art Work
Must Show Aptitude and Interest for this Training
Recommendation of Guidance Counselor
Recommendation of Art Teacher

EMPLOYMENT OPPORTUNITIES:

There are wide ranges of opportunities in this field. The beginner may find employment as a sign painter, letterer, or show card writer. The more experienced artist may work for himself as a free lance artist.

RELATED JOBS:

Silk Screen Worker - Retoucher - General Art Worker - Sign Painter - Illustrator - Designer

COSMETOLOGY

Cosmetology is the scientific study of beauty culture, such as the care of the skin and hair, personal and public hygiene, bacteriology, sanitation, and sterilization. After having satisfactorily completed this course, an individual will have learned to observe all rules of hygiene and sterilization which meet State requirements. Also, they will be prepared to take the State examination for a practicing license.

Certain personal and physical characteristics are required of workers in this field. A pleasing personality and the ability to establish and maintain friendly relationships with people are of particular importance.

UNITS OF WORK: Scientific Fundamentals of: Hygiene - Sanitation - Sterilization - Bacteriology - Anatomy and Physiology of Various Systems Relative to the Head, Face, Neck, Arms, and Hands - Shop Management - Study of State Laws and Regulations in Preparing for the State Examination

QUALIFICATIONS:
- Completion of the 9th Grade
- Satisfactory Health Record
- Interest in Cosmetology as a Wage Earning Occupation
- Personal Cleanliness and Neatness
- Recommendation of Guidance Counselor
- Recommendation of Home Economics Teacher

EMPLOYMENT OPPORTUNITIES:

Employment opportunities for cosmetologists are good. This is due to a high turnover and a continued growth in the number of women who avail themselves of these services. Many beauty operators with enough skill, business ability, and capital have successfully opened their own shops.

RELATED JOBS:

Manicurist - Barber - Hair Stylist - Wigmaker - Beauty Shop Operator - Instructors

DATA PROCESSING

Business decisions are based upon information about sales, accounts, income, and expenditures. This information is called data. The collecting, analyzing, summarizing, and reporting of this information is called Data Processing.

Instruction is provided in the operation of electronic data processing machines. Emphasis will be placed on systems and procedures rather than specific machines and their limited operation. The areas covered will be: Coding, Computing, Sorting, Summarizing, Recording, and Communicating.

UNITS OF WORK: Functional Wiring Principles - Business Machines - Numbering Systems - Fundamentals of Programming - Communicative Skills - Accounting - Industrial Organization & Management - Introduction to Data Processing Systems - Statistics

QUALIFICATIONS:
Completion of the 11th Grade
Above average Mathematical Aptitude
Successful Completion of Entrance Examination
Recommendation of Guidance Counselor
Recommendation of Business Teachers

EMPLOYMENT OPPORTUNITIES:

Employment in this field is excellent. Business and industry are constantly studying ways and means to increase their efficiency in the handling of various kinds of data. Other organizations such as education and law enforcement agencies are likewise converting to Data Processing.

RELATED JOBS:

Computer Programmer - Data Processing Technician - Systems Analyst

DISTRIBUTIVE EDUCATION

Distributive Education is primarily selling; however, it also includes such areas as buying and pricing, business operations, advertising, commercial law, and accounting. Occupations in this field are varied, but in most cases it will involve meeting and working with people.

The program is a cooperative enterprise using both the facilities of the school and the marketing and merchandising resources of the community. Supervised "on-the-job" training will be provided by cooperating businesses in the area. A student will spend approximately half of his vocational school time working in a store and the rest of the time will be devoted to classroom instruction.

UNITS OF WORK: Economics of Distribution - Advertising - Store Organization - Salesmanship - Management and Good Will - Interior and Window Display - Business Management - Retail Mathematics - Textiles - Retailing Laws - Merchandising

QUALIFICATIONS:
Completion of the 11th grade
16 years of Age
Written Consent of Parents
Good Attendance and Punctuality Record
Desire to Enter the Field of Distribution
Desire to Meet and Work with People

EMPLOYMENT OPPORTUNITIES:

Employment in areas covered by Distributive Education is excellent. In Pennsylvania, one out of every five persons is working in this field. Opportunities for selling are everywhere. If a student shows initiative and imagination, there is no limit to how far he may advance.

RELATED JOBS:

Sales Clerk - Buyer - Cashier - Store Manager - Stock Supervisor - Fashion Assistant - Window Trimmer - Advertising

DRAFTING TECHNOLOGY

Drafting Technology is a program that offers training for the draftsman at a technical level. This draftsman is one who will work at a level between the engineer and the skilled draftsman. He will generally work from sketches, specifications, or from notes as furnished by the engineer or architect, transforming them into work plans and detailed drawings for the skilled draftsman. This technician will be required to make calculations concerning strength, quality, and cost of materials to have an appreciation and understanding of the elementary elements of design and engineering. Instruction is given in the use of all equipment typical of that found within leading drafting and design rooms.

UNITS OF WORK: Work Drawings - Pictorial Drawings - Assembly Drawings - Technical Illustration - Elements of Architectural Drawing - Design Principles - Theoretical Aspects of the Trade

QUALIFICATIONS:
Completion of the 9th Grade
Average or above Math Ability
Mechanical Aptitude
Average or Better Grades in Other Subjects
Recommendation of Guidance Counselor
Recommendation of Industrial Arts Teacher

EMPLOYMENT OPPORTUNITIES:

Technical level draftsmen are in short supply. Employment opportunities are excellent. Advanced training programs are now available in two-year colleges.

RELATED JOBS:

Drafting Technician - Design Technician - Assembly Detail Draftsman - Technical Illustration

ELECTRICAL CONSTRUCTION

This course is a broad, basic, well-balanced program in practical electricity. A student is taught to install electrical wiring, switches, lighting fixtures, and numerous types of electrical equipment. Practical experience and knowledges in the field of armature and motor repair and rebuilding are a feature part of this course. Such phases of electrical work as magnetic switches, holding coils, transformers, transformer ratios, and home and industrial wiring are also covered. This training will enable a student to work as a construction electrician of a maintenance electrician.

Most construction electricians work for electrical contractors. Substantial numbers are self-employed. Others work for government agencies or business establishments.

UNITS OF WORK: Direct Current Theory - Alternating Current Theory - Signal Wiring - Light Wiring - Power Wiring - Motor Connecting and Repair - Trouble Shooting - Power Control

QUALIFICATIONS:
Completion of the 9th Grade
Average or Above Average Mathematical Ability
Average Reading Ability
Some Mechanical Aptitude
Recommendation of Guidance Counselor
Recommendation of Industrial Arts Teacher

EMPLOYMENT OPPORTUNITIES:

Increased building construction will mean increased job opportunities for all forms of electrical installation. Electrical appliance service and repair will also offer many job opportunities.

RELATED JOBS:

Appliance Repairman - Cable Splicer - Lineman - Motor Rewinder - Electrical Equipment Salesman

ELECTRONICS TECHNICIAN

This is not a course in television or radio repair. Electronic technology is the study of basic electrical laws and concepts, simple and complex electrical circuits, communications, telemetering, and micro waves. The course is designed to develop an understanding of the principles involved in industrial automation and advanced forms of communication. The electric eye, zonar, radar, television, and many other technological advances are all part of electronic theory. Electronic technicians work with engineers and scientists in a great variety of projects.

A technician, with special training in electronics, may work in industrial electronics, missile development, nuclear power, communications, automation, instrumentation, radio and television.

Advanced training in this area is now available in two-year junior colleges.

UNITS OF WORK: Basic Electric Currents - Electronic Principles - Use of Testing and Recording Instruments - Fundamentals of Rectifier Circuits - Properties of Tuned Circuits - Principles of Communication - Principles of Industrial Electronics

QUALIFICATIONS:
- Completion of the 9th Grade
- Successful completion of Algebra I
- Above Average Ability in Mathematics
- Average or Better Grades in Other Subjects
- Average or Better Reading Ability
- Willingness to Work Hard and to Study Difficult Material
- Recommendation of Guidance Counselor
- Recommendation of Math Teacher

EMPLOYMENT OPPORTUNITIES:

Employment opportunities for qualified technicians are excellent. The Electronics field is expanding tremendously. Jobs are available in industrial electronics and also the field of communications.

RELATED JOBS:

Communications Technician - Television and Radio Repair - Engineering Aid - Electronic Business Machine Repair - Medical Electronic Technician - Electronic Assemblier

COMMERCIAL FOOD PREPARATION

As our society becomes more mobile and the problem of travel and transportation reduced to what it is today, there is an increased demand for personnel in the Commercial Food Trades. Gourmet cooking, service, and preparation of foods has now become a major area of employment.

This course in quantity foods preparation offers training in all aspects of food preparation and service. The program of instruction will follow a planned procedure through the presentation of theoretical instruction in subjects such as principles of cookery, baking, accounting, and the purchasing of foods. This will be followed by individual practical application through the student cafeteria and the faculty cafeteria of the Area Vocational-Technical School. Under the direction of the instructor and with the assistance of professional personnel, it will be the responsibility of the students within this class to plan for and prepare all meals served within the school facilities.

UNITS OF WORK: Orientation - Sanitation - Care, Maintenance, and Operation of Equipment - Safety - Waiter and Waitress Service - Recipes and Formulas - Food Costs - Nutrition - Food Preparations

QUALIFICATIONS:
- Completion of the 9th Grade
- Average Scholastic Ability
- A Keen Interest in Foods Preparation and its Service
- Satisfactory Health Record
- Recommendation of Guidance Counselor

EMPLOYMENT OPPORTUNITIES:

Employment opportunities for competent chefs, cafeteria managers, restaurant, and dining room managers are increasing annually. In as much as this program is located near the Pocono Mountains resort areas, employment opportunities are good.

RELATED JOBS:

Waiter - Chef - Short Order Cook - Meatcutter - Food Packager - Caterer - Restaurant Manager - Restaurant Owner

MACHINE SHOP

This has been called the Atomic Age, the Technological Revolution, and the Electronic Age. Call it what you may, this area is maintained by machines. Practically all necessities of life are made by machines. The atomic bomb and all electronic equipment used in war as well as peace are made either in part or completely by machine tools.

In factories, food stuffs are refined and prepared, fabrics are woven, and wool and metal are fitted together to make the furnishings of civilization. Everywhere, factories are building laborsaving devices for the education, recreation, and prosperity of the people. But without the machinist there would be no engines or dynamos to furnish power. There would be no machines because the machinist is the producer of them all.

UNITS OF WORK: Hand, Bench and Assembly Work - Machine Operation - Lathe - Drill Press - Shaper - Milling Machine and Grinding - Tool and Cutter Grinding - Heat Treatment of Metals - Elementary Tool Making (Jig and Fixture)

QUALIFICATIONS:
Completion of 9th Grade
Mechanical Aptitude and Interest
Good Background in Math and Mechanical Drawing
Patience to Work with Painstaking Accuracy
Good Eyesight
Physical Stamina
Recommendation of Guidance Counselor
Recommendation of Industrial Arts Teacher

EMPLOYMENT OPPORTUNITIES:

Skilled machinists are in great demand. Working conditions vary from the building of heavy machines to fine precision die work. Most shops operate on an eight-hour day, and a machinist working on a job requiring a high degree of accuracy receives higher pay than one producing rough work.

RELATED JOBS:

Machine and Tool Designer - Specialized Machinist - Bench and Floor Machinist - Inspector - Assembler - Tool Room Attendant - Machine Tool Operator - Welder

PRACTICAL NURSING

The practical nurse plays a vital role in the health activities of a community. Many of the functions formerly performed by a professional nurse are now performed by a practical nurse. This includes taking temperatures and giving certain routine treatments. These nurses work in institutions as visiting nurses, with visiting nurse associations, and in homes. They work under the general direction of a licensed physician or the supervision of a registered professional nurse. In actuality, the practical nurse helps to ease the suffering of the ill, helps those who cannot help themselves, and comforts and cheers the troubled.

This course is broken down into two major divisions: pre-clinical instruction and clinical instruction. The technical school gives the pre-clinical instruction and a cooperating hospital gives the clinical instruction. Since a practical nurse must be 18 years or older, she receives her clinical instruction after graduation from high school.

UNITS OF WORK: Personal and Vocational Relationships - Personal and Community Health - Nursing Skills and Theory - Foods and Nutrition - Medical Nursing - Surgical Nursing - Maternity - Pediatrics - Recovery Room - Diet Kitchen

QUALIFICATIONS:
Completion of the 11th Grade
Satisfactory Health Record
Neat Personal Appearance
Ability to Get Along with Others
Recommendation of Guidance Counselor

EMPLOYMENT OPPORTUNITIES:

The practical nurse is continually in demand, due to the increase in population and the overcrowding of hospitals. Since patients are discharged so early from hosptials after surgery or childbirth, the convalescent period at home requires a nurse. Nursing homes, public health agencies, industries, and businesses find the employment of a trained practical nurse essential.

RELATED JOBS:

Orderly - Nurses Aide - Medical Technician - Medical Assistant - Registered Nurse

WELDING

Welding mechanics may be found in a wide range of industries. Welding involves the joining of metals by using either an electric arc or gas welders. Gas cutting equipment is also used to cut metal to size or shape. A welder must be able to make various kinds of welds in different metals, working from different positions. It is essential to have a knowledge of welding symbols and the ability to operate, adjust, and control equipment.

Instruction is given in the welding of aluminum and stainless steel using the heliarc equipment, gas cutting of metals, and also gas and arc welding. The student receives practice in arc welding, making various types of joints, various kinds of electrodes, and various gauge metals. Through this practice he learns graze and fusion welding, and flame cutting. Safe working practices are stressed.

UNITS OF WORK: Arc Welding - Fillet Welding - Causes of Welding Failures and their Remedies - Welding Symbols - Various Types of Metals and their Characteristics - Gas Welding - Equipment Demonstrations - Safe Working Practices - Theory and Related Information

QUALIFICATIONS:
Completion of 9th Grade
Mechanical Aptitude and Interest
Manual Dexterity
Good Eyesight
Guidance Counselor Recommendation
Industrial Arts Teacher Recommendation

EMPLOYMENT OPPORTUNITIES:

Employment opportunities for welders are very good. The leading employers of welders are those making machinery, automobiles, ships, aircraft, boilers, tanks, and fabricated structures. Openings for welders are also available inall metal fabrication industries such as steel mills and aluminum plants. Many welders have their own local repair shops.

RELATED JOBS:

Sheet Metal Worker - Structural Steel Worker - Riveter - Welding Inspector - Auto Body Repairman

CARBON COUNTY AREA VOCATIONAL-TECHNICAL SCHOOL

JIM THORPE, PENNSYLVANIA

PRELIMINARY APPLICATION FOR ADMITTANCE

(Print)

NAME_____ AGE_____ GRADE_____
(Last) (First)

List of Course Offerings

_____Auto Body Repair
_____Auto Mechanics
_____Carpentry & Cabinet Making
_____Commercial Art
_____Commercial Food Preparation
_____Cosmetology
_____Data Processing
_____Distributive Education
_____Drafting Technology
_____Electrical Construction
_____Electronics
_____Machine Shop
_____Practical Nursing
_____Welding
_____Chemical Technology

Mark first choice 1, second 2, third 3

Return to Guidance Counselor as soon as possible

VT 001 639

Ehresman, Norman D., And Others
An Analysis of the Effectiveness of the MDTA Institutional Programs in North Dakota, 1962-1966. Research Report No. 12.

North Dakota Univ., Grand Forks. Center for Research in Vocational and Technical Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - May68 53p.

*ADULT VOCATIONAL EDUCATION; STATE SURVEYS; GRADUATE SURVEYS; *VOCATIONAL FOLLOWUP; *PROGRAM EVALUATION; PROGRAM EFFECTIVENESS; *FEDERAL PROGRAMS
*MANPOWER DEVELOPMENT AND TRAINING ACT PROGRAMS; MDTA PROGRAMS; NORTH DAKOTA

All of the 637 graduates of Manpower Development and Training Act institutional training programs in North Dakota between October 1962 and September 1966, who had been in the labor market for at least 1 year, were mailed questionnaires to aid in analyzing the training's effectiveness. All of the graduates were unemployed prior to training and most were from rural areas and small cities. Over 60 percent (388) of the questionnaires were returned, and a random sample of 34 (14 percent) of the non-respondents was located to complete the questionnaire. The non-respondent data was compared to respondent data to be certain that a biased sample did not exist. Some conclusions of the survey and of personal contacts with both graduates and teachers were: (1) 93.56 percent of the graduates were employed, (2) Graduates' hourly wages were higher than could be expected for untrained workers, (3) Graduates employed out-of-state received the highest wages, (4) The training provided a means for the trainee to explore related occupations, and (5) Graduates employed in trade and industrial and technical occupations earned higher hourly wages than did those employed in other fields. Appendices contain statistical tables and copies of the questionnaire and cover letters. (ET)

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An Analysis of the Effectiveness of the MDTA Institutional Programs in North Dakota

1962-1966

Research Report No. 12

by

NORMAN D. EHRESMAN

LYLE S. EVENSON

FRANK N. FISCHER

CENTER FOR RESEARCH IN
VOCATIONAL AND TECHNICAL EDUCATION

College of Education
University of North Dakota
Grand Forks, North Dakota

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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May, 1968

VT001639

ACKNOWLEDGEMENTS

The authors wish to acknowledge the help and assistance of the persons who participated in the conduct and publication of this study. Special thanks are extended to Miss Carol Maynard for her assistance in contacting the respondents and mailing the questionnaires and to the North Dakota State Employment Service for their assistance in providing the names of the respondents.

A special thanks also should be given to Donald J. Fixel and Jerry B. Wolfe for their countless hours of work in the summary and statistical analysis of data. In addition, both Mr. Fixel and Mr. Wolfe participated in the preliminary writing of much of the report.

Special thanks are extended to Mr. Edward F. Wood for his assistance in the analysis and interpretation of data and for his assistance in the preparation of the final report.

Appreciation is extended to Mr. LeRoy H. Swenson, State Director of Vocational Education, and the State Board for Vocational Education for their cooperation in the conduct of the study and for providing funds and staff time.

Finally, special thanks are extended to Mrs. Diane Cartwright for her efforts in coordinating, editing, and typing both the preliminary drafts and the final manuscript.

Dr. Norman D. Ehresman

Lyle S. Evenson

Frank N. Fischer

FOREWORD

This research report presents the results of a systematic, organized effort to evaluate the effectiveness of the institutional part of the Manpower Development and Training Act programs in North Dakota. The study was initiated by Mr. Frank Fischer and Mr. Lyle Evenson of the State Vocational Education staff. The Center for Research in Vocational and Technical Education became involved in the study soon after its inception and agreed to assume the tasks of data analysis and report preparation. The cooperation and mutual assistance provided by both the State Vocational Education staff and the Center for Research has indeed proved beneficial to both parties and has demonstrated the feasibility of such cooperation on research projects.

The study reported herein is unique in that it is a normative survey which has built into the design the means for determining the population parameters without actually receiving 100 per cent returns. The design consisted of conducting a mail survey questionnaire sent to the total population, followed by a ten per cent random sample of those persons who did not respond to the mail questionnaire. The process of surveying a random sample of the non-respondents provided the researchers with very accurate estimates of the total population.

The reader of this report will become aware of some of the successes and failures of the MDTA institutional programs. The research evidence presented in this report should be useful in the planning and

conduct of future MDTA programs. The reader should be cautioned, however, that the information is based only on programs conducted in North Dakota and then only on those graduates of the institutional MDTA programs.

Dr. Norman D. Ehresman
Director
Center for Research in Vocational
and Technical Education
University of North Dakota

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CHAPTER I

INTRODUCTION

Background

In early 1962, when Congress passed the Manpower Development and Training Act, our national economy was characterized by severe unemployment, with several million jobless persons available for work. At the same time, employers were posting thousands of unfilled jobs. The MDTA program was designed to help these unemployed workers qualify for jobs and to provide the trained workers needed by the nation's employers. Its training program was established to provide the opportunities for workers whose occupations had become obsolete to attain new skills, to assist young people with little or no skills or job experience to enter the world of work, and to attack the special employment problems of the disadvantaged.

The objectives of the MDTA program have evolved both from the intent of the original act and as a result of experience with the program. The objectives, as identified by Garth L. Magnum[1] are:

1. Facilitating employment of the unemployed
2. Reducing poverty
3. Lessening inflationary pressures
4. Meeting labor shortages

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[1]Magnum, Garth L., Contributions and Costs of Manpower Development and Training, Institute of Labor and Industrial Relations and National Manpower Policy Task Force, December, 1967, p. 7.

5. Upgrading the labor force

6. Revamping traditional institutions

The act was responsive to a need created by a number of economic developments: the emergence of new processes and products and the decline of older ones; the introduction of automation and other technological processes to many plants; shifts in plant location and market demand; the effects of foreign competition; and the entry of almost unprecedented numbers of youth into the job market.

One of the most pervasive job market developments has been the gradual upward shift in the occupational requirements of the nation's employers. Partially as a result of the impact of new technologies, there has been a steady decline in the number of jobs for unskilled and semiskilled workers and a rapid rise in the opening for skilled, technical, and professional workers.

At the Federal level responsibility for carrying out the provisions of the MDTA is divided between the Department of Labor and the Department of Health, Education, and Welfare. At the State level, in North Dakota, it is divided between the North Dakota State Employment Service (NDSES) and the State Board of Vocational Education (SBVE). Local operations are delegated to the schools that conduct the training and local office managers of the NDSES.

The organization of the program in North Dakota is as follows:

1. Local operations are delegated to schools or training agencies within the state that conduct the training by the North Dakota State Vocational Education staff. The trainees are selected by the North Dakota State Employment Service.

2. The institutional training part of the program is under the

supervision of the State Director for Vocational Education.

3. The State has a Manpower State Supervisor who handles the administration of MDTA.

4. A State MDTA Advisory Committee of seven members, appointed by the Governor, while maintaining a liaison with the National Advisory Committee, reviews and evaluates the State's overall Manpower program plans and makes recommendations to the Governor relative to carrying out the state plan. The committee recommends occupational training and skill development programs appropriate to the state's needs and resources; exercises general review and appraisal of those programs; and brings its prestige to bear in achieving public support of and participation in the state's Manpower Development and Training Programs. In performing its duties and responsibilities, the committee may seek the advice of outside professional and technical specialists.

Need for the Study

Adequate evaluation of the contributions of MDTA requires not only an assessment of the extent to which the program as a whole has accomplished its objectives, but also an assessment of the degree to which various program components have contributed to those objectives. Since the war on poverty has been going on for several years, it seems that the positive effects of MDTA's part in that war should be evaluated in an effort to measure the positive and negative effects of the program.

The present study differs from the three month, six month, and 12 month follow-up studies conducted by the State Employment Service by including in the study only those graduates who have been in the

market for at least one year. As such, this study is one of the first of its kind in the nation and is somewhat dependent on a pioneer approach to evaluation. Some of the relevant items requiring evaluation, however, seem apparent. Does retraining help a person get a job or upgrade his job skills? Does the return justify the expense? In what ways could the training program be made more beneficial and efficient? An additional reason for a follow-up study of this nature is to learn something of the social and employment status of the people trained in the program. Relevant factors here are: employment status, are they unemployed, what kinds of jobs do they hold; are they employed in-state or out-of-state; what range of wages do they make; how many hours do they work; and if possible, some qualitative factors about their lives--things that may have happened to them since and possibly because of the Manpower Development Training. Such information is vital to a full understanding of the total picture of a person's vocational life.

Statement of Problem

The central problem studied was the effectiveness of the institutional MDTA programs in North Dakota. Effectiveness was measured by ascertaining specific information about the graduates of the programs. The types of information secured included employment vs unemployment, type of employment, level of wages, and place of employment. The study included all of the graduates of the institutional MDTA programs who had been out of the program and available for employment for at least one calendar year. Information was gathered by means of a mail interview technique.

Definition of Terms

The MDTA graduates for this study are defined as those persons who completed training during the period of October 1962, when the program began, and September 1966. Thus the graduates had all been in the job market after their period of training for at least one year. The facilities used for training were both public and private training facilities in North Dakota and many programs in other states that were available to trainees from North Dakota. These out-of-state institutions were used for what were termed slot-in or less than class-groups as well as for class groups. The enrollees in the program were categorized as follows: (1) unemployed workers and family farm workers with less than $1200 annual net family income, (2) persons working substantially less than full time, (3) persons who will be working less than full time or will be unemployed because their skills have become or are becoming obsolete, (4) persons working below their skill capacities, (5) youths between the ages of 16 and 22 years of age.

This study is also concerned with cost benefit. There must be some realistic way of measuring the effects of such programs. Cost-effectiveness should look at the tax consideration. By raising a person's level of education according to his training, will his increased tax potential pay back the cost of the initial training program? another question to be answered, are the funds for the MDTA justified by the increased tax returns which are the result of better training through MDTA?

All of the people who went through MDTA in North Dakota during the period of this study were not merely under-employed, they were

unemployed. They were in most instances drawing unemployment compensations, were possibly on County welfare or in some other way being supported by tax dollars - either local, state or Federal. These persons were a drain on the economy, taking productive dollars out of the economy and putting nothing back into it. In order to combat this, MDTA was instituted.

The information gained from this study will hopefully give us some idea of the cost benefit that the MDTA program has provided. One will be able to compare the tax dollars spent to keep these people alive in our society with the amount of tax dollars that now these people are returning from the wages they have earned. There are many other factors to be considered: the people who were involved in helping these previously unemployed people are now free to devote their time to helping other people. We now have also a larger trained manpower pool. There are more people now to produce the goods and the services that are vital to our economy. These, then, are some of the cost benefit items.

Limitations

The primary limitation of this study was North Dakota. The numbers and kinds of training programs available were limited to citizens of North Dakota. There was a sociological and ecological factor operating here; most of the people were from rural areas and small cities. Also, the work ethic typical of the midwestern section of the United States limited the applicability of the results.

The general limitations of a mailback questionnaire methodology must also be considered. The difficulty of interpreting some of the

items on the questionnaire by both the respondents and the researchers and the lack of a 100 per cent response also limited the interpretation and conclusions of the survey.

CHAPTER II

DESIGN AND METHODOLOGY

Sampling Procedure

The subject pool for the study consisted of all the graduates from North Dakota MDTA institutional programs during the period of October 1962 to September 1966. This subject pool contained 637 persons who had graduated from the program. It was decided to limit the study to those graduates who had been in the labor market at least one year in order to ascertain the effects of the training that persisted over a period of time. It was decided to include all of the graduates in the sample. The subjects were a heterogeneous group with only one factor in common: they were all unemployed prior to MDTA training.

Each of the subjects was contacted by means of a mail questionnaire. The questionnaires were returned to Bismarck. Those people who did not respond on the initial mailing were again contacted by mail and asked to respond. Two more similar mail follow-ups were also conducted. After all these questionnaires were received, a random sample of the non-respondents was surveyed in order to ascertain whether or not there was any significant difference between those who did and those who did not respond. If no significant differences appeared, the results obtained from the 388 questionnaires received could be generalized to the entire group of 637. The results of the study of the

non-respondents is reported in Chapter III.

Instrumentation

The data were collected by means of a 19 item mail questionnaire which was developed by members of the State Vocational Education staff. The questionnaire contained certain personal items identifying the person and his place of employment as well as items pertaining to hours, wages, and other information about the graduates' feelings toward their MDTA training. A copy of the instrument as well as the cover letters used are included in Appendix A.

The data were of a nominal nature with the exception of wages and hours. Some of the data consisted of specific write-in responses, hence, descriptive (non-parametric) statistics such as frequency distributions and chi-squares were chosen as appropriate techniques applicable to this data. The wage and hour data (ratio data) were treated by an analysis of variance technique.

Special Treatment of Data

Of the 637 questionnaires originally mailed in June 1967, 388 or 60.9 per cent were utimately returned by January 1968, in response to mailed reminders. Each of the 388 questionnaires was then placed into one of four groups on the basis of an arbitrary cut-off date of reception in Bismarck. The first group contained 231 questionnaires, the second group 92, the third group 28, and the fourth group 37.

To determine whether or not the data from each of the four groups were not dissimilar enough to preclude the pooling of data into a single general summary, statistical tests, performed before receipt at the Research Coordinating Unit of the final 17 questionnaires, were

conducted on the information obtained from items 5, 16, and 17. The information contained in these items was considered to be of prime interest to the initiators of the project and therefore crucial to any attempt to compare the data of the groups with each other. Considering trends over the four groups, the following questions were asked. Was there a statistically significant difference: (1) in the questionnaire return rate between respondents employed in-state versus those employed out-of-state; (2) in the return rate of respondents employed in the field for which they were trained versus those employed in different fields or unemployed; (3) in the return rate of respondents who were employed versus those not employed; (4) in mean (i.e., average) hourly wages earned by respondents employed in-state versus those employed out-of-state; and (5) in mean number of hours worked per week by respondents employed in-state versus those employed out-of-state?

The answer to all these questions was found to be negative. Certain characteristics of each of the four groups as indicated by responses, were found too similar to prohibit the pooling of data for the groups into a single summary. The groups were comparable, and produced no statistically significant differences on the five questions asked over the four mailings, therefore, it was decided to pool the four groups into one group; see Appendix B.

CHAPTER III

A STUDY OF THE NON-RESPONDENTS

Rationale and Design

The primary purposes of normative surveys generally are to determine the status of some particular entity or to measure the results of some action. The study being reported herein is no exception. Most surveys, however, result in something less than a complete picture due to limited samples and incomplete returns. The present study also suffers from a less than 100 per cent return but a major effort was made to ascertain the true parameters of the population studied.

The audience surveyed for the study consisted of the total population. In other words, questionnaires were sent to every person who completed MDTA programs during the period being studied. In spite of the fact that the response rate was in excess of 60 per cent, one still wonders about the accuracy of the data gathered in terms of the total population. A 60 per cent return indicated that the sample might have been biased. This chapter reports an attempt to determine in what ways and how much this sample was biased.

The authors decided that a study of those persons who did not respond to the mail survey would be conducted. A random sample equal to 14 per cent of those persons who had not responded was drawn. The individuals were located by telephone, using a variety of methods

including help from police, relatives, and many state agencies, and asked to assist in the study by completing the questionnaire and returning it to the state MDT office. The results of the questionnaires returned by non-respondents provided the researchers with evidence concerning the characteristics of that portion of the population. Knowledge of the characteristics of those who responded to original request plus a sample of non-respondents enabled the researchers to make more accurate statements about the total population.

Analysis and Results

There were 34 persons identified by the random sample method to be included in the study of the non-respondents. The persons were located and requested to complete the same instrument that had been used for the main study. Each of the 34 persons complied with this request and the results were analyzed in the same manner by the same persons who analyzed and tallied the main study.

Statistical procedures appropriate to testing each of the hypotheses were selected. The tabulation of the results of the questionnaires and the computation of the statistical tests were completed by two researchers working independently.

Hypotheses formulated to test for differences between the two groups (respondents and non-respondents) and stated in the null form were:

Null Hypothesis No. 1.--There is no difference in the rate of unemployment between respondents and non-respondents among the graduates of North Dakota MDT programs.

Analysis of Hypothesis.--This hypothesis was tested by computing

a chi-square as shown in Appendix C. The chi-square value of 2.20 was not significant. The results indicated no difference in the unemployment rates of the graduates in the respondent and non-respondent samples.

Null Hypothesis No. 2.--There is no difference in the proportion of graduates employed within and outside of North Dakota between the respondents and non-respondents among the graduates of North Dakota MDT programs.

Analysis of Hypothesis.--This hypothesis was tested by computing a chi-square for a 2 x 2 table as shown in Appendix C. The chi-square of 5.01 with one degree of freedom was significant at the .05 level. The results indicate that there are significantly more persons employed outside of North Dakota in the non-respondents sample than in the respondents sample.

Null Hypothesis No. 3.--There is no difference in the rate of employment in occupations for which trained between respondents and non-respondents among the graduates of North Dakota MDT programs.

Analysis of Hypothesis.--This hypothesis was tested by computing a chi-square as shown in Appendix C. The chi-square value of 1.53 was not significant. This result indicated no difference in the ratio between people employed in the job for which they were trained and those not employed in the job for which they were trained for the respondent sample as compared with the non-respondent sample.

Null Hypothesis No. 4.--There is no difference in the average

hourly wage reported betwen respondents and non-respondents among graduates of North Dakota MDT programs.

Analysis of Hypothesis.--This hypothesis was tested by a two-way analysis of variance technique as indicated in Appendix C. The resultant F ratio of 52.38 was significant at the .001 level which indicated a significant difference in the wages of persons employed in-state compared with those out-of-state. The F ratio of 10.00 was significant at the .005 level which indicated a significant difference between the respondent and non-respondent samples. The interaction F ratio of 6.81 was significant at the .01 level.

Null Hypothesis No. 5.--There is no difference in the average number of hours worked per week between the respondents and non-respondents among graduates of the North Dakota MDT programs.

Analysis of Hypothesis.--This hypothesis was tested by a two-way analysis of variance technique. The results are contained in Appendix C. None of the F ratios approached significance. These results indicated no difference in the mean number of hours worked per week when comparing persons employed in North Dakota with persons employed in other states or when making comparisons between graduates in the respondent and non-respondent samples.

Conclusions

Analysis of the data collected from the non-respondents indicated that the non-respondents did not differ from the respondents when selection biases were taken into account. The difference identified: (1)

proportion employed outside North Dakota, and (2) mean hourly wage, were attributed to a selection process. Persons employed outside North Dakota were more likely to be included in the non-respondents because of delays in mail delivery and difficulty in ascertaining the person's correct address. Persons employed outside the state were expected to receive higher wages as reported in the respondent sample. The differences between the two groups was a result of a selection process and was not considered detrimental to the generalizability of the findings.

The non-respondent group did not differ greatly from the respondent group. Therefore, the findings obtained by analyzing the 388 questionnaires included in the main (respondent group) study may be taken as a valid picture of the typical North Dakota MDT graduate even though less than 100 per cent of the graduates completed the questionnaire.

CHAPTER IV

RESULTS OF ANALYSIS AND DATA

The 388 questionnaires which were returned by February 1, 1968 were summarized by hand tallying. An analysis sheet was developed for each of the items in the questionnaire. Responses were recorded as simple frequencies except in the case of open-ended items where responses were listed and collapsed into categories. Due to a lack of response to some items, Ns were computed separately for each question.

A list of the course titles grouped in six occupational categories appears in Table 1. This grouping was used in analyzing the data in all instances where a breakdown by occupational categories was required. Table 2 indicates by category the nuumber and per cent of responses. The highest rate of returns (77.6 per cent) came from persons who had received training in the technical occupations. The return rate for the total study was 60.9 per cent. The additional 34 returns from the non-respondent study were not included in any results presented in this chapter.

The data presented in Table 3, Employment Status of MDTA Graduates by Occupational Category and Place of Employment, indicated whether or not the graduates were employed in the job for which they were trained. The data also indicated the number and per cent of the MDTA graduates that were unemployed. There were only 25 persons

(6.44 per cent) out of the total respondents (388) who were in the labor market and unemployed. The rate of unemployed ranged from 1.92 per cent to 10.0 per cent across the occupational categories. The total unemployment percentage however was 6.44 per cent. The sixteen persons not reported in the labor market included those who had married or had young families and were not available for employment.

The data presented in Table 4 indicated the mean hourly wage received by the MDTA graduates in each of the occupational categories as well as the mean number of hours worked per week. The highest mean hourly wages ($3.10 per hour) were earned by trade and industrial graduates who were employed outside the state. The lowest wages ($1.83 per hour) were earned by the graduates employed in agricultural occupations who also worked the highest mean number of hours per week (63 hours per week).

Responses to item six in the questionnaire are presented in Table 5. An interesting note was the method of securing the first job most often reported was "personal effort." The least used source for securing a job was answering advertisements.

Table 6 presents the reasons given by the respondents for being employed in an occupation other than the one for which they were trained. The most prevalent reasons for changing seemed to be that they got a better job or higher wage, something better than the entry level job for which they were trained under the MDTA program.

As can be seen in Table 7, the graduates felt that the relationship between skill development and technical knowledge was about right. Table 8 lists in rank order the areas of difficulty experienced by the graduates.

TABLE 1

TITLE OF MDTA COURSES INCLUDED UNDER SIX OCCUPATIONAL CATEGORIES

Health	Office & Clerical	Technical	Trade & Industrial	Agricultural	Miscellaneous
Licensed Practical Nurse	Bookkeeper	Draftsman	Arc & Acetylene Welding	Farm Hand General I	Barber
Medical Technologist	Bookkeeper II	Electronic Computer Mechanic	Automobile Body Repairman	Farm Equipment Mechanic	Beauty Operator
Laboratory Technician	General Office Clerk	Electronic Technician	Auto-Diesel Mechanic	Agricultural Business	Building Maintenance Man
	Clerk-Stenographer	Engineering Aide	Auto-Mechanic		Dinner Cook
	Clerk-Typist	Highway Technician	Auto Service Station Attendant		Manager Serving Establishment
	Stenographer		Auto Service Station Mechanic		Baker
			Electrical Appliance Serviceman		Spotter, Dry Cleaner
			Office Machine Serviceman		
			Rotary Driller Helper		
			Sheet Metal Worker		
			Linotype Operator		
			Offset Pressman		
			Plumber		

TABLE 2

NUMBER AND PER CENT OF MDTA GRADUATES RESPONDING BY OCCUPATIONAL CATEGORY AND PLACE OF EMPLOYMENT

	Health		Office & Clerical		Technical		Trade & Industrial		Agricultural		Miscellaneous		Total
	North Dakota	Other States	North Dakota	Other States	North Dakota	Other States	North Dakota	Other States	North Dakota	Other States	North Dakota	Other States	
Number responding	24	11	108	36	40	12	78	40	9	1	23	6	388
Number enrolled	49		215		67		219		20		67		637
Rate of return (%)	71.4		66.9		77.6		53.8		50.0		43.2		60.9

TABLE 3

EMPLOYMENT STATUS OF MDTA GRADUATES BY OCCUPATIONAL CATEGORY AND PLACE OF EMPLOYMENT

	Health		Office & Clerical		Technical		Trade & Industrial		Agricultural		Miscellaneous		Total
	North Dakota	Other States	North Dakota	Other States	North Dakota	Other States	North Dakota	Other States	North Dakota	Other States	North Dakota	Other States	
Employed in job for which trained	17	6	70	17	27	6	44	18	3	0	10	2	220
Employed in job other than for which trained	2	4	21	12	13	5	31	19	5	1	10	4	127
Unemployed	5	1	17	7	0	1	3	3	1	0	3	0	41
Unemployed but not in labor market (for reasons of marriage/family)	2	1	7	4	0	0	0	0	0	0	2	0	16
Unemployed and still in labor market	3	0	10	3	0	1	3	3	1	0	1	0	25
Rate of actual unemployment	8.57		9.02		1.92		5.08		10.0		3.44		6.44

TABLE 4

MEAN NUMBER OF HOURS WORKED PER WEEK AND MEAN HOURLY WAGES EARNED BY RESPONDING MDTA GRADUATES BY OCCUPATIONAL CATEGORY AND PLACE OF EMPLOYMENT

	Health		Office & Clerical		Technical		Trade & Industrial		Agricultural		Miscellaneous		Total
	North Dakota	Other States	North Dakota	Other States	North Dakota	Other States	North Dakota	Other States	North Dakota	Other States	North Dakota	Other States	
Mean hours worked per week	38.05	48.65	40.80	44.35	45.65	42.00	50.80	46.15	62.70	*	45.70	48.25	45.33
Mean hourly wage	$2.01	$2.12	$1.95	$2.11	$2.46	$2.92	$2.05	$3.06	$1.87	*	$2.12	$2.49	$2.20

*No respondents in this category

TABLE 5

METHOD OR SOURCE OF INFORMATION BY WHICH MDTA GRADUATES SECURED THEIR FIRST EMPLOYMENT AFTER TRAINING

Method of Contact	Place of Employment North Dakota	Place of Employment Out of State	Total Response
School	70	25	95
State employment service	59	21	80
Advertisement	7	6	13
Personal effort	91	42	133
Friend	28	6	34
Other	16	1	17
Total	271	101	372

Caution must be used in the interpretation of this table. The category "personal effort" may have several meanings which influence the responses to the other categories.

TABLE 6

REASON GIVEN BY MDTA GRADUATES FOR EMPLOYMENT IN AN OCCUPATION OTHER THAN THAT FOR WHICH TRAINED

Reasons	Place of Employment North Dakota	Place of Employment Out of State	Total Response
No job available in my trade	23	5	28
Developed new interest	4	7	11
Disliked trade for which I was trained	7	0	7
Found better opportunity	24	15	39
Never intended to follow trade	1	0	1
This work pays better	23	10	33
Other*	19	17	36
Total	101	54	155

*Only large "other" category was marriage.

TABLE 7

RECOMMENDATIONS OF MDTA GRADUATES CONCERNING THE RELATIONSHIP BETWEEN TECHNICAL KNOWLEDGE AND SKILL DEVELOPMENT BASED ON THEIR TRAINING AND WORK EXPERIENCE

	Place of Employment		Total Response
	North Dakota	Out of State	
The training should have:			
been about like it was in this respect	113	41	154
placed more emphasis on skill development	73	32	105
placed more emphasis on related technical knowledge	38	19	57
Total	224	92	316

TABLE 8

AREAS OF DIFFICULTY EXPERIENCED BY MDTA GRADUATES

Deficiencies	Total Response
Experienced no particular difficulty	121
Lacked necessary practical experience	76
Needed additional technical knowledge	37
Not accustomed to production standards of speed	11
Not accustomed to production standards of accuracy	5
Needed more training in how to apply for a job	5
Found it difficult to get along with other workers	2
Other	1
Total	258

Specific suggestions on how to improve the MDTA training program were listed in rank order in Table 9. The most often mentioned were suggestions for spending more time in the shops, more specific instruction and a training period of longer duration. Table 10 lists the types of additional training needed by the graduates. Additional training was needed and the MDTA graduates would most like to see evening school courses made available to them. Approximately one-third of the graduates indicated that no additional training was needed.

TABLE 9

SPECIFIC SUGGESTIONS MADE BY MDTA GRADUATES ON HOW TO IMPROVE THE MDTA TRAINING PROGRAM

Suggestions	Total Responses
More time spent in shop, lab, or on-the-job	47
More specific instruction	36
More training (longer school)	34
Better instructors and teaching methods	15
Better entrance requirements and student selection	8
Need for more modern equipment	8
Emphasis on accuracy over speed	7
Salesmanship training	6
Proceed with instruction more slowly	4
Better job placement system	3
Emphasis on speed over accuracy	3
Give college credit where applicable	1
More economy in the program	1
No specific suggestions (none needed)	77
Total	250

TABLE 10

TYPE OF ADDITIONAL TRAINING OPPORTUNITIES NEEDED

Type of Training	Response
Evening school courses	110
None needed	108
More advanced training	60
One or two week short courses	56
Total	334

Additional information, particularly on the questionnaire items not discussed in this chapter, may be found in Appendix D. Discussion and interpretation is left to the reader. Appendix D contains the results of all the questionnaire items with the exception of those which were presented and discussed in this chapter.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The primary purpose of this study was to ascertain the effectiveness of the MDTA institutional programs in North Dakota. A mailed interview survey form was sent to each of the persons who had completed one of the MDTA programs and who had been a part of the labor market for at least one year. The results of the survey as well as personal contacts with both trainees and teachers led the authors to the following conclusions:

1. The MDTA programs were effective in getting people employed. All of the participants were unemployed at the time of their enrollment in the program. The rate of employment for those persons studied was 93.56 per cent, of which the total amount must be considered an increase in the rate of employment.

2. The reported hourly wages received by the MDTA graduates indicated that they were employed at rates above those which could be expected for untrained workers.

3. MDTA graduates employed outside the state received higher wages than those employed within the state.

4. As evidenced by 127 persons employed in occupations different than the one in which they were trained, this type of training program (designed for entry level occupations) provided the means

whereby persons were able to explore related occupations.

5. Graduates of MDTA programs typically did not want to change their place of residence in order to obtain employment.

6. A strong point which contributed greatly to the success of the program was the personal contact between the coordinator (state vocational staff member) and the trainee.

7. Persons who graduates from the MDTA programs desired additional more-advanced training.

8. Graduates employed in trade and industrial and technical occupations earned higher hourly wages than did graduates employed in other fields.

9. Graduates of MDTA programs typically did not maintain contact with their training institution once they completed their training.

10. Responses from the graduates indicated that they were well satisfied and even enthusiastic about the MDTA training programs.

Recommendations

The recommendations presented herein are a result of the knowledge gained in conducting the study and observations of the authors as well as specific findings of the study. The recommendations are:

1. MDTA institutional programs in North Dakota should be continued and expanded as an effective means of preparing persons for entry level employment.

2. Increased effort should be made in the area of selecting training programs in occupations which provide jobs with reasonable wages and exploratory experiences in geographic areas suitable to the

trainees.

3. Increased emphasis should be placed on the laboratory phases of the training programs, including both training within the school and on-the-job.

4. Personal contact between the state staff members (coordinators) and the trainees should be maintained. Funds for the support of additional staff should be provided.

5. In addition to the follow-up studies conducted by the State Employment Service, an annual evaluation of the total training program should be conducted. The results of such an evaluation should be used to effect modifications which would keep programs relevant to the needs of employers and employees.

APPENDIX A

June 22, 1967

Dear MDTA Graduate:

We are interested in what you are doing and how you are getting along with your particular job. You are in a position to give us suggestions in methods of improving our training program.

You may help us by completing the short survey form which is enclosed. We will use the information you submit to evaluate our programs of study and to aid us in counseling prospective students. Please complete this form today and return it to us promptly so your reply will become a part of the report compiled from the entire survey. The information you submit will be kept confidential. You will find a postage paid, self-addressed envelope enclosed for your convenience.

Sincerely yours,

LYLE EVENSON
MDTA Counselor

FRANK N. FISCHER
State Supervisor of Manpower

LE: cm

Enclosures

August 11, 1967

Dear MDTA Graduate:

A questionnaire dated June 22, 1967, concerning your MDTA Training, was mailed to you with a stamped, self-addressed envelope.

To date, we have received no response. We know that you appreciated the training you received through the Manpower program and that you would like to show this appreciation by mailing your response to us.

We are enclosing another copy of the questionnaire in the event that the first one was lost or misplaced. Please send it today to:

Frank N. Fischer, Supervisor of
Manpower Development & Training Program
State Capitol - Eighth Floor
Bismarck, North Dakota 58501

Thank you for your cooperation.

Sincerely yours,

LYLE EVENSON
MDTA Counselor

FRANK N. FISCHER
State Supervisor of Manpower

LE: cm

Enclosure: Questionnaire

October 18, 1967

Dear MDTA Graduate:

After two previous mailings to you in an attempt to seek important information concerning the value and benefits of the MDTA Program, we urge you to complete and return the enclosed MDTA Follow-up Study.

To help determine the worth of a program, periodic evaluations are necessary. You can be of much help in evaluating the program. This may help determine the future of MDTA Programs.

To date we have had approximately a 75% return, so won't you help raise this to 100%.

Sincerely yours,

LYLE EVENSON
MDTA Counselor

FRANK N. FISCHER
State Supervisor of Manpower

LE: cm

November 28, 1967

Dear MDTA Graduate:

Our cut off date for our MDTA Follow-Up Study is January 1, 1968.

This is our 4th mailing to you so surely you can see the importance of your part in the Follow-Up Study.

Will you please complete and return the enclosed MDTA Follow-Up Study.

Sincerely yours,

LYLE EVENSON
MDTA Counselor

FRANK N. FISCHER
State Supervisor of Manpower

LE: cm

MDTA FOLLOW-UP STUDY

DIRECTIONS: Please fill in the blanks below with the correct information or check the appropriate places to answer the questions as they apply to you. Do not skip any items. Write plainly or print.

1. Name _____

2. Complete mailing address _____

3. Name and address of present or last employer. (Include firm name)

   _____

   _____

4. What course did you complete during your MDTA Training? _____

   _____

5. What is the title of the job you have now? _____

6. How did you get in touch with your first job after your training? (Through the school, employment service, advertisement, personal effort, a friend or other) _____

   _____

7. If your present job is different from the trade for which you were trained, give your chief reason for changing to another occupation. (Check only one)

   ( ) Am working in same trade
   ( ) No job available in my trade
   ( ) Developed new interest
   ( ) Disliked trade for which I was trained
   ( ) Found better opportunity
   ( ) Never intended to follow trade
   ( ) This work pays better
   ( ) Other reason (Explain)

   _____

   _____

8. What do you consider to be the chief value of the shop or laboratory instruction you received in your trade training program? (Check only one)

   ( ) Not working at trade studied
   ( ) No special advantage
   ( ) It helped me to obtain employment
   ( ) It gave me a good foundation for advancing on the job
   ( ) It helped me to begin at a higher wage
   ( ) It provided a foundation for additional training
   ( ) Other (Explain) _____

   _____

   _____

9. What do you consider to be the chief value of the related technical information you received as a part of your trade training? (Check only one)
   ( ) Not working at trade studied
   ( ) No special advantage
   ( ) It helped me to obtain employment
   ( ) It helped me to understand trade terminology
   ( ) It helped me to understand the "why" of the skills and processes of the training
   ( ) It provided a foundation for additional training
   ( ) Other reason (Explain) _____

10. For what aspect of your trade or occupation did you find that you were least prepared when you started to work? (Check only one)
   ( ) Experienced no particular difficulty
   ( ) Not accustomed to production standards of speed
   ( ) Found it difficult to get along with other workers
   ( ) Not accustomed to production standards of accuracy
   ( ) Lacked necessary practical experience
   ( ) Needed additional technical knowledge
   ( ) Needed more training in how to apply for a job
   ( ) Not working at trade or occupation studied
   ( ) Other (Explain) _____

11. Looking back on your training and your experience as a worker, do you think your trade training should have: (Check only one)
   ( ) Been about like it was in this respect
   ( ) Placed more emphasis on the development of skill
   ( ) Placed more emphasis on related technical instruction

12. What specific suggestions do you have to offer for the improvement of trade school training in the trade for which you were trained?

   _____

   _____

13. What contact have you made with your training institution since you graduated. (Check as many as necessary)
   ( ) No contacts
   ( ) Was aided in securing first job
   ( ) Was advised to return for additional training
   ( ) Have visited the school shops
   ( ) Have returned for vocational advisement
   ( ) Other (Explain) _____

14. What was the chief reason influencing you to enroll in the MDTA training program? (Check only one)
   ( ) No particular influence
   ( ) Advice of family
   ( ) Advice of other students
   ( ) Advice of counselor
   ( ) High school shop experience
   ( ) Work experience in the trade
   ( ) Employment Service
   ( ) Had no prospects for attending four year college
   ( ) Lack of interest in academic subjects
   ( ) Other influence (Explain _____

15. What type of additional training should your MDTA Training institution offer in order for you to improve your skills and knowledge?
( ) None needed
( ) One or two week short courses
( ) Evening school courses
( ) Explain nature of courses desired _____

_____

16. What is your present salary? This information helps us a great deal in counseling students. Please put the figure in one of the appropriate blanks.
Hourly_____ Weekly_____ Monthly_____

Yearly_____

17. How many hours do you work per week?_____

18. Do you feel that evening courses in public speaking, human relations, bookkeeping, and other similar courses would be of benefit to students?_____

19. Which one of the above courses do you feel would be most valuable?

_____

Appendix B

Preliminary Statistical Analysis to Determine Comparability of Follow-up Groups of Questionnaires

Of the 637 questionnaires originally mailed in June 1967, 388 or 60.9 per cent were ultimately returned by January 1968, in response to mailed reminders. Each of the 388 questionnaires was then placed into one of four groups on the basis of an arbitrary cut-off date of reception in Bismarck. The first group contained 231 questionnaires, the second group 92, the third group 28, and the fourth 37.

TABLE 1

OBSERVED FREQUENCIES OF RESPONDENTS RESIDING IN NORTH DAKOTA VERSUS THOSE RESIDING IN OTHER STATES OVER FOUR MAIL GROUPINGS*

Place of Residence	Mailings 1	2	3	4	Total
North Dakota	173	63	19	17	272
Other states	58	29	9	3	99
Total	231	92	28	20	371

*Obtained chi-square value was 2.99 with 3 df which was not significant at the .05 level

To determine whether or not the data from each of the four groups was not dissimilar enough to preclude the pooling data into a single general summary, statistical tests, performed before receipt at the

Research Coordinating Unit of the final 17 questionnaires, were conducted on the information obtained from items 5, 16, and 17. The information contained in these items was considered to be of prime interest to the initiators of the project and therefore crucial to any attempt to compare the data of the groups with each other. Considering trends over the four groups, the following questions were asked. Was there a statistically significant difference: (1) in the questionnaire return rate between respondents employed in-state versus those employed out-of-state; (2) in the return rate of respondents employed in the field for which they were trained versus those employed in different fields or unemployed; (3) in the return rate of respondents who were employed versus those not employed; (4) in mean (i.e., average) hourly wages earned by respondents employed in-state versus those employed out-of-state; and (5) in mean number of hours worked per week by respondents employed in-state versus those employed out-of-state?

Specifically, the results of each of the five statistical tests were as follows. For question one, the obtained chi-square of 2.99 was significant at only the .50 probability level (df=3). For question two, the obtained chi-square was 1.00 which value is significant at only the .70 level (df=3). The obtained chi-square of 0.45 for question three was significant at only the .95 level (df=3). For question four, each respondent's reported wage was first converted into a mean (i.e., average) hourly rate. Then, within each of the four groups a grouped frequency distribution of the mean hourly wages was constructed. That is, instead of indicating individual mean wage rates, such rates were grouped into intervals of a quarter dollar; thus, $1.25 to $1.49, $1.50

49

TABLE 2

OBSERVED FREQUENCIES OF RESPONDENTS EMPLOYED IN FIELD FOR WHICH TRAINED VERSUS THOSE NOT EMPLOYED IN FIELD FOR WHICH TRAINED (INCLUDING UNEMPLOYED) OVER FOUR MAIL GROUPINGS*

Employment Field	Mailings 1	2	3	4	Total
For which trained	138	47	16	10	211
Other fields/unemployed	93	45	12	10	160
Total	231	92	28	20	371

*Obtained chi-square value was 1.00 with 3 df which was not significant at the .05 level

to $1.74, etc. in order to facilitate visual inspection of the data as well as for computational convenience. The midpoint of each interval (e.g., $1.37, $1.62) was then assigned a number from 1 to 19. For example, the number 1 was assigned to the midpoint of the category "ninety-nine cents an hour or less", the number 2 was assigned to the midpoint of the next category "$1.00 to $1.24", and so on. The number 19 was assigned to the midpoint of the category "more than $5.00 an hour." Separate distribution for respondents employed in-state and those employed out-of-state were obtained for each of the four groups. The numbers thus assigned to the midpoints of the wage categories within each of the two classifications of each of the four groups were then analyzed within a two-way analysis of variance design. The results of the F test showed first, no statistically significant difference in mean hourly wages among the four mail groups; hence, this result was more

evidence supporting a move to pool each group's data. Secondly, there was a significant difference in mean hourly wages paid to respondents employed out-of-state as compared to those employed in-state.

TABLE 3

OBSERVED FREQUENCIES OF RESPONDENTS EMPLOYED VERSUS THOSE UNEMPLOYED OVER FOUR MAIL GROUPINGS*

Employment Status	Mailings 1	2	3	4	Total
Employed	205	82	26	18	331
Unemployed	26	10	2	2	40
Total	231	92	28	20	371

*Obtained chi-square value was 0.45 with 3 df which was not significant at the .05 level

TABLE 4

SUMMARY OF ANALYSIS OF VARIANCE OF MEAN HOURLY WAGES OF RESPONDENTS EMPLOYED IN NORTH DAKOTA VERSUS THOSE EMPLOYED OUT-OF-STATE OVER FOUR MAILINGS

Source	df	ss	ms	F	P
In/Out-of-state	1	280.76	280.76	40.05	<.01
Mailings	3	17.00	5.67	<1.00	NS
Interaction	3	76.71	25.57	3.65	<.05
Error	306	2,143.68	7.01		

It can be seen that within all four mail groupings, respondents employed out-of-state receive consistently higher mean hourly wages than do those employed in-state. This finding supports empirically the generally held notion that wage rates are higher outside the state. This significant finding, however, does not preclude the collapsing of data across all four groups. Finally, the unexpected significant interaction between mail groupings and place of employment appeared to be largely a result of the responses returned in the second mail group by those employed out-of-state. This significant result may be attributed to the fact that the cut-off dates of receipt of the questionnaires marking the basis for distinction between the four groups were arbitrarily set. This result merely reflected a chance inclusion of out-of-state respondents who took longer in replying and thus missed being included in the first mail grouping. In any event, this significant interaction did not prevent the pooling of data.

TABLE 5

SUMMARY OF ANALYSIS OF VARIANCE OF MEAN NUMBER OF HOURS WORKED PER WEEK BY RESPONDENTS EMPLOYED IN NORTH DAKOTA VERSUS THOSE EMPLOYED OUT-OF-STATE OVER FOUR MAILINGS

Source	df	ss	ms	F	P
In/Out-of-state	1	1.69	1.69	<1.00	NS
Mailings	3	12.62	4.21	1.37	<.25
Interaction	3	2.00	0.67	<1.00	NS
Error	307	943.45	3.07		

To answer the question concerning the mean number of hours worked per week, the same general routine was followed as was used in answering question four. Thus, reported work time was converted into a mean weekly rate, and then grouped into intervals of five hours; thus, 10 to 14, 15 to 20, etc. The midpoints of each category (e.g., 12, 17) were then assigned a number from 1 to 14. The number thus assigned to the midpoints of the hour categories within each of the two classifications of each of the four mail groups were then analyzed within a two-way analysis of variance design. The results of the F tests are given in Table 5.

It can be seen that there were neither significant main effects nor a significant interaction, thus, here was further evidence indicating that pooling data from all four groups was allowable.

APPENDIX C

Statistical Analyses of Non-Responders

1. Chi-square test on number of responders and non-responders employed in or outside of North Dakota. Figures represent observed frequencies.

	Responders	Non-Responders	Total
In state	282	18	300
Out-of-state	106	16	122
Total	388	34	422

χ^2=5.01, df=1, significant at .05 level

2. Chi-square test on number of responders and non-responders either employed or not employed in field for which trained. Figures represent observed frequencies.

	Responders	Non-Responders	Total
In state	220	15	235
Out-of-state	168	19	187
Total	388	34	422

χ^2=1.53, df=1, non-significant

3. Chi-square test on number of responders and non-responders

who reported employment or unemployment. Figures represent observed frequencies.

	Responders	Non-Responders	Total
Employed	347	27	374
Unemployed	41	7	48
Total	388	34	422

χ^2=2.20, df=1, non-significant

4. Analysis of variance (F test) on mean hourly wages of responders and non-responders employed in or outside of North Dakota.

Source	ss	df	ms	F	p
In/Out-of-state (A)	383.122	1	383.122	52.382	<.001
Responders/Non-responders (B)	73.125	1	73.125	9.997	<.005
Interaction (A x B)	49.838	1	49.838	6.814	<.01
Error	2,560.226	350	7.314		

5. Analysis of variance (F test) on mean number of hours worked per week by responders and non-responders employed in or outside of North Dakota.

Source	ss	df	ms	F	p
In/Out-of-state (A)	0.003	1	0.003	<1	NS
Responders/Non-responders (B)	0.017	1	0.017	<1	NS
Interaction (A x B)	1.477	1	1.477	<1	NS
Error	1,197.948	354	3.384		

APPENDIX D

Summary of Responses to Questionnaire Items Not Reported in Chapter IV

TYPE OF CONTACT OF MDTA GRADUATES WITH TRAINING INSTITUTION SINCE GRADUATION

Type of Contact	Place of Employment		Total Response
	North Dakota	Out of State	
No contacts	149	60	209
Have visited the school shops	47	14	61
Was aided in securing first job	31	18	49
Have returned for vocational advisement	2	1	3
Was advised to return for additional training	2	0	2
Other	2	0	3
Total	233	93	326

RESPONSES OF MDTA GRADUATES TO THE QUESTION "WOULD COURSES IN PUBLIC SPEAKING, BOOKKEEPING OR HUMAN RELATIONS BE OF BENEFIT TO STUDENTS?"

Response	Place of Employment				Total Response	
	North Dakota		Out of State			
	N	%	N	%	N	%
No	25	6.8	9	2.4	34	9.2
Yes	241	65.5	93	25.3	334	90.8
Total	266	72.3	102	27.7	368	100.0

CHIEF REASONS INFLUENCING MDTA GRADUATES TO ENROLL IN THE MDTA TRAINING PROGRAM

Reasons	Total Response
Employment Service	146
Work experience in the trade	39
Had no prospects for attending four year college	36
Advice of family	20
Advice of counselor	15
No particular influence	11
Advice of other students	8
Lack of interest in academic subjects	6
High school shop experience	2
Other influence*	42
Total	325

*Largest "other influence" categories were economic need, lack of education, and personal advancement

ADDITIONAL SPECIFIC COURSES DESIRED BY MDTA GRADUATES

Course	Number Indicating
Psychology	4
Pharmacy	1
Medical Terminology	1
Medical Updating	7
On-the-job training	3
Registered nurse's training	2
Advanced typing and shorthand	17
Beginning bookkeeping	8
Business machines	9
Public speaking	8
Business letter writing	1
Human relations	5
Accounting	6
Data processing	1
Real estate	1
Tax records	1
Legal secretary	2
Charm, personal appearance, or etiquette	2
Math	4
Advanced transistor trouble shooting	1
Surveying	2
Construction engineering	2
Drafting	3
Welding	7
Hydraulics	1
English	2
More classroom study	1
Clinical-post-operative nursing	1
Elementary Education	1
Business Education	1
Penmanship	1
Basic skills	1
Blueprint reading	1
Electrical wiring diagrams	1
Technical instruction in automobile accessories	1
Salesmanship	2
Mechanic	1
Refresher typing	2
Special relevant skills	1
Emergency first aid	1

DESIRABILITY OF THREE COURSES AS RANKED
BY MDTA GRADUATES

Course	Place of Employment North Dakota	Out of State	Total Response
Public Speaking	49	22	71
Human Relations	96	41	137
Bookkeeping	74	27	101
Total	219	90	309

VT 001 796

Education for a Changing World of Work, Summary Report of the Panel of Consultants on Vocational Education Requested by The President of the United States.

Office of Education (DHEW), Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
OE-30020
Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (FS5.280--80020, $.30).
Pub Date - 63 27p.

*VOCATIONAL EDUCATION; *SCHOOL STATISTICS; *STUDENT ENROLLMENT; *EDUCATIONAL PROGRAMS; *STATE FEDERAL SUPPORT
PANEL OF CONSULTANTS ON VOCATIONAL EDUCATION

"Education for A Changing World of Work" is summarized by use of graphs, tables, pictures, and brief statements. See abstract of VT 005 454 which is the complete report, Appendix I (VT 005 456), Appendix II (VT 005 455), and Appendix III (VT 001 306). (EM)

VT 001 796

EDO 30001

CI
27p

EDUCATION

FOR A CHANGING WORLD OF WORK

for your attention!

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

VT 01796

Summary Report of the Panel of Consultants on Vocational Education requested by The President of the United States

87TH CONGRESS, 1st Session } HOUSE OF REPRESENTATIVES { DOCUMENT No. 92

AMERICAN EDUCATION

MESSAGE

FROM

THE PRESIDENT OF THE UNITED STATES

RELATIVE TO

AMERICAN EDUCATION

FEBRUARY 20, 1961.—

To the Congress of

Our progress as
education. Our re
nomic growth, and
this all require the
capacity.

The human min
eral program must
and equipment. I
vest in human bein
in their more adv
such measures, th
responsibilities for
strength.

Our progress in
stantial. We are
higher degree of e
fourth of our total
This year $26 billion will be spent on education alone.

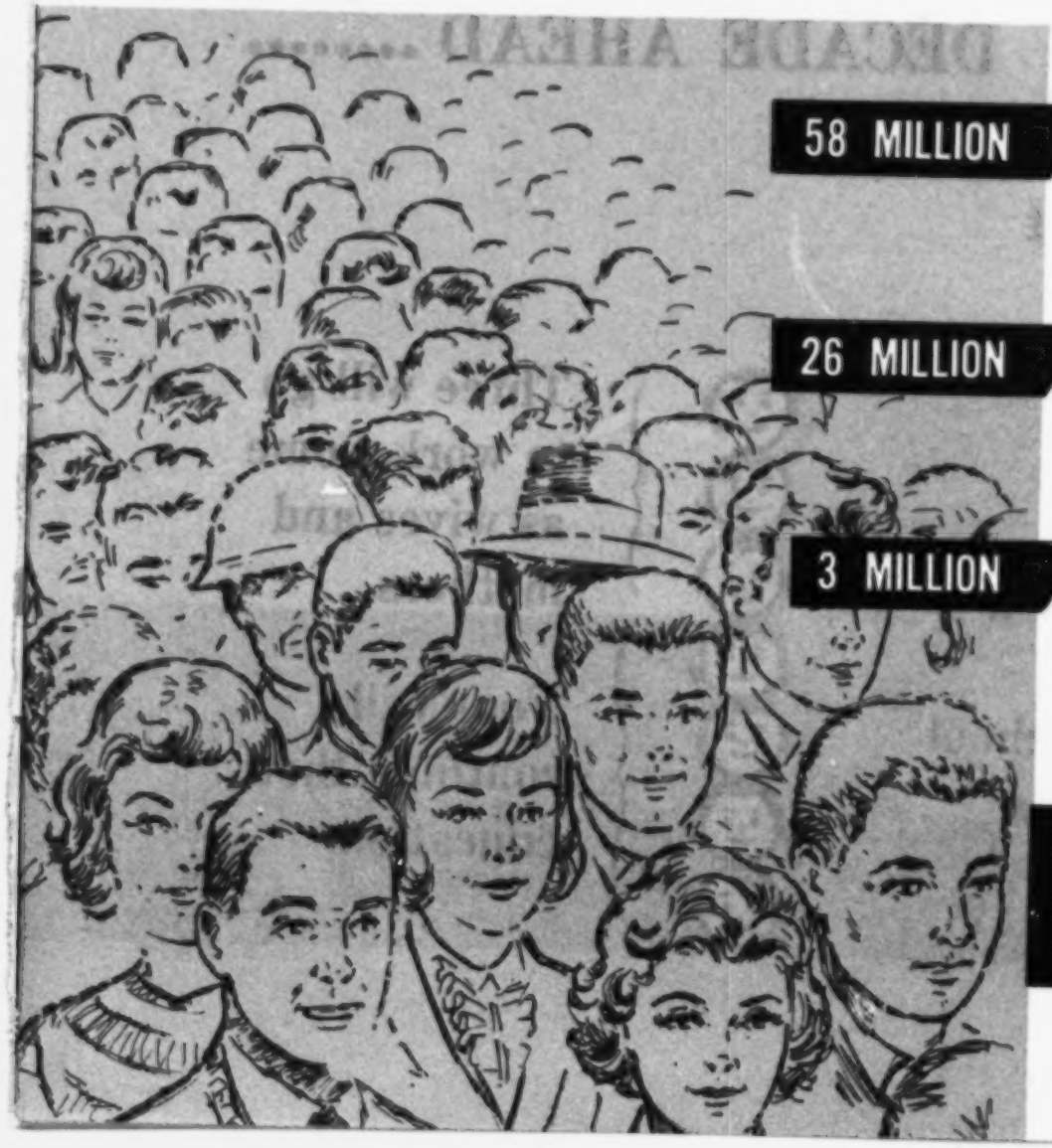
But the needs of the next generation—the needs of the next decade and the next school year—will not be met at this level of effort. More effort will be required—on the part of students, teachers, schools,

IV. VOCATIONAL EDUCATION

The National Vocational Education Acts, first enacted by the Congress in 1917 and subsequently amended, have provided a program of training for industry, agriculture, and other occupational areas. The basic purpose of our vocational education effort is sound and sufficiently broad to provide a basis for meeting future needs. However, the technological changes which have occurred in all occupations call for a review and re-evaluation of these acts, with a view toward their modernization.

To that end, *I am requesting the Secretary of Health, Education, and Welfare to convene an advisory body drawn from the educational profession, labor-industry, and agriculture, as well as the lay public, together with representation from the Departments of Agriculture and Labor, to be charged with the responsibility of reviewing and evaluating the current National Vocational Education Acts, and making recommendations for improving and redirecting the program.*

BY 1970, EIGHTY-SEVEN MILLION WILL BE WORKING FULL-TIME



NOW AT WORK WILL STILL BE EMPLOYED . . .

They need training to keep pace with new methods, new materials, new opportunities.

YOUNG WORKERS WILL START WORK, 1960–1970 . . .

Their aptitudes, skills and education must match the needs of a changing economy.

WOMEN WILL SWITCH FROM HOUSE-WORK TO JOBS, 1960–1970

These wives, mothers and widows will also need marketable skills in the decade ahead.

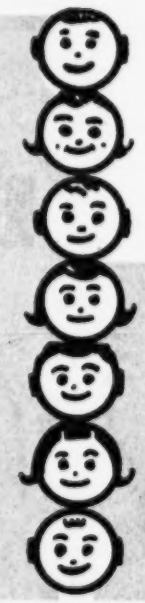
Education makes people more productive and versatile
Productive, versatile people will build
a stronger and better America . . .

SCHOOLS MUST HELP 26 MILLION YOUNGSTERS WORK THEIR WAY THROUGH THE CHALLENGING DECADE AHEAD .....

OF EVERY TEN YOUNGSTERS NOW IN GRADE SCHOOLS

Three will not finish high school

Seven will earn a high school diploma



Three will go to work, some as wives and mothers

Four will continue their education

EIGHT OUT OF TEN WILL NOT COMPLETE COLLEGE .....

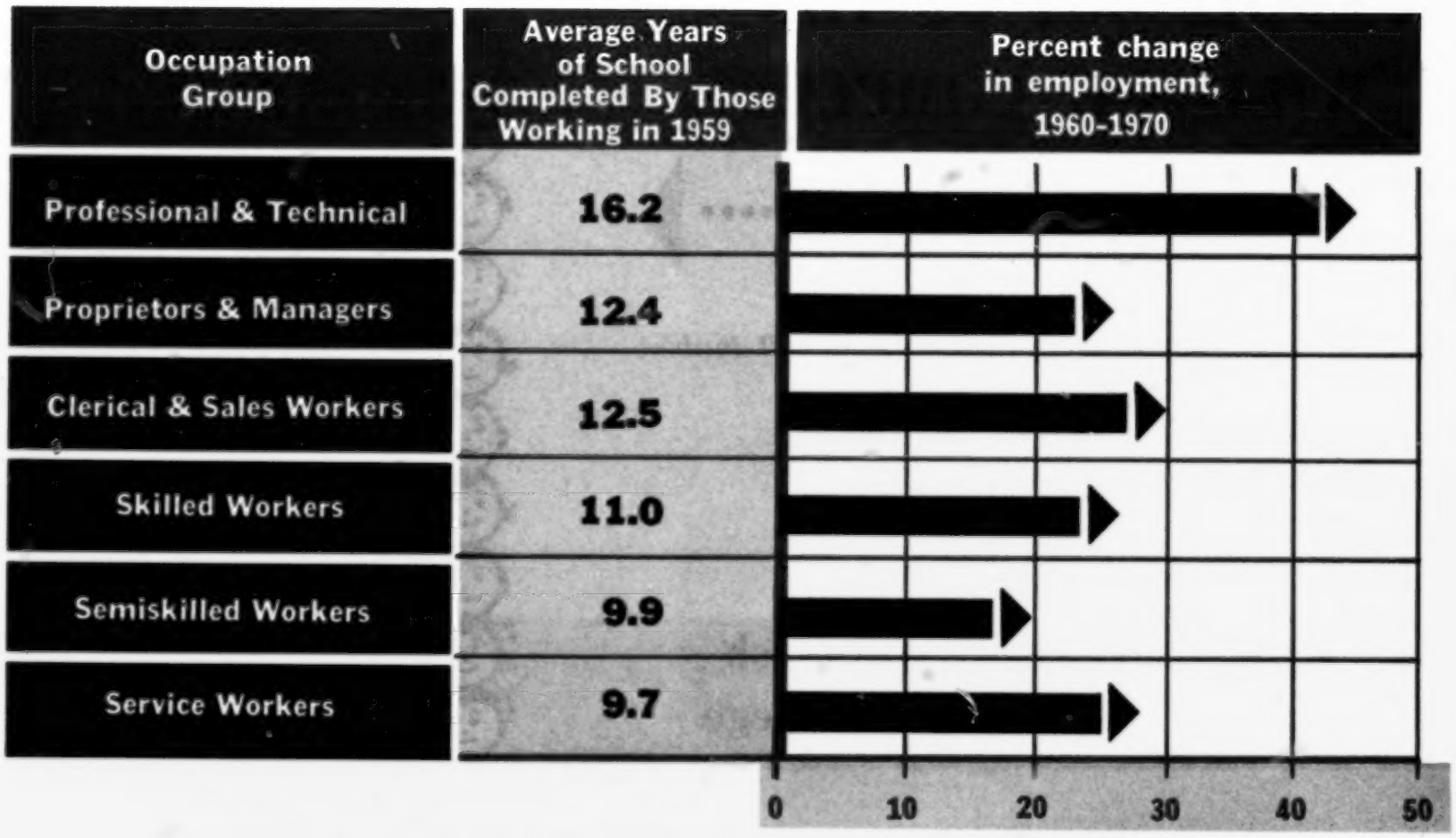
. . . even though college enrollments will double!

Only two will finish four years of college

HOW WILL THEY FARE IN THE CHANGING WORLD OF WORK

1960-70...

THE MOST RAPIDLY EXPANDING OCCUPATIONS REQUIRE THE MOST EDUCATION AND TRAINING



HOW PEOPLE PREPARE FOR WORK IN THE U.S. TODAY

Occupational competence is attained in many ways

On-the-job training, either informal or in educational programs organized by employers.

Apprenticeship, journeymen training and other education programs sponsored by trade unions.

Private technical institutes, trade and business schools (including correspondence courses).

Armed services give excellent training, but only in a limited number of civilian occupations.

State and Federal Government programs—Department of Agriculture, etc.

National public program of Vocational and Technical Education

Local-State-Federal programs of public vocational education and technical training.

Current Enrollment	
Distributive Occupations	306,083
Homemaking	1,610,334
Agriculture	805,322
Practical Nursing	47,264
Trades and Industry	963,609
Technician Training	122,952

SINCE 1917, THE FEDERAL GOVERNMENT HAS HELPED OUR PUBLIC SCHOOLS PREPARE PEOPLE FOR JOBS

Congress reviews the local-State-Federal vocational education program each year, as it appropriates the Federal funds to match local and State expenditures. In addition, the program has been expanded and extended by several successive enactments. The major vocational education statutes are:

S. 703.

A BILL

To provide for the promotion of vocational education; to provide for cooperation with the States in the promotion of such education in agriculture and the trades and industries; to provide for cooperation with the States in the preparation of teachers of vocational subjects; and to appropriate money and regulate its expenditure.

By Mr. Smith of Georgia.

Smith-Hughes Act, 1917
$7 million per year

S. 3958

A BILL

To improve the health of the people by assuring the increasing the number of adequately trained professional and practical nurses and professional public health personnel by assisting in the development of improved methods of care and treatment of mental health, and for other purposes.

By Mr. Hill, Mr. Aiken, Mr. Bible, Mr. Bush, Mr. Long, Mr. [illegible]

Practical Nurse Amendment 1956
$5 million per year

S. 987

A BILL

To authorize the retraining of persons displaced from their jobs by automation or other technological developments, foreign competition, relocation of industry, shift in market demands, or other changes in structure of the economy.

By Mr. Clark, Mr. Humphrey, Mr. [illegible], Mr. Harris of Mass.

Manpower Development & Training Act, 1962
$20 million for job training in 1962

S. 2379

A BILL

To promote the fishing industry in the United States and its Territories by providing for the training of needed personnel for such industry.

By Mr. Pastore, Mr. Bible, Mr. Brewster, Mr. [illegible], Mr. Carlson, Mr. Dworshak, Mr. Fulbright, Mr. Gruening, Mr. Hartke, Mr. Hayden, Mr. Hickey, Mr. Hickenlooper, Mr. Fong, Mr. Proxmire, Mr. [illegible], Mr. [illegible]

Fishery Training Amendment 1956
$180,000 per year

S. 1

A BILL

To establish an effective program to alleviate conditions of substantial and persistent unemployment and underemployment in certain economically distressed areas.

By Mr. Douglas, Mr. Clark, Mr. Case, Mr. Eastland, Mr. Byrd of West Virginia, Mr. Randolph, Mr. Byrd of Virginia, Mr. Williams of New Jersey, Mr. Brewster, Mr. Dodd, Mr. Jordan, Mr. Hartke, Mr. Hickey, Mr. Fulbright, Mr. Bennett, Mr. Hickenlooper, Mr. Aiken, Mr. Bush, Mr. Carlson, Mr. Dworshak, Mr. Fong, Mr. Hruska, Mr. Kuchel, Mr. Miller, Mr. Morton, Mr. Prouty, Mr. Scott, Mr. Thurmond, Mr. Wiley, Mr. Young of North Dakota, Mr. Bible, Mr. Carroll, Mr. Dodd, Mr. Hartke, Mr. Hickey, Mr. Hill, Mr. Long, Mr. Mansfield, Mr. McCarthy, Mr. McGee, Mr. McNamara, Mr. Monroney, Mr. Moss, Mr. Muskie, Mr. Pastore, Mr. Proxmire, Mr. Smith, Mr. Symington, Mr. Yarborough, Mr. Young of Ohio

Area Redevelopment Act, 1961
$3 million for training in 1962

H. R. 4384

A BILL

To amend the Act of June 8, 1936, relating to vocational education, so as to provide for the further development of vocational education in the several States and Territories.

By Mr. Barden

George-Barden Act, 1946
$29 million per year

H. R. 13247

A BILL

To strengthen the national defense and to encourage and assist in the expansion and improvement of educational programs to meet critical national needs; and for other purposes.

By Mr. Barden

National Defense Education Act, 1958
$15 million per year for technician training

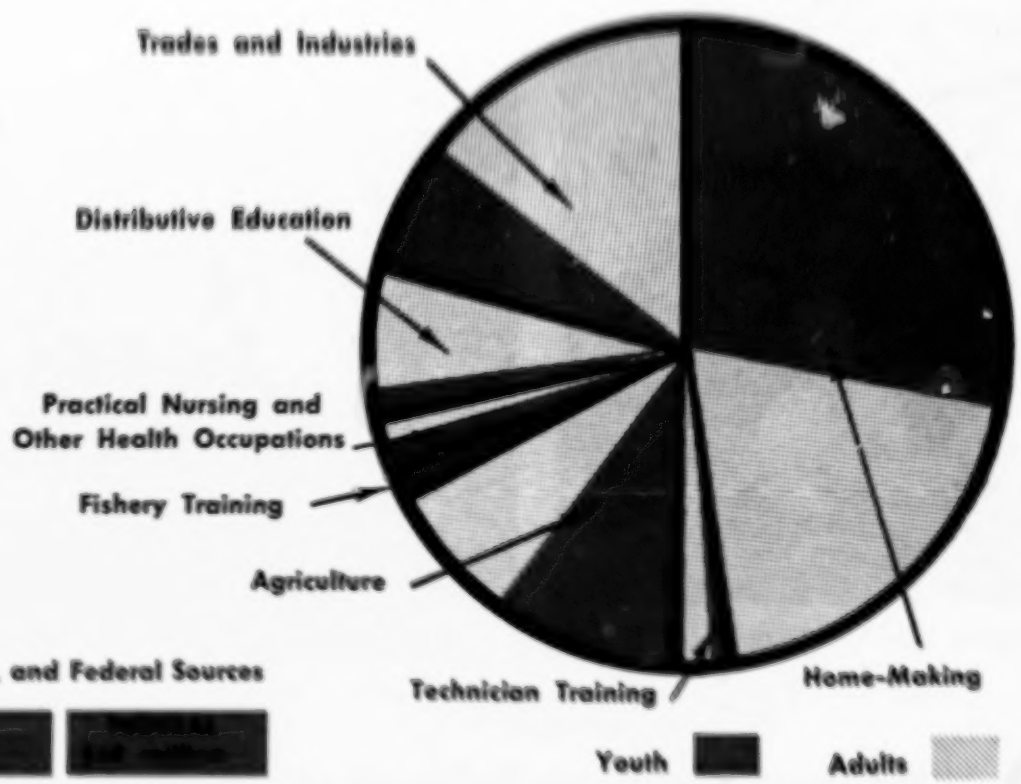
This summary of current Federal statutes does not include the laws authorizing special vocational education programs which trained 7.5 million people during World War II at a 5-year cost of $297 million.

TODAY THESE LAWS . . .

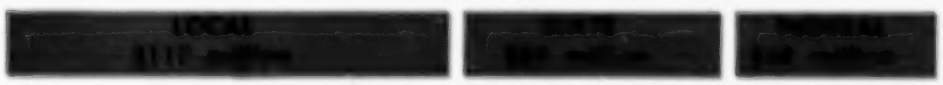
- **Benefit 4 million students (half are adults)**
- **In 2/3 of our high schools and many colleges**
- **A $250 million Local-State-Federal program**

Every State and Territory offers federally aided vocational education programs. Each State has a vocational education board to set policy. Federal funds can be used for classroom or shop equipment, but not for buildings; nearly all the Federal funds are used by the States as partial reimbursement for teachers' salaries. In all but the most recent programs, States must match Federal funds, dollar-for-dollar. In general, State and local expenditures far exceed the matching requirements. The types of reimbursable vocational instruction are specified by Federal law, as well as the age and job status of the students.

Vocational Education Enrollments



Investment in Vocational Education From Local, State, and Federal Sources



Panel At Work

Panel to Study Vocational Education

Twenty-five representative citizens—chosen by the Secretary of Health, Education, and Welfare—worked for more than a year analyzing the implications for vocational education of automation, technological advance, population mobility, discrimination, urbanization, as well as the strengths and limitations of the present local-State-Federal programs.

Printing Student Demonstrates

Student Bakers At Work

Panel Inspected Vocational Schools and Classes

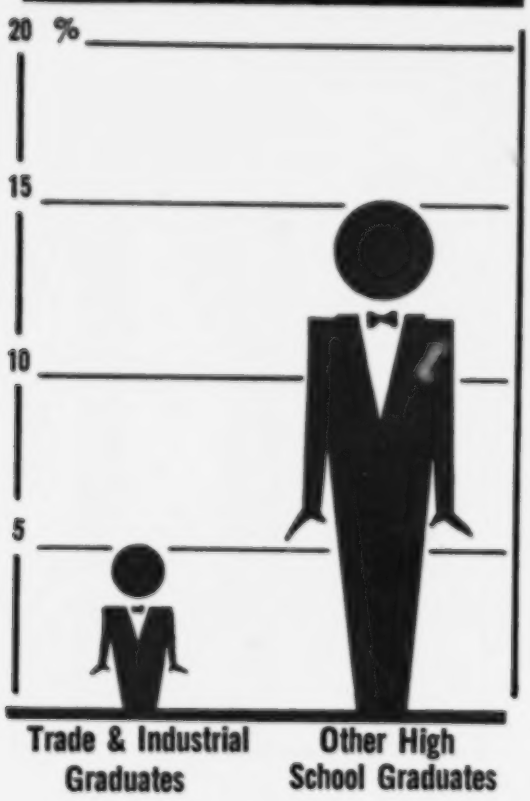
Apprentice Combines Theory and Practice

The Panel's Assignment: To "review . . . evaluate . . . improve . . . redirect" Vocational Education

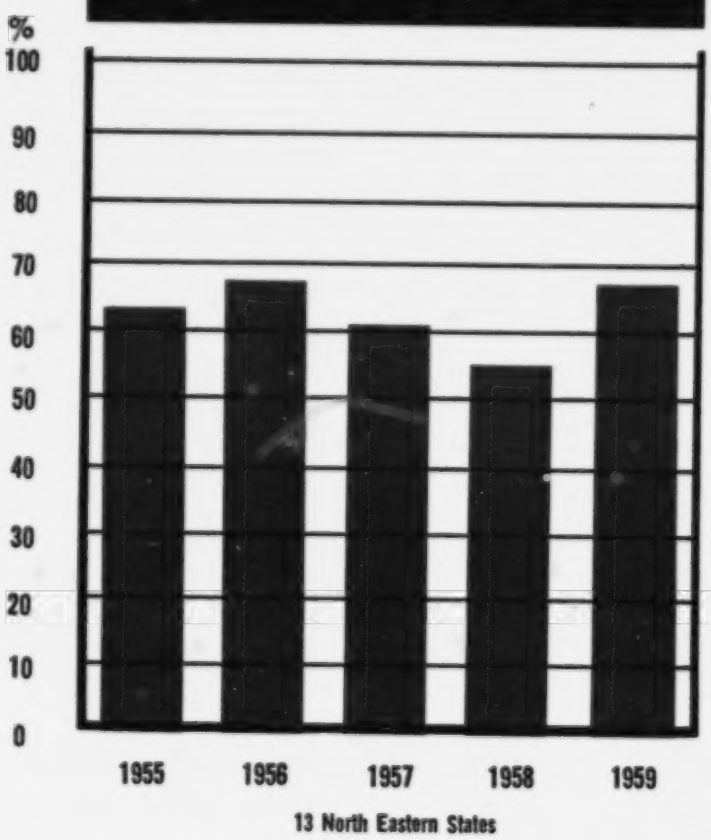
THE PANEL REPORTS . . .

EDUCATION AND TRAINING ARE SOUND INVESTMENTS IN PEOPLE

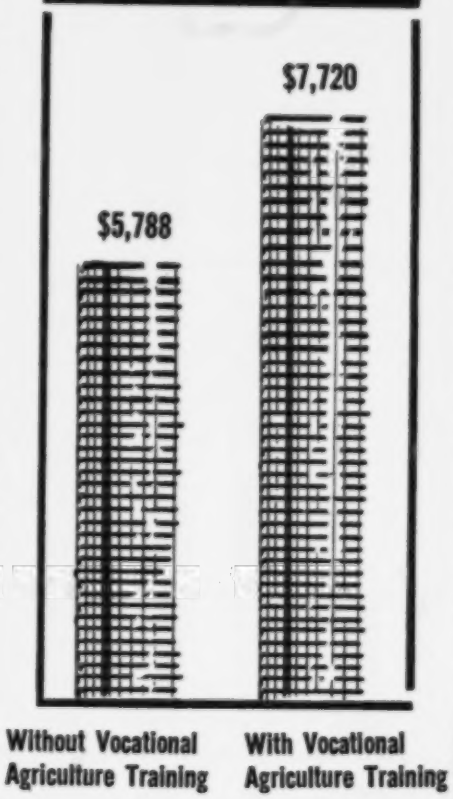
Unemployment Rates of Recent High School Graduates, 1959



Vocational Education Graduates Working in Jobs Related to Their Training



1955 Earnings of Iowa High School Graduates On Farms



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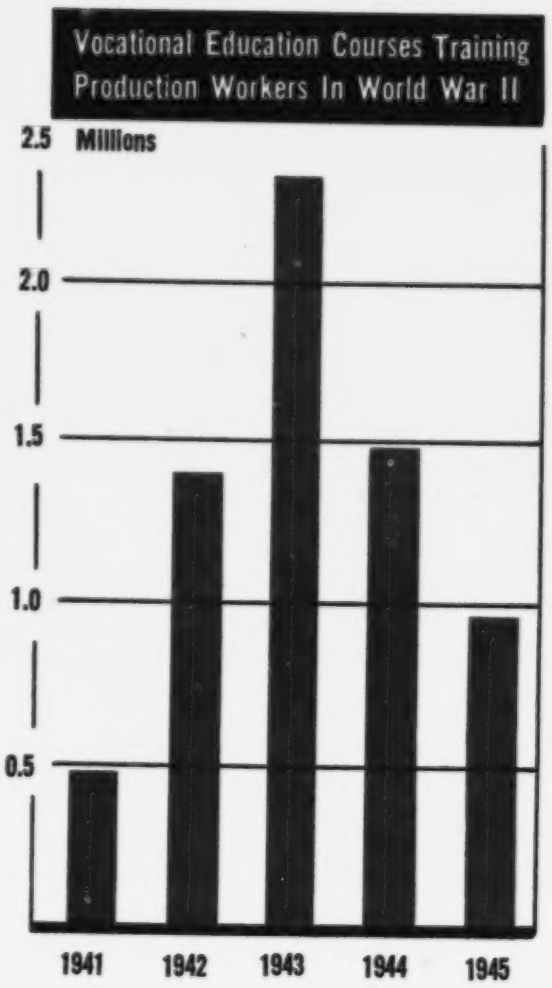
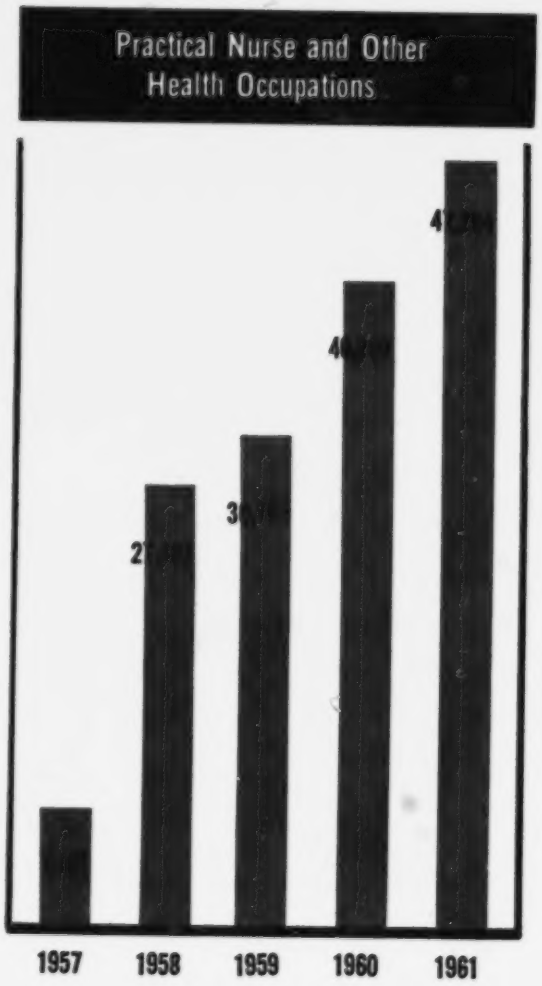
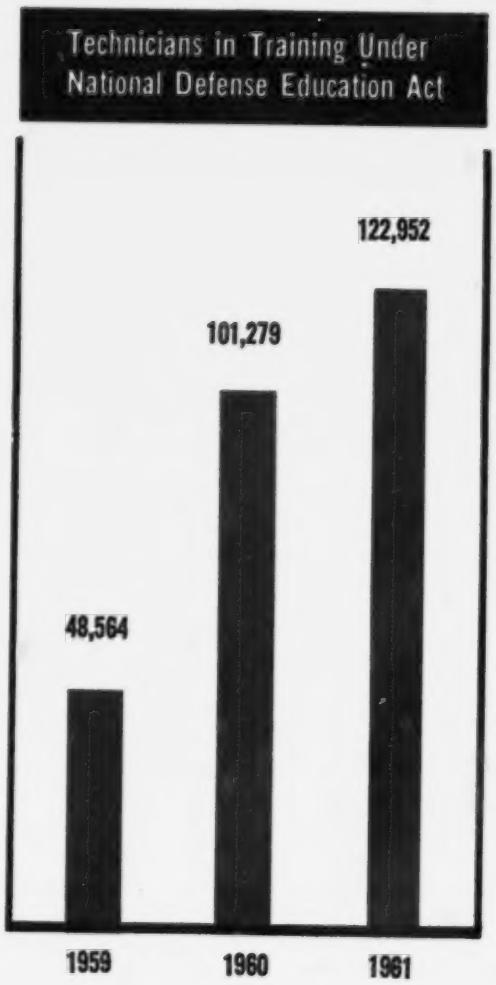
THE PANEL REPORTS . . .

LOCAL-STATE-FEDERAL PARTNERSHIP TEACHES SKILLS THE NATION NEEDS

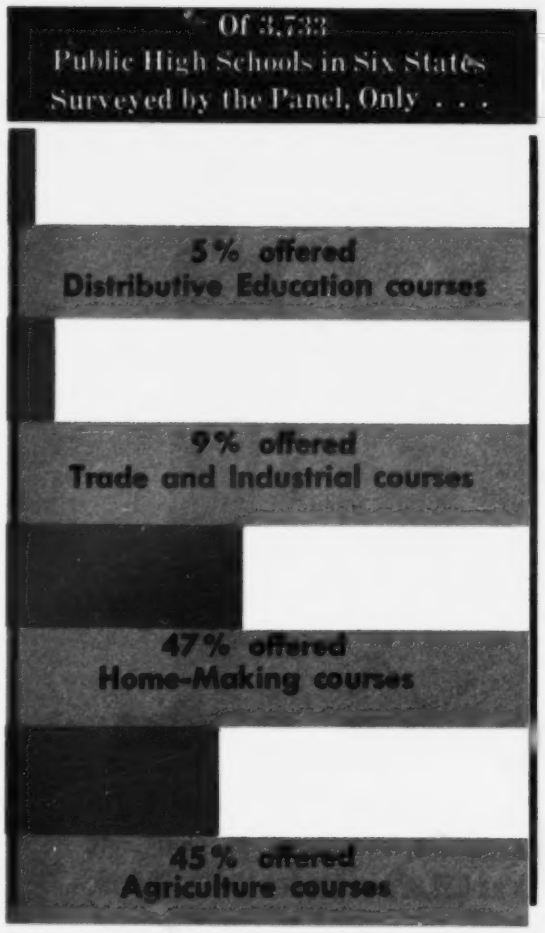






THE PANEL REPORTS . . .

. . . VOCATIONAL EDUCATION IS NOT AVAILABLE IN ENOUGH SCHOOLS



Survey Included Only Federally Reimbursed Vocational Courses in Alabama, Georgia, Iowa, Nebraska, Ohio, and Pennsylvania

Opportunity for Vocational Education Varies With Size of Community

SCHOOLS OFFERING . . .	Under 2,500 Population	2,500–30,000 Population	Over 30,000 Population
TRADE & INDUSTRIAL COURSES	2%	14%	31%
HOME-MAKING COURSES	42%	56%	39%
AGRICULTURE COURSES	49%	50%	16%
DISTRIBUTIVE COURSES	0%	5%	27%

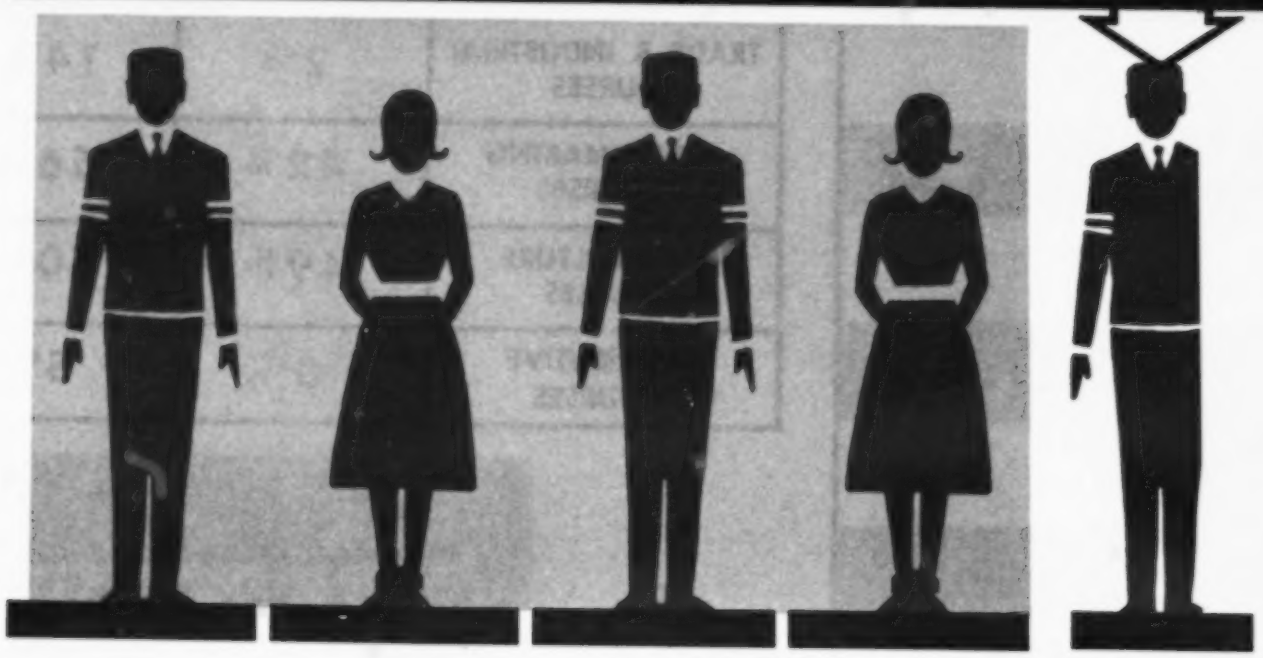
The Area School

Vocational education is specialized education and often relatively expensive to provide. For these reasons, neighboring school districts sometimes join forces to support an "area school" open to all their qualified students. In this way even small school districts can offer diversified vocational or technical education of high quality.

THE PANEL REPORTS . . .

. . . VOCATIONAL EDUCATION IS NOT AVAILABLE TO ALL WHO NEED IT

Even in the largest cities, vocational education enrolls less than one-fifth of the high school students



In Baltimore, Boston, Buffalo, Chicago, Cleveland, Detroit, Houston, Los Angeles, Milwaukee, New York, Philadelphia, Pittsburgh, St. Louis, and Washington, 1961–62 enrollments totaled 637,923 in Grades 10–12. Of this total, only 18% (115,575) was in federally reimbursed vocational courses.

THE PANEL REPORTS . . .

. . . VOCATIONAL EDUCATION IS NOT PREPARING FOR ENOUGH JOBS

Few Workers Prepare For Their Jobs Through Vocational Education Courses

Enrollment of boys in 1955 compared with jobs men held 6 years later

Ratio of	1955 enrollment	to	1961 employment
AGRICULTURE	10	→	100
DISTRIBUTIVE EDUCATION	1	→	200
TRADES AND INDUSTRIES	2	→	444

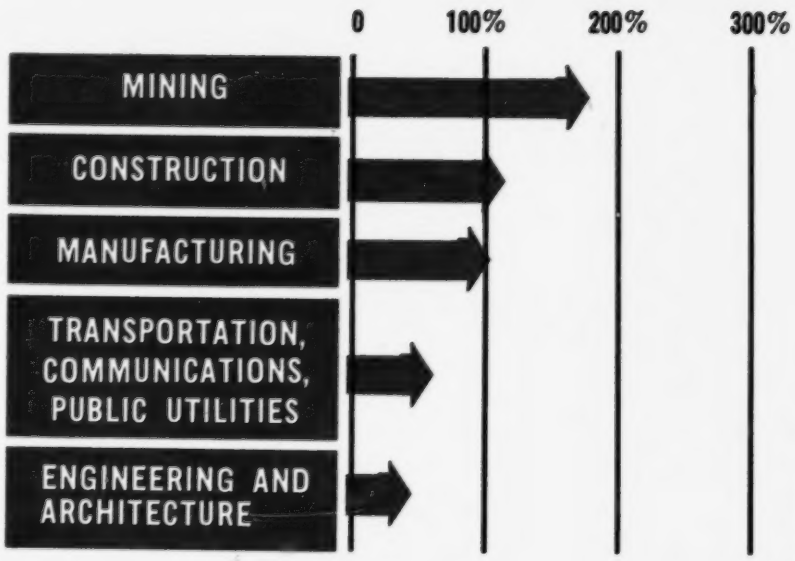
Availability of Certain High School Vocational Courses Partially Financed With Federal Funds, 1961–62

OCCUPATION	STATES OFFERING TRAINING
Appliance Repair	★ ★ ★ ★ ★ ★
Auto Upholstery	★ ★ ★
Office Machine Repair	★ ★ ★ ★ ★ ★ ★ ★ ★
Dental Technician	★ ★ ★ ★
Dry Cleaning	★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
Heating and Ventilation	★ ★ ★ ★ ★ ★
Hospital Aid	★ ★ ★
Laboratory Technician	★ ★
Nurse Aid	★ ★
Business Machine Repair	★

THE PANEL REPORTS . . .

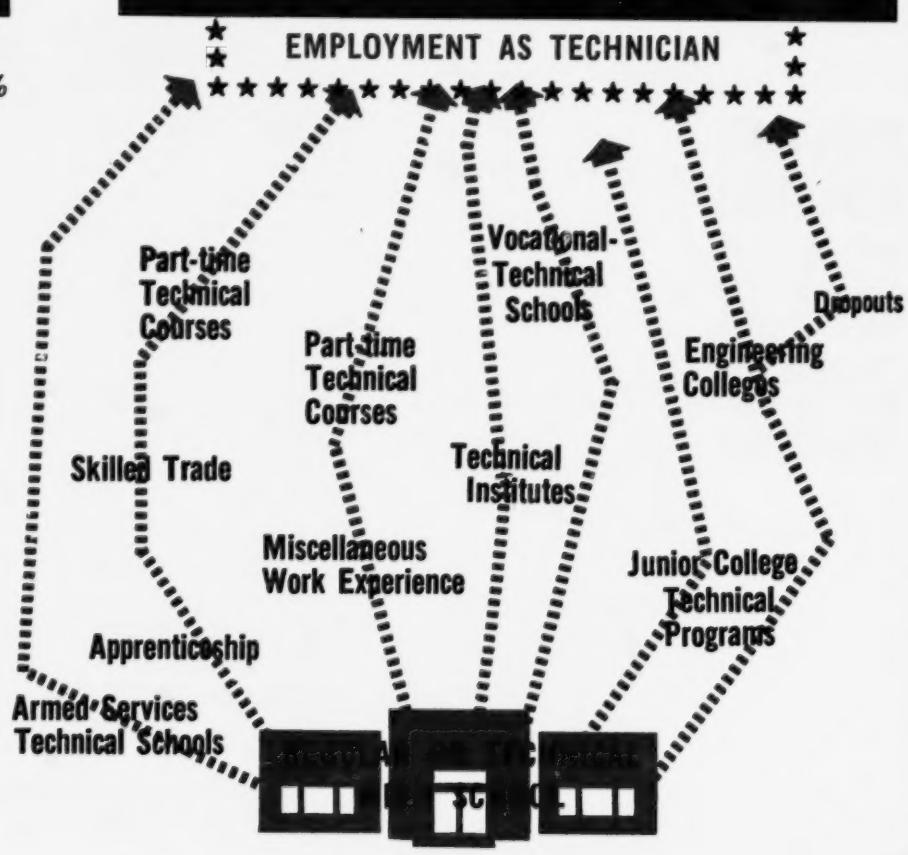
. . . AND TECHNICAL TRAINING AFTER HIGH SCHOOL IS A CRITICAL NEED

Estimated growth in technician jobs, 1960-70



Sound estimates range from 67,800 to 200,000 new technicians needed each year, 1960-1970.

Technicians are being trained in many ways



To make people more productive and versatile . . . to build a stronger and better America, the President's Panel of Consultants on Vocational Education presents this . . .

AGENDA FOR ACTION

Agenda for Action

IN A CHANGING WORLD OF WORK, VOCATIONAL EDUCATION MUST . . .

- **Offer training opportunities to the 21 million non-college graduates who will enter the labor market in the 1960's.**
- **Provide training or retraining for the millions of workers whose skills and technical knowledge must be updated, as well as those whose jobs will disappear due to automation or economic change.**
- **Meet the critical need for highly skilled craftsmen and technicians through education and training beyond the high school.**
- **Expand vocational and technical training programs consistent with employment possibilities and national economic needs.**
- **Make education and training opportunities equally available to all, regardless of race, sex, or place of residence.**

VOCATIONAL AND TECHNICAL EDUCATION
A LOCAL-STATE-FEDERAL PARTNERSHIP

The Federal Government must continue to work with States and local communities to develop and improve the skills of our citizens.

The Local-State-Federal partnership must increase its support of vocational or technical education for . . .

HIGH SCHOOL YOUTH

I **Youth in high school who are preparing to enter the labor market or to become homemakers.**

YOUTH WITH SPECIAL NEEDS

II **High school youth with academic, socio-economic or other handicaps that prevent them from succeeding in the regular vocational education program.**

POST-HIGH SCHOOL YOUTH

III **Youth and adults who have completed or left high school and are full-time students, preparing to enter the labor market.**

WORKING YOUTH AND ADULTS

IV **Youth and adults unemployed or at work who need training or retraining to achieve employment stability.**

. . . AS WELL AS

V **Services and facilities required to assure quality in all vocational and technical education programs.**

Agenda for Action

OCCUPATIONAL PREPARATION IS A TASK OF EVERY AMERICAN HIGH SCHOOL

The world of work requires many more young people well trained to enter employment in agriculture, the skilled trades, business, industry, merchandising, service occupations, and the technical and health fields, as well as homemaking. Since our population is highly mobile, responsibility for occupational preparation must be shared by every high school, but vocational and technical education is especially important in our urban centers, which offer the most employment opportunities.

I For Youth in High School Who Are Preparing To Enter The Labor Market Or To Become Homemakers

Present vocational education programs should expand . . .

TRAINING FOR OFFICE OCCUPATIONS should be included among federally reimbursed vocational education programs.

PRE-EMPLOYMENT TRAINING FOR THE DISTRIBUTIVE OCCUPATIONS should be eligible for Federal support as well as the present cooperative work-school programs.

THE VOCATIONAL AGRICULTURE PROGRAM, under Federal reimbursement, should be broadened to include instruction and increased emphasis on management, finance, farm mechanization, conservation, forestry, transportation, processing, marketing the products of the farm and other similar topics.

II For High School Youth With Academic, Socio-Economic Or Other Handicaps That Prevent Them From Succeeding In the Regular Vocational Education Program.

INSTRUCTION should be highly individualized to meet the unique needs of these students for employment. Specially qualified and highly motivated teachers with occupational competence, who understand the needs of disadvantaged youth, should be employed for this purpose.

OCCUPATIONAL INFORMATION of practical significance and expert vocational counseling must be made available to these youth.

DIVERSITY AND FLEXIBILITY must characterize these programs. Experimental or pilot projects should be fully supported by Federal funds to develop effective instruction.

Agenda for Action

III FOR YOUTH AND ADULTS WHO HAVE COMPLETED OR LEFT HIGH SCHOOL AND ARE FULL-TIME STUDENTS, PREPARING TO ENTER THE LABOR MARKET

OUR ADVANCING TECHNOLOGY demands more skilled craftsmen and highly skilled technicians in occupations requiring scientific knowledge. Vocational and technical education must prepare many more technicians and skilled craftsmen for employment in industry, business, agriculture and the health fields.

THE AREA VOCATIONAL SCHOOL and the specialized vocational school in large urban centers both provide a diversity of occupational training programs to large numbers without the usual restrictive residence requirement. Many more of these schools are needed, especially for training highly skilled craftsmen and technicians.

TECHNICIAN TRAINING is also available in community or junior colleges, agricultural and technical institutes, and vocational-technical schools. To expand their output—a national need of urgent importance—the Federal Government must increase its support of full-time, post-high school vocational and technical training.

Agenda for Action

IV FOR YOUTH AND ADULTS UNEMPLOYED OR AT WORK WHO NEED TRAINING OR RETRAINING TO ACHIEVE EMPLOYMENT STABILITY

TRAINING COURSES MUST BE EXPANDED for the millions of workers who require updating and upgrading—lifelong learning—in an era of changing materials, processes, tools, and techniques.

COURSES IN MANY MORE OCCUPATIONS, including the office and service occupations, should be made available to these workers.

MORE EQUIPMENT AND FACILITIES must be provided to extend these opportunities to many more workers, especially those living in communities where training is a critical need.

APPRENTICE AND JOURNEYMEN training opportunities should be expanded by mutual action of employers and unions.

Agenda for Action

V SERVICES AND FACILITIES REQUIRED TO ASSURE QUALITY IN ALL VOCATIONAL AND TECHNICAL EDUCATION PROGRAMS

TEACHER AND LEADERSHIP TRAINING PROGRAMS must be improved and enlarged. Higher educational institutions, especially land-grant colleges and State universities, should provide for the professional growth of vocational and technical teachers.

INSTRUCTIONAL MATERIALS of high quality must be available for all programs. To promote their development, instructional materials laboratories should be established in appropriate institutions. These laboratories should be financed and coordinated through the U.S. Office of Education, Division of Vocational and Technical Education.

OCCUPATIONAL INFORMATION AND GUIDANCE SERVICES must be available for all students. State and national leadership for these programs should be supported and coordinated by the U.S. Office of Education, Division of Vocational and Technical Education.

RESEARCH AND DEVELOPMENT in vocational and technical education should be encouraged, supported and coordinated at the national level. The results of this research and development should be made available on a nationwide basis.

BY 1970, EIGHTY-SEVEN MILLION

Financing Vocational And Technical Education

Support from all sources must expand as enrollments grow, as potential dropouts remain in school, and as adult training and retraining become more general. Local and State governments should increase the half billion dollars they now provide annually for operation, administration, and construction.

The Federal Government should provide at least $400 million in 1963–64 as its investment in the millions of youth and adults who can benefit immediately from vocational and technical education. (This amount would include the $55–$75 million to be expended in the current year.) Future Federal expenditures should be increased as justified by the need for trained manpower. The proposed 1963–64 Federal appropriation should include:

		1963–64 School Year
I	For youth in high school who are preparing to enter the labor market or to become homemakers.	$ 200 *million*
II	For high school youth with academic, socio-economic or other handicaps that prevent them from succeeding in the regular vocational education program.	10 *million*
III	For youth and adults who have completed or left high school and are full-time students, preparing to enter the labor market.	50 *million*
IV	For youth and adults unemployed or at work who need training or retraining to achieve employment stability.	100 *million*
V	For services and facilities required to assure quality in all vocational and technical education programs.	40 *million*

AMERICANS WILL BE WORKING FULL-TIME

58 MILLION NOW AT WORK WILL STILL BE EMPLOYED . . .

They need training to keep pace with new methods, new materials, new opportunities. Many will require retraining as their jobs disappear due to automation and economic change. Vocational and technical education provide training and retraining.

26 MILLION YOUNG WORKERS WILL START WORK, 1960-1970

Their aptitudes, skills and education must match the needs of a changing economy. The eight out of ten who will not complete college must gain occupational competence in other ways. Vocational and technical education prepare youth for employment.

3 MILLION WOMEN WILL SWITCH FROM HOUSEWORK TO JOBS, 1960-1970

These wives, mothers and widows will also need marketable skills in the decade ahead. Vocational and technical education brush up old skills and teach new ones needed in the world of work.

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This publication
OE Pub. No. 80020
is a summary of
OE PUB. NO. 80021

Education for a Changing World of Work:

Report of the Panel of Consultants on Vocational Education

Presented to

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION • WASHINGTON 25, D.C.

Vocational education and technical training
Make people more productive and versatile . . . Productive and versatile people will
Build a stronger and better America

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State Master Plan of Inservice Education for Vocational Agriculture Teachers. Teacher Education Series, Vol. 4, No. 7.

Pennsylvania State Univ., University Park. Dept. of Agricultural Education

MF AVAILABLE IN VT-ERIC SET.

Pub Date - 63 9p.

*AGRICULTURAL EDUCATION; *STATE PROGRAMS; *INSERVICE TEACHER EDUCATION; *INSERVICE COURSES; MASTER PLANS; VOCATIONAL AGRICULTURE TEACHERS

PENNSYLVANIA

Higher certification standards for vocational agriculture teachers have resulted in increased needs for inservice teacher education. Because of the increased needs, and the shortcomings of the present system, it was imperative to develop a state master plan for inservice teacher education. The advantages of the plan are: (1) It provides a wider selection of technical agriculture and professional courses on a regular basis and within driving distance of every teacher in the state, (2) It allows teachers to project their inservice graduate study programs 3 years into the future, (3) It facilitates improved instruction and better course continuity, (4) It reduces the time interval between classes to coincide with registration and grade reporting periods at the university, and (5) It eliminates conflicts during the summer term between on- and off-campus courses offered by the Department of Agricultural Education. A schedule of courses offered in Pennsylvania from 1963 to 1966, presented in graphic form, specifies the location, subject areas, dates, and instructors. (JM)

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7 p*

STATE MASTER PLAN OF INSERVICE EDUCATION FOR VOCATIONAL AGRICULTURE TEACHERS

Prepared By
Gene M. Love
Assistant Professor
Agricultural Education

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Department of Agricultural Education
College of Agriculture
The Pennsylvania State University
University Park, Pennsylvania

Teacher Education Series
Volume IV, Number 7
1963

VT 01901

STATE MASTER PLAN OF INSERVICE EDUCATION FOR VOCATIONAL AGRICULTURE TEACHERS

Importance of Inservice Education

Inservice education has been defined as "a continuous process of professional research carried on simultaneously with teaching"[1] and "all the efforts by administrative and supervisory officials to promote by appropriate means the professional growth and development of educational workers."[2] Graduates of teacher education institutions after October 1, 1963, must earn twenty-four additional credits following graduation for permanent certification. This fact reflects the importance educators are placing on inservice education. For all practical purposes teacher preparation programs now require five years of study.

In view of these facts, it becomes obvious that more and more teachers will be earning advanced degrees. This being the case, colleges and universities must find better ways of meeting the inservice education needs of all teachers. Even though vocational agriculture teachers in previous years have done a commendable job of up-grading themselves in-service (33 per cent have Master's Degrees) there has never been a carefully prepared state master plan of inservice education for vocational agriculture teachers. Recent reductions in the inservice teacher education staff and the anticipated future needs of teachers now make such a plan imperative. In the years ahead, teachers of vocational agriculture will need to plan their graduate programs several years in advance.

Shortcomings of Present Systems

In the past the inservice education courses offered for teachers by the Department of Agricultural Education have been on a "first come, first served" basis. Since the number of staff members available in the Department to perform this "service" has always been inadequate, some teachers in certain areas of the state have always been neglected. A state master plan for inservice education will aleviate this injustice.

Also, the need for professional courses in agricultural education, dealing with supervision, statistics, adult education, etc., among teachers in the field has never been fully met. A state master plan for inservice education will make such courses possible and on a regular basis at convenient locations around the state. These offerings will be in addition to the technical agriculture courses which the department has traditionally offered.

Perhaps the most serious shortcoming of the present system of providing inservice education is the restrictions placed on the program by virtue of the fact that professional education efforts have been linked closely to monthly area teachers' meetings. Although adequate supervision is essential to and an integral part of good inservice instruction, the conflicts which arise when teachers meet for two entirely different purposes in a limited amount of time need to be considered.

---

[1] Bulletin of the National Association of Secondary School Principals, May 1961

[2] Dictionary of Education, Second edition, McGraw-Hill Book Co., Inc., 1959

Small classes (less than 12), the lack of continuity apparently inherent to a monthly sequence of scheduling classes and the difficulties encountered at the university in securing approval for and enrolling students and filing grades for students in courses which span two or more terms are three important reasons why a better system needs to be developed. Again, a state master plan of inservice education will do much to correct these deficiencies.

Another handicap of the present system of providing inservice education courses is the use made of several different instructors in the same course who are not familiar with the problems of teachers. For the most part, university technical specialists have been used for teaching these classes. This system of providing instruction has proved faulty largely because of the problems involved in coordinating the teaching activities of several instructors. Under the circumstances, it is difficult to achieve satisfactory continuity. A state master plan of inservice education would solve this problem.

Recent Efforts to Improve the System

More recently the Department of Agricultural Education has experimented with the use of several different methods of scheduling classes and several methods of providing instruction. Although this research is not yet completed, current data suggests (1) that classes should be scheduled no further than one (maybe two weeks) week apart and (2) instruction should be given by someone very familiar with the problems of teachers.

One Alternative Available

Recognizing the problems suggested by the facts presented above and the evidence available, the Department of Agricultural Education has only one alternative and that is to adopt a State Master Plan of Inservice Education for Vocational Agriculture Teachers. The advantages of this plan are:

1. It provides a wider selection of technical agriculture and professional courses on a regular basis and within driving distance of every teacher in the state.

2. It allows teachers to project their inservice graduate study programs three years into the future.

3. It facilitates improved instruction and better course continuity.

4. It reduced the time interval between classes to coincide with the registration and grade reporting periods (Terms) at the university.

5. It eliminates conflicts during the Summer Term between on-campus and off-campus courses offered by the Department of Agricultural Education.

The state master plan does not greatly alter the very fine inservice programs of which many teachers have previously been a part in many supervisory

areas. Teachers will recognize the inservice "centers" selected. In most cases, they are the same ones presently being used. Perhaps it should be noted here that, although centers will be used to enroll students during the first class, the site of subsequent classes may be changed to accomodate the needs of those enrolled and the requirements of the instruction given.

The plan will encourage teachers to take advantage of on-campus courses during the six-week period of the Summer Term when Ag. Ed. courses are scheduled. No conflicting off-campus credit courses will be planned by the department after the Summer Term of 1963. The selection of class meeting dates will be made yearly. Supervisors and teachers will need to help the department by giving inservice class dates a high priority rating when scheduling meetings. It should be noted that the desires of the majority of those expected to enroll have been taken into consideration in the selection of class dates for the 1963-64 school year.

State Master Plan of Inservice Education

On the following pages are a schedule of inservice teacher education credit courses to be offered in the state by the Department of Agricultural Education from the Summer Term of 1963 to the Summer Term of 1966 and a graphic picture of the location of inservice centers in the state.

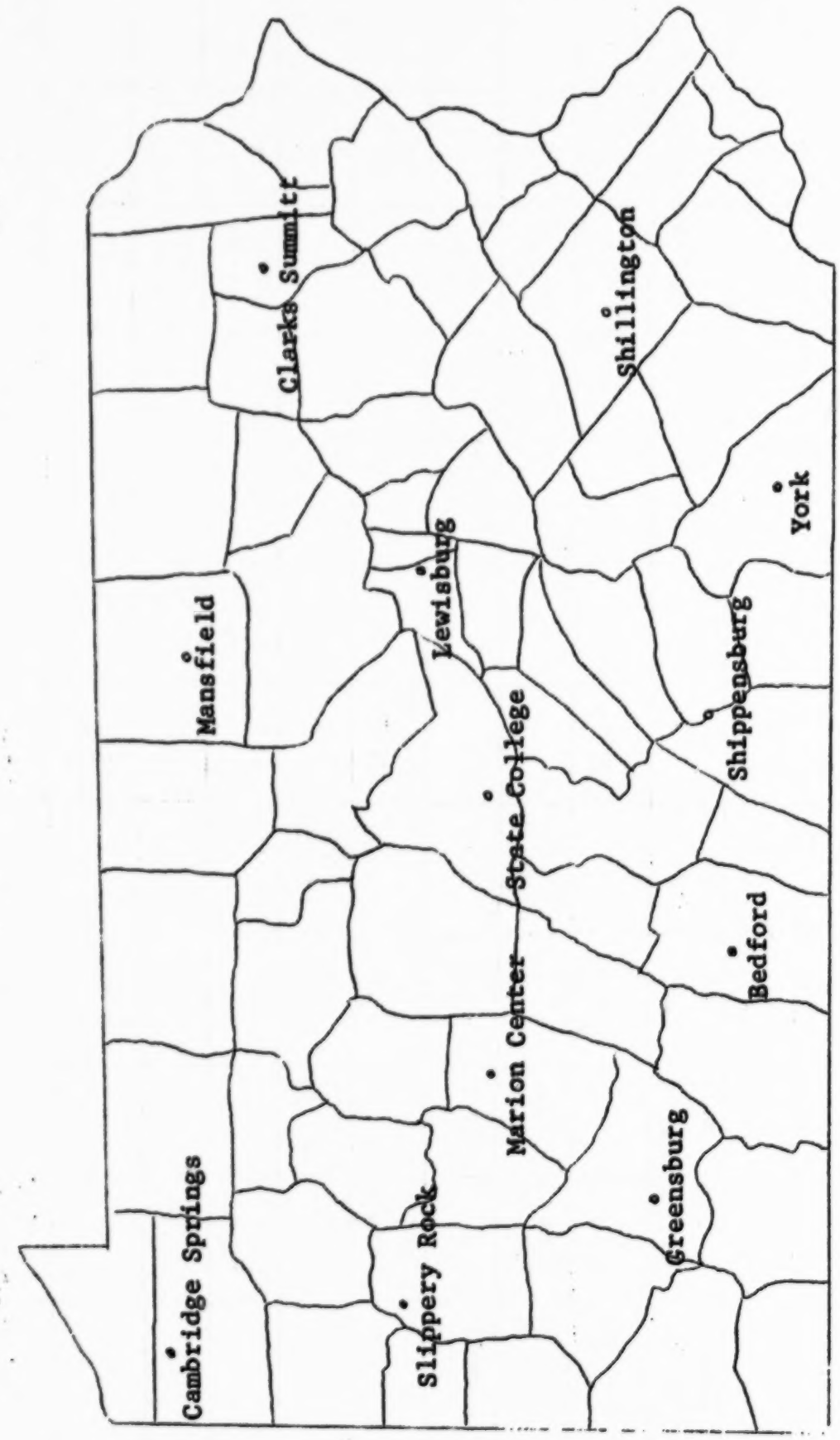
SCHEDULE OF INSERVICE TEACHER EDUCATION CREDIT COURSES* TO BE OFFERED BY THE DEPARTMENT OF AGRICULTURAL EDUCATION FROM JUNE 1963 TO JUNE 1966

Centers	Summer 1963	Fall 1963	Winter 1964	Spring 1964	Summer 1964	Fall 1964	Winter 1965	Spring 1965	Summer 1965	Fall 1965	Winter 1966	Spring 1966
Cambridge Springs		Ag.Ed. 434v					Ag.Ed. 508v		Ag.Ed. 418v-B			
Slippery Rock			Ag.Ed. 434v			Ag.Ed. 418v-B					Ag.Ed. 424v	
Mansfield			Ag.Ed. 422v			Ag.Ed. 418v-B					Ag.Ed. 418v-A	
Clarks Summitt	Ag.Ed. 434v							Ag.Ed. 426v		Ag.Ed. 418v-B		
State College		Ag.Ed. 424v					Ag.Ed. 418v-B				Ag.Ed. 422v	
Lewisburg			Ag.Ed. 508v		Ag.Ed. 418v-B							Ag.Ed. 418v-A
Shillington				Ag.Ed. 426v				Ag.Ed. 418v-B			Ag.Ed. 418v-A	
York	Ag.Ed. 434v						Ag.Ed. 422v		Ag.Ed. 418v-B			
Shippensburg			Ag.Ed. 424v					Ag.Ed. 418v-B				Ag.Ed. 418v-A
Bedford	Ag.Ed. 434v						Ag.Ed. 418v-B				Ag.Ed. 508v	
Marion Center		Ag.Ed. 434v			Ag.Ed. 418v-B							Ag.Ed. 426v
Greensburg	Ag.Ed. 418v-A						Ag.Ed. 424v			Ag.Ed. 418v-B		

*Course numbers, brief titles and instructors are listed on the back side of this page.

Course Number	Credits	Brief Course Title	Instructor
Ag.Ed. 418v-A	1	Survey - Plant Propagation	Prof. Love
Ag.Ed. 418v-B	1	Animal Nutrition	Prof. Love
Ag.Ed. 422v	2	Supervision - Ag. Mechanics Planning	Prof. Anthony
Ag.Ed. 424v	2	Occupational Guidance	Prof. Hoover
Ag.Ed. 426v	2	Teaching Young Adult Farmers	Prof. Stevens
Ag.Ed. 434v	1	Quality Milk Production	Prof. Love
Ag.Ed. 508v	2	Supervision of Agr. Edu.	Prof. McClay

LOCATIONS OF CENTERS FOR INSERVICE TEACHER EDUCATION
CREDIT COURSES IN AGRICULTURAL EDUCATION



SCHEDULE OF INSERVICE CREDIT COURSES - JUNE 1963 - SPRING 1964

Centers *	Course Description, Number & Instructor	Class Dates
	Summer Term **	
Clarks Summit	Ag.Ed. 434v - Quality Milk - Prof. Love	July 9, 10 & 11
York (Millersville)	Ag.Ed. 434v - Quality Milk - Prof. Love	July 1, 2 & 3
Bedford	Ag.Ed. 434v - Quality Milk - Prof. Love	June 25, 26 & 27
Greensburg	Ag.Ed. 418v - Survey--Plant Propagation Prof. Love	July 23, 24 & 25
	Fall Term ***	
Cambridge Springs	Ag.Ed. 434v - Quality Milk Production - Prof. Love	Sept. 19, 26 Oct. 3, 10, 17 & 24
State College	Ag.Ed. 424v - Occupational Guidance - Prof. Hoover	Sept. 30, Oct 7, 14, 21 & 28. Nov. 4, 11, 18, 25 Dec. 2
Marion Center	Ag.Ed. 434v - Quality Milk Production - Prof. Love	Sept. 18, 25 Oct. 2, 9, 16 & 23
	Winter Term ***	
Slippery Rock	Ag.Ed. 434v - Quality Milk Production - Prof. Love	Jan. 8, 22 Feb. 12, 26 Mar. 11, 25
Mansfield	Ag.Ed. 422v - Supervision Agr. Mech. Planning - Prof. Anthony	Jan. 9, 23 & 30 Feb. 6, 13, 20, 27 Mar. 5, 12, 19
Lewisburg	Ag.Ed. 508v - Supervision - Prof. McClay	Jan. 20, 27 Feb. 3, 10, 17 24 Mar. 2, 9, 16 & 23
Shippensburg	Ag.Ed. 424v - Occupational Guidance - Prof. Hoover	Jan. 21, 28 Feb. 4, 11, 18 & 25 Mar. 3, 10, 17 & 24
	Spring Term ***	
Shillington	Ag.Ed. 426v - Adult Education - Prof. Stevens	Apr. 7, 14, 21, 28 May 5, 12, 19, 26 June 1, 8

* All classes will meet at the local high school in each center except as noted.
** Summer Term Workshops meet from 9:00 a.m. - 12:00 noon and 1:00 p.m. - 4:00 p.m.
*** Fall, Winter and Spring Term classes meet from 7:00 p.m. - 9:30 p.m.

VT 002 653
What Are the Facts About Half-Day Vocational Programs?

Saint Louis County Special School District, Rock Hill, Mo.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 6Apr67 23p.

*VOCATIONAL HIGH SCHOOLS; PUBLIC OPINION; *PROGRAM LENGTH; *HIGH SCHOOLS; *TRADE AND INDUSTRIAL EDUCATION; SCHOOL SURVEYS; VOCATIONAL SURVEYS; PUBLIC RELATIONS
SAINT LOUIS COUNTY; MISSOURI

The purpose of this document is to answer public criticism of the District's Board of Education policy to operate a full-day, Type A vocational program by reviewing the reasons for the policy, examining the documents quoted and statements made in the criticisms, and reporting on the types of programs being operated in the other vocational-technical high schools of the United States. Reasons for the policy concerned attendance problems caused by difference in schedules of cooperating schools and a high dropout rate caused by student inability to meet graduation requirements of the home school when enrolled in the 2-year half-day program. Certain public statements were rebutted by presentation of original statements and complete instead of incomplete statistics. Questionnaires were sent to 367 public high schools listed as "vocational" or "technical" or those offering five or more trade and industry programs to determine the types of programs being offered. Replies received from 293 (79.83 percent) indicated that (1) 167 operate Type A programs requiring more than a half-day, and (2) of 126 which operated Type B programs requiring only 180 minutes, 98 operate on a full-day attendance basis and 28 on a half-day basis. Conclusions were: (1) The Special School District's planned program complies with the Missouri State Plan, (2) The half-day Type B program has not been fully effective, (3) The President's Panel did not recommend the half-day program, and (4) Of the schools returning questionnaires, 90.44 percent operate on a full-day basis. Replies to the questionnaires are included. (MM)

VT 002 653

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SPECIAL SCHOOL DISTRICT OF ST. LOUIS COUNTY

Oral W. Spurgeon
Superintendent of Schools

W. K. Dunton
Assistant Superintendent

VOCATIONAL-TECHNICAL STAFF BULLETIN

April 6, 1967

WHAT ARE THE FACTS ABOUT HALF-DAY VOCATIONAL PROGRAMS?

INTRODUCTION

Recurring public criticisms of the adopted policy of the Board of Education of the Special School District of St. Louis County to operate a full-day, Type A vocational program make it seem appropriate to review the reasons for this policy; examine the documents quoted and statements made in the public criticisms; and research and report on the types of programs being operated in the other vocational-technical high schools of the United States.

REASONS FOR THE "FULL-DAY" PROGRAM

It should be first noted that the State Plan for Vocational Education authorizes the Type A program which is defined as:

> "Regular day trade classes for persons enrolled in full time school in which the related instruction is offered as units separate from the field, laboratory, shop, cooperative work or other occupational experience."[1]

When the Cooperating School Districts of the St. Louis Suburban Area requested the Board of Education of the Special School District to accept the responsibility for the administration of vocational education in the County, the principal condition stated by the Board was that if the responsibility was to be accepted the schools must operate on a "full-day" basis. The reasons were that none of the 25 separate districts operate on the same calendar; begin and end the year on widely different dates; have different daily time schedules; and eliminate classes on different days for semi-annual examinations. During the week of January 16, our daily absences for home school examinations were 31, 31, 35, 34 and 75; all different students. Further, this year there were only 151 days on which all 27 high schools in the County were in session. These two facts support the validity of the reasoning on which the Board of Education agreed to accept the responsibility only if the schools would be operated on a full-day basis.

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1. Missouri, State Department of Education, State Plan for Vocational Education, 1964, Section 8.43-11, p 35.

VT 02653

An unanticipated but very important reason to operate on a full-day basis was revealed by a study made in September, 1966 by Mr. Alfred Weissman, Director of Vocational Pupil Personnel for the Special School District. An examination of the permanent records of individuals enrolled during the past five years in presumably two-year trade programs at the St. Louis County Technical School showed that only 11% had actually received two years of training. Inquiry indicated that the principal reason for withdrawal before completion of the course or for delaying entry until the senior year was that the graduation requirements of the home school could seldom be met by students enrolled for two years in the half-day program.

REBUTTAL OF CERTAIN PUBLIC STATEMENTS

It has been publicly stated on several occasions that Dr. Swanson "recommended that the Special School District operate on a half-day program." The publication A Gateway to Higher Economic Levels[2] in a section of the report on St. Louis County states only that "careful consideration should be given to the possibility of a one-half day program . . . . since a full-day program has in many cities become a dumping ground." That this school will not be a dumping ground is indicated by the fact that, to date, 515 parent approved applications have been received of which 450 met the entrance requirements and 370 were above the 50%ile on the 10 criteria upon which a success prediction is made.

When copies of the Governor's Study were distributed, Dr. Denis J. Kigin, Associate Director of the Study, requested the Special School District's reaction to the Study. An analysis of the document was prepared as requested. One point made in the analysis was "that 'careful consideration' was given . . . . but that others had taken the report to mean that the Study recommended that St. Louis County operate a one-half day program." Dr. Kigin's reply[3] stated:

> "Specific mention of the half-day or full-day program was not made in the recommendations (Governor's Study) and it was my observation that the Vocational Education Act of 1963 did not distinguish between types of programs but set other criteria."

It has been publicly stated on a major local television program that only 7% of all vocational students in the United States are enrolled in "full-day" programs but in making that statement no indication was given that 90.2% of the national vocational enrollment is in Agriculture, Business, Distributive, Home Economics and Health Occupations, none of which generally operate more than two periods daily and most of which are 4-year programs.

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2. J. Chester Swanson, A Gateway to Higher Economic Levels, a study of vocational technical education to serve Missouri, School of Education, University of California (Berkeley, 1966) pp 41-42.
3. Letter from Dr. Denis J. Kigin, Associate Professor, Industrial Education, University of Missouri, February 16, 1967 (in files of W. K. Dunton).

The 1965 high school national enrollments[4] in these fields were:

Agriculture	516,893	18.3%
Business	498,034	17.7%
Distributive	76,186	2.7%
Health Occupations	8,744	.3%
Home Economics	1,442,807	51.2%
Trade and Industrial	276,586	9.8%
	2,819,250	100.0%

Thus, if the quoted 7% figure is correct, 70.4% (7% ÷ 9.8%) who could have been enrolled in a program longer than a half-day were enrolled in the longer program.

It has been publicly stated that "the President's Panel on Vocational Education recommended the half-day program." A careful examination of the 296 pages of the Report reveals no such recommendation and Dr. George Brandon, Deputy Director of the Administrative Staff for the Panel has written "I do not recall that the Panel of Consultants spent any time to any extent discussing the various merits of Type A or Type B."[5]

It has been publicly stated that "there is no other program in America like the one being proposed in St. Louis County." Because of the probable large number of people viewing the television program on which this statement was made a letter was written Walter Arnold, Assistant Commissioner for Vocational and Technical Education in the Office of Education, Department of Health, Education and Welfare to inquire regarding the number of students enrolled in Type A and Type B Trade and Industrial Education Programs. Mr. Arnold replied that "these figures are no longer included in the annual reports" but added that "Type A programs have been in existence and have operated successfully in a number of states."[6]

Because the Federal reports no longer provide the requested information, it was decided that a survey of all vocational and technical high schools in the United States should be made to determine how many operate Type A programs, all of which require more than a half-day, and how many of those operating Type B programs operate on a full-day basis.

Reply postal cards were sent to 367 public high schools listed as "vocational" or "technical" and those offering five or more T & I programs in the most recent Directory.[7] Replies were received from 293 schools (79.83%). A tabulation of the replies[8] provided the following data:

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5. Letter from Dr. George L. Brandon, Head, Department of Vocational Education, Pennsylvania State University, University Park, Pennsylvania, February 10, 1967 (in files of W. K. Dunton).
6. Letter from Walter Arnold, Washington, D. C., January 13, 1967 (in files of W. K. Dunton).
7. U. S. Department of Health, Education and Welfare, Office of Education, Preparatory Trade and Industrial Training Programs in Public Schools, A directory, Bulletin 1963, No. 4, pp 272.
8. Reply cards available (in files of W. K. Dunton).

167 Schools operate Type A requiring more than a half day
- 28 More than 180 minutes shop and 2 periods related
- 94 180 minutes shop and 2 periods related
- 45 180 minutes shop and 1 period related

126 Schools operate Type B requiring only 180 minutes
- 98 operate on a full-day attendance basis
- 28 operate on a half-day attendance basis

From the above data, it may be observed that of the 293 listed schools that replied 265 (90.44%) operate on a full day basis even though 98 of them offer only a Type B program. Only 28 operate on a half-day basis. The Appendix to this report details this information by states and by individual schools.

CONCLUSION

It may be concluded from the above documented data and information that the Special School District's planned program complies with the Missouri State Plan; that the half-day Type B program formerly operated here has not been fully effective; that the President's Panel did not recommend the half-day program; and that 90.44% of the vocational high schools in the United States operate on a full-day basis. It thus appears that many of the quoted statements were made by persons to whom all the facts regarding vocational programs had not been made available.

The statement has also been made on another prominent local television program that "they want to make it a Harvard." If, by this, the critic meant "the best" for the youth of St. Louis County he is right. The Board of Education of the Special School District has the avowed aim of making this the finest program of vocational education in America.

WKD/na

APPENDIX

TYPE OF TRADE & INDUSTRIAL EDUCATION PROGRAMS AND TYPE OF OPERATION OF VOCATIONAL AND TECHNICAL HIGH SCHOOLS REPLYING TO QUESTIONNAIRE

ALABAMA
- Bessemer
  - J. S. Abrams High School - 180 minutes shop; 1 period related; full day
- Birmingham
  - Olin Vocational School - 180 minutes shop including related; full day
- Murphy
  - Murphy High School - 180 minutes shop including related; full day

ARIZONA
- Phoenix
  - Phoenix Union High School- 180 minutes shop including related; full day
- Tucson
  - Tucson Senior High School- 180 minutes shop including related; full day

CALIFORNIA
- San Bernardino
  - Pacific High School - 180 minutes shop including related; full day
  - San Bernardino High School-180 minutes shop including related; full day
- San Francisco
  - John A. O'Connell Vocational High School - 180 minutes shop including related; full day
- San Jose
  - San Jose Vocational Center-180 minutes shop including related; half day

CONNECTICUT
- Danbury
  - Henry Abbott Technical School - 180 minutes shop; 2 periods related; full day
- Danielson
  - H. H. Ellis Technical School - Over 180 minutes shop; 2 periods related; full day
- Hartford
  - A. I. Prince Technical School - 180 minutes shop; 2 periods related; full day
- Meriden
  - Horace Wilcox Technical School - 180 minutes shop; 2 periods related; full day
- New Britain
  - E. C. Goodwin Technical School - Over 180 minutes shop; 2 periods related;full day
- Norwich
  - Norwich Technical School - Over 180 minutes shop; 2 periods related;full day
- Stamford
  - J. M. Wright Technical School - 180 minutes shop; 2 periods related; full day
- Waterbury
  - Warren F. Kaynor Technical School - Over 180 minutes shop; 2 periods related; full day

CONNECTICUT
Willimantic
Windham Regional Technical School
- 180 minutes shop; 2 periods related; full day

DELAWARE
Georgetown
Sussex County Vocational-Technical Center
- 180 minutes shop including related; half day
Wilmington
H. Fletcher Brown Technical High School
- 180 minutes shop; 2 periods related; full day
Howard High School - 180 minutes shop; 1 period related; full day

WASHINGTON, D. C.
Bell Vocational High School- 180 minutes shop including related; full day
Burdick Vocational High School
- 180 minutes shop including related; full day
Chamberlain Vocational High School
- 180 minutes shop; 2 periods related; full day
Phelps Vocational High School
- 180 minutes shop including related; full day

FLORIDA
Daytona Beach
Mary Karl Vocational School
- Over 180 minutes shop; 2 periods related; full day
Fort Lauderdale
Dillard High School - 180 minutes shop; 1 period related; full day
Jacksonville
Jacksonville Technical High School
- 180 minutes shop; 1 period related; full day
Stanton Vocational High School
- 180 minutes shop including related; full day
Miami
Miami Central High School- 180 minutes shop including related; full day
Northwestern High School - 180 minutes shop including related; full day
Ocala
Marion County Vocational School
- 180 minutes shop including related; full day
Orlando
Orange County Vocational School
- Over 180 minutes shop; 2 periods related; full day
Pensacola
Pensacola Technical High School
- 180 minutes shop including related; full day
St. Petersburg
Dixie Hollins High School -180 minutes shop including related; full day
Sarasota
Sarasota Vocational School-180 minutes shop including related; full day
Tallahassee
Lively Technical School - Over 180 minutes shop; 2 periods related; full day

FLORIDA
- Tampa
  - Blake High School - 180 minutes shop including related; full day
  - Brewster Vocational School - 180 minutes shop including related; full day
- West Palm Beach
  - West Palm Beach Vocational School - 180 minutes shop; 2 periods related; full day

GEORGIA
- Atlanta
  - Carver Vocational School - 180 minutes shop; 1 period related; full day
- Augusta
  - Augusta Vocational School- 180 minutes shop; 2 periods related; full day
- Columbus
  - Jordan Vocational High School - 180 minutes shop; 1 period related; full day
- Macon
  - Ballard Hudson High School - 180 minutes shop including related; full day
  - Dudley M. Hughes Vocational School - 180 minutes shop including related; full day
- Thomasville
  - Thomas County Vocational School - 180 minutes shop; 2 periods related; full day

HAWAII
- Hilo
  - Hawaii Technical School - Over 180 minutes shop; 2 periods related; full day
- Honolulu
  - Honolulu Technical School- 180 minutes shop; 2 periods related; full day
- Kahului
  - Maui Community College - Over 180 minutes shop; 1 period related; full day

ILLINOIS
- Chicago
  - Chicago Vocational High School - 180 minutes shop including related; full day
  - Cooley Vocational High School - 180 minutes shop including related; full day
  - Creiger Vocational High School - 180 minutes shop including related; full day
  - Prosser Vocational High School - 180 minutes shop including related; full day
  - Simeon Vocational High School - 180 minutes shop including related; full day
- Cicero
  - J. Sterling Morton High and Junior College - 180 minutes shop; 1 period related; full day
- Decatur
  - Stephen Decatur High School - 180 minutes shop including related; full day

ILLINOIS
- Joliet
  - Joliet Township High and Junior College - 180 minutes shop including related; full day
- Mt. Vernon
  - Mt. Vernon Township High & Community College - 180 minutes shop including related; full day

INDIANA
- Bedford
  - Vocational High School - 180 minutes shop including related; full day
- Elkhart
  - Vocational School - 180 minutes shop including related; full day
- Evansville
  - North High School - 180 minutes shop; 1 period related; full day
- Hammond
  - Hammond Vocational Technical High School - 180 minutes shop; 1 period related; full day
- Indianapolis
  - Arsenal Technical High School - 180 minutes shop including related; full day
  - Harry Wood School - 180 minutes shop; 1 period related; full day
- Kokomo
  - Kokomo High School - 180 minutes shop; 1 period related; full day
- Muncie
  - Muncie Trade School - 180 minutes shop including related; full day

IOWA
- Des Moines
  - Des Moines Technical High School - 180 minutes shop including related; full day

KANSAS
- Topeka
  - Topeka Trade School - 180 minutes shop including related; half day
- Wichita
  - Wichita East High School - 180 minutes shop; 1 period related; full day

KENTUCKY
- Ashland
  - Ashland Area Vocational School - 180 minutes shop including related; half day
- Bowling Green
  - Western Area Vocational School - 180 minutes shop including related; half day
- Covington
  - Northern Kentucky Vocational School - 180 minutes shop; 2 periods related; full day
- Harlan
  - Harlan Area Vocational School - 180 minutes shop including related; half day

KENTUCKY

Hazard
Hazard Area Vocational School
- Over 180 minutes shop; 2 periods related; full day

Lexington
Lafayette Area Vocational School
- 180 minutes shop including related; half day

Owensboro
Owensboro Area Vocational School
- 180 minutes shop including related; half day

Paducah
Tilghman Area Vocational School
- 180 minutes shop including related; half day

Somerset
Somerset Area Vocational School
- 180 minutes shop including related; half day

Valley Station
Jefferson County Area Vocational School
- 180 minutes shop including related; half day

LOUISIANA

Baton Rouge
Baton Rouge Vocational Technical School
- 180 minutes shop including related; full day

Crowley
Southwest Louisiana Vocational Technical School
- Over 180 minutes shop; 2 periods related; full day

Lake Charles
Sowela Technical Institute
- 180 minutes including related; half day

Many
Sabine Parish Trade School
- 180 minutes shop; 2 periods related; full day

Minden
Northwest Louisiana Vocational Technical School
- 180 minutes shop; 2 periods related; full day

Monroe
Delta Area Vocational School
- 180 minutes shop; 2 periods related; full day

Natchitoches
Natchitoches Trade School- 180 minutes shop; 1 period related; full day

New Orleans
Orleans Area Vocational Technical School
- Over 180 minutes shop; 2 periods related; full day

West Monroe
Ouachita Valley Vocational Technical School
- 180 minutes shop including related; half day

Winnsboro
Northeast Louisiana Vocational School
- 180 minutes shop including related; full day

MAINE

Westbrook
Westbrook High School - 180 minutes shop; 1 period related; full day

MARYLAND
Baltimore
Carver Vocational High School
- 180 minutes shop including related; full day
Hergenthaler Vocational Technical High School
- 180 minutes shop; 2 periods related; full day

MASSACHUSETTS
Arlington
Arlington Technical and Vocational High School
- 180 minutes shop; 2 periods related; full day
Belmont
Belmont Vocational High School
- 180 minutes shop; 2 periods related; full day
Chicopee Falls
Chicopee Vocational High School
- 180 minutes shop; 2 periods related; full day
East Freetown
Apponequet Regional Vocational School
- Over 180 minutes shop; 2 periods related; full day
East Weymouth
Weymouth Vocational High School
- 180 minutes shop; 2 periods related; full day
Everett
Everett Vocational High School
- 180 minutes shop; 2 periods related; full day
Fall River
Diman Vocational High School
- 180 minutes shop; 2 periods related; full day
Fitchburg
Fitchburg Vocational High School
- 180 minutes shop; 2 periods related; full day
Gloucester
Gloucester Vocational High School
- Over 180 minutes shop; 2 periods related; full day
Greenfield
Greenfield Vocational High School
- 180 minutes shop; 2 periods related; full day
Haverhill
Haverhill Trade High School
- 180 minutes shop; 2 periods related; full day
Hyannis
Barnstable Vocational High School
- 180 minutes shop; 2 periods related; full day
Kingston
Silver Lake Vocational High School
- 180 minutes shop; 2 periods related; full day
Malden
Malden Vocational High School
- 180 minutes shop; 2 periods related; full day
Marlboro
Marlboro Vocational High School
- Over 180 minutes shop; 2 periods related; full day

MASSACHUSETTS

New Bedford
New Bedford Vocational High School
- 180 minutes shop; 2 periods related; full day

New Salem
New Salem Vocational High School
- Over 180 minutes shop; 2 periods related; full day

Northampton
Northampton Vocational High School
- 180 minutes shop; 2 periods related; full day

North Dartmouth
Dartmouth Vocational School
- 180 minutes shop; 2 periods related; full day

North Dighton
Dighton-Rehoboth Regional Vocational School
- 180 minutes shop; 2 periods related; full day

Peabody
Peabody Vocational High School
- 180 minutes shop; 2 periods related; full day

Pittsfield
Pittsfield Vocational High School
- 180 minutes shop; 2 periods related; full day

Quincy
Quincy Trade High School - 180 minutes shop; 2 periods related; full day

Roxbury
Boston Trade School - 180 minutes shop; 2 periods related; full day

Salem
Salem Vocational High School
- 180 minutes shop; 2 periods related; full day

Somerville
Somerville Trade High School
- 180 minutes shop; 2 periods related; full day

Taunton
Taunton Vocational High School
- 180 minutes shop; 2 periods related; full day

Waltham
Waltham Vocational High School
- Over 180 minutes shop; 2 periods related; full day

Wareham
Wareham Vocational High School
- 180 minutes shop; 2 periods related; full day

Webster
Bartlett Vocational High School
- 180 minutes shop; 2 periods related; full day

Worcester
David Hale Fanning Trade High School
- 180 minutes shop; 1 period related; full day
Worcester Boys' Trade High School
- Over 180 minutes shop; 2 periods related; full day

Wrentham
King Phillip Regional Vocational High School
- 180 minutes shop; 2 periods related; full day

MICHIGAN
- Detroit
  - Chadsey High School - 180 minutes shop including related; full day
  - Washington Trade School - 180 minutes shop; 2 periods related; full day
- Grand Rapids
  - Union High School - 180 minutes shop including related; full day
- Lansing
  - Sexton High School - 180 minutes shop; 1 period related; full day
- Muskegon
  - Senior High School - 180 minutes shop including related; full day
- Plainwell
  - Michigan Rehabilitation Institute - 180 minutes shop; 2 periods related; full day
- Pontiac
  - Senior High School - 180 minutes shop including related; full day

MINNESOTA
- Alexandria
  - Alexandria Area Vocational-Technical School - 180 minutes shop; 1 period related; full day
- Duluth
  - Duluth Area Vocational-Technical School - 180 minutes shop; 1 period related; full day
- Minneapolis
  - Minneapolis Area Vocational-Technical School - 180 minutes shop; 1 period related; full day
- Saint Cloud
  - Saint Cloud Area Vocational-Technical School - 180 minutes shop including related; half day
- Saint Paul
  - St. Paul Technical-Vocational School - 180 minutes shop; 1 period related; full day
- Staples
  - Staples Area Vocational-Technical School - 180 minutes shop; 2 periods related; full day
- Thief River Falls
  - Thief River Falls Area Vocational-Technical School - Over 180 minutes shop; 2 periods related; full day
- Winona
  - Winona Area Vocational-Technical School - Over 180 minutes shop; 2 periods related; full day

MISSISSIPPI
- Meridian
  - Ross Collins Vocational School - 180 minutes shop including related; full day
- Pascagoula
  - Pascagoula High School - 180 minutes shop; 2 periods related; full day

MISSOURI
- Kansas City
  - Manual High and Vocational School - 180 minutes shop including related; full day

MISSOURI
St. Joseph
Hillyard Technical School- 180 minutes shop including related; half day
St. Louis
O'Fallon Technical High School
- 180 minutes shop; 1 period related; full day*
Springfield
Vocational Technical School
- 180 minutes shop including related; half day

NEBRASKA
Omaha
Technical High School - 180 minutes shop including related; full day

NEW HAMPSHIRE
Dover
Davis Vocational School - 180 minutes shop including related; half day**

NEW JERSEY
Atlantic City
Vocational and Technical High School
- 180 minutes shop; 1 period related; full day
Bloomfield
Essex County Vocational and Technical High School
- 180 minutes shop; 2 periods related; full day
Hackensack
Bergen County Vocational and Technical High School
- 180 minutes shop; 2 periods related; full day
Irvington
Essex County Vocational and Technical High School
- 180 minutes shop; 2 periods related; full day
Merchantville
Camden County Vocational and Technical High School
- 180 minutes shop; 2 periods related; full day
Newark
Essex County Vocational and Technical High School for Boys
- 180 minutes shop; 2 periods related; full day
New Brunswick
Middlesex County Vocational and Technical High School
- 180 minutes shop; 1 period related; full day
Paterson
Passaic County Technical and Vocational High School
- 180 minutes shop; 2 periods related; full day
Perth Amboy
Middlesex County Vocational and Technical High School
- 180 minutes shop; 2 periods related; full day

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* In 1968-69 will be changing to 180 minutes shop including related; half day

** In 1967-68 will be changing to 180 minutes shop; 2 periods related; full day

NEW JERSEY
West Trenton
New Jersey School for the Deaf
- 180 minutes shop; 2 periods related; full day
Woodbridge
Middlesex County Vocational and Technical High School for Girls
- 180 minutes shop; 2 periods related; full day

NEW YORK
Binghamton
Central High School - 180 minutes shop including related; full day
Buffalo
Boys Vocational High School
- 180 minutes shop; 2 periods related; full day
Burgard Vocational High School
- 180 minutes shop; 1 period related; full day
Emerson Vocational High School
- 180 minutes shop; 2 periods related; full day
McKinley Vocational High School
- Over 180 minutes shop; 2 periods related; full day
Seneca Vocational High School
- 180 minutes shop; 2 periods related; full day
Madison County
Bouckville Vocational Shop Center
- 180 minutes shop including related; half day
New City
Rockland County Board of Cooperative Education Services
- 180 minutes shop including related; half day
New Rochelle
New Rochelle High School - 180 minutes shop including related; full day
New York
Bronx Vocational High School (Alfred E. Smith)
- 180 minutes shop; 1 period related; full day
High School of Fashion Industries
- 180 minutes shop; 2 periods related; full day
Jamaica Vocational High School
- 180 minutes shop; 2 periods related; full day
Niagara Falls
Trott Vocational High School
- 180 minutes shop; 1 period related; full day
Rochester
Edison Technical and Industrial High School
- 180 minutes shop; 2 periods related; full day
Schenectady
Linton High School - 180 minutes shop including related; full day
Syracuse
Syracuse Central Technical High School
- 180 minutes shop; 2 periods related; full day
Troy
Industrial High School - 180 minutes shop; 2 periods related; full day
Yonkers
Saunders Trades and Technical High School
- 180 minutes shop; 2 periods related; full day

NORTH CAROLINA

Durham

Hillside High School - 180 minutes shop including related; full day

Jamestown

Guilford Industrial Education Center
- 180 minutes shop; 2 periods related; full day

Newton

Catawba County Industrial Education Center
- 180 minutes shop; 2 periods related; full day

OHIO

Akron

Hower Vocational High School
- 180 minutes shop; 2 periods related; full day

Canton

Timken Vocational High School
- 180 minutes shop; 2 periods related; full day

Cincinnati

Courter Technical High School
- 180 minutes shop including related; full day

Cleveland

Jane Addams Vocational High School
- 180 minutes shop including related; full day

Max S. Hayes Trade School- 180 minutes shop; 1 period related; full day

Dayton

Patterson Cooperative High School
- 180 minutes shop; 1 period related; full day

Toledo

Macomber Vocational High School
- 180 minutes shop; 2 periods related; full day

Whitney Vocational High School
- 180 minutes shop; 2 periods related; full day

OKLAHOMA

Muskogee

Manual Training High School
- 180 minutes including related; full day

Oklahoma City

Central High School - 180 minutes shop; 1 period related; full day

Sand Springs

Charles Page High School - 180 minutes shop including related; full day

Shawnee

Shawnee High School - 180 minutes shop including related; half day

OREGON

Eugene

Eugene Technical Vocational School
- 180 minutes shop; 2 periods related; full day

Pendleton

Blue Mountain Technical School
- 180 minutes shop; 2 periods related; full day

PENNSYLVANIA

Allentown
Allentown School District- 180 minutes shop including related; full day

Altoona
Altoona Senior High School
- 180 minutes shop; 2 periods related; full day

Bethlehem
Liberty High School - 180 minutes shop including related; half day

Carlisle
Carlisle Senior High School
- 180 minutes shop; 1 period related; full day

Chester
Chester High School - Over 180 minutes shop; 2 periods related; full day

Coatesville
S. Horace Scott Senior High School
- 180 minutes shop; 2 periods related; full day

Erie
Technical Memorial High School
- 180 minutes shop; 2 periods related; full day

Fairless Hills
Bucks County Area Technical School
- 180 minutes shop including related; half day

Harrisburg
Central Dauphin High School
- 180 minutes shop including related; full day

Hazelton
Hazelton Senior High School
- 180 minutes shop; 2 periods related; full day

Hershey
Hershey Vocational School- Over 180 minutes shop; 2 periods related; full day

Homestead
Schwab Vocational High School
- 180 minutes shop; 2 periods related; full day

Johnstown
Central Senior High School
- 180 minutes shop including related; full day

Kingston
Wyoming Valley Area Technical School
- 180 minutes shop including related; half day

McKeesport
McKeesport Vocational High School
- 180 minutes shop including related; full day

Monessen
Monessen Vocational School
- 180 minutes shop; 1 period related; full day

Nanticoke
Nanticoke Vocational School
- 180 minutes shop; 2 periods related; full day

Philadelphia
Dobbins Technical High School
- 180 minutes shop including related; full day
Edward Bok Area Vocational Technical School
- 180 minutes shop including related; full day

PENNSYLVANIA
- Pittsburgh
  - Arsenal Girls Vocational High School - 180 minutes shop including related; full day
  - Connelley Vocational High School - 180 minutes shop including related; full day
  - South Vocational High School - 180 minutes shop including related; full day
  - Washington Vocational High School - 180 minutes shop including related; full day
- Reading
  - Reading High School - 180 minutes shop including related; full day
- Scranton
  - Scranton Technical High School - 180 minutes shop; 1 period related; full day
- Shamokin
  - Shamokin Area High School- 180 minutes shop including related; full day
- Williamsport
  - Williamsport High School (Williamsport Technical Institute) - 180 minutes shop including related; full day
- York
  - William Penn Senior High School - 180 minutes shop; 2 periods related; full day

PUERTO RICO
- Aguadilla High School - 180 minutes shop including related; full day
- Arecibo
  - Arecibo Vocational High School - 180 minutes shop including related; full day
- Caguas
  - Caguas Vocational High School - 180 minutes shop including related; full day
- Guayama
  - Guayama High School - Over 180 minutes shop; 2 periods related; full day
- Humacao
  - Humacao High School - 180 minutes shop including related; full day
- Ponce
  - Ponce Vocational High School - 180 minutes shop; 1 period related; full day
- Rio Piedras
  - Miguel Such Metropolitan Vocational School - 180 minutes shop including related; full day
- San Juan
  - Roman Baldorioty De Castro Vocational High School - 180 minutes shop including related; full day
- Utuado
  - Utuado High School - 180 minutes shop including related; full day

RHODE ISLAND
- Newport
  - Rogers High School - 180 minutes shop; 1 period related; full day
- Providence
  - Central High School - 180 minutes shop; 2 periods related; full day

SOUTH CAROLINA
- Charleston
  - Burke High School - 180 minutes shop; 1 period related; full day
  - Murray Vocational School - 180 minutes shop including related; full day
- Columbia
  - Booker T. Washington High School - 180 minutes shop including related; full day
  - Columbia High School - 180 minutes shop including related; full day

SOUTH DAKOTA
- Chamberlain
  - Chamberlain High School Vocational Building - 180 minutes shop including related; full day
- Custer
  - Custer High School Vocational Building - 180 minutes shop including related; full day
- Rapid City
  - Rapid City High School Vocational Building - 180 minutes shop including related; full day
- Sioux Falls
  - Sioux Falls High School, Washington Building - 180 minutes shop; 1 period related; full day

TENNESSEE
- Chattanooga
  - Howard High School - 180 minutes shop including related; full day
  - Kirkman Technical High School - 180 minutes shop including related; full day
- Johnson City
  - Johnson City Vocational School - 180 minutes shop including related; half day
- Knoxville
  - Austin High School - 180 minutes shop including related; full day
  - Fulton Area Vocational Technical Training Center - 180 minutes shop; 2 periods related; full day
  - Fulton High School - 180 minutes shop; 1 period related; full day
- Memphis
  - Memphis Technical School - 180 minutes shop including related; full day
  - Washington High School - 180 minutes shop including related; full day
- Morristown
  - Area Vocational Technical School - Over 180 minutes shop; 2 periods related; full day
- Nashville
  - Hume Fogg High School - 180 minutes shop; 2 periods related; full day
  - Pearl High School - 180 minutes shop including related; full day

TEXAS
- El Paso
  - El Paso Technical High School - 180 minutes shop including related; full day
- Fort Worth
  - Ft. Worth Technical High School - 180 minutes shop including related; full day

TEXAS
Fort Worth
I. M. Terrell High School- 180 minutes shop; 1 period related; full day
Houston
San Jacinto High School - 180 minutes shop; 1 period related; full day
San Antonio
Burbank High School - 180 minutes shop; 2 periods related; full day
L. W. Fox Technical High School
- 180 minutes shop; 1 period related; full day
Sidney Lanier High School- 180 minutes shop including related; full day

VERMONT
Rutland
Rutland Senior High School
- 180 minutes shop; 1 period related; full day

VIRGINIA
Fisherville
Woodrow Wilson Vocational-Technical School
- 180 minutes shop including related; half day
Norfolk
Booker T. Washington High School
- 180 minutes shop including related; full day
Richmond
Maggie Walker High School- 180 minutes shop including related; full day
Roanoke
Jefferson High School - 180 minutes shop including related; full day
Lucy Addison High School - 180 minutes shop including related; full day
Wise
Wise County Vocational-Technical School
- 180 minutes shop including related; half day

WASHINGTON
Bellingham
Bellingham Vocational School
- Over 180 minutes shop; 2 periods related; full day

WEST VIRGINIA
Beckley
Raleigh County Vocational Technical Center
- 180 minutes shop including related; half day
Clarksburg
Clarksburg Vocational School
- 180 minutes shop including related; full day
Huntington
Huntington East Trade School
- 180 minutes shop including related; full day
Parkersburg
Parkersburg High School - 180 minutes shop including related; full day
Pineville
Wyoming County Vocational School
- 180 minutes shop including related; half day

WEST VIRGINIA

Princeton
Mercer County Vocational School
- 180 minutes shop including related; half day

Shinnston
Shinnston Vocational School
- 180 minutes shop including related; half day

Welch
McDowell Vocational School
- Over 180 minutes shop; 2 periods related; full day

Wheeling
McKinley Vocational Technical Center
- 180 minutes shop including related; half day

WISCONSIN

Appleton
School of Vocational and Adult Education
- 180 minutes shop; 2 periods related; full day

Beloit
School of Vocational and Adult Education
- 180 minutes shop; 2 periods related; full day

Green Bay
School of Vocational and Adult Education
- 180 minutes shop; 1 period related; full day

Lacrosse
School of Vocational and Adult Education
- 180 minutes shop; 2 periods related; full day

Janesville
School of Vocational and Adult Education
- 180 minutes shop; 1 period related; full day

Kenosha
School of Vocational and Adult Education
- 180 minutes shop including related; full day

Madison
School of Vocational and Adult Education
- 180 minutes shop; 1 period related; full day

Manitowoc
School of Vocational and Adult Education
- 180 minutes shop including related; full day

Marinette
School of Vocational and Adult Education
- 180 minutes shop; 2 periods related; full day

Oshkosh
School of Vocational and Adult Education
- Over 180 minutes shop; 2 periods related; full day

Rhinelander
School of Vocational and Adult Education
- 180 minutes shop; 2 periods related; full day

Rice Lake
School of Vocational and Adult Education
- 180 minutes shop; 2 periods related; full day

WISCONSIN

Stevens Point
School of Vocational and Adult Education
- 180 minutes shop including related; full day

Superior
School of Vocational and Adult Education
- 180 minutes shop; 1 period related; full day

Waukesha
School of Vocational and Adult Education
- 180 minutes shop; 2 periods related; full day

Wausau
School of Vocational and Adult Education
- 180 minutes shop; 2 periods related; full day

West Allis
School of Vocational and Adult Education
- 180 minutes shop; 2 periods related; full day

VT 002 737

A Study of Post High School Education Needs in Bucks County, 1968-1980. Phase I Progress Report.

Bucks County Superintendent of Schools, Doylestown, Pa.
Pennsylvania Univ., Philadelphia. Government Consulting Service
Pennsylvania State Dept. of Public Instruction, Harrisburg. Bureau of Vocational and Technical Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Mar67 113p.

*VOCATIONAL EDUCATION; ADULT EDUCATION; *EDUCATIONAL NEEDS; *POST SECONDARY EDUCATION; ADULTS; HIGH SCHOOL STUDENTS; GRADE 12; EDUCATIONAL OPPORTUNITIES; POPULATION TRENDS; EDUCATIONAL INTEREST; STUDENT ENROLLMENT; *PROGRAM DEVELOPMENT; PROGRAM PLANNING; EMPLOYERS; SURVEYS; BIBLIOGRAPHIES; *EMPLOYMENT OPPORTUNITIES
BUCKS COUNTY, PENNSYLVANIA

The purpose of the study was to determine the present and future needs for post-high school education, the ability of existing facilities to meet the needs, factors which restrict educational opportunities, and courses of action for meeting local educational needs. The objectives of Phase I were to develop a series of detailed research questions, identify data resources, determine data collection methods and methods of estimating specific programs needs in a geographic area, and develop a detailed work program. An advisory council representing education, business, labor, and government were to be deeply involved in the decision processes. Required data were to be obtained from (1) a survey of large employers in the area, (2) a survey of high school seniors, (3) a study of school records data, and (4) a survey of Bucks County Adults. The detailed work schedule, plans for data collection including budget information and time estimates, and plans for the Phase II analysis and Phase III council decisions are included. The appendixes list results of Phase I activities; revised research question, data collection methods, a list of study resources, procedures for Phases II and III, and a bibliography. The final report of the study is available as Volume I (VT 005 442) and Volume II (VT 005 443). (WB)

VT 002 737

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C.1
116p*

PHASE I PROGRESS REPORT

A STUDY OF POST HIGH SCHOOL EDUCATION NEEDS IN BUCKS COUNTY 1968-1980

VT 022389

VT
002 737

MEMORANDUM

TO: The ERIC Clearinghouse on Vocational and Technical Education
The Ohio State University
980 Kinnear Road
Columbus, Ohio 43212

FROM: (Person) Clarence A. Dittenhafer (Agency) Ra. RCU

(Address) Bureau of Research 214 Executive House Pa. Dept. of Public Instruction
P.O. Box 911, Harrisburg, Pa. 17126

DATE: November 6, 1968

RE: (Author, Title, Publisher, Date) A STUDY OF POST HIGH SCHOOL EDUCATION NEEDS IN BUCKS COUNTY 1968-1980, PHASE I. PROGRESS REPORT. Bucks County Superintendent of Schools Office and Fels Institute March 1968

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Jointly Submitted By

Bucks County Superintendent of Schools Office and The Government Consulting Service of the Fels Institute of Local and State Government, University of Pennsylvania

In Cooperation With

The Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction

To

The Bucks County Council of Post High School Education Needs

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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March 1967

County Administration Building
Doylestown, Pennsylvania

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Howard Moyer	Member	Pennridge School Board
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Robert Rosenkrance	Superintendent	Pennridge School District
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Rev. Charles J. Schaeflein	Diocesan Schools Representative	Archdiocese of Philadelphia

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George E. Raab	Superintendent	Bucks County Public Schools

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John Parker	Director	Government Consulting Service, Fels Institute
Joseph Tezza	County Staff	Bucks County Superintendent of Schools Office
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Boyd Palmer		Government Consulting Service, Fels Institute
Robert Cantine		
Jay Smink		Bureau of Vocational, Technical and Continuing Education DPI
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Halleck Singer	Consultant	Vocational Teacher Education Temple University
Finis E. Engleman	Consultant	Retired, AASA President
Allan Kuusisto	Consultant	Assistant Commissioner for Higher Education, Albany, N. Y.

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Doylestown, Pennsylvania
348-2940

GEORGE E. RAAB
SUPERINTENDENT

Supervisors of Special Education
Joseph S. Tezza
Rudolph P. Matyas

Director of Child-Youth Study Services
R. Kenneth Pierce

March 1, 1967

Mr. James F. Smith
5 Vine Lane
Levittown, Pa.

Dear Mr. Smith:

Phase I, or Design Phase, of the Bucks County Study on Post High School Education Needs from 1968 through 1980 has been completed. The purpose of this phase was to determine the scope and objectives of the study, research questions to be answered, methodology to be employed, work program, budget and time estimates to carry out the work program. This report outlines in detail these major areas of concern.

The members of the Council on Post High School Education Needs, study team and clerical staff of the Bucks County Superintendent of Schools Office assigned to the study are to be commended for their diligent efforts in developing the plan for conducting Phases II and III of the study, in the time period allotted. The next few months will require many long and arduous hours on the part of the study team and clerical staff, to develop and undertake the six major surveys required by the study plan. The council will be heavily invovled in the decisioning process in Phase III beginning in October and terminating in December, 1967.

The council and study team will have produced one of the first major educational studies undertaken in the United States involving the use of advanced operations analysis techniques. I believe this study will be a "lamp-lighter" for many educational studies that will follow.

Respectfully submitted

Charles E. Brewin, Jr.

CEB:ej

Charles E. Brewin, Jr.
Assistant County Superintendent

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CHAPTER I

HISTORICAL DEVELOPMENT

Introduction

This chapter contains a brief resume of the historical development leading up to and the first phase of the Study of Post High School Education Needs in Bucks County from 1968 through 1980. A continuous, detailed historical record of the study is being maintained by the Bucks County Superintendent of Schools Office.

Developments Prior to Undertaking The Study

The Bucks County Superintendent of Schools Office undertook a feasibility study to determine whether or not a community college should be established in Bucks County. A preliminary proposal for a Bucks County Community College was submitted to the Spring Convention of the Bucks County School Directors held in the Franklin D. Roosevelt Junior High School, Bristol Township on May 27, 1964. This proposal was reviewed and accepted by a majority of the Bucks County School Directors at the convention. The following resolution was passed:

> RESOLVED: That the Bucks County Convention of School Directors endorses the immediate need for the establishment of a Bucks County Community College; that sponsorship be sought at once from the Bucks County Commissioners

in accordance with the provisions of Act 484; and

that the enclosed recommendations be taken into account by the Board of Trustees of the Bucks County Community College.

In a special action at the same convention the following motion was also passed:

In view of the urgent and continuing need for higher education facilities and services, in addition to the establishment of a community college as above provided, that this County Convention endorses the establishment of college or university extension centers to serve the residents of Bucks County, AND directs the County Board to assist in whatever way it can for such provisions.

Dr. Louis Bender, Assistant Bucks County Superintendent of Schools, at the direction of Dr. George E. Raab, Bucks County Superintendent of Schools, developed plans for exploring the possibility of establishing college or university extension centers in the county. These plans included an examination and development of a record file on higher education; scholarships and loan possibilities; follow-up studies of high school students; development of channels of information concerning higher education for students, parents and the public-at-large; and the exploration of the possibility of establishing an extension center involving one or more institutions of higher learning.

A number of institutions of higher learning were contacted by Dr. Bender during the first six months of 1965. Several institutions indicated that they would be pleased to explore the possibility of a multi-institution extension center to be located within the county. Before a meeting of these institutions could be called, Dr. Bender left the county office to assume the position of Director of the Bureau of Community Colleges, Department of Public Instruction. Dr. Brewin was hired to replace Dr. Bender and assumed his duties on

September 1, 1965. Dr. Brewin was directed by Dr. Raab to ask the interested institutions of higher learning to attend a special meeting to be held at the Bucks County Community College on November 10, 1965, to discuss the possibility of establishing a multi-institution extension center. The following institutions sent representatives to the meeting: Lafayette College, Lehigh University, Lincoln University, Millersville State College, The Pennsylvania State University, Temple University, Ursinus College, Villanova University, West Chester State College, The Bucks County Community College and the county office.

The concensus of the university and college representatives who attended the meeting was that the development of an extension center involving one or more institutions of higher learning could not be profitably explored until a thorough study of the higher education needs of the county was undertaken.

Establishment of the Advisory Council

The above recommendation was referred to the Bucks County Board of School Directors at their January 18, 1966 meeting. The Bucks County Superintendent of Schools asked the board to reactivate the Bucks County Council on Higher Education for the purpose of exploring the possibility of a study of the higher education needs of the citizens of the county. Mr. James Smith, former president of the Pennsbury Board of School Directors, was asked to serve as chairman of the council. Each of the 13 local school districts, Bucks County Community College and Delaware Valley College was asked to appoint a representative to the council. The first meeting of the council was held on March 30, 1966. The discussions of the council members ranged

across the entire spectrum of post high school education needs of the county. Following the discussion the council directed the county office to develop a proposal for undertaking the study; the proposal to be submitted to the council by June, 1966.

An analysis of the discussion of the council indicated that the interest of the council embraced more than just higher education needs. Because this interest was broad-based it appeared wise to expand the council's membership to include representatives from the two vocational-technical schools, parochial and private schools, county government and business and labor. The council was expanded to its present membership by June of 1966.[1]

Mr. John Parker of the Government Consulting Service of Fels Institute of Local and State Government, University of Pennsylvania, was asked by the county office to prepare a proposal for the study which would be broad based. Because of the complexity of the problem it was necessary to provide the council with an objective means of attacking the problem. The nature of the problem and the difficulty of arriving at alternative solutions or corrective actions indicated that an operations analysis strategy was best suited for undertaking the study.

Mr. Parker and Dr. Brewin presented the Government Consulting Service's proposal for undertaking the study at the June 15, 1966 meeting of the council. The proposal outlined the scope and objectives and the three phases of the study. Phase I is concerned with developing the study design. During this period the scope and objectives of

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[1]The title of Bucks County Council on Higher Education was changed to Bucks County Council of Post High School Education in September, 1966 because the former title did not actually reflect the concerns of the council or the scope of the study.

the study will be defined, research questions formulated, methodology developed, work program for Phases II and III outlined, budget and time estimates for the work program developed in detail and the personnel required and their responsibilities defined. Phase II of the study is concerned with conducting the various surveys required to gather the data, developing the computer model and reduction and analysis of data. Phase III is devoted to determining the priorities of the various needs identified in Phase II, alternative corrective action plans, developing the "best" corrective action plan and financial cost of the plan. The final plan will be submitted to the Bucks County Board of School Directors at their regular monthly meeting in January or February, 1968.

Funding of the Study

The Government Consulting Service's proposal was tentatively approved by the council pending funding of the study. The estimated cost of the study was $50,000. Dr. Brewin was asked to investigate the possibility of securing funds from private, state and federal sources. Twenty businesses and industries and approximately 80 union locals were contacted for financial support of the study during the next eight months. To date, a total of $4,700 has been received from these sources. Six private philanthropic foundations were contacted, none of which indicated that they were in a position to underwrite the cost of the study. Dr. John Struck, Head of the Bureau of Vocational-Technical and Continuing Education, Department of Public Instruction, was approached and indicated that the bureau was willing to underwrite the cost of the study provided Phase I was satisfactorily completed.

Dr. Struck's bureau pledged $7,500 to undertake the cost of Phase I.

Phase I Activities

The November 9, 1966 council meeting was devoted to a review and adoption of the work program for Phase I and a thorough discussion of the general objectives and scope of the study. Following the meeting the general objectives and scope paper was modified in accordance with the recommendations of the council. The council further recommended that the Bucks County Board of School Directors enter into an agreement with the Government Consulting Service of the Fels Institute of Local and State Government, University of Pennsylvania, at its regular monthly meeting on November 15, 1966. The agreement stipulates that the Bucks County Board of School Directors and the Government Consulting Service will make arrangements to engage in Phases II and III of the study pending satisfactory completion of Phase I.

The council met again on November 30, 1966 and reviewed the amended general objectives and scope paper and devoted the balance of the meeting to a thorough discussion of the preliminary research questions.

The preliminary research questions were amended during December in accordance with the recommendations of the council. The revised research questions were sent to all council members in early January, along with the suggested methodology.

The January 26, 1967 council meeting was devoted to a thorough examination of the methodology. The methodology was divided into two separate but related sections. The first section described the simulation model that will be constructed to assist in performing the

complex analyses involved in estimating the high priority unmet needs. The main function of the model will be to extend the estimates of unmet needs through time to 1980 and test the impact of various alternative plans of action designed to satisfy as many high priority needs as possible.

The second section described methods to be employed in collecting data to answer the research questions and to provide input into the simulated model. Six surveys have been suggested in addition to the collection, comparison and analysis of other data through statistical methods and the judgment of the study staff, consultants and council.

The methodology was modified following the January 26, 1967 meeting of the council. A detailed work program, revised budget and work program network for Phases II and III were discussed at the February 14, 1967 meeting of the council. During this discussion the council was informed that Dr. Struck agreed to continue support of the study, the cost of which was increased by $9,000, for Phases II and III at the maximum level of $51,500. This agreement was reached at a meeting in Harrisburg on February 9, 1967 with Dr. Struck. The council approved the work program and the revised budget.

A final report on Phase I, of which this chapter is a part, will be presented to the Bucks County Post High School Council at the March 1, 1967 meeting.

Possible Impact of the Study

The citizens of Bucks County are concerned with immediate and future post high school education needs that cannot be satisfied by existing institutions within and outside the county. Because this is one of the

largest and fastest growing counties in Pennsylvania it is essential that an intensive study be undertaken to determine the extent of these needs and how they can be satisfied. The population of Bucks County in 1950 was 144,620 and is presently estimated at 353,740. The anticipated population for 1980 will be approximately 535,900. The long term economic health of the county will be dependent, in part, upon the care with which the study is conducted and the action taken on its recommendations.

The recommendations of this study will lead to a combination of several possible courses of action which will include some if not all of the points listed below:

1. Development of various cooperative arrangements among the Community College, Delaware Valley College, vocational-technical schools, comprehensive high schools, extension centers and other institutions outside the county;

2. Establishment of at least one more community college;

3. Establishment of thirteenth and fourteenth year vocational-technical programs based on the existing vocational-technical high schools;

4. Development of various retraining and adult education programs to be offered at existing institutions within and outside the county;

5. Development of new curricula to be offered at existing institutions within and outside the county; and

6. Commitments of institutions outside the county to a fixed or increasing rate of enrollment of students in Bucks County.

The council will recommend several alternate plans of action to satisfy the present and future post high school education needs of the citizens of Bucks County. These plans of action will undoubtedly contain several of the previously mentioned possibilities as well as others as yet not perceived.

The documentation will be sufficiently detailed to permit replication of the simulation model and study procedure. Any region in the Commonwealth of Pennsylvania or other state that is faced with a similar problem which demands an identical level of detail for its input data can use the simulation model to deal with its problem.

CHAPTER II

STUDY DESIGN

Objectives

The general objectives of this study are to assist the Advisory Council in:

1. Estimating the present and future needs of residents of Bucks County for post high school education;

2. Estimating the ability of post high school resources now serving county residents to meet anticipated future needs for post high school education;

3. Determining factors which restrict the opportunities of county residents in obtaining needed post high school education; and

4. Identifying courses of action available to the county to overcome future deficiencies in post high school education resources as compared with estimated needs. The courses of action developed by the council will include some if not all of the following points:

   a. Development of various cooperative arrangements among the Community College, Delaware Valley College, vocational-technical schools, comprehensive high schools, extension centers and other institutions outside the county;

   b. Establishment of at least one more community college;

   c. Establishment of thirteenth and fourteenth year vocational-technical programs based on the existing vocational-technical high schools;

   d. Development of various retraining and adult education programs to be offered at existing institutions within and outside the county;

   e. Development of new curricula to be offered at existing institutions within and outside the county, and

f. Commitments of institutions outside the county to a fixed or increasing rate of enrollment of students in Bucks County.

Scope

In addition to the general objectives, the following statement of the scope of the study was used to prepare detailed research questions (see Appendix) which then determined the content more specifically.

1. Present and future post high school education needs of county residents will be examined for both graduating high school students and for the adult population as a whole. Within the adult population, attention will be given to those who have not completed high school as well as those who are high school graduates.

2. Employment practices and education requirements, and unmet employee education needs within Bucks County will be ascertained from major employers and labor organizations in Bucks County.

3. Present and future employment opportuniities by occupational groups will be determined for Bucks County and for the three primary employment centers most accessible to Bucks County residents: the Philadelphia-Camden Standard Metropolitan Statistical Area (SMSA), the Trenton SMSA, and the Allentown-Bethlehem SMSA.

4. Post high school educational resources receiving primary attention will be those within Bucks County and those within daily commuting distance (approximately 45 minutes traveling time) of population centers in Bucks County. All educational resources beyond daily commuting distance of residents of Bucks County will be treated by general category and receive secondary emphasis. Actual patterns of utilization and relevance to established needs of Bucks County residents will determine the relative intensity of study of educational resources in both categories.

5. In examination of educational resources, the emphasis will be on the capacity of the resources to meet needs of Bucks County residents, and will not extend to an evaluation of individual institutions and programs.

6. Greatest emphasis will be placed on present unmet needs that are expected to increase through 1980; secondary emphasis on present unmet needs expected to decrease through 1980; mini-

mum emphasis on needs currently satisfied but estimated to become larger than available resources by 1980.

7. Examination of courses of action will give greatest emphasis to public institutions and programs now within, or potentially within, Bucks County.

General Methodology

This study will begin with an intensive analysis on a broad front of the present and future needs for post high school education of the residents of Bucks County. This approach is somewhat unique, for many prior studies both in the county and in the commonwealth as a whole have approached post high school education needs on a narrow front i. e., they have generally been concernad with a specific programmatic or organizational objective.

The approach taken in the conduct of this study is also noteworthy for the major contribution which will be made by the Advisory Council. The individual members of the council will be deeply involved in the decision process, leading to development by the council of a series of recommendations based on the content of the base line study and the major alternatives revealed in the base line study as presented by the study staff. The close interaction of the council and the study staff should produce results of exeptional value to various agencies within Bucks County when these agencies consider what action shall be taken to meet the needs of county residents for post high school education.

Phase I: Study Design

There are three major states, or phases, in this study; this report represents the conclusion of the first stage, or design phase.

The objectives of this phase were:

- Development of a series of detailed questions to be answered in achieving the general objectives of the study. (See Research Questions, Appendix A.)

- Identification and evaluation of available data, reports, predictions and plans of potential value in carrying out the study. (See List of Resources, Appendix C., and Bibliography)

- Determination of requirements for collection of additional data and for special surveys. (See Data Collection Methods, Appendix B.)

- Development of methodology for estimating unmet needs for a particular educational program in a specific geographic area. (See Study Procedure, Appendix D.)

- Development of a work program and schedule. (See Detailed Work Program section, and the schedule shown in this General Methodology section.)

Phase II: Conduct of the Study and Preliminary Report

The objective of this phase is to carry out the work program developed in the Study Design Phase. At the conclusion of this phase the study staff will prepare a preliminary report containing all factual analyses. (See Phases II and III - Study Procedure, Appendix D, for a more detailed description of methodology and the way unmet needs will be estimated.)

The preliminary report will include detailed projections of requirements and resources, and analyses of major deficiencies in post high school education opportunities for the citizens of the county.

The council will be consulted on questionnaire content during one meeting in April, 1967; two other meetings will report progress of the study. Phase II will begin in February of 1967 and will be completed in October of 1967.

Phase III: Conclusions and Final Report

The objectives of the final phase of the study is to apply the judgmental values of the Advisory Council to the factual results obtained in Phase II and set forth in the preliminary report. The study staff will define major alternatives and identify principle advantages and disadvantages of each, for the purpose of aiding the council in its deliberations and will also provide a computer program which will facilitate evaluation of many combinations of corrective actions that might be taken to alleviate estimated unmet needs. Two all-day meetings are scheduled during October, 1967, at which times the council and the study staff will establish priorities on major unmet needs and determine the most effective combination of corrective actions.

It is expected that the intense collaborative effort between the Advisory Council and the study staff will result in a final report that spells out several feasible "Policy Plan" alternatives that will be directly aimed at satisfying the post high school education needs of Bucks County from 1968 through 1980. Using the computer model and computer tapes of survey data as a foundation, a periodic updating procedure will be developed to insure that future plans can be adapted to fit the ever-changing socio-economic conditions of Bucks County and the Greater Philadelphia Metropolitan Region in which it is imbedded.

Phase III, including preparation of the final report, is scheduled to take place from October 1967 to January 1968.

Schedule

The fold-out sheet on a following page shows the completion points for major elements of the various work programs; it also shows when council meetings will be held and the primary reason for each meeting. The numbers in the circles refer to events listed on the Key Index (pages opposite the fold-out); numbers with 0 after the dot are council meetings.

This particular "event network" is considered to be extremely tight, with little or no slack time and a minimum number of council meetings. If difficulties arise on any work program, or if the council later feels the need for more meetings, the probable effect will be to extend the completion date of the study beyond January 31, 1968.

The scheduled council meetings are:

3/1/67	1.0	Council approve Phase I report, financing and study as a whole.
4/5/67	2.0	Council review survey preparations and questionnaires.
6/7/67	3.0	Progress report to council.
9/7/67	4.0	Council review preliminary Phase II analysis and survey results.
10/12/67	5.0	All day meeting - council establish priorities and propose corrective actions.
10/26/67	6.0	All day meeting - council evaluate corrective actions and propose Policy Plans.
11/15/67	7.0	Council selects Policy Plans for final report and other recommendations.
12/14/67	8.0	Council review Policy Plans and first draft of final report.
1/31/68	9.0	Council endorses final report to Bucks County Board and Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction

5. 1 Complete Definiation of Courses of Action
5. 2 Complete Analysis of High School Senior Follow-up Survey
5. 3 Complete Revised Phase II Analysis
5. 4 Complete Computer Model Revised Analysis
5. 5 Complete Impact Analysis of Courses of Action

6. 0 Council Evaluate Courses of Action and Propose Policy Plans (All Day)
6. 1 Complete Definitions of Policy Plans
6. 2 Complete Financial Analysis of Policy Plans

7. 0 Council Select Final Policy Plans and Recommendations
7. 1 Complete Draft of Policy Plans and Recommendations
7. 2 Complete Draft of Study Report
7. 3 Complete Draft of Summar Report
7. 4 Complete Technical Reports
7. 5 Complete Up-Dating Procedures

8. 0 Council Review Policy Plans and Draft Reports
8. 1 Complete Final Report
8. 2 Complete Summary Report
8. 3 Complete Printing of Reports

9. 0 Forward Final Report to County Board and DPI
9. 1 Complete Study Administration

3. 0 Council Review Progress
3. 1 Complete Computer Model "Debugging"
3. 2 Complete Adult Classes Survey
3. 3 Complete Computer Model Testing
3. 4 Complete Collection of High School Senior Record Data
3. 5 Complete Adult Sample Survey
3. 6 Complete Processing of High School Senior Data and Returns
3. 7 Complete Processing of Adult Survey Returns
3. 8 Complete Processing of Employer Survey Returns
3. 9 Complete Processing of Institution Survey Return
3.10 Complete Computer Programming - High School Senior Surveys and Records Analysis
3.11 Complete Keypunching - High School Senior and Record Data
3.12 Complete Computer Programming - Adult Survey Analysis
3.13 Complete Keypunching - Adult Survey Analysis
3.14 Complete Code and Keypunch - Employer Survey Data
3.15 Complete Computer Programming - Employer Survey Analysis
3.16 Complete Code and Keypunch - Institution Survey Data.
3.17 Complete Computer Programming of Institution Survey Analysis
3.18 Complete High School Senior Survey and Records Analysis
3.19 Complete Adult Survey Analysis
3.20 Complete Employer Survey Analysis
3.21 Complete Institutionsl Survey Analysis
3.22 Mail High School Senior Follow-up Survey
3.23 Complete Computer Model Validity Runs

4. 0 Council Review Preliminary Phase II Analysis
4. 1 Complete Processing of High School Senior Follow-up Returns
4. 2 Complete Computer Model Analysis Runs
4. 3 Complete Unmet Needs Classifications and Analysis
4. 4 Complete Keypunching of High School Senior Follow-up Data

5. 0 Council Establish Priorities and Propose Courses of Action (All Day)

BUCKS COUNTY POST HIGH SCHOOL EDUCATION STUDY

KEY INDEX TO THE EVENT NETWORK

1. 0 Council Approve Study
1. 1 County Board and DPI Approve Study
1. 2 Complete Definitions and Classifications for Questionnaires and Records
1. 3 Complete Preparations and Procedures - High School Senior Follow-up Survey
1. 4 Complete Questionnaire - High School Senior Survey
1. 5 Complete Questionnaire - Adult Survey
1. 6 Complete Questionnaire - Employer Survey
1. 7 Complete Questionnaire - Institution Survey
1. 8 Complete Preparations and Procedures - High School Senior Survey
1. 9 Complete Preparations and Procedures - High School Senior Records
1.10 Complete Preparation and Procedures - Adult Classes Survey
1.11 Complete Preparations and Procedures - Adult Sample Survey

2. 0 Council Review Survey Preparation
2. 1 Complete Pre-Test High School Senior Survey
2. 2 Complete Printing Questionnaires and Instructions - High School Senior Survey
2. 3 Complete Computer Model Development
2. 4 Complete Preparations and Procedures - Employer Survey
2. 5 Complete Preparations and Procedures - Institution Survey
2. 6 Draw Adult Samples
2. 7 Complete Population Projections, Procedures, and Format
2. 8 Complete High School Senior Survey
2. 9 Complete Arrangements for Enumerators
2.10 Complete Mailing - Employer Survey
2.11 Complete Mailing - Institution Survey
2.12 Complete Pilot Test of Adult Sample Survey
2.13 Complete Printing - High School Senior Records Form
2.14 Complete Training of Enumerators
2.15 Complete Population Projections
2.16 Complete Validity Check of High School Records Senior Survey
2.17 Complete Computer Model Programming
2.18 Complete Questionnaire - High School Senior Follow-up Survey
2.19 Complete Printing Questionnaires and Manuals - Adult Survey

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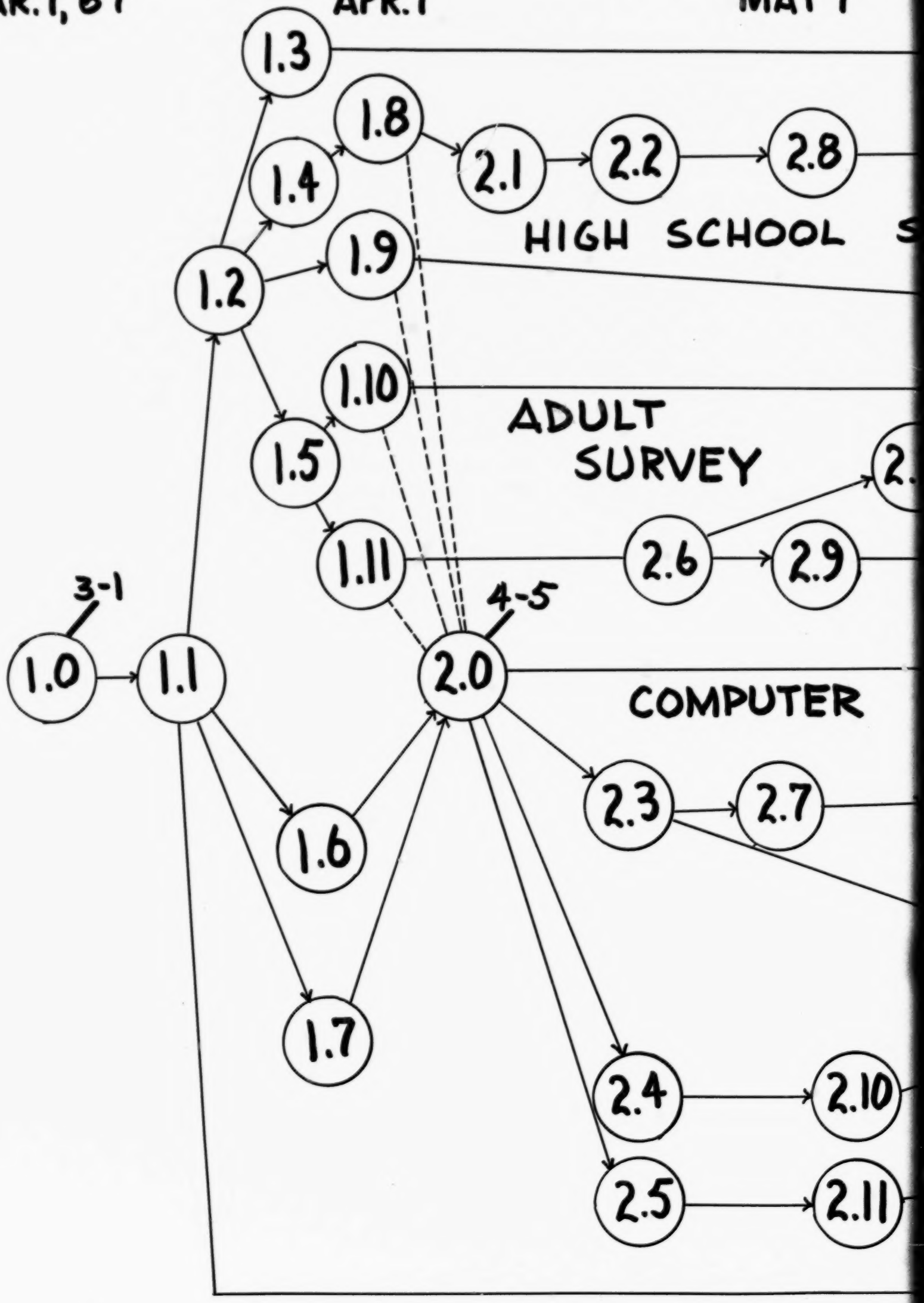

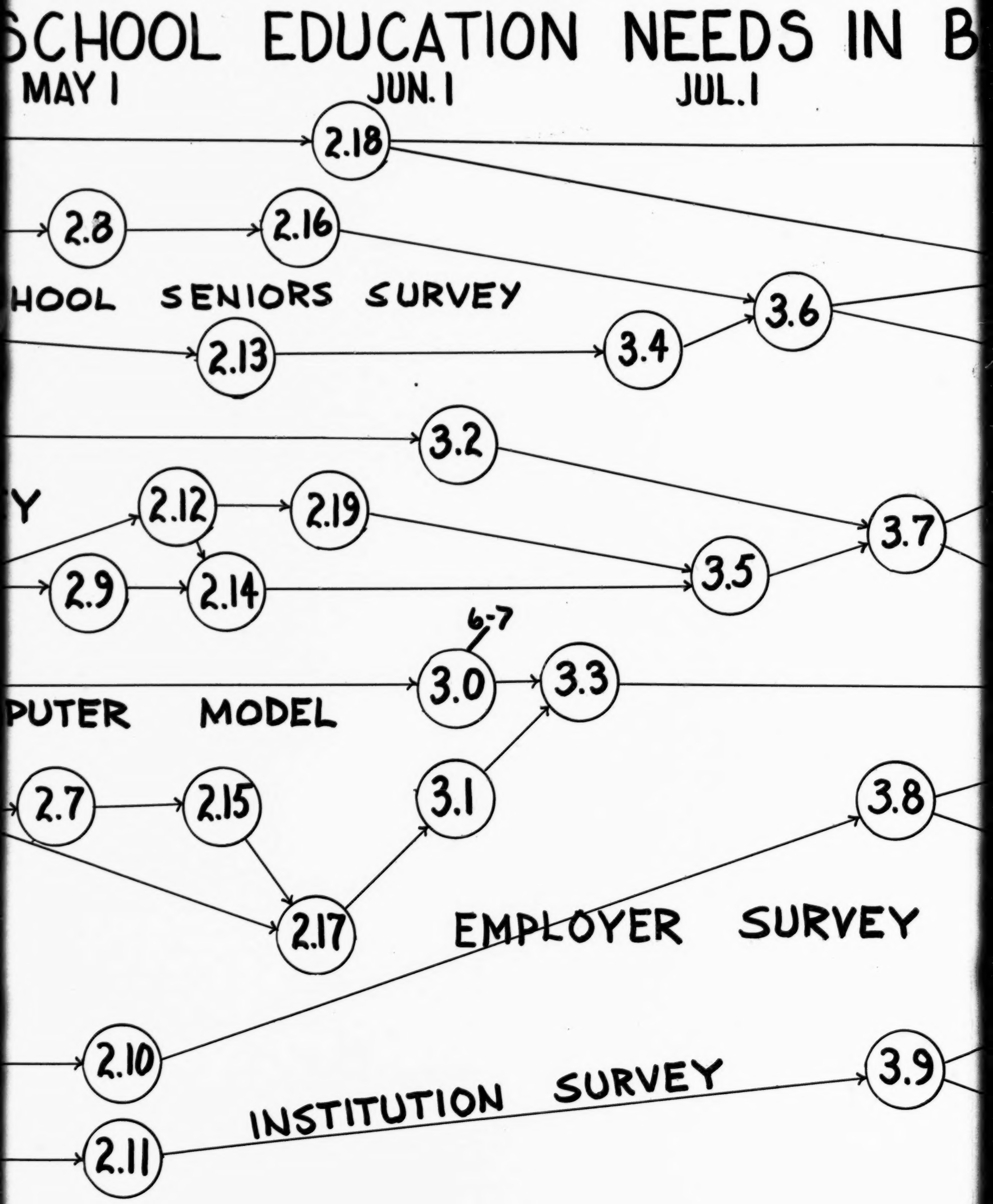
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INSTITUTION SURVEY
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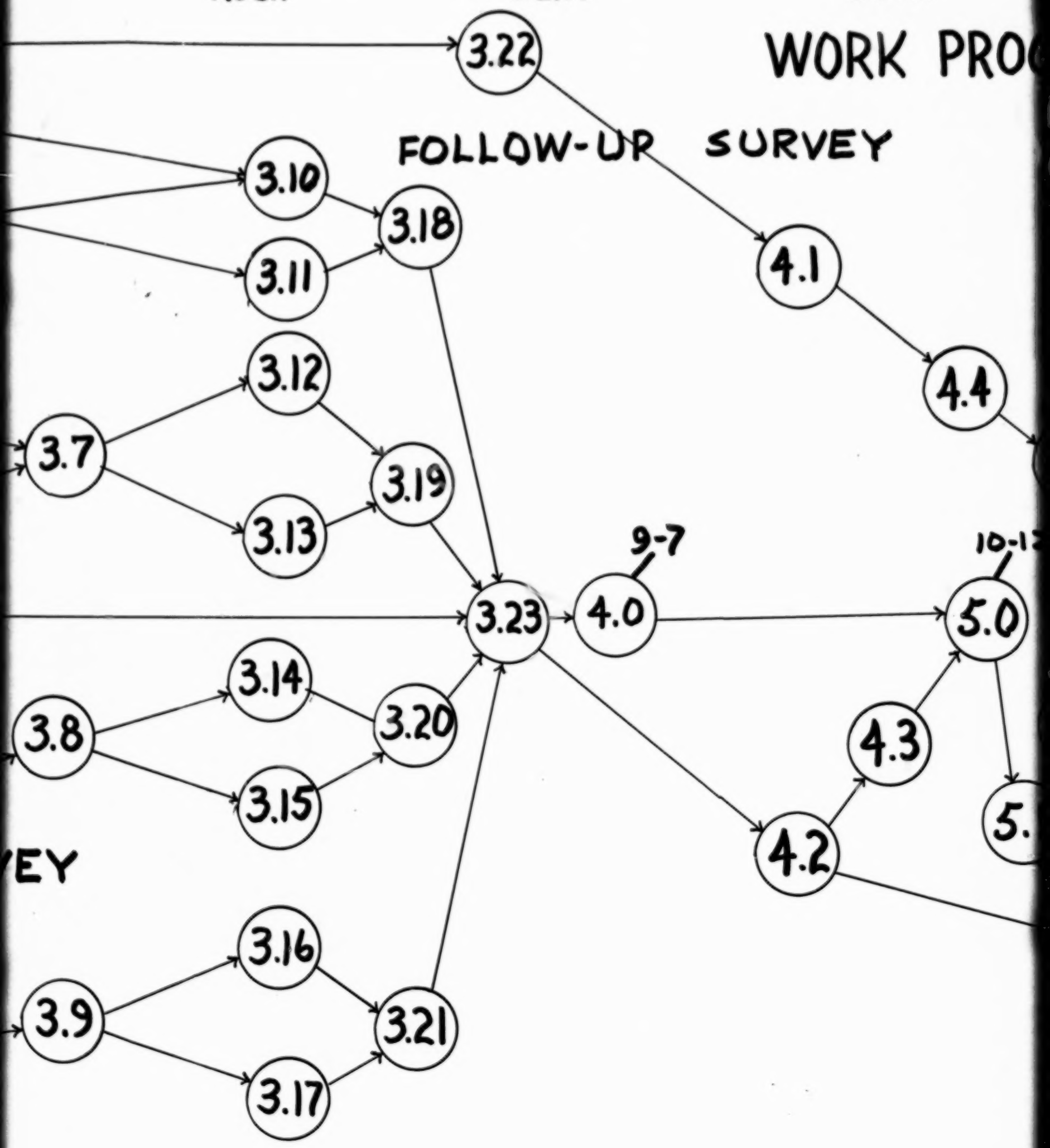

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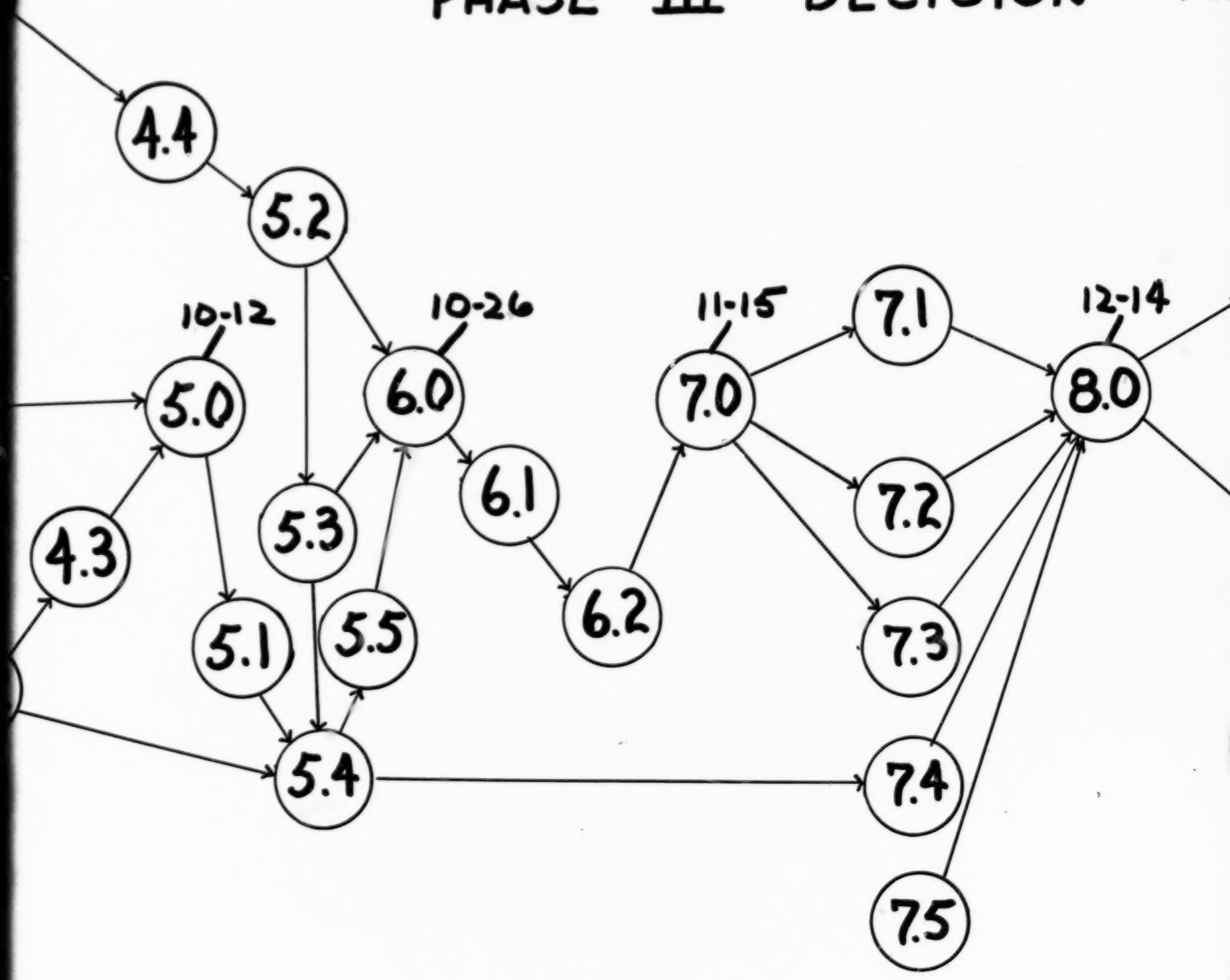

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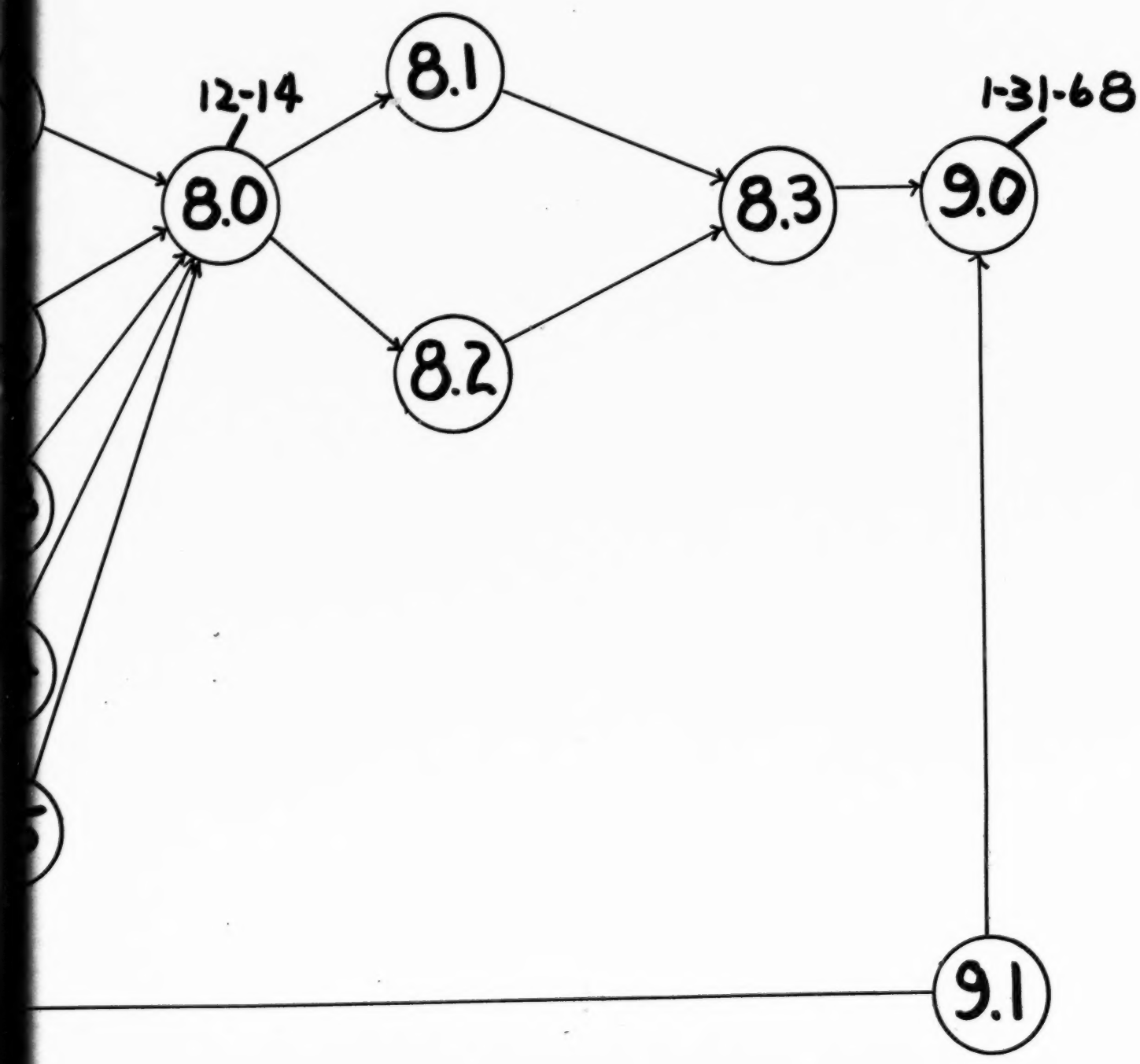

Evaluation

The design for the evaluation is divided into two parts. The first part is concerned with an internal evaluation of the efficacy of each of the three phases of the total study. Each phase will be subjected to an intensive evaluation by specialists representing the following fields: governmental management and finance, community college education, vocational-technical education, demography, community analysis and planning, statistics and operations research.

The second part of the evaluation is concerned with an assessment of the substance of the final report by the above mentioned specialists. This report will be primarily concerned with a number of feasible alternatives for meeting the post high school education needs of the citizens of Bucks County from 1968 through 1980. The specialists will address themselves to the efficacy of these alternatives for action in terms of their consistency with the data and projections as revealed in the preliminary report.

The action taken by the following agencies in implementing one or more of these alternatives will also be evaluated: Bucks County Board of School Directors, three vocational-technical boards of school directors, 13 individual school system boards of directors, Bucks County Commissioners, Bucks County Community College Board and other appropriate agencies. It is in the nature of the action taken by these agencies that the full impact and value of the study can be judged.[1]

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[1]The major share of the funding of the alternatives will be borne by these agencies and the state and federal government.

CHAPTER III

DETAILED WORK PROGRAM

2.1 Computer Model

Objectives

The major purposes are:

1. To provide a tool for comparing alternative Council actions in terms of quantitative estimates of educational needs of Bucks County residents.

2. To provide a means of up-dating, checking and correcting the study in the future.

A computer program will be written in FORTRAN language which basically will compare Bucks County residents' desires for further education or training with the capacity to supply the amounts and types of education or training desired, within Bucks County and a commuting area around it. The program will provide projections of such comparisons through 1980 and will be designed to easily allow changes in

- variables deemed controllable to some extent by decisions of the Bucks County Council;

- parameters which are not controllable, cannot presently be estimated accurately, and yet have an important effect on the comparisons being made; and

- basic descriptive data about Bucks County residents, educational institutions in the area, and projections of these figures.

The first purpose will be fulfilled by allowing changes in the "controllable variables," and through assumptions which will permit quantitative estimates of educational needs. The second purpose will be fulfilled by allowing for changes in parameters and data; the estimates of educational need can be recalculated easily once the basic data

is collected in future years.

Available Resources

The Fels Institute staff, and the University of Pennsylvania Computing Center will be used for programming services and computer time. Use of the FORTRAN language will make the program useable on other computers (though not on any computer within any Bucks County governmental unit, due to the large scale computer configuration required).

Major Components

2.1.1 Design and develop model: Basic assumptions, all formulas needed, and all methods of allocation will be developed; a technical paper will be written to describe the methods used.

2.1.2 Programming: The model will be flowcharted and programmed for the University of Pennsylvania computer, using the FORTRAN computer language. All input-output programs will be prepared.

2.1.3 Debug: The program will be checked extensively for errors.

2.1.4 Testing: A working version of the model, using artificial data, will be developed and tested to insure that the program works correctly.

2.1.5 Validity runs: Several experimental runs using actual data will be needed to gain estimates on proper range of values for the most important "internal" parameters.

2.1.6 Analysis Runs: After parameters have been set, other runs will be needed for the final Phase II analysis, to investigate effects of errors in population projections and institutional capacity projections.

2.1.7 "Corrective Action" Runs: After priority classes have been established, a series of runs will be needed to investigate effects of changing controllable variables, as specified by Fels Staff and by Bucks County Council members.

Time Required

About 18 professional man-weeks of Fels Institute staff time will be needed for all programming. Model testing will be completed by June 15.

Responsibility

Fels Institute staff will assume all responsibility for this study activity.

Estimated Cost

About $10,800 in Fels staff time, plus about $4,100 in computer time and related data processing. Total = $14,900.00

2.2 Data Projections

Objectives

Estimates of Bucks County population growth (by school district, if possible), through 1980 will be needed to:

- indicate changes in education needs by 1980 due to changes in numbers of people in Bucks County
- provide basic data for the computer model

Projections of other education trends regarding use and types of post high school educational programs will also be needed to:

- indicate changes in needs due to gradual changing of emphasis on different types of programs and motivations of potential students
- provide data for calculating parameters needed in the computer model.

Available Resources

Estimates of Bucks County population through 1980 are available from Delaware Valley Regional Planning Commission, Temple University and Bucks County Planning Commission. Fels Institute staff will prepare more detailed estimates using data from these sources. Educational trends will be taken from data in available publications.

Major Components

2.2.2.1 Bucks County population projections, by school district.

2.2.2.2 Pertinent educational trends - locate and adapt to survey data.

Time Required

About two man-weeks of Fels Institute staff time will be needed to construct population projections and compute parameters from trend data. Data should be ready by the end of April.

Responsibility

Fels Institute will assume complete responsibility.

Estimated Cost

About $1,000 in professional staff time.

2.3 Survey of Educational Institutions

Objectives

An accurate picture of available educational and training resources in the Bucks County area is needed. This survey will cover such resources

as completely as possible and will ask for data on admission requirements, costs, capacity, plans for expansion and programs offered.

Available Resources

The Pennsylvania Department of Public Instruction and the Bucks County Board of School Directors have lists of institutions. Fels Institute staff will conduct entire survey; contract keypunching will be needed.

Major Components

2.3.2 Develop mailing lists and questionnaires

2.3.3 Mail out and receive back

2.3.4 Check answers, call non-responders.

The first effort will be a mailed questionnaire. If tardy or questionable, follow-ups will be made by telephone.

2.3.5 Code and keypunch

2.3.6,7 Summarize and analyze; write up results.

Time Required

About five man-weeks of Fels Institute staff time. Data should be ready for keypunching in June.

Responsibility

Fels Institute will assume complete responsibility.

Estimated Cost

About $2,600 in Fels Institute staff time, $200 for computer time and $200 for contract keypunching. Total = $3,000.

2.4 Survey of Large Employers in Area

Objectives

This survey will be designed to learn:

- extent and nature of in-plant training programs
- numbers and types of jobs available, with educational requirements
- nature of tuition payment programs for employees who enroll in adult education courses

Data will be used to develop parameters for allocation of adults to educational programs.

Available Resources

Fels Institute staff; Dun and Bradstreet listing of area employers.

Major Components

2.4.1,2 Preparation - questionnaire, mailing lists

2.4.3,4 Mail and receive replies; check by telephone

2.4.5,6 Analyze data and write report

Time Required

About three man-weeks of Fels Institute staff time.

Responsibility

Fels Institute will assume complete responsibility.

Estimated Cost

About $1,700 in Fels Institute staff time, $100 for contract key-punching and $100 in computer time. Total = $1,900.

2.5 Survey of High School Seniors

Objectives

A survey of all high school seniors in Bucks County schools is needed to obtain accurate data on socio-economic characteristics, aspirations and plans of seniors for further education.

Available Resources

Fels Institute staff, Bucks County School Board personnel and local school officials and guidance counselors will be made available. A consultant will be used to insure validity of the questionnaire; keypunching will be contracted out.

Major Components

2.5.1 Procedures: All pertinent characteristics with related categories will be identified.

2.5.2 Preparation: A manual of instructions for people administering questionnaires and a booklet for seniors to keep, which explains the study, will be prepared. The questionnaire will be designed and arrangements made with each school to have all seniors answer the questions under supervised conditions.

2.5.3 Conduct Survey: All seniors will fill in answers during arranged-for time, with opportunity to get clear understanding of each question.

2.5.4.1 Code and Keypunch: The completed questionnaires will be checked quickly for invalid ones. Data will be keypunched by contract.

2.5.4.2 Select Sample for Follow-up Survey: The valid questionnaires will be sampled and guidance counselors will contact each "sample senior" individually to check answers, inform him of plans for follow-up and request cooperation.

2.5.5.6 Data Analysis: Data on punched cards will be analyzed using available statistical analysis computer programs; data for computer model will be calculated.

2.5.7 Write-up of Results: A technical report will be written giving an interpretative analysis of the survey results (including data from school records and follow-up surveys).

Time Required

About four man-weeks of Fels Institute staff time, 38 man-weeks of Bucks County professional time and 24 man-weeks of Bucks County clerical staff time.

Responsibility

Bucks County will design questionnaire, arrange for and conduct the survey, code and check completed questionnaires and arrange for keypunching. Fels Institute will be responsible for overall procedures and data analysis and will write a technical report on results.

Estimated Cost

About $2,400 for Fels Institute staff, $1,000 for keypunching, $600 for computer time, $12,380 for Bucks County staff time, $500 for printing booklets and manuals and $300 for a consultant. Total = $17,180.

2.6 School Records Data

Objectives

Data on achievement scores, I. Q. scores and class standing are needed to complete the set of characteristics of high school seniors.

Available Resources

Confidential cumulative folders are kept for each school child, recording data on progress through school. Guidance counselors have access to these folders and can copy off certain items onto data forms. Bucks County clerical help; contract keypunching.

Major Components

2.6.1 Procedures

2.6.2 Preparation

2.6.3.4 Collect data and spot check; guidance counselors will probably copy and code the data

2.6.5 Code and keypunch

2.6.6 Combine with survey data

Time Required

About four man-weeks of Bucks County professional time and 24 man-weeks of Bucks County clerical time.

Responsibility

Bucks County will create data form, arrange for copying data from folders, code the data and arrange for keypunching. Fels Institute will set overall procedures and oversee the combining of school records data with survey data.

Estimated Cost

About $200 for keypunching, $200 for computer time, $4,240 Bucks County staff time, $100 for printing forms and instructions and $1,500 to compensate the guidance counselors. Total = $6,240.

2.7 Follow-up Survey of High School Seniors

Objectives

A follow-up survey is needed to determine how closely the high school seniors adhere to the plans and aspirations expressed in their responses to the survey questionnaire.

Available Resources

A 20% sample of seniors will be chosen before graduation and guidance counselors will obtain names and addresses. Bucks County staff; Fels Institute staff; contract keypunching.

Major Components

2.7.1 Procedures

2.7.2 Preparation

2.7.3.4 Mail, receive, and check; non-respondents will be followed-up by telephone

2.7.5 Code and keypunch

2.7.6.7 Data analysis

Time Required

About two man-weeks of Fels Institute staff time, 10 man-weeks of Bucks County professional staff time and 20 man-weeks of Bucks County clerical time.

Responsibility

Bucks County will up-date addresses of sample, construct questionnaire, mail out material, check non-respondents, code completed ques-

tionnaires and arrange for keypunching. Fels Institute will set procedures and analyze the data. Keypunching will be contracted out.

Estimated Cost

About $1,200 for Fels Institute staff, $200 for keypunching, $200 for computer time, $5,480 for Bucks County staff, $150 mailing costs, $100 printing costs and $100 for telephone costs. Total = $7,430.

2.8 Survey of Bucks County Adults

Objectives

The major purpose of the adult survey is to obtain good estimates of the characteristics of the Bucks County adult population and interest in more education or training. In addition, data is needed on adults already enrolled in adult education, to find out factors influencing their decision to enroll.

Available Resources

Local school boards used enumerators to collect school census data; these enumerators will be contacted and hired to conduct the adult sample.

Punch cards resulting from the previous school census will be used to select a 5% sample of dwelling units.

Bucks County staff (including EDP personnel familiar with school census cards) will be made available; Fels Institute staff; contract keypunching.

Major Components

2.8.1 Procedures

2.8.2.1 Draw Sample - a 5% sample of dwelling units, with addresses, will be selected from the 400,000 card file of Bucks County school census and land parcel data. Records of new building permits will also be sampled to obtain data from people in new dwelling units.

2.8.2.2 Enumerators - people previously used for school census enumeration will be hired to conduct the survey; Bucks County personnel will supervise the field work.

2.8.2.3,4,5 Questionnaire, booklet, manual

2.8.2.6 Pilot survey

2.8.3.1 Conduct survey by enumerators

2.8.3.2 Survey of adult educatinn classes within Bucks County - each class instructor will be asked to make a short period of class time available to fill out questionnaires.

2.8.4 Spot check on enumerators - telephone calls will be made to check a few households visited by each enumerator.

2.8.5 Code and Keypunch

2.8.6 Data analysis

2.8.7 Write-up results

Time Required

About four man-weeks of Fels Institute staff time, 33 man-weeks of Bucks County professional staff time and 38 man-weeks of Bucks County clerical staff time.

Responsibility

Bucks County staff will draw sample, construct questionnaire, hire enumerators, arrange for pilot survey and spot checks, arrange for adult education class participation, arrange for coding questionnaires and arrange for keypunching. Fels Institute will set overall procedures

and data requirements, analyze the data and write a technical report on the results.

Estimated Cost

About $2,400 Fels Institute staff, $1,900 for keypunching, $400 computer cost, $14,760 Bucks County staff, $1,000 printing costs for booklets and manuals, $750 Bucks County EDP costs for drawing sample, $3,800 for hired enumerators and $100 telephone costs. Total = $25,110.

2.9 Administration

Objectives

Considerable effort will be required to:

- attend meetings, control finances, plan work schedules, etc. (maintain control of study and the separate surveys)
- write technical reports for inclusion in the final report
- disseminate information about the study to the widest possible audience

Available Resources

Fels Institute staff; Bucks County professional staff.

Major Components

2.9.2 Administration - control

2.9.3 Technical reports

2.9.4 Public information

Time Required

About six man-weeks of Fels Institute staff time, 30 man-weeks of Bucks County professional staff time and 30 man-weeks of Bucks

County clerical staff time.

Responsibility

Bucks County will assume responsibility for public information administrative effort relative to surveys; paying students and other hired help and production of reports. Fels Institute will retain primary responsibility for study as a whole, overall coordination of data collection and analysis and use of consultants.

Estimated Costs

About $3,600 Fels Institute staff time, $12,600 Bucks County staff time, $2,700 for advisors, $1,500 for Fels staff travel, $1,500 for Bucks County staff travel and $1,200 for office services and supplies. Total = $23,100.

2.10 Phase II Analysis

Objectives

After the data collection and analysis for individual surveys has been completed, an overall analysis must be prepared to estimate the kinds and amounts of unmet needs and to suggest priority classes. This analysis will form the basis for the Advisory Council's deliberations on priority needs, corrective actions that can be taken and policy plans the Council could adopt.

Available Resources

Results from all surveys must be available. The computer model will also be available. Fels Institute staff, University of Pennsylvania

computer Center, Bucks County professional staff, Study advisors.

Major Components

2.10.1 Preliminary Analysis - a brief summary (using incomplete data if necessary), without the data from the high school seniors follow-up survey, will be presented to the Bucks County Council as soon as possible in the fall of 1967.

2.10.2 Final Phase II Analysis - after all data is in and processed, a final analysis will be made to incorporate the follow-up survey of seniors and any other changes.

2.10.3 Final Phase II Report - a report will be written, giving an objective interpretative analysis of the data collection, analysis and estimates of unmet needs.

Time Required

About four man-weeks of Fels Institute staff time, eight man-weeks of Bucks County professional staff time and eight man-weeks of Bucks County clerical staff time.

Responsibility

Fels Institute will retain complete responsibility for the analysis, though the final analysis and report will be a cooperative effort with the Bucks County professional staff and study advisors.

Estimated Costs

About $2,400 for Fels Institute staff, $3,360 for Bucks County staff. Total = $5,760.

3.0 Phase III - Council Decisions

Objectives

The purpose of Phase III is to use the Phase II analysis, which will give estimates of the present and projected situation with regard to post high school education in the Bucks County area,as a basis for:

- determining high priority needs
- developing alternative actions to alleviate or meet the indicated needs
- developing alternative policies to implement the actions deemed "best" by the Council
- Choosing the policy plan which
  - concentrates on the most important needs
  - fits the financial resources available
  - pinpoints areas for further study.

The Phase II analysis will form the "base case" for establishing priorities; the computer model will provide an indispensable tool for investigating alternatives.

Available Resources

The Bucks County Council members; Bucks County staff; Fels Institute staff; Phase II analysis; computer model.

Major Components

3.1 Establishing priorities - using a list of priority classes derived from the unmet needs estimated in Phase II analysis, the Bucks County Council and the study staff will gather for a day of concentrated work to:

- review the Phase II anaylsis and implications
- suggest additional priority classes

- establish priorities

- prepare corrective actions for highest priority needs.

3.2 Evaluate Corrective Actions - another day of concentrated effort by the Council and study staff will be scheduled to:

- review and discuss computer evaluation of corrective actions

- prepare other corrective actions and use computer model immediately to obtain past evaluation of proposals

- choose best combinations of corrective actions

3.3 Develop Policy Plans - the study staff will investigate implications of possible Council actions and related financing methods prior to a Council meeting to choose the best policy plan.

3.4 Issue Final Report and Summary - the final report will outline the final policy plan and all recommendations and should be ready for presentation to the Bucks County Board at the February 1968 Board meeting. Several thousand copies will be printed for local and national distribution.

Time Required

About five man-weeks of Fels Institute staff time, ten man-weeks of Bucks County professional staff time and ten man-weeks of Bucks County clerical staff time.

Responsibility

Fels Institute and Bucks County professional staff will work together closely during the decisioning phase to provide all needed support for the Council's activity. Fels Institute will be primarily responsible for analytical support. Bucks County professional staff will assume responsibility for production of the final report.

Estimated Costs

About $3,000 for Fels Institute staff time and $4,920 for Bucks County staff time. Total = $7,920.

CHAPTER IV

BUDGET AND TIME ESTIMATES

Because the Government Consulting Service is a non-profit element of the Fels Institute, it charges only for actual costs incurred in its contribution to the conduct of the study. Hence the reimbursement request($45,900) is not stated as a fixed fee but only as an estimate of cost based on the scope and complexity of the work to be done. The total estimated cost of Phases II and III of the study including local expenditures is expected to be approximately $113,540.

The facilities of the Bucks County Planning Commission and Electronic Data Processing Departments will be made available for the study and represent a substantial financial commitment on the part of the county commissioners to the study. A similar contribution of personnel time will be made by the Bucks County Board of School Directors, Bucks County Community College, public school systems, private and parochial secondary schools, vocational-technical schools, institutions of post high school training within the Greater Philadelphia Metropolitan Area and industrial and commercial firms located within the county. The Bucks County Board of School Directors will also contribute funds for special advisors, staff travel, office services and supplies and the reproduction of the final report. The total cost of these contributions will amount to approximately $62,040.

The first table in this section is a summary of estimated Phase II and III costs by major cost elements, with separate totals for fiscal

years 1967 and 1968. The second table shows a different cost summary by major work program items.

BUDGET - PHASES II AND III

Cost Estimate by Major Cost Elements (Dollars)

	March-June, 1967			July '67-Feb. '68			Total, March '67-Feb.'68		
	Fels	Local	Total	Fels	Local	Total	Fels	Local	Total
Staff Salaries	15,800	33,500	49,300	15,300	24,240	39,540	31,100	57,740	88,840
Advisors	900	300*	1,200	1,800	-	1,800	2,700	300*	3,000
Staff Travel	900	800	1,700	600	700	1,300	1,500	1,500	3,000
Office Ser. & Supplies	700	1,800	2,500	500	250	750	1,200	2,050	3,250
Computer Processing	2,100	750	2,850	3,700	-	3,700	5,800	750	6,550
Contract Keypunch	3,200	-	3,200	400	-	400	3,600	-	3,600
Data Collectors	-	5,300*	5,300	-	-	-	-	5,300*	5,300
DOLLARS TOTAL	23,600*	42,450	66,050	22,300*	25,190	47,490	45,900*	67,640	113,540
Cash Required:		29,200			22,300			51,500	

Effort Estimate (Man-Weeks)

Man/Woman Weeks	Fels	Local	Total	Fels	Local	Total	Fels	Local	Total
Professional Staff	27.5	66	93.5	25.5	52	77.5	53	118	171
Supervisory Staff	-	16	16	-	3	3	-	19	19
Clerical Staff	-	93	93	-	61	61	-	154	154
TOTALS	27.5	175	202.5	25.5	116	141.5	53	291	344

*Cash Items

COST SUMMARY BY PROGRAM (DOLLARS)

	FELS					BUCKS					HIRE			
	Staff	Travel	Sup-plies	Com-puter	Key-punch	Prof. Staff	Cler. Staff	Travel	Sup-plies	EDP	School Staff	Enum.	Consul-tants	TOTAL
2. 1 Computer Model	10,800			4,100										14,900
2. 2 Data Projections	1,000													1,000
2. 3 Survey of Instutions	2,600			200	200									3,000
2. 4 Survey of Employers	1,700			100	100									1,900
2. 5 Survey of Seniors	2,400			600	1,000	9,500	2,800		500				300	17,100
2. 6 School Record Data				200	200	1,200	3,040		100		1,500			6,240
2. 7 Follow-up Survey	1,200			200	200	3,000	2,480		350					7,430
2. 8 Survey of Adults	2,400			400	1,900	10,200	4,560		1,100	750		3,800		25,110
2. 9 Administration	3,600	1,500	1,200			9,000	3,600	1,500					2,700	23,100
2.10 Phase II Analysis	2,400					2,400	960							5,760
3. 1 Council Decisions	3,000					3,000	1,920							7,920
TOTALS	31,100	1,500	1,200	5,800	3,600	38,300	19,440	1,500	2,050	750	1,500	3,800	3,000	113,540

CHAPTER V

REPORTING AND DISSEMINATION OF RESULTS

This chapter contains a minimum information and dissemination program. The program will be expanded at the end of Phase II, during Phase III and at the termination of Phase III as additional information requirements become known to the study team and the council.

The purposes for reporting and disseminating information during Phase II and III are to inform the educational and lay community in Bucks County and the nation of the study, its objectives and findings and to encourage other educational agencies to replicate the study.

3/1 - 3/31/67	A progress report will be made to the Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction on the activities of Phase I and the projected activities of Phases II and III.
	Superintendents of schools, high school principals and high school guidance counselors of private, parochial and public schools and school systems will be contacted during the month to apprise them of the study and the high school senior survey to be conducted during the month of April.
	Census enumerators and directors of adult education classes in the county will be contacted during the month and apprised of the adult surveys to be conducted during the months of April through June.
	A news release will be prepared early in March for distribution through the "Bucks County School Directors Newsletter", local and regional newspapers.
	Copies of the "Phase I Progress Report", will be distributed to several selected agencies and organizations in the Commonwealth of Pennsylvania and in other states.

3/ 7/67	Luncheon and news conference for industrial and business firms who contributed to the study. The luncheon and news conference will be held at Conti's Cross Keys Restaurant, Doylestown.
3/21/67	A progress report on Phase I and projected activities for Phases II and III will be made at the regular March meeting of the County Board of School Directors.
3/31/67	Regular monthly progress report and request for operating funds will be prepared and presented to Dr. Struck, Head, Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction.
4/1 - 4/30/67	A special "coffee clatch" will be arranged for interested council members to discuss in detail the methodology employed in this study. A letter will be sent to service organizations throughout the county indicating that Dr. Brewin will be available to speak at their meetings on the Bucks County Post High School Study. A special information campaign involving letters and news releases will be prepared to announce the high school senior survey and the adult surveys.
4/ 5/67	Survey materials will be reviewed at the April council meeting for possible changes.
4/30/67	Regular monthly progress report and request for operating funds will be prepared and presented to Dr. Struck, Head, Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction.
5/ 1 - 5/31/67	Dr. Brewin will address interested service clubs concerning the Bucks County Post High School Study during this month. News release will be prepared for use in the "Bucks County School Director Newsletter" and local and regional newspapers concerning the progress to-date of the study.
5/31/67	Regular monthly progress report and request for operating funds will be prepared and presented to Dr. Struck, Head, Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction.

6/1 - 6/30/67	Dr. Brewin will continue to address any service club within the county that wishes information concerning the study. News releases will be prepared for the "Bucks County School Director" and local and regional newspapers, on the progress of the study.
6/ 7/67	A progress report of the activities to-date in Phase II of the study will be presented to the Council.
6/30/67	Regular monthly progress report and request for operating funds will be prepared and presented to Dr. Struck, Head, Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction.
7/31/67	Regular monthly progress report and request for operating funds will be prepared and presented to Dr. Struck, Head, Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction.
8/31/67	Regular monthly progress report and request for operating funds will be prepared and presented to Dr. Struck, Head, Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction.
9/ 1 - 9/30/67	Dr. Brewin will continue to speak before service groups within the county upon request. Publicity releases will be prepared for the "Bucks County School Director Newsletter" and local and regional newspapers.
9/ 7/67	The preliminary report outlining the analysis of data gathered during Phase II will be presetned to the council. This report will be disseminated to the Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction and other agencies and organizations in the Commonwealth of Pennsylvania and other states.
9/20/67	A progress report on Phase II activities will be presented to the county board at its regular monthly meeting.

9/30/67 Regular monthly progress report and request for operating funds will be prepared and presented to Dr. Struck, Head, Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction.

10/ 1 - 10/31/67 Dr. Brewin will continue speaking to service groups upon request.

Publicity releases will be prepared for the "Bucks County School Directors Newsletter" and local and regional newspapers.

10/12/67 An all day meeting of the council will be devoted to establishing priorities and possible courses of action.

10/26/67 Another all day meeting of the council will be devoted to evaluating alternative courses of action and the development of policy plans.

10/31/67 Regular monthly progress report and request for operating funds will be prepared and presented to Dr. Struck, Head, Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction.

11/ 1- 11/30/67 Dr. Brewin will continue speaking to service groups upon request.

Publicity releases will be prepared for the "Bucks County School Directors Newsletter" and local and regional newspapers.

11/15/67 The council will select a final policy plan and recommendations.

11/31/67 Regular monthly progress report and request for operating funds will be prepared and presented to Dr. Struck, Head, Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction.

12/ 1 - 12/31/67 Dr. Brewin will continue speaking to service groups upon request.

Publicity releases will be prepared for the "Bucks County School Directors Newsletter" and local and regional newspapers.

12/14/67 The council will review the final policy plans, recommendations and draft reports.

12/31/67 Regular monthly progress report and request for operating funds will be prepared and presented to Dr. Struck, Head, Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction.

1/31/68 Regular monthly progress report and request for operating funds will be prepared and presented to Dr. Struck, Head, Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction.

The final report of the Bucks County Council on Post High School Education will be completed and presented to the council at its final meeting. This report will be presented to the Bucks County Board of School Directors at its regular monthly meeting in February. The report, in sufficient quantity, will be submitted to the Bureau of Vocational, Technical and Continuing Education, Department of Public Instruction. Copies of the report will also be distributed to selected agencies and organizations throughout the Commonwealth of Pennsylvania and other states.

A special Summary of the report will also be prepared and used for wide distribution throughout the United States.

A special information and dissemination program will be developed and incorporated in the final report. The purpose of this program will be to stimulate interest in acting upon the recommendations of the study and in replicating the study.

APPENDIX A

Revised Research Questions

I. What are the needs (by school district) for post high school education of high school seniors?

A. What do they want to do?

1. What type of post high school institution do they want to attend? Part-time? Full-time? Day? Evening?

2. What type of educational program do they wish to pursue? Initially? Ultimately?

3. What are the occupational career interests of high school seniors and adults for the immediate future?

B. What do they plan or expect to do?

1. What post high school institution do they plan to attend? Part-time? Full-time? Day? Evening?

2. What type of educational program do they plan to pursue now?

3. For those whose immediate plan is work only, what reasons do they give for not continuing their education?

4. What type of program have they applied for, if any?

C. What can they afford to do?

1. To what extent have they made financial plans, including work arrangements, to support their interests in post high school education?

2. What is the maximum contribution their families feel they can make annually toward support of their interests in post high school education?

3. To what extent have high school seniors applied for college scholarships and what is their value as a proportion of total cost?

D. What post high school educational opportunities are they qualified for?

1. What are the abilities of high school seniors?

2. What are the adults and high school seniors eligible for?

E. What differences exist, if any, between what they desire, plan, can afford, and are qualified to do?

1. How do aspirations compare with expected achievement?

2. How do qualifications compare with achievement aspirations?

3. How do financial plans compare with achievement aspirations?

II. What are the needs for post high school education of adult high school graduates and adults who are not high school graduates?

A. What do they want to do?

1. What type of post high school institution do they want to attend? Part-time? Full-time? Day? Evening?

2. What type of educational program do they wish to pursue? Initially? Ultimately?

3. What are the occupational career interests of adults for the immediate future?

B. What do they plan or expect to do?

1. What post high school institution do they plan to attend? Part-time? Full-time? Day? Evening?

2. What type of educational program do they plan to pursue now?

3. For those whose immediate plan is work only, what reasons do they give for not continuing their education?

4. What type of program have they applied for, if any?

5. What type of program are they now enrolled in, if any?

C. What can they afford to do?

1. To what extent have adults made plans to support their interests in post high school education?

2. What is the maximum annual contribution adults feel they can make toward their interests in post high school education?

D. What are the occupational positions and interests of adults?

1. What types of jobs do adults hold?

2. To what extent do adults desire to change their occupations?

3. To what extent are adults planning to change their occupation now?

4. To what extent do adults desire further education to advance in their current occupation?

E. To what extent would adults attend further education or training if it were paid for? Not paid for?

F. To what extent do adults feel their desires to change occupations cause a need for further education?

G. What hours would adults be available for attending further education?

III. By type of institution, what programs exist within Bucks County, within commuting distance of Bucks County, and outside Bucks County to meet the post high school educational needs of Bucks County residents?

A. What is the capacity of degree granting institutions? Day school? Evening school?

B. What is the capacity of non-degree granting institutions? Day school? Evening school?

C. What are the admission requirements of degree granting institutions available to Bucks County residents? Day school? Evening school?

D. What are the admission requirements of non-degree granting institutions available to Bucks County residents? Day school? Evening school?

E. What are the tuition, living, commuting and other costs to attend degree granting institutions?

F. What are the tuition, living, commuting and other costs to attend non-degree granting institutions?

G. To what extent are they now serving Bucks County residents? Day school? Evening school?

H. To what extent are students who are now attending post high school institutions receiving financial assistance and what is the average amount?

I. What are the enrollment, admission requirements, and cost of enrollment in other post high school educational programs in Bucks County?

1. Manpower Development and Training Act programs

2. Adult and continuing education programs

3. Apprenticeship training programs

J. What trends are significant in the total enrollment of universities and colleges nationally?

K. What trends are significant in costs of attending universities and colleges nationally?

IV. What are the educational requirements to enlarge employment opportunities for residents of Bucks County?

A. What are the educational requirements for employment by major occupation and major industry in Bucks County?

B. What are the employment skills, including professional skills, which industry states are needed in Bucks County now? What changes do they expect in the future?

1. By major industry, how many jobs are currently unfilled?

2. By major occupation, how many jobs are currently unfilled?

C. What is the current employment in Bucks County?

1. By major occupation?

2. By major industry?

D. What are the characteristics of training programs provided by industries in Bucks County?

E. To what extent are tuition assistance programs available through industry in Bucks County?

F. What are the opportunities for employment in the metropolitan areas within commuting distance of Bucks County by major industry and major occupation?

G. How great is swing shift employment in Bucks County industry?

H. What does labor in Bucks County see as the future for employment opportunities in Bucks County?

1. What do labor organizations want for their members now in terms of improved education and training?

2. What changes do they expect in the future?

I. Does the Bucks County employment pattern differ significantly from the nation as a whole?

J. Does the Bucks County employment pattern differ significantly from the three surrounding SMSA's?

K. What implications do employment market analysis suggest for post high school educational programs in Bucks County; particularly for those not attending college?

L. What are the educational requirements for employment by major occupation nationally?

V. What are the major obstacles to meeting post high school educational needs of residents of Bucks County?

A. To what extent are the unmet needs due to the lack of institutional or program availability within Bucks County? Within commuting distance of Bucks County?

B. To what extent are unmet needs due to inability of residents to afford educational costs?

C. To what extent are unmet needs due to inability of residents to meet admission requirements?

VI. What are the preferred courses of action available to the County to satisfy estimated unmet post high school education needs?

A. For each major type of institution and program (including 13th and 14th year vocational-technical, community college, extension centers, and adult programs in existing high schools), what changes would be needed and could be made in?

1. Programs offered?

2. Admission requirements?

3. Tuition?

4. Location?

5. Capacity?

B. What priority rankings should be assigned to unmet needs and to courses of action available to the County?

C. For a given level of expenditure of County tax funds, what combination of available courses of action satisfies the greatest proportion of high priority, unmet needs for post high school education?

APPENDIX B

Data Collection Methods

METHOD: STUDENT SURVEY

PURPOSE: TO PROVIDE BASIC DATA ON THE ASPIRATIONS, PLANS AND FINANCIAL ABILITY OF HIGH SCHOOL SENIORS FOR POST HIGH SCHOOL EDUCATION

ADMINISTERED BY: BUCKS COUNTY GUIDANCE COUNSELORS

TO WHOM: ALL HIGH SCHOOL SENIORS (PUBLIC, PRIVATE, PAROCHIAL)

WHEN: APRIL, 1967

INFORMATION TO BE OBTAINED:

1. Name
2. Age
3. Sex
4. School District
5. Address
6. Type of post high school institution high school seniors want to attend. (Day, evening, full-time, part-time)
7. Type of post high school institution high school seniors plan or expect to attend. (Day, evening, full-time, part-time)
8. Type of educational program desired.
9. Occupational career interests.
10. Type of educational program individual plans or expects to pursue now.
11. Types of post high school education program applied for, if any.
12. If acceptance received, type of education program and location.
13. Financial plans, including work arrangements, to meet costs of planned post high school education.
14. Financial support available from parents.

15. College scholarships sought and obtained and their value as a proportion of total cost.

16. For those whose immediate plan is work only, the reason they give for not continuing their education.

17. Type of high school program completed.

18. Immediate plans of those not continuing education.

METHOD: FOLLOW-UP STUDENT SURVEY

PURPOSE: TO PROVIDE BASIC DATA ON THE ACTUAL POST HIGH SCHOOL ACTIVITY OF HIGH SCHOOL SENIORS

ADMINISTERED BY: MAIL QUESTIONNAIRE (BUCKS COUNTY)

TO WHOM: SAMPLE OF HIGH SCHOOL SENIORS OF 1966-67

WHEN: FALL OF 1968

INFORMATION TO BE OBTAINED:

1. Type and location of post high school institution actually attended.
2. Type of educational program actually pursued.
3. Occupations for those who did not continue their education beyond high school.
4. Reasons for not continuing education.
5. Means of financing post high school education activity.
6. The factor students feel played the largest role in their choice of post high school education activity.
7. Future educational plans.

INSTRUMENT: INTELLIGENCE QUOTIENT TEST, ACHIEVEMENT TESTS AND CLASS RANKING

PURPOSE: TO PROVIDE BASIC DATA ON THE ABILITY OF HIGH SCHOOL SENIORS FOR POST HIGH SCHOOL EDUCATION

COMPLETED BY: GUIDANCE COUNSELORS, FROM STUDENT RECORDS

FOR: ALL HIGH SCHOOL SENIORS

WHEN: JUNE, 1967 OR JULY, 1967

INFORMATION TO BE OBTAINED:

1. What are the I.Q.'s of high school seniors?
2. What are the achievement abilities of high school seniors?
3. What are the class rankings of high school seniors (Deciles)?

METHOD: ADULT SURVEY

PURPOSE: TO PROVIDE BASIC DATA ON THE ASPIRATIONS, PLANS AND FINANCIAL ABILITY OF ADULTS FOR POST HIGH SCHOOL EDUCATION

ADMINISTERED BY: SCHOOL DISTRICT CENSUS ENUMERATORS AND COOPERATING PERSONNEL OF EDUCATION INSTITUTIONS IN BUCKS COUNTY

TO WHOM: FIVE PERCENT SELECTED SAMPLE OF THE ADULT POPULATION AND ALL ADULTS ENROLLED IN EDUCATION PROGRAMS IN BUCKS COUNTY INSTITUTIONS

WHEN: SPRING OF 1967

INFORMATION TO BE OBTAINED:

1. Name (or code number)
2. Age
3. Sex
4. School district
5. Marital Status
6. Level of education completed
7. Type of further education desired
8. Time available for education (day, evening, etc.)
9. Educational plans, if any
10. Current education program enrollment, if any
11. Occupation (present)
12. Location of current employment
13. Occupational career desired
14. Maximum annual funds available for education
15. Availability of financial assistance from employer or veterans benefits
16. Reasons for not continuing education
17. Reasons for continuing education

METHOD: SURVEY OF POST HIGH SCHOOL INSTITUTIONS

PURPOSE: TO PROVIDE BASIC DATA ON THE TYPES OF INSTITUTIONS, PROGRAMS THEY OFFER, ENROLLMENT, ADMISSION REQUIREMENTS AND COSTS FOR ATTENDING INSTITUTIONS WITHIN BUCKS COUNTY AND WITHIN COMMUTING DISTANCE OF BUCKS COUNTY

ADMINISTERED BY: GOVERNMENT CONSULTING SERVICE BY MAIL QUESTIONNAIRE AND FOLLOW-UP INTERVIEWS WHERE NECESSARY

TO WHOM: ALL POST HIGH SCHOOL INSTITUTIONS IN BUCKS COUNTY AND WITHIN COMMUTING DISTANCE OF BUCKS COUNTY

WHEN: SPRING AND SUMMER OF 1967

INFORMATION TO BE OBTAINED:

1. Enrollment of universities and colleges, by program, within commuting distance of Bucks County, (Day, evening, part-time, full-time)

2. Enrollment and capacity of universities and colleges, by program, within Bucks County. (Day, evening, part-time, full-time)

3. Enrollment of two year colleges, by program, within commuting distance of Bucks County. (Day, evening, part-time, full-time)

4. Enrollment and capacity of two year colleges, by program, within Bucks County. (Day, evening, part-time, full-time)

5. Enrollment of vocational-technical schools beyond high school, by program, within commuting distance of Bucks County. (Day, evening, part-time, full-time)

6. Enrollment and capacity of vocational-technical schools beyond high school within Bucks County.(Day, evening, part-time, full-time)

7. Enrollment in Proprietary Business, Trade and Correspondence Schools within commuting distance of Bucks County.

8. Enrollment in Proprietary Business, Trade and Correspondence Schools within Bucks County.

9. Admission requirements of universities and colleges,within commuting distance of Bucks County.

10. Admission requirements of universities and colleges within Bucks County.

11. Admission requirements of two year colleges within commuting distance of Bucks County.

12. Admission requirements of two year colleges within Bucks County.

13. Admission requirements of vocational-technical schools beyond high school within commuting distance of Bucks County.

14. Admission requirements of vocational-technical schools beyond high school within Bucks County.

15. Admission requirements of Proprietary Business, Trade and Correspondence Schools within Bucks County.

16. Tuition, residence fee and commuting costs of colleges and universitites within commuting distance of Bucks County.

17. Tuition, residence fee and commuting costs of colleges and universitites within Bucks County.

18. Tuition fee and commuting costs of two year colleges within commuting distance of Bucks County.

19. Tuition fee and commuting costs of two year colleges within Bucks County.

20. Tuition fee and commuting costs of vocational-technical schools beyond high school within commuting distance of Bucks County.

21. Tuition fee and commuting costs of vocational-technical schools beyond high school within Bucks County.

22. Tuition fee and commuting costs of Proprietary Business, Trade and Correspondence Schools within commuting distance of Bucks County.

23. Tuition fee and commuting costs of Proprietary Business, Trade and Correspondence Schools within Bucks County.

24. Percentage of students that have applied for and received financial assistance and the average amount, at universities and colleges within commuting distance of Bucks County.

25. Percentage of students that have applied for and received financial assistance and the average amount, at universities and colleges within Bucks County.

26. Percentage of students that have applied for and received financial assistance and the average amount, at two year colleges within commuting distance of Bucks County.

27. Percentage of students that have applied for and received financial assistance and the average amount, at two year colleges within Bucks County.

METHOD: LITERATURE SURVEY AND INTERVIEWS WITH AGENCY REPRESENTATIVES

PURPOSE: TO PROVIDE BASIC DATA ON OTHER EDUCATIONAL PROGRAMS NOT DIRECTLY RELATED TO A PARTICULAR EDUCATIONAL INSTITUTION AND STATISTICAL INFORMATION ON SELECTED NATIONAL EDUCATIONAL TRENDS

ADMINISTERED BY: GOVERNMENT CONSULTING SERVICE

WHEN: SPRING AND SUMMER OF 1967

INFORMATION TO BE OBTAINED:

1. Enrollment of universities and colleges nationally. (Day, evening, part-time, full-time)
2. Tuition and residence costs of universities and colleges nationally.
3. Enrollment, by program, of Bucks County residents in Manpower Development Training Program.
4. Enrollment, by program, of Bucks County residents in Adult and Continuing Education Programs in Bucks County.
5. Enrollment of Bucks County residents in Apprenticeship Training Programs in Bucks County.
6. Admission requirements of Manpower Development Training Act programs.
7. Admission requirements of Adult and Continuing Education Programs.
8. Admission requirements of Apprenticeship Training Programs.
9. Cost of enrollment in Manpower Development Training Act Programs.
10. Cost of enrollment in Adult and Continuing Education programs.
11. Cost of enrollment in Apprenticeship Training programs.

METHOD: LABOR AND INDUSTRY SURVEY

PURPOSE: TO PROVIDE BASIC DATA ON THE EMPLOYMENT DEMAND AND REQUIREMENTS IN BUCKS COUNTY

ADMINISTERED BY: GOVERNMENT CONSULTING SERVICE THROUGH MAIL QUESTIONNAIRE AND FOLLOW-UP INTERVIEWS WHERE NECESSARY

TO WHOM: ALL EMPLOYERS IN BUCKS COUNTY WITH OVER 200 EMPLOYEES

WHEN: SPRING OF 1967

INFORMATION TO BE OBTAINED:

1. Educational requirements by major industry and occupation in Bucks County.
2. Employment skills industry states are needed now in Bucks County.
3. By major industry, the number of unfilled jobs in Bucks County.
4. By major occupation, the number of unfilled jobs in Bucks County.
5. The characteristics of education and training programs provided by Bucks County industry.
6. Availability of tuition assistance programs through industry in Bucks County.
7. Labor organization desires for improved education and training of their membership.
8. Number of employees on swing shift.

METHOD: SURVEY OF STATISTICAL LITERATURE ON EMPLOYMENT AND INDUSTRY

PURPOSE: TO PROVIDE BASIC DATA ON EMPLOYMENT CONDITIONS NATIONALLY AND WITHIN THE THREE METROPOLITAN AREAS SURROUNDING BUCKS COUNTY

ADMINISTERED BY: GOVERNMENT CONSULTING SERVICE

WHEN: SPRING OF 1967

INFORMATION TO BE OBTAINED:

1. Educational attainment of work force by major occupation nationally.

2. Current employment by major occupation and industry nationally.

3. Current employment by major occupation and industry in the three metropolitan areas surrounding Bucks County.

4. Employment forecasts, by occupation and industry, nationally.

METHOD: COMPARATIVE STATISTICAL ANALYSIS AND PROFESSIONAL INTERPRETATION

PURPOSE: TO PROVIDE COMPARATIVE ANALYSIS OF SELECTED SURVEY QUESTIONS AND ESTABLISH RELATIONSHIPS BETWEEN TRENDS NATIONALLY, IN THE THREE SMSA'S AND BUCKS COUNTY

PERFORMED BY: GOVERNMENT CONSULTING SERVICE

WHEN: SPRING AND FALL OF 1967

QUESTIONS TO BE ANSWERED:

1. For each school district how do the financial plans of high school seniors for post high school education compare with their aspirations for the same?

2. For each school district how do the financial plans of high school seniors for post high school education compare with their plans and expectations for the same?

3. For each school district how do the aspirations of high school seniors compare with expected achievement?

4. For each school district how do the abilities of high school seniors compare with their aspirations for post high school education?

5. For each school district how do the eligibilities of high school seniors compare with their aspirations for post high school education?

6. For each school district how do the abilities of high school seniors compare with their plans for post high school education?

7. For each school district how do the eligibilities of high school seniors compare with their plans for post high school education?

8. For each school district how do the aspirations of adults with a high school education compare with their plans for post high school education?

9. For each school district how do the aspirations of adults without a high school education compare with their plans for post high school education?

10. For each school district how do the financial plans of adults with a high school education compare with their aspirations for post high school education?

11. For each school district how do the financial plans of adults without a high school education compare with their aspirations for post high school education?

12. For each school district how do the financial plans of adults with a high school education compare with their plans for post high school education?

13. For each school district how do the financial plans of adults without a high school education compare with their plans for post high school education?

14. What explanations are there for the differences, if any, between what high school seniors want and plan to do?

15. What explanations are there for the differences, if any, between what high school seniors want and can afford to do?

16. What explanations are there for the differences, if any, between what high school seniors want and are eligible to do?

17. What explanations are there for the differences, if any, between what high school seniors want and have the ability to do?

18. What explanations are there for the differences, if any, between what high school seniors plan and can afford to do?

19. What explanations are there for the differences, if any, between what high school seniors plan and are eligible to do?

20. What explanations are there for the differences, if any, between what high school seniors plan and have the ability to do?

21. What explanations are there for the differences, if any, between what adults with a high school education want and what they plan to do?

22. What explanations are there for the differences, if any, between what adults without a high school education want and what they plan to do?

23. What explanations are there for the differences, if any, between what adults with a high school education want and can afford to do?

24. What explanations are there for the differences, if any, between what adults without a high school education want and can afford to do?

25. What explanations are there for the differences, if any, between what adults with a high school education plan and can afford to do?

26. What explanations are there for the differences, if any, between what adults without a high school education plan and can afford to do?

27. How did the aspirations and plans of high school seniors compare with what they actually did the fall of 1967?

28. What explanations are there for the differences, if any, between their plans and aspirations and what they actually did?

29. For high school seniors, what is the probability of successful completion of the post high school education programs wanted?

30. For high school seniors, what is the probability of successful completion of the post high school education planned for?

31. For high school seniors, what is the probability of successful completion of the post high school educational program actually entered?

32. Is Bucks County employment situation typical or atypical of the employment situation in the three surrounding SMSA's?

33. Is the Bucks County employment situation typical or atypical of the employment situation in the nation as a whole?

34. What significant differences are there between the educational needs in Bucks County and available national data on educational needs? Are the differences significant to this study?

35. What relationship should be established between I.Q., achievement test scores and class ranking in terms of need to attend different types of post high school institutions?

36. What implications do employment market analysis suggest for post high school education programs in Bucks County; particularly for those not attending college?

LIST OF THE STUDIES AND REPORTS USED AS RESOURCES
FOR THE BUCKS COUNTY POST HIGH SCHOOL STUDY

1. "Employment and Earning Statistics for States and Areas 1939-1965," by the U. S. Department of Labor, June 1966.

   This report provides employment data by industry for Philadelphia-Camden SMSA and the Allentown-Bethlehem-Easton SMSA. In both cases the data generally go back as far as 1952. The industrial classification breakdown includes non-manufacturing industries such as wholesale trade, finance, and government.

2. "Financial Statistics of Institutions of Higher Education 1959-1960," by the U. S. Department of Health, Education, and Welfare, 1964.

   Study is a comprehensive analysis of expenditures and revenues of institutions of higher education in 1960. Its importance for the study is limited primary to its analysis of student loan funds provided by the institutions of higher education in the United States.

3. "Survey of State Legislation Relating to Higher Education," by the U. S. Department of Health, Education, and Welfare, December 1963.

   This study reports information on state legislation passed during 1963 relating to higher education. The study serves as a reference device for its report on the Pennsylvania Community College Act and the Student Loan Fund Legislation.

4. "Project Talent: Studies of the American High School," by the University of Pittsburg, 1962.

   Chapter 10 and 11 of this second report of project talent may be of use to the test scores as a check against those which will be made for the high school seniors of Bucks County.

5. "Project Talent: The American High School Student"

   This study is extremely comprehensive in its coverage of the attitudes, aptitudes, and interests of high school seniors and other high school students. It becomes of use to this study in its several important classification systems dealing with educational interests, occupational interests and institutional classifications. This study also presents a wealth of information on the background plans and aspirations of American youth , college attendance by academic aptitude level, factors associated with failure to enter college, major field to study, and factors affecting American youth as they seek employment.

6. "Higher Education and the Future of Youth in the Greater St. Louis Educational Area," by the Committee on Higher Educational Needs of Metropolitan St. Louis, 1960.

This study is a comprehensive look at the higher educational needs of metropolitan St. Louis. It shows significance for the Bucks County Post High School Study in its findings on the mental abilities of high school seniors, their post high school plans and aspirations, and actual achievements in post high school education. The shortcoming of this study is found in its failure to bring together the many statistics which have been collected and analyzed into one overall analysis of their impact on the design and scope of the higher education program. The study itself is broken down into four parts dealing with (a) demographic projections; (b) an examination of collegiate capacity, (c) the post high school plans and aspirations and mental abilities of high school seniors and (d) a study of the needs of business and industry in greater St. Louis.

7. "A Long-Range Plan for the City University of New York 1961-1975"

This study is a comprehensive long-range plan for an institution, the City University of New York. The study is addressed to the questions of how many people do we expect to educate in our colleges, in what ways are we going to educate them and what facilities and how much money will be needed to do it. Perhaps of most importance to the Bucks County study Chapter 5 dealing with the problem of numbers is the forecast of total undergraduate enrollment and the procedures for estimating high school graduates. This discussion is quite extensive and bears a direct significance for the problems in forecasint student enrollment in the Bucks County study.

8. "The Regents Tentative State-Wide Plan for the Expansion and Development of Higher Education," by the Regents of the State University of New York, 1965.

The Regent's plan represents an integration of all the planning efforts of all the institutions of higher education in New York State, modified based on the views of the Regents of the State University of New York briefly describes the complex of higher education in the State of New York, the needs for higher education from the point of view of the individual in the state. and factors affecting the cost and trends in expenditures and incomes for higher education. This study is important for the Bucks Higher Education investigation in several respects. First, Part II goes some distance in attempting to define the potential and probable college attendance and enrollment by class of institution. It also attempts to define needs of the economy and society in terms of proper utilization of institutions of higher education and the four years of human resources. Part IV is significant for its analysis of per student costs for operating institutions of higher education and projection of the operating costs in capital outlays for the master plan for higher education.

9. "Higher Education in New York State," by the New York Citizens Committee for Public Higher Education, 1965.

This study was a response to a felt need for the people's views to be heard on educational matters in the State of New York. The study in Part III presents a program to strengthen the New York State University system of higher education.

10. "Toward Educational Opportunity for All," by Dorothy M. Knoell, 1966.

This study is the outgrowth of the State University of New York concern or its responsibility to serve youth to whom no appropriate opportunity for education beyond the high school now is offered. The study involves research into the realities of the feelings of the young people now without opportunity, the attitudes of board members and staff in the two year colleges, the experience of young people who try college and fail to complete programs, and the statistics of the manpower expert. An assumption of this study is that all high school graduates have some potential for further education although they may differ in their motivations. Furthermore the finding that few who seek admission to college are not now being accommodated somewhere should be no cause for complacency. The study is important for Bucks County research also from the standpoint of the discussion of the manpower situation. In this realm the study makes a very important contribution pointing out the speculation which we must make about the entirely new type of jobs which may be required in the federal great society program and elsewhere in the economy if we are clearly to understand the impact of manpower on the educational system.

11. "The Legislature and Higher Education in New York State," by the Legislature's Consultant on Higher Education, 1964.

This report is the result of the state legislature's request to have consultants to examine the activities of the State University of New York, study its master plan and make recommendations for improving the University and higher education generally in New York. In large part, the second chapter is a discussion of administrative problems of the State University of New York and the consultant's recommendations thereof. Chapter 3 is an excellent discussion of the state and the private colleges and universities, the responsibilities of each, and steps the state could take which would be helpful to all private colleges and universities. Chapter 5 carries forward this theme in discussing inter-institutional cooperation.

15. "Needs and Facilities in Higher Education in New York State," by the State Education Department of New York, 1957.

This study is a report of needs and facilities for higher education in New York State and forms a part of a series of studies authorized by the Board of Regents in 1956. Primary emphasis of the study is on the needs for higher education in terms of ability

and other social and economic characteristics of the high school graduates in New York State. Part III of the report is a discussion of the relationship between the need for post high school education and facilities available. The study concluded that approximately 16% of the high school graduates should seek technical education if adequate facilities were available. The measure for need for four year degree programs was based on the full-time undergraduate enrollment in all four year colleges which was extended in proportion to the state-wide percentage increase in high school graduates.

13. "The Regents Proposal for the Expansion and Improvement of Education in New York State," by the State Education Department of New York, 1960.

This study is significant for the Bucks County research project in its discussion of financial assistance to undergraduate students and the regent's proposal to improve the availability of funds so that high school graduates can continue higher education. The regents recommended amendments in New York law that would permit out of state study for those receiving scholarships under New York law. They also recommended that interest on loans supported under the New York Higher Education Assistance Corporation be limited to a 3% charge to the student and the remaining interest cost be carried by the state.

14. "Master Plan for the City University of New York," by the Board of Higher Education of the City of New York, 1964.

The master plan study for the City University of New York was prepared for the Board of Regents of the State as required under New York law. Most parts of this study are applicable only to the City University of New York under its own system of organization and operation, however, for the Bucks County project Chapter 7 detailed analysis of estimates of potential student enrollment in the City University of New York higher education system provide a very detailed look at the problem of enrollment projection for post high school education in all types of institutions in the City University of New York system. This study also recommends that the City University of New York place the community colleges on a tuition free basis in order the channeling of students to a senior or community college on the basis of ability and academic need.

15. "Report of Progress on a Master Plan for Higher Education in Pennsylvania,"by the State Board of Education, 1966.

The main thrust of this report on the master plan for higher education in Pennsylvania is its attempt to define the respective roles of the different educational institutions in the state and to develop a state system of higher education and allocate responsibilities to the various units within this system. The heart of this recommendation is that the community college seg-

ment of the commonwealth system replace through gradual attrition the branch campus system of the state university. This report is important also for its elaboration of the criteria under which an institution of higher education may or should become a part of the commonwealth system of higher education.

16. "Pennsylvania's State Plan for Vocational Education," by the Department of Public Instruction, 1960.

This report is a detailed statement of the administration and supervision of the state plan for vocational education involving such matters as the adoption, approval, and enforcement of a vocational educational plan, fiscal procedures and practices, and a local administration of programs for vocational education.

17. "Statiscal Report of the Superintendent of Public Instruction," by the Department of Public Instruction, 1965.

This is a detailed statistical report of educational statistics for the State of Pennsylvania including elementary and secondary education and higher education. Several charts and tables are of importance to the Bucks County project, including the holding power of secondary schools, grade enrollment in public secondary schools, grade enrollment in public secondary schools, secondary-public and non-public graduates of 1964 and the number going to college, distribution of twelfth grade public school graduates by activity as of October following graduation, the distribution of pupils in vocational education, and finally enrollments of full-time students in institutions of higher education fall 1963.

18. "New Jersey's Undergraduates 1954-1973," by the New Jersey State Department of Education, 1956.

This study was restricted to an examination of the demand and facilities for full-time undergraduate education in the next two decades. Although a study made early in 1950's, the report is significant to Bucks County in its analysis of the number of New Jersey people who will be interested in and able to attend full-time undergraduate work and the parallels they draw between this interest and the social forces at work in New Jersey such as parental education, economic forces, and the demands of a technical society. The final section makes a detailed analysis of the cost of providing this higher education based on 1950 figures although the cost indexes have changed, the methodology is significant for the Bucks Higher Education study.

19. "College Opportunity in New Jersey," by the State Board of Education, 1957.

A comprehensive look at the role of public institutions of higher education in New Jersey including junior colleges, teacher's colleges, and the state universities. The most important section, however, deals with the common problem to all studies projecting

the needs for post high school education. The New Jersey report uses the cohort population prediction, the census method, the persistence method and also examines where the past graduates have tended to go in post high school education. This definition of need is then placed against a nationwide trend for post high school education.

20. "Digest of Educational Statistics," by the U. S. Department of Health, Education, and Welfare, 1965.

The primary function of this report is to provide an abstract of statistical information covering the entire field of american education from kindergarten through graduate school. The publication continas information on the number of schools and colleges, enrollments, graduates educational attainments, finances and federal programs. Section 2 dealing with higher education is of most importance to a national picture of post high school education in the United States.

21. "Projections of Selective Educational Statistics for Pennsylvania 1975-76," by the Department of Public Instruction, 1966.

This report is a valuable statistical guide to statistics on enrollment and graduates of Pennsylvania's elementary and secondary schools and institutions of higher education.

22. "Vocational and Technical Education: A Review of Activities and Federally Aided Programs," by the Department of Health, Education, and Welfare, 1963.

This report is a review of state federal cooperative programs of vocational education in the United States. It is significant for the Bucks County research project in its analysis and description of the natioanl vocational survey carried out in 1962 and its description of the activities of the basic vocational-technical programs across the United States and the emerging trends and prospects that the data portrays. It is highly significant also for its classification of basic vocational-technical education programs.

32. "Vocational Education in the Pittsburgh Public Schools," by Donald Dauwalder, 1963.

This is a study of industries and schools in the city of Pittsburgh relating to the education and training requirements for successful job placement in the various skilled levels and types of employment available in the area. The major limitation of this study is that it would concentrate on the pre-employment training of in-school youth it would not cover the many implications of the retraining of adults except as such retraining directly related to in-school programs or equipment. It is a valuable study, however, for its comprehensive look at the student, the community, industry, and the problems of vocational-technical education and jobs.

24. "Preliminary Proposal for Bucks County Community College." by the Bucks County Board of School Directors, 1964.

The scope of the study related to the student body, program offerings, geogrphic location and patterns of financial support and sponsorship for the development of a community college system in Bucks County. Figures and tables on the population, college trends for career plans, student surveys of seniors, juniors and sophomores and follow-up information is all important to the Bucks post high school study.

25. "A College for Bucks County: A Study to Determine the Need," by Bucks County Office of Education, 1962.

The County Board of School Directors initiated and conducted a county-wide study to determine the need for a community college. A questionnaire was administered to all secondary school students in the Bucks County School System to determine student interest and evaluation by the school counselor.

26. "Pennsylvania's High School Seniors 1958," by the Joint State Government Commission, 1959.

This study was a major effort to examine the mental ability, motivation and resources of some 10,000 high school seniors in the State of Pennsylvania. These findings were to be carried forward and tested for the actual results by follow-up survey of the high school seniors of 1958 four years hence. This report along with its companion report is of extreme importance to the problems of estimating need in the Bucks County research study, particularly in terms of the mental ability, motivation and resource measurements.

27. "Four Years After High School: A Follow-Up Survey of the Pennsylvania High School Seniors of 1958," by the Joint State Government Commission, 1964.

This is the companion report to the 1959 study. The replies of 4,000 of the original 10,000 seniors of 1958 were surveyed to determine their post high school education, their employment, and their future plans and compare these replies with the expectations and mental abilities demonstrated in the 1959 study.

28. "Urban Research and Education in the New York Metropolitan Region," by Harvey Perloff and Henry Cohen, 1965.

Volume I of this report is a summary of the findings on the more effective employment of the intellectual resources of the region and coping with the problems of the New York metropolis. It provides a general educational resource for evaluating the role of education in the community.

29. "Bucks County Population Estimates for the Years 1965, 1980, and 2010," by the Bucks County Planning Commission, 1959.

A comprehensive statistical examination of population characteristics and population per se in Bucks County for the years 1965, 1980 and 2010.

30. "Urban Research and Education in the New York Metropolitan Region, Volume II," by Harvey Perloff and Henry Cohen, 1965.

This is the companion report to Volume I of the same title.

31. "A Survey of Data Sources in Delaware, New Jersey, and Pennsylvania," by Research For Better Schools, Inc., June 1966.

This survey served an important role in locating and acquiring data of all sorts for the Bucks County post high school education study.

32. "Directory of Manufacturing Plants in Bucks County Pennsylvania," by Bucks County Industrial Development Corporation, 1966.

A comprehensive listing of all manufacturing industries using the standard industrial classification and their employment for the year 1966-67.

33. "An Economic Atlas of Pennsylvania," by the Pennsylvania State Planning Board, 1964.

A comprehensive statistical analysis of certain basic patterns in employment, income, population, housing, manufacturing, and other social-economic characteristics. The figures most generally used for the Bucks County study would be those relating to manufacturing and employment.

34. "Comprehensive Plan: Bucks County Pennsylvania," by the Bucks County Planning Commission, 1961.

As most comprehensives do, this one of Bucks County provides a good resource background into the population changes, housing and industrial development, road programs, and the projection for things to come through the year 1980.

35. "Handbook of Educational Statistics for Pennsylvania Schools," by the Department of Public Instruction, 1947.

This serves as a companion report to the more recent handbook of educational statistics published by the Department of Public Instruction. This early report provides the capability of examining statistical representations over extended periods of time.

36. "How Do We Stand: Pennsylvania's Ability and Effort to Support a Better Educational Program," by the Department of Public Instruction, 1954.

This report when contrasted with Bucks County educational system as it is today, depicts a dramatic change in education. Bucks County in 1950 had only 74% of 16 and 17 year old persons in school and ranked 53rd of the counties in the state.

37. "1965 County Industry Report," by the Department of Internal Affairs, 1966.

A comprehensive group of statistics concerning employment by manufacturing industry in Bucks County for the year 1965 by a political subdivision in the county.

38. "Health, Education and Welfare Trends Part I," by the Department of Health, Education, and Welfare, 1965.

Part I of this two-part report is a comprehensive, statistical depiction of national trends in health, education and welfare. We find in the U. S. more than two-thirds of the pupils who entered the fifth grade graduated from high school in 1965 and 56% of the high school graduates will enter college in the nation as a whole. Currently there are almost five million students enrolled in institutions of higher education and approximately 4.6 million enrolled in vocational education courses. Enrollments in junior colleges is expected to climb to 1.4 million in 1974 from the current 711,000. This publication also represents a helpful reference source for the classification of fields of interest in education to high school seniors and adults.

39. "State Data and State Rankings in Health, Education and Welfare, Part II, by the U. S. Department of Health, Education, and Welfare, 1965.

Through this report we get a closer picture of the educational picture in the State of Pennsylvania. Its usefulness is limited however, in that the ranking system tells us less about the actual characteristics of the education system in Pennsylvania than some other means of statistical analysis might provide.

40. "Estimates of the Population of the United States by Age, Color and Sex, July 1, 1966," by the U. S. Department of Commerce, Bureau of the Census, 1966.

This report is a useful guide to the changes in age composition and size of the population in the United States from the 1960 Census to July 1, 1966.

41. "Area Technical School - Vocational-Technical Education Pupil Interest Survey for the School Districts of Palisades, Pennridge, and Quakertown," by the Bucks County Public Schools.

This report is a summary of the findings of the interests of pupils in grades i, 9, 10, and 11 in their respective school districts of their interets in vocational-technical education and the

establishment of an area technical school. The survey questions were also administered to parents of the students and their responses are included.

42. "Central Bucks County Area Technical School, Vocational-Technical Education Pupil Interest Survey for the School District of New Hope-Solebury, Council Rock, Centennial, Central Bucks," by the Bucks County Public Schools.

This report is similar to the one previously mentioned and shows basically the same information on pupil and adult interest in area vocational-technical education.

43. "Statistics for Manufacturing Industries in Pennsylvania 1965," by the Department of Internal Affairs, November 1966.

This is a summarized statistical description of manufacturing establishments, employment, and production values by county, by industry for Pennsylvania during 1965.

44. "Health Manpower", in the Employment Service Review, by the U. S. Department of Labor, November 1966.

All of the articles in this review concerned themselves with the challenge of health manpower in the years to come. As one aspect of the social service employment market these articles provide a telescopic view of one of the more important changes occurring in the demand for employee skills.

45. "Mobility of the Population of the United States, March 1965 to March 1966," in Current Population Reports, by the U. S. Department of Commerce, Bureau of the Census, 1966.

These statistics provide a comprehensive look at the moving American, the rate at which he moves and the distance which he moves and the changing characteristics of mobility.

46. "An Analysis and Summarization of Data as Reported by Pennsylvania's Institutions of Higher Education," by the Department of Public Instruction, 1965.

This is one of a series of reports by the Department of Public Instruction concerning Pennsylvania's institutions of higher education. This particular report deals with student costs, faculty salaries, degree status of faculties, and enrollment trends and Part II deals with financial data. Enrollment data in institutions of higher education is categorized for the fall term of 1963.

47. "Bachelors and Higher Degrees Conferred by Pennsylvania's Institutions of Higher Education between July 1, 1964 and June 30, 1965," by the Department of Public Instruction, 1965.

This statistical summary is significant for its classification of degrees granted by institutions of higher education.

48. "Student Costs, Faculty Salaries, and Degree Status of Faculty," by the Department of Public Instruction, 1966.

The statistical tables are concerned with tuition, fee charges and room and board costs for institutions of higher education for the fall term of 1965-66. They also show comparisons with the year 1964-65 and the changes in their respective costs.

49. "Financial Statistics of Pennsylvania's Institutions of Higher Education, 1964-1965," by the Department of Public Instruction, 1966.

This statistical summary is of limited use for the Bucks County research project with the exception of its analysis of the National Defense Student loans for the State of Pennsylvania in 1964-65.

50. "1965 Summer Session and Fall Enrollment Data Reported by Pennsylvania's Institutions of Higher Education," by the Department of Public Instruction, 1966.

These statistical tables highlight the applications processed for admission to the freshman class, the percentage of applicants accepted by the institution, the enrollments in all categories in higher education and the role of the junior college and community college in handling full-time enrollment in higher education.

51. "Statistics on Pennsylvania's Non-Public Secondary Schools, 1965-66," by the Department of Public Instruction, 1966.

The statistical tables are important to Bucks County's research project only in terms of the grade enrollment by county and the distribution of graduates by post high school activity and county.

52. "Summarization of Data Reported by Pennsylvania's Institutions of Higher Education," by the Department of Public Instruction, 1963.

This is a summary of statistics for institutions of higher education during the school year 1961-62. The same information provided in this report is provided in the more recent report for 1966. With the complete series of reports there is provided an opportunity to see the institutions of higher education through a time series outlook.

53. "Typical Programs of Instruction Offered by Pennsylvania's Community Colleges," by the Department of Public Instruction, 1966.

This is a one page classification of programs in the terminal, or transfer and transfer programs of community colleges in Pennsylvania.

54. "Educational Attainment of Workers, " by the U. S. Department of Labor, 1965.

This report is perhaps one of the only reports available on the education or school years completed of employed persons by occupation, establishing some criteria for a relationship between occupation and educational achievement. Its drawbacks or restrictions are primarily in terms of the participation of only a section of the country and the particular section of the country which did participate in the study.

55. "The Private Business School Act," by the Department of Public Instruction, State Board of Private Business Schools.

This paper is a description of the requirements and definitions and licensing processes for the establishment of private business schools in Pennsylvania.

56. "Rules, Regulations, and Standards of Instruction Governing Private Trade Schools, Classes and Agents," by the State Board of Private Trade School Act.

57. "Guide for Officials of Training Facilities, Manpower Development and Training Act," by the Bureau of Employment Security, December 1965.

This document is an explanation of the responsibilities of officials involved in the manpower development and training act concerning the allowances provided under the act, the responsibility for training facilities, and the completion of different manpower development training act forms by the trainee and the training facility.

58. "The Pennsylvania Approach to Manpower Training," by the Department of Public Instruction, 1964.

This is a very small brochure designed to acquaint people at a quick glance with the highlights of the manpower development and training project and program.

59. "New Directions for Vocational Education," by Gerald B. Leighbody, 1966.

This paper is an examination of curriculum development and vocational education examing the directions, dimension, and speed of significant occupational trends. The basic point in this paper is that it is one of the first and clearest implications of the new technology and shows the need for all workers to have higher levels of basic education. The most valuable vocational training that can be provided is the basic general education program which has not previously been identified as vocational education. In other words, it seems likely that both the needs of society and the occupational adjustments of individuals will

be better served if specific vocational training is provided at the latest possible period in the educational career of the individual. Mr. Leighbody also points out that the drop-out rate for vocational courses is often considerably greater than for general academic programs. The conclusion reached from this experience is not favorable to the idea that the opportunity to leave the academic track and concentrate on vocational courses will so motivate potential dropouts that they will remain in school.

60. "Total Civilian Work Force, Unemployment and Employment by Industry: Annual Average, 1960-1965 Philadelphia Labor Market Area," by the Bureau of Employment Security, 1966.

This document contains an accounting of employment by industry for all manufacturing and non-manufacturing industries as well as farm and non-farm employment for the years 1960 to 1965.

61. "Insured Unemployed in the Philadelphia and Pittsburgh Labor Market Areas, " by the Department of Labor and Industry, 1966.

This study is primarily of interest in terms of its analysis of the educational attainment of insured unemployed in Philadelphia, Pittsburgh and the State of Pennsylvania.

60. "The Insured Unemployed in Pennsylvania and in the Philadelphia and Pittsburgh Labor Market Areas, by Education and Occupation," by the Department of Labor and Industry, 1965.

This report is of interest for its examination of the educational attainment of the insured unemploued in Pennsylvnia, the Pennsylvania portion of the Philadelphia Labor Market Area and the Pittsburgh Labor Market Area.

63. "Manpower Skill Requirements and Training Needs: The Philadelphia Labor Market Area," by the Department of Labor and Industry, 1962.

This report is a study of labor supply and demand in eighty types of occupations projected in 1967 for the Pennsylvania portion of the Philadelphia Labor Market Area. The data in this study are based on information obtained from almost 2,000 employers and over 130 schools in the five county Philadelphia area.

64. "Microanalysis of Socioeconomics Systems: A Simulation Study," by Orcutt, Greenberger, Korbel, and Rivlin, 1961.

This volume explores microanalysis and simulation of the United States socioeconomic system. The approach taken in this volume is that it appears reasonable to expect that our predictions might be more successful if they were based on knowledge about the elemental decision-making units, how they behave and how they responded to the changes in their situations and how they interact, rather than examining socioeconomic aggregates.

With this approach the authors have examined ammy of the basic elemental units one of which includes education. The authors devote considerable discussion to methods of enrollment projection for higher education as a part of the simulation model of the socioeconomic system.

65. "Education Beyond the High School," by the Educational Coordinating Council, 1966.

This study represents the comprehensive treatment of formal and informal educational resources in the State of Oregon and sets forth a philosophy concerning the type of educational system required to serve the diverse potential of the individuals in Oregon. The study parallels in many respects the efforts of the Bucks County study covering community colleges, higher education, continuing education, proprietary schools, Apprenticeship programs and vocational-technical education. It is also significant for its treatment of enrollment data which is broken down by state system institutions, independent colleges and community colleges. Comprehensive reporting is covered on the matters of student financial aid and the plans and actual post high school activity of high school students in Oregon.

66. "A Study of Kingsboro Community College," by Ralph Fields and Walter E. Sindlinger and Associates, 1966.

This is an analysis of the economic, social, occupational, and educational conditions and trends in Brooklyn and implications of these for enrollments programs and services of the community college. The types of data which were searched, collected and interpreted included population facts and trends, industry and business conditions, transportation facilities, occupation trends, existing higher educational facilities and existing projections of high school enrollments.

67. "Citizen Survey of Washtenaw County Community College Possibilities," by the University of Michigan, 1963

This citizen survey was an institutionally oriented study toward the possibilities of a community college and covered such types of data as the study of high school seniors, of recent high school graduates, of the educational needs of industry and business, and the history and social characteristics of Washtenaw County. The report also made a detailed analysis of the financial aspects of establishing a community college.

68. "A Study of Higher Education in the Mohawk Valley Area," by Dr. Michael Brick, 1965.

The area of focus in this study is the Utica-Rome metropolitan area. The study team examined the economic and demographic characteristics of the area, the future college enrollments taking into account available facilities, the amount and nature of educational

needs and the clues to interest, willingness, and desire of the people to support the four post high school education. It is limited, however, in that it made no attempt at occupational survey and no attempt to recommend specific educational programs.

69. "Higher Education in the Future of Youth in the Greater Philadelphia Area," by the Committee on Higher Educational Opportunity in Philadelphia, 1957.

This report is a combination of several reports which were handled on a specialized basis to examine the needs and resources and demands for higher education in the Philadelphia metropolitan area. Basically, the study was broken down into five parts: (1) dealing with demographic projections until 1975, (2) dealing with the examination of college capacity in the greater Philadelphia area, (3) dealing with the post high school plans of students in the greater Philadelphia area, (4) other types of post high school opportunities in the greater Philadelphia area, and (5) the special survey of educational or vocaional plans questionnaire. Very importantly, they found that unless a student ranked in the upper two-fifths of his class, he had very little opportunity for college education in the Philadelphia area.

70. "The Organization of the State Colleges within the Commonwealth of Pennsylvania," by Earl J. McGrath, 1965.

This study focuses on the defects and limitations in the organization and administration of the state colleges which would prevent them from achieving their major purposes. He recommends the establishment of a State Board of Higher Education charged with the responsibility of managing all the publicly financed higher education. He also recommended, the establishment of a secretariat that would be responsible for research and planning, fiscal management, program development and personnel improvement. This arrangement would replace the existing Board of Presidents of the state colleges.

71. "Continuing Professional Educational Needs of Engineers in the Philadelphia Area," by the Pennsylvania State University, 1965.

This is a comprehensive examination of the demands and needs for continuing professional educational engineers in the Philadelphia area and Pennsylvania. The study was concerned with the development of exponentail growth of knowledge in the obsolescence of engineers. It was specifically restricted to determining the continuing professional education needs of engineers who have been out of college five or more years. There was a sample of 2,090 engineers drawn from twenty-three industrial and government groups.

72. "An Investigation of Location Factors Influencing the Economy of the Philadelphia Region," by the Regional Science Research Institute, 1966.

This report is helpful to the Bucks County Post High school Education Research study in its analysis of the presently or potentially important manufacturing industries for Philadelphia and the labor market demand which they will create. They recommend that the technical programs of community colleges should be expanded and strengthened to help alleviate the shortages of technicians, draftsmen and other craftsmen who are so necessary to the small volumes of special production industry which represent potential industrial growth for the Philadelphia area. The study points out that manufacturing location decisions are becoming more dependent on non-economic or amenity factors such as educational institutions.

73. "How Institutions of Higher Education Contribute to the General Economic, Social, and Cultural Betterment of Greater Philadelphia."

The study presents a theory of economic productivity of higher education in an effort to identify the tangible services and contributions to the general economic, social and cultural betterment of greater Philadelphia by the degree granting institutions located in southeastern Pennsylvania. The report states that the rate of return on investments in education whether calculated on full cost or merely on private cost, today exceed the rates of return for most investments in physical capital.

74. "Elements of a Master Plan for Higher Education in Pennsylvania," by the Academy for Educational Development, Inc., 1965.

This report sets forth recommendations on what might be included in the commonwealth's master plan for higher education. It is primarily useful for the broad goals and objectives recommended for governing higher education in Pennsylvania and the role of the various types of institutions in higher education as seen by the consultant. The report also examine continuing education, technical education, cooperative education, and other phases of the entire post high school educational program in the state.

75. "The Administration and Financing of Vocational-Technical Education in Pennsylvania," by Donald D. Dauwalder and Associates, 1965.

This report examines the vocational-technical offerings which are available in each of the 67 counties of the commonwealth. It examines the changes from 1950 through 1963 for each of the major statistical areas for the major employment groupings from which the U. S. Department of Labor maintains monthly reports. The report concludes that all of the factors which are analyzed and discussed in relationship to employment vary so materially between statistical areas and between counties, that local determinations of all factors are required before any county plans the specific types of levels of vocational-technical education which should be offered in the district or county. The report is sig-

nificant also for its analysis and recommendations on the organization of vocational-technical education in the state and the weaknesses which are existing in the organization and planning of high school programs, variable technical school programs, technical institutes and community colleges.

76. "A Master Plan for Higher Education in California, 1960-1975," by the Regents of The University of California and the State Board of Education, 1960.

This report dealt with four basic questions. First what is the size of the student enrollent in higher education to be served by 1975? Second, what should be the appropriate differentiation of functions among the institutions of higher education? Third, what is the estimated cost to the state for providing this public higher education? Fourth, what is California's ability to pay for the future development of public higher education? The particular usefulness to the Bucks County higher education study are the two chapters which deal with student enrollment potentials and the problems of fitting them into the educational system through such policies as restrictive admissions.

77. "Education Beyond High School - The Two-Year Community College," by the Committee to Study Community Colleges and Technical Institutes, 1961.

The New Jersey study of the feasibility of establishing a two-year community college provides an interesting treatment of economic conditions and technical needs in New Jersey and a survey of the attitudes of business and commerce with respect to continuing education. The study also contains a wealth of information on the survey of post high school seniors and juniors throughout the State of New Jersey.

78. "Community Colleges in Pennsylvania," by Ralph R. Fields and Associates, 1965.

The study employs several different treatments of demographic data felt essential to the study of community college possibilities. The study outlines programs of the most feasible community colleges and recommends policies for the coordination and interrelationships of community colleges, technical institutes, and area vocational-technical schools. Of particular interest, is the analysis of admission to bachelor degree programs and the relationship between high school rank or class rank and scores on the scholastic aptitude examination in commonwealth campuses. The report shows a cross-tabulation of acceptable scholstic aptitude scores depending on the individual's rank in his high school class.

79. "A Report to the Commission on Higher Education," by the Committee on Post High School Facilities and Programs, 1961.

This is a study in depth of the supply, demand and relationships in higher education in the City of Philadelphia, to determine whether or not Philadelphia is in need of a two-year college. The study is useful in its detailed comments on the components of supply and demand for higher education in and around the City of Philadelphia. It also could serve as a check against other projections of higher education demand and supply in the state of Pennsylvania. Table 4 in the report also provides two projections of college age population by county for southeastern Pennsylvania and projections for 18, 19, 20, and 21 year olds. Also of importance is Table 12 describing expenses and scholarship aid in Philadelphia area colleges in 1960. This report provides an analysis of important use to the Bucks Higher Education study in describing the relationship of educational achievement and employment for the nation as a whole and the considerations this brings to bear on the relationship between education and employment. This report is also useful for its interesting insights into other possible data types and their sources.

APPENDIX D

Phases II and III - Study Procedure

Definitions: Identifying Post High School Education Needs of Bucks County Residents

The first two study objectives, to estimate present and future needs for education and to estimate rexouces available to meet the needs, require some "operational" definitions if the estimates are to be quantitative.

Population: - Two groups of people will constitute the basis of analysis - high school seniors in all Bucks County public, parochial and private high schools; and all adults 16 and over residing in Bucks County who are not currently enrolled as a high school student. The adult class is intended to include high school dropouts and people taking adult education classes leading to a high school diploma.

Post High School Education: - This study will be concerned with formal education courses offered at all public and some private institutions for the general public. It will include the traditional colleges - 2 and 4 year - as well as manpower training programs, evening adult classes at public schools and other vocational-technical training public institutions. It will include private trade schools offering training for specific jobs.

Theoretical Need for Education: - For purposes of this study, every individual will be asumed to have a theoretical need for as much formal education as he is capable of completing. The amount and type of education most appropriate for each high school senior will be measured by I.Q. scores and achievement test results. A relationship will be established to permit allocation of individuals to a particular type of post high school education; however, the study staff realizes the presumptuousness of this action - hence the final tabulation of "theoretical need" will be used only as a very general guide in those cases where educational resources exceed persons interested. Then, the difference between "theoretical need" and persons interested ("recognized need") will be taken as a tentative indication of an unmet need in information - dissemination or counseling. Since data on I.Q. or achievement test

scores will not be available for adults, the study cannot estimate theoretical educational needs for adults from the data.

Recognized Need for Education: - The study will assume that any senior or adult who expresses a desire for further education has a "recognized need" for that education; however, the expressed desires (in terms of amount and type) of seniors will be compared with estimated capability to check realism of aspirations. Allocation of people to a particular type of education will still be based on desires, even though they would seem unrealistic.

Satisfied Need for Education: - Seniors who have definite plans for further education and all person actually enrolled in post high school education classes will be said to be in process of satisfying their need for education. Analysis of this group will concentrate on the location of the school and source of funds.

Capacity of Educational Resources: - The capacity of each educational institution will be expressed in terms of entering fulltime equivalent students (i. e., freshman class enrollment) in both day and evening programs. It is expected that each type of program will have separate capacity estimates.

Unmet Need for Education: - The positive difference between "recognized need" and "capacity" (once "satisfied needs" have been accounted for) for a particular program within a specific geographic area, will be called the unmet needs of that area.

Phase II: Analysis of Present Situation

Analysis will emphasize recognized needs, comparing them with both theoretical and satisfied needs. Regardless of what each person should do for further education, this study is primarily concerned with what they are likely to do, once they at least feel they should have further education.

Where possible, analyses will be made for each school district separately. Commuting areas will be defined by designating which surrounding school districts and outlying areas can be easily reached from a given point.

Figure 1. illustrates the procedure for analysis of the present situation. Projections through 1980 will use the same procedure with different data for each future year. (Note that interactions are not being considered. The presence of a post high school education facility may inspire people to want its programs, because they know it's there; also, industries may be attracted to areas with post high school education facilities near-by and thus bring in a rather different type of employee group. However, analysis of how population characteristics may be affected by changes in institutional program offerings is beyond the scope of this study, and will be compensated for by periodic updating of the study.)

There are five main steps in the analysis of the present situation:

1. Estimate relevant characteristics of each group via tests, sample surveys and other available data.

2. Translate this information into estimates of maximum "theoretical" demand of Bucks County residents on post high school education institutions (regardless of locations, costs or type of program) by allocating all seniors to some type of post high school education program according to capability.

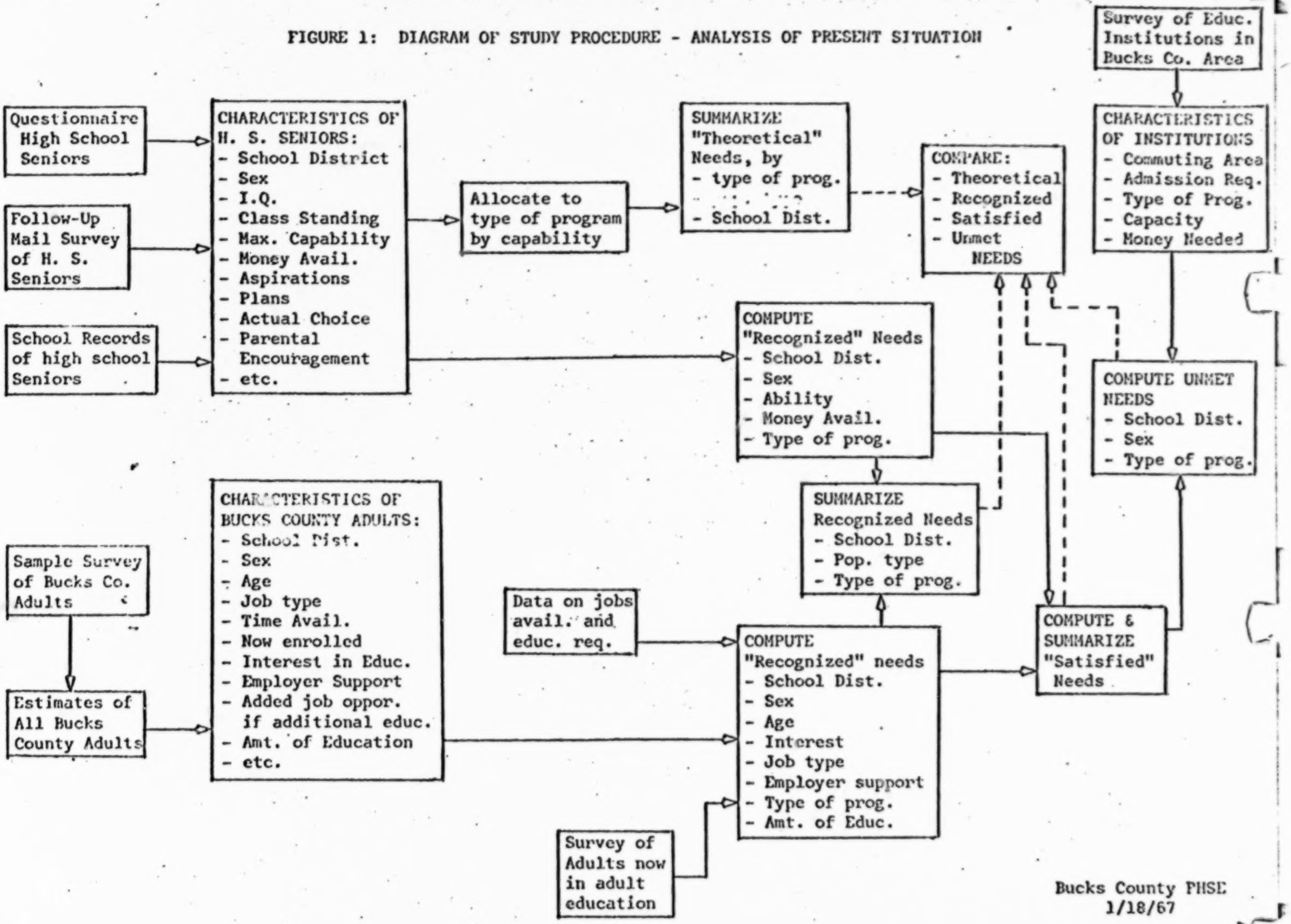
3. Estimate maximum "recognized" demand of Bucks County residents for Bucks County area post high school educational programs (regardless of location, costs or type of institutions now within the Bucks County area) by:

   - allocating seniors to a work and/or education "destination: in the next time period according to their expressed desires and/or plans.

   - allocating adults to a work and/or education "destination: in the next time period according to their interest in further education and extent of employer support.

4. Estimate present unmet needs in general categories of post high school education program by matching existing institutions in the Bucks County area with the recognized demands from step 3. (This will also show estimates

FIGURE 1: DIAGRAM OF STUDY PROCEDURE - ANALYSIS OF PRESENT SITUATION



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of satisfied needs, by type of post high school education.) Matching will involve:

- for seniors

  . money available for post high school education vs. money required for nearest institution offering desired program

  . capability vs. admission requirements

  . whether institution with desired program exists in commuting area and/or has enough enrollment capacity

- for adults

  . interest in particular programs vs. availability of desired program within commuting distance and at time desired (day or night)

  . eligibility for desired program vs. admission requirements

  . extent of employer support

5. Construct tables to show whether estimated unmet needs arise from:

   - no institutions available with desired program;

   - institution available but too far away, cost too much, desired program at wrong time of day or not enough capacity;

   - other reasons based on failure to match "recognized needs" with existing institutional situation.

Other comparisons will be made to show differences among maximum theoretical needs, recognized needs and existing capacities.

Analysis of the educational needs in future years will be done using the same method shown in Figure 1, except that projections of population, job-education requirements and institutional data will be needed to replace the surveys and questionnaires.

Existing population predictions for Bucks County will be employed to prepare high and low estimates of future numbers of high school seniors and adults. Stable distributions of each group into the

characteristics categories will be assumed, unless there is evidence of trends - for example, if a larger percentage of seniors is likely to require more education in 1980 than in 1968. Where appropriate, present trends toward more education will be incorporated to the extent they can be quantified. Projections of future institutional data will be based on their plans for expansion and change.

The projections will be processed and analysed using a computer "model" composed of three parts. (Figure 2.)

1. Estimating population characteristics - input will be total population projection, year by year, by school district; output will be estimates of the number of people in each group with each set of characteristics, year by year, by school district.

2. Estimating theoretical and recognized needs - input will be the output of 1.; output will be estimates of maximum theoretical demand and maximum recognized demand of Bucks County residents for post high school education, by type of program, year by year, by resident school district.

3. Estimating unmet needs - input will be parts of output from both parts 1 and 2, and institutional estimates; output will be estimates of numbers of people recognizing need for post high school education who will not actually be enrolled, by type of program, year by year, by school district.

It should be noted that the computer model will provide a means of updating this study in the future. By correcting projections to actual values and correcting institutional changes, a revised calculation of unmet need and a new set of projections can be produced fairly easily.

Phase III: Selecting Bucks County Preferred Courses of Action

Figure 3, the "Diagram of Procedure for Developing and Selecting Courses of Action" briefly outlines the method for using the analysis of

FIGURE 2: DIAGRAM OF PROJECTION PROCEDURE BY COMPUTER

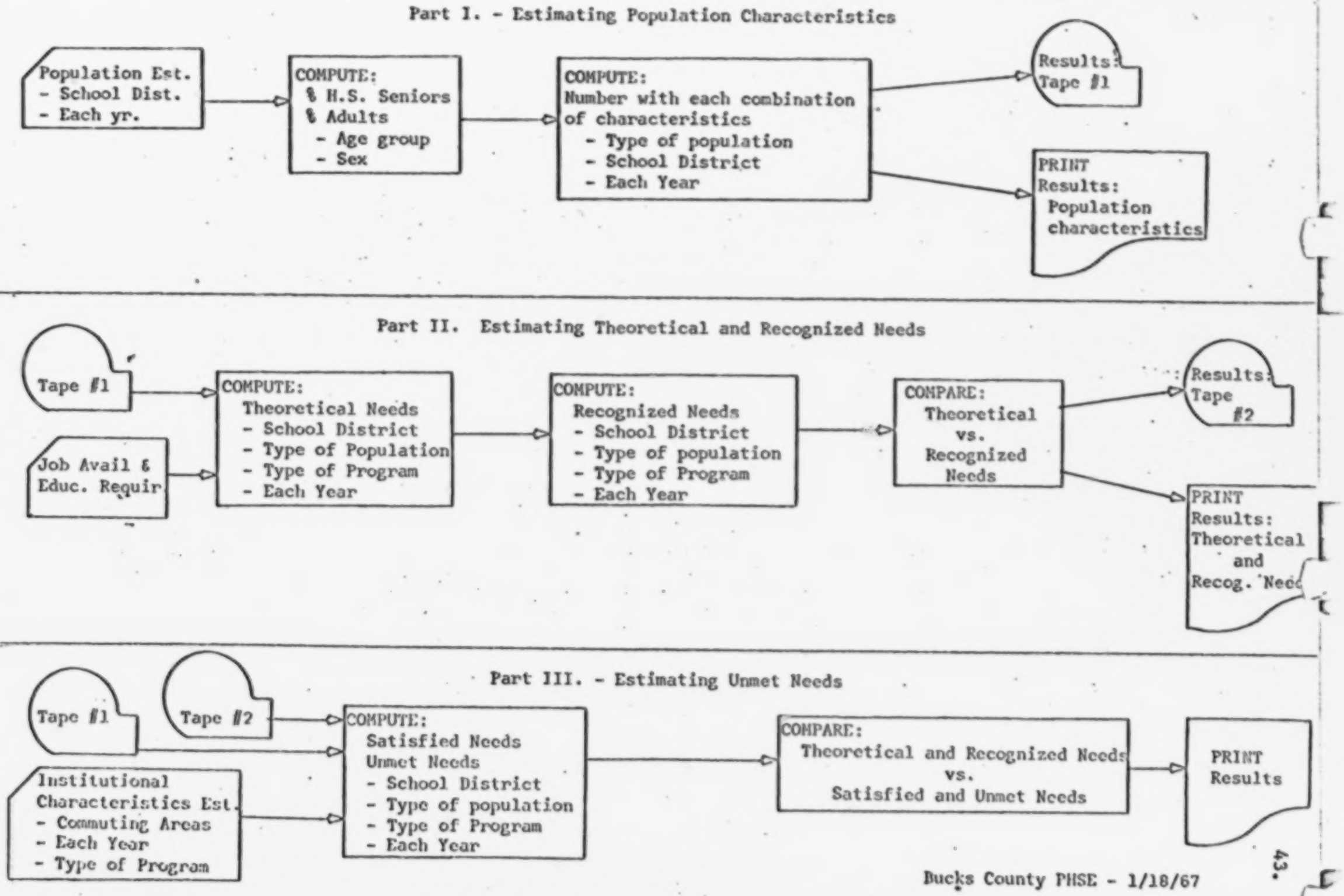

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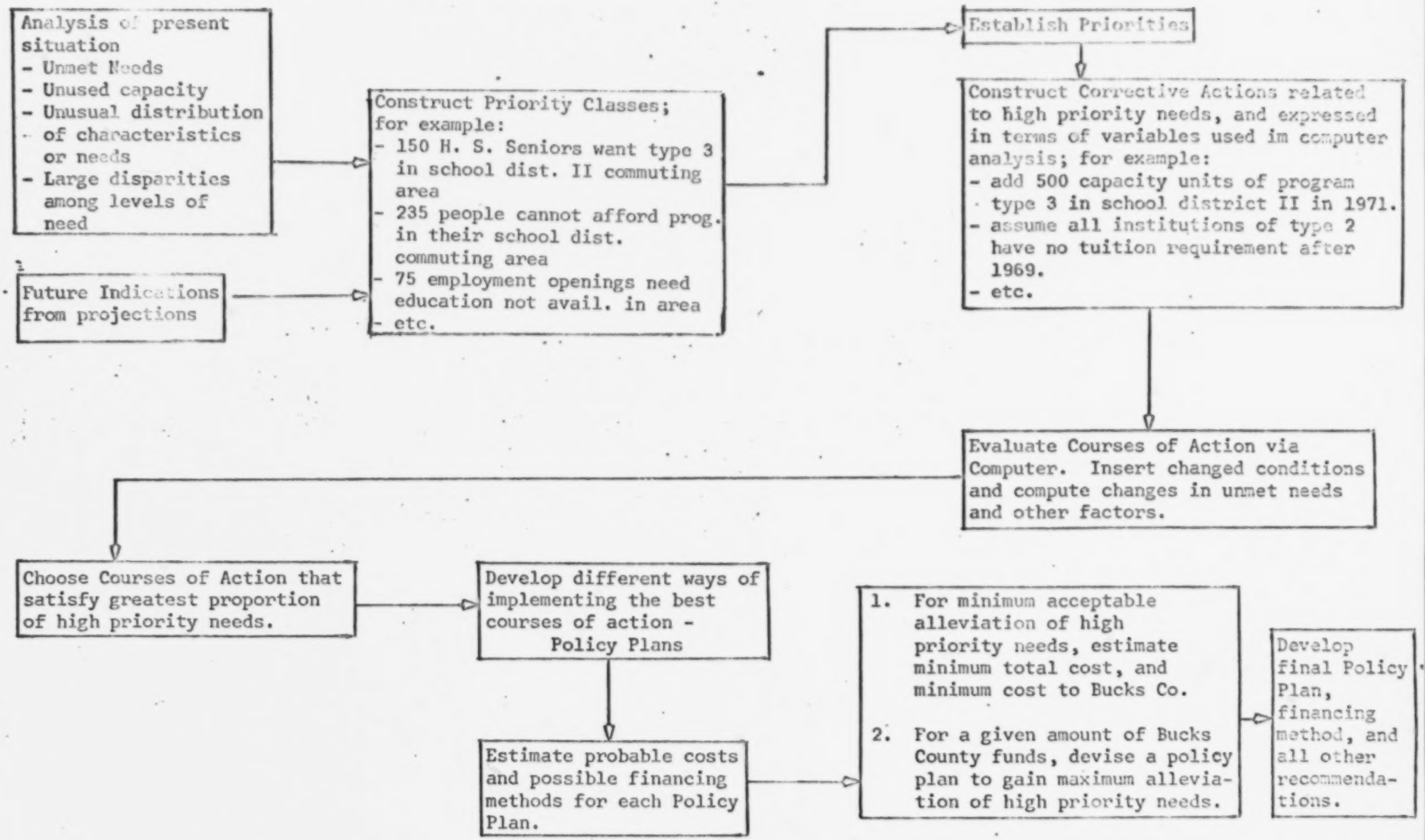
FIGURE 3: DIAGRAM OF PROCEDURE FOR DEVELOPING AND SELECTING COURSES OF ACTION



the present situation and projections, to arrive at a single set of recommendations - called here a "Policy Plan" - designed to satisfy as efficiently as possible the most important post high school educational needs of Bucks County residents.

It should be emphasized that extensive participation of the council is essential, particularly in constructing priority classes, in establishing priorities, in selecting the most appropriate corrective actions, in developing alternate policy plans and in determining financing methods.

Although Figure 3 shows a sequential, step-by-step approach, it should be understood that parts of the procedure may be repeated several times. For example, while developing and costing out one or more policy plans from previously evaluated corrective actions, it may become apparent that other corrective actions may be better; more combinations of actions will then be formulated and evaluated, leading to other policy plans. The effects of particular courses of action, in terms of changes in unmet needs (shown on computer output), can be related to estimated costs to get a "cost-benefit" analysis of the different possible corrective actions and policy plans. Note that the use of a computer-oriented model of the Bucks County post high school education situation permits answering many different kinds of "what-if" questions at any time during the later stages of the study. This should prove extremely helpful as long as the "what-if" questions are stated in terms of changes in relevant variables, so the results will be meaningful.

BIBLIOGRAPHY

Abt, Clark. "Design for an Educational System Cost-Effectiveness Model", A Report to the Ad Hoc Group on Efficiency and Resource Utilization in Education. Paris, France: Organization for Economic Cooperation and Development, January 25, 1967.

Academy for Educational Development, Inc. Elements of a Master Plan for Higher Education in Pennsylvania. A Report to the State Board of Education of the Commonwealth of Pennsylvania, December 31, 1965.

Academy for Educational Development, Inc. Provisional Master Plan for Public Higher Education in Ohio. A Report to the Ohio Board of Regents, April, 1965.

Academy for Educational Development, Inc. The Legislature and Higher Education in New York State. A Report by the Legislature's Consultant on Higher Education, December, 1964.

"Area Technical School Vocational-Technical Education Pupil Interest Survey For the School Districts of New Hope-Solebury, Council Rock and Centennial." Bucks County Public Schools.

"Area Technical School Vocational-Technical Education Pupil Interest Survey for the School Districts of Palisades, Pennridge, and Quakertown." Bucks County Public Schools.

Armitage, Peter and Smith, Cyril. "The Development of Computable Models of the British Educational System and Their Possible Uses", a Report to the Ad Hoc Group on Mathematical Models of the Educational System. Paris, France: Organization for Economic Cooperation and Development, March 23, 1966.

Brick, Dr. Michael. A Study of Higher Education in the Mohawk Valley Area. New York: Columbia University, December, 1965.

Bucks County Office of Education. A Community College for Bucks County: A Study to Determine the Need. Doylestown, Pennsylvania, December, 1962.

Bucks County Board of School Directors. A Preliminary Proposal for Bucks County Community College. Doylestown, Pennsylvania, May,1964.

Bureau of Employment Security. Area Manpower Guide Book: 174 Metropolitan Labor Market Areas. Washington, D. C.: Government Printing Office, 1957.

Bureau of Employment Security. "Pennsylvania Employment and Earnings". Harrisburg: Department of Labor and Industry, January 1964 - September 1966.

Bureau of Labor Statistics. Employment and Earning Statistics for States and Areas 1939-65. Washington, D.C.: Government Printing Office, June, 1966.

Bureau of Labor Statistics. Occupational Outlook Handbook. Washington, D. C.: Government Printing Office, 1966.

Bureau of Research. "Our Schools and Colleges Today: An Analysis and Summarization of Data as Reported by Pennsylvania's Institutions of Higher Education", Harrisburg: Department of Public Instruction, May 1, 1963.

Bureau of Statistics. "County Industry Report - Bucks County", Harrisburg: Department of Internal Affairs, 1962-1965.

Bureau of Statistics. "County Industry Report - Lehigh County", Harrisburg: Department of Internal Affairs, 1962-1964.

Bureau of Statistics. "County Industry Report - North Hampton County", Harrisburg: Department of Internal Affairs, 1962-1964.

Bureau of Statistics. "County Industry Report - Philadelphia County", Harrisburg: Department of Internal Affairs, 1961, 1963-1965.

Bureau of Statistics. "Employment by Broad Industry Groups and by County for Selected Years: 1919-1961", Harrisburg: Department of Internal Affairs, April, 1963.

Bureau of Statistics. "General Statistics by Industry", Harrisburg: Department of Internal Affairs, December, 1959.

Bureau of Statistics. "Our Colleges and Universities Today: An Analysis and Summarization of 1965 Summer Session and Fall Enrollment Data", Harrisburg: Department of Public Instruction, June 17, 1966.

Bureau of Statistics. "Our Colleges and Universities Today: Bachelors and Higher Degrees Conferred by Pennsylvania's Institutions of Higher Education Between July 1, 1964 and June 30, 1965", Harrisburg: Department of Public Instruction, October 25, 1965.

Bureau of Statistics. "Our Colleges and Universities Today: Financial Statistics of Pennsylvania's Institutions of Higher Education 1964-1965", Harrisburg: Department of Public Instruction, June 10, 1966.

Bureau of Statistics. "Our Colleges and Universities Today: Student Costs, Faculty Salaries and Degree Status of Faculties", Harrisburg: Department of Public Instruction, April 25, 1966.

Bureau of Statistics. "Our Colleges and Universities Today: Student Costs, Faculty Salaries, Degree Status of Faculties, Enrollment Trends and Financial Data", Harrisburg: Department of Public Instruction, June 16, 1965.

Bureau of Statistics. "Our Schools Today: Statistics on Pennsylvania's Non-Public Secondary Schools, 1965-1966", Harrisburg: Department of Public Instruction, March 21, 1966.

Bureau of Statistics. "Statistics for Manufacturing Industries in Pennsylvania, 1965", Harrisburg: Department of Internal Affairs, November, 1966.

Bureau of Statistics. "Pennsylvania's Personal Income and Population by County: Selected Years 1929-1963", Harrisburg: Department of Internal Affairs, May, 1965.

Bureau of Statistics. "Pennsylvania's Statistical Abstract 1966", Harrisburg: Department of Internal Affairs, February, 1966.

Bureau of Statistics. "Projections of Selected Educational Statistics for Pennsylvania to 1975-1976", Harrisburg: Department of Public Instruction, August, 1966.

Bureau of Statistics. "Statistics by Industry and by Size of Establishment", Harrisburg: Department of Internal Affairs, 1960, 1962-1964.

Bureau of Statistics. "Statistics by Major Industry Groups for Counties and Urban Places", Harrisburg: Department of Internal Affairs, 1957, 1962-1965.

Bureau of Statistics. "Statistics for Manufacturing Industries in Pennsylvania", Harrisburg: Department of Internal Affairs, 1963-1965.

Bureau of Statistics. "Statistics for Selected Pennsylvania SMSA's", Harrisburg: Department of Internal Affairs, 1963, 1964.

Citizen Survey Committee in the University of Michigan. Citizen Survey of Washtenaw County Community College Possibilities. Michigan: Bureau of School Services, The University of Michigan, July, 1963.

Clough, Donald J. and McReynolds, William P. "State Transition Model of an Educational System Incorporating a Constraint Theory of Supply and Demand", Ontario Journal of Educational Research. Autumn, 1966.

Committee on Higher Educational Opportunities in Philadelphia. Higher Education and the Future of Youth in the Greater Philadelphia Area. Philadelphia: Committee on Higher Educational Opportunities in Philadelphia, December, 1957.

Committee on Post High School Facilities and Programs. A Report to the Commission on Higher Education. Free Library, Logan Square, Philadelphia, Pennsylvania: Commission on Higher Education, June 22, 1961.

Committee to Study Community Colleges and Technical Institutes. Education Beyond High School The Two Year Community College. A Report to the New Jersey State Board of Education to the Govenor and the Legislature. Trenton: State of New Jersey Department of Education, January, 1961.

Comprehensive Plan Bucks County Pennsylvania. Bucks County Planning Commission's Comprehensive Plan as submitted to the Board of Commissioners. December, 1961.

Correa, Hector. "Mathematical Models in Educational Planning", a Report to the Ad Hoc Group on Mathematical Models. Paris, France: Organization for Economic Cooperation and Development, March 23, 1966.

Dauwalder, Donald D. and Associates. The Administration and Financing of Vocational-Technical Education in Pennsylvania. A Report to the State Board for Vocational Education. Harrisburg: Pennsylvania State Board for Vocational Education, December, 1964.

Dauwalder, Donald D., and Associates. Vocational Education in the Pittsburgh Public Schools. Pittsburgh: The Pittsburgh Board of Public Education, April, 1963.

"Directory of Manufacturing Plants in Bucks County Pennsylvania, 1966-1967", Bucks County, Pennsylvania: Bucks County Industrial Development Corporation, 1967.

Dubin, Samuel S. and Marlowe, H. Leroy. Continuing Professional Education for Engineers in Pennsylvania. University Park, Pennsylvania: Continuing Education, The Pennsylvania State University, 1965.

Dubin, Samuel S. and Mrlowe, H. Leroy. Continuing Professional Needs of Enginners - Philadelphia Area. University Park, Pennsylvania: Continuing Education, The Pennsylvania State University, 1965.

"Education for a Changing World of Work - Report of the Panel", a Report of the Panel of Consultants on Vocational Education requested by the President of the United States. Washington, D.C.: Government Printing Office, 1963.

"Education for a Changing World of Work - Appendix III", Report of Panel of Consultants on Vocational Education requested by the President of the United States. Washington, D.C.: Government Printing Office, 1963.

Educational Investment and Development Division. "An Experimental Project by the Organization for Economic Cooperation and Development", a Paper for the 29th National Meeting of the Operations Research Society of America. Paris, France: Organization for Economic Cooperation and Development, May 20, 1966.

"Estimates of the Population of the United States January 1, 1950 to October 1, 1966", Current Population Reports. Washington, D. C.: Government Printing Office, November 18, 1966.

Fields, Ralph R. and Associates. Community Colleges in Pennsylvania. A Report to the State Board of Education. Harrisburg: State Board of Education, June 30, 1965.

Fields, Ralph R. and Sindlinger, Walter E. and Associates. A Study of Kingsboro Community College. A Report to the Kingsboro Community College of the City University of New York. Manhattan Beach, New York: Board of Higher Education, January, 1966.

Flanagan, John C., et al. Project Talent - A Survey and Follow-up Study of Educational Plans and Decisions in Relation to Aptitude Patterns: Studies of the American High School. Pittsburgh, Pennsylvania: University of Pittsburgh Project Talent Office, 1962.

Flanagan, John C., et al. Project Talent - The Identification, Development and Utilization of Human Talents: The American High School Student. Pittsburgh, Pennsylvania: University of Pittsburgh, Project Talent Office, 1964.

Gainsbrugh, Martin R. "Automation's Role in Employment", Datamation. Volume 12, No. 12, December, 1966.

Gelfand, Jack E. Bucks County Population Estimates: 1965, 1980 and 2010. Philadelphia, Pennsylvania: Bureau of Economic and Business Research, School of Business and Public Administration, Temple University, August, 1959.

Government Consulting Service. Inventory of Higher Educational Facilities in the Philadelphia Area. A Report to the Committee on Higher Educational Opportunity in Philadelphia. Philadelphia, Pennsylvania: Institute of Local and State Government, University of Pennsylvania, December, 1956.

Greater Philadelphia Movement. How Institutions of Higher Education Contribute to the General Economic, Social and Cultural Betterment of Greater Philadelphia. Philadelphia, Pennsylvania: Greater Philadelphia Movement, January, 1966.

Hamel, Harvey R. "Employment of High School Graduates and Drop-Outs in 1965", Monthly Labor Review. Special Labor Force Report No. 65. Washington, D.C.: U. S. Department of Labor, June, 1966.

"Handbook of Educational Statistics: Pennsylvania's Schools", Harrisburg: Department of Public Instruction, 1947.

"Health, Education and Welfare Trends. Washington, D. C.: U. S. Government Printing Office, 1965.

Hollis, Ernest V. Survey of State Legislation Relating to Higher Education: January 1, 1963 to December 13, 1963. Washington, D. C.: Office of Education, U. S. Department of Health, Education and Welfare, 1964.

"How Do We Stand?" Research Service in Education. Harrisburg: Department of Public Instruction, 1954.

"Insured Unemployed in the Philadelphia and Pittsburgh Labor Market Areas", Harrisburg: Department of Labor and Industry, Bureau of Employment Security, September, 1966.

"Introduction of Control Concepts in Educational Planning Models", A Paper for the Ad Hoc Group on Mathematical Models. Paris, France: Organization for Economic Cooperation and Development, March 23, 1966.

Johnston, Denis P. "Educational Attainment of Workers, March 1964", Monthly Labor Review. Washington, D. C.: Bureau of Labor Statistics U. S. Department of Labor, May, 1965.

Johnston, Denis F. and Hamel, Harvey R. "Educational Attainment of Workers in March, 1965", Monthly Labor Review. Washington, D.C.: Bureau of Labor Statistics, U. S. Department of Labor, March, 1966.

Joint State Government Commission. Pennsylvania High School Seniors, 1958: Their Mental Ability, Their Aspirations, Their Post High School Activity. Harrisburg: Joint State Government Commission, General Assembly of the Commonwealth of Pennsylvania, 1959.

Joint State Government Commission. Four Years After High School, A Follow-up Survey of the Pennsylvania High School Seniors of 1958. Harrisburg: Joint State Government Commission, General Assembly of the Commonwealth of Pennsylvania, 1964.

Leighbody, Gerald B. "New Directions for Vocational Education", Prepared for the Conference on Curriculum Designing for the Future. December 2, 1966.

Lindsay, Felix H. I. Financial Statistics of Institutions of Higher Education, 1950-1960. Washington, D. C.: Office of Education, U. S. Department of Health, Education and Welfare, 1964.

"Manpower Development and Training Act of 1962: Guide for Officials of Training Facilities", Harrisburgh: Bureau of Employment Security, Department of Labor and Industry, December, 1965.

Manpower Report of the President and A Report on Manpower Requirements, Resources, Utilization and Training. Washington, D. C.: Government Printing Office, 1966.

"Manpower Skill Requirements and Training Needs - Philadelphia Labor Market Area, 1962-1967", Harrisburg: Bureau of Employment Security, Department of Labor and Industry, November, 1962.

McGrath, Earl J. "The Organization of the State Colleges Within the Commonwealth of Pennsylvania." Harrisburg: State Board of Education, May 10, 1965.

Miller, E. Willard. An Economic Atlas of Pennsylvania. Prepared for the State Planning Board. Harrisburg: Pennsylvania State Planning Board, 1964.

Mirangoff, William. "Health Manpower - An Emerging Challenge", Employment Service Review, Washington, D.C.: Government Printing Office, November, 1966.

"Mobility of the Population of the United States, March 1965 to March 1966", Current Population Reports. Washington, D.C.: Government Printing Office, December 9, 1966.

New Jersey State Board of Education. College Opportunity in New Jersey. A Report to the Govenor and Legislature. Trenton: State Board of Education, December, 1957.

New Jersey State Department of Education. New Jersey's Undergraduates: 1954-1973. Trenton: New Jersey State Department of Education, 1956.

New York Citizens Committee for Public Higher Education. Higher Education in New York State. New York: New York Citizens Committee on Higher Education, March, 1965.

Nickstorf, Laura. "An Experimental Study of Repeated Unemployment", Monthly Labor Review. Washington, D.C.: Bureau of Labor Statistics, U. S. Department of Labor, June, 1966.

Nichols, Robert C. "Schools and The Disadvantaged", Science (Vol. 154), December 9, 1966.

National Commission on Technology, Automation and Economic Progress. Technology and the American Economy - Volume 1. A Report to the President and Members of Congress. Washington, D. C.: National Commission on Technology, Automation and Economic Progress, February, 1966.

Orcutt, Guy H., et al. Microanalysis of Socioeconomic Systems: A Simulation Study. New York: Harper and Brothers, 1961.

Perloff, Harvey S. and Cohen, Henry. Urban Research and Education in the New York Metropolitan Region. A Report to Regional Plan Association, Volume 1. New York: Regional Plan Association, 1965.

Perloff, Harvey S. and Cohen, Henry. Urban Research and Education in the New York Metropolitan Region. A Report to the Regional Plan Association, Volume 2. New York: Regional Plan Association, 1965.

Post High School Study Committee. Education Beyond the High School, A Projection for Oregon. Salem, Oregon: Educational Coordinating Council, October 7, 1966.

"Progress Toward the Goals of Project Talent", Bulletin No. 4. Washington, D.C.: Office of Education, U.S. Department of Health, Education and Welfare, June, 1965.

Regents of the University of the State of New York. The Regent's Proposals for the Expansion and Improvement of Education in New York State. Albany: University of the State of New York, December, 1960.

Regents of the University of the State of New York. The Regent's Tenative Statewide Plan for the Expansion and Development of Higher Education, 1964. Albany: The University of the State of New York, January, 1965.

Regents of the University of the State of New York. The Regent's Statewide Plan for the Expansion and Development of Higher Education, 1964. Albany: The University of the State of New York, April, 1965.

Regional Science Research Institute. An Investigation of Location Factors Influencing The Economy of the Philadelphia Region. A Report to the Greater Philadelphia Regional Science Research Institute, March, 1966.

Research for Better Schools, Inc. A Survey of Data Sources in Delaware, New Jersey and Pennsylvania. Philadelphia, Pennsylvania: Research for Better Schools, Inc., June, 1966.

Shils, Edward B. and the Committee on Higher Educational Needs of Metropolitan St. Louis. Higher Education and the Future of Youth in the Greater St. Louis Educational Area. A Report to the Governor's Committee on Education Beyond the High School in Missouri and to the Citizens of the Greater St. Louis Educational Area. St. Louis: Committee on Higher Educational Needs of Metropolitan St. Louis, January 22, 1960/

Seidman, Kenneth A. and Grant, W. Vance. Digest of Educational Statistics. Washington, D. C.: U. S. Government Printing Office, 1965.

Seidman, Kenneth A. and Fullum, Maire G. Projections of Educational Statistics to 1974-75. Washington, D.C.: Government Printing Office, 1965.

Staller, David S. "Operations Analysis in the U. S. Office of Education", A Report to the Ad Hoc Group on Efficiency in Resource Utilization in Education. Paris, France: Organization for Economic Cooperation and Development, January 25, 1967.

State Board for Vocational Education. Pennsylvania State Plan for Vocational Education. Harrisburg: Department of Public Instruction, June 10, 1960.

State Board of Education. Report of Progress on the Master Plan for Higher Education in Pennsylvania. Harrisburg: State Board of Education, July 20, 1966.

State Board of Private Business Schools. "Private Business School Act", Harrisburg: Bureau of Private Schools and Veterans Education, State Board of Private Business Schools.

State Data and State Rankings in Health, Education and Welfare. Washington, D.C.: Government Printing Office, 1965.

State Planning Board. The Population of Pennsylvania. Harrisburg: Pennsylvania State Planning Board, September, 1963.

Superintendent of Public Instruction. Statistical Report for the School Year Ending June 30, 1964. Harrisburg: Department of Public Instruction, 1965.

The Board of Higher Education of the City of New York. Master Plan for the City University of New York, 1964. New York: The Board of Higher Education of the City of New York, June, 1964.

The Committee to Look to the Future. A Long-Range Plan for the City University of New York, 1961-1975. New York: The Board of Higher Education, June 18, 1962.

"The Insured Unemployed in Pennsylvania and in the Philadelphia and Pittsburgh Labor Market Areas by Education and Occupation, December 1965", Harrisburg: Bureau of Employment Security, 1965.

The Master Plan Survey Team. A Master Plan for Higher Education in California, 1960-1975. Sacramento, California: California State Department of Education, 1960.

"The Pennsylvania Approach to Manpower Training", Harrisburg: Department of Public Instruction, December, 1964.

The State Board of Private Trade Schools. "Rules, Regulations and Standards of Instruction Governing Private Trade Schools, Classes, and Agents", Harrisburg: Department of Public Instruction, March, 1966.

The State Education Department. Needs and Facilities in Higher Education in New York State. Albany: The University of the State of New York, 1957.

Thonstad, Tore. "A Mathematical Model of a Norwegian Education System - A Case Study", A Report to the Ad Hoc Group on Mathematical Models of the Educational System. Paris, France: Organization for Economic Cooperation and Development, March 23, 1966.

"Total Civilian Work Force, Unemployment and Employment by Industry: Annual Average, 1950-1965, Allentown-Bethlehem-Easton Labor Market Area", Harrisburg: Pennsylvania State Employment Service, April, 1966.

"Vocational and Technical Education: A Review of Activities in Federally Aided Programs", Washington, D.C.: U.S. Office of Education, Department of Health, Education and Welfare, 1966.

VT 002 773
The Home Economics Department, Its Equipment and Furnishings, Supplement.

North Carolina State Dept. of Public Instruction, Raleigh.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 65 14p.

*EDUCATIONAL EQUIPMENT; *HOME APPLIANCES; *HOME ECONOMICS EDUCATION; OCCUPATIONAL HOME ECONOMICS; HOMEMAKING EDUCATION

The bulletin was developed to assist teachers in making recommendations for additional equipment which may be purchased under the provisions of the Vocational Education Act of 1963. The equipment recommended for occupational courses involving home economics skills and knowledge is comparable to the type used in a working situation, thereby enabling the student to be better prepared for the labor market. Obtaining the recommended equipment affords opportunities for students to choose, use, and care for a variety of home equipment on the market today. Equipment for the home economics program is classified according to the instructional areas: clothing, home safety, family health, home care of the sick, grooming, and foods and nutrition. Additional equipment needed for occupational training courses is listed under food service, and housekeeping. Miscellaneous and audiovisual equipment are included. Among items included in housekeeper training are a pewter pitcher, a silver tray, and a brass ash tray. An unconnected telephone is also suggested for teaching etiquette. (FP)

VT 002 773

EDO 30001

PROPERTY OF HOME ECONOMICS DEPT.

001200 12p*

SUPPLEMENT

THE HOME ECONOMICS DEPARTMENT

ITS EQUIPMENT AND FURNISHINGS

VT 02773

N. C. DEPARTMENT OF PUBLIC INSTRUCTION

Raleigh, North Carolina 1965

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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FOREWARD

This bulletin has been developed by the Home Economics staff as a supplement to the publication, "The Home Economics Department--Its Equipment and Furnishings," to assist teachers in making recommendations for additional equipment which may be purchased under the provisions of the Vocational Education Act of 1963.

The Equipment recommended for home economics departments serves a twofold purpose:

> The use of the equipment in the development of skills in a learning situation comparable to the homes in the community
>
> and
>
> The development of some understanding of the problems affecting the consumer in the choice, use and care of the variety of home equipment on the market today.

The equipment recommended for occupational courses involving home economics skills and knowledge is comparable to the type used in a working situation, thereby enabling the student to be better prepared for the labor market.

It is for these multiple purposes that the recommendations on the attached pages are made in order that departments be well equipped for education in family living and occupational training.

Catherine T. Dennis
State Supervisor Home Economics Education

THE HOME ECONOMICS DEPARTMENT

If one picture is worth a thousand words, consider the "picture" our equipment gives of the home economics program. Does it bespeak a well-rounded curriculum, with provision for learning experiences in many areas of homemaking? Or does the presence of many unit kitchens, sewing machines and tables condition students, their parents and the general public in the belief that home economics activities are limited primarily to simple experiences in cooking and sewing?

It is the purpose of this supplementary list of equipment to encourage the purchase, use and care of up-to-date equipment. This list has been developed to assist the teacher in the use of creative teaching methods based on the need of the student to learn the broader responsibilities of management and consumer education.

Home Economics teachers and school administrators are encouraged to select a broad variety of equipment which will provide a teaching-learning situation for skill development and decision making on the selection, use and care of equipment and furnishings in the various areas of homemaking. Some criteria for determining department equipment needs and purchases are--

- Amount, kind, use and condition of existing equipment
- Kinds of courses to be offered and the equipment needed for a good teaching-learning situation
- Amount of funds available for equipment purchases
- Methods of teaching for knowledge and skill development
- Size of classes
- Space available in the department for use and storage

EQUIPMENT FOR HOME ECONOMICS PROGRAM

Equipment for Instructional Areas in Basic Home Economics Courses

Course Nos. 711.1, 711.2, 712, 713, 715.1, 715.2, 715.3, 716.1, 716.2, and 717

Clothing

Ironing board (adjustable steel)
Ironing board cover (metallic and ducking)
Ironing board pad
Pounding block
Sleeve board
Pressing mit
Pressing ham
Sleeve roll
Sewing machine (standard electric and deluxe)
Sewing machine attachments
Buttonhole attachment
Magnifier (hand lens)
Irons
  Steam-dry
  Steam-spray-dry
Cord minder
Iron rest
Clothes brush
Clothes delinter
Point presser combination
Tailor tack marker
Shell pattern (assorted sizes)
Buttonhole cover set

Scissors and shears:
  Buttonhole
  Scissors (5")
  Dressmaker shears (7")
  Pinking shears (7½)
Cutting board (folding)
Tracing paper
Tracing wheel
Ruler (plastic edge)
Tape measure
Point turner
Eyelet awl
Pleat maker
Gripper snap fastener
Belt maker
Seam ripper
Metal gauge
Tailor's square
Hem marker
Tailor's chalk
Dressmaker pins
Bobbins
Sewing machine needles (14-16)

Home Safety, Family Health and Home Care of the Sick

Roll-away bed
Bathroom scales
First Aid kit
Sheets
Pillow cases
Mattress cover
Blanket
Pillow
Bath towels
Hand towels
Washcloths
Oral Thermometer
Bedpan
Ice cap
Hot water bottle
Washbasin (plastic)
Sink basin (plastic)
Bucket (plastic)
Rubberized sheet

Grooming

Hair brush
Cuticle snipper
Orange stick
Cuticle pusher
Brush, nail
Comb
Tweezers
Portable hair dryer

MISCELLANEOUS PREPARATION AND SERVING EQUIPMENT

Foods and Nutrition

Major Appliances

- Range (gas or electric)
- Refrigerator
- Freezer
- Dishwasher
- Washing machine
- Clothes dryer
- Disposer

Small Appliances (Electric)

- Fry pan (12")
- Waffle-grill combination
- Can opener
- Perculator
- Toaster
- Mixer (standard and portable)
- Blender (2 speed)
- Ice cream freezer
- Cooker-server
- Knife and scissors sharpener

Miscellaneous Preparation and Serving Equipment

- Serving cart (portable)
- Clothes dryer (collapsible)
- Step stool
- Charcoal grill
- Scoops (set of 4)
- Spatula
- Salad bowls

Knives
- Boning
- Paring
- Handy
- Bread
- Slicer 10"
- Slicer (small)
- Cooks
- Grapefruit
- Corer-parer

Flour sifter
Rubber scraper
Cooling rack
Ricer
Dish towels
Dishcloths
Custard cups
Pressure saucepans
Covered casserole with lock handle (1 qt.)
Measure (1 qt.)
Measuring cups (set of 4 - dry)
Canister set (plastic - stainless steel)
Colander (3 qt.)
Can opener (manual)
Egg beater
Salt and pepper shakers

Spoons

- Solid
- Pierced
- Slotted
- Nylon
- Wooden (10" and 12")

Ice cream freezer
Ice cream scoop
Hot water canner
Kitchen scales (25 lb.)
Rolling pin (12")
Theremometer:
- Oven
- Meat
- Candy
- Deep fat

Cookie gun
Cookie press
Cake decorator gun
Mixing bowls (set of 4, glass and stainless steel)
Mixing bowl (5½ qt.)
Pie server
Sandwich spreader
Tongs (9")
Butter cutter (1/4 lb.)
Bread basket
Turner
Onion chopper
Pastry board
Long handled fork
Grater - 1 side
Cookie sheet
Dish drainer
Drain mat

Biscuit cutter
Trivet
Vegetable brush
Potato masher
Pie pan (glass and aluminum)
Cake pans (sqiare)
Saucepan (1-½ qt.)
Salad mold (6 cup)
Colander (5 qt.)
Strainer (1 qt.)
Tea strairer
Melon scoop
Nutcracker set
Jelly mold (set of 4)
Pastry brush
Tube cake pan
Muffin pan (12 cup - 6 cup)
Corn stick pan (cast iron)
Fry pan (10" - 8" - 6")
Fry pan (cast iron with cover)
Refrigerator dishes (set of 4)
Cake storer or carrier
Pastry blender
Ladle (solid)
Dutch oven (aluminum and cast iron)
Saucepan with cover (3/4, 1, 1-1/2 qt.)
Loaf pan
Double boiler (glass and aluminum)
Vacuum coffee maker
Tea pot (6 cups)
Juice extractor
Skewers (set of 4 - 16½")
Punch bowl with stand
Punch ladle
Punch cups
Trash container

CHINAWARE (Plastic, china, pottery)

Plates

- Dinner
- Salad
- Bread and butter

Cups
Saucers
Cream and sugar

Cereal bowls
Vegetable dishes

- Open
- Covered

Platter

FLATWARE (Stainless Steel)

Dinner knives
Dinner forks
Salad forks
Teaspoons
Iced teaspoons
Dessert spoons
Tablespoons

Grapefruit spoons
Butter spreaders
Butter knives
Sugar shells
Meat forks
Pickle forks
Cocktail forks
Lemon forks

GLASSWARE

Serving trays
Dessert plates (8")
Iced tea glasses
Water glasses
Sherbets

Water pitcher
Parfait glasses
Footed compotes
Low compotes
Coasters
Relish dishes

ADDITIONAL EQUIPMENT NEEDED IN A DEPARTMENT

Light meter
Demonstration mirror
All purpose table with track (60" L, 42" W, 29" H)
Tote tray guides

Vacuum cleaner
Broom (lightweight)
Floor waxer
Mops

Dust mop (long and short handled)
Wet mop (long and short handled)

Dust pan (long and short handled)
Tool box
Set of screwdrivers
Heavy screwdriver
Hammer

Claw
Tack
Upholstery

Saw
Pliers
Level (24")

OCCUPATIONAL TRAINING COURSES

The occupational courses will be taught in the home economics department, using existing facilities, with exception of training for the Child Care Aide - Course No. 714.5. The well equipped basic home economics department will provide much of the equipment needed. However, there are additional equipment items necessary in order that a more creditable training job may be done in specific areas of Food Service, Clothing and phases of Housekeeping.

Occupational courses are planned to prepare students at the high school level (students ages 17 and 18), to enter the labor market immediately upon graduation. These courses will provide learning experiences, observations and on the job training for the development of home economics knowledge and skills in specific occupations. It is necessary to plan these courses so that a student is ready to enter the labor market for gainful employment.

Additional Equipment Recommended for Vocational Education Programs

Course Nos. 714.1, 714.2, 714.3, 714.4, 714.5, 714.6, 714.7, 714.8

Food Service

Gray rack (with or without shelf)
Trays
- Rectangular - plain
- Rectangular - cork bottom
- Round - plain (14")
- Round - cork bottom
- Ticket (6-1/2")
- Large oval (24½" x 19½")

Pressure cooker (canner)
Scales portion
Pressure cooker - 4 qt.
Griddle, electric
Cooker-server, electric
Deep fat fryer, electric
Toaster, automatic 4 slice
Dripolator urn

Set up stand
Relish caddy with ladles
Hot plate - 1 unit or
Hot plate - 2 unit
Coffee warmer - Pyrex
Coffee warmer - S/S
Fry pan - Heavy cast iron with cover
Ice bucket (3 qt.)
Slicing knife, with fork, electric
Warming tray, electric

Baker's brush
Meat cleaver
Kitchen fork - two tine
Service plates
Cocktail compote
Cocktail ring and insert
Finger bowls
Table pad (dining)
Tablecloth (54" x 54")
Napkins

Clothing

Adjustable dress form and stand
Heavy duty machine
5 - way pressing board
Portable sewing machine
Pouf iron
Needle board
Monogram attachment

Zig-Zag attachment
Hem marker
Sewing and knitting gauge
Embroidery scissors
Silk pins
Emery

Housekeeping

Window cleaner (12" squeegie)
Carpet sweeper
Wax applicator
Silver tray
Pewter pitcher
Brass ash tray
Hand-type vacuum and attachments

Rubber bath mat
Laundry cart
Laundry basket
Broom, electric
Floor washer, electric
Washer-dryer combination
Telephone (for etiquette) not connected

COMBINED AUDIO-VISUAL LIST FOR ALL VOCATIONAL SECTIONS

Overhead projector
Screen projection 70" x 70" tripod - matte white
Tape recorder
Record player
Projection stand
Projection stand (mobile cabinet)
16 mm sound projector
Filmstrip projector (remote control)
Auto-slide projector
Combination wet-dry process type - Diazo (name brand)
Lettering set
Opaque projector
Typewriter
Typewriter table

VT 002 862
Nelson, Orville W.
The American Industry Project: Development and Evaluation.

MF AVAILABE IN VT-ERIC SET.
Pub Date - 67 23p. Prepared for Curric Programs in Action: Their Admin and Evaluation, A Conf Spons by Ctr for Tech Educ, San Francisco St Coll, and Ctr for Studies in Voc and Tech Educ Univ of Wisc, Feb 15-17, 1967.

*INDUSTRY; *PROGRAM DEVELOPMENT; CONCEPT TEACHING; *PROGRAM EVALUATION; *INDUSTRIAL ARTS; HIGH SCHOOLS; *CURRICULUM DEVELOPMENT
AMERICAN INDUSTRY PROJECT

The nature of industrial arts emphasizes the learning of specific processes and techniques as an avenue to prevocational training and the development of a knowledge of industry. This rationale has encountered increasing problems in accounting for the contemporary state of industry. The evolving program of American Industry is based on the approach that concentration upon acquiring concepts, through encounter with specific situations, enhances the possibility of retention, transfer, and application of knowledge to new and different situations. The first-level course in the program, designed for eighth grade students, was taught by 19 teachers during the 1966-67 school year. It gives an overview of the nature of industry and how it operates and introduces the student to the concepts of industry and their interrelationships. The second-level course, for 10th grade students, is being developed with the objective of helping them attain a more sophisticated understanding of the concepts of industry, and a proposed third-level course for 12th grade students will allow them to specialize in one or a related cluster of concepts. The evaluation procedures of the Project were designed to generate descriptive data on the activities of the Project and comparative data related to achieving the objectives of the courses taught in the cooperating secondary schools. Three specific domains of data appear to be the appropriate concern of Project evaluation: (1) ingredients all factors brought to the learning situation, (2) processes, teaching acts, learning activities, and school organization, and (3) products, the student and teacher outcomes such as skills, attitudes, and knowledge. (HC)

VT 002 862

EDO 30001

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21 p*

THE AMERICAN INDUSTRY PROJECT: DEVELOPMENT AND EVALUATION

by

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Prepared for

CURRICULUM PROGRAMS IN ACTION: Their Administration and Evaluation,

A conference sponsored

by

CENTER FOR TECHNOLOGICAL EDUCATION,

San Francisco State College,

and

CENTER FOR STUDIES IN VOCATIONAL AND TECHNICAL EDUCATION

University of Wisconsin,

February 15-17, 1967.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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VT 02862

THE AMERICAN INDUSTRY PROJECT:

DEVELOPMENT AND EVALUATION

I. Development and Present Status of American Industry

During recent years, there has been an increasing awareness of the many ramifications of the technological changes taking place in industry. New, more sophisticated jobs are emerging to take the place of those requiring less skill. Workers can no longer plan on remaining in one job during their working years. Even the man employed in a profession, although he may not change jobs, has to spend considerable time to keep abreast of the latest developments in his area. The pressures of the times have fallen not only on the workers but in turn have borne down upon education to provide the timely knowledges and skills the worker needs to keep pace.

Most technological changes are sequential and have firm roots in the past. Automation represents an extension of mass production. Electronic data processing equipment takes over many of the functions formerly done on less sophisticated machines and also provides greatly increased capabilities to analyze and store information. Thus, if education keeps up to date with contemporary technology, change in the educational realm should also be systematic and sequential.

Unfortunately, there are several built-in mechanisms that tend to keep educational programs behind contemporary technology and knowledge. Such things as the lack of communication between the two worlds of industry and education, the outlook of the teachers, and the financial status of our schools tend to create an educational lag. However, the single largest inhibitor of change in education would appear to be the framework or rationale that provides the justification for each educational program, establishes boundaries for course content, and guides the development of courses within curricula.

Such a rationale is vital to any curriculum. Without one there would be chaos. However, a rationale also brings with it certain restraints on progress. New developments are viewed and analyzed in terms of the existing rationale; and, as a result, there is a substantial possibility that the essence of change may be missed. To illustrate this point, consider the nature of industrial arts. Its rationale emphasizes the learning of specific processes and techniques as an avenue to prevocational training and the development of a knowledge of industry.

Fifty to sixty years ago this rationale had considerable utility. However, as new materials and processes were developed and industry evolved into its present intricate form, this rationale has encountered increasing problems in accounting for the contemporary state of industry. Only so many courses can be fitted into a school curriculum and the proliferation of materials, for example, makes it impossible to include a course on each material, as had been done with woods and metals, or on the processes associated with each new material.

This was the situation faced by a number of the staff members at Stout State University in 1962 as they surveyed the existing industrial arts curriculum. After extensive study, this group delineated the following precepts for a rationale for the curriculum now entitled American Industry.

1. Industry furnishes the content to be studied. Industry in this context refers to an institution in our culture which, through the application of knowledge and the utilization of men, money, machines, and materials, produces goods or services to meet the needs of man, and which results in a profit for the institution or society.
2. In order to study industry, the diverse knowledges, activities, and functions encompassed in this realm have to be organized. Thus, there is need for the identification of a structure of industry.

3. Transfer of learning is a composite of identical elements and mental set.

   A. Therefore, concepts[1] learned through encounter with specific situations provide the most logical and effective elements to be learned in the study of industry.

   B. Therefore, a conceptual structure of industry should be developed to organize the concepts of industry.

Directed by these precepts, the members of this study group pursued the study of various structures. One of the major findings of this research was the discovery of the interrelated nature of all the concepts derived for the structure of industry. As a result, the group decided to depict the structure as a "ball" with fourteen sides. Each of the major concepts of industry was located on the periphery of the "ball" at a point formed by the intersection of two sides. The interrelations among the concepts are shown by the lines connecting the fourteen concepts with each other. A graphic illustration of this structure is given on the next page.

Another basic tenet of the Stout study group was that classroom teachers should be involved at an early stage in the design and implementation of this new program. With the aid of a grant from the Ford Foundation, ten industrial arts teachers were brought into the curriculum project which had, by this time, been christened the American Industry Project. These ten men worked with the co-directors, Wesley Face and Eugene Flug, during the summer of 1964 to develop the first course in American Industry.

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[1]The working definition employed by the Project

> . . .describes a concept as a psychological construct resulting from a variety of experiences (detached from the many situations giving rise to it), fixed by a word or idea, and having functional value to the individual in his thinking and behavior (Face and Flug, 1965, p. 10).

A CONCEPTUAL STRUCTURE OF THE KNOWLEDGES NECESSARY TO UNDERSTAND AMERICAN INDUSTRY

672 C

Sufficient promise was evident during the 1964-65 school year to warrant a four year grant from the United States Office of Education. This grant enabled the American Industry Project to expand to twenty teachers in fourteen different schools. The scope and nature of the project did not permit a rigid sampling in the selection of schools and teachers. However, a large city school system was contacted and agreed to cooperate with the American Industry Project. This gave a range of schools from a small rural town to a large urban area. With the inclusion of the large city system, the Project had a school representing each level in Project TALENT's School Taxonomy (Dailey, 1962, Ch. 4, p. 13).

The U. S. O. E. grant also provided funds for additional staff members. A curriculum specialist was hired to plan instructional units, teacher materials, and student booklets. The talents of an audio-visual media specialist were acquired to create instructional aids. Feedback on the effects of the units of study and instructional materials was needed. To accomplish this, two people were added to the staff. One visits the participating centers, observes the American Industry classes, and discusses the progress of the course with the participating teachers. The second man functions as a research specialist with responsibility for constructing needed evaluation forms and supervising the analysis and reporting of the resulting data. The other man added to the American Industry staff has responsibility for the development of a pilot teacher education program at Stout. In 1969, there will be twelve graduates from this program.

Course materials are being developed and evaluated by the Project staff and participating teachers in light of two general objectives:

1. To develop an understanding of those concepts which directly apply to industry.
2. To develop the ability to solve problems related to industry.

Each instructional unit has objectives stated in behavioral terms which emanate from these two primary objectives.

The first course in American Industry gives an overview of the nature of industry and how it operates. Students are introduced to the concepts of industry and some of the interrelationships among them. They also have an opportunity to start and operate their own business. Through this business they become aware of the fact that poor workmanship (processes concept) can reduce sales, (marketing concept) and as a result lower profits (finance concept).

The major goal of the first level course is to build a general knowledge of the conceptual structure of industry, develop the ability to solve problems related to industry, and create an understanding of the relationship of industry to the lives of all members of our society. Thus, students in this course study processes rather than specific skills, and materials in place of woods or metals. In addition, they are exposed to such concepts as research, finance, management, and communications.

The first level course is being taught by nineteen teachers during the 1966-67 school year. Each teacher has been provided with an instructor's guide that details the learning activities and the sequence of instructional units. A set of seven booklets is provided for each student. At the end of the class term, each class is evaluated by the Project and compared to control classes which are not exposed to American Industry.

Four teachers are doing developmental work on the second level course. These men outlined a series of units for the course during the project's 1966 summer workshop. Now, they are trying out their ideas and keeping a record of what works and what needs to be revised. The objective of the second level course is to attain a more sophisticated understanding of the concepts of industry.

The American Industry Project also proposes a third course in which students could specialize in one or a related cluster of concepts. For example, a student might concentrate on the concepts of research, materials, and processes in order to acquire a better comprehension of these concepts and at the same time determine what process can be used with specific materials. This course will involve as much independent study as each student can profitably undertake.

Suggested grade placement of these three courses is Level I in grade eight, Level II in grade ten, and Level III in grade twelve. This represents the grade levels for which the student materials are being prepared. However, several of the participating teachers are teaching Level I in the tenth and eleventh grades with success.

The previous pages have given a general overview of the genesis, development, and present nature of the American Industry Project and its program. Anyone who desires to carefully analyze and evaluate this program should also read The American Industry Project and the Project's proposal to the U. S. O. E. Both of these reports are vital to a complete understanding of what the American Industry Project is attempting to accomplish. (These reports are available from the American Industry Project on request.)

As you read the previous pages you were probably aware of the fact that the American Industry approach differs considerably from industrial arts. This should be expected with the adoption of a new rationale. The initial pages noted that a rationale was necessary but that it also contained a certain resistance to change. Development of a rationale requires considerable effort which results in a certain amount of ego involvement. Discarding a rationale requires that its proponents give up the fruits of this labor, the basic principles that guide their work, and acquire an entirely new set of precepts. This process is

neither easy nor quickly accomplished. As a result, the prevailing rationale is modified and adhered to until it comes to a point where it obviously fails to provide the guidance necessary for the discipline to maintain its status.

The situation that provides the catalyst for a new rationale will have many of the dimensions of a crisis. Furthermore, the new rationale will have to account for all of the changes in knowledge and skill accomplished since the old rationale was formulated. Hence, one should expect the change of a new rationale to be somewhat drastic.[2]

Since a change in rationales has many disruptive effects, there may be some question as to whether the development and utilization of a rationale are worth the cost in time and controversy. However, without a rationale, explicit or implicit, a discipline cannot help but flounder from lack of direction and wither from lack of unified effort on the part of its members. A logical rationale is a basic necessity to a dynamic discipline. What the educator has to be cognizant of is the fact that periodically there will be a need for a new rationale and that the resulting change will have some disruptive aspects.

The preceding pages have given an insight into the objectives and scope of the American Industry Project. The ensuing section will discuss the evaluation procedures utilized by the Project.

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[2]One does not have to be the author of a rationale in order to be reluctant to give it up. Remember that considerable time is expended in learning the rationale before one is allowed to practice it.

II. Evaluation

The evaluation procedures employed by the American Industry Project were designed to generate several types of data. First, there was a need to obtain descriptive data on the activities which emanated from the Project. These descriptive data provide feedback information which is essential for making many of the decisions connected with the daily and long-term functioning of the Project. In addition, these descriptive data accumulate to form a history of the events accomplished. This history provides an important source of information for assessing the extent of agreement between the activities devised to reach the group's objectives and what actually transpired.

The second type of information required was comparative data related to the achievement of the objectives of the American Industry courses taught in the secondary schools cooperating with the Project. Students encounter many learning experiences both in and outside of school that might have some influence on their knowledge and understanding of industry. Thus, the magnitude of the effect that results from the formal study of American Industry has to be assessed in relation to students who are not in these courses. Control groups were secured to provide a basis for making these comparisons. Since the research design will be described in further detail later in this paper, additional comments on it will not be made here.

Now that the general uses of information pertaining to the Project have been identified, attention can be focused on the sources of these data. Three specific domains of data appear to be the appropriate concern of the American Industry Project. These three domains have been entitled. "ingredients," "processes," and "products" in this paper.

Scope of the Evaluation

"Ingredients" refers to all of the factors brought to the learning situation by the several agents involved. An initial factor is the instructional materials designed for the American Industry curriculum. These materials include resource books for the teachers, the teacher's guide, and the student materials. Since these materials are based on the structure of industry and the concepts derived by the Project, this structure and the concept models also have to be evaluated and verified.

Characteristics of the students to which American Industry is taught represents another ingredient. Their abilities, interests, and knowledges will have considerable influence on what is accomplished. In like manner, the nature of the teacher will play a vital role, and, thus, it forms another ingredient. Finally, the school and the community in which it functions will exercise considerable influence. Such factors as the monetary resources of the community and the educational philosophy of the school have a marked effect on any educational program and especially on an experimental one.

The "processes" domain encompasses the teaching acts, learning activities, and school organization imposed on the ingredients for the purpose of accomplishing a set of objectives. This category refers to ongoing activities entailed in the study of American Industry in the secondary schools. It focuses on the dynamics of the classroom situation and the interactions among the ingredients involved in establishing and teaching a class in American Industry. Thus, the actions of a reticent department head are as much a part of this domain as the interaction between teacher and students during a class discussion.

"Products" forms the last domain for the evaluation and it embraces the outcomes of the study of American Industry. Student knowledges, understandings, skills, attitudes, and interests are facets of this area. In addition, the

attitudes and knowledges of the American Industry teachers constitute attributes worthy of evaluation in this realm.

Figure 1 is presented below to give a clearer conception of the relationship of these three domains in the evaluation of the American Industry Project. Note that the horizontal arrows connect the "ingredients" to the "products" to graphically indicate the role of the "processes." The vertical arrows denote the possible interactions among the processes.

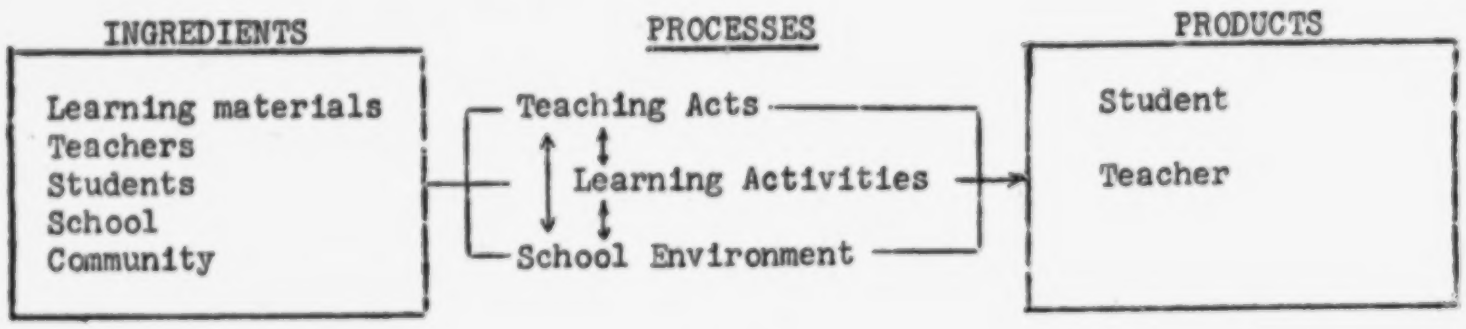

Figure 1

FACTORS ENCOMPASSED IN THE EVALUATION OF THE AMERICAN INDUSTRY PROJECT

Evaluation Instruments and Procedures

Ingredients. First drafts of the American Industry Project's structure of industry and the models for the concepts in this structure were distilled through an extensive and detailed review of literature. Once this had been done, the structure and models were submitted to a number of individuals associated with industry. These consultants to the Project were employed in a variety of service and production industries. Each consultant received the structure and a model and gave his evaluation of them. Several educators closely associated with industry were also contacted.

It is important to note that a variety of industries are represented in this sample. The Project was interested in defining concepts that were

representative of all types of industries. In order to do this, the criticism, thoughts, and ideas of people with assorted vocational experiences were solicited.

Even though a heterogeneous sample of industrial people was contacted, the Project was also committed to developing a unified discipline centered on the study of industry. Observe that this paper refers to the study of industry and that the curriculum has been entitled American Industry. The singular case used in these titles reflects a basic tenet of the Project which holds that the major ideas utilized in individual American businesses are similar enough to be effectively and efficiently studied as a part of one unified structure. For example, the basic ideas in management are the same whether you operate a retail store, manage a large factory, or run a farm.

To accomplish a unified structure, the Project staff studied the verbal and written comments of the consultants. As new insights were obtained, they were incorporated into revised editions of the concept models. These revisions were then submitted to additional consultants. The Project intends to continue this process of consultant evaluation in order to refine the structure of industry and the concept models and keep them current with the best thinking in industry.

During the past three years, the participants in the American Industry Project have developed a number of teaching materials. The teacher resource books and lesson plans are evaluated through the comments and suggestions made by the participating teachers. A reporting form has been distributed to the teachers for use in giving their general impressions of these materials. Specific comments are made in the material at the point they apply. After an instructional unit is completed, the materials for the unit are returned to the Project where the comments are recorded and analyzed.

The student booklets written for the American Industry courses are evaluated through student and teacher comments. Each student completes a rating scale on each booklet. Responses to statements on the reading level, content, degree of interest in the material, and format of the booklet are requested. The reading level comments will be compared with the student's reading ability and the reading level of the book as measured by the Dale-Chall formula (Dale and Chall, 1948).

American Industry students are encouraged to make specific comments in their booklets and to underline words they do not comprehend. Observations by the participating teachers are also requested. As the teachers read the booklets in preparation for presenting the lessons, they are watchful for errors of commission and omission.

Information related to the education, work experiences, and teaching experiences of the participating teachers was collected through the use of a questionnaire completed when applications for the teaching positions were made. Further background information was obtained from interviews with the applicants and a review of their college records. After the teachers were selected, their teaching competencies were strengthened through a series of micro-teaching sessions (Bush and Allen, 1964). During these sessions, the teachers presented five to ten minute American Industry lessons to groups of four or five junior high school students. These students rated their teacher. Then, the video tape of the session was played back to the entire Project staff. As the playback was viewed, the staff completed the Stanford Teacher Competence Appraisal Guide (Stanford University School of Education). One copy of the Appraisal Guide was given to the teacher and one copy was retained for the Project's files. After the video tape had been viewed, the micro-teaching session was discussed by the group and suggestions were given for improving the presentation.

Several types of data are collected on the participating students. Each student involved in the evaluation of an American Industry course answers a series of items which pertain to his interests, work experience, family background, and school experience. Most of these items were selected with Project TALENT's permission from the Student Information Blank (Flanagan, Davis, Dailey, Shaycoft, Orr, Goldberg, Neyman, 1964, Ch. 5). In addition, the participating schools release the standardized achievement and ability test data to the American Industry Project. This information provides a good description of the student's ability, achievement, social-economic status, experiences, and interests.

In those schools in which the experimental and control classes cannot be composed by random selection, the students are pretested on their knowledge of industry. When pretesting is done, one-half of the students receive the test developed by the Project to measure knowledge of industry and the others take a test based on industrial arts content. The two tests are randomly distributed to the students being tested. This procedure permits a determination of the degree of reactivity associated with the pretesting.

Information on school characteristics is obtained from several sources. The participating teachers submit copies of their teacher handbooks, class schedules, and student handbooks. They are also required to complete a questionnaire which contains items selected from Project TALENT's School Questionnaire (Dailey, 1962, A1-A10). These items pertain to the students' education aspirations, the financial status of the school, and the educational program offered. Further information on the schools comes from photographs and reports from the Project's staff members who have visited the schools.

Descriptions of the communities that support the participating schools are written by the teachers. To supplement this, the Project obtains phone books and city directories for these communities. In some instances, literature or brochures developed by civic or business organizations are also available.

Processes. Direct observation of the American Industry classes by Project personnel provides the basic data for evaluating the processes involved in the study of American Industry in the secondary school. Use of the Stanford Teacher Competence Appraisal Guide produces a systematic and consistent set of observations on each participating teacher. This rating scale directs the observer to consider the aims and planning encompassed in a lesson and the quality of the presentation. The Appraisal Guide also focuses the attention of the observer on the interactions between the teacher and his class. Pupil-teacher rapport, pupil participation, and the pacing of the lesson are rated.

The last section of the Appraisal Guide concerns the relationship between the participating teacher and the other staff members in his school. Specific items in this section deal with the teacher's concern for the total school program and the work of his colleagues. Ratings on this portion of the scale are made on the basis of the observer's conversations with the participating teacher, administrators, and other staff members in the school. Frequently, the observer will have an opportunity to view teacher-administrator and teacher-teacher relationships in formal meetings or in informal sessions in the faculty lounge.

In addition to completing the Appraisal Guide, the observer records general comments on the classes observed and the school environment. The progress of the American Industry classes is noted and the lessons studied during the visit are recorded.

Additional information on the teaching acts and learning activities accrues in the lesson plans and comments made by the participating teachers. Also, the rating scale for the student booklets requests the students to indicate the extent of their utilization of the booklets. A more subtle measure of the usage of the booklets is the extent of wear evident on the booklets.

All of the data in this realm reflect the degree of success achieved with the materials and lesson plans developed by the Project. Furthermore, they indicate the extent to which the original lesson plans and course plans were followed by the participating teachers.

Products. Several products are of primary interest in the evaluation of the effects of the study of American Industry. Immediate feedback is received from an achievement test constructed by the Project. This test presents sample industrial problems to the students along with more factual items. Several items which assess the ability to think conceptually about industrial situations are also included. This test was constructed to measure the objectives delineated by the American Industry Project. The achievement test will also be administered to a sample of industrial employees to ascertain if it distinguishes between the adaptable and successful workers and those who receive low performance ratings.

Student reactions to the American Industry courses are requested on a free response form patterned after a questionnaire designed by Gump (1965). The first part of the form asks the students to rank the courses they like and give the reasons for their attraction to the courses. In the second part, the students rank the courses they dislike and state their reasons for disliking them.

Egan found that the 1965-66 American Industry students "liked" their American Industry course as much as the other courses in their class schedule. (Egan, pp. 33-34). However, he also received significantly fewer negative rankings and comments related to the American Industry courses. In the last part of his questionnaire, Egan asked each student to relate what he liked and disliked about the American Industry course in which he was enrolled. In brief,

the students liked the utility, the characteristics of their teacher, and the learning activities employed. Dislikes were associated with the personality of the teacher and the lack of adequate learning activities in some units of study (pp. 39-41). Since there were significantly fewer dislikes stated for the American Industry courses in comparison with other courses in the students' schedules, the judgment of these students appears to be very favorable.

The Project is also interested in the vocational behaviors of the students in its sample. At the close of each American Industry course the students involved in the evaluation record their vocational preferences on the Project's Occupational Preference Form. They also indicate the reasons for their choice, how they intend to prepare for the occupation, and who influenced them to make their choice. For the most part, however, collection of data in this realm will be a long-term task.

A follow-up study has been funded for 1970. It is the hope of the Project staff that a more extensive follow-up study may be undertaken. Most of the questions associated with the influence of the study of American Industry on vocational behavior will require data from the vocational experiences encountered during the first five to ten years out of high school. Of special importance will be the career patterns of students in the evaluation.

A longer follow-up study would permit an evaluation of the exploration period of vocational behavior and the initial phase of the establishment stage. Moreover, a follow-up study over this period of time would probably span at least two business cycles. And, it would not be as vulnerable as a short-term follow-up to an event such as an increase in the military draft. In any event, vocational behaviors will have to be analyzed and judged in light of the existing level of the economy and any other factors that might influence job entry and advancement.

The students' grades in the American Industry courses are submitted to the Project by the participating teachers. A part of the 1966 summer workshop was devoted to in-service instruction in evaluation. In addition, the teacher materials contain suggested evaluation techniques. Hence, these grades should reflect, to a fair extent at least, the attainment of course objectives.

A number of the actions of the participating teachers indicate that they have been influenced by their exposure to American Industry. Several have taken an interest in investing in the stock market. And, two men resigned from the Project so that they could start their own businesses.

Changes in the professional interests and activities of the teachers have also been noted. Calls have been received by the Project for information which was not available in the local community but which was needed to complete a research activity. Recent questions by the teachers have given evidence of an increased awareness and interest in the philosophical and practical problems in industrial education.

Some special evaluation techniques are being investigated for use in the Project's evaluation program. For example, the free association method of analyzing meaning discussed in separate articles by Noble (1952) and Deese (1962) is being tried out during the 1966-67 school year. Also being tried are tape recorded interviews with selected students.

The previous paragraphs have described the data collected on the "products" associated with the study of American Industry. However, there is more to evaluation than collecting data. Appropriate analyses have to be carried out to isolate the facts embodied in the data collected. Note that a variety of instruments are being employed to gather data. This approach was selected to avoid the singular bias of any one measuring technique.

Three different categories of evaluation are being utilized by the American Industry Project. The knowledges, skills, and understandings which result from the study of American Industry are compared with the objectives stated for the courses. The purpose of this evaluation is to describe the extent to which the objectives are attained. American Industry students are also compared to students who do not enroll in these courses. This is done to assess the magnitude of the effect of the formal study of American Industry. Two levels of comparison, experimental, and quasi-experimental, are included in the evaluation program (Campbell and Stanley, pp. 171-246). In as many participating schools as possible, arrangements are made for an experimental design. However, this has proved to be impossible in some settings and a quasi-experimental design has had to be employed. At the present time there are seven experimental settings and six quasi-experimental.

As noted earlier in this paper, the participating schools were, for the most part, not selected on the basis of a sampling plan. Thus, a question can be raised concerning the representativeness of the results obtained in these schools. In recognition of this circumstance, two decisions were made. First, as much information as possible would be collected on the characteristics of the students participating in the evaluation. To obtain information that would be amenable to comparison with existing data permission was obtained from Project TALENT to utilize several of their information forms. Through this procedure the Project will attempt to determine how typical or atypical its students and schools are.

The second decision was to treat each school as a separate experiment and analyze results in terms of the specific school setting. Moreover, no attempt would be made to generalize to schools not in the sample. Rather, the results will be reported in detail, and any school considering the adoption of the American Industry curriculum will have to consider this evidence in relation to the nature, philosophy, and goals of their school system.

BIBLIOGRAPHY

Bush, R. N., & Allen, D. W. Micro-teaching: controlled practice in the training of teachers. Paper read at Santa Barbara Conference on Teacher Evaluation of the Ford Foundation, Santa Barbara, April, 1964.

Campbell, D. T., & Stanley, J. C. Experimental and quasi-experimental designs for research on teaching. In N. L. Gage (Ed.), Handbook of research on teaching. Chicago: Rand McNally & Company, 1963, 171-246.

Dailey, J. T. A system for classifying public high schools. In J. C. Flanagan (Ed.), A survey and follow-up study of educational plans and decisions in relation to aptitude patterns: studies of the American high school. Pittsburgh: Project TALENT, 1962, Ch. 4, & Appendix A.

Dale, E., & Chall, Jeanne S. A formula for predicting readability: instructions. Educational Res. Bull., 1948, 27, 37-54.

Deese, J. On the structure of associative meaning. Psychol. Rev., 1962, 69, 161-175.

Egan, E. M. A study of student attitudes in american industry. Unpublished master's thesis, Stout State University, 1966.

Face, W. L., & Flug, E. R. F. The establishment of american industry as a transitional subject between general and vocational education. American Industry Proposal to USOE, Stout State University, Menomonie, Wisconsin, 1965.

Flanagan, J. C., Davis, F. B., Dailey, J. T., Shaycoft, M. F., Orr, D. B., Goldberg, I., & Neyman, C. A., Jr. The identification, development, and utilization of human talents: the American high school student. Pittsburgh: Project TALENT, 1964, Ch. 5.

Gump, P. Personal communication. October 29, 1965.

Noble, C. E. An analysis of meaning. Psychol. Rev., 1952, 59, 421-430.

Stake, R. E. Countenance of educational evaluation. Center for Instructional Research and Curriculum Evaluation, University of Illinois, 1966. (Mimeographed)

Stanford University School of Education. Stanford teacher competence appraisal guide. Stanford: Stanford University.

Webb, E. J., Campbell, D. T., Schwartz, R. D., and Sechrest, L. Unobtrusive measures: nonreactive research in the social sciences. Chicago: Rand McNally & Company, 1966.

VT 002 872
The Challenge of Jobless Youth.

President's Committee on Youth Employment, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Apr63 26p.

*YOUTH EMPLOYMENT; *YOUTH PROBLEMS; YOUTH OPPORTUNITIES; EMPLOYMENT PROJECTIONS; UNEMPLOYMENT; LABOR FORCE; *MANPOWER DEVELOPMENT; VOCATIONAL EDUCATION; VOCATIONAL DEVELOPMENT; *EMPLOYMENT OPPORTUNITIES; PUBLIC POLICY; YOUTH PROGRAMS; *PROGRAM IMPROVEMENT

The several subcommittees of The Committee on Youth Employment generated more than 90 recommendations relative to the unemployment problems of youth. Through a distillation of these recommendations and a Committee consensus that new and stimulating policies for education and training, guidance, employment opportunities, and economic growth are imperative for meeting the challenge of preparing all youth for future productive employment, 15 final recommendations were prepared. The recommendations were drawn from facts indicating that large numbers of youth were unemployed and the outlook for the future was dim unless programs were implemented to insure that opportunities for training and jobs would be available to the vastly larger number of youths entering the job market in the 1960's and 1970's. Some of the 15 remedial actions recommended were: (1) Each state and city should establish a continuing commission on youth affairs concerned with youth employment, (2) Employers and unions should reexamine their hiring, training, and promotion policies and programs to see how they can better employ young people and eliminate the discrimination against minority youth, (3) School officials should reappraise their instructional program in the light of labor market demands and they should strive immediately to bring inadequately educated out-of-school youth up to at least minimum standards of employability, and (4) A federal program for urban and conservation employment and training of youth should be enacted promptly. The appendix contains statements of individual committee members who differed with the Committee's recommendations or wished to express additional views. "Reports of Subcommittees of the President's Committee on Youth Employment" is available as VT 002 817. (ET)

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JUN 25 1967

THE CHALLENGE OF JOBLESS YOUTH

VT 02872

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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THE CHALLENGE OF

JOBLESS YOUTH

April 1963

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*Resigned December 31, 1962, on completion of his term as Governor of Tennessee.

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PRESIDENT'S COMMITTEE ON YOUTH EMPLOYMENT

WASHINGTON 25, D.C.

April 24, 1963

The President,
The White House,
Washington, D.C.

Dear Mr. President:

Your Committee on Youth Employment is honored to submit the attached report and recommendations: "The Challenge of Jobless Youth."

This report reflects a consensus of Committee views reached through many meetings and much discussion since its appointment by you on November 15, 1961.

The Committee's 15 recommendations set forth in the report represent a distillation of more than 90 recommendations which emerged from the several subcommittees. In brief, the Committee believes that new and stimulating policies for education and training, guidance, employment opportunities, and economic growth are imperative. The challenge is urgent, the task is large, and the time is now.

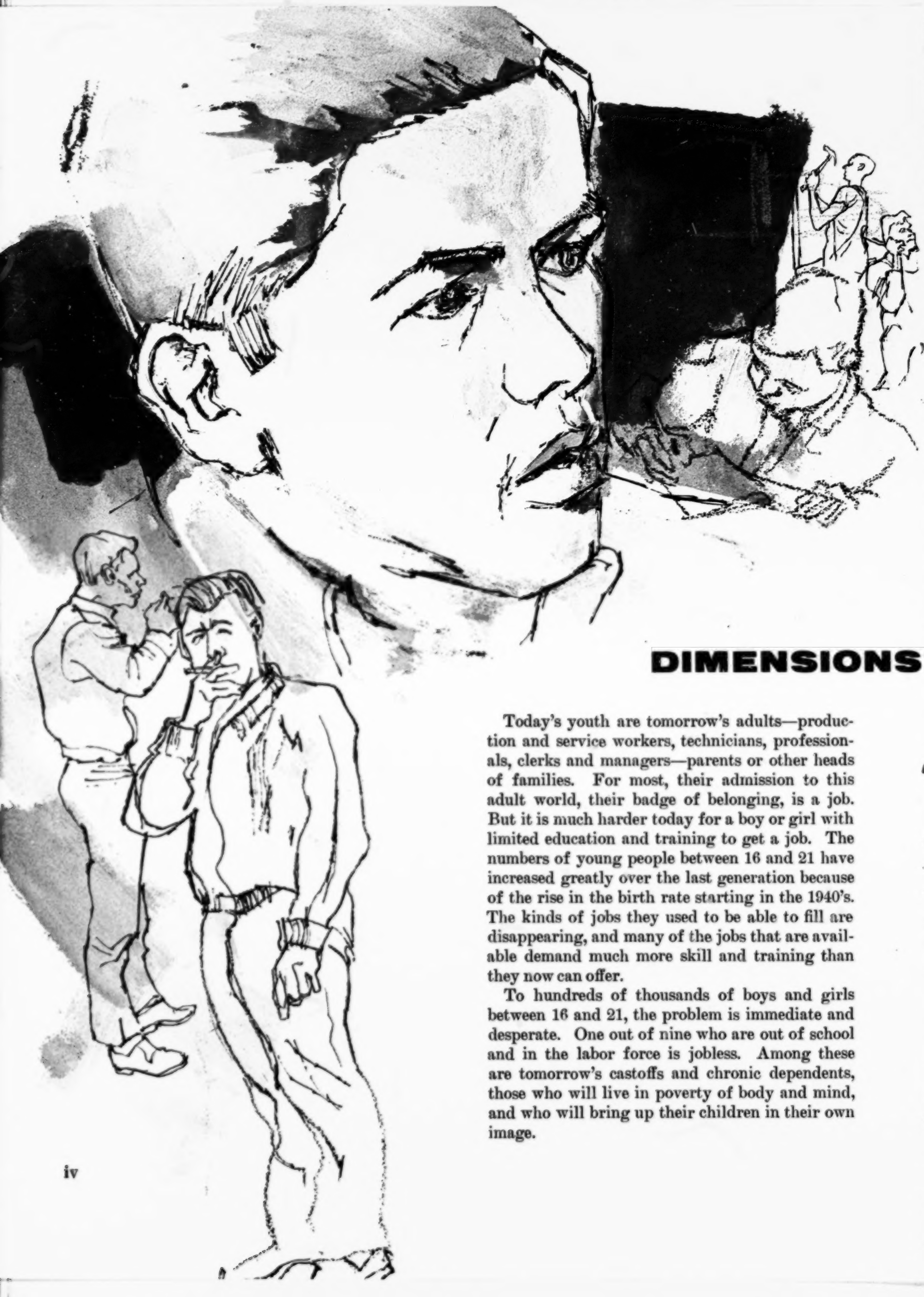
These proposals present a challenging platform for action for government agencies and private groups, as well as for each of us as citizens.

The Committee is available for any further service you wish, and is deeply appreciative of the opportunity to serve and to convey its views to you on a problem of the deepest concern not only to our youth of today and tomorrow but to the strength and character of our Nation in the decades ahead.

Respectfully,

W. Willard Wirtz

W. Willard Wirtz
Chairman.



DIMENSIONS

Today's youth are tomorrow's adults—production and service workers, technicians, professionals, clerks and managers—parents or other heads of families. For most, their admission to this adult world, their badge of belonging, is a job. But it is much harder today for a boy or girl with limited education and training to get a job. The numbers of young people between 16 and 21 have increased greatly over the last generation because of the rise in the birth rate starting in the 1940's. The kinds of jobs they used to be able to fill are disappearing, and many of the jobs that are available demand much more skill and training than they now can offer.

To hundreds of thousands of boys and girls between 16 and 21, the problem is immediate and desperate. One out of nine who are out of school and in the labor force is jobless. Among these are tomorrow's castoffs and chronic dependents, those who will live in poverty of body and mind, and who will bring up their children in their own image.

OF THE PROBLEM

By themselves, they cannot change their situation. Without immediate, bold, and imaginative action, these young people today and a much larger proportion tomorrow will be foredoomed to failure and frustration.

Underlying all efforts to help youth is the need for expansion of the economy. Unless the number of job opportunities for all workers can be expanded it is unrealistic to expect that jobs for youth will be substantially increased. Every available step should be taken by government and private enterprise, therefore, to stimulate and strengthen the economy, accelerate its growth, increase its productivity, and expand employment.

Even while efforts are being made to strengthen the economy, however, much can be done to employ more young people.

As Americans the challenge of youth unemployment confronts us all.

This challenge cannot be turned aside by a statement that most young people with adequate preparation will find steady, satisfying, and productive work at good wages. Unfortunately, other hundreds of thousands of boys and girls can look forward only to lives of drudgery and intermittent work. For them the outlook is bleak. Life is empty, with survival the only incentive.

This condition need not exist. But it will continue to exist unless the conscience of Americans can be moved to action, determined to see that all boys and girls have the chance to become a part of the productive world.

The facts are startling:

- During the school months of 1962 from 600,000 to 800,000 young people between 16 and 21—as many as the entire population of cities the size of San Francisco, St. Louis, or Boston—were out of school and looking for jobs.

- About 1 in 6 of all the unemployed who are out of school are 16- to 21-year-olds, although this age group makes up only about 1 in 14 of the Nation's labor force.

- Unemployment among teenage Negro youth is double that of white boys and girls.

- School dropouts suffer most from unemployment and have greater difficulty in finding work.

Coupled with these sobering facts about the present is the even more disturbing outlook for the future. We face an unprecedented growth in the number of young people and a substantial reduction in the numbers of jobs traditionally open to youth.

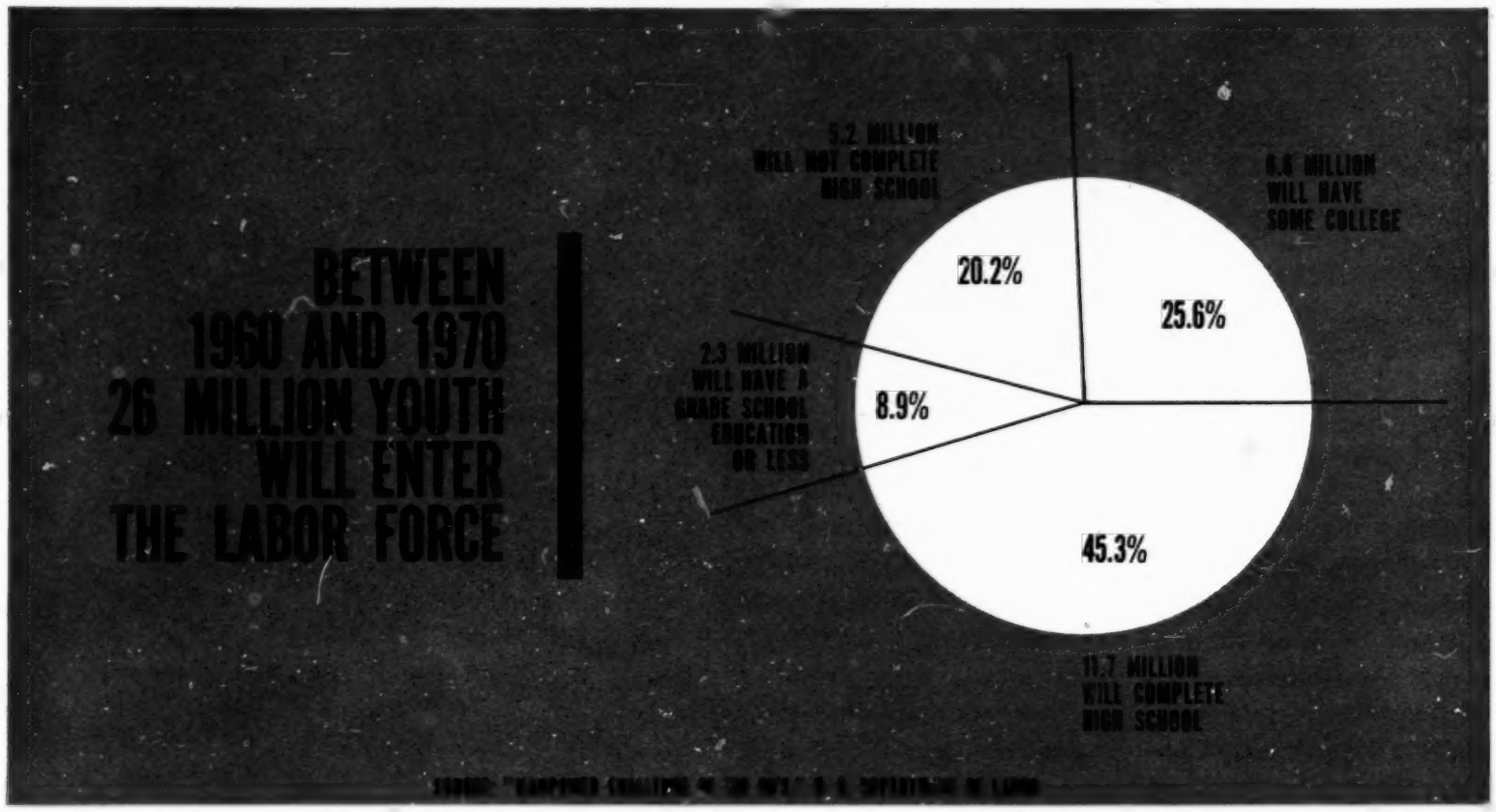
- Twenty-six million boys and girls will leave school and seek jobs during the 1960's, 40 percent more than in the 1950's. By the late 1960's three million new young workers will enter the labor force each year.

- If our current rate of youth unemployment persists, as the youth population increases, by 1970 the number of unemployed youth will be close to 1½ million.

- Only about 1 in 10 boys now living on farms can expect to make an adequate living in agriculture.

- In the 1960's, while the labor force is growing so rapidly, employment needs for unskilled workers will remain about the same and for farmworkers will drop about 20 percent. These occupations have always been an important source of beginning jobs for young men coming out of school. By contrast, jobs will rise by about 40 percent for professional and technical workers, and 20 percent for sales workers and for managers and proprietors.

- At the same time, more education and training is now required. The average professional or technical worker now has more than 4 years of college; clerical workers have more than a high school education.



The world confronting young people today is different from the world of their grandparents or parents. Old answers are outdated.

Before 1910 and even in the 1920's, many jobs were open to young people. Youths were needed on farms, were employed in local distribution and service trades, in factories, shops, and even mines. Nearly everyone could count on finding a job he could do with relatively little schooling.

These conditions no longer prevail. Our living and working standards as well as our job requirements now impose greater demands.

Automation, mechanization, and scientific advances are causing many unskilled jobs to disappear. Today's and tomorrow's jobs require higher skills, more maturity and judgment, and more experience.

More and more workers, both blue collar and white collar, are finding that their occupations differ materially from those of a decade ago. Most workers of a previous generation could expect, after learning a trade, to follow that trade as a life's work. Today, retraining and reeducation are being demanded.

The Armed Forces still provide training and education for substantial numbers of young men but in smaller numbers than formerly. Also, they take considerably fewer of those who score very low on the qualification test.

The failure of large numbers of boys and girls with above-average academic ability to enter college or, having entered, to graduate reduces the number of job opportunities open to the less able young worker. Studies by the National Science Foundation indicate that, nationally, less than half of those in the top third of their high school graduating class go on to graduate from college. Clearly, these youth are not benefiting fully from the educational opportunities open to them. The result is that they take jobs at less than their potential capacity, thus overshadowing other young people with lower abilities who would be able, nevertheless, to handle the jobs adequately if they could get them.

If the large numbers of boys and girls who are equipped to succeed in college completed the work required to train them for technical or professional jobs, the Nation would benefit by the fuller use of their capacities, and the shortage of skilled and technically trained manpower would be reduced. At the same time, the number of opportunities for less qualified young workers would be increased.

One major fact unites the hundreds of thousands of young people who are out of school and out of work. Confronting a world where jobs are scarce and diverse, they are unprepared to take many of those available today, and will be less prepared tomorrow as hiring requirements rise.

These young people differ widely in many personal characteristics. They include boys and girls, whites and nonwhites, farm and city youth, youngsters who have not finished junior high school and those with high school diplomas. They come from good schools and poor ones, with a wide range of abilities and attitudes toward work and the world about them.

Many of the unemployed youth live in congested city areas, surrounded by social disorganization, poverty, and despair. Their families usually occupy most inadequate housing. They are surrounded by other disadvantaged people, many of whom are unemployed or intermittently employed at low wages. Without successful examples among their elders to guide them, the youth of such families are unlikely to succeed.

Many of these slum families have come from rural areas where farm opportunities have declined sharply. Their financial resources are likely to be small, their understanding of city ways limited. Friends and relatives are of little value to them in finding a job. Coming from rural, sometimes segregated, schools, the preparation of both parents and children for city life and work is likely to be inadequate.

Girls as well as boys should take full advantage of the education and training available to them as teenagers. Girls' problems of jobfinding are most acute, not at school-leaving age but much later, when they are adults and their family responsibilities may require their entry or reentry into the labor force. Women already constitute one-third of the labor force, but girls, because they typically plan for marriage and homemaking, rather than career jobs, are too frequently content with acquiring only relatively low skills. Thus they are likely to be handicapped later in life when satisfying and remunerative employment may be so important to them.

Negro or other minority youth suffering from discrimination face even more cause for frustration, resentment, or defeat.

Opening job opportunities to unemployed youth means unlocking not one door but many. Discrimination bars some of them from jobs for which they are qualified. Some simply need additional training and preparation. Others are unable to read and write well enough even to apply for a job, let alone to perform one adequately. Some have never acquired the kind of self-discipline which is needed to work steadily. Many have not learned to find satisfaction and personal fulfillment through working. Some are unrealistic, holding out for jobs which are not available or which make demands they cannot meet. Some are qualified, but cannot find jobs.

No simple way exists to lift these boys and girls out of their idleness and frustration. Hundreds of thousands of jobs and training opportunities are needed, in thousands of different communities and neighborhoods. The solution is difficult precisely because the need is immediate and urgent, responsibility is fragmented, and no single program can provide a major share of the opportunities required.

The solution to these problems must be sought in two directions. Two questions must be answered:

- What can be done now to make job opportunities available to the hundreds of thousands of young people now out of school and unable to find work?
- What should be done in the longer run to insure that opportunities for training and jobs will be available to the vastly larger number of youths entering the job market in the 1960's and 1970's?

We believe the proposals which we are presenting in this Report constitute a necessary minimum program to develop the potential present in our young people.

We believe further that the cost which they entail will be repaid many times over in the constructive energies which they release in these young people and in greatly reduced costs of dependency.

Private enterprise, the major source of all employment, necessarily has a major responsibility for employing youth. Both management and labor must recognize the importance of their roles in employing and training youth. However, both must support and work with public and private agencies, since only through an effective partnership of all forces can the problems be solved.

Such a partnership is imperative in order to marshal resources on many fronts at once. Both our immediate and long-range recommendations will be effective only if diversified resources are jointly committed to the attack on youth unemployment.

In many areas, substantial progress has been made. Some neighborhoods, cities, and States have identified problem areas, determined what action is needed by what agencies, and coordinated available resources in a concerted attack on the problems of jobs and training.

We believe that such efforts should be started in every community, and where they already exist should be extended and strengthened.

RECOMMENDATIONS

IMMEDIATE NEEDS

1. We recommend that the governor of each State and the mayor of each city establish or initiate a continuing commission on youth affairs concerned with youth employment.

Where youth commissions already exist, the governors and mayors should see that youth employment is included in their charge, and that aggressive programs are sponsored to provide job and training opportunities. Where the commissions are operative but not aggressive, they should be revitalized.

In some areas, such commissions will need to be organized by counties, metropolitan districts, or appropriate local political subdivisions as, for example, the District of Columbia.

Such commissions should be representative and nonpartisan, and should include the agencies which deal with youth preparation and employment. They should weld existing resources—schools, employment agencies, employers, labor groups, service organizations, and welfare agencies—into a force to improve the opportunities for youth. A major task will be to develop public understanding of the problems of youth unemployment and of the close relationship between employment and effective education and training.

State commissions should formulate policy and consider needs for legislation in the fields of education, counseling, training, labor standards, and research. They should develop a coordinated fact-finding program which will identify and describe unemployed youth, and which will locate and describe existing jobs. It is expected that the additional costs, if any, of operating these commissions will be met from State, local, and private sources.

Local commissions should coordinate the activities of local public and private agencies responsible for education and training, jobfinding, and counseling and guidance. They should be the channel for developing and coordinating programs for youth employment to meet the needs of their communities, and of specific neighborhoods where the need is the greatest.

Here is where the problem is, and here is where the solution must be found. Federal programs for full employment, aid to vocational education, and subsidized work experience are of major importance in meeting the challenge, but they must make their impact in the local community. Local management, labor, citizen groups, schools, and other agencies should join together to determine what is to be done, how each can help, and what timetable is to be adopted.

Note: Some individual Committee members differed on several recommendations in the Report, or wished to express additional views. Their statements appear in the appendix.

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2. Employers (including private business and industry, and private and public agencies) and unions should reexamine their hiring, training, and promotion policies and programs to see how they can better employ young people. Vital to this recommendation is the elimination of discrimination against minority youth.

These efforts should seek to:

a. Reduce education and skill requirements, where practicable, for beginning level jobs, and set up appropriate on-the-job training programs. Demonstration projects indicate that many young people who now cannot get jobs have, in fact, considerable potential if they are properly prepared.
b. Develop training programs to facilitate the upgrading and promotion of employees to higher level jobs, thus creating vacancies at beginning levels for which unemployed youth may be hired and trained.
c. Review possibilities for undertaking work of economic usefulness which is not now being done. The Committee is convinced that with imagination and determination many job opportunities (including part-time jobs) could be made available to youth. Business and industry, voluntary agencies, social service groups, and local, State, and Federal agencies should all examine their needs to determine how many young people they could usefully employ at such tasks.

The facilities of the 1,900 public employment offices of the State employment services affiliated with the United States Employment Service are an important locally available resource to assist employers, schools, and community agencies in helping youth to make the transition from school to work.

We urge the United States Chamber of Commerce, the National Association of Manufacturers, and other employer groups both private and public to endorse the proposals in this recommendation and to join in a national effort to promote them among their members.

3. Unions as well as employers should reexamine and revise those rules, contract provisions, and practices which unduly restrict the entry of youth into beginning jobs. Vital to this recommendation is the elimination of discrimination against minority youth.

To open up established apprenticeship programs for unemployed youth, sponsors of these programs should institute pre-apprentice training. This preparation, lasting 1 to 6 months, would be conducted off the job. Young persons would thereby acquire elementary knowledge of tools and skills needed to make them productive from the first day of employment in regular apprenticeship programs. Upon successful completion of this training, the individual would be admitted to established apprenticeship programs, with credit allowed for the time spent in pre-apprenticeship training. Provision should be made for suitable training allowances to pay for transportation and incidental expenses. Costs should be borne by industries, unions, and vocational education and other existing funds. The program would offer effective and practical screening for apprenticeship training, helping both employers and unions to get better qualified apprentices.

Where collective bargaining agreements prevent the carrying out of this recommendation and the preceding one, unions and employers should negotiate changes and cooperate in establishing programs designed to encourage youth employment. The AFL–CIO is urged to lend its support and encouragement to such efforts and to seek the cooperation of its member organizations.

4. To expand apprenticeship training to new trades and to open up apprenticeship opportunities, the Secretary of Labor should arrange for a study and review of apprenticeship training programs and future needs.

Changing technology, labor mobility, shifting occupational requirements, and developments in teaching techniques all point to the necessity to increase both the quantity and quality of apprenticeship training, and to extend those programs to new occupations.

5. School boards and other school governing bodies in local communities should develop within their systems intensive programs to bring inadequately educated out-of-school youth up to at least minimum standards of employability immediately.

Local school systems should set up crash programs for the great numbers of boys and girls who are out of school and unable to get jobs because they lack basic skills in reading, writing, speaking, and the use of numbers. Such programs will require that funds be made available to obtain adequate classrooms and skilled teachers, able and anxious to impart the minimum skills which will enable these young people to find and keep jobs.

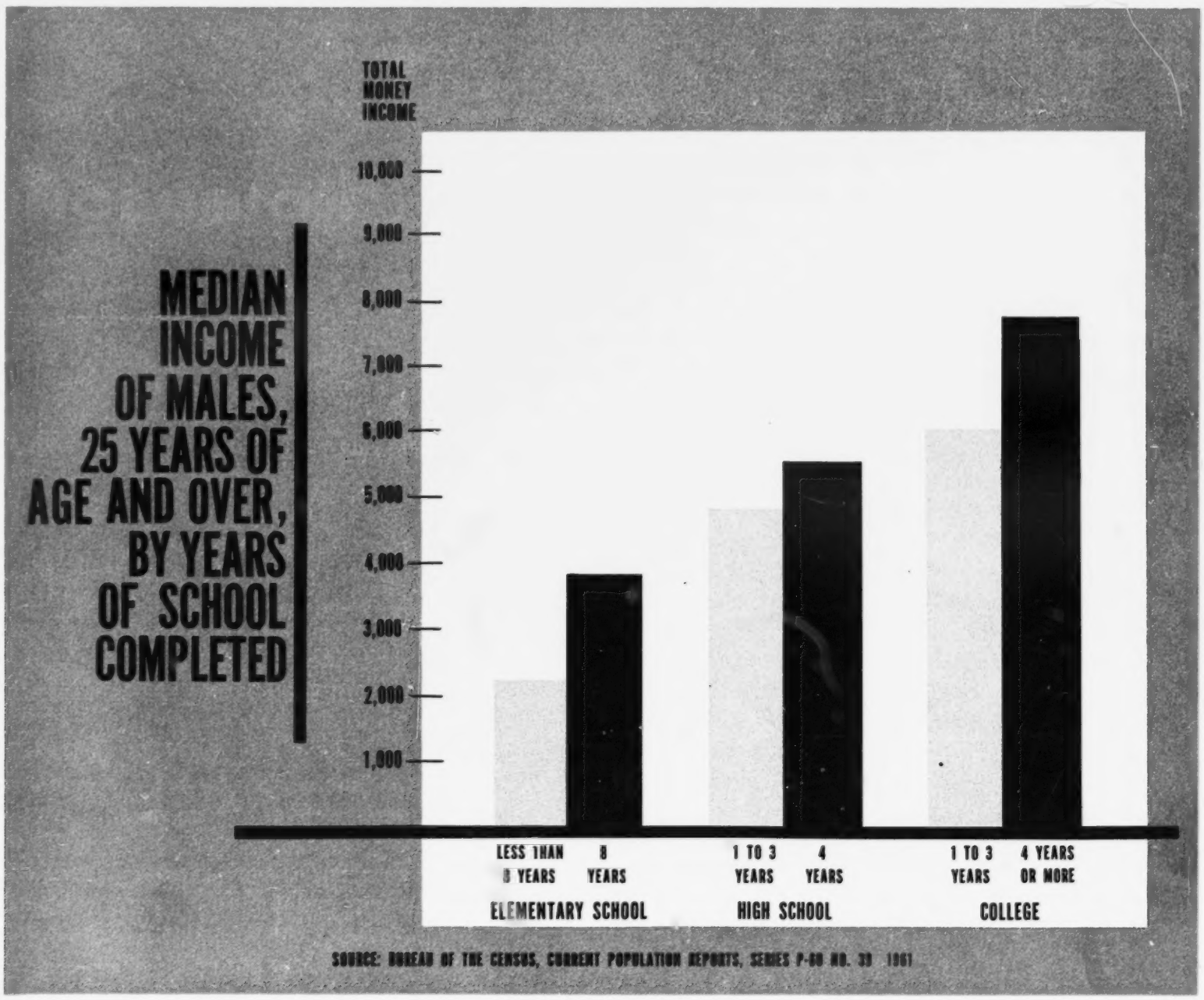
6. A Federal program for urban and conservation employment and training of youth should be enacted promptly.[2]

Youth unemployment is so serious and so widespread that special opportunities for employment and training in urban and conservation projects which will increase the employability of youth are necessary under conditions that will provide disciplined work experience. We support a $100-million appropriation each year for 3 years for this purpose. Future use of this approach on a longer range basis should depend both on need and on the success of this initial venture.

7. The Manpower Development and Training Act should be amended so that a more realistic proportion than the present 5 percent of annual training allowances in the act be made available for unemployed youth. In addition, training allowances should be provided for young people 16 through 18 years of age who have been out of school and out of work for 1 year or more.

The present law provides that 5 percent of the total training allowances paid annually may be used for youth. Substitution of a higher percentage would permit more young people to enter training programs. Extension of training allowances to younger boys and girls would assist them, as circumstances required, to get the training they must have if they are to find jobs.

[2] Two members dissented from this recommendation and five members wanted a stronger statement. Their views appear in the appendix, p. 14.



FUTURE JOBS FOR YOUTH

More and more young people are reaching working age each year. By 1970 the number of boys and girls reaching 18 will be 3.7 million—about one-third more than the 2.8 million in 1962.

While making opportunities available for the hundreds of thousands of young people now out of school and not at work has the highest priority, we must without delay start work on programs which will not only keep the number of unemployed youth from rising as the population grows, but will cut it down as rapidly as possible.

The answer to our long-range problem is a double one: more jobs that young people can fill, and better preparation to equip them for their future jobs.

As we have previously noted, more jobs for more young people depend primarily upon an increase in the Nation's rate of economic growth. But other than economic measures and programs are also needed. Most important of these are the revision, expansion, and improvement of the various means of education and training, so that boys and girls now in school will have a clearer idea of the nature of the jobs that will be available, the training and education that will be required of them, and the avenues of advancement open to them.

The link between job opportunities and better preparation is very close. In fact, one of the most fundamental conditions of future sustained economic growth is a better educated and better prepared youth. We believe that investment in the education and training of workers has a positive influence on the growth of our economy and the prosperity of our people.

Specifically, we make the following long-range recommendations:

8. Local school boards and school administration officers should take the necessary steps to improve teaching methods and strengthen curricula for those young people going directly to work from secondary schools.

Such actions should:

a. Identify nonachieving children early, with the reasons for their failure.
b. Institute remedial teaching where this is indicated.
c. Broaden curricula to provide courses and teaching techniques aimed at meeting the needs of children who are not academically oriented.

d. Make available work-experience courses for pupils at ages under 16 where such courses seem advisable as an aid in teaching work habits and holding the interest of children who might otherwise drop out of school.

e. Set up programs to teach those youth who, having left school, are aware of deficiencies in their schooling or want further training.

f. Make available, for all youth capable of benefiting from it, an additional 2 years of school beyond high school. These years should be used to provide more adequate preparation for subprofessional and technical occupations and should serve to improve the basic education of those who will not go on to college.

g. Expand and improve guidance and counseling services to help pupils plan their school and work careers and assist them in managing their personal and developmental problems.

Our schools face what may be the principal challenge of 20th century public education in gearing their programs to meet the rapid changes in our economy and technology. While the schools have other goals besides the preparation of boys and girls for work, they bear an important share of the responsibility for equipping young people for jobs.

More children than ever before are attending high school and the number being graduated is larger than ever before, yet 1 out of 3 leaves high school before graduation. This dropout rate is totally unacceptable in a nation whose future depends upon greatly increased competence and skill.

The dropout problem must be attacked in the home, the school, the church, local voluntary organizations, employment offices, and any other place where youth, at a critical period in their lives, can be helped toward fuller development of their potentials. A major focus lies in the schools, which should provide a wider variety of teaching better geared to the needs of different types of pupils, as well as exploratory work experiences responsive to their needs and capable of arousing and holding their interest and participation.

School administrations should provide challenging programs for the outstanding students. At the same time, schools should develop the full potential of those students whose top goals do not include graduation from college. While this proposal is not new, its vital importance is sometimes overlooked in our eagerness to encourage the fullest development of those who show promise in science and mathematics.

Counseling and guidance are important. Counselors can help young people plan their school and work careers, and can do much to help in the solution of personal and developmental problems which block effective planning and achievement. A clearer knowledge of the kinds of jobs available, the preparation they require, and the rewards they offer would do much to help young people prepare for and find jobs and advance as they grow in competence and skill.

In a school system operated in 50 States, under thousands of school boards and authorities with widely divergent views of education, levels of support, and number and types of pupils, any generalization is bound to have its limitations. Nevertheless, in discussing national problems, some generalizations are necessary. Many schools do a good job of preparing their students for the future. Many have been inadequately supported and financed, and for this and other reasons have failed to reach their pupils effectively.

We believe, however, that the problems of *all* schools are growing, and that if they are to bear their necessary share of preparing pupils for a more complex future they must be given more adequate financing, greater public understanding and support in their attempt to reach all children, and increased recognition as a major instrument of guidance and leadership.

Many schools have made strenuous efforts to adjust their facilities to the tremendous influx of new pupils, and to develop programs to meet the needs of changing methods and technologies. Some have fallen behind in this struggle, and fears are widespread that the gap will widen.

Many of the youngsters who have not been able to get jobs are poor performers in school; many are dropouts. Their attitude toward school, whether resulting in their retreat from full participation or in their actual physical withdrawal, reflects a decision that school is not giving them what they want. However subjective and self-defeating this decision may be, it is a fact which must be dealt with if we are to achieve substantial improvement in education and training.

9. Additional funds must be provided to enable the schools to extend and improve their programs.[3]

School boards and school superintendents are generally aware of the needs of their school districts. Improved school programs can be provided only if resources are made available. In the cities, particularly, school administrators are struggling to operate present school programs with too few teachers, not enough buildings (many of them obsolete), and inadequate budgets. Addition of another 2 years of school, special programs for those who now drop out, supervision of extensive work-experience programs, increased counseling services, and the like require funds for added staff, added buildings and equipment, and increased operating costs.

The resources required to eliminate youth unemployment are substantial. Yet the sound and wise choice is not simply between spending the money or not spending it. Inevitably, large sums will be spent on youth whether jobs are made available or not. But if we as a nation can provide more and better education for boys and girls through schools and on-the-job training, we will certainly pay less for welfare measures, control of delinquents, and other tangible and intangible costs of failure to prepare young people for life. To a significant degree, our choice is between fruitful investment for the future and heavy expenditures to combat the social costs of idleness. Our response must be clear and unequivocal.

The resources for increased and improved education, including teachers, buildings, equipment, and maintenance, can be supplied through increased local, State, and Federal taxes or private programs, provided by labor and management in the training programs they set up, or they can result from a combination of these sources.

Where necessary and possible, local school districts should immediately increase school taxes. Since local districts depend heavily on the real property tax, and in many States the rates are constitutionally restricted, there may be severe limits upon further local financing. States should determine their individual needs and should make immediate and substantial additions to school funds to achieve the goals of these recommendations. We urge the Congress to recognize the Federal responsibility in reference to the programs set forth in the Report.

10. The Secretary of Health, Education, and Welfare and the Secretary of Labor should cooperate to improve vocational counseling.

Specifically, they should:

a. Give immediate encouragement and such assistance as is necessary to State departments of

[3] Additional views by individual members appear in the appendix, p. 15.

education and State employment services, and through them to local schools and employment offices, to provide special training programs so that vocational counselors may be more adequately prepared, especially to help those young people who plan to go directly from high school to work.

b. Set up a clearinghouse to gather and disseminate information on successful vocational guidance, counseling, and motivation programs.

11. Existing vocational education laws and practices should be reexamined by the Congress and State vocational education authorities.

Where necessary these laws and practices should be revised to:

a. Eliminate irrelevant or out-of-date limitations on the availability of Federal funds.

b. Strengthen the vocational and technical education programs by offering Federal reimbursement for training in more and different occupations. Information about job trends from public employment services, counseling and guidance organizations, as well as occupational outlook materials, should be used in determining new vocational education programs. Courses for out-of-school youth should be either on a part-time or full-time basis, regardless of whether the youth is employed in the trade for which he seeks training. These courses should provide for teaching of short-term or long-term occupational skills.

c. Provide for a continuing reexamination of programs and expenditures so as to assure that they reflect changing job needs and patterns.

d. Insure that Federal vocational money should go only to States where the vocational education courses are open to all without regard to race, creed, or color.

12. Area skill centers, or technical or vocational schools, should be established in many new central locations.

Developed and administered by cities, counties, school districts, or other governmental units, these schools should draw their pupils from a large enough area to permit full staffing and equipment, and should offer a wide variety of courses. The size of the area served will vary; there may be a number of centers in a large city, or a single center for several counties. The schools should be open to adults as well as young people for full-time and part-time instruction. Their entrance dates should be flexible, and times at which courses are offered should be spread over both day and evening hours. The curriculum in these schools should provide training for any occupation in which a job may be reasonably expected and for which youth may be qualified. Training programs for high or less demanding skills should be adequate and of reasonable duration in order to prepare boys and girls for the occupations they propose to enter.

13. The Secretary of Labor and the State labor commissioners should reexamine certain child labor provisions and practices to determine the extent to which minimum and carefully safeguarded changes may be appropriate to help youth acquire suitable work experience in connection with their schooling.

The Committee believes that many boys and girls could benefit from extension of school-work and work-experience programs and that some limited changes in laws and regulatory practices could facilitate the expansion of such programs without undermining existing safeguards. To this end the Committee suggests that consideration be given to:

a. Establishment of experimental programs to determine the feasibility of minor modifications in child labor standards to permit participation of boys and girls of 14 and 15 in meaningful school-work and work-experience programs, where such participation is recommended by the school authorities and where the school authorities cooperate in and supervise the programs.[4]

b. The extent to which the Secretary of Labor, under his existing authority and consistent with the protection the law requires, should set special minimum wage rates to encourage the development of suitable school-work programs.

c. Revision of the coverage of so-called hazardous occupation orders in State laws which restrict the employment of youth under 18, so as to extend the protection of such orders to youth in occupations which provide new hazards, and to withdraw those orders where the hazards no longer exist.[5]

Much has been made of the barriers which child labor laws put in the way of youth employment. After careful examination of the provisions and application of these laws, we have concluded that they do not materially limit jobs for youth, except

[4] Two members dissented from this recommendation. Their views appear in the appendix, p. 15.

[5] One member dissented from this recommendation. His views appear in the appendix, p. 15.

insofar as they achieve their intended purpose. Their modification would contribute very little to youth employment, but on the contrary removal of the protection would do great damage.

Recent experience suggests, however, that work-study programs do hold promise for keeping some young people in school who might otherwise drop out. More dropouts leave school at age 16 than at any other age. The present laws restricting part-time employment during school hours for youth under 16 make it impossible for many of these youngsters to try out a combined school and work program before leaving school. Arrangements under which potential dropouts of 14 and 15 are permitted to work part-time during school hours, under close supervision and as part of their education program, might measurably reduce the number of school dropouts. Experimental programs directed toward these objectives should be encouraged.

14. The educational opportunity afforded by school attendance laws together with the protection of child labor laws should be extended to include all children in the school district, including those of migratory farmworkers.

Equality of protection as well as of educational opportunity is a birthright of all children.

Neither should be denied to boys and girls, whether they live or work in cities, on farms, or in migratory camps with their parents.

15. Young men should be given the preinduction examination at the time of registration for Selective Service, or as soon as possible after they are 18, to permit the early identification of physical or educational defects and the introduction of remedial programs.

Current pilot programs for the rehabilitation of those rejected for military service on physical grounds should be applied to all; the program should be extended to include those rejected because of inadequate education and attainment. The Selective Service System, the Department of Defense, and the Department of Health, Education, and Welfare should cooperate in these efforts.

ADDITIONAL STEPS NEEDED

Certain additional steps are needed to supplement and strengthen these recommendations.

Essential factual and statistical information on the Nation's labor force and manpower resources and requirements should be obtained in greater detail. Existing data have materially aided the Committee in its work, but much more information is necessary if, as a nation, we are to deal intelligently and imaginatively with the training and employment of our youth.

The Committee urges that more information be developed regarding (a) the age, sex, education, race, residence, and employment characteristics of youth; (b) present and prospective job vacancies and opportunities; and (c) the experiences of various pilot or local "jobs for youth" programs which have been undertaken in scattered communities. Some of this information must be compiled by appropriate Federal agencies; other data can come only through the resourcefulness of local communities.

We urge also that a major campaign be undertaken, using all forms of mass communications media, to inform the public about youth unemployment and the measures needed to combat it. A massive well-directed information campaign could do much to advance the programs suggested here to promote jobs and education opportunities for youth.

CONCLUSION

Young people face a world of promise and unprecedented challenge.

They are confident, eager, and anxious to enter and to succeed in the adult world, as were their fathers and grandfathers. We must not allow this venturesome spirit to be dulled by the discovery that jobs do not exist, or that those that do are out of reach.

Young people today must be determined and adaptable if they are to fit into the rapidly changing world of jobs and careers. They must be much better prepared than were their elders. But many thousands of them lack an understanding of the preparation required. At the moment, for them the rewards lie behind an invisible curtain which, unaided, they cannot lift.

The challenge is not to youth alone, but to all of us. It is a challenge to our determination to conquer a fast-growing new problem with deep roots and many branches, and to our willingness to substitute new ideas for old habits and patterns.

New and stimulating policies for education and economic growth are required. Fresh approaches are needed in the responses of management and labor toward the hiring of youth. Youth itself must adopt new attitudes toward preparation and employment. Parents, teachers, and counselors can help young people look realistically at school and work opportunities. All of us must share with youth the sense of pride and responsibility that comes from doing well even the simplest job.

Our recommendations highlight what needs to be done to bridge the gap between school and work for millions of maturing boys and girls. To be effective the recommendations should be implemented promptly and vigorously supported on a broad scale in every community, with the closest coordination between responsible agencies.

The challenge is urgent, the task is large, the time is now. The task cannot be delegated, and must not be sidestepped. Both public and private groups at every level—local, State, and Federal—must participate wholeheartedly and unselfishly to assure success.

Every citizen has a stake and a share in this responsibility—an obligation to see that today's youth meet tomorrow's destiny well-educated, well-trained, and well-equipped, ready and prepared for the world of work.

APPENDIX

Individual Committee members have submitted the following additional views. In several instances the members disagreed on specific recommendations or proposed additional recommendations; in others they differed on broader matters of viewpoint and approach.

Members' statements on specific recommendations appear first, followed by the more general comments.

RECOMMENDATION 1, regarding the establishment of State, city, or local commissions specifically charged with youth employment.

Statement by Dr. Howard Dawson, Executive Secretary Emeritus, Department of Rural Education, National Education Association:

"I suggest that Recommendation 1 be amended to read: We recommend that the governor of each State and the mayor of each city, **and the executive board or body of each of the other major units of local governments,** establish a continuing commission on youth affairs concerned with youth employment.

"The emphasized part of this sentence is the wording of the amendment.

"This amendment will provide for the units of local government not included in cities and also for the District of Columbia. Such units of government should also have a 'continuing commission on youth affairs.' "

RECOMMENDATION 6, on the need for a Federal program for urban and conservation employment and training of youth.

Statement by Eli E. Cohen, Executive Secretary, National Committee on Employment of Youth, New York, N.Y.; J. A. Beirne, President, Communications Workers of America, AFL-CIO, Washington, D.C.; Mrs. Mildred M. Jeffrey, Community Relations Director, United Automobile, Aerospace and Agricultural Implement Workers, AFL-CIO, Detroit, Mich.; Joseph Monserrat, Director, Migration Division, Puerto Rico Department of Labor, New York, N.Y.; and Whitney M. Young, Jr., Executive Director, National Urban League, New York, N.Y.:

"While we are gratified to find an overwhelming consensus among members of the Committee in favor of a Federal program for youth employment, we believe it would be more relevant to this Committee's activities to support specific legislation now before the Congress. For this reason, we would prefer to be recorded in favor of the program supported by the Administration and contained in Senate bill S. 1 and House bill H.R. 1890. We wish to emphasize that the need is too vast and critical to place a limit of $100,000,000 per year on the appropriation, or to suggest a demonstration approach."

Donald J. Hardenbrook, Chairman of the Board, National Association of Manufacturers, and Richard Wagner, Chairman of the Executive Committee, U.S. Chamber of Commerce, opposed Recommendation 6. Their dissents are included in their general reactions to the Committee report, and are expressed below under General Comments.

RECOMMENDATION 9, on the need for increased sources of financial support for the schools.

Statement by James F. Oates, Jr., President, Equitable Life Assurance Society of the United States, New York, N.Y.:

"In view of the complex and critical nature of the youth unemployment problem, and the mission of this committee to try to define and recommend broad courses of action to deal with it, we have been required to make many recommendations without detailed analyses of costs and the means available for meeting them.

"In the one case where we did propose a cost limit (of $100,000,000 per year for 3 years in Recommendation No. 6) we did so, in my judgment, to stress our conviction that the federally subsidized work experience approach should be limited and experimental until we have gained experience enough to evaluate its results, not because we felt competent to cost out such a program in detail. Furthermore, we were guided in our thinking respecting a financial limitation by the figures provided in the Administration bill considered by Congress last year.

"Detailed estimates of costs, together with the evaluation of the priority of the youth employment needs relative to other needs are, of course, essential prerequisites to undertaking the programs we have recommended. Federal, State and local governing bodies, together with the President, and State and local executives and administrators, will, of course, be in the best position to determine priorities and to take appropriate steps to keep the financial burden within prudent limits. I record here, however, my deep conviction that the youth employment needs should have an extremely high priority, and that they appear to me to justify substantial additional expenditures, hopefully counterbalanced by savings in areas where governmental assistance is less necessary."

RECOMMENDATION 13a, on revisions of child labor provisions in Federal and State laws.

Statement by Dr. Howard Dawson, Executive Secretary Emeritus, Department of Rural Education, National Education Association:

"I think this recommendation should be stricken, because I think it would be unwise to relax the standards it has taken so long to attain. I look askance upon opening the door to renewed exploitation of children in the labor market."

Statement by Cornelius J. Haggerty, President, Building and Construction Trades Department, AFL-CIO, Washington, D.C.:

"I most strenuously object to that section of the Report which would call for and encourage relaxation of the existing child labor laws. The trade union movement, since its very inception in this country, has devoted a great deal of its energies toward the abolition of child labor, and I fail to see how renewed exploitation of children to any degree would ever help solve the tremendous problem of youth employment which we have before us."

RECOMMENDATION 13c, on revision of the hazardous occupation provisions of the child labor laws.

Statement by Cornelius J. Haggerty, President, Building and Construction Trades Department, AFL-CIO, Washington, D.C.:

"I am further opposed to that section of the Report which would open the door to the employment of children in the hazardous occupations. We feel that the so-called hazardous occupation orders which restrict the employment of youth under 18 are presently inadequate, and rather than being relaxed should be strengthened and enforced for the ultimate protection of our youth."

Further recommendations by Mary Conway Kohler, Consultant on Youth Employment, New York, N.Y.

1. Employers, unions, the Government, and individuals must all examine their policies—as well as their consciences—to the end of furthering youth employment opportunities by eliminating such practices as: (a) overtime hours of employment; (b) moonlighting; (c) jobholding by pensioners.

As this Report has shown, a crisis exists today among our young people because of the serious lack of employment opportunities. Times of crisis require dramatic—sometimes painful—action. Therefore: (a) We call on employers and unions to reexamine policies and attitudes toward overtime. It is understandable that employers often prefer to schedule overtime rather than to hire extra workers. It is also understandable that employees seek to put in extra hours at increased pay. However, we are convinced that employers and workers alike will benefit in the long run from the greater economic stability and broader social cohesion that will logically follow an expansion of employment opportunities in our country. (b) We call on employers, unions, and Government to join together in a campaign to eradicate or substantially reduce the practice of moonlighting. Moonlighting (the holding of two jobs by one person at the same time) often involves—in the second or subsidiary job—the kind of low skill work that young people without special training can do; e.g., pumping gas, waiting on tables. By helping youngsters to gain a foothold on the job ladder, even at a low-skill, low-paid job, we are accomplishing more than merely providing them with an alternative to idleness. We are providing them with an incentive to seek further training and higher levels of employment. (c) In the same spirit and for substantially the same reasons, we call on pensioners with incomes sufficient to maintain themselves to withdraw from the kinds of employment that can be performed by untrained youngsters. And so long as it does not work undue economic hardship upon such persons, we ask that employers and unions encourage such withdrawal.

For these reasons we ask the affiliates of the AFL–CIO and the Chamber of Commerce, National Association of Manufacturers, trade associations, and other national employer groups to educate their membership to the ultimate danger to society of these practices.

2. That Government encourage the companies with which it does a substantial amount of business to carry on regular programs of apprenticeship as a means of providing more training and employment opportunities for young workers.

Many young people desiring to acquire a skill cannot find employers willing to provide them with traditional broad apprentice training. As a result, many youngsters who would prefer to be training for the jobs of the future are wasting their days in dead-end employment.

This is more than merely a personal problem, affecting only the young people concerned. It is a national problem. The continued strength and security of our country depend on a continuing supply of young men and women capable of building, operating, and repairing the complex equipment of a technological age. Therefore, the Government should require contractors for Government work to train apprentices in numbers that are in proportion to the dollar value of their contract. The total should be determined by the estimates of future needs made by the National Council on Apprenticeship Standards.

If necessary, a requirement of this kind should be enacted into law.

3. Youth employment counselors should, where practicable, be designated from the personnel of the 1,900 public employment offices of the State employment services affiliated with the United States Employment Service in the 50 States. They should receive special training to help them function as youth counselors.

Located as these offices are, they can become a strategic community resource in aiding young people in their transition from school to work. By establishing a close working relationship with guidance personnel of the schools they can better align school preparation with job placement conditions. They can work with employers, labor groups, and community agencies in helping adjust youth to labor market conditions.

GENERAL COMMENTS

Statement by Donald J. Hardenbrook, Chairman of the Board, National Association of Manufacturers, New York, N.Y.

"These separate views regarding the Report of the President's Committee on Youth Employment are directed more at its omissions than at its accomplishments.

"In our opinion, the Committee has failed to explore adequately the existing and potential barriers to the employment of youth and to indicate clearly the relationship between their recommendations and the removal of these obstructions. Further, the Report concentrates on improvement of the quality of the labor force, and makes no significant recommendations as to ways to increase the demand for younger workers.

"An example of the failure to distinguish carefully the causes of the problem is found in the introductory section of the Report. We are told, for example, that more than 600,000 young people are currently out of school and looking for jobs. No estimate is provided, however, as to whether their inability to find employment is related to an inadequate demand, to insufficient preparation or adaptability, to the wage structure, or to some combination of these factors. Without such an analysis it becomes impracticable, if not impossible, for the reader to evaluate the merits of the recommended programs.

"The second weakness in the Report is illustrated by the fact that although the President twice referred to the need for increasing the number of job opportunities for younger workers in his Economic Report, this Report gives no more than passing recognition to this aspect of the problem. At one point, for instance, the President said, 'Yet past experience tells us that only sustained major increases in production can reemploy the jobless members of today's labor force, create job opportunities for the 2 million young men and women entering the labor market each year, and produce new jobs as fast as technological change destroys old ones.' In another context the President said, 'Our need today, then, is . . . most important, by means of stronger markets and enlarged investment, to provide jobs for the unemployed and for the new workers streaming into the labor force during the sixties—and, closing the circle, the new jobholders will generate still larger markets and further investment.'

"The two weaknesses are, of course, closely related. A more careful delineation of the roots of the problem would have focused the attention of the Committee on the growth aspects. At the same time, failure to discuss this area in depth inevitably has the effect of casting doubt on the adequacy of the Report's conclusions as a solution to the problem being studied.

"In addition, we must request that we be specifically disassociated from the recommendation that 'A Federal program for urban and conservation employment and training of youth should be enacted promptly.' This recommendation is equivalent to a specific endorsement of the Youth Employment Act (S. 1 and H.R. 1890) which is currently before the Congress. We do not believe that it is appropriate for this Committee, which was established as a study group rather than a legislative committee, to take a position on specific legislative proposals. Secondly, the Committee has not made a particular study of this proposal and, as has been pointed out to the Committee, industry has, in the past, opposed both the establishment of the Youth Conservation Corps and the other proposals in this bill which appear to be closely related to programs of Federal aid to education.

"In another area, although the Report gave welcome emphasis to the need for action at the State and local levels, it is somewhat disturbing to note the frequent references to increased Federal funds for education which appear in the Report. In our view, education is a field that traditionally has been and is being well handled on the State and local level. Local school systems know and can satisfy the needs of their pupils better than any centralized authority. The proposals in this Report, in several instances, appear to be little more than a backdoor approach to Federal aid to education under the guise of offering a solution to the problem of unemployment among youth.

"Also, there appears to be a reasonable question as to whether the Report's analysis is adequate in this area and as to whether the link between education and employment is as simple

and direct as the Report implies. For example, the Council of Economic Advisers commented in its recent report that: 'The incidence of high unemployment has fallen most sharply on young persons newly entering the labor market. The inadequate rate of growth in job opportunities has resulted in new entrants encountering special difficulty in finding jobs despite their better educational qualifications. Though lacking in experience and specific skills, young entrants to the labor force are better educated than the average worker and significantly better educated than older workers retiring from the labor market. This has resulted in an increasing proportion of younger persons entering the white collar and more highly skilled occupations, but has not prevented a dramatic rise in the unemployment rate for the group as a whole.'

"Further, the Bureau of Labor Statistics study of 'Employment of High School Graduates and Dropouts in 1961' indicates that more than 70 percent of those who had left school earlier in the year, 1961, were employed by October of that year. This raises a very real question, which has not been explored, as to whether the failure of the remainder to find employment stemmed from the lack of a high school diploma or from some other reason.

"We might also note that the Report's recommendation that industry develop training programs for younger workers disregards the amount and value of training which is currently being provided for employees. Company training activities have grown over the years to major proportions and are being steadily expanded in keeping with the growth of individual firms. These programs are, of course, designed to improve the skills of younger workers as well as those of more experienced employees.

"On balance, however, the weaknesses of the Report appear to be related more to its failure to grapple with the reasons for youth unemployment than with the specifics of its positions. To a great extent, unemployment among youth is an integral part of the whole problem of unemployment in the economy, and this stems, in turn, from the need for a more vigorous rate of business growth. We have discussed what seem to be the underlying causes for the recent sluggishness in our economy at other points. It is sufficient for the purposes of this comment to point out that there appear to be three areas which hold especial promise in stimulating the growth of our economy. First, it would seem worthwhile to examine the relative positions of labor and management in the bargaining process with a view to limiting the undue preponderance of power which the law gives to labor unions at the present time. Secondly, there is widespread agreement as to the need for a thorough overhaul of our present tax system as a means of reducing the barriers to capital investment. Finally, there is a real need for improving the economic climate in which businessmen make their decisions.

"To sum up, then, we believe that there is agreement that unemployment among younger workers is at an unacceptably high level, and that an adequate program to correct this situation is one containing elements of two general approaches. One is to increase the level of training and awareness of employment opportunities among younger people. The other is to increase the total number of jobs in the economy. The Report dealt at some length with the first of these problems, but virtually ignored the second. As a result, the Report appears to be lacking in precision and depth in its analysis, and balance in its recommendations."

Statement by James F. Oates, Jr., President, Equitable Life Assurance Society of the United States, New York, N.Y., on relationship between minimum wages and youth employment.

"At the final meeting of the Committee, I submitted for consideration a relatively simple and brief recommendation, as follows: Any future consideration that may be given by the Federal Government or the States to increasing minimum wage standards should include a careful assessment of the potential effect on youth unemployment of any changes in minimum wages. From the decision not to include this statement, or one comparable to it, I must respectfully dissent because the relationship between further increases in minimum wages and youth unemployment should, in my judgment, be given the most thoughtful consideration by the appropriate authorities."

Statement by Richard Wagner, Chairman of the Executive Committee, Chamber of Commerce of the United States, Washington, D.C.

"The business community is and has been aware of the mounting unemployment among American youth and of the serious consequences of such unemployment. No other segment of the leadership of the Nation is more sincerely interested in or more earnestly seeking solutions to this aspect of the unemployment problem than business.

"Rapid changes in both industrial and marketing processes must be recognized to be both desirable and necessary. Hence, the development of American manpower must proceed in the light of such continuing changes within our economic system. Educational institutions, Government programs, and the legal structure surrounding the processes of human growth and development must be adapted to these changing demands on and for trained manpower.

"The President's Committee on Youth Employment will have served a worthy purpose if it calls to the attention of people in every State and community the critical need to press for such adaptations in their local and State educational and governmental processes relating to the development and employment of youth.

"The importance of the youth employment problem should not obscure the fact that comparatively little is known about many aspects of the problem. The research on employment opportunities and the potentiality of the unemployed (including the young unemployed) to be trained for such opportunities was the first order of business of the Manpower Development and Training Act under Title I. The President's Panel on Vocational Education quite clearly spelled out the need for modifications in our secondary schools in terms of noncollege-going youth.

"Much more information about both economic opportunities and human potentials to fill them is, in our opinion, prerequisite to effective local, State, or Federal action to resolve problems of youth unemployment. We must dissent, therefore, from the imperative tone of the Committee's report which presumes to stem from a documented certainty about effective solutions to fully described problems. No such documentation is presented. Furthermore, it is only a Committee assumption that such solutions, once identified, must be subsidized by the Federal Government in order to be activated.

"In this respect, the statements of the report suggesting Federal subsidization of made-work for youth must be recognized as nothing more than a holding process to get out-of-school, out-of-work youth off the streets of the cities.

"The only precedent for a Youth Conservation Corps stems from the much more serious unemployment problems of the depression 1930's—and even the CCC was recognized to be only a palliative. There is no comparable recession or probability of it today, and no comparable degree of unemployment. We therefore see no justification for proposing a comparable program and dissent from recommendation No. 6 to endorse a youth employment bill.

"Rather we would urge a fuller implementation of the research mandate given to the Department of Labor in Title I of the M.D. & T.A. and a modification of the Vocational Education Acts to bring vocational guidance and training programs presently subsidized by the Federal Government into line with available job opportunities in both trade and service occupations. Recent 'dropouts' might thus be encouraged to return to school and impending 'dropouts' prevented.

"Of the seven Committee 'recommendations for immediate action,' only four are believed to be based on adequate research and general in application and feasibility, namely the second, third, fourth, and fifth.

"The Governor's and mayor's commissions—first recommended—may be, under some conditions, an appropriate approach to increased employment of youth. However, most State and municipal executives already have at their disposal a variety of agencies, commissions, committees, or bureaus which could assemble and publicize facts about youth employment without establishing still another State or local commission. Executive prodding of existing agencies is needed and would be, in many cases, a sufficient action to recommend.

"The statement added to the second recommendation for 'the elimination of discrimination'

is but a sweeping generalization presented without documentary description of conditions to be corrected or means of doing so. Passage of the youth employment bill—the sixth recommendation—was flatly and unanimously rejected by the Board of Directors of the National Chamber at their meeting on January 25, 1963.

"The training allowances for dropouts, aged 16 to 19, under M.D. & T.A.—the seventh recommendation—we believe, would be an invitation for still further school leaving in the many communities where secondary schools are primarily oriented to college-going youth.

"The 'long-range' recommendations (8 to 15) of the Committee are generally well conceived in terms of increasing the jobs for youth and the readiness of youth for jobs. Here again, however, the Committee's recommendation for 'additional Federal aid to public schools' is devoid of justifying research about the need, purpose, or programs of such subsidies."

U.S. GOVERNMENT PRINTING OFFICE: 1963 O—687084

VT 002 903

Vocational Industrial and Technical Education. Kentucky Educational Bulletin, v331, no. 8.

Kentucky State Dept. of Education, Frankfort. Div. of Industrial and Technical Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jul63 73p.

*AREA VOCATIONAL SCHOOLS; *PROGRAM DESCRIPTIONS; *TECHNICAL EDUCATION; PROGRAM ADMINISTRATION; *CURRICULUM; POLICY; TEACHER CERTIFICATION; *TRADE AND INDUSTRIAL EDUCATION; *EMPLOYMENT OPPORTUNITIES
KENTUCKY

Information about admission, attendance, and certification requirements, housing facilities, and instructional programs is presented for the Kentucky Area Vocational-Technical Schools which have the purpose of preparing students for useful employment and increasing the knowledge and skills of employed workers. The schools serve all persons over 16 years of age who may profit from the instruction offered in preemployment, day trade preparatory, part-time and trade extension training programs. These programs of vocational-technical education are not offered in lieu of general academic education but to supplement and enhance it. Programs are administered by legally constituted state and local authorities with established student policies and general regulations. The University of Kentucky offers preservice and inservice teacher training programs to provide professional and technical preparation necessary to meet requirements for the yearly certificates, 4-year certificates, endorsement of regular high school certificates, and yearly special part-time certificates. The directory includes 14 schools which are strategically located in relation to geographic limitations and population centers. Each school offers a variety of courses to provide training for the major occupational fields in which the residents of the area are employed. Some of the 22 programs described are barbering, chef cooking, cosmetology, electronics, masonry, printing, tailoring, and welding. (HC)

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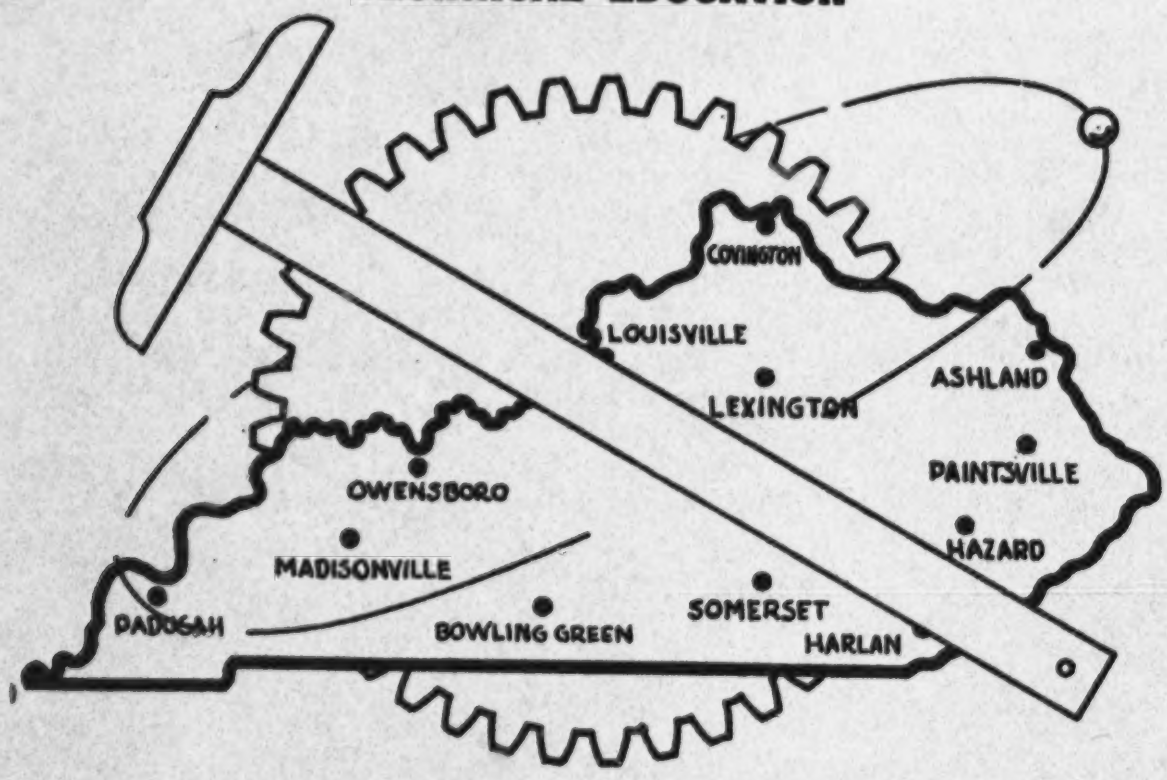
Commonwealth of Kentucky

EDUCATIONAL BULLETIN

VOCATIONAL INDUSTRIAL AND TECHNICAL EDUCATION



Published by
DEPARTMENT OF EDUCATION
WENDELL P. BUTLER
Superintendent of Public Instruction
Frankfort, Kentucky

ISSUED MONTHLY
Entered as second-class matter March 21, 1933, at the post office at Frankfort, Kentucky, under the Act of August 24, 1912.
POSTMASTER: SEND NOTICES OF CHANGES OF ADDRESS ON FORM 3579

VOL. XXXI JULY, 1963 NO. 8

V/ 02903

Vocational Industial

and

Technical

Education

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Division of Industrial & Technical Education
The State Department of Education
Frankfort, Kentucky

FOREWORD

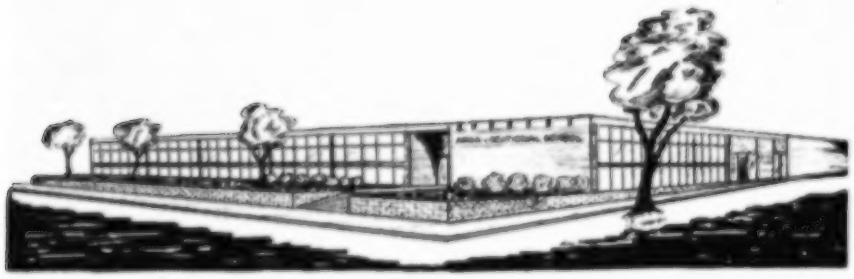
Kentucky's past economy has been based primarily upon agriculture. However, due to a centralized geographic location, an abundance of natural resources, and a surplus supply of manpower, the State is undergoing rapid changes and is making great strides toward industrialization. With the rapid development of industry within the State, many thousands of industrial and business jobs are being created. The increasing complexity of automation and technological advances are demanding more highly skilled employees who are better able to meet these changing needs. Programs for the training and retraining of industrial workers require critical evaluation and constant revision to keep pace with the changing technology for those who wish to avail themselves of the many opportunities in industrial occupations.

The State program of Vocational Industrial and Technical Education is an important means through which sound vocational training can be extended to an area beyond the boundaries of municipalities or districts. The area vocational schools, are strategically located in relation to geographic limitations and population centers. They aim to serve more adequately the needs of the increasing number of students, both youth and adults, who are constantly in need of adjustment to meet the demands of this age of changing social and economic conditions. Each area vocational school offers a variety of courses, broad enough in scope to provide training for the major occupational fields in which the residents of the area are engaged. Because they serve persons who need upgrading training as well as preparatory training for entrance into industrial and business occupations, these area schools are located mainly in urban centers made up of workers in industry and business.

With the increased emphasis upon a sound foundation in general education prior to specialization in a vocational or occupational pursuit, and with the increased age limitation at which a young adult may be employed, many of the more technical courses offered by the area vocational schools are rapidly becoming post-high school and adult programs. The area vocational schools operate as dual institutions in that they serve different groups of people. This is accomplished by providing services for high school students who can attend vocational shop classes a part of the school day while pursuing their regular high school programs. Under this plan the students may progress regularly toward high school graduation.

Other groups served under this plan are out-of-school youth and young adults who require coordinated training and work experience to fit them for useful employment. Employed workers who need organized instruction which will enable them to advance in their trade are also served through extension programs. Apprentices who need and must have planned instruction are served by part-time classes. At the end of the prescribed course of study, the student is awarded a certificate of completion.

Typical Area Vocational Schools



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Out-Of-School Youth and Adults

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Typical Area Vocational Schools

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GENERAL INFORMATION

The Division of Industrial and Technical Education through its system of Area Vocational Schools throughout the state offers a comprehensive program of full-time and part-time education of a nature that prepares people for entrance into industrial and technical occupations, or that enables those already employed to advance in their occupations. This educational program is designed to serve adults, regularly enrolled high school students, and out-of-school youth who need and desire specific vocational training and/or retraining for job advancement.

PURPOSE AND PHILOSOPHY

The controlling purpose of the Area Vocational-Technical Schools is to fit students for useful employment and to increase the knowledge and skills of employed workers. The vocational-technical education program gives purpose and meaning to education by relating academic work to a specific occupational goal. The curriculum is organized to give more than training for specific job skills—it develops abilities, understandings, attitudes, working habits, and appreciation which contribute to a satisfying and productive life.

The schools strive to provide a well-rounded program of studies aimed at developing competent workers, the ultimate goal of which is an American worker-citizen who is competent vocationally, economically, socially, emotionally, and physically.

The program of vocational-technical education in Kentucky is not offered in lieu of general academic education, but grows out of it, supplementing and enhancing it. Vocational-technical education is an integral part of the total education program. Both vocational-technical education and academic education programs are administered under the auspices of the legally constituted state and local authorities, who recognize their responsibilities for providing adequate educational opportunities for all people.

OBJECTIVES

Increase the performance skills, including those relating to safety and technical knowledge of persons already employed in industry, through extension or supplemental courses which will improve their job skills and give them additional technical information.

Develop basic manipulative skills, including those relating to safety, job judgment, technical knowledge and related industrial information that will best enable persons to secure employment and advance in skilled trades, industrial, technical, distributive, or practical nursing occupation.

TYPES OF PROGRAMS OFFERED

Pre-employment training: Out-of-school youth and adult students attend vocational classes and receive intensive training for entrance into employment in a specific industrial job or retraining the worker for a new position.

Day trade preparatory: High school students attend vocational classes a minimum of three clock hours daily to prepare for entrance into useful employment in an industrial occupation and at the same time continue their general academic courses leading to a high school diploma.

Part time: Students in school who are legally employed and working at least one-half time as learners in an industrial occupation. Part-time apprenticeship classes are organized by the area vocational schools in cooperation with the Apprentice Training Service to give the necessary related theory pertaining to the trade.

Trade Extension: Trade extension courses may be offered to employed persons desiring to be upgraded in their occupations.

POLICIES

ADMISSION PROCEDURE AND REQUIREMENTS

Students desiring admission to the Area Vocational-Technical Schools should obtain application blanks from the school of their choice, preferably in person. If this is not possible, application blanks will be mailed upon request. When an application is received and is found to contain all information requested, a tentative reservation is made for the applicant to appear at the school for pre-enrollment interview and guidance.

Enrollment in all classes is open to persons over 16 years of age who may profit from the instruction offered.

WHO MAY ENROLL

The Area Vocational-Technical Schools offer opportunities for vocational distributive, trade and industrial and technical education to the following groups of students:

High School Youth: High school youth who meet the entrance requirements of the Vocational-Technical Schools and are sent by local boards of education. High school credit is given by the high school enrolling the student and not by the Vocational Schools.

High School Graduates: An increasing number of high school graduates who wish to prepare for the skilled trades or to become technicians are taking advantage of the educational opportunities offered by the Area Vocational-Technical Schools.

Out-of-School Youth: Persons between 16 and 21 years of age who have completed or have dropped out of the regular school program.

Veterans: The Area Vocational-Technical Schools are approved for the education and training of veterans or eligible veterans' dependents.

Physically Handicapped Students: Physically handicapped people are admitted to the Area Vocational-Technical Schools. Kentucky, through the Bureau of Vocational Rehabilitation, gives financial assistance to physically handicapped people while attending the Area Vocational-Technical Schools.

Adults: Any adult who desires and can profit from the instruction given is eligible to enroll providing he can meet the standards established by the schools for enrollment.

CREDIT FOR PREVIOUS TRAINING

A student wishing to transfer from one vocational-technical school to another should complete the regular application for admission and present a transcript or certificate of work already completed. Evidence of satisfactory attendance and honorable dismissal will also be required.

Full credit for previous education and training may be given provided satisfactory progress has been made. Satisfactory progress means that the student will have progressed at an average rate of speed in the work completed at the former school. The schools reserve the right to evaluate previous training in keeping with their prescribed courses of study.

REGISTRATION

High school students who wish to attend a vocational school in their junior and senior years are registered at the time they complete their class schedule for high school registration.

Out-of-school youth and adults are registered on a continuous basis at any time during the school year.

WITHDRAWAL AND RE-ENTRANCE

If a student is dismissed because of unsatisfactory progress, he may be permitted to review the part of the course in which he did unsatisfactory work. Upon demonstrating his ability to successfully master the work, he may be permitted to continue.

CERTIFICATES

A certificate of completion is granted to students who successfully complete the prescribed course.

TUITION AND FEES

Tuition and fees are set by the State Board of Education. These fees are nominal and vary by types of students and courses pursued. Specific information should be obtained from the school to which application is made.

REFUND POLICY

Tuition refunds will be made on the basis of tuition paid, less days of enrollment. This policy may vary in different schools.

BOOKS AND SUPPLIES

Textbooks and other supplies are available to students at cost. These are obtainable through the school.

GENERAL REGULATIONS

CONDUCT

Students are required to maintain the customary rules of good conduct. They are considered mature individuals; their behavior, in school and out, is expected to be dignified and honorable.

ATTENDANCE POLICIES

Students are required to attend classes regularly with only emergency situations accepted in cases of absence. Unexcused absence will not be accepted and will result in dismissal.

RATING SYSTEM

Ratings are based on citizenship, including industry and cooperation, laboratory work, technical skill, related subjects, and attendance.

SPECIAL SERVICE AND FACILITIES

COUNSELING AND TESTING

The Area Vocational-Technical Schools conduct testing programs which enable the faculty counselor to assist students in making occupational choices.

The school programs are devised to prepare a student for a specific vocation. It is extremely important that the student, in so far as possible, make an intelligent choice based on his interest, abilities, and capacities. Students who find it difficult to make a vocational decision can make arrangements through the faculty counselors to visit and observe the courses in operation. They can also receive first hand information from the students and instructors.

Testing facilities are made available at the schools. Faculty counselors are available on a scheduled basis to administer interest inventories, aptitude tests, and test batteries which will give indications of probable success in the occupations covered by the school program.

STUDENT PLACEMENT

The placement of competent graduates in the occupations for which they have been trained is a paramount desire of the Area Vocational-Technical Schools. To this end these schools work constantly and cooperatively with industry and all governmental agencies concerned with employment and placement of workers in industry.

HOUSING FACILITIES

The Area Vocational-Technical Schools do not guarantee living quarters for out-of-town students. Assistance is given in every way possible in locating comfortable and convenient living accommodations. In some schools dormitory space is available.

APPLIED SUPPLEMENTAL SUBJECTS

In all schools required supplemental classes are given daily in Shop Sciences, Mathematics, Blueprint Reading, Sketching, and Safety for all full-time students. The work is organized on an individual basis with the intent of taking the student as far as possible in the time available.

PROGRAM OF TEACHER TRAINING

The University of Kentucky, Lexington, Kentucky, is the designated institution for teacher training. Other public institutions of higher learning may be designated by the State Board of Education as future needs may demand.

Both pre-service and in-service types of teacher training programs are conducted in residence or by extension through the approved teacher training institution and are carried out by means of a cooperative arrangement between industry, the Division of Trade and Industrial and Technical Education, and the designated teacher training institution. Such a plan provides for both professional and technical preparation necessary to meet certification requirements as established by the State Board of Education.

REGULATIONS GOVERNING ISSUANCE AND RENEWAL OF CERTIFICATES IN THE FIELD OF TRADE AND INDUSTRIAL EDUCATION (WHICH ALSO INCLUDES DIVERSIFIED OCCUPATIONS EDUCATION) AND DISTRIBUTIVE EDUCATION

1. **Issuance of Yearly Certificates**

   A certificate valid for one year shall be issued when the general requirements as set forth in the State Plan of Vocational Education in the field of trade and industrial and distributive education have been met and when the applicant has completed a course in theory, methods, and practices in teaching of vocational industrial education in high schools, trade schools, and area vocational schools. Such a course shall ordinarily be required prior to the time that a person begins his teaching; however, in the event he is employed during the school year and is unable to complete the course before beginning his teaching, this person shall successfully complete the course prior to the reissuance of the yearly certificate.

2. **Renewal of Yearly Certificates**

   The yearly certificate for full-time instructors may be renewed upon a full year of satisfactory teaching experience gained during the life of the certificate and upon completion of two semester hours in Trade and Industrial or Distributive Education earned in residence at a teacher training institution designated in the State Plan for Vocational Education as an approved institution for training Trade and Industrial or Distributive Education teachers. If the

applicant has not completed the course in theory, methods, and practices in teaching ordinarily required of all beginning teachers, this course must also be completed in addition to the year of experience before the renewal may be granted. If the applicant has already completed all course requirements for a certificate, experience only will be required for renewal.

3. **Issuance of Four-Year Certificates**

When a person has completed 4 semester hours in teacher training courses in Trade and Industrial or Distributive Education, if an undergraduate, or has completed 16 semester hours, if a graduate, and has served four years in a program of Trade and Industrial or Distributive Education, he may be issued a certificate valid for four years. Trade Analysis, Teaching Methods, and Principles and Philosophy of Vocational Education are required courses for all applicants. One half of the credits may be earned by extension or correspondence courses.

4. **Renewal of Four-Year Certificates**

This certificate may be renewed every four years upon three years of successful experience in a program of Trade and Industrial or Distributive Education operated under the State Plan for Vocational Education, provided the applicant can show that he has kept abreast of modern practices in the trade and distributive subjects he is teaching and has taken special courses when requested to do so by the Director of Trade and Industrial and Distributive Education. It may also be renewed upon completion of one-half year of additional college work. One half of the college work should be in Vocational Education.

5. **Endorsement of Regular High School Certificates for Vocational Subjects**

When requirements have been met for the issuance or renewal of a one-year or a four-year certificate in the field of Trade and Industrial and Distributive Education, a holder of a high school certificate may have that certificate validated for the same subject and for the same length of time

as provided for under regulations for issuance or renewal of the certificate for Trade and Industrial or Distributive Education.

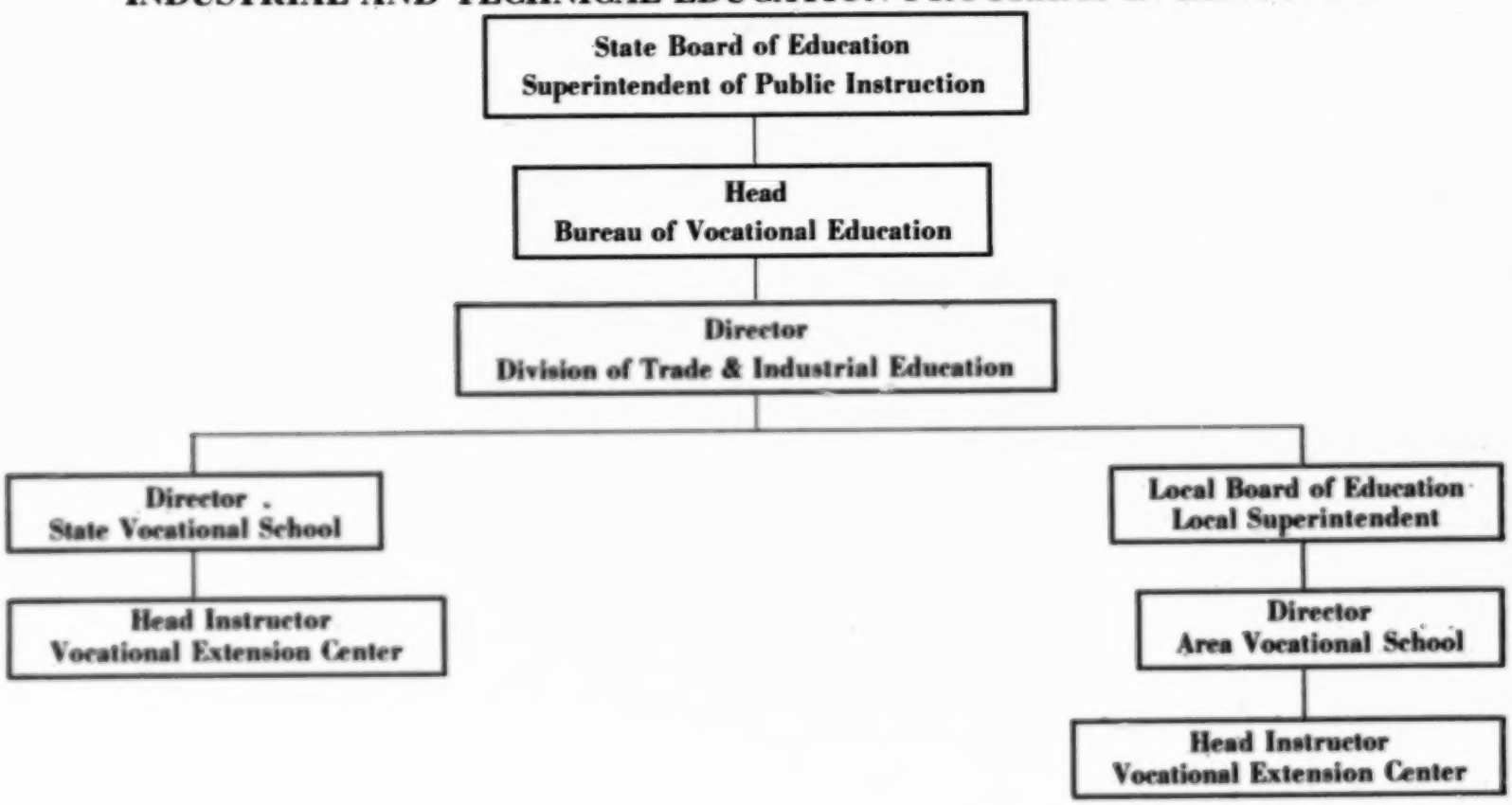
6. **Issuance of Yearly Special Part-Time Certificate**

A special certificate, valid for one year and for teaching part-time and extension classes in the field of trade and distributive occupations in the subject stated on the face of the certificate, may be issued provided (1) that the applicant has at least three full years of experience of journeyman grade in a recognized trade or three years of successful experience in a distributive occupation and (2) that the applicant is to be employed in a program of Vocational Trade and Industrial or Distributive Education sponsored by the public school system in accordance with the State Plan for Vocational Education.

The yearly certificate for part-time instructors may be renewed upon evidence of successful teaching in a part-time course during the school year for which the certificate is valid. Persons who do not meet renewal requirements of the certificate may be issued a new certificate upon application.

Note: These regulations are subject to change at any time by the State Board of Education.

ORGANIZATIONAL CHART
FOR THE ADMINISTRATION OF INDUSTRIAL AND TECHNICAL EDUCATION PROGRAMS IN KENTUCKY



DIRECTORY

School	Location
Ashland Area Vocational-Technical School	Ashland
Harlan County Area Vocational-Technical School	Harlan
Hazard Area Vccational-Technical School	Hazard
Jefferson County Area Vocational-Technical School	Valley Station
Lafayette Area Vocational-Technical School	Lexington
Louisville Area Vocational-Technical School	Louisville
Madisonville Area Vocational-Technical School	Madisonville
Mayo State Vocational-Technical School	Paintsville
Northern Kentucky State Vocational-Technical School	Covington
Owensboro Area Vocational-Technical School	Owensboro
Somerset Area Vocational-Technical School	Somerset
Tilghman Area Vocational-Technical School	Paducah
Western Area Vocational-Technical School	Bowling Green
West Kentucky State Vocational-Technical School	Paducah

AUTO BODY REPAIR AND REFINISHING

Each Repair Job Requires a Separate Analysis

The smooth flowing lines of the modern automobile are an auto body repairman's dream. Once these contours are damaged, the services of a highly skilled auto body mechanic are required.

Auto body mechanics enjoy steady work at a relatively high rate of pay. The skilled man will find it easy to go into business for himself after a few years of experience in a well organized shop.

In the Area Vocational School, instruction is given on body and fender repairs extending from small dents to complete rebuilding of wrecked or damaged automobiles. Students are carefully supervised in all phases of the work. Finished jobs must adhere to commercial standards.

The auto body training includes welding, grinding, assembling, straightening, alignment, painting, salvage, estimating and shop operation. Many students elect to specialize in either metal working or painting.

Shops in the area vocational schools are well equipped with modern tools of the trade. Success in this line of work is largely dependent on the skill, knowledge, and resourcefulness of the individual student.

Training in Auto Body Mechanics provides an ample return for time and money spent, and students who apply themselves are usually rewarded with immediate employment.

Basic Course Outline for AUTO BODY MECHANICS
Course Length—22 Months

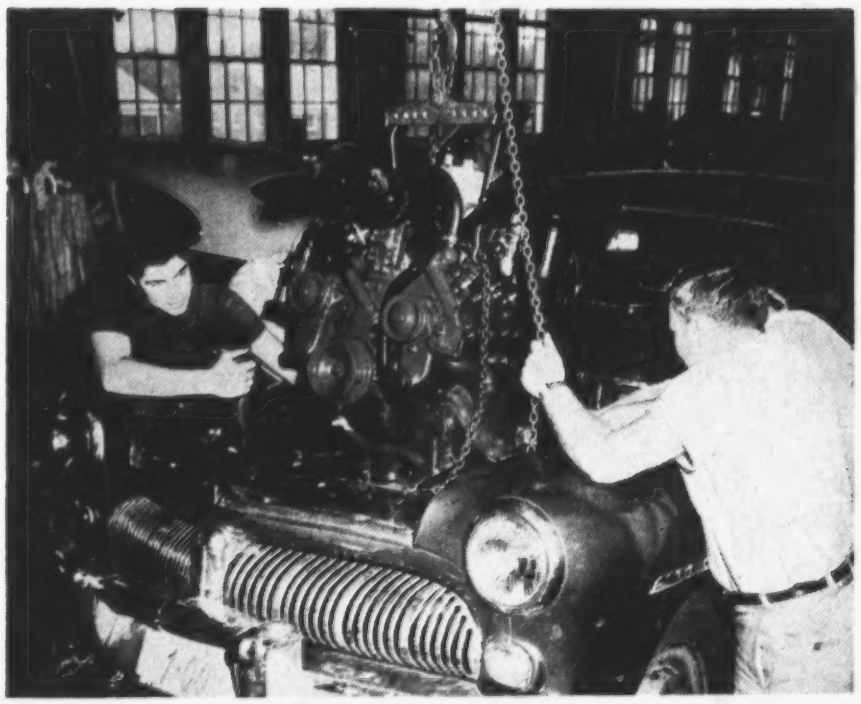
Auto Body Painting
- Cleaning, sanding and repairing rust spots
- Masking and spraying
- Rolling and polishing finish coats of lacquer
- Patch, repair and paint blending

Auto Chassis
- Front end alignment
- Frame straightening
- Radiator repair

Auto Body Repair
- Welding, brazing, grinding and sanding
- Solder—spraying and torch
- Patching
- Removing dents
- Body alignment
- Paneling

Trimming
- Chrome trim
- Installing locks and glass
- Upholstery and trim

AUTO MECHANICS



Motor Overhaul—A Major Phase of the Auto Mechanic's Training

Millions of new cars are produced every year and each one will need the services of a skilled mechanic on several occasions before its useful life is ended.

Increased use of the automobile, coupled with its intricate mechanisms, has taken the repair job away from the "do-it-yourself" mechanic. The skilled auto mechanic has become an important person on the American scene.

In the Area Vocational School, students are given practical experience on live jobs, concurrently with technical information on how each sub-assembly works, and how it may best be repaired. Use of trade manuals, specification charts, circuit tracing, and a working knowledge of parts and repair manuals are a part of every repair job.

Carefully supervised instruction is given on diagnosis of faults and analysis of repair procedures. This entails complete training on electrical, cooling, ignition, and braking systems.

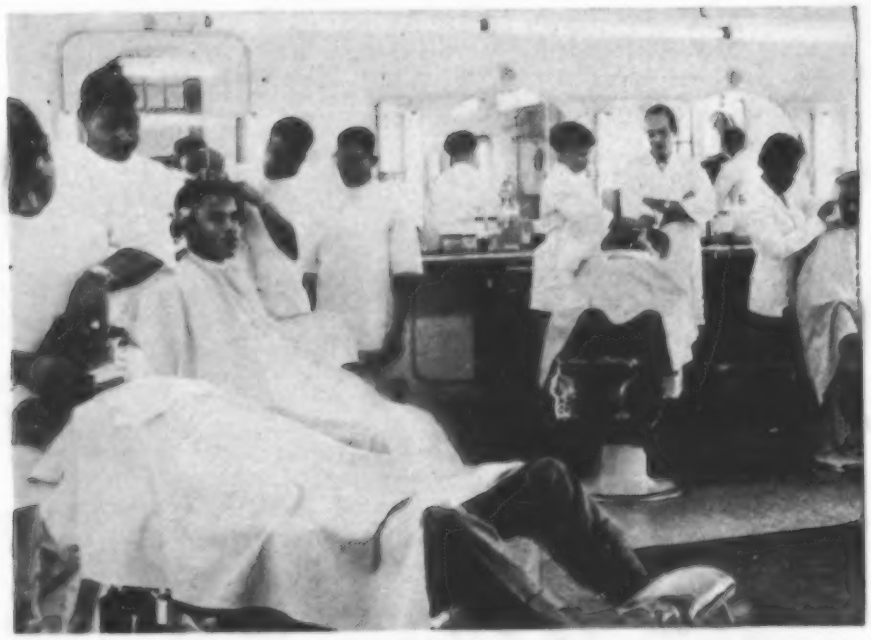
Special emphasis is given to automatic transmissions and the common ills of high compression engines. Film strips, moving pictures, charts, mock-ups, as well as real jobs, provide opportunities to develop skills and knowledges that enable the student to enter and progress on the job by himself at the end of his training period. Equipment is modern and complete so that transition from the school shop is an easy step.

Students who can analyze, diagnose, and produce in the shop usually find ready employment.

Basic Course Outline for AUTO MECHANICS
Course Length—22 Months

Tools and Equipment
Engine—Operation, Maintenance, and Repair
Clutch—Operation, Maintenance, and Repair
Transmission—Operation, Maintenance, and Repair
Chassis—Construction and Maintenance
Brakes—Operation, Maintenance, and Repair
Steering Systems
Front End Axle Systems—Operation, Maintenance, and Repair
Cooling Systems
Electrical Systems
Fuel Systems
Differentials
Universal Joints and Drive Shafts
Body and Accessories

BARBERING



Both Men and Women Train for a Career in Barbering

We commonly think of barbering more specifically as the art of cutting hair; however, much more is included in this modern day service occupation. Skills today include scientific methods of shaving and hair cutting, facials and scalp massage, treatments with oils, creams, lotions, or other preparations, either by hand or mechanical appliances. Also included are such services as singeing, shampooing, arranging, dressing, dyeing or applying tonics to the hair. The application of cosmetics, preparations, oils, powders, clay or lotions, to the scalp, face, neck or upper part of the body is likewise a vital part of the training. Sterilization and sanitation are empahsized throughout the training period in the Area Vocational School.

The Kentucky State Board of Barber and Beautician Examiners require all who enter the course to be at least 16½ years of age and to have completed at least two years of high school. At the end of the course, which requires a minimum of 1,500 clock hours, the student is required to pass an apprentice examination and work as such for one year. At the termination of the apprenticeship period the student may take an examination for a Master Barber's License.

Basic Course Outline for Barbering

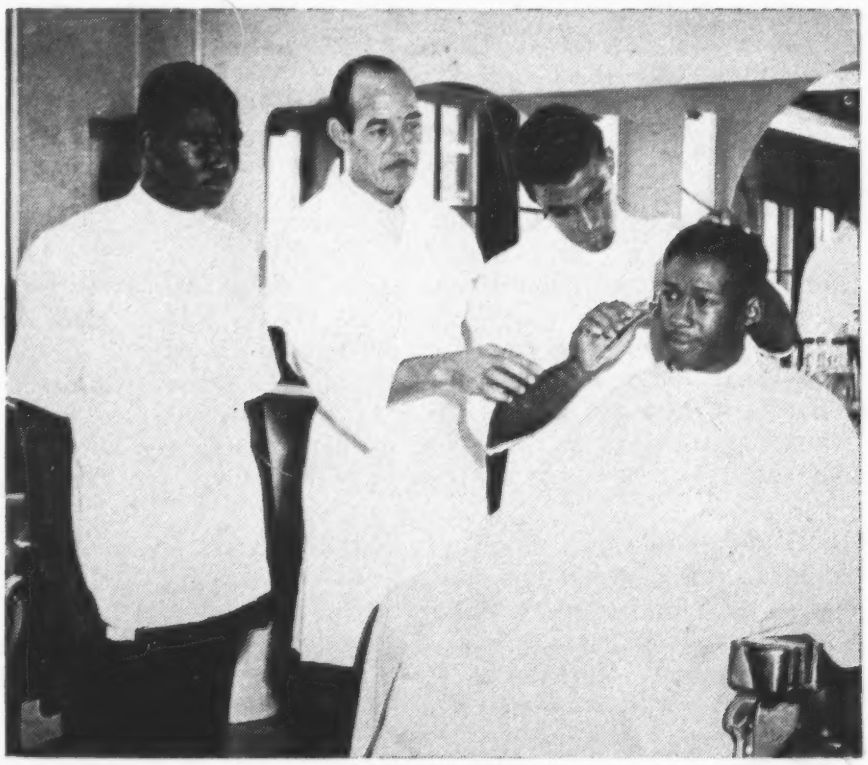
Course Length—1500 Hours

Practical Instruction:

History, Professional Ethics, and Shop Management
Use of Barbering Implements
Care and Maintenance of Tools
Technique of Practical Barbering
Application of Tonics, Creams, and Lotions
Shaving
Haircutting
Massaging
Facials (with and without lights)
Champooing
Scalp Treatments (with and without lights)
Hair Coloring

Science:

Bacteriology
Sterilization and Sanitation
Hygiene
Skin and Scalp Disorders
Anatomy and Physiology
Electricity
Light Therapy (as applied to barbering)
Chemistry and Pharmacology
Psychology



CARPENTRY

Mock-ups Serve As Live Training Aids Prior to On-the-Job Experiences

Nearly a million homes have been built in our country each year since the end of World War II. The demand and opportunities for tradesmen in the field of woodworking and carpentry are constantly on the increase. Skill in the art of woodworking lends itself readily to the performance of a multitude of necessary and worth-while jobs for the homes and for many activities of modern life.

In this course the student is taught to work from blueprints and specifications, to operate power tools necessary for the building trades, and the use of smaller portable tools in the finer work of trimming and installing built-in features of the modern home and office. Special emphasis is placed on the proper technique so the learner may understand and become acquainted with generally accepted carpentry practices as required to build substantial frame

residences that combine good construction, good design, efficient floor plans, and the use of proper building materials.

Woodworking and carpentry offer a rich variety of experiences and great opportunities for those who acquire knowledge and skills of the trade. Graduates who show initiative and ability are often promoted to foremen or supervisors, or they may become contractors or operators of their own production shops.

Basic Course Outline for CARPENTRY
Course Length—22 Months

Building Layout and Concrete Form Construction
- Layout of Building Lines
- Building Footing and Foundation Wall Forms
- Building Forms for Concrete Steps

Framing and Sheathing
- Floor Framing
- Wall Framing and Sheathing
- Roof Framing
- Special Framing Problems

Exterior Trim
- Cornices
- Roofing
- Frames (Door and Window)
- Side-Wall Coverings

Interior Trim
- Grounds and Furring
- Plaster Base
- Door and Window Trim
- Dry-Wall Construction
- Flooring

Stair Building

Masonry
- Mortar Mixtures
- Concrete Block Construction
- Cinder Block Construction
- Mortar Joints and Facings
- Brick Structures
- Sills and Copings
- Setting and Cleaning of Stone
- Construction of Chimneys

Related Information
- Mathematics
- Science (Applied)
- Blueprint Reading
- Human Relations

CHEF COOKING

More than 75 million Americans eat daily in commercial establishments. With air travel an increasing means of transportation; resort spots of the world expanding at unprecedented rates; tourist sites, motels, and "drive-ins" dotting the horizon for the motor-minded millions; with "in-plant" feeding and "on location" catering necessary to America's industrial way of life—commercial cooking has become a highly desirable trade, challenging the ambitious young man or woman.

Hors d' Oeuvres . . . Plat du Jour . . . Wiener Schnitzel a la Holstein . . . Pompano en Papillote—these and thousands of other words having culinary connotation are transformed into basic operations and skills in the everyday life of the commercial food handler.

There is very little unemployment for those trained in this field. Trained food handlers find numerous opportunities for advancement as caterers, bakers, chef cooks, waiters, or waitresses.

Almost without exception, our future restaurant managers and operators will be persons who have at one time or another availed themselves of the advantages of formal training.

In the Area Vocational School, the student is given the basic essentials of the trade through practice in meat cutting, quantity cooking, custom baking, catering, and serving.

Many graduates of food trade courses have in a short time risen to managerial positions with leading catering operations.

Basic Course Outline for FOOD TRADES

Course Length—22 Months

Equipment and Cooking Utensils	Soups
Meats—Cuts	Salads
Cooking Meats	Baking
Cooking Vegetables	Serving Meals
Cooking Poultry	Menus
Cooking Seafood	Estimating

Catering

CONSTRUCTION EQUIPMENT OPERATION AND MAINTENANCE

In man's efforts to create an environment according to his desire and needs, heavy equipment is one of his indispensable tools. Creating roads over the mountains, transforming swamps into building sites, erecting and swinging tons of steel with a flick of a finger, moving yards of earth in minutes, fitting precisely ground parts together in a machine, and operating a machine so rugged that giant trees will topple in its path are the thrilling life and work of a heavy equipment mechanic and operator.

The heavy equipment mechanic and operator can expect to be in the open spaces with an industry that is humming with activity. Road and dam building projects are pyramiding with long range planning which assures a steady demand for those with the necessary skills. Opportunities are almost unlimited, ranging from dozer and shovel men for strip and auger mines to crane operators and mechanics in mills and plants. All major earth moving projects require heavy equipment mechanics and operators.

Efficient mechanics and operators in this field must acquire considerable technical knowledge. Good mechanical aptitude is essential to properly apply the technical knowledge to its practical application. One should have, or acquire, sufficient education to read and understand technical descriptions and diagrams.

Units of instruction in this course cover such areas as ignition, cooling systems, fuel systems, clutches, steering, chassis, lubrication, transmissions, engines, differentials, and brakes in the mechanical field. As an operator, one must master the operation of such machines as dozers, shovels, cranes, graders, clam shells, drag lines, dump trucks, tractor-trailer units, pans, loaders, and turnapulls. Technical information and related subjects are made available in the classroom. Live jobs are utilized to the greatest practical extent.

The heavy equipment mechanic and operator gives routine maintenance as well as makes major repairs on gasoline and diesel machinery. He works with huge castings and very small, precisely ground parts. He repairs and operates electrical, hydraulic, and mechanical machinery requiring extensive technical knowledge, ingenuity, and skill. His associates range from engineers to laborers.

Industrial As Well As Residential Sites Are Enhanced by the Bulldozer's Blade

Basic Course Outline for HEAVY EQUIPMENT OPERATION AND MAINTENANCE MECHANICS

Course Length—22 Months

Ignition and Electric Systems	Engine
Cooling System	Transmission
Fuel System	Differential
Clutch	Brakes
Steering	Shop Cleanliness and Safety
Chassis	Welding
Lubrication	Related Instruction

Practice in Operating Heavy Equipment

COSMETOLOGY

Personal beauty service is recognized as a necessity by most women today. Performance of this service can be satisfactorily rendered only by the operators who possess the skills and knowledges of the trade, and who are adept at social courtesies. Many advanced high school students, men and women, have completed the course and are now profitably employed in shops throughout Kentucky.

To be eligible for the course in Beauty Culture, one must have completed two years of high school and be at least 16 years of age. A state registration is required for apprentices and the examination is open to all who have completed 1500 clock hours in the study of physiology, chemistry, and other technical information pertaining to the trade. This study is accomplished by training and practical experience in accepted practices relative to hair, skin, scalp, and nails.

A year of successful operation as an apprentice qualifies the person for the final examination to an operator's license.

Basic Course Outline for COSMETOLOGY
Course Length—1500 Hours

Professional Ethics

Hygiene and Personality

Bacteriology

Sterilization and Sanitation

First Aid

Anatomy and Physiology

Diseases of the Skin, Scalp and Hair

Electricity and Light Therapy

Chemistry

Theory of Massage

Shampoos and Rinses

Scalp Treatment

Haircutting

Manicuring

Finger Waving

Hair Styling

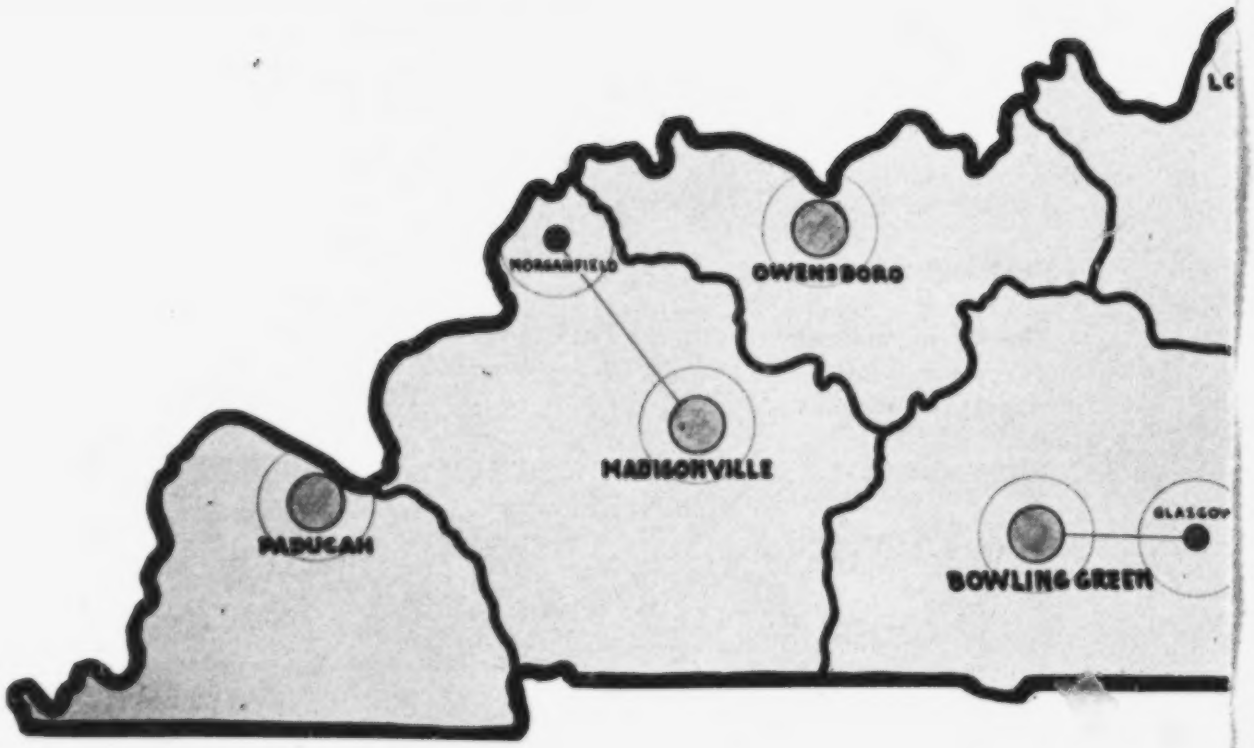
Cold Waving

Theory of Massage

Facial Treatment

Facial Make-Up

Hair Tinting and Bleaching



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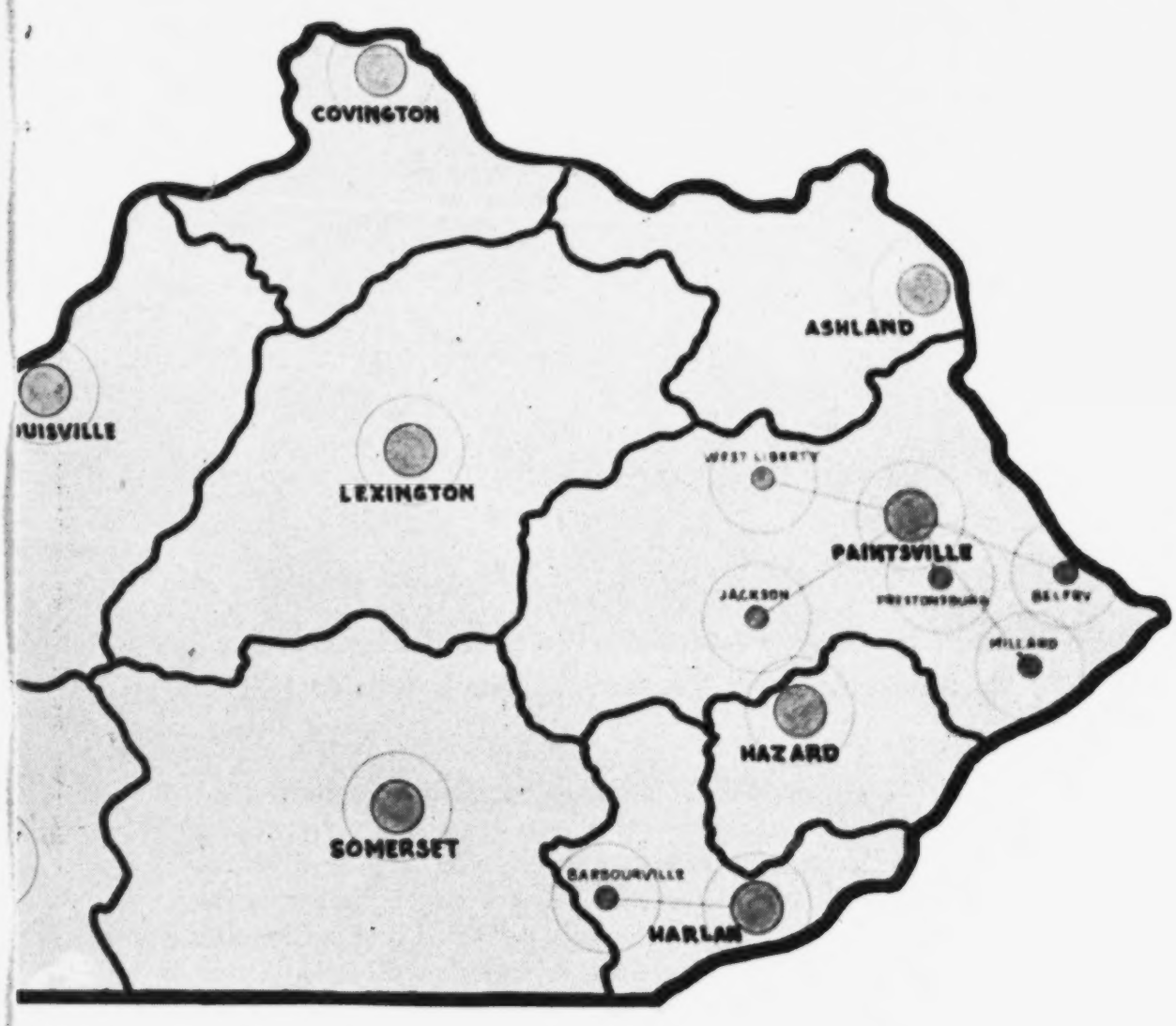
AREA VOCATIONAL-TECHNICAL SC

EACH CIRCLE REPRESENTS AN

LARGE DOT SIGNIFIES TRADE SCHOOL CENTE



UCKY
CHOOLS AND EXTENSION CENTERS

AREA OF 25 MILES DIAMETER

R—SMALL DOT SIGNIFIES EXTENSION CENTER

DRAFTING AND DESIGN

The Draftsman Must Visualize the Finished Product

Drafting is the universal language of industry understood around the world. Few of us stop to realize that almost everything manufactured in modern industry, at some phase, appeared on the drafting board. Not only is this true of new products, but even the best and most advanced machine is being studied and redesigned for better or more efficient operation. A major part of that study and design is being done by the technical draftsman.

There are unlimited opportunities available to the person who wishes to pursue this occupation. A person with ideas, imagination, and intelligence may find that the drawing board affords an outlet for original thinking. "Want ads" in daily newspapers indicate industry's overwhelming demand for qualified draftsmen.

Instruction in fundamentals may include units in machine, architectural, aeronautical, and topographical drafting, as well as problems in industrial illustrating, and civil and municipal planning. Particular emphasis is placed upon speed, accuracy, and neatness. It is desirable that a student considering technical drafting have a

strong background in mathematics and science. The student's instruction in related subjects will not only include units in science and mathematics, but may include instruction in human relations, job interviews and placement, and other similar units. The student works on real jobs brought into the classroom, as well as problems from reference texts. The technical drafting student should be prepared to study for at least two years. Instruction is provided by men who are familiar with methods and techniques used by modern industry.

The field of drafting offers employment in an interesting and challenging occupation, with advancements limited only by the desire, ability, and ambition of the draftsman.

Basic Course Outline for DRAFTING
Course Length—22 Mos.

Lettering
Geometric Construction
Orthographic Projection
Revolutions
Working Drawing
Dimensioning
Technical Sketching
Pictorial Drawings
Architectural Drafting
Graphic Charts and Diagrams
Machine Drawing
Intersection and Developments
Blue Print Reading

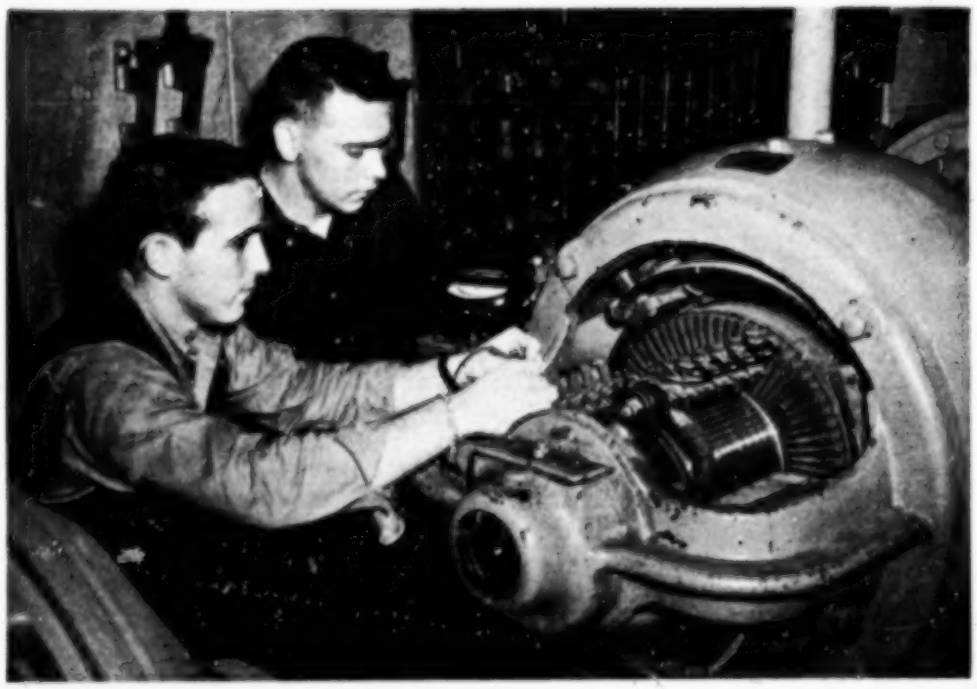
ELECTRICITY

Electricity benefits everyone in one way or another. It may cook our meals, heat our homes, pump our water, freeze our foods, cut our grass, wash our clothes, and furnish power for modern industry. The need for electricity increases at a staggering rate. Employment possibilities in the future appear to be exceedingly good for the trained electrical worker.

The Area Vocational Schools of Kentucky offer the individual an opportunity to become occupationally competent in many electrical fields. Live jobs in the trade consume the student's training time while in school. Related instruction is given throughout the course in the form of mathematics, physics, sketching, and trade theory from selected references and texts.

Electricity is a broad field and offers varied types of employment opportunities. Areas covered in the course of study include motor winding and repair, appliance repair, residential and farmstead wiring, industrial wiring, bell and signal wiring, lineman training, industrial electronics, and equipment maintenance.

Expert Motor Rewinding Renews Power



Basic Course Outline for ELECTRICITY
Course Length—22 Mos.

Fundamentals of Electricity

Construction Wiring

Interior Electrical Wiring—Residential

- Electrical fundamentals applying to wiring
- Cable wiring
- Wiring electric ranges and water heating appliances
- Residential furnace controls
- Remote control wiring

Interior Electrical Wiring—Industrial

- Industrial methods
- Non-residential lighting
- Wiring for motors
- Power and feeder service
- Transformers, capacitors, industrial power distribution
- Special circuits and application

Motor Repair

- Split phase motors
- Capacitor motors
- Repulsion type motors
- Polyphase motors

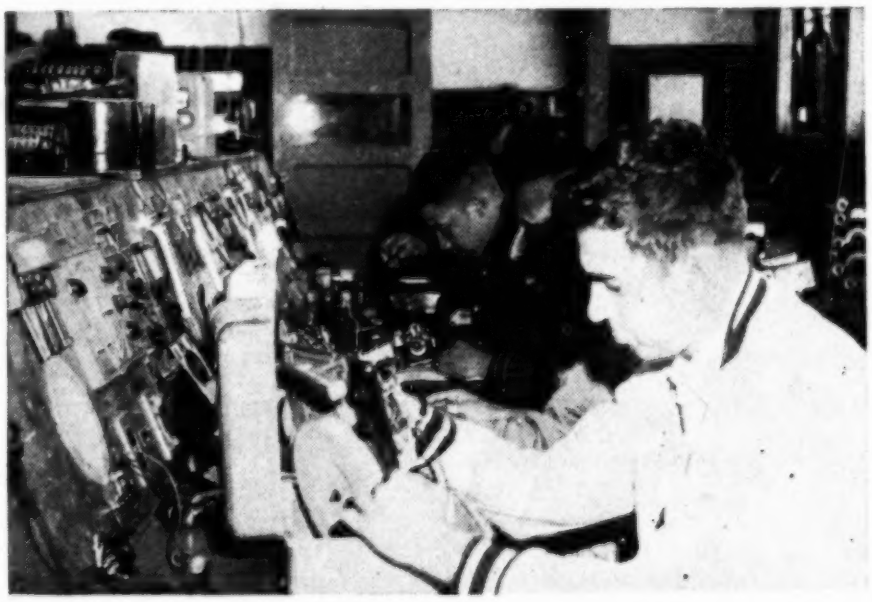
ELECTRONICS

The sky is the limit on career opportunities in the Industrial Electronics field for those who are willing to study and apply themselves.

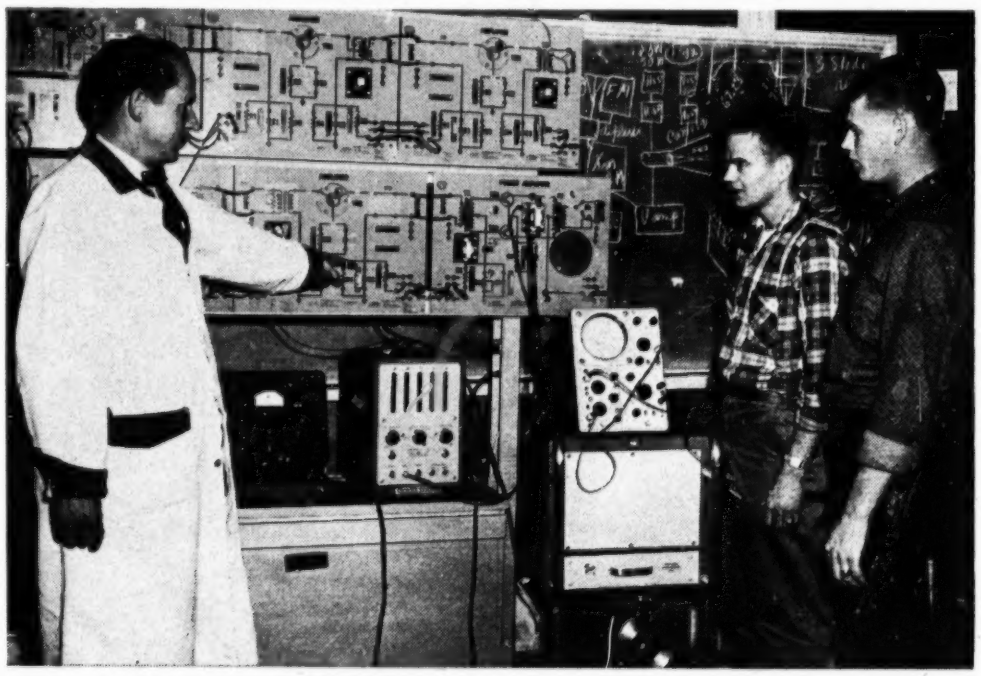
The electronics industry is a rapidly expanding occupational field. Technicians who design, build, service, and trouble-shoot electronics equipment have available to them a wide variety of employment opportunities throughout the nation.

The variety of work and excellent opportunities for advancement, plus a high rate of pay, make employment in this field very attractive.

Those who wish to prepare themselves for this trade should have at least a high school education and possess an aptitude for the work. Major units of instruction involve fundamentals of electricity, bell and signal circuits, industrial electronics, switchboards, A. C. motors, D. C. motors, generators, D. C. and A. C. controllers, transformers, fundamentals of electronics, electronic measuring instruments, industrial electronic controls and devices, technical mathematics, technical science, and related subjects.



The electronics departments in area vocational schools are equipped with tools and testing equipment necessary for thorough instruction. Individual work stations, and areas for group instruction and demonstrations, are provided. Teaching methods include group instruction as well as individual instruction based on the progress of the individual.



Basic Course Outline for INDUSTRIAL ELECTRONICS

Course Length—22 Mos.

Electric and Electronic Fundamentals
- DC Components and Circuits
- AC Components and Circuits
- Fundamentals of Electronics

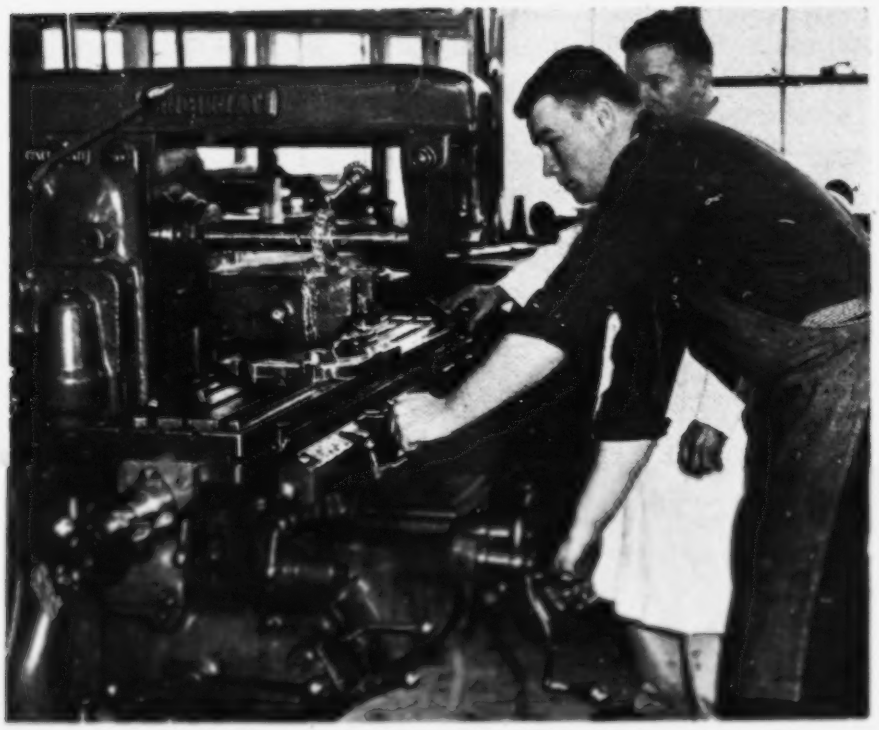
Basic Electronic Systems
- Power Supplies
- Audio Amplifiers
- Transmitters, A.M.
- Radio Receivers
- Antennas
- Frequency Modulation
- Laboratory Reports

Advance Electronic Systems
- Time Constants
- Radar
- Synchros
- Microwave
- Ultrasonics
- Computer Technology
- Television

Related Subjects
- Technical Math
- Technical Science
- Electronic Drafting

General Subjects
- Business and Industrial
- Mechanical Laboratory

MACHINE SHOP PRACTICE



"Take .015 of an Inch on the Next Cut"

We are living in a highly mechanical age. Practically everything is done with the push of a button or the flick of a lever. These ingenious mechanical and electronic devices are built of accurately and carefully made parts. Basically, the machinist is the key to all trades. His job is so essential to everyday life that his mark is on every phase of industry. The machinist plays a very important part in manufacturing because it is he who translates the ideas of the designer and inventor into practical and efficient machinery. The machinist fabricates, repairs, or makes parts for every conceivable piece of equipment used by modern manufacturing plants. The machinist trade takes on added importance in this world of science and invention and will continue to do so as long as science and industry continue to grow. This occupation represents the largest single group of skilled jobs in manufacturing.

Employment in this trade is found in every section of the country. The work of a machinist is becoming more important

and exacting as close tolerances are created in manufacturing satellites, rockets, and atomic devices. Most machinists work in modern surroundings with modern equipment, and receive a salary commensurate to those paid in the highest skilled occupations.

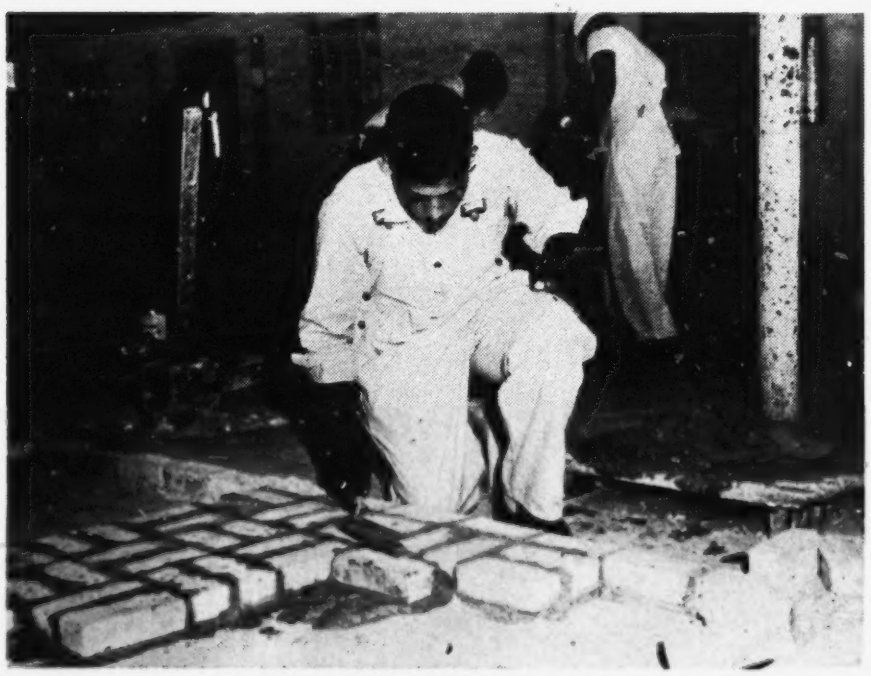
Those desiring to become machinists should possess, or develop, a thorough understanding of basic mathematics, physics, and science. They should also have a somewhat above-average mechanical aptitude by virtue of the fact that the greater percentage of a machinist's work is done with precision tools such as the engine lathe, turret lathe, grinders of all types, planers, shapers, milling machines, etc. In addition, all types of precision measuring instruments must be utilized.

Basic Course Outline for MACHINE SHOP

Course Length—22 Mos.

Bench Work	Planing
Lathe Work	Grinding
Drill Press Work	General Maintenance and Repair
Milling	Heat Treating
Shaping	Related Subjects

MASONRY



Learning to Trowel Is a Key Mystery of the Trade

Masonry, in the field of building construction, is as old as civilization itself. Recent statistics indicate a great demand for skillful, intelligent, and energetic men who are interested in masonry as a phase of building construction.

This course, requiring mental as well as manipulative skill, gives the student a general understanding of brick and stone work as it is applied to the building trades. Not only are the necessary trade procedures taught and emphasized, but sufficient practical experience and related information are included to provide understandings of structural design and construction.

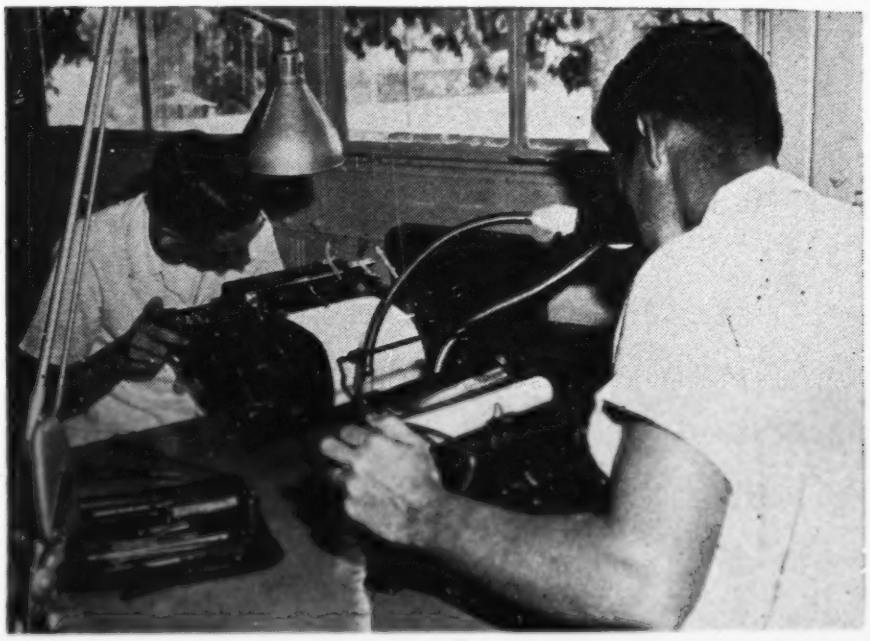
Included in the course are such trade procedures as design and construction of footings, foundations and waterproofing, beams and lintels and their uses, walls and partition construction, chimney and fireplace design and construction. General knowledge of the use and application of glass brick and concrete block in masonry construction is also included.

During these years of rapid expansion, our progress in building residential, industrial, and defense structures continues to increase. Masonry represents one of the finest aspects of our culture in the building trades. Perhaps no other worker reaps so much satisfaction from his labors as the skilled craftsman who combines grace, beauty, and security in buildings for tomorrow.

Basic Course Outline for MASONRY
Course Length—22 Mos.

Building Footings
Laying Bricks
Laying Blocks
Laying Stone
Laying Tile
Pointing Up
Fireplace Construction
Lining Flues
Layout
Estimating

OFFICE MACHINE REPAIR AND MAINTENANCE



Office Equipment Requires Repair As Well As Preventive Maintenance

Office automation has given a new prominence to the work of the office machine repairman. The need for skilled workmen in this area grows each day as offices consign more of their routine chores to machines, and as manufacturers build new kinds and types of office equipment to perform repetitive tasks.

Skill and technical know-how are requirements of the trade as the repairman arranges and adjusts the modern typewriter which is composed of more than 2,000 component parts. Specialized skill in the use of tools, technical manuals, and test equipment is learned through carefully planned shop and class work centered around all types of office equipment.

Students receive practical experience in repairing typewriters, adding machines, comptometers, calculators, and duplicating equipment of all makes and models. Experience extends from simple adjustments to major overhaul and rebuilding.

Many graduates have successfully set up their own shops and are operating profitable businesses. Students enrolled in this course often secure a promise of employment several weeks before training is completed. Many physically handicapped people have been successfully trained in this course.

Basic Course Outline for OFFICE MACHINE REPAIR
Course Length—22 Mos.

Typewriters
- Dismantling
- Main Frame Servicing
- Segment Servicing
- Main Carriage Servicing
- Main Spring and Related Parts Servicing

Adding Machines
- Dismantling
- Main Carriage Servicing
- Main Frame Servicing
- Keyboard Servicing

General Office and Equipment
- Mimeograph and Duplicator
- Cash Registers
- Miscellaneous Office Equipment

Related Theory
- Business Relations (Sale)
- Servicing Problems
- Business Management Problems
- Safety Precautions
- Personal Characteristics

Related Subjects
- Mathematics, etc.

PRACTICAL NURSING

There is opportunity in Kentucky for both men and women to become valuable members of the health team. A graduate of one of the approved schools of practical nursing plays an important part in providing adequate nursing care for the community, in hospitals, clinics, private homes, industries, doctors' offices and public health agencies, under the supervision of a licensed physician or a registered professional nurse.

Students must be at least seventeen years of age and have successfully completed one year of high school or its equivalent. They must have evidence of good health as shown by a physical examination.

The one-year program of instruction emphasizes gaining basic knowledge and developing attitudes and skills through instruction and carefully planned supervised practical experience.

All students have experiences in the following patient areas of an accredited hospital: medical, surgical, obstetrical (mothers and newborn babies), pediatrics (children), and care of the aged. Many of the students receive additional nursing experiences in such special areas as tuberculosis and psychiatry. Graduates of the course are eligible to take the examination to become Licensed Practical Nurses.

Practical nursing offers a career of achievement and satisfaction. It represents an inspiring opportunity to contribute to the welfare of mankind.

Basic Course Outline for PRACTICAL NURSING
Course Length—12 Months

Planned Instruction
- Anatomy and Physiology
- Personal and Vocational Relationships
- Community Health
- Nutrition
- Dosage and Medications
- Introduction to Conditions of Illness
- Nursing Arts

Supervised Nursing Practice
- Medical Nursing
- Surgical Nursing
- Obstetrical Nursing
- Pediatric Nursing
- Long Term Illness Nursing

PRINTING

The modern way of living would be a thing of the past if we should suddenly find ourselves without the printing trade.

In the wealth of printed matter about us, it is hard to conceive of trying to record for future reference or generations, the happenings of today by a means other than printing.

The printed word, today's newspaper, the Bible on the pulpit, and even this booklet are accumulations resulting from Gutenberg's humble beginning.

Today's printers number in thousands, while each new year introduces revolutionary processes and procedures that open thousands of additional jobs.

The student, having learned the basic skills required, can branch out into almost a hundred facets of the Graphic Arts industry, letter-press work, lithography, engraving, bookbinding, and many others. Seasonal work is unknown to the printer; a never-

ending stream of circulars, newspapers, periodicals, signs, posters, can labels, and thousands of other printed products roll off the printer's presses daily.

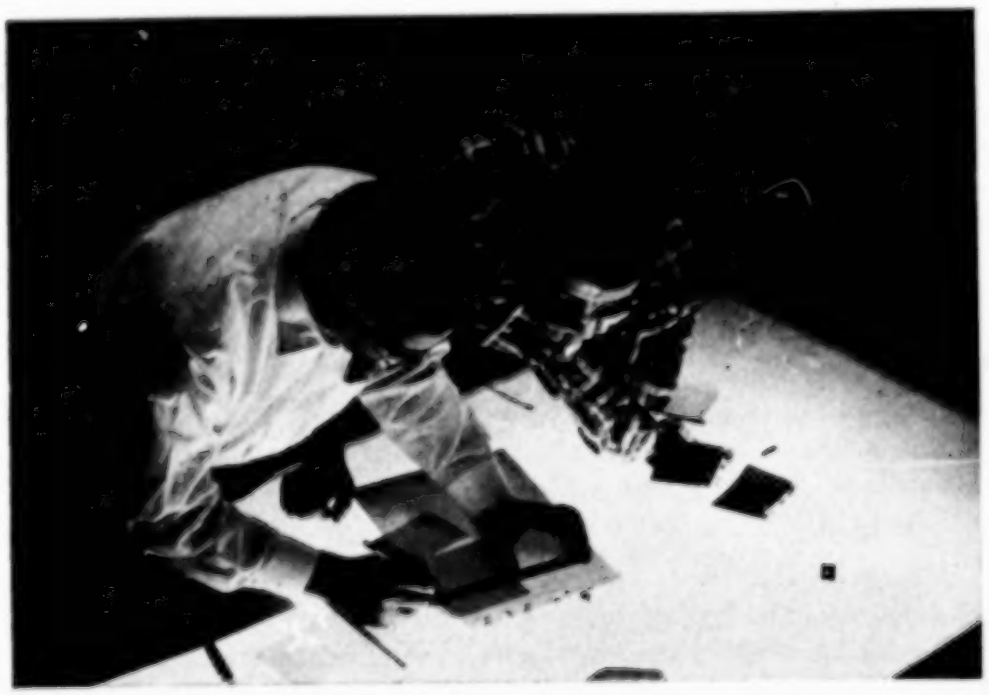
A printer should have a substantial background in English, spelling, mathematics, and an interest in the trade. Many handicapped persons are ideal employees in certain phases of the printing industry.

In this course the student learns to perform the basic operations of type setting and presswork, methods used in printing books, magazines, and newspapers in addition to the operation of the various machines used in the printing industry.

Basic Course Outline for PRINTING

Course Length—22 Mos.

Hand Composition
Machine Composition
Store Work
Platen Press
Proof Reading
Layout and Design
Cylinder Press
Type Styles and Faces
Stockroom
Paper-Cutting
Bindery Work
Ink Mixing and Composition
Maintenance and Repair of Printing Equipment



RADIO AND TELEVISION MAINTENANCE AND REPAIR

Up-To-Date Service Manuals Are Tools-In-Trade Of The Radio and T. V. Repairman

The terrific growth of the television industry and the development of color television and transistor sets have greatly increased the demand for well-trained television technicians. Color may even replace our black and white system. As future developments result in greater use of electronic equipment, this interesting field of work will offer an even greater variety of opportunities.

Television screens for face-to-face telephone conversations could become a reality in a few years.

In this course, actual television and radio repair work is performed as a basis for realistic instruction in the proper use of the television and radio test equipment. Other instruction includes the study of sound and wave motion, light, color, and electricity. Related mathematics is also offered for students who may need help in this field.

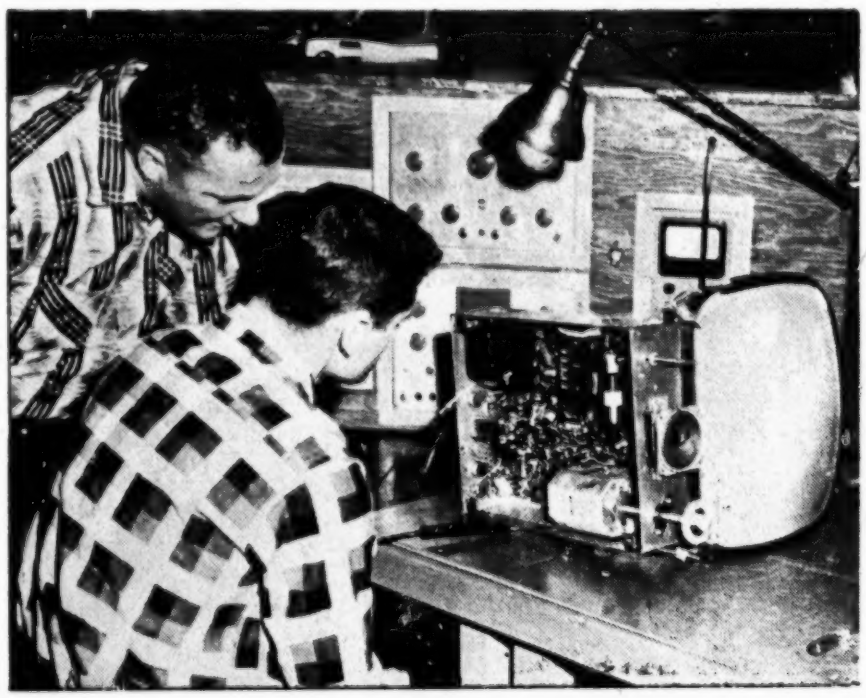
A good television and radio serviceman can find employment in most localities. Many television and radio repairmen become television and radio dealers and operate their own businesses.

Upon successful completion of this course, the student will have the technical knowledge and skill necessary for a bright future in the television and radio industry.

Basic Course Outline for RADIO AND TELEVISION

Course Length—22 Mos.

Safety
Electricity
  Motor Repair
  Circuiting
  Wiring Methods—Radio
Basic Radio
  Electricity and Vacuum
  Tubes
  Amplifiers
  Trouble Shooting
  Transmitters
  Receivers
Frequency Modulation and Television
  F. M.
  Television
Related Instruction
  Mathematics
  Science
  Blueprint Reading
Amplitude Modulation



Special Skills and Knowledge are Needed by the Television Repairman

REFRIGERATION AND AIR CONDITIONING MECHANICS

Refrigeration and air conditioning, as applied in modern day living, afford unlimited opportunity to the individual who likes the challenge of something new and a profitable vocation. To apply this trade, one must have an aptitude for mechanics and an understanding of the laws of physics as they apply to pressures. A knowledge of simple uses of electricity, ability to calculate simple formulas of physics and mathematics, and a knowledge of blueprint reading are highly helpful.

Instruction in refrigeration and air conditioning deals with the fundamentals of theory and the applications of theory in actual practice. This course has enabled many to secure interesting and profitable employment.

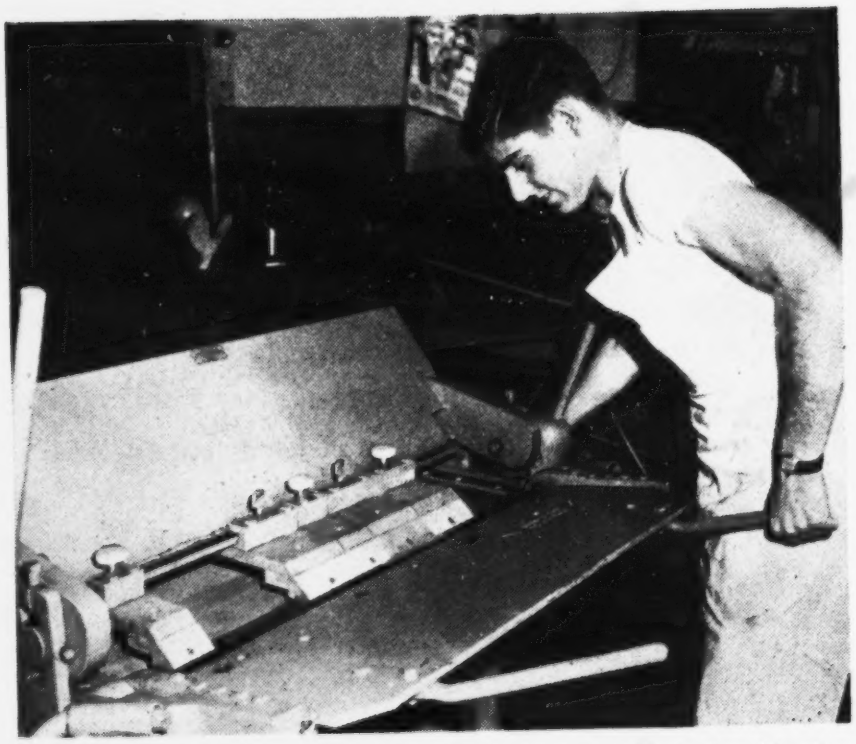
The Principles of Refrigeration Are More Easily Understood Through the Use of Live Demonstration Panels

Basic Course Outline for REFRIGERATION AND AIR CONDITIONING

Course Length—22 Mos.

Refrigeration Theory
Mathematics, Science, Tests, and Reviews
Refrigerants
Tubing
Refrigeration Compressors
Standard Components, Assembly, and Construction
Refrigeration Controls
Valves
Multiple Systems
Repair and Trouble Shooting
Designing and Constructing Systems
Air Conditioning Principles and Theory
Air Conditioning Blueprint and Diagram Reading
Air Conditioning Compressors
Air Conditioning Controls
Motors and Electrical Circuits
Air Conditioning Repair and Trouble Shooting
Instruments and Measurements

SHEET METAL



Many Parts of Sheet-Metal Projects Must be Bent and Formed to Make a Hem or Stiffen an Edge

Industrial developments and public demand for modern conveniences have made sheet metal work indispensable. Statistics show that of every ten persons gainfully employed in the United States, one is an employee in some capacity in the metal working industry.

The worker in this trade makes and repairs many things; such as, stove and furnace pipes, furnaces, air conditioners, signs, eave troughs, metal roofs and ceilings, metal doors and windows, automobile and airplane bodies.

Sheet metal, in many instances, is now used instead of wood and other industrial materials. These products are used on the farm, in the home, offices, and shops. The number of articles which can be made from sheet metal is limited only by the worker's own ingenuity, imagination, and resourcefulness.

In this course, the student learns to rivet, solder, cut, drill,

The Building of Sheet Metal Duct Work Assumes New Importance in the Era of Central Heating and Air Conditioning

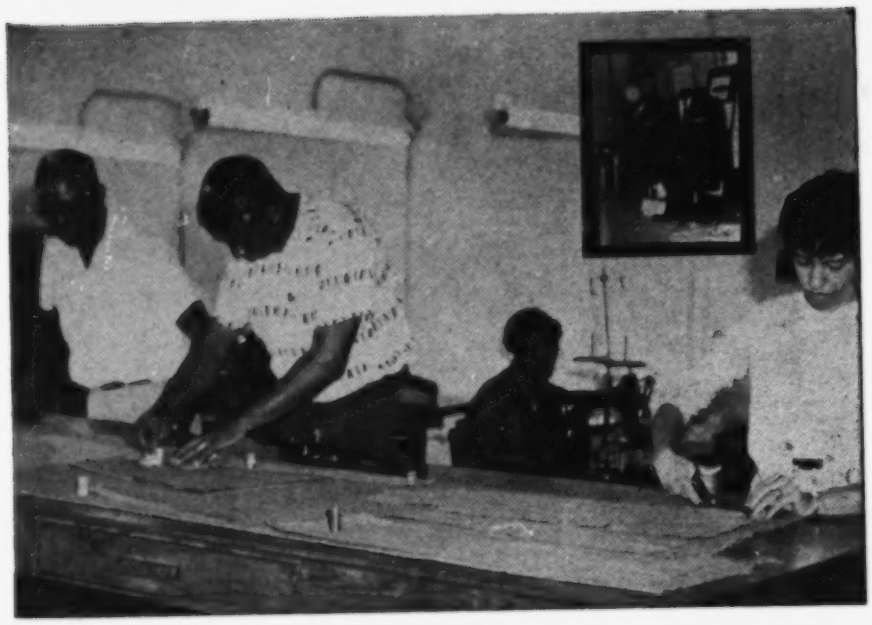
roll, bend, and weld. He also learns the working characteristics of individual metals and the purposes for which each is best suited.

Basic Course Outline for SHEET METAL

Course Length—22 Mos.

Uses of Sheet Metals	Sizing
Geometric Developments	Calculations for Air Changing
Duct Work	Methods of Heating
Methods of Fastening	Methods of Cooling
Layout Work	Molding and Guttering
	Estimating

TAILORING



"Dress up, look well, and feel better" is the slogan being used by the clothing industry. Become a tailor and make this slogan a reality by helping to clothe America.

The tailor should have a knowledge of the latest styles at all times. When new styles are introduced, he should be one of the first to know, and he should be familiar with the many types of clothing and fabrics being used.

Before entering the field of tailoring, a high school education is important. Opportunities are greater for those who meet these qualifications.

Some of the basic units taught in tailoring are: Fabrics and their construction, designing, cutting, hand stitching, trouser making, and skirt and coat making. In this field, like other fields, there are specialists, who may, if they so desire, specialize in one or more of the areas.

There is a great demand for well-trained tailors. The opportunities are great as a small business, a big business, and in self-employment as well. The working conditions are desirable, the hours are good and pay is equitable.

Basic Course Outline for TAILORING

Course Length—22 Mos.

Tools and Equipment
- Opening, closing, and threading machine
- Using and caring for seam gauge machine
- Regulating tension and length of stitch
- Using a seam presser, binder, tailor's chalk, and pounding block

Seams—Types and Uses
- Making and finishing plain seams
- Staggering seam edges
- Making French, lapped or flat felt seams
- Making corded seams
- Binding Seams

Fitting Garments
- Fitting skirt and blouse
- Fitting ready made garments

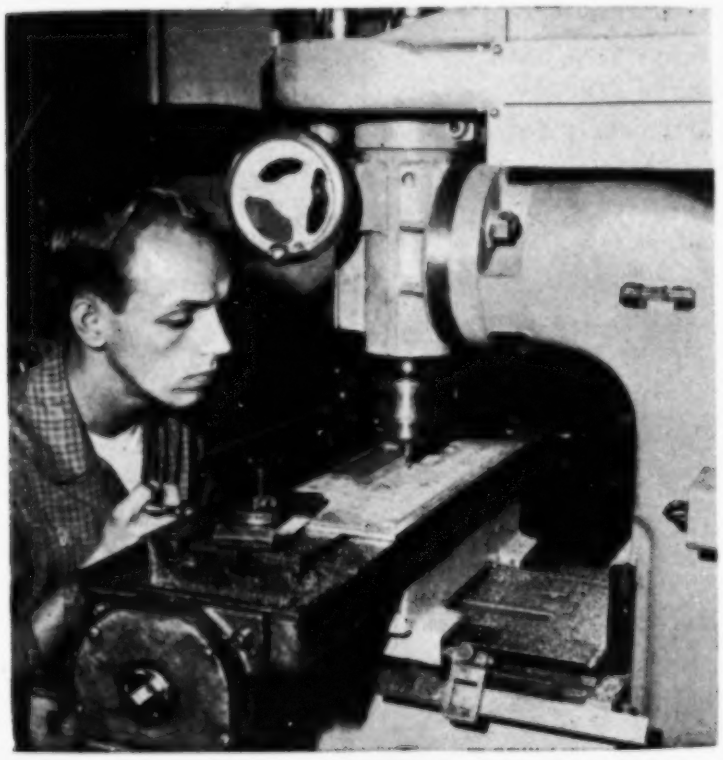
Stitching Garments
- Stay stitching
- Machine and hand basting
- Stitching and pressing darts
- Stitching for gathering

Pockets, Hems and Other Finishes
- Making and attaching patch pockets
- Making set-in and/or slash pockets
- Putting in a straight hem
- Machine and hand hemming
- Applying hemming tape

Pattern, Marking and Cutting Garments
- Selecting a pattern-size, etc.
- Changing pattern sizes
- Marking and using tracing wheel and tailor's chalk
- Using pattern layout for cutting
- Cutting figured patterns
- Cutting napped or striped materials

Garment Construction — Trousers, Vests, Coats
- Straight seaming
- Neck and sleeve finishes
- Facings and interfacings
- Linings

TOOL AND DIE MAKING



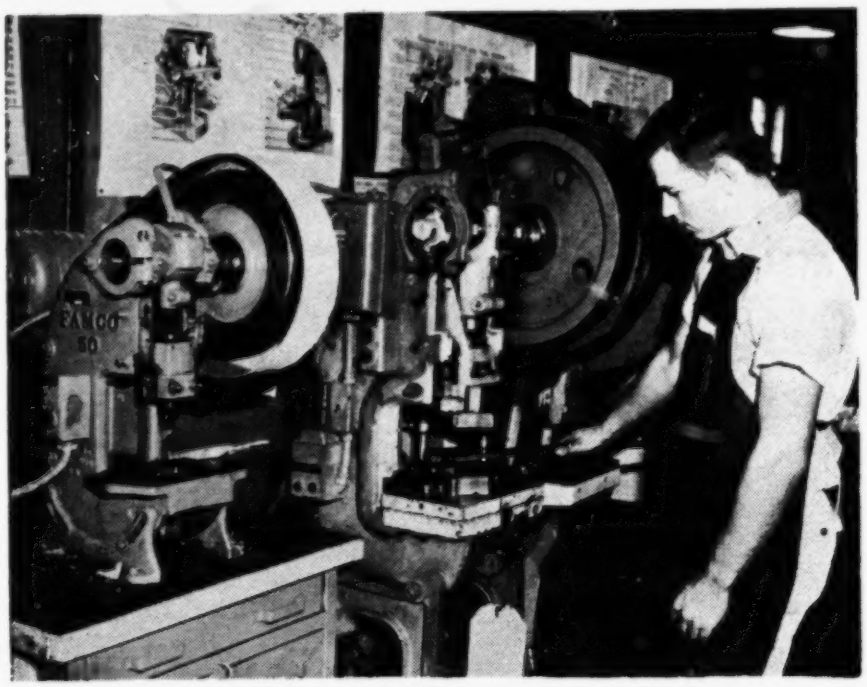
Precision and Skill are Musts for the Die Maker

A journeyman in the trade of Tool and Die Making is highly skilled in the use of precision machines and instruments for building intricate mechanisms. This type of work is highly specialized and forms the basis of production as well as the quality of the products manufactured.

Tool and Die Making encompasses the building of tools, jigs, and fixtures, dies, gauges and special productive mechanisms. Knowledge of metallurgy and the heat treatment of various metals are used extensively by the die maker.

For those entering this highly specialized field, a high school education, or the equivalent, is essential. This is particularly true since the course of instruction requires a broad knowledge of mathematics, drafting and blueprint reading, physics, and science of metallurgy.

Opportunities in this occupation are practically unlimited for those posesssing the skills and knowledges required of successful workers in this field.



No Short-Cuts in this Highly Skilled Occupation

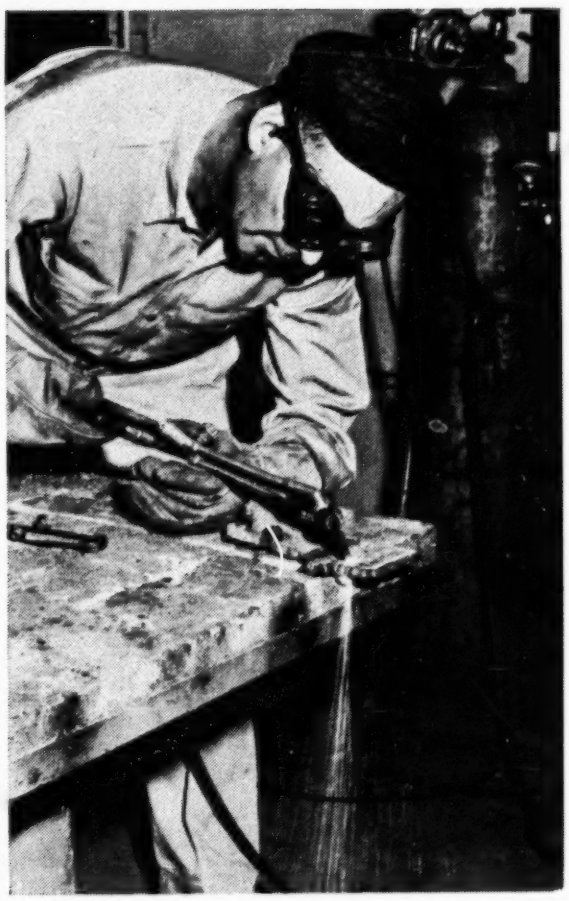
Basic Course Outline for TOOL AND DIE MAKING
Course Length—11 Mos.

Introduction
- Mechanical Drawing
- Free Hand Sketching
- Materials anl Heat Treatment
- Tool Design
- Tool Assembly Drawings
- Fixed Gauges
- Cutting Die Design
- Forming Die Design
- Multiple Operation Dies
- Bench Work

Machine Operations
- Drill Press
- Lathe
- Shaper
- Mill
- Planer

Press Operations
- Punching
- Blanking
- Forming
- Broaching
- Shearing

WELDING



Welding can be found in every phase of industry today. On-the-job construction, metal and steel fabrication, and maintenance work provide ample opportunities for the craftsman skilled in welding. It is perhaps one of the greatest contributors to our mass production superiority, and the field is expanding as rapidly as competent welders can be found.

The development of new metals and methods of fabrication and construction make it necessary for the welder to have a broad background of the basic knowledges and skills. To be a successful welder the operator must have a good basic understanding of the properties and characteristics of metals. New welding processes have been developed which call for a high degree of technical knowledge and operative skills. The trade calls for a mechanical aptitude and interest, with special emphasis on peculiar aspects of welding as related to the other trades. Educational and occupational experiences have shown that the welding student benefits by having previously had general science, general mathematics, and some experience in the field of metals.

The course of instruction in oxy-acetylene and electric arc welding is based on a study of the welding industry with particular emphasis upon the requirements of the commercial metal shops. Starting with the groundwork of fundamentals, the student learns the welding equipment and its uses, the character of the flame, and

the techniques of the method of application. Instruction includes both the flame and electric processes. Emphasis is placed on the proper techniques in welding in order that the learner may understand and practice correct welding procedures. The student learns the various methods of fabricating and assembling metal so that he may acquire sufficient knowledge and manipulative skills to prepare him to enter any one of the several metal trades. A great portion of the class instruction is given on actual productions jobs.

Through the development of the art of welding we now have all-steel bodies for automobiles, metal trains, bridges, buildings, boats, and innumerable other articles of all metal welded construction. In this modern steel age there is much in our high standard of living that we owe to the indispensable process of welding.

There is an ever constant demand for welders in all industries, and the expansion of modern industry will assure the trained individual regular employment.

Basic Course Outline for WELDING

Course Length—11 Mos.

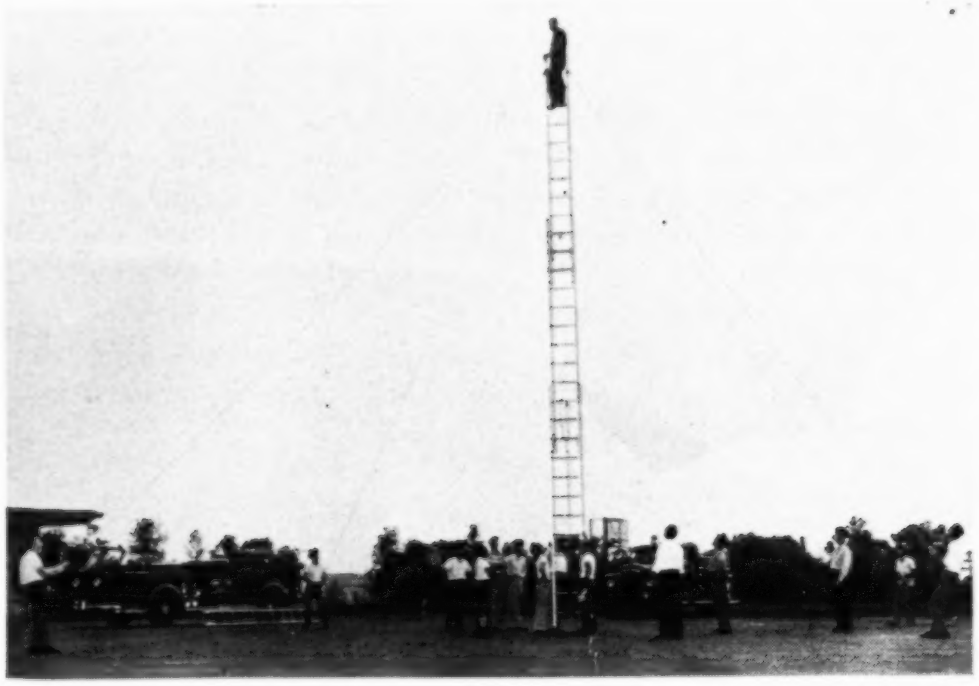
Oxy-acetylene Cutting
- Layout Work
- Hand and Machine Cutting
- Grinding, Polishing, Shaping and Filing

Oxy-acetylene Welding
- Flat Welding
- Horizontal Welding
- Brazing
- Maintenance Welding
- Hard-Surfacing
- Overhead Welding
- Pipe Welding
- Testing

Electric Welding
- Flat Welding
- Horizontal Welding
- Vertical Welding
- Overhead Welding
- Cast Iron Welding
- Hard-Surfacing
- Pipe Welding
- Heat Treating
- Tempering
- Testing

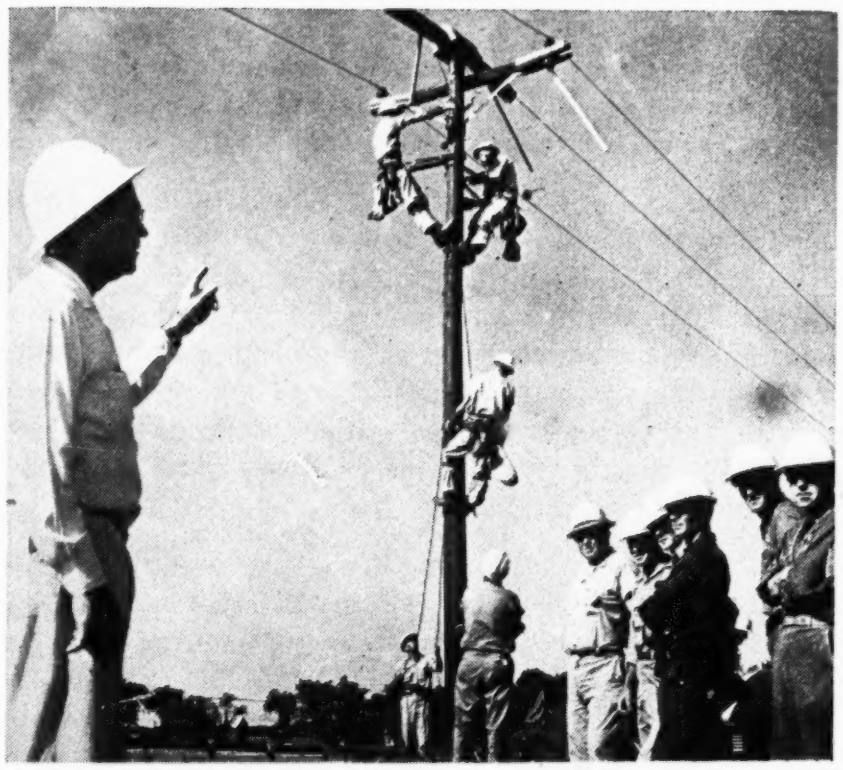
Heliarc and Aircomatic Welding
- Aluminum and Hard Facing Alloys
- Mild Steel, Stainless and Alloys
- Copper, Brass, and Bronze

PUBLIC SERVICE OCCUPATIONS
FIREMEN TRAINING



The program of itinerant instruction operated by the Division of Trade and Industrial Education provides training of an extensive nature to local fire departments throughout the state. These services are provided by two full-time itinerant instructors on the state staff and coordinated with and supplemented by part-time staff members employed by the vocational school serving the area. These courses are provided by offering a series of units ranging from basic fundamentals to advance methods of firefighting to local fire department personnel. Each unit consists of twenty hours of instruction, and as many of the units may be offered as a department feels it has need of at a given time.

JOB SAFETY TRAINING
PUBLIC UTILITIES



"Hot Stick" School in Process

The rapid expansion of rural electrification has created an overwhelming demand for workmen trained in "hot line" work. The program of job safety training operated by the Division of Trade and Industrial Education in conjunction with the Rural Electrification Cooperative Corporation and the vocational school serving the area offers planned job training and safety instruction in all phases of line work. This course includes right-of-way clearing, tree trimming, digging holes, setting poles, handling and firing dynamite, techniques of tying knots, splicing ropes, installing and connecting switches, meters, and transformers. Instruction includes both class work and on-the-job direction and observation.

EXTENSION CLASSES

Trade Extension Classes: The Area Vocational-Technical Schools of Kentucky offer a comprehensive program of trade extension courses of a supplementary nature. These courses are offered to those who are employed or temporarily unemployed in industrial and technical occupations and who need to increase the skills and knowledge used in their daily employment.

Such courses may be conducted at any location in the state, and for any amount of time necessary to do the specific type of training needed by a specific group of workers. For example, a trade extension course for carpenters might consist of innumerable short units; such as, blueprint reading, sketching, mathematics, roof framing, use of steel square, or stair building. Each short unit usually consists of three to ten lessons, and classes usually meet twice each week, three hours each session.

Several short units in the same trade may be offered for those desiring to improve themselves in different phases of their work. This allows the worker to enroll for a particular phase of training which will be most valuable to him in his immediate progress in his occupation without being forced to go through a vast amount of material which at the time is not pertinent to his immediate needs. On whatever basis they are offered, they must be supplemental to the daily employment of those in the group.

Part-time Apprentice Classes: Part-time trade extension classes are provided for apprentices at any location where a sufficient number can be enrolled to justify the cost of instruction. These courses are operated for the purpose of providing necessary related technical knowledge to young apprentice workers in any industrial occupation. In addition to working on the job, the apprentice attends evening classes for a minimum of 144 hours per year where he learns mathematics, blueprint reading, science, and theory pertaining to his trade. Apprenticeship training permits one to "earn while he learns" his trade in an organized course designed for his special needs.

TECHNICAL EDUCATION

The program of technical education is designed to prepare individuals for various technical positions in such fields as electronics, metallurgy, chemistry, drafting and design, aeronautics, etc. These workers may support and work under the supervision of a professional engineer. However, the program of training for a technician is much shorter and more specific than that for the engineer.

The need for technicians is increasing at a phenomenal rate and career opportunities in technical work exist in a wide range of occupational fields. This implies challenges and opportunities for those who have the necessary aptitudes, interests, and abilities.

The education required at this level is based upon the principles of science and include sufficient post-high school mathematics to enable the student to accomplish the technical objectives of the courses. Emphasis is placed on the use of rational processes in the fundamental portion of the curriculum.

The training needed for successful employment as a technician in industry is normally about two years of full-time instruction, although some technical jobs require perhaps one year or less. A few highly technical occupations require some additional training beyond the two years.

In addition to the preparatory programs, employed workers in specific technical fields may take extension or supplementary courses to better meet changing occupational demands and for job advancement opportunities.

VT 003 200
Burgener, V.E.
A Rationale for Research in Vocational Education.

Illinois Research and Development Coordinating Unit, Springfield
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jul65 12p.

*RESEARCH COORDINATING UNITS; *OBJECTIVES; *EDUCATIONAL RESEARCH; *VOCATIONAL EDUCATION; RESEARCH NEEDS; PROGRAM COORDINATION; EDUCATIONAL CHANGE

The State Research and Development Coordinating Unit should concern itself with the total spectrum of research and development: problem identification, priority, theory development, model design, engineering, modification, experimentation, field trials, packaging, demonstrations, diffusion, adaptation, and program implementation. Seldom is the same individual capable of performing more than one of the subfunctions in the research and development spectrum. The Research Coordinating Units may provide their best coordinating service by finding and bringing these separate specialties together. The coordination function must meld the thought of the theoretician to the procedure of the practitioner. As administrative agencies they should not attempt to become research generating stations. (PS)

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THE SPECTRUM OF RESEARCH & DEVELOPMENT

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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VT003200

V. E. BURGENER
Illinois Research Coordinating Unit

A RATIONALE FOR RESEARCH IN VOCATIONAL EDUCATION

V. E. Burgener, Coordinator of Research,
Illinois Board of Vocational Education & Rehabilitation
and Director of the
Illinois Occupational Research and Development Coordinating Unit

Research is often defined in a very restrictive manner. The scholar is wont to conceive research as a "think tank" activity. Occasionally, it has been considered a "cloud nine," "blue sky," "dreaming," or "conceptualizing"process. If we substitute inquiry for the commonly used basic research, then we can use the term RESEARCH in the broad continuum context of its complete definition. (Figure 1)

Educational inquiry alone is not enough. Inquiry which can not be or is not translated into educational practice is largely useless. For this reason the Occupational Research and Development Coordination Unit for vocational education in Illinois has considered research to be bounded by a macrocosmic parameter. Our spectrum of research and development covers those areas beginning in the deep purple of problem identification and continuing through related processes which eventually result in the bright red glow of program implementation.

Guba[1] proposes a taxonomy of this procedure which he says "is related to and necessary for change in education." (Figure 2)

(1) Guba, Egon G., The Impending Research Explosion and Educational Practice, School of Education, The Ohio State University, Columbus, July 1965

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His schema is very little different than the research and development sequence outlined by Brickell[2] as I. - INQUIRING INTO THE WAY THINGS ARE; II. - CREATING A PROCEDURE FOR GETTING SOMETHING DONE; III. - DETERMINING WHAT A PROCEDURE WILL DO; IV. - MOVING A PROCEDURE INTO GENERAL USE which is "workable for the effective utilization of research." (Figure 3) Both writers point out that seldom is the same individual capable of performing more than one of the subfunctions in the research and development continuum. In fact, there is probably no better way to stifle the inquirer than to insist that he also become a disseminator. Similarly, an activity design specialist may have no capability to install or achieve adoption of his design. Lee[3] and Brickell both suggest a varying responsibility for research functions between universities, state departments, and local schools. (Figure 4)

The State Research and Development Coordinating Units may provide their best coordinating service by finding and bringing these separate specialties together under one banner. As an administrative agency they should not (and we do not) attempt to become a research generating station. We can find competent inquirers to do empirical studies, to establish and test theories,

(2) Brickell, Henry M., The Role of Research and Development in Vocational Education, Manhasset Public Schools, Manhasset, New York, May 1965

(3) Lee, Allen, A Philosophy of Relationships for State Research and Development, University of California, Berkeley, 1966

to conceptualize, and to propose new truths. As an operating agency we should provide the linkage necessary to bring the results of such inquiry through the development process of innovative design into settings for laboratory and field testing from which the results can then be diffused by demonstrations and adaptations into patterns for general adoption. Regularization of an innovation by general adoption, Guba says, converts it into a noninnovation and releases the researcher to start on a new activity.

A Research Coordination Unit that does not concern itself with this total spectrum can be only partially successful. The coordination function must meld the thought of the theoritician to the procedure of the practitioner. Thus, may the theory-practice gap in education be narrowed. Only when progressive change becomes a continuum process can we make concerted effort to lessen the fifty year educational lag. Realizing that much change is long overdue in education generally and vocational education specifically, we prefer not to wait for the futuristic theoretical possibility of some new absolute truth which could be implemented, but instead attack the problem immediately at any point of the continuum. There is really no best place to start for an experiment may feed back to new and more pertinent basic problems for inquiry or the results of inquiry may feed directly into a diffusion pipeline.

Our Illinois Unit is intermittently accused and complimented for emphasizing action or applied research rather than basic research. Colorwise, we are partial to the red segment of the

spectrum. This is the area of shortest wave lengths, which may be an apt analogy. This could well indicate that results come faster because this is nearer to "where the action is." We readily accept the criticism or the compliment if basic research is defined as "studious inquiry or examination" (Webster) and action research as "investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories in the light of new facts, or practical application of such new or revised theories." (do) We accept the pragmatic approach because of its immediate effect on product output.

Our usable product output seems greater at this end of the spectrum. When we make our commitment to ACTION RESEARCH, we are really cast into the same barnyard with the farmer who must determine a better method to spread accumulated manure before he is inundated with more of a newer and stronger product.

We believe we achieve this emphasis in several ways:

1. The primary responsibility for inquiry (basic research lies with sophisticated researchers largely in institutions of higher education or in private research organizations. We support such research, when applicable to our specific problems of vocational education - sharing the costs of such study equally with the interested institutions. We commend this form of research to the many agencies which prefer to support such proposals.
2. We utilize staff to locate and then assist in the planning of experimental, field test, and demonstration

projects which will test and disseminate new approaches and changing theories.

3. We review and think about basic truths already researched and promulgated. Why should valid basic research collect dust only to have inquirers busily designing more to accompany it on library shelves, in ERIC, or other hallowed respositories? It bothers us to think that we may have done nothing to help implement basic, absolute, educational truths which have already been determined.

4. We realize that communication, dissemination, and demonstration are costly procedures involving many people. Field trial is not often considered a valid use of local tax money while getting an educational change into operation. We pay a higher proportion of the costs of operation of such programs than any other to encourage their establishment. By emphasizing educational research at the level where it has an immediate effect on our end product--the changed attitude and ability of a person, we can expect more visible and rapid evaluation of its results. Research supported by P.L.88-210 must have evaluative visibility by 1968.

The Illinois Research Coordinating Unit perceives the greatest immediate need for vocational education to be the implementation of measured change based on generalizations obtained from basic research already concluded or in process. Our major thrust is, therefore, pointed toward research processes such as curricular design, experimentation, diffusion and demonstration.

Figure 1

PHYLOGENETIC CLASSIFICATION

	Genus
RESEARCH & DEVELOPMENT	RESEARCHER
Phyla	**Species**
I. Inquiring Into the Way Things Are	Inquirer
II. Creating A Procedure For Getting Something Done	Designer
III. Determining What A Procedure Will Do	Experimenter
IV. Moving A Procedure Into General Use	Disseminator

Figure 2

A CLASSIFICATION SCHEMA OF PROCESSES RELATED TO AND NECESSARY FOR CHANGE IN EDUCATION *

	RESEARCH	DEVELOPMENT		DIFFUSION		ADOPTION		
		INVENTION	DESIGN	DISSEMINATION	DEMONSTRATION	TRIAL	INSTALLATION	INSTITUTIONALIZATION
OBJECTIVE	To advance knowledge	To formulate a new solution to an operating problem or to a class of operating problems, i.e., to innovate	To order and to systematize the components of the invented solution; to construct an innovation package for institutional use, i.e., to engineer	To create widespread awareness of the invention among practitioners i.e., to inform	To afford an opportunity to examine and assess operating qualities of the invention, i.e., to build conviction	To build familiarity with the invention and provide a basis for assessing the quality, value, fit, and utility of the invention in a particular institution, i.e., to test	To fit the characteristics of the invention to the characteristics of the adopting institution, i.e., to operationalize	To assimilate the invention as an integral and accepted component of the system, i.e., to establish
CRITERIA	Validity (internal and external)	Face Validity (appropriateness) --- Estimated Viability --- Impact (relative contribution)	Institutional Feasibility --- Generalizability --- Performance	Intelligibility --- Fidelity --- Pervasiveness --- Impact (extent to which it affects key targets)	Credibility --- Convenience --- Evidential Assessment	Adaptability --- Feasibility --- Action	Effectiveness --- Efficiency ---	Continuity --- Valuation --- Support
RELATION TO CHANGE	Provides basis for invention	Produces the invention	Engineers and packages the invention	Builds conviction about the invention	Tries out the invention in the context of a particular situation	Tries out the invention in the context of a particular situation	Operationalizes the invention for use in a specific institution	Establishes the invention as a part of an ongoing program: converts it to a "non-innovation"

*From "Methodological Strategies for Educational Change" by Egon G. Guba, the Ohio State University, Columbus, 1965. This classification schema was developed by Egon G. Guba and David L. Clark, School of Education, Ohio State University.

Figure 3

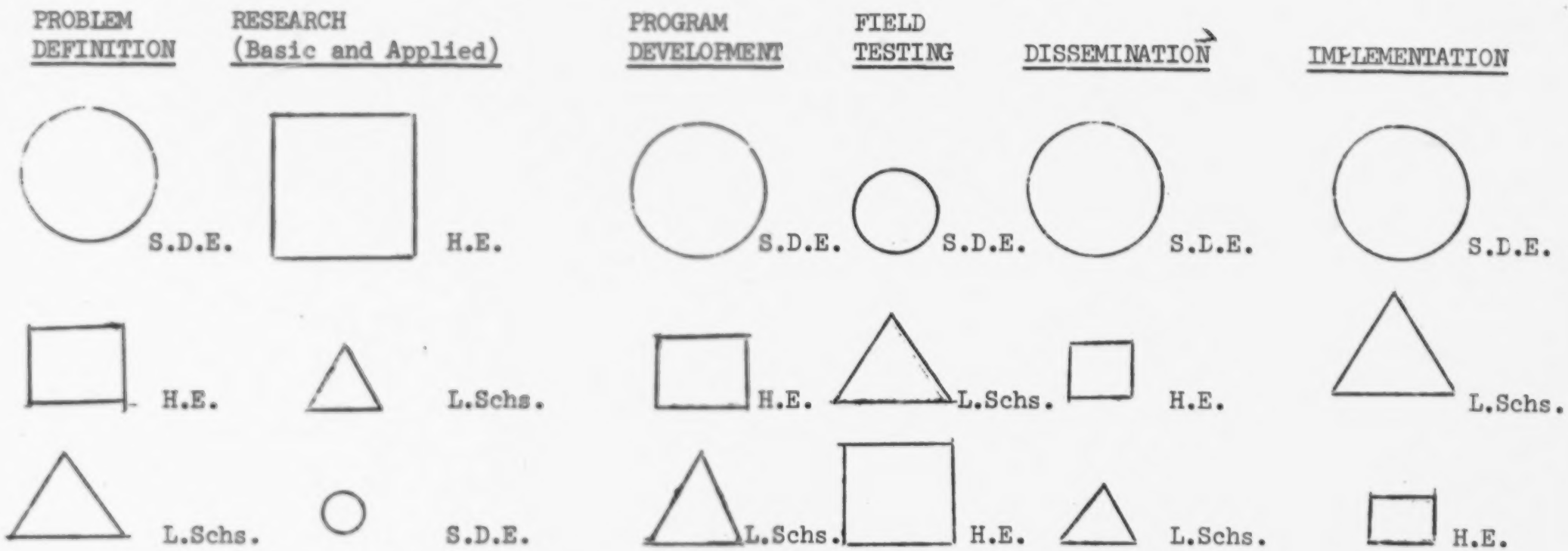
A RESEARCH AND DEVELOPMENT SEQUENCE

I INQUIRING INTO THE WAY THINGS ARE	II CREATING A PROCEDURE FOR GETTING SOMETHING DONE	III DETERMINING WHAT A PROCEDURE WILL DO	IV MOVING A PROCEDURE INTO GENERAL USE
Basic research	Development	Field testing	Dissemination
Applied research			
Theory building	Innovation	Laboratory testing	Diffusion
Basic scientific investigation - content indifferent	Design	Evaluation	Demonstration
	Invention	Assessment	Teacher training
Basic scientific investigation - content relevant	Engineering		Installation
Empirical studies	Exploration	Formulation	Adoption
Experimentation	Curriculum development		Adaptation
Application			
Surveys			Implementation
	Building pilot models		
Status studies			Production
	Making prototypes		
Research			Manufacture
Classroom experimentation			
			Distribution
	Classroom trials		
	Field trials		
Suggested Managing Agency:			
UNIVERSITIES & RESEARCH INSTITUTES	UNIVERSITIES, RESEARCH INSTITUTES, & STATE AGENCIES	STATE AGENCIES	INTERMEDIATE UNITS & LOCAL SCHOOL SYSTEMS

Henry M. Brickell
Manhasset, New York
May, 1965

Figure 4

A TAXONOMY OF ACTIVITIES INVOLVED IN EDUCATIONAL CHANGE
IN PUBLIC SCHOOL PROGRAMS *



1. Problem Definition is an area for which the state department of education should fulfill the major role after thorough communication and consultation with local schools and higher education.

2. The major role for basic Research should continue with higher education; however, it is vital that local schools and the state department of education have minor involvement.

3. The state department of education should have the major leadership role for Program Development; however, it is essential to have significant involvement of colleges and universities and local schools.

4. In Field Testing the three agencies generally should have equal involvement.

5. In Dissemination the major leadership role should be carried by the state department of education; however, local schools and institutions of higher learning should fulfill supporting roles.

6. In Implementation the major roles should be with local schools and the state department of education because the Constitution gives responsibility to the state, which in turn delegates some. Higher education should play a minor role.

* CRP F-032, Allen Lee, Principal Investigator

VT 003 231
Birch, C.M.; Gertz, J.B.
The Impact of Layoff and Recall at Ford-Windsor. An examination of the Effect on Employees of the Ford Foundry and Engine Plants of the Reorganization of Production Facilities Arising from the Canada-United States Automotive Trade Agreement.

Ontario Economic Council, Toronto
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Sep66 39p.

*JOB LAYOFF; *UNSKILLED WORKERS; INDIVIDUAL CHARACTERISTICS; *ORGANIZATION; CHANGE; *SOCIOECONOMIC INFLUENCES; PERSONNEL POLICY; WELFARE PROBLEMS; UNEMPLOYMENT INSURANCE; *MANUFACTURING INDUSTRY
WINDSOR; ONTARIO

A study of the events associated with the layoff and recall of 1,302 workers at Ford Motor Company, arising from the reorganization of the engine and foundry plants in Windsor, Ontario, was made to ascertain the impact of the experience on the employees with respect to who they were, what happened to them, how they lived, and whether they got a job back. The employees involved in the layoff were all permanent employees, classified as unskilled. The first layoff in June 1966 included 493 workers with seniority of 2 years or less, and the second layoff in August 1966 incuded 809 workers, 90 percent of whom had 17 or more years of seniority. The men with 2 years of less seniority were on layoff from 6 to 7 months, while the high seniority men were off for not more than 4 months. Interviews with 641 of the 1,082 reemployed workers indicated that the availability of alternative temporary work was of major importance in accounting for the lack of resort to extreme economic measures during the layoff. Unemployment benefits for the workers in the first layoff were exhausted about halfway through the period while workers in the second layoff found that benefits lasted the entire period. These benefits were not used by 267 workers. There was little evidence of extreme hardship, and the 220 workers who did not return to Ford were employed in other auto plants or related companies. After the rehiring, production schedules had been exceeded and there was evidence that the workers were more content in the new environment. The interview instruments, data, and information concerning unemployment compensation, supplemental unemployment benefits, and transitional assistance benefits are included in the appendixes. (HC)

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The Impact of Layoff and Recall at Ford-Windsor

An examination of the effect on employees of the Ford foundry and engine plants of the reorganization of production facilities arising from the Canada-United States Automotive Trade Agreement

by C. M. Birch
and J. B. Gertz
of The University of Windsor

T003231

• A REPORT OF THE ONTARIO ECONOMIC COUNCIL

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ACKNOWLEDGEMENTS

THIS STUDY, made during the period May, 1965 to July, 1966, was initiated and financed by the Ontario Economic Council. We are indebted to the Council for this support and to Mr. H. S. Lee, Senior Economist with the Council, for his constructive suggestions concerning content and format of the work.

The Report could not have been written without the co-operation of Ford management. Mr. Karl E. Scott, President, Ford Motor Company of Canada Limited, authorized this co-operation. Mr. Joseph Paterson, Industrial Relations Manager, Ford-Windsor, and his associates, Mr. Tom Steele, Section Supervisor, Labour Relations and Hourly Personnel, and Mr. Larry Horwood, Supervisor, Hourly Personnel, spent many hours with us, answered an endless number of questions, and provided reams of data.

Mr. Howard Fullard, Manager of the Windsor Office of the National Employment Service, and Mr. Michael Murray, Manager of the Unemployment Insurance Commission Office in Windsor, performed a most important service in facilitating the collection of employment and insurance data. We owe thanks also to the managers at the local National Employment Service and Unemployment Insurance Commission Offices in Leamington and Chatham.

We wish to thank Mr. Henry Renaud, President of Ford Local Number 200, UAW, and Mr. Hugh Peacock, Research Director, Canadian Region, UAW, for their co-operation and support.

Mr. Robert Sperandio, until the June convocation a graduate student in Business Administration at the University of Windsor, spent many hours interviewing employees, and processing data.

The final decision as to the selection of relevant material was ours. We accept this responsibility.

C. M. BIRCH
J. B. GERTZ

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FOREWORD

The layoff during 1965-66 of 1300 men at the Ford Motor Company's foundry and engine plant at Windsor, Ontario, was one of the most significant dislocations of labour arising from the Canada-United States Automotive Trade Agreement.

It was significant both in terms of numbers of employees affected and duration. Fortunately, however, as Professors C. M. Birch and J. B. Gertz of the University of Windsor's Faculty of Business Administration demonstrate in this study, the element of hardship was limited.

Only a negligible number of laid-off employees chose to avail themselves of allowances under federal-provincial programs for education or skill upgrading. The booming Windsor economy offered many job opportunities for those who did not choose to "sit out" the layoff with the assistance of Unemployment Insurance compensation and Supplemental Unemployment Benefits.

Of the 1,302 temporarily laid off in the summer of 1965 some 1,082 had returned to their jobs by late February, 1966, and several hundred additional new workers were added in March and April.

The Ontario Economic Council initiated this study in co-operation with the Ford Motor Company; the UAW, Canadian region; and the provincial and federal departments and agencies concerned. To each of them, and to researchers Cecil Birch and Blake Gertz we express our appreciation, and commend the findings to all persons concerned with these aspects of government-labour-management relations.

WILLIAM H. CRANSTON,
Chairman, Ontario Economic Council.

September, 1966.

Introduction

THIS REPORT is a study of events associated with the layoff and recall of 1,302 workers at Ford Motor Company, arising from the reorganization of the engine and foundry plants in Windsor, Ontario. The layoffs, originally scheduled for June, July and August, 1965, occurred at the end of June and in the middle of August. The 1,302 men were all permanent employees, classified as unskilled. There were 493 men in the first layoff,[1] and 809 in the second.[2]

Recalls began in September, and by the end of the month 250 men had gone back to work. These men had vacation time coming to them when laid off in the middle of August. We felt that if these 250 men were included, the value of information gained by interviewing laid-off employees would be reduced appreciably, so we decided to interview only men returning after September 30, 1965.

Of the 1,052 who might have been interviewed (1,302 minus 250) it was not possible to interview 220 because they did not return to Ford. This reduced the potential number of interviews to 832 (1,052 minus 220). We interviewed three-quarters of the 832, that is, 641 men.

The 191 men not interviewed, but re-employed, were divided approximately equally between the first and second layoffs. They were not interviewed for a variety of reasons, mainly because of problems associated with the mechanics of re-employment. For example, 50 men on layoff would be notified to report to Ford at 8:30 Tuesday morning. They might come or they might not; if they did, it might be 8:30 Tuesday evening, or Wednesday, or Thursday, and at any hour of the day or evening.[3]

The mechanics of recall are not as simple as they may appear. Administrative, engineering, and training problems associated with new equipment, make it difficult to set up monthly or even weekly schedules for recalling workers. The company might know on a Friday afternoon, for example, that they could recall another 50 men the following Tuesday, and the men would be so notified. They might show up at some odd hour Tuesday, Wednesday, or Thursday, or not at all. Further, the men themselves might not be in control of the circumstances deciding their appearance at Ford. They might be out of town when the recall came, or they could be working elsewhere, and find it difficult to get time off to come in to see whether or not they were really going to be re-employed. While the whole layoff and recall procedure might appear to be routine, it was, in fact, humanly impossible to make it a neat, tidy operation.

When an individual was recalled, he was processed for re-employment at the Ford personnel office, and then he was interviewed by our representatives in facilities provided by the company. We asked questions nos. 6 through 37, and question no. 46 (Appendix B-1). In some cases answers were refused, but the great majority of men were most co-operative and answered all queries. When the same question was asked twice, we sometimes received two different answers, but this is usual in personal interviewing.[4]

Prior to questioning, we had obtained from Ford the name, address, birth date, marital status and seniority of all 1,302 men. After interviewing, we obtained from the National Employment Service (NES), and the Unemployment Insurance Commission (UIC), information on unemployment compensation and supplemental unemployment benefits for each of the 1,302, and last referral given by NES for 66 of the 220 men who did not return to Ford.[5]

Our assignment from the Ontario Economic Council was to ascertain the impact of the Ford experience on a section of its employees, with respect to who they were, what happened to them, how did they live, and did they get a job back. This Report relates what occurred.

CHAPTER I presents the background to the Ford Motor Company's decision to spend $50 million on machinery and equipment for the engine and foundry plants in Windsor, Ontario. This background is drawn from the Bladen Report (1961), the tax rebate arrangement established in 1962 by the Federal Government and carried on in 1963, and the Canada-United States Automotive Trade Agreement (1965).

Chapter II indicates the importance of the decision to the company in terms of the number of men affected, and in terms of the reorganization of physical facilities.

Chapters III, IV, and V describe the layoff and recall of 1,302 unskilled workers in detail.

---

[1] Several hundred university students were employed in May for about six weeks, and they too were laid off at the end of June, and not recalled. They are not counted in the layoffs.

[2] Actually, 86 men were laid off twice — first in June, then recalled, and laid off again in August. Rather than count them twice, we subtracted them from the second layoff.

[3] See Chapter IV.

[4] For example, the men were asked if they had been gainfully employed while laid off (question No. 7, Appendix B-1), and later in question No. 37, they were asked if they had found temporary work; the number of "yes's" in the two questions do not match. In this Report we have ignored the answers to question No. 37.

[5] The company did not participate in the Transitional Assistance Benefits (TAB) plan of the Federal Government. For a summary of TAB see Appendix E.

Summary and Findings

1. Description of the layoffs

The first layoff of 493 men occurred at the end of June, 1965; the second layoff of 809 men took place in the middle of August. Two-thirds of the personnel involved in the first layoff were re-employed at Ford after being off work five to seven months; 93% of those in the second layoff were re-employed about four months after their layoff.

The layoffs may be described also in terms of those who returned and those who did not return to Ford.

Characteristic	First Layoff (493 men)	Second Layoff (809 men)
1. Living in Windsor	63%	78%
2. Age	88% under 35	93%, 35 and older
3. Marital status	42% single	20% single
4. Seniority	95% two years' or less	92%, 17 years' or more
5. Pay class	79% earning $2.44, $2.49 or $2.54 per hour	87% earning $2.44, $2.49 or $2.54 per hour
6. Length of layoff	5, 6 or 7 months	4 months or less
7. Number returning	326 (i.e. 66%)	786 (i.e. 93%)

2. Experiences of the laid-off men

Of the 1,082 men who returned, 267 did not use unemployment compensation (UC) or supplemental unemployment benefits (SUB) while laid off, either because they were working or because their layoff period was short.

There were 327 men who averaged $68 a week in combined UC and SUB benefits while drawing benefits; 144 had $76 a week in combined UC and SUB benefits. The remainder (about 30%) had various combinations of UC and SUB.

The men in the first layoff drew benefits for seven or eight weeks on the average, and virtually all who used benefits exhausted them half way through the layoff period. Those in the second layoff drew benefits for 11 or 12 weeks, and most of them found their benefits lasting for the full layoff period since they also were entitled to a paid vacation of two or three weeks.

While the layoff period was disruptive and often difficult, there was little evidence of extreme hardship, as measured by children leaving school, families losing homes or selling household furniture, or appeals to the city for assistance. In the second layoff, those affected lived for the most part on UC, SUB, and past savings; the men in the first layoff also relied on these resources, but most importantly they found temporary work. At least 90% of those in the first layoff were gainfully employed while away from Ford. About 15% of those in the second layoff obtained temporary work—probably all who active-

Characteristic	Returned (1,082 men)	Not Returned (220 men)
1. Living in Windsor	72% of 1,082.	75% of 220.
2. Age	30% of the 1,082 men were under 35; (67% of the men under 35 returned).	72% of the 220 men were under 35.
3. Marital status	24% of the 1,082 were single; (70% of single and 88% of married men returned).	50% of the 220 were single.
4. Seniority	29% of the 1,082 had 2 years' or less; 64%, 17 years' or more; (65% of 2 years' or less returned; 94% of 17 years' or more returned).	75% of the 220 had two years' or less; 20% 17 years' or more.
5. Pay class	86% of those earning $2.44 to $2.54 per hr. when laid off returned.	76 men earned $2.39 per hr. or less at layoff, 61 of them did not return.
6. Temporary job	90% of first layoff found a job early in their layoff—half of them had a job for full length of layoff; 15% of second layoff had a temporary job.	
7. Drew both UC and SUB benefits	25% of first layoff returning drew benefits; 72% of second.	10% of first layoff not returning; 30% of second.
8. Drew neither UC nor SUB benefits	45% of first layoff returning did not draw any benefits; 15% of second	70% of first layoff not returning; 40% of second.
9. UC	50% of first layoff returning drew benefits, for an average of 7 or 8 weeks; 75% of second drew benefits for an average of 11 or 12 weeks.	25 to 30% of non-returnees drew benefits; average length of draw was one month.
10. SUB	28% of first layoff returning—for 7 or 8 weeks; 80% of second for 11 or 12 weeks.	13% of first layoff and 60% of second drew SUB; drew for 1 month if first layoff, 3 months if second.

ly sought work. At least half the men who found employment held their jobs for the full layoff period.

Most of the 220 who did not return to Ford went to work right away, without using either UC or SUB. Some of the men left Windsor, a small number retired, but most found jobs in the immediate area. On the basis of last referral by the National Employment Service, they found work as labourers in other auto plants, in feeder or parts plants, or in related companies.

3. Findings

a. It may seem obvious to say that nothing reduces technological unemployment in one occupational or industrial area quite as much as a labour shortage in a competitive occupational or industrial area. Yet, however self-evident it may be, this was an economic fact of life during the layoff period, and it had great relevance to the experiences of the laid-off workers. The availability of alternative temporary work was of major importance in accounting for the lack of resort to extreme economic measures by the laid-off men.

b. Substantial reorganization of production facilities, and the introduction of modern machinery and equipment, challenged the ingenuity of management. Theoretically, it should have been possible to schedule layoffs and recalls in an orderly manner. In practice, it proved impossible. The recall schedules were especially difficult to plan, so much so that they were altered almost daily. As it turned out, the employees were on layoff for a shorter time than had been anticipated. Late April of 1966 was the estimated date of last recall. In fact, all were back by late February, and several hundred new men were hired in March and April. The production schedules tentatively established in September were not only met, but output exceeded expectations substantially for the following seven or eight months.

c. There is some evidence that the men are more content in their new environment. This attitude may change, especially if it is due only to the newness of the surroundings, or to the fact of returning to permanent employment. However, there is more than a possibility that the efficiency of the new operations has given the workers a sense of stability and accomplishment which formerly had been difficult to achieve. When 186 varieties of engines run on an assembly line, bottlenecks are inevitable, and therefore wasted time and slack periods are common. This in turn results in disinterest among the workers; but when the production operation is efficient and well-run, this exerts a positive influence on employees.

d. The experiences of the Ford workers may well be unique, and not duplicated as non-automotive plants modernize, reorganize and automate. The tremendous demand for automobiles, arising out of a prosperous economy, and especially the sizeable growth in demand generated by the Canada-United States Automotive Trade Agreement, made it possible in late 1965 and early 1966 to call back relatively quickly all those laid off at Ford, and to hire several hundred additional workers as well. But what if demand had been stable or declining? The high seniority workers would have been out of work for a longer period, using up more UC and SUB benefits, while the low seniority workers would have faced an indefinite layoff with benefits exhausted long before the termination of their layoff.

As it happened however, there were numerous openings in local industry for unskilled workers. But in less prosperous times their economic experiences might well have been quite different. When temporary jobs are available, laid-off men are not inclined to take training programs. Whether those workers would have participated in such programs under other circumstances is speculation. At least it is reasonable to think that ordinarily a training program would be needed, not so much for the workers who will be recalled—Ford has shown the employer can retrain the workers as they are recalled—but for those who will not be recalled for an indefinite time. The men at Ford did not need to develop job mobility, except to a very limited extent. Ordinarily such development would be of critical importance. One fact which emerged was that the older men (in sharp contrast to the younger men) were not hired into production jobs in other factories.

CHAPTER I

Events Leading to Ford Decision to Reorganize Production Facilities

CANADA'S LONG-STANDING imbalance of motor vehicle trade with the United States and the rest of the world, and the relatively less efficient operation of the Canadian automobile industry represent the major problems which finally led to the Canada-United States Automotive Trade Agreement in 1965.

A number of events preceded this agreement. In August of 1960, a Royal Commission, under the chairmanship of Vincent Bladen, Dean of the College of Arts at the University of Toronto, was established to prepare an economic analysis of the Canadian automobile industry. A decade earlier, under the pressure of strong domestic demand, Canada had become a net importer of motor vehicles for the first time in the history of the Canadian industry. Three years after that, in 1953, Canadian vehicle production was 481,000 units (the high point for the 1950's as it turned out), with exports and imports about balancing each other. By 1960 exports had dropped by two-thirds and imports had tripled,[1] with imports accounting for one-third of all motor vehicles sold in Canada.

Combined with the adverse trade balance, and indeed partly responsible for it (at least as far as trade with the United States was concerned) was the inability of the Canadian industry to produce on a scale large enough to reap the benefits of mass production.

As Dean Bladen stated in the Report: "In processes for which the optimum scale of production is very high, such as large body stampings and automatic transmissions, even total Canadian requirements would not warrant production in Canada."[2] Considerations about optimum scale of operations were and are becoming increasingly important through the 1960's. More and more does the technology of the industry demand expensive and specialized machinery. This, in turn, requires increasing volume before low unit costs can be achieved.

Many proposals have been made about the problem of high unit costs because of low volume. Most of them are patently unworkable. One typical suggestion is to "give" the Canadian market to one producer, or at least to one model of a few makes, such as one model of Ford, one of Chevrolet, and one of Plymouth. Dean Bladen did, in fact, listen to testimony about the advantages of the hypothetical "Canadian car". The concept may be interpreted to imply a "Volkswagen approach" whereby large volume can be produced, because there is only one model, and because the one basic style is unchanged for a number of years. However, the realities of Canadian economic, business and political life are thought to make such a proposal impractical, since people appear to want variety and are willing to pay for it.

But the goal — one plant producing large volume with little variety—certainly has merit from a unit cost point of view. Thus, while it is not practical to establish a monopoly to produce a "people's car", perhaps something can be done to reach the desirable goal of lower unit costs (and hopefully lower selling prices) while maintaining satisfactory profit margins. Obviously, all this can be achieved only in the setting of a larger Canadian market than currently exists or can be expected to exist in the future. A North American market rather than a purely Canadian market, would appear to be a desirable alternative.

On this score Dean Bladen was attracted by the submission of the Ford Motor Company of Canada, recommending exploration of proposals for closer integration of the productive facilities of the Canadian and American manufacturers. Ford said in its submission that such integration "could provide Canadian producers with the full-cost benefits of U.S. mass production which could then be passed on to Canadian consumers. Adequately controlled by intergovernment agreement to insure continued growth of the Canadian industry relative to the Canadian economy, this arrangement could result in important benefits to Canadian consumers through lower prices."[3]

The recommendations of the Report were unilateral rather than bilateral. The recommendation that caught the imagination of the government seemed to stem from separate submissions. One of these proposed that Canadian production should be the same share of North American production as sales in Canada were of North American sales. At the time, Canadian production was about four per cent of North American production, while sales in Canada ran close to eight per cent. These two statistics dramatically suggested a goal — production to match sales. The other submission closely related to it was ". . . to allow credit for Canadian content purposes for parts made in Canada but used in American production. Our . . . industry might well reduce the number of parts they are making but gain greatly increased volume on the remainder . . ."[4]

These two concepts were combined to form the Commission's most striking recommendation, namely that cars and parts be imported duty free provided Canadian content requirements be met, or in effect, that Canadian content be (e.g.) 60%.[5] The conviction was that the Canadian industry would suffer from the disadvantages of low-volume production as long as it was geared only to the Canadian market. But if Canadian manufacturers could produce for a wider market and at the same time had duty-free access to the high volume low-cost producers of the United States, then they might break through the limits imposed by low-volume production.[6]

The next event after the publication of the Royal Commission Report in 1961 was the action taken by the Federal Government to allow rebate of import

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1 See Report, *Royal Commission on the Automotive Industry*, April, 1961 (Ottawa) p. 11. (Often called "The Bladen Report").

2 *Ibid.*, p. 24.

3 *Ibid.*, p. 41.

4 *Ibid.*, p. 46.

5 *Ibid.*, pp. 58 ff.

6 For a critical evaluation of the Report see H. G. Johnson, "The Bladen Plan for Increased Production of the Canadian Automotive Industry", *The Canadian Journal of Economics and Political Science*, Vol. 29 No. 2 (May 1963) pp. 212-38.

duties on transmissions and engine blocks if exports increased. For every dollar of Canadian content of exports of motor vehicle parts in excess of the Canadian content of exports of parts during the base period from November 1, 1961 to October 31, 1962, duties were to be remitted on a dollar of transmission or engine imports. The plan was so effective that it was extended in October 1963 by a new federal administration. Tariffs on all imports of motor vehicles and original equipment parts were to be remitted to the extent that the Canadian content of exports of motor vehicles and parts of the company in question exceeded that of the base period, November 1, 1961 to October 31, 1962.

The tax rebate plan was the forerunner of the Canada-United States Automotive Trade Agreement of 1965. This 1965 Agreement came as a surprise to many people who had forecast that the tax rebate would result in the imposition of countervailing duties by the United States government.[7]

A proposal like the tax rebate arrangement may be regarded as an export subsidy. It was condemned by many in the United States on political grounds as a violation of the General Agreement on Tariffs and Trade (GATT). It was condemned also by some people in both the United States and Canada as thinly-disguised (and probably unrecognized) protectionism.[8] The alleged violation was never tested in American courts but there is fairly widespread conviction that American parts manufacturers would have been successful in persuading the American government to retaliate, for example, by higher tariffs, if the tax rebate had continued in operation. But in 1965, it was replaced by the Canada-United States Automotive Trade Agreement.

The Agreement was signed in January, 1965 by the Prime Minister of Canada and the President of the United States. It went into effect at once in Canada, but it was not until the following October that the Agreement was approved by the Congress of the United States and made retroactive to January 19, 1965. Under the pact, Canadian produced vehicles and parts are allowed into the United States duty free, while Canada permits "qualified" Canadian automotive manufacturers to import vehicles and parts without duty if certain conditions are met.

In this Report we are interested in one consequence of the Automotive Trade Agreement — the decision of the Ford Motor Company of Canada to spend $50 million reorganizing its engine and foundry operations at Windsor, Ontario, with a view to producing a greater volume of a more limited line of automobile engines.

Specifically, Canadian manufacturers must (1) continue to spend as much in Canada on auto production as in the base year (the 1964 model; August 1, 1963 to July 31, 1964), (2) maintain a ratio of the value of production of vehicles and parts in Canada to sales equal to that of the base year, (3) increase spending on Canadian vehicles and parts production.

The goal, from Canada's view, is to raise Canada's share of North American automotive production from four per cent prevailing prior to the Agreement, to eight per cent, i.e. the same as Canada's share of sales. This goal is to be reached through rationalization, more specialization, greater efficiency, and leading, in some views, to Canadian car prices more nearly in line with U.S. prices. Approximately $250 million of trade deficit will be wiped out by the end of 1967 if the Canadian producers expand according to their agreements with the Canadian government.

Opinions regarding the Agreement have been many and varied, ranging from "a $50 million a year give-away to foreign-owned manufacturers" to "the most important piece of Canadian legislation in this century", with plenty of comments in between, many of them attacking the secrecy surrounding the government-company arrangements as to how much sales and production are to increase.[9] For the most part, the criticisms have been directed to methods rather than purpose, for the incontrovertible fact is that great variety with small scale is not economical. For example, when Ford makes sixty models of six different cars at its Oakville plant, but only two or three models are assembled at any one plant in the U.S., or when 186 models of engines are produced instead of eight, then the savings potential through rationalization is great.

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[7] See for example P. Wonnacott, "Canadian Automotive Protection: Content Provisions, The Bladen Plan, and Recent Tariff Changes", *The Canadian Journal of Economics and Political Science*, XXVI, No. 1 (Feb. 1965), pp. 115-16.

[8] See H. G. Johnson, "The New Tariff for the Automotive Industry", *The Business Quarterly*, Vol. 29, No. 1 (Spring 1964) pp. 43-57; A. Deutsch, "Roll Out the Tariff", *Queen's Quarterly*, Vol. LXXII, No. 1 (Spring 1965), pp. 169-177.

[9] A few illustrations:
W. G. Phillips in the *Windsor Star* January 26, 1965; R. A. Matthews, "The Auto Plan", *The Canadian Forum*, May 1965, pp. 30-31; R. D. Brown, "Bilateral Chariot", *The Canadian Forum*, December 1965, pp. 197-99; A. MacKenzie in the *Windsor Star*, December 31, 1965.

CHAPTER II

Reorganization of Plant Equipment and Personnel

FORD MOTOR COMPANY (U.S.) was launched at Detroit, Michigan, on June 16, 1903, and on August 17 of the following year, Ford Motor Company of Canada was established at Windsor, with initially subscribed shareholder capital of $125,000. In that first year the Canadian company produced 117 automobiles, 107 of which were two cylinder Model C's; ten were four cylinder Model B's which developed twenty horsepower. In 1907, production totaled 327 cars; 486 in 1909. By 1917, output exceeded 57,000 units annually. The company reached a production level of 100,000 for the first time in 1926. In March of 1931, the one-millionth Canadian Ford came off the assembly line. By 1959, 3.5 million cars and trucks had been produced; by the end of 1965, a total of 4.6 million vehicles.

Ford of Canada began operations in 1904 with seventeen employees; by 1911 over 1,000 were on the payroll; the total for 1959 was 19,336. Current employment (May 1966) is approximately 11,000 hourly and 4,000 salaried employees. With the completion of the new assembly plant in St. Thomas, Ontario, programmed for next year, the total work force is expected to increase by not less than 2,500.

By 1917, the Windsor plant contained over 300,000 square feet of manufacturing area, and cars were also being assembled at London, Toronto, Montreal, Winnipeg, and Saint John. In 1935, an assembly plant was opened in Vancouver. In the early days of the company, when so many parts of the car were imported, small assembly plants were, perhaps, economically feasible, but with the development of mass production, assembly-line-type of output, it became necessary to consolidate facilities. Outside Windsor the only assembly plant to operate after World War II was located in Vancouver, and it too was shut down by 1948, leaving Windsor as the sole source of Canadian production.

But the demand for cars was rising, reflecting the rising standard of living of the Canadian people: in 1946, the industry —resuming civilian production, which had been suspended in 1942—produced 92,000 cars (plus 80,000 trucks); in 1948, Ford production alone exceeded 100,000 units. To meet the increasing demand, Ford began a vigorous modernization program after World War II. In 1950, the Windsor powerhouse was expanded at a cost of $7 million. In May 1953, a new final assembly plant was opened at Oakville, Ontario, and assembly ceased at Windsor. The latter plant was converted to the manufacture of automobile engines, while other Windsor production facilities remained basically unchanged. Approximately 4,438 hourly-rated people are currently employed in Ford-Windsor.

To satisfy a diversified, though limited market, the Windsor plant turned out seven different engine blocks which, with numerous variations in block bore, axle ratio, carburetion, etc., could be made up into 186 varieties of engines. Obviously, long production runs were out of the question under these conditions and, as might be expected, the plant was filled with over 2,000 multi-purpose metal-working machines: grinders, drills, broaches, boring machines and the like which, collectively, were rather low in productivity compared to the automated, integrated production line of, say, the Ford engine plant at Cleveland, Ohio. Under these conditions, the Windsor engine plant operating at capacity, turned out about 900 engines per day. Before the changeover to automated production, average hourly-rated employment in the foundry was 925; in the engine plant about 1,100.

As a result of the Canada-United States Automotive Trade Agreement, the entire North American market for cars and original equipment opened up to Canadian producers, and Ford decided to make Windsor a major engine plant, embodying the latest in high-speed automated (continuous, integrated and electronically controlled) metal-working machinery.

In June of 1965, the plant produced its last engine with the old equipment, and the reorganization of the facility began. During the shutdown (throughout this period Canadian Fords were built with U.S.-supplied engines) 900 of 2,008 pieces of equipment were removed from the plant and disposed of, while 225 new pieces were brought in. It should be noted that there is limited significance in any comparison of numbers here; ten drill presses boring a total of ten holes might be replaced with one new unit boring, say, fifteen holes.

After the changeover, employment in the foundry, where the blocks (and certain other components) are cast, rose to 1,079 hourly-rated personnel, an increase of 154. By June of 1966, employment in the engine plant totaled 1,600, up 500 over the pre-reorganizational figure of 1,100. Since there were organizational changes in the latter facility, exact comparison on a before-and-after basis is difficult, and it should be understood that the figures are subject to some modification.

Revamping production methods brought changes in the nature of the work performed by many of the hourly-rated personnel. Less physical effort is needed, but in many instances more responsibility is involved, or a greater degree of alertness is required. Many of the workers had to be retrained; operative employees were retrained on the job; 100 maintenance people went through a formal training program lasting, in some cases, several months. Management reports that more workers see themselves as technicians rather than machine operators; foremen report fewer grievances and state that their job has become less difficult as machines take over more and more of the work and increasingly control the work pace. Automation has given a new status to the hourly-rated employees, with a potentially great effect on worker morale.

The product has changed significantly. Instead of seven engine blocks, the plant now produces one (the #289 CID, a V-8 type). Instead of 186 varieties (built out of the seven blocks), there are now assembled only eight, and output has doubled to 1,800 engines per day.[1] More than 50% of all production is for export. Engines produced in Windsor are used in many of the Ford cars assembled in the United States. With this new engine plant Canada has acquired one of the most modern facilities of its kind in North America.

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[1] Ford officials preferred not to release production figures; the above estimates of production were supplied by Mr. Hugh Peacock, Research Director, Canadian Region, UAW.

CHAPTER III

The Total Layoff — 1,302 Men

Total interviewed (laid off, returned)	
First layoff	234
Second layoff	407
	641
Total laid off and returned	
First layoff	326
Second layoff	756
	1,082
Total laid off and not returned	
First layoff	167
Second layoff	53
	220
Total layoff	1,302

In June and August of 1965, the Ford Motor Company of Canada laid off 1,391 of its employees in Windsor, Ontario, while new equipment was being installed and production facilities reorganized in the foundry and engine plants.[1] This Report is concerned with 1,302 of the 1,391 employees—the difference of 89 is accounted for by 86 men laid off twice, and three men for whom the information we had was invalid and could not be used. The men laid off twice are included in the first layoff, and not the second, because they were low seniority employees.

The number 1,302 divides into 493 on the first layoff, and 809 on the second layoff. For the June layoff of 493, a total of 167 never returned to Ford while 326 did return. Of the 326, two hundred and thirty-four were interviewed at recall time and were asked the questions indicated in the questionnaire (Appendix B-1). For the August layoff of 809, all but 53 returned to Ford. Of the 756 who returned, 407 were interviewed. Most (i.e. 250) of those not interviewed could scarcely be called "laid off" since they had vacation time coming to them and were re-employed during September. We felt that these 250 would unduly influence the relative importance of answers given, so we concentrated on returning employees after the end of September. This means we interviewed 407 of a possible 506. (See Appendix A).

[1] While only the engine and foundry operations were involved directly in modernization, employees in other plants were affected because of seniority provisions of the Labour-Management agreement. Thus, only about half of the laid-off employees were engine and foundry workers — the rest were "bumped" off their jobs by higher seniority engine and foundry employees. Altogether about 700 unskilled men bumped lower seniority people in other departments and plants. Employment of unskilled workers in the engine plant went to zero, but foundry employment declined to about 200 since many operations continued during the changeover. In addition, more than 300 skilled men in the engine plant kept their jobs (or had alternative jobs) during the changeover (e.g. worked in maintenance, or assisted in the changeover itself).

Tables 1 through 20 which follow, examine the total layoff from four points of view:

1. The number of men involved in the first layoff, in the second layoff, and the total of the two layoffs.
2. The number of employees who returned, and who did not return (the total of both layoffs).
3. Those who returned and those who did not return from the first layoff.
4. Those who returned and those who did not return from the second layoff.

Table 1. Residence of All Laid-Off Employees

Place of Residence	First Layoff		Second Layoff		Total Layoff	
	Number	Per cent	Number	Per cent	Number	Per cent
Windsor	311	63.1	631	78.0	942	72.4
Outside Windsor	182	36.9	178	22.0	360	27.6
Total	493	100.0	809	100.0	1,302	100.0

About 72% of the 1,302 laid-off employees lived in Windsor, with a lower proportion for the first layoff than for the second—63% of the first layoff and 78% of the second. The difference is accounted for largely by the tendency of older people to live close to their work because of their high seniority, and since the second layoff was made up mainly of older workers there is a higher proportion of Windsor residents in the second layoff than in the first.

Table 2. Age of All Laid-Off Employees

Age Group	First Layoff		Second Layoff		Total Layoff	
	Number	Per cent	Number	Per cent	Number	Per cent
15 – 19	10	2.0	1	0.1	11	0.8
20 – 24	179	36.3	8	1.0	187	14.4
25 – 34	243	49.3	47	5.8	290	22.3
35 – 44	59	12.0	180	22.2	239	18.4
45 – 54	2	0.4	243	30.0	245	18.8
55 – 64	0	0.0	261	32.3	261	20.0
65 – 69	0	0.0	69	8.6	69	5.3
Total	493	100.0	809	100.0	1,302	100.0

About 55% were under 45 years of age. However, on the first layoff virtually everyone was under 45, while on the second layoff more than 70% were 45 or over. We can anticipate that, since layoff was primarily by seniority, the first layoff was low seniority people (and therefore young workers), and the second was higher seniority (and older) employees.

Thirty per cent of the employees laid off were unmarried. Single men constituted 42% of the first layoff, and 20% of the second layoff. However, these differences are a matter of age, rather than first or second layoff, and marital status proved not to be an important variable for this study.

Table 3. Marital Status of All Laid-Off Employees

Marital Status	First Layoff		Second Layoff		Total Layoff	
	Number	Per cent	Number	Per cent	Number	Per cent
Single	210	42.6	162	20.0	372	28.6
Married	277	56.2	619	76.5	896	68.8
W, D, S*	6	1.2	28	3.5	34	2.6
Total	493	100.0	809	100.0	1,302	100.0

*Widowed, Divorced, Separated.

As expected, there is a significant contrast in the two layoffs with respect to seniority. For the first layoff of 493 men, 469 of them (or over 95%) had two years' seniority or less; for the second layoff of 809 men more than 90% had 17 years' or more seniority; in the total of 1,302 over 55% were very high seniority employees.

Table 4. Seniority of All Laid-Off Employees

Number of Years	First Layoff		Second Layoff		Total Layoff	
	Number	Per cent	Number	Per cent	Number	Per cent
Less than one	221	44.8	0	0.0	221	17.0
1 to 2	248	50.3	6	0.7	254	19.5
More than 2, less than 17	23	4.7	65	8.0	88	6.8
17 or more	1	0.2	738	91.3	739	56.7
Total	493	100.0	809	100.0	1,302	100.0

All the laid-off employees were unskilled and in the pay range of $2.50 per hour plus or minus 20c. Actually, on both layoffs most of the employees were earning either $2.44, $2.49, or $2.54 per hour. Eighty per cent of the first layoff, and 90% of the second were in one of these three pay categories. Fourteen per cent of the laid-off employees in the first layoff earned $2.39 or less while among laid-off employees in the second layoff the corresponding percentage was only 0.8.

Table 5. Pay Classification of All Laid-Off Employees—1,302 Men (As of Date of Layoff)

$ per Hour	First Layoff		Second Layoff		Total Layoff	
	Number	Per cent	Number	Per cent	Number	Per cent
Less than 2.34	1	0.2	6	0.7	7	0.5
2.34	51	10.3	0	0.0	51	3.9
2.39	17	3.5	1	0.1	18	1.4
2.44	157	31.8	228	28.2	385	29.6
2.49	84	17.0	169	20.9	253	19.4
2.54	148	30.0	310	38.3	458	35.2
2.59	19	3.9	59	7.3	78	6.0
2.64	15	3.1	33	4.1	48	3.7
More than 2.64.	1	0.2	3	0.4	4	0.3
Total	493	100.0	809	100.0	1,302	100.0

There is no correlation between living in Windsor or outside Windsor on the one hand, and returning and not returning to work at Ford, on the other hand. For example, 72% of 1,302 lived in metropolitan Windsor, and 72% of those who returned also lived in Windsor, while just over 74% of those who did not return lived in Windsor.

Table 6. Residence of All Laid-Off Employees

Place of Residence	Total Laid Off		Total Returned		Total Not Returned	
	Number	Per cent	Number	Per cent	Number	Per cent
Windsor	942	72.4	778	71.9	164	74.5
Outside Windsor	360	27.6	304	28.1	56	25.5
Total	1,302	100.0	1,082	100.0	220	100.0

The age distribution of employees who returned is quite close to the age distribution of all laid-off employees, but insofar as there are differences they show up in the group who did not return. Over 70% of all 220 who did not return range in age from 20 to 34, reflecting job opportunities for younger men, and especially a lack of seniority investment at Ford. On the other hand, while 159 men under 35 did not return, there were 329 men under 35 who did return.

Table 7. Age of All Laid-Off Employees

Age Group	Total Laid Off		Total Returned		Total Not Returned	
	Number	Per cent	Number	Per cent	Number	Per cent
15 – 19	11	0.8	9	0.8	2	0.9
20 – 24	187	14.4	113	10.4	74	33.7
25 – 34	290	22.3	207	19.1	83	37.8
35 – 44	239	18.4	221	20.4	18	8.2
45 – 54	245	18.8	235	21.8	10	4.5
55 – 64	261	20.0	249	23.1	12	5.4
65 – 69	69	5.3	48	4.4	21	9.5
Total	1,302	100.0	1,082	100.0	220	100.0

The attrition among laid-off employees was highest among the young, e.g., 40% of all employees in the age bracket 20-24 did not return, and nearly 30% aged 25-34 did not return. Combining this information with the previous Table we see that 70% of those who did not return were in the age range 20-34, but of all those laid off who were 20-34 years old, only one-third of them did not return (i.e., 477 laid-off workers were in the age group 20-34 and 33% of them did not return).

Table 8. Percentage of Age Groups

Age Group	Number Laid Off	Per cent Who Returned	Per cent Who Did Not Return
15 – 19	11	81.8	18.2
20 – 24	187	60.4	39.6
25 – 34	290	71.4	28.6
35 – 44	239	92.4	7.6
45 – 54	245	95.9	4.1
55 – 64	261	95.4	4.6
65 – 69	69	69.6	30.4
Total	1,302	83.1	16.9

More than 28% of those laid off were single, but 50% of those who did not return were single. From another point of view, 372 single men were laid off, and 110 did not return; while of 896 married men laid off, 110 did not return. However, conditions favouring marriage (such as age), in turn raising other important considerations (such as seniority), are the basic factors relating to returning or not returning, and marital status is only indirectly important.

Table 9. Marital Status of All Laid-Off Employees

Marital Status	Total Laid Off		Total Returned		Total Not Returned	
	Number	Per cent	Number	Per cent	Number	Per cent
Single	372	28.6	262	24.3	110	50.0
Married	896	68.8	786	72.7	110	50.0
W, D, S*	34	2.6	34	3.0	0	0.0
Total	1,302	100.0	1,082	100.0	220	100.0

*Widowed, Divorced, Separated

About 57% of those laid off had 17 or more years' seniority, while 64% of those who returned had this much seniority. The implication is that a disproportionate number of low seniority people did not return. In fact, the last column of the Table shows that 75% of those who did not return had two years' seniority or less. On the other hand, about two-thirds (311 out of 475) of those with two years' seniority or less did return.

Table 10. Seniority of All Laid-Off Employees

Number of Years	Total Laid Off		Total Returned		Total Not Returned	
	Number	Per cent	Number	Per cent	Number	Per cent
Less than one	221	17.0	120	11.0	101	46.0
1 to 2	254	19.5	191	17.7	63	28.6
More than 2, less than 17	88	6.8	77	7.1	11	5.0
17 or more	739	56.7	694	64.2	45	20.4
Total	1,302	100.0	1,082	100.0	220	100.0

A little over half of the laid-off employees with less than one year's seniority, and three-quarters of those with one to two years' seniority, returned. Roughly 90% of the remainder returned to Ford. Overall, 1,082 of 1,302 returned, or 83%.

Table 11. Percentage of Seniority Groups

Number of Years' Seniority	Number Laid Off	Per cent Who Returned	Per cent Who Did Not Return
Less than one	221	54.3	45.7
1 to 2	254	75.2	24.8
More than 2, less than 17	88	87.5	12.5
17 or more	739	93.9	6.1
Total	1,302	83.1	16.9

Table 5 showed that 84% of all laid-off employees were earning $2.49 per hour plus or minus 5c. Table 12 indicates that about 87% of those who returned were in that pay range and 70% of those who did not return were in the same range. This implies some tendency for the employees in the lower pay brackets not to return. For example, only 4% of those laid off were earning $2.34 an hour, but 20% of those who did not return were earning $2.34. Of the 51 who were getting $2.34 an hour at layoff time, 43 of them (over 80%) did not return.

Table 12. Pay Classification of All Laid-Off Employees (As of Date of Layoff)

$ per Hour	Total Laid Off		Total Returned		Total Not Returned	
	Number	Per cent	Number	Per cent	Number	Per cent
Less than 2.34	7	0.5	3	0.2	4	1.8
2.34	51	3.9	8	0.7	43	19.6
2.39	18	1.4	4	0.3	14	6.3
2.44	385	29.6	313	29.0	72	32.8
2.49	253	19.4	225	20.8	28	12.7
2.54	458	35.2	405	37.5	53	24.1
2.59	78	6.0	76	7.1	2	0.9
2.64	48	3.7	44	4.1	4	1.8
More than 2.64	4	0.3	4	0.3	0	0.0
Total	1,302	100.0	1,082	100.0	220	100.0

There were 493 men laid off at the end of June, 1965 and of these 326 returned to Ford while 167 were recalled but did not return, i.e., for the first layoff two-thirds of the men returned.

There was some tendency in the first layoff for the youngest workers not to return. Thirty-six per cent of those laid off were 20-24 years old, but 44% of those who did not return were 20-24. However, 60% of this age group (105 of 179) in the first layoff did return. Similarly, the majority of every age group did return.

Table 13. Age Distribution of Laid-Off Employees, First Layoff — 493 Men

Age Group	Laid Off		Returned		Not Returned	
	Number	Per cent	Number	Per cent	Number	Per cent
15 - 19	10	2.0	8	2.4	2	1.2
20 - 24	179	36.3	105	32.2	74	44.4
25 - 34	243	49.3	165	50.7	78	46.8
35 - 44	59	12.0	47	14.4	12	7.1
45 - 54	2	0.4	1	0.3	1	0.5
55 and over	0	0.0	0	0.0	0	0.0
Total	493	100.0	326	100.0	167	100.0

A disproportionate number of single men in the first layoff did not return. Approximately 43% of the first layoff were single men, but of the 326 who returned 34% were single. Of the 137 who did not return almost 60% were single. Even so, just over 50% of the single men in the first layoff did return, and 75% of the married men returned.

Table 14. Marital Status of Employees, First Layoff — 493 Men

Marital Status	Laid Off		Returned		Not Returned	
	Number	Per cent	Number	Per cent	Number	Per cent
Single	210	42.6	112	34.3	98	58.7
Married	277	56.2	208	63.9	69	41.3
W, D, S*	6	1.2	6	1.8	0	0.0
Total	493	100.0	326	100.0	167	100.0

*Widowed, Divorced, Separated.

Of 493 men laid off in June, 1965, almost 45% had less than one year of seniority and 95% had two years' or less. The largest proportion who did not return comprised those who had less than one year (101 men of 167 not returned), but more than one-half of the people with less than one year's seniority returned, as did three-quarters of those with one to two years' seniority.

Table 15. Seniority of Employees, First Layoff — 493 Men

Number of Years	Laid Off		Returned		Not Returned	
	Number	Per cent	Number	Per cent	Number	Per cent
Less than one	221	44.8	120	36.8	101	60.5
1 to 2	248	50.3	185	56.8	63	37.8
More than 2, less than 17	23	4.7	20	6.1	3	1.7
17 or more	1	0.2	1	0.3	0	0.0
Total	493	100.0	326	100.0	167	100.0

There was a marked tendency for those in the lower pay classes of $2.34 and $2.39 an hour not to return, but other than that there was not a great deal of difference between the distribution of employees among pay classes for those who returned and those who did not. However, it should be noted that 56 employees of the lowest paid 69 did not return.

Table 16. Pay Classification of Employees, First Layoff — 493 Men (As of Date of Layoff)

$ per Hour	Laid Off		Returned		Not Returned	
	Number	Per cent	Number	Per cent	Number	Per cent
Less than 2.34	1	0.2	1	0.3	0	0.0
2.34	51	10.3	8	2.4	43	25.8
2.39	17	3.5	4	1.2	13	7.8
2.44	157	31.8	110	33.8	47	28.2
2.49	84	17.0	64	19.7	20	12.0
2.54	148	30.0	108	33.2	40	24.0
2.59	19	3.9	17	5.2	2	1.1
2.64	15	3.1	13	3.9	2	1.1
More than 2.64	1	0.2	1	0.3	0	0.0
Total	493	100.0	326	100.0	167	100.0

There were 809 men laid off in the middle of August, 1965, and of these, 756 returned to Ford, while 53 were recalled but not re-employed at Ford. Thus, for the second layoff almost 95% returned, compared to 66% for the first layoff.

While in the first layoff it was the younger workers who tended not to return, in the second layoff it was the older workers, presumably because of retirement or physical disability. For example, 40% of the 53 who did not return were 65 years of age or older; it should be noted though, that 48 of the 69 in the oldest age group did resume employment.

Table 17. Age Distribution of Employees, Second Layoff — 809 Men

Age Group	Laid Off		Returned		Not Returned	
	Number	Per cent	Number	Per cent	Number	Per cent
15 - 19	1	0.1	1	0.1	0	0.0
20 - 24	8	1.0	8	1.0	0	0.0
25 - 34	47	5.8	42	5.5	5	9.4
35 - 44	180	22.2	174	23.1	6	11.3
45 - 54	243	30.0	234	31.0	9	17.0
55 - 64	261	32.3	249	33.0	12	22.7
65 - 69	69	8.6	48	6.3	21	39.6
Total	809	100.0	756	100.0	53	100.0

In contrast to the first layoff, there was no tendency for married men to return and single men not to return. In fact, for the second layoff there is no difference at all between the proportion of single men in the total layoff and the proportion of single men among those who returned, or the proportion of single men among those who did not return. We can judge that age, seniority and pay classification are relevant to the decision to return, but not marital status, because 92% (150 out of 162) of the single men and 93% (578 out of 619) of the married men returned.

Table 18. Marital Status of Employees, Second Layoff — 809 Men

Marital Status	Laid Off		Returned		Not Returned	
	Number	Per cent	Number	Per cent	Number	Per cent
Single	162	20.0	150	19.8	12	22.6
Married	619	76.5	578	76.5	41	77.4
W, D, S*	28	3.5	28	3.7	0	0.0
Total	809	100.0	756	100.0	53	100.0

*Widowed, Divorced, Separated.

Of the 809 men laid off in August, over 90% had 17 or more years' seniority and 45 of the 53 who did not return had this much seniority; the 45, however, constituted only 6% of the highest seniority workers laid off in August. High seniority employees not returning suggests that many may have retired.

Table 19. Seniority of Employees, Second Layoff — 809 Men

Number of Years	Laid Off		Returned		Not Returned	
	Number	Per cent	Number	Per cent	Number	Per cent
Less than one	0	0.0	0	0.0	0	0.0
1 to 2	6	0.7	6	0.7	0	0.0
More than 2, less than 17	65	8.0	57	7.6	8	15.0
17 or more	738	91.3	693	91.7	45	85.0
Total	809	100.0	756	100.0	53	100.0

As with the first layoff there is an indication that the lowest paid employees did not return, but there is virtually no difference between the distribution of employees among pay classes for those who returned and those who were laid off. The small numbers involved in "not returned" practically take the meaning out of the percentages of the last column. This suggests looking for correlations with other variables or supplementing this Table with other information. This is done in Chapters IV and V.

Table 20. Pay Classification of Employees, Second Layoff—809 Men (As of Date of Layoff)

$ per Hour	Laid Off		Returned		Not Returned	
	Number	Per cent	Number	Per cent	Number	Per cent
Less than 2.34	6	0.7	2	0.2	4	7.6
2.34	0	0.0	0	0.0	0	0.0
2.39	1	0.1	0	0.0	1	1.8
2.44	228	28.2	203	26.9	25	47.2
2.49	169	20.9	161	21.3	8	15.1
2.54	310	38.3	297	39.3	13	24.6
2.59	59	7.3	59	7.9	0	0.0
2.64	33	4.1	31	4.1	2	3.7
More than 2.64	3	0.4	3	0.3	0	0.0
Total	809	100.0	756	100.0	53	100.0

Summary

All Employees Laid Off

(1) Place of residence:

About 72% of the 1,302 men laid off lived in Windsor — the proportion was somewhat greater in the second layoff than the first, because older men were involved in the second layoff; but place of residence apparently had no effect on the decision to return or not to return.

(2) Age:

Virtually everyone on the first layoff was under 45, while 70% of the men involved in the second layoff were 45 or older. Those who did not return were mostly young men (over 70% of those not returning were 25-34 years old), but on the other hand most people in every age group did return, for even in the 25-34 age group two-thirds of those laid off did return.

(3) Marital status:

Half the men who did not return were single, but 70% of the single men did return.

(4) Seniority:

Ninety-five per cent of the men in the first layoff had two years' seniority or less, and over 90% of the men in the second layoff had 17 or more years' seniority. Most of the men (75%) who did not return were low seniority, but two-thirds of the low seniority employees did return. Overall, 83% of the laid-off men came back.

(5) Pay classification:

Most of the men laid off were earning $2.44, $2.49, or $2.54 per hour. This is true of both layoffs. The lowest paid men were least likely to return: for example, of the 51 men who were earning $2.34 an hour at the time of layoff 43 did not return.

(6) First and Second Layoffs

To summarize for the first and second layoff:

(a) First layoff — 493 men

Two-thirds of the first layoff returned to Ford. Those who did not were young, single, low in seniority and low in pay.

(b) Second layoff — 809 men

Ninety-three per cent of the second layoff returned to Ford; most of those who did not were near retirement age.

CHAPTER IV

Experiences of the 1,082 Men Who Were Laid Off and Re-employed

ALL OF THE 1,302 men laid off in June and August, 1965, were recalled to Ford by late February, 1966. Approximately 83% of the recalled workers were re-employed —1,082 men — most of the rest had a job elsewhere and preferred not to return; a few had retired.

General Comments: Age and Seniority

There was a somewhat higher average age of the work force after recall than before the layoffs. This average was reduced when several hundred new workers were added in March and April after all laid-off employees had been recalled.

It is no surprise that high seniority people returned, or that some low seniority workers did not return. It is interesting to note, however, that so many low seniority men returned. For example, 120 men with less than one year's seniority returned (out of 221 laid off), and 191 men with one to two years' seniority returned (out of 254 laid off). With higher seniority, virtually everyone returned.

Over 45% of the men on the first layoff who returned drew neither UC nor SUB benefits, approximately one-quarter used both UC and SUB, and one-quarter used UC only. In the second layoff 15% used neither UC nor SUB, while over 70% drew both.

Table 21. Returning Employees Who Drew Unemployment Compensation And Supplemental Unemployment Benefits

Combination of UC and SUB	Number of Employees		
	First Layoff	Second Layoff	Total
Drew both UC and SUB	80	537	617
Drew UC only	85	31	116
Drew SUB only	12	70	82
Drew neither UC nor SUB	149	118	267
Total	326	756	1,082

In the first layoff about half of each age group drew UC; in the second layoff those using UC outnumbered those not using UC three or four to one. During the first layoff workers who did not draw UC had for the most part found temporary work. In the second layoff failure to use UC reflected either possession of a temporary job, exhausted benefits, or too short a layoff to take advantage of UC.

Table 22. Age Distribution of Returning Workers Who Drew Unemployment Compensation

Age Group	First Layoff		Second Layoff		Total	
	Drew UC	Did Not Draw UC	Drew UC	Did Not Draw UC	Drew UC	Did Not Draw UC
15 - 19	3	5	0	1	3	6
20 - 24	52	53	7	1	59	54
25 - 34	89	76	30	12	119	88
35 - 44	21	26	133	41	154	67
45 - 54	0	1	167	67	167	68
55 - 64	0	0	194	55	194	55
65 - 69	0	0	37	11	37	11
Total	165	161	568	188	733	349

In the first layoff half of those who eventually returned did not use UC while laid off, 35% used UC for up to ten weeks, and the remainder (15%) for more than ten weeks. During the second layoff, 25% did not use UC, 35% used UC up to 10 weeks, and 40% for more than 10 weeks.

Most of the 50% in the first layoff who did not use UC at all went to work in anticipation of a long layoff. Most or all of the 25% in the second layoff who did not use UC had too short a layoff (combined with their vacation pay) to be eligible for benefits.

Table 23. Number of Weeks of Unemployment Compensation For Employees Who Returned

Number of Weeks Drawn	Frst Layoff		Second Layoff		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
0	161	49.4	188	24.9	349	32.2
1 - 5	73	22.4	152	20.1	225	20.8
6 - 10	44	13.5	112	14.8	156	14.4
11 - 15	16	4.9	223	29.4	239	22.1
16 - 20	20	6.1	76	10.1	96	8.9
More than 20	12	3.7	5	0.7	17	1.6
Total	326	100.0	756	100.0	1,082	100.0

Table 24 shows the amount of UC and number of weeks drawn for all 733 men who were laid off and returned to Ford and at the same time, used UC while laid off. About 40% of these men in the first layoff received less than $30 a week, while only 20% of the men in the second layoff got less than $30 a week. So in the first layoff half the men got UC and half did not; those who used it averaged about $27 for seven or eight weeks. In the second layoff 75% of the men used UC and averaged close to $36 for 11 or 12 weeks.

Table 24. Weekly Amount of Unemployment Compensation And Number of Weeks Drawn For All Employees Who Returned And Who Drew Unemployment Compensation—First and Second Layoff

Number of Weeks	Weekly Amount of UC				Total Number of Men	
	Less Than $30		$30 or More			
	First	Second	First	Second	First	Second
1 - 5	34	46	39	106	73	152
6 - 10	21	32	23	80	44	112
11 - 15	3	17	13	206	16	223
16 - 20	4	3	16	73	20	76
More than 20	5	4	7	1	12	5
Total	67	102	98	466	165	568

In the first layoff 92 men drew SUB benefits, compared to 165 drawing UC; in the second layoff 607 used SUB and 149 did not (compared to 568 using UC and 118 not using UC). In other words, in the first layoff almost 30% used SUB while in the second layoff 80% used SUB. The reasons for not using SUB in the first layoff were principally lack of eligibility and temporary jobs, — in the second layoff either layoffs were too short or temporary jobs were found. In the first layoff approximately 25% to 35% of each age group drew SUB; in the second layoff 75% to 90% of each age group drew SUB.

Table 25. Age Distribution of Returning Workers Who Drew Supplemental Unemployment Benefits

Age Group	First Layoff		Second Layoff		Total	
	Drew SUB	Did Not Draw SUB	Drew SUB	Did Not Draw SUB	Drew SUB	Did Not Draw SUB
15 - 19	1	7	0	1	1	8
20 - 24	26	79	5	3	31	82
25 - 34	52	113	33	9	85	122
35 - 44	13	34	140	34	153	68
45 - 54	0	1	177	57	177	58
55 - 64	0	0	208	41	208	41
65 - 69	0	0	44	4	44	4
Total	92	234	607	149	699	383

In the first layoff 72% of those who eventually returned to Ford did not use SUB while laid off, 17% used SUB for up to 10 weeks and 11% used SUB for more than 10 weeks. For the second layoff 20% did not draw SUB, 36% used SUB for up to 10 weeks, and 44% for more than 10 weeks.

Most of the 72% in the first layoff went to work early in their layoff period, while most of the 20% of the second layoff who did not draw SUB were laid off for too short a time to take advantage of the plan.

Table 26. Number of Weeks of Supplemental Unemployment Benefits For Employees Who Returned

Number of Weeks Drawn	First Layoff		Second Layoff		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
0	234	71.8	149	19.7	383	35.4
1 - 5	40	12.3	140	18.5	180	16.6
6 - 10	15	4.6	133	17.6	148	13.7
11 - 15	11	3.4	257	34.0	268	24.8
16 - 20	18	5.5	72	9.5	90	8.3
More than 20	8	2.4	5	0.7	13	1.2
Total	326	100.0	756	100.0	1,082	100.0

Table 27 shows the amount of SUB and the number of weeks drawn for all 699 men who were laid off, returned to Ford, and used SUB while laid off. More than half the men (51 out of 92) in the first layoff received $28 to $35 per week in benefits, or approximately $32 per week. Almost 60% of the men in the second layoff drew benefits in the same range. Therefore, in the first layoff 28% of the men who returned to Ford used SUB while laid off, receiving about $32 for seven or eight weeks; in the second layoff 80% of the men who returned used SUB while laid off, receiving about $32 a week for 11 or 12 weeks.

Table 27. Weekly Amount of Supplemental Unemployment Benefits And Number of Weeks Drawn For All Employees Who Returned — First And Second Layoff

Number of Weeks	Weekly Amount of SUB						Total Number of Men	
	Less Than $28		$28 - $35		$36 or More			
	First	Second	First	Second	First	Second	First	Second
1 - 5	6	18	24	85	10	37	40	140
6 - 10	0	3	10	85	5	45	15	133
11 - 15	1	9	5	145	5	103	11	257
16 - 20	2	2	9	40	7	30	18	72
More than 20	1	1	3	3	4	1	8	5
Total	10	33	51	358	31	216	92	607

Of the 1,082 laid off and returned to Ford, 267 used neither UC nor SUB. About 40% of the remainder, namely 327 men, received an average compensation of $68 a week ($36 in UC and $32 in SUB); another 144 had $36 in UC and about $40 in SUB, for $76 a week in total benefits. Altogether this accounts for almost 70% of the 1,082; the remaining 30% were distributed as shown in Table 28.

Table 28. Unemployment Compensation And Supplemental Unemployment Benefits For All Employees Who Returned

Weekly Amount of UC	Weekly Amount of SUB				Total Number of Men
	None	Less Than $28	$28 - $35	$36 or More	
None	267	7	41	34	349
Less than $30	54	5	41	69	169
$30 or more	62	31	327	144	564
Total	383	43	409	247	1,082

Table 29 shows that 267 employees of 1,082 drew neither UC nor SUB; 150 men received both benefits for 1 to 5 weeks, 106 men got both for 6 to 10 weeks, 204 men received both for 11 to 15 weeks, 61 men for 16 to 20 weeks, and 7 men for more than 20 weeks. Nearly 75% of the men (795) received both UC and SUB for the same number of weeks.

Table 29. Number of Weeks of Unemployment Compensation And Supplemental Unemployment Benefits For All Employees Who Returned

Number of Weeks UC Drawn	Number of Weeks SUB Drawn						Total Number of Men
	None	1 - 5	6 - 10	11 - 15	16 - 20	More Than 20	
None	267	20	21	30	10	1	349
1 - 5	62	150	5	7	1	0	225
6 - 10	31	6	106	8	4	1	156
11 - 15	7	3	13	204	12	0	239
16 - 20	8	1	3	19	61	4	96
More than 20	8	0	0	0	2	7	17
Total	383	180	148	268	90	13	1,082

Virtually all the 234 men from the first layoff who were interviewed when re-employed at Ford had been on layoff for 21 to 30 weeks. In other words, they were laid off at the end of June, had some paid vacation coming, and went back between December and February.

For the second layoff in August, 407 men were interviewed. The 250 men who went back in September following a paid vacation were not interviewed because of the brevity of the layoff, so 407 were interviewed out of a possible 506. Two-thirds of the 407 were off for 16 to 20 weeks and the rest were evenly divided between 6 to 10 and 11 to 15 weeks' layoff. Thus, following a paid vacation a large number (250) went back to work in September, and (almost) all were back by late December.

Table 30. Length of Layoff For Employees Who Returned And Were Interviewed

Number of Weeks	First Layoff		Second Layoff		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
1 - 5	0	0.0	1	0.2	1	0.1
6 - 10	0	0.0	61	15.0	61	9.5
11 - 15	0	0.0	63	15.5	63	9.8
16 - 20	0	0.0	272	66.9	272	42.6
21 - 25	47	20.1	1	0.2	48	7.4
26 - 30	185	79.1	9	2.2	194	30.3
More than 30	2	0.8	0	0.0	2	0.3
Total	234	100.0	407	100.0	641	100.0

In general, men with two years' or less seniority were on layoff for six or seven months, while the high seniority men were off for four months at the most, a good many going back to work in September through November.

Table 31. Seniority And Length of Layoff
(Laid -off Employees Returning and Interviewed)

Number of Years' Seniority	Number of Weeks Laid Off							Total Number of men
	Second Layoff				First Layoff			
	1 - 5	6 - 10	11 - 15	16 - 20	21 - 25	26 - 30	More Than 30	
Less than one	0	0	0	0	0	98	1	99
1 to 2	1	0	0	1	29	85	1	117
More than 2, less than 17	0	2	8	34	18	1	0	63
17 or more	0	59	55	237	1[a]	10[b]	0	362
Total	1	61	63	272	48	194	2	641

[a] Second layoff
[b] Nine of the ten are second layoff

Apparently UC benefits held up very well for anyone laid off four to five months or less, but not so well for those laid off for longer periods, because the young men with long layoffs had not had prior employment for a period of time long enough to build up sufficient benefits for a lengthy layoff.

The experience with SUB is almost identical — most men who received benefits got them for the full layoff period provided that the duration of the layoff did not exceed four months. Relatively few of the young, low seniority, first layoff men received SUB; for the most part those who did exhausted their benefits by the middle of the layoff period.

There are some inconsistencies in this Table; for example, it is not clear how a man who could be laid off less than 11 weeks and draw UC for 16-20 weeks, or SUB for more than 20 weeks. The length of layoff information came from the man himself and in some cases there are communication difficulties due to language barriers. Moreover, we used a different source (the Unemployment Insurance Commission) for information on UC and SUB. We believe that in spite of these obstacles the general trends come through accurately.

Table 32. Number of Weeks of UC And SUB Compared To Length of Layoff

(Laid-off Employees Returning and Interviewed)

Number of Weeks of UC	Number of Weeks Laid Off					Total Number of Men
	Less Than 11	11 - 15	16 - 20	21 - 25	More Than 25	
1 - 5	9	5	20	8	39	81
6 - 10	39	8	20	8	25	100
11 - 15	0	38	128	9	10	185
16 - 20	1	2	61	7	8	79
More than 20	0	0	0	4	4	8
Total	49	53	229	36	86	453
Weeks of SUB						
1 - 5	10	4	20	9	7	50
6 - 10	44	4	32	4	4	88
11 - 15	0	47	139	10	7	203
16 - 20	0	3	57	6	4	70
More than 20	1	0	1	0	3	5
Total	55	58	249	29	25	416
Number of men (Returned and Interviewed)	62	63	272	48	196	641

The interviewed employees were asked the "yes or no" questions listed on the left hand side of Table 33. In this Table the "yes" answers are compared to length of layoff. Apparently most men weathered the layoff by some combination of unemployment compensation, supplemental unemployment benefits and temporary employment. There is very little evidence of children quitting school, the family moving to cheaper quarters, public assistance, selling durable goods, etc. Moreover, there seems to be little evidence that the longer the layoff the more the family had to resort to such measures. (The first three columns of numbers are second layoff men only; the fourth and fifth columns are almost entirely first layoff).

Table 33. Financial Experiences Compared To Length of Layoff

(Laid-off Employees Returning and Interviewed)

Experience	Number of Weeks Laid Off					Total Number of Men
	Less Than 11	11 - 15	16 - 20	21 - 25	More Than 25	
Wife went to work	4	3	25	3	22	57
Children quit school	2	0	2	1	0	5
Education and training acquired during layoff	0	4	7	3	12	26
Decreased savings	25	39	151	26	91	332
Borrowed money	1	8	30	5	28	72
Piled up bills	8	20	77	9	62	176
Help from relatives	1	2	22	3	15	43
Moved to cheaper quarters	1	2	8	2	1	14
Other family member got job	6	1	9	2	16	34
Received public assistance	0	2	1	1	2	6
Sold car or durables	0	0	6	1	5	12
Used UC	49	53	229	36	86	453
Used SUB	55	58	249	29	25	416
Gainfully employed	6	11	50	31	177	275
Number of men	62	63	272	48	196	641

When financial experiences are divided into first and second layoffs, keeping in mind that the men on the first layoff were young and had a longer layoff period, it is plain that the measures considered here were not resorted to significantly more during the first layoff than during the second, except for use of UC, SUB and gainful employment. The main conclusion is that men in the first layoff depended a great deal on finding temporary gainful employment, and weathered the layoff successfully without resorting to extraordinary economic measures.

Table 34. Some Financial Experiences of Interviewed Employees Who Returned

Question	First Layoff		Second Layoff	
	Yes	No	Yes	No
Wife went to work	25	197	32	351
Children quit school	1	214	4	378
Education and training acquired during layoff	15	219	11	393
Decreased savings	112	122	220	185
Borrowed money	33	201	39	336
Piled up bills	71	163	105	300
Help from relatives	18	216	25	380
Moved to cheaper quarters	3	231	11	394
Other family member got a job	18	216	16	389
Received public assistance	3	231	3	402
Sold car or other durables	6	228	6	399
Used Unemployment Compensation	114	120	339	68
Used Supplemental Unemployment Benefits	45	189	371	36
Gainfully employed	208	26	67	340

For the first layoff of 493 men, 167 found other jobs and did not return to Ford; we interviewed 234 of the remaining 326, and 208 of them had jobs. It is reasonable to think that as high a proportion of the non-interviewed 92 men also had jobs because many of these, reporting back to Ford for re-employment processing arrived late in the day — as late as 9.00 p.m.

For the second layoff of 809 men, 53 never returned and 250 went back to work in September — so there were 506 men to interview. We interviewed 407 of them, 67 of whom had jobs and 340 did not. There is no reason to believe that more than 15% of the 99 not interviewed had jobs. Many of the men reported that they spent a substantial part of their layoff time fixing up their homes, working in their gardens, etc.

Table 35. Number of Employees Who Found Temporary Jobs
(Laid-off Employees Returning and Interviewed)

Place of Residence	First Layoff		Second Layoff		Total	
	Temporary Job	No Job	Temporary Job	No Job	Temporary Job	No Job
Windsor	124	9	40	273	164	282
Outside Windsor	84	17	27	67	111	84
Total	208	26	67	340	275	366

Virtually all the low seniority people we interviewed had found jobs, while only 10% (34 of 328) of the highest seniority people we interviewed had taken temporary jobs. This means that almost all the long layoff people — five months or more laid off — held jobs, while the short layoff people were not really interested in finding a job, which is understandable. When necessary the second layoff people did seek and find work. For example, Table 36 shows 67 jobs for second layoff men — 50 of these were held by men who were laid off for a period ranging from 16 to 20 weeks (see Table 33).

Table 36. Seniority of Employees Who Had Temporary Jobs
(Laid-off Employees Returning and Interviewed)

Number of Years' Seniority	First Layoff		Second Layoff		Total	
	Temporary Job	No Temporary Job	Temporary Job	No Temporary Job	Temporary Job	No Temporary Job
Less than one	98	1	0	0	98	1
1 to 2	99	16	2	0	101	16
More than 2, less than 17	10	9	32	12	42	21
17 or more	1	0	33	328	34	328
Total number of men	208	26	67	340	275	366

There is no indication that formal education was a factor in assisting the laid-off men to find jobs. What does come through is that the first layoff men are better educated than the second, but the younger workers had no trouble (regardless of any inadequacies in their education) because of a booming local economy. (At the time of layoff five representatives of the Windsor Board of Education visited Ford to advise soon-to-be-laid-off workers of the availability of training under Program 5 of the Technical and Vocational Training Agreement. Very few workers took advantage of this opportunity).

Table 37. Education And Temporary Employment
(Laid-off Employees Returning and Interviewed)

Education	First Layoff		Second Layoff		Total	
	Temporary Job	No Job	Temporary Job	No Job	Temporary Job	No Job
None	2	1	2	41	4	42
Elementary incomplete	13	3	20	138	33	141
Elementary completed	64	5	20	75	84	80
High School (1 or 2 years)	88	11	20	59	108	70
High School (3 to 5 years)	34	5	5	20	39	25
University (1 year or more)	5	0	0	2	5	2
Other	2	1	0	5	2	6
Total	208	26	67	340	275	366

Some of the first layoff men held as many as four jobs. Table 38 lists the jobs in descending order, using first job figures for first layoff as a criterion. The older men (as evidenced by first job, second layoff) tended to stay out of truck driving, construction work, and especially production work in other factories. The young men were able to get into other production work because there existed always the possibility that the man would be satisfied with his new work, and choose to remain with it. In contrast, the older, high-seniority man is almost certain to return to Ford.

Table 38. First And Second Temporary Jobs Held
(Laid-off Employees Returning and Interviewed)

Job Class	First Job		Second Job	
	First Layoff	Second Layoff	First Layoff	Second Layoff
Labourers (excluding agric.)	31	8	17	1
Production process and related workers	25	1	9	0
Truck drivers	19	4	8	1
Farmers and farm labourers	18	5	1	0
Welders and flame cutters	14	3	4	0
Construction workers	12	1	5	1
Janitors and cleaners, building	6	2	1	0
Filers, grinders, sharpeners	6	0	1	0
Fitters and assemblers — metal	6	6	6	2
Metal working machine operators	6	1	8	2
Shipping and receiving clerks	5	0	3	0
Carpenters	5	0	0	0
All others	55	36	24	2
Total	208	67	87	9

Most workers found a job within a month of layoff, many within one week. There were 57 men who said they went six weeks or longer before finding work, but 40 of them drew unemployment compensation, and some also drew SUB. Of the 17 without UC, 14 were laid off at the end of June. It is interesting to note that the majority of older workers found a job early in their layoff period, if they found a job at all.

Table 39. Number of Weeks Between Layoff And First Job
(Laid-off Employees Returning and Interviewed)

Number of Weeks	First Layoff	Second Layoff	Total
0 - 5	166	52	218
6 - 10	32	15	47
11 - 15	4	0	4
16 - 20	5	0	5
More than 20	1	0	1
Total	208	67	275

Half of the 208 men in the first layoff who held temporary jobs, kept them for almost the full layoff period. Table 40 shows that 107 men out of 208 held their first jobs for 16 weeks or more. More than a third of the second jobs (32 out of 87) were held for four months or more. Those on the second layoff held their jobs for briefer periods of time, although almost half the jobs were held for 11 weeks or more.

Table 40. Number of Weeks On Temporary Jobs
(Laid-off Employees Returning and Interviewed)

Number of Weeks on Each Job	First Layoff				Second Layoff			
	Job Number				Job Number			
	1	2	3	4	1	2	3	4
1 - 5	42	20	10	3	21	7	2	—
6 - 10	36	14	5	1	17	1	0	—
11 - 15	23	21	2	1	21	1	0	—
16 - 20	21	17	1	0	5	0	0	—
More than 20	86	15	4	1	3	0	0	—
Total number of men	208	87	22	6	67	9	2	—

Table 41 shows methods of finding the first job. Most interviewees stated that they found their own jobs (160 out of 275). The data in Appendix B-1 show the same tendency for jobs 2, 3 and 4. When broken down by layoff there is some indication that the workers in the second layoff relied more on the National Employment Service than did first layoff workers. For the most part the long-lasting temporary jobs were found by the men themselves. For example, 60 of the 160 jobs in the category "found by myself" lasted more than 20 weeks, while 18 of the 77 jobs found through NES lasted more than 20 weeks. (This is not a criticism of NES — quite the contrary, for 77 people found employment through NES, and these people might otherwise have been without work).

Table 41. Length of Temporary Job No. 1 And How Located
(Laid-off Employees Returning and Interviewed)

Source of Information	Number of Weeks on Job No. 1					Total Number of Men
	1 - 5	6 - 10	11 - 15	16 - 20	More Than 20	
National Employment Service	23	18	15	3	18	77
Friend	6	2	3	0	10	21
Newspaper	1	1	0	1	0	3
Myself	29	30	21	20	60	160
Other	4	2	5	2	1	14
Total number of men	63	53	44	26	89	275

More than half the men on the first layoff who returned and were interviewed, and who had had temporary jobs, did not use UC. Nearly 90% of them did not use SUB. On the second layoff the corresponding proportions are one-third for both UC and SUB. In each case, about half of those people with jobs who did draw UC or SUB did so for about five weeks.

Table 42 suggests that the pressure generated by low (or no) benefits forces people to seek work, especially when facing long layoffs. (See Table 43 also).

Table 42. Temporary Jobs And Number of Weeks of Unemployment Compensation And Supplemental Unemployment Benefits
(Laid-off Employees Returning and Interviewed)

Number of Weeks UC Drawn	First Layoff		Second Layoff		Total	
	Temporary Job	No Job	Temporary Job	No Job	Temporary Job	No Job
0	116	4	24	44	140	48
1 - 5	46	1	20	14	66	15
6 - 10	31	2	8	59	39	61
11 - 15	5	8	12	160	17	168
16 - 20	6	8	3	62	9	70
More than 20	4	3	0	1	4	4
Total	208	26	67	340	275	366
Number of Weeks SUB Drawn						
0	182	7	21	15	203	22
1 - 5	16	0	20	14	36	14
6 - 10	5	2	11	70	16	72
11 - 15	1	9	13	180	14	189
16 - 20	3	6	1	60	4	66
More than 20	1	2	1	1	2	3
Total	208	26	67	340	275	366

Many of the men not using UC obtained other employment right away; in fact, many obtained another job before the actual layoff date. Some of the men who took more time to find a job used unemployment compensation. In all, 218 men had jobs within a month of layoff, and 123 of them did not use any UC at all after layoff. As time went by, a greater portion of ultimate job holders used UC. For example, 34 of the 47 men who found jobs six to 10 weeks after their layoff also used unemployment compensation.

Table 43. Unemployment Compensation And Number of Weeks Before First Job

(Laid-off Employees Returning and Interviewed)

Number of Men	Number of Weeks Between Layoff and First Job					Total Number of Men
	0 – 5	6 – 10	11 – 15	16 – 20	More Than 20	
Drawing UC	95	34	3	2	1	135
Not Drawing UC.	123	13	1	3	0	140
Total	218	47	4	5	1	275

Table 44 summarizes some of the highlights for a portion of the 641 men who were interviewed at recall time. The Table reflects a number of the experiences of those who were laid off longest for both first and second layoffs.

Table 44. A Comparison of Employees With The Longest Layoff

(Laid-off Employees Returning and Interviewed)

Experience	272 Men Off 16 – 20 Weeks in Second Layoff[a]		185 Men Off 26 – 30 Weeks in First Layoff[a]	
	Yes	No	Yes	No
Gainfully employed	50	222	175	10
If gainfully employed did it take you less than 6 weeks to find employment	38	12	142	33
Wife went to work	25	229[b]	22	155[c]
Drew UC	229	43	78	107
Less than $30 per week	21	208	36	42
Less than 6 weeks	20	209	39	39
Drew SUB	249	23	16	169
Less than $36 per week	146	103	11	5
Less than 6 weeks	20	229	7	9

[a] For distribution of length of layoff see Table 30.
[b] Yes and no answers do not total 272 because some men refused to answer.
[c] Yes and no answers do not total 185 because some men refused to answer.

Summary

All Employees Laid Off and Returned

(1) General Comments — Age and Seniority — 1,082 Men

The first layoff was made up of young, low seniority men — two-thirds of whom returned to Ford; the second layoff was made up of older men, with much higher seniority — almost 95% of them were re-employed at Ford. Even in the first layoff, three-quarters of the men with one to two years' seniority returned.

(2) Use of UC and SUB by the Men Returning to Ford

(a) *First layoff*

About 25% of these men used both UC and SUB while laid off, 45% used neither, and the rest used one or the other (usually UC). For the most part (almost entirely) those who did not use either one, went to work elsewhere early in their layoff period, and stayed at work. For those who used UC about 40% got less than $30 a week for seven or eight weeks, while the rest got $30 or more (usually $36) a week for seven or eight weeks. Most of the workers (72%) never used SUB; those who did averaged $32 a week for seven or eight weeks.

(b) *Second Layoff*

About 70% used both UC and SUB; 15% used neither, and 15% used one or the other. Virtually all those who did not use either were recalled before their waiting period was up, and before they could legally draw benefits. Those who did use UC averaged close to $36 a week for 11

or 12 weeks; those who used SUB averaged $32 a week for 11 or 12 weeks.

(c) *Both layoffs*

Of the 1,082 men who returned, 267 did not use either UC or SUB while laid off — invariably because they had a temporary job (cf. Table 42); 327 men averaged $68 in combined UC and SUB benefits. These men account for 70% of the 1,082 men returning to Ford, the rest were distributed as shown in Table 28. For the first men laid off in June, benefits ran out about half way through the layoff period; for the second layoff, many men found their benefits lasting for the entire layoff.

(3) Recalled and Interviewed—641 Men

(a) *Length of layoff*

The men of the first layoff were off the job from five to seven months; for most of them it was closer to six or seven than to five or six. Most of the men of the second layoff were away from Ford for four months; for the rest it was two or three months, (but the first 250 recalled in September were not interviewed).

(b) *Financial experiences*

There is only very limited evidence of extreme hardship as measured by children quitting school, families losing homes or selling household furniture, appealing for public assistance, etc. Those affected by the second layoff lived for the most part on UC, SUB, and past savings; the first layoff people also relied on these resources, but most importantly they found gainful employment. The resources of UC, etc. would have run out for most men with only half the layoff period completed; if it had not been for a booming local economy, life for some could have become quite difficult.

(c) *Temporary Work*

Of the 1,302 men laid off, 220 never returned to Ford. Most of them had found other jobs. Of the 1,082 who returned, practically all of the men who wanted temporary jobs found them. We interviewed 234 of the 326 men of the first layoff who returned and 90% of them had been gainfully employed; 250 men of the second layoff had gone back to work at Ford in September, and of 506 other men who might have been interviewed, interviews of 407 showed less than 15% had found temporary jobs.

They went to all kinds of unskilled jobs, especially as labourers and production workers. The most striking contrast between first and second layoff was the inability of older men to get into production work in factories. Many of those who worked had a job within a week of layoff, and most had a job within one month. Many of the jobs were steady jobs; half the men who held jobs, held their first job for the full layoff period.

CHAPTER V

The 220 Men Who Were Laid Off and Did Not Return

SEVENTEEN PER CENT of the men laid off did not return — 167 from the first layoff, and 53 from the second layoff. We have information on these employees regarding age, marital status, seniority, pay classification at time of layoff, and the amount of unemployment compensation and supplemental unemployment benefits received from their layoff until late February 1966. The information is assembled in this Chapter.

Table 45 shows the percentage of each age group not returning to Ford. The age group 20-24 had the largest percentage not returning. These people were, of course, in the group to be laid off first.

The next age group, 25-34, had 78 of 243 men (or 32%) not returning from the first layoff, and 5 out of 47 in the same age group not returning from the second layoff. The largest group not returning in the second layoff was the oldest age group (65 to 69), when 21 men out of 69 laid off did not return.

The data in Appendix B-2 show that the largest group not returning were the single men laid off in June — almost half of them did not come back. By contrast, 93% of the single men laid off in August did return. The next largest group not returning were the married men laid off in June: 25% did not return, while all but 7% of the married men in the second layoff were re-employed.

Table 45. Number And Percentage of Each Age Group Not Returnnig

Age Group	First Layoff		Second Layoff	
	Number Who Did Not Return	Per cent of Age Group Not Returning	Number Who Did Not Return	Per cent of Age Group Not Returning
15 – 19	2	20.0	0	0.0
20 – 24	74	41.3	0	0.0
25 – 34	78	32.1	5	10.6
35 – 44	12	20.3	6	3.3
45 – 54	1	50.0	9	3.7
55 – 64	0	—	12	4.6
65 – 69	0	—	21	30.4
Total	167	33.9	53	6.6

The numbers of laid-off men not returning to Ford in each seniority group have been recorded for first layoff, second layoff, and for the total, in Tables 15, 19 and 10, respectively. The largest group not returning comprised 101 to 221 lowest seniority men laid off in June, 1965. From the same layoff 25% of those with one to two years' seniority did not return. In the second layoff virtually everyone who was physically able to return did so, except for those who retired.

Table 46. Number And Percentage of Each Seniority Group Not Returning

Number of Years' Seniority	First Layoff		Second Layoff	
	Number Who Did Not Return	Percentage of Seniority Group Not Returning	Number Who Did Not Return	Percentage of Seniority Group Not Returning
Less than one	101	45.7	0	—
1 to 2	63	25.4	0	—
More than 2, less than 17	3	13.0	8	12.3
17 or more	0	0.0	45	6.1
Total	167	33.9	53	6.6

The number of laid-off men not returning to Ford in each pay class has been shown for first layoff, second layoff, and total, in Tables 16, 20 and 12, respectively. Table 47 lists the number of men who did not return, by pay class, and the percentage of men who did not return out of the total number laid off in each pay class. The largest proportions of non-returnees were in the lowest pay classes in both layoffs. Thus, of the 69 lowest paid men in the first layoff ($2.39 an hour or less), 56 did not return.

Table 47. Number And Percentage of Each Pay Class Not Returning

$ per Hour	First Layoff		Second Layoff	
	Number Who Did Not Return	Percentage of Seniority Group Not Returning	Number Who Did Not Return	Percentage of Seniority Group Not Returning
Less than 2.34	0	0.0	4	66.7
2.34	43	84.3	0	—
2.39	13	76.5	1	100.0
2.44	47	29.9	25	11.0
2.49	20	23.8	8	4.7
2.54	40	27.0	13	4.2
2.59	2	10.5	0	—
2.64	2	13.3	2	6.1
More than 2.64	0	—	0	—
Total	167	33.9	53	6.6

Over 70% of the first layoff and 40% of the second layoff did not draw either UC or SUB benefits. About 10% of the first layoff and 30% of the second received both. The remainder used one or the other: more commonly, UC in the first layoff and SUB in the second.

Table 48. Employees Who Did Not Return But Drew Unemployment Compensation And Supplemental Unemployment Benefits

Combination of UC and SUB	Number of Employees		
	First Layoff	Second Layoff	Total
Drew both UC and SUB	17	16	33
Drew UC only	26	1	27
Drew SUB only	4	15	19
Drew neither UC nor SUB	120	21	141
Total	167	53	220

Three-quarters of the men laid off in June and not returning did not use unemployment compensation at all during the period June, 1965 to February, 1966; most of the rest of those in the first layoff drew compensation for five weeks or less. About two-thirds of the personnel involved in the second layoff not returning did not use UC from August, 1965 to February, 1966, while most of the rest drew compensation for up to 10 weeks.

Table 49. Number of Weeks Unemployment Compensation Drawn By Employees Who Did Not Return

Number of Weeks Drawn	First Layoff		Second Layoff		Total	
	Number of Employees	Per cent	Number of Employees	Per cent	Number of Employees	Per cent
0	124	74.2	36	67.9	160	72.7
1 – 5	28	16.8	7	13.2	35	15.9
6 – 10	10	6.0	5	9.4	15	6.8
11 – 15	2	1.2	2	3.8	4	1.8
16 – 20	1	0.6	2	3.8	3	1.4
More than 20	2	1.2	1	1.9	3	1.4
Total number of men	167	100.0	53	100.0	220	100.0

Of the 43 men from the first layoff who did not return, but used UC during the layoff period, 28 received benefits for five weeks or less — 16 of these drew less than $30 per week. Of the 17 men from the second layoff who did not return but used UC during the layoff period, seven received benefits for five weeks or less, and 12 for 10 weeks or less. Seven of the 12 drew less than $30 per week, and five got more.

The average man in the first layoff who did not return, drew unemployment compensation of $27 a week for five weeks or less. Table 50 shows that the numbers are so small for the second layoff that it is meaningless to generalize beyond the statement that there was a tendency for the average man in the second layoff to get a little more for a somewhat longer period.

Table 50. Amount of Unemployment Compensation And Number of Weeks Drawn For Employees Who Did Not Return — First And Second Layoff

Number of Weeks Drawn	Weekly Amount of UC				Total Number of Men	
	Less Than $30		$30 or More			
	First	Second	First	Second	First	Second
1 – 5	16	6	12	1	28	7
6 – 10	5	1	5	4	10	5
11 – 15	0	0	2	2	2	2
16 – 20	0	0	1	2	1	2
More than 20	1	0	1	1	2	1
Total	22	7	21	10	43	17

Almost 90% of those in the first layoff and not returning did not use SUB, and most of those who did use it drew benefits for five weeks or less. Over 41% of those in the second layoff who did not return did not use SUB, and 15% drew benefits for five weeks or less.

Table 51. Number of Weeks of Supplemental Unemployment Benefits For Employees Who Did Not Return

Number of Weeks Drawn	First Layoff		Second Layoff		Total	
	Number of Employees	Per cent	Number of Employees	Per cent	Number of Employees	Per cent
0	146	87.4	22	41.5	168	76.4
1 – 5	14	8.4	8	15.1	22	10.0
6 – 10	4	2.4	7	13.2	11	5.0
11 – 15	2	1.2	8	15.1	10	4.5
16 – 20	1	0.6	5	9.4	6	2.7
More than 20	0	—	3	5.7	3	1.4
Total	167	100.0	53	100.0	220	100.0

In the first layoff there were 21 men who used SUB and did not return to Ford, while in the second layoff there were 31. The most frequent combination of number of weeks and amount was one to five weeks and $28 to $35. This occurred for 10 men of the first layoff.

It is difficult to pick a representative combination for men of the second layoff because the numbers are small and scattered; probably $32 a week for three months is typical.

Table 52. Amount of Supplemental Unemployment Benefits And Number of Weeks Drawn For Employees Who Did Not Return — First And Second Layoffs

Number of Weeks Drawn	Weekly Amount of SUB						Total Number of Men	
	Less Than $28		$28 – $35		$36 or More			
	First	Second	First	Second	First	Second	First	Second
1 – 5	3	3	10	4	1	1	14	8
6 – 10	0	1	4	2	0	4	4	7
11 – 15	0	1	2	4	0	3	2	8
16 – 20	1	2	0	3	0	0	1	5
More than 20	0	2	0	0	0	1	0	3
Total	4	9	16	13	1	9	21	31

Summary

It was the young men who did not return to Ford, although in the second layoff some of the older men did not return. Also, in general, it was the first-layoff men who did not come back, e.g., half the single men laid off in June did not return but only 7.4% of the single men laid off in August did not return; 25% of all married men on the first layoff were not re-employed, but only 7% of the married men on the second layoff. Similarly the low seniority and lower pay class men did not come back to the degree that higher seniority and higher pay classes returned.

One-third of those in the first lay-off were not re-employed, and these 167 men were three-quarters of the 220 who did not return out of a total layoff of 1,302. In general these men were young, single, low seniority and in a relatively low pay class.

What happened to these men? Most of them went to work right away. Seventy-five per cent of the first layoff not returning did not use unemployment compensation at all, and most of the rest got $27 a week for about a month; figures for the second-layoff non-returnees are approximately the same, with a little more compensation for a somewhat longer period. Most of the men who did not return did not receive SUB in the layoff period; those who did got about $32 a week for one month, (if first layoff), and for three months, (if second layoff).

Where did these men go eventually? Some of them left Windsor. Some retired. But most found jobs in the Windsor area. Appendix F gives the last NES referral for 66 of 220 men. On the basis of last referral, most of them found work as labourers in other auto plants, feeder or parts plants, or in a related company.

APPENDIX A

Numbers of Laid off, Recalled, Interviewed and Re-employed Workers

Total number laid off		1,391
Laid off twice and now working at Ford	71	
Laid off twice and did not return	15	
Interviews not counted because invalid	3	89
TOTAL LAYOFF for this Report		1,302
FIRST LAYOFF:		
Recalled, interviewed and re-employed	234	
Recalled, not interviewed, and re-employed	92	
Recalled but not re-employed	167	493
SECOND LAYOFF:		
Recalled, interviewed and re-employed	407	
Recalled, not interviewed, and re-employed	349*	
Recalled but not re-employed	53	809
TOTAL first and second layoff		1,302

TOTALS:		
Total interviews		641
Total recalled but not interviewed		441*
Total laid off and re-employed —		
First layoff	326	
Second layoff	756	1,082
Total laid off and not re-employed —		
First layoff	167	
Second layoff	53	220
GRAND TOTAL (i.e., total layoff)		1,302

*250 of these men were not interviewed because, since they were re-employed during September (following layoff in mid-August and a two or three-week vacation for the last part of August and early September), they were not subject to the layoff experiences we wished to investigate. Therefore, there were 99 men on the second layoff we might have interviewed and did not, compared to 92 men on the first layoff who were not interviewed.

APPENDIX B-1

Laid off and Now Working at Ford—1,082 Men

(641 Men Were Interviewed)

1. NAME.....

2. ADDRESS.....

	First Layoff	Second Layoff	Total
3. Do you live in Metropolitan Windsor?			
Yes	191	587	778
No	135	169	304
Total	326	756	1,082
4. Age			
15-19	8	1	9
20-24	105	8	113
25-34	165	42	207
35-44	47	174	221
45-54	1	234	235
55-64	0	249	249
65-69	0	48	48
70 and over	0	0	0
Total	326	756	1,082
5. Marital Status			
Single	112	150	262
Married	208	578	786
Widowed	1	7	8
Divorced	2	9	11
Separated	3	12	15
Total	326	756	1,082
6. Education			
None	3	43	46
Elementary — 1 yr. or more but not complete	16	158	174
Elementary completed	69	95	164
High school 1 to 2 years	99	79	178
High school 3 to 5 years	39	25	64
University 1 or more years	5	2	7
Other	3	5	8
Total	234	407	641
7. Were you gainfully employed during layoff?			
Yes	208	67	275
No	26	340	366
Total	234	407	641
8. If "yes" how many weeks were you laid off before you got your first job?			
0- 5	166	52	218
6-10	32	15	47
11-15	4	0	4
16-20	5	0	5
More than 20	1	0	1
Total	208	67	275
9. If "yes" how many different jobs did you have?			
1	121	58	179
2	65	7	72
3	16	2	18
4	6	0	6
5 or more	0	0	0
Total	208	67	275
10. What was Job No. 1?			
11. Was this full- or part-time?			
full-time	198	53	251
part-time	10	14	24
12. Number of weeks on Job No. 1			
1- 5	42	21	63
6-10	36	17	53
11-15	23	21	44
16-20	21	5	26
More than 20	86	3	89
Total	208	67	275
13. How did you get Job No. 1?			
NES	52	25	77
Friend	17	4	21
Newspaper ad	1	2	3
Myself	137	23	160
Other	1	13	14
Total	208	67	275
14. What was Job No. 2?			
15. Was this full- or part-time?			
full-time	83	7	90
part-time	4	2	6
16. Number of weeks on Job No. 2			
1- 5	20	7	27
6-10	14	1	15
11-15	21	1	22
16-20	17	0	17
More than 20	15	0	15
Total	87	9	96

17. How did you get Job No. 2?			
NES	19	3	22
Friend	3	1	4
Newspaper ad	0	0	0
Myself	60	4	64
Other	5	1	6
Total	87	9	96
18. What was Job No. 3?			
19. Was this full- or part-time?			
full-time	21	2	23
part-time	1	0	1
20. Number of weeks on Job No. 3			
1- 5	10	2	12
6-10	5	0	5
11-15	2	0	2
16-20	1	0	1
More than 20	4	0	4
Total	22	2	24
21. How did you get Job No. 3?			
NES	1	0	1
Friend	1	0	1
Newspaper ad	0	0	0
Myself	20	2	22
Other	0	0	0
Total	22	2	24
22. What was Job No. 4?			
23. Was this full- or part-time?			
full-time	6	0	6
part-time	0	0	0
24. Number of weeks on Job No. 4			
1- 5	3	0	3
6-10	1	0	1
11-15	1	0	1
16-20	0	0	0
More than 20	1	0	1
Total	6	0	6
25. How did you get Job No. 4?			
NES	0	0	0
Friend	0	0	0
Newspaper ad	0	0	0
Myself	6	0	6
Other	0	0	0
Total	6	0	6
26. Did your wife go to work during your layoff?			
Yes	25	32	57
No	197	351	548
27. Did any of your children quit school and work as a result of your layoff?			
Yes	1	4	5
No	214	378	592
28. Education and training acquired during layoff			
None	219	393	612
Program 5 education	5	4	9
Program 5 training	1	0	1
Other (please specify)	9	7	16
29. How did you get by during the layoff? Decreased Savings			
Yes	112	220	332
No	122	185	307
30. Borrowed Money			
Yes	33	39	72
No	201	366	567
31. Piled-up Bills			
Yes	71	105	176
No	163	300	463
32. Help from relatives			
Yes	18	25	43
No	216	380	596
33. Moved to cheaper quarters			
Yes	3	11	14
No	231	394	625
34. Other family member got job			
Yes	18	16	34
No	216	389	605
35. Received public assistance			
Yes	3	3	6
No	231	402	633
36. Sold car or other durables			
Yes	6	6	12
No	228	399	627
37. Found a temporary job			
Yes	178	61	239
No	56	346	402
38. Used Unemployment Compensation			
Yes	165	568	733
No	161	188	349
Total	326	756	1,082

39. If "yes" how much weekly?			
less than $30	67	102	169
$30-$40	97	454	551
more than $40	1	12	13
Total	165	568	733
40. If "yes" how many weeks?			
1- 5	73	152	225
6-10	64	112	156
11-15	16	223	239
16-20	20	76	96
More than 20	12	5	17
Total	165	568	733
41. Drew SUB?			
Yes	92	607	699
No	234	149	383
Total	326	756	1,082
42. If "yes" how much weekly?			
$ 0-$27	10	33	43
$28-$35	51	358	409
$36-$45	29	210	239
More than $45	2	6	8
Total	92	607	699
43. If "yes" for how many weeks?			
1- 5	40	140	180
6-10	15	133	148
11-15	11	257	268
16-20	18	72	90
More than 20	8	5	13
Total	92	607	699
44. How many years' seniority do you have?			
less than 1	120	0	120
1 to 2	185	6	191
more than 2 but less than 17	20	57	77
17 or more	1	693	694
Total	326	756	1,082
45. Pay classification at time of layoff ($ per hour)			
less than 2.34	1	2	3
2.34	8	0	8
2.39	4	0	4
2.44	110	203	313
2.49	64	161	225
2.54	108	297	405
2.59	17	59	76
2.64	13	31	44
more than 2.64	1	3	4
Total	326	756	1,082

46. How many weeks were you laid off?			
1- 5	0	1	1
6-10	0	61	61
11-15	0	63	63
16-20	0	272	272
21-25	47	1	48
26-30	185	9	194
More than 30	2	0	2
Total	234	407	641

APPENDIX B-2

Laid off and Did Not Return to Ford—220 Men

1. NAME.....

2. ADDRESS.....

	First Layoff	Second Layoff	Total
3. Do you live in Metropolitan Windsor?			
Yes	120	44	164
No	47	9	56
Total	167	53	220
4. Age			
15-19	2	0	2
20-24	74	0	74
25-34	78	5	83
35-44	12	6	18
45-54	1	9	10
55-64	0	12	12
65-69	0	21	21
70 and over	0	0	0
Total	167	53	220
5. Marital Status			
Single	98	12	110
Married	69	41	110
Widowed	0	0	0
Divorced	0	0	0
Separated	0	0	0
Total	167	53	220

Information not available for items 6 to 37, and 46

38. Used Unemployment Compensation?			
Yes	43	17	60
No	124	36	160
Total	167	53	220
39. If "yes" how much weekly?			
less than $30	22	7	29
$30-$40	21	7	28
more than $40	0	3	3
Total	43	17	60
40. If "yes" how many weeks?			
1- 5	28	7	35
6-10	10	5	15
11-15	2	2	4
16-20	1	2	3
More than 20	2	1	3
Total	43	17	60
41. Drew SUB?			
Yes	21	31	52
No	146	22	168
Total	167	53	220
42. If "yes" how much weekly?			
$ 0-$27	4	9	13
$28-$35	16	13	29
$36-$45	0	8	8
More than $45	1	1	2
Total	21	31	52
43. If "yes" for how many weeks?			
1- 5	14	8	22
6-10	4	7	11
11-15	2	8	10
16-20	1	5	6
More than 20	0	3	3
Total	21	31	52
44. How many years' seniority do you have?			
less than 1	101	0	101
1 to 2	63	0	63
more than 2 but less than 17	3	8	11
17 or more	0	45	45
Total	167	53	220
45. Pay classification at time of layoff ($ per hour)			
less than 2.34	0	4	4
2.34	43	0	43
2.39	13	1	14
2.44	47	25	72
2.49	20	8	28
2.54	40	13	53
2.59	2	0	2
2.64	2	2	4
more than 2.64	0	0	0
Total	167	53	220

APPENDIX C

Unemployment Compensation

UNEMPLOYMENT COMPENSATION (UC) is an insurance program operated by the Federal Government under the Unemployment Insurance Act of 1955, as amended. The plan is contributory (employees and employers contribute equally to the insurance fund and government contributes 20% of cost); the contributions by workers range from a low of 10c per week (for employees making up to $8.99 per week) to a high of 94c per week for employees making $69.00 per week or more. Thus, all Ford employees with whom we are concerned are contributing 94c, since their lowest hourly rate is over $2 per hour.

Such contributions entitle a worker, if he becomes unemployed, to draw benefits of $27 per week (if single) and $36 per week (if married), provided he meets certain length-of-service requirements. A number of employees — particularly in the first layoff — may have received weekly benefits somewhat lower than the above. The amount of benefit is based on the average rate of a worker's most recent 30 contribution weeks in the last 104 weeks. Thus, those who had just recently joined Ford, and some of those whose contributions were predicated on rates of pay below $69.00 per week (as may have been earned on another job), would not receive the maximum benefits as outlined above.

APPENDIX D

Supplemental Unemployment Benefits

SUPPLEMENTAL UNEMPLOYMENT BENEFITS (SUB) are payments made to laid-off workers in addition to those they receive by way of Unemployment Compensation. While the latter is government operated, the former arise out of contractual agreements between company and union.

In the case of Ford of Canada, the company puts into a Supplemental Unemployment Benefit Fund 5c for each hour worked by hourly-rated personnel. When unemployed, workers draw from this fund, on a weekly basis, enough to pay them (together with Unemployment Compensation) 62% of their straight-time weekly wages for a period not to exceed 52 weeks. In addition, they are paid $1.50 per week for each dependent, up to a maximum of four. The so-called "regular benefits" from SUB may not exceed $50 per week (plus the dependency allowance).[1]

Eligibility rules include the requirements that the laid-off worker:

1. Has at least one year of seniority with Ford.
2. Be eligible for UC (with limited exceptions) and registered with NES.
3. Be not laid off for disciplinary reasons.

The fund is administered by an independent trustee. Company liability under the agreement is limited to monies contained in the fund, plus the obligation to continue contributions at the agreed-upon rate for each hour an hourly-rated employee works.

[1] There are other benefits for short work weeks. and there are lump-sum separation payments, We are not concerned with these in this Report.

APPENDIX E

Transitional Assistance Benefits

TAB IS THE common abbreviation for Transitional Assistance Benefits, a Federal Government program which provides financial assistance for workers in automotive and automotive parts industries, who are laid off as a result of the Canada-United States Automotive Trade Agreement. Benefits for the workers we are concerned with here, would be not less than 62% of their weekly wage plus $1.50 per week for each dependent, up to a maximum of four. The following eligibility requirements apply:

(a) a worker must have had no less than 30 weeks employment in the last 52 weeks in the industry, and

(b) must be qualified to receive Unemployment Compensation, and

(c) layoff must have been due to the Automotive Trade Agreement . . . which was the case with the personnel here considered.

Benefit duration is predicated on length of employment in the industry. Those with 30 weeks of service receive four weeks' benefit, with an extra week of benefit for each week worked over 30. Maximum allowable weeks of benefit is 52 (78 in the case of trainees).

TAB is a *supplement* to UC, not a substitute. Since TAB benefits reduce the contributions automotive companies are required to make under SUB agreements, the Federal Government "requested" that these companies (among them Ford of Canada) contribute to the TAB fund monies equivalent to the SUB benefits they would have paid, otherwise no TAB benefits would be available to employees of such companies. (The SUB equivalency contribution requirement does not apply to companies who have no SUB plan — their workers are eligible for TAB provided they meet the other requirements of the plan). Ford of Canada, a company which has an SUB plan, chose not to contribute to TAB.

APPENDIX F

Last Referral by NES for Employees Not Returning

First Layoff:

No. of Men	Company Referred To	Type of Work
12	Chrysler	labourer
7	Dominion Forge	"
6	H. J. Heinz	"
5	Walker Metal	"
4	Hiram Walkers	"
2	Kelsey Wheel	"
1	C & D Sugar	"
1	Canadian Rock Salt	"
1	Fleetwood Metal	"
1	Marentette Bros.	"
1	Sartori Construction	"
1	Standard Foundry	"
1	Windsor Steel Fabricators	"
1	Bannon Sheet Metal	sheet metal worker
1	Bendix Eclipse	Clerk
1	Fabio Construction	welder
1	Roy & Herbert	painter
1	Windsor Fish Co.	truck driver
1	Windsor Medical	clerk
49		

Second Layoff

No. of Men	Company Referred To	Type of Work
6	Chrysler	labourer
3	H. J. Heinz	"
1	Canadian Bridge	"
1	Green Giant	"
1	Kelsey Wheel	"
1	Marentette Bros.	"
1	Auto Specialty Mfg.	millwright
1	Dominion Forge	casting inspector
1	Western Freight	truck driver
1	Windsor Auto Shippers	"
17		

VT 003 273
Evaluation of Your Cooperative Distributive Education Program. Bulletin No. 1070.

Louisiana State Dept. of Education, Baton Rouge. Distributive Education Section
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 66 24p.

*DISTRIBUTIVE EDUCATION; *PROGRAM EVALUATION; EVALUATION METHODS; EDUCATIONAL FACILITIES; CURRICULUM; PROGRAM COORDINATION; PROGRAM ADMINISTRATION; *COOPERATIVE EDUCATION; *SELF EVALUATION

The purpose of this document is to provide the distributive education personnel and local school administrators with a self-evaluation instrument. Fundamentals conducive to sound training in distributive education are listed in statement form for each area to be evaluated; (1) basic concepts, (2) physical facilities, (3) library, (4) selection and placement of students, (5) cooperative training stations, (6) coordination, (7) use of records, (8) instruction, (9) adult education, (10) professional attitudes, and (11) public relations. (MM)

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STATE DEPARTMENT OF EDUCATION

OF LOUISIANA

1966

Bulletin No. 1070

EVALUATION OF YOUR COOPERATIVE DISTRIBUTIVE EDUCATION PROGRAM

Issued by

STATE DEPARTMENT OF PUBLIC EDUCATION
William J. Dodd, Superintendent

VT003273

STATE DEPARTMENT OF EDUCATION

OF LOUISIANA

1966

Bulletin No. 1070

EVALUATION OF YOUR COOPERATIVE DISTRIBUTIVE EDUCATION PROGRAM

Prepared by

Distributive Education Section
Division of Vocational Education

Issued by

STATE DEPARTMENT OF PUBLIC EDUCATION
William J. Dodd, Superintendent

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

Louisiana State Department of Education
Distributive Education Section
Baton Rouge, Louisiana

City _____ Date _____

School _____ Coordinator _____

Evaluation of Your Cooperative Part-Time D. E. Program

Standards which are essential to the successful conduct of a sound program of training for boys and girls who seek careers in the distributive occupations have been recognized and established. School administrators are aware of the values of unbiased evaluations as a means of maintaining standards and increasing effectiveness of the school's program.

This material has been developed to present to school administrators and distributive education personnel a few of the fundamentals conducive to sound training. Acknowledgment is made of similar material prepared by the Distributive Education Service of the Texas Education Agency, and the Southern Regional Conference for Distributive Education from which this material was prepared. The sole purpose of this evaluative device is to assist in improving your program.

BASIC CONCEPTS

1. Age of Students: In order to assure that the more mature students benefit from the distributive education program, and to meet all legal requirements, all beginning students applying for admittance into the program must be at least 16 years of age.

2. Preference for Junior Students: The coordinator should make a conscious effort to prefer junior students. This effort recognizes that two years of training is necessary to give students a thorough grounding in the principles of distribution. Also, the two-year program insures sufficient individual and on-the-job training to give students well-rounded training.

   Number of Junior Students _____ Number of Second-Year Distributive Education Students . . . . _____

   Number of Senior Students _____

   Comments:

3. Working Hours of Students: The coordinator should know the total number of hours worked by each student. Each student must work a minimum of 15 hours per week to justify the practical training requirement. At the same time, a student working more than a total of 30 hours per week might suffer both physically and scholastically.

4. Distributive Occupations: In order to assure students of a sound instructional program built around a teachable area of information, placement of students should be confined exclusively to phases of retail, wholesale and service-selling businesses which are distributive in nature. These jobs should offer ample opportunity for training to fit for useful employment and advancement after graduation.

Basic Concepts (continued)

5. Enrollment and Attendance: All students should be regularly enrolled in school, and when absent, either from school or job, the coordinator should follow up to see that the absence is justified and that the training sponsor has been informed by the student of the reason for the absence. Employers should agree that unexcused absences from school will be cause for termination of on-the-job training.

6. Teacher Load: Time should be provided for the coordinator to do a thorough job of preparing individual lesson projects for students, and to permit close coordination between the student's work and school activities. Additional non-teaching duties assigned to the coordinator should promote the overall welfare of the program and not be detrimental to its development. Also, the size of the distributive education program should be limited sufficiently to provide adequate time for individual instruction.

Morning schedule:

Afternoon schedule:

Extra-curricular assignments:

Comments:

PHYSICAL FACILITIES

1. The Classroom: The distributive education classroom should be in a desirable location. Because of the emphasis placed upon research and written projects, particular attention should be given to proper lighting. The room should be neatly arranged, and should present a clean and orderly appearance at all times.

2. Furniture, Fixtures, and Equipment: In order to do an efficient training job the coordinator should have the necessary tools with which to work. Listed below are basic items which have come to be regarded as standard:

Item	Yes	No
Tables and chairs are provided in order to give students ample work room for projects	_____	_____
Room has adequate blackboard space. . . .	_____	_____
Room has adequate bulletin board space. .	_____	_____
Room is equipped with book shelving for library	_____	_____
There is an adequate filing case or cabinet for teacher use and for student use	_____	_____
Storage space has been provided for supplies	_____	_____
Coordinator has access to a typewriter and to a duplicating machine	_____	_____
Coordinator has access to projection equipment suitable for showing training films to students	_____	_____
A wrapping counter and cash register are available for teaching students basic fundamentals of cashiering and wrapping	_____	_____
A model store unit is being used in the classroom to enable the coordinator to teach through demonstrations	_____	_____

3. Supplies: Materials such as wrapping paper, twine, salesbooks. and actual or dummy merchandise are invaluable to the successful training of distributive education students and should be used by the coordinator in classroom instruction.

   Comments:

   Miscellaneous supplies such as stationery, stamps, stencils, and other stationer's items should be available to the coordinator in order that he may continually contact manufacturers, trade associations, and other sources of up-to-date training material and literature.

   Comments:

LIBRARY

1. General Reference Books: The well-rounded distributive education library should have a minimum of twelve books of a general nature on merchandising, retailing, store system, and other fundamentals of distribution. The books should be located in the distributive education classroom, and should be frequently used both by the coordinator and students. General reference books may be purchased through the general school library and charged out to the distributive classroom. Such books will have value in other subjects in the school.

2. Books for Specific Occupations: In order to make distributive education training as specific and valuable as possible, the coordinator should requisition books for each occupation represented in the class. After the program has been in operation for two or three years, all of the major occupational areas should be represented in the library, making it possible for the coordinator to add new books and other instructional materials of a specific nature as they are needed.

3. Trade Journals: Students should have access to basic trade journals as a means of keeping themselves informed about new developments and trends within their particular occupation. These journals should be available in the distributive education classroom. Many publications of value may be secured without cost from local cooperating firms.

4. Pamphlets: Manufacturers' Literature: Current materials obtained from manufacturers, producers, and various association groups should be on file for use by students studying their various occupations. This type of material should be kept up to date, and should be organized for handy reference and easy use.

5. Inventory Bibliography: The teacher-coordinator should maintain an up-to-date inventory of the library and should also maintain a current file of bibliographical material and sources for reference.

6. Exchange of Materials: The coordinator should develop a cooperative inter-change of materials between the school and business. Training sponsors should loan or give the coordinator specific materials which come to their attention, and the coordinator should make available to sponsors, on a loan basis, good material which comes to his attention.

7. Visual and Audio Aids: The instructional program should be supplemented by the use of charts, posters, bulletin board materials, films, recording machines, and other visual and audio aids available through school and business sources.

8. Departmental Manuals: Specific individual workbooks for students have been prepared as an aid to distributive education coordinators. These workbooks are available in separate occupational fields, such as: Hardware and Housewares; Men's Wear; Receiving-Checking and Marking, and Merchandise Display. The coordinator should have as a part of the D. E. library those workbooks which pertain to occupations in which his students train.

SELECTION AND PLACEMENT OF STUDENTS

1. Guidance of Students: Distributive Education is a program designed for students who want, need, and can use the training given in retail, wholesale, and service jobs. Students whose interests lie in other fields should be guided into other school activities. In this respect, it is regarded as wise to make a number of the following contacts concerning each individual:

	Yes	No
Check with guidance counselors	_____	_____
Investigate student's grades in other subjects	_____	_____
Talk with other teachers about interests	_____	_____
Check with any former employers	_____	_____

Comments:

2. Individual Interview: There is much to be said for recommending personal interviews between the teacher and prospective applicants. Preferably this interview should stem from some sort of application blank which the student fills out, and from which other questions may be asked by the teacher. It is desirable that parents should be invited to accompany students to the interview and in every case should participate in the final decision reached concerning enrollment and placement.

3. Placement on Appropriate Jobs: As a general rule, distributive education students receive better training and show more interest in the program when the coordinator is responsible for finding the training station and placing the student in the proper job. When the program is made up of students who already have jobs, there is generally a tendency for the program to be regarded as a "work" program and not as a training program.

   What percentage of students enrolled were already working when they applied for admission to the program . . . . . _____

Selection and Placement (continued)

Was program explained to employers of these students before they were admitted to the program? . . . . . _____

Were these training stations thoroughly approved by coordinator before student was accepted into program? . . . . . _____

What percentage of students, after enrollment, found their own jobs without help of teacher-coordinator? . . . . _____

What percentage of students did coordinator place? . . . . . _____

Comments:

4. Technique of Placement: Stated below are some principles which have contributed to sound placement:

Some system of giving the student training in "how to apply for a job" and in grooming principles should be developed and used by the coordinator before referring any student for placement.

Applying for a job is recognized as a training experience, and it is desirable for students to be directed to apply to several employers upon entering the program.

Generally, it is best for the student to go alone when applying for the job, perhaps carrying a note from the coordinator or some type of introduction card.

The coordinator should assume responsibility for arranging interview date with the employer and for following up on results of interviews. Preferably, the coordinator should be the one to inform students that they have been chosen for a job.

COOPERATIVE TRAINING STATIONS

1. Emphasis on Training: The interest of the student should be protected by careful placement within the distributive field. The jobs are training jobs, and employers should realize that they have a responsibility for training. Employers should see that students receive adequate instruction in each phase of work to which they are assigned.

2. Desirability of Occupations: All cooperating training stations should be reputable business firms. The jobs on which students receive training should lead to desirable careers and should not be "dead end" jobs which do not provide opportunity for the student to make an adequate living after graduation.

3. Use of Training Memorandums: Cooperating businessmen should be familiar with the objectives of distributive education training. As one means of assuring logical and well-rounded training of maximum benefit to both employers and students, employers should aid in the completion of training memorandums, and the coordinator should see that each businessman has a signed and approved copy of a training memorandum for each student working for him.

4. Wages Paid Trainees: The distributive education student should receive fair compensation for the work which he does. There should be no exploitation of any distributive education student; and the businessman and coordinator should work out some plan whereby the wages paid provide the student an incentive to apply himself in the training program and to work for advancement.

5. Continuity of Employment: In order for training objectives to be attained, the cooperating sponsors should agree to employ the trainees throughout the school year. Distributive education students should be regarded as valuable, regular employees in a training status, and not as part-time extras subject to seasonal layoff.

6. Rating and Review: Store managers and training sponsors should cooperate closely with the coordinator in pointing out training in school needed by the students and should assist in placing a periodic evaluation upon the progress and achievement of student trainees in the on-the-job phase of the training program.

7. Ability and Interest of Student: Students should be placed in training stations which offer a challenge to their abilities and interests. The sponsors should provide guidance and on-the-job training which will result in the student's being capable in the work for which he is being trained.

8. Balanced Training Program: The coordinator should strive to place students on jobs throughout various types of distributive businesses in order to avoid too many students in a restricted number of occupations or in a few firms.

9. Training Sponsors: The cooperating firm should designate a competent person to sponsor the training of each student and to direct his work for maximum training values. The coordinator should work with each sponsor to insure his understanding of his responsibility as sponsor and as to best current practices in training.

COORDINATION

1. Frequency of Coordination: In order to keep close check on the students' progress, and in order to determine their training needs, the coordinator should make one contact per week, as an average, with training sponsors who supervise the students' daily performance on the job.

2. Purposeful Coordination: Coordination contacts should always be purposeful. Such objectives as determining training needed by students, informing employers regarding program purposes, securing instructional materials, showing sponsors the results of student work, arranging rotation to other training activities, learning of the employer's opinion regarding proper job grade for students, plus other objectives, should always be evident to the coordinator and employer.

3. Planning Training: The coordinator should work with employers and training sponsors to the end that the student follows a planned training program. There should be evidence that job analyses, student progress charts, daily coordination records, and other media for accomplishing sound training are being effectively used.

4. Levels of Coordination: The coordinator should recognize the importance of working closely with the student's immediate superior in order to learn of the daily needs of the trainee and of his performance. At the same time, the coordinator should not lose sight of need for occasional contacts with top management since it is necessary to establish and maintain policies which call for student rotation, pay increases, and similar matters which can only be determined by top management.

5. Use of Information: The coordinator should incorporate into the school training such activities and information as may be needed to improve and correct practices which are discovered through coordination contacts.

6. Work with Parents: The coordinator should contact the parents of the students in order to secure a better understanding of the background and needs of the student learner.

7. Development of New Training Stations: The coordinator should follow a definite plan for educating managers of distributive businesses (not cooperating with the program) as to the objectives and benefits of distributive education. Managers of cooperating firms, as well as those who may cooperate in the future need to be reminded of the purposes of the training program.

8. Follow-Up: The coordinator should make follow-up studies of students who have graduated from the program in order to see how the program is serving graduates and in order to improve the efficiency of training offered in distributive education classes.

USE OF RECORDS

1. Daily Coordination Itinerary: For the purpose of keeping the principal or superintendent informed, and in order that telephone calls from store managers might be completed, the coordinator should make a practice of filing with the proper administrator an itinerary of proposed coordination contacts each day.

2. Daily Coordination Record: The coordinator should maintain a record of results of daily coordination contacts in order to: (1) plan future contacts, (2) help keep all coordination objective, (3) keep administration informed as to the purpose and accomplishments of coordination work.

3. Training Memorandums: Training memorandums, signed by student, parent, employer, and coordinator should be completed in order to: (1) protect the school and employer with a statement signed by parents indicating a knowledge that the student is working in a position acceptable to them, (2) indicate that the sponsor has had a thorough explanation of the program and understands his responsibilities, (3) justify the training to be given as worthy of school credit, and (4) insure well planned, objective training which results in obvious improvement in employee efficiency.

4. Permanent Records: The coordinator should have a permanent record on each student, recording grades, job performance, and other pertinent data in order to provide a sound basis for answering letters of inquiry and reference, and in order to provide records for coordinators who might at some future date be responsible for the program.

5. Individual Progress Record: The coordinator should have a progress record on each student, indicating the beginning jobs on which training is required and projecting future training which will be given each student during ensuing months ahead. Such a system is necessary to keep employer, student, and coordinator aware of achievement and progress to be made. The coordinator and employer should work cooperatively in the development of this record; and it should always be six weeks or two months "ahead" of the student's present training needs.

Use of Records (continued)

6. Planning Calendar: The coordinator should follow a calendar of activities planned at the beginning of the year, including amount of time scheduled for various topics of instruction, scheduling of special class activities, and other items making for a balanced program of instruction.

7. Student Daily Report: The coordinator should require each student to fill out daily a report on his activities on-the-job for the previous day, the hours worked, and amount of sales if in a selling capacity. This report should be summarized weekly and include total earnings. Students who are in sales work should compute their selling cost each week.

INSTRUCTION

1. Course of Study: Distributive Education coordinators, working cooperatively, developed and approved suggested study guides for the first and second year students. These study guides are not designed to be complete lesson plans, but are suggestive of content, and establish a pattern which results in a logical presentation of content to the student. The guides, listed below, should serve as the pattern for group discussions; and the year's time should be budgeted to permit the coordinator to teach the basic essentials in each area.

UNIT OF INSTRUCTION - 1ST YEAR

1. ORIENTATION
   a. My Store and My Job
2. PERSONALITY DEVELOPMENT AND HUMAN RELATIONS
3. THE SELLING PROCESS
4. FUNDAMENTALS OF ADVERTISING AND DISPLAY
5. STORE ORGANIZATION AND OPERATION
6. SHRINKAGE AND STOCK CONTROL

UNIT OF INSTRUCTION - 2ND YEAR

1. DEVELOPMENT OF RETAIL STORES
2. THE SELLING PROCESS
3. ECONOMICS OF DISTRIBUTION
4. MERCHANDISING AND STOCK CONTROL
5. SALES PROMOTION THROUGH ADVERTISING AND DISPLAY
6. RETAIL CREDIT AND COLLECTIONS
7. CAREERS IN DISTRIBUTION

Instruction (continued)

Comments:

2. Use of Lesson Plans: Distributive education coordinators should use lesson plans. The lesson plans should be written. They should be prepared well in advance of need. The plans should be filed, available for review, and re-worked each year to strengthen weak areas and to delete material which has become out-dated.

3. Individualized Instruction: One of the most fundamental vocational education concepts is that approximately one-half of the time in the classroom should be spent by the individual student in well-directed and well-organized study of his specific occupation -- in the study of the job which he is actually performing. This process gives the student a sense of accomplishment; it forms habits of study which will help the student to advance in future jobs; it is likely to result in visible evidence to the employer and student supporting the value of distributive education training.

4. Pertinence of Instruction: The coordinator should teach in terms of everyday, practical situations which apply to the local business community. The individual assignments given to students should likewise apply to their everyday needs and to the requirements of the job on which they work.

5. Instruction on the Job: The coordinator should work with training sponsors in order that they will understand their responsibility for giving the student supervised instruction on the job. Sponsors should also have a general knowledge of the student's school program in distributive education. Also, when the opportunity presents itself, the coordinator, with management's consent, should give the student training on the job.

Instruction (continued)

6. Use of Job Analysis: Individualized instruction should be based on analysis of the individual job. The compilation of such analyses is an outgrowth of the coordination activities, and the analyses should be incorporated into the individual assignments and projects given to the students.

7. Use of Departmental Manuals and Other Prepared Materials: Many manufacturers, trade associations, and book publishers furnish teaching materials which apply to specific jobs. The cooordinator should make the problems presented in these materials realistic in the light of local business conditions and job needs of the student.

8. Student Notebooks: Students should be encouraged to develop notebooks containing a complete record of their achievements in pursuing individualized work. These notebooks should reflect study and application on the part of the student, and students should take pride in them. These notebooks should also be shown to employers and training sponsors, both as a means of informing the employer regarding the student's work, and as a means of encouraging the student to do better work.

9. Methods of Instruction: The distributive education teacher should take advantage of the nature of the subject matter presented in distributive education and carefully choose the most effective method of presentation. Lectures should be kept at a minimum. Demonstrations, group conferences, discussion, guest speakers, and audio-visual presentations should receive especial emphasis.

10. Classroom Management: There should be evidence that the teacher follows a systematic, well-organized pattern of class leadership. Individual work assignments should be handled in a businesslike manner, and there should be a good working relationship between the students and the teacher.

11. Development of Instructional Materials: Because of the specific, individual nature of effective distributive education teaching, the teacher should have an interest in securing, adapting, and developing instructional materials. Evidences of this interest should show that the teacher is making a conscientious effort to teach the student information, skills, and attitudes which apply to the specific job which he holds.

12. Evaluation of Instruction: The teacher and training sponsor should make periodic evaluations of the ability of the student to apply the things which he has learned. Insofar as possible, this evaluation should be based on standards of achievement recognized as acceptable in business.

ADULT EDUCATION

1. Alertness to Needs for Adult Courses: The coordinator should feel a responsibility for bringing sound retail training to employed adults and managers of distributive businesses. He should constantly be alert to the needs in this area and should, when possible, originate requests for extension teachers or seek out local instructors in order that the need for adult training might be met.

2. Classes Taught by Local Instructors: In order to be helpful to retailers in solving basic personnel problems, the coordinator should organize and teach some basic adult courses. These courses might be conducted either by the coordinator himself or by some person respected locally for his knowledge and ability. Such courses as "Sales Training for Christmas Extras," "Gift Wrapping," and similar basic courses are of real service to the business community.

3. Sponsorship of Adult Training Courses: The coordinator of distributive education should sponsor and participate in the organization of extension courses offered to the adult employees and managers of distributive businesses. Such sponsorship is a means of extending the vocational service offered by the public school and results in an increased respect for the coordinator.

PROFESSIONAL ATTITUDES

1. Membership in Professional Organizations: The coordinator should be interested in the professional aspects of teaching and should be a member of professional organizations which serve teachers. The coordinator should affiliate himself with business organizations related to his program whenever it is possible for him to do so.

2. Cooperation with School-Wide Professional Growth Activities: The distributive education coordinator should attend all faculty meetings and avail himself of all in-service improvement programs established by his school system for teacher-betterment.

3. Handling of Mail and Telephone Calls: The coordinator should promptly answer all incoming correspondence or other messages which require an answer. He should also be particularly careful to reply promptly to all telephone messages.

4. Professional Improvement: The teacher should have a spirit of willing cooperation in the matter of attending statewide teacher training conferences and other meetings which are designed for the benefit of teachers. He should believe in the value of renewing his occupational experience and should take advantage of every opportunity to add to his occupational knowledge by returning to work in some distributive occupation.

5. Developmental Work: The coordinator should be interested in instructional material development, and should be actively engaged in upgrading the quality of instructional material which he is using. In addition, he should make contributions to professional magazines, trade magazines, or other publications of interest to co-workers.

PUBLIC RELATIONS

1. Advisory Committee: The school administration should appoint a distributive education advisory committee, composed of both businessmen and educators, to advise with the distributive education coordinator concerning the program. Meetings of this committee should follow a prepared agenda. Members of the committee should be very interested in the distributive education program. The committee should help with sponsorship of adult education classes, as well as high school classes.

2. Administration: The coordinator should follow proper administrative channels in all that he does. In addition, the coordinator should invite administrators to participate occasionally in classroom and coordination activities. He should file with his principal or superintendent an itinerary of his daily coordination calls and should keep the administration fully informed on pertinent details concerning the program.

3. Faculty Members: The distributive education coordinator should work closely with other faculty members, and other faculty members should have a cooperative attitude toward the distributive education program. In recognition of the fact that he is a faculty member, the teacher coordinator should willingly accept those extra-curricular assignments which might be given to him, and which are shared equally by all members of the faculty.

4. Businessmen: In carrying out his coordination activities, the coordinator should impress businessmen with his willingness, and the willingness of his school, to be of service to the community. He should follow all proper rules of good business in working with businessmen to the end that he is respected by them as being an effective person.

5. Publicity: The distributive education program should be publicized through a well-balanced program, involving the various publicity media available in the community. The publicity should be well planned, and should function throughout the school year.

Public Relations (continued)

6. Participation of Businessmen: The coordinator should make every effort to involve businessmen in the program by inviting them to help with classroom instruction, by securing instructional material from them, by loaning instructional material to businessmen, and by having them take an active part in all activities of the program.

7. Total School Program: The coordinator should make every effort to acquaint all people with the real values and offerings of the total public school program. Factual evidence of progress of the public schools should be presented to combat attempts to limit the effectiveness of American free public education by elements working against the American way of life.

VT 003 283
Whitewater Vocational School Training Survey.

Indiana Employment Security Div., Indianapolis. Research and Statistics
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jan66 60p.

*OCCUPATIONAL SURVEYS; *EMPLOYMENT OPPORTUNITIES; LABOR FORCE; EMPLOYER ATTITUDES; *EMPLOYMENT QUALIFICATIONS; EMPLOYMENT STATISTICS; EMPLOYMENT TRENDS; *HIGH SCHOOL GRADUATES; EDUCATIONAL NEEDS; OCCUPATIONAL INFORMATION; JOB SKILLS; OCCUPATIONAL CLUSTERS; *VOCATIONAL EDUCATION; ON THE JOB TRAINING; YOUTH EMPLOYMENT
CONNERSVILLE, INDIANA

A survey of employers determined the skills and knowledge needed by vocational or high school graduates to qualify for jobs suitable for inexperienced youth. The results were to be used by school officials in establishing a curriculum for a proposed area vocational training center. Employers listed a total of more than 100 different types of skills, knowledge, or personal attributes required for qualifying youth in the various suitable entry jobs. Growth was predicted in most of the occupations for which youth could be trained. Adjustment of vocational facilities was strongly indicated to meet the increasing employer needs for skills associated with the jobs in the machine trades, crafts, and manual work occupations. In addition, training in the closely allied skills of welding, sheet metal, shop mathematics, blueprint reading, and the use of precision instruments appeared appropriate. The heaviest concentrations of jobs suitable for youth were in occupations in the manufacturing processes while a significant number were in white collar and service occupations in nonmanfacturing industries. Since many jobs involved multiple skills, it is important to study the skill needs along with the job needs in order to relate the two. Details of the methodology and tables of jobs and requirements are included in the appendix. (HC)

VT 003 283

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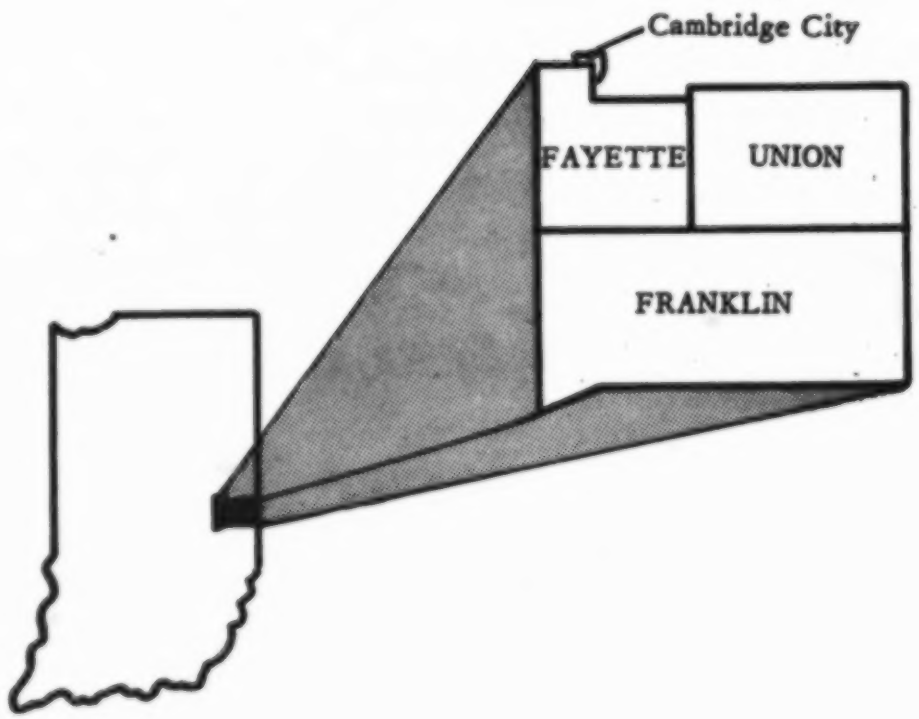
58p.

WHITEWATER VOCATIONAL SCHOOL TRAINING SURVEY



THE YOUTH-SUITABLE JOBS
AND
THE SKILL REQUIREMENTS

VT003283

STATE OF INDIANA
ROGER D. BRANIGIN, GOVERNOR
Indiana Employment Security Division
Lewis F. Nicolini, Director

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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WHITEWATER VOCATIONAL SCHOOL

TRAINING SURVEY

INDIANA EMPLOYMENT SECURITY DIVISION
Research and Statistics
10 North Senate Avenue
Indianapolis, Indiana 46204

January 1966

PREFACE

The Whitewater Vocational School Training Survey was initiated by Superintendent of Schools, John M. Hougland of the Fayette County School Corporation and was conducted by the Connersville local office and the Research and Statistics Section of the Indiana Employment Security Division. Its purpose was to determine what skills and knowledge would be needed by vocational or high school graduates to qualify for jobs suitable for inexperienced youth. The results of the survey of employer needs in Fayette, Franklin and Union Counties and Cambridge City (Wayne County) will be used by school officials as a guide in establishing curriculum for a proposed area vocational training center.

Improving the employability of young high school graduates by providing suitable vocational training facilities is vital, especially at this time when the number of youth entering the labor force is increasing and unemployment among youth is at a high level. The training of young entrants to the labor force to meet the hiring needs of employers is of essential concern to business establishments whose growth potential can be realized through the availability of a labor supply trained in specific skills to meet their demands.

The cooperation of those employers who took time from busy schedules to complete the survey forms is greatly appreciated. A number of them expressed enthusiasm for an area vocational school and contributed positive suggestions in support of this project as proposed for the Connersville area. It is heartening to note the cooperation between the school system and the area's business community; their awareness of interdependence and the need for planning should prove to be of great value to the entire community.

The members of the Connersville Chamber of Commerce and the local school system officials, John M. Hougland and Robert Hoffman, should be commended for their efforts in support of the survey.

Under the provisions of the Vocational Education Act of 1963, the identification and reporting of area training needs to the Vocational Education Department is the responsibility of the Indiana Employment Security Division. The following study was made to meet this responsibility.

SUMMARY

In the Connersville area's growing industrial economy, there will definitely be entry jobs for qualified young people. Growth was predicted in most of the occupations for which youth could be trained. An adaptive educational system geared to prepare a labor force to match the requirements of a wide variety of available jobs is clearly indicated with recognition that this can benefit the prosperity level of the entire community. Close communication between business and schools should be maintained to provide a continuous exchange of career information.

Surveyed area employers estimate that by 1967 their expanding needs will provide 1,182 additional job openings in occupations for which inexperienced youth could qualify. The number of jobs which youth could fill will increase further by 1970. Many of the jobs require multiple skills. Employers listed a total of more than 100 different types of skills, knowledge or personal attributes required for qualifying youth in the various suitable entry jobs.

Adjustment of vocational facilities designed to meet the increasing employer needs for skills associated with the jobs in the machine trades, crafts and manual work occupations are strongly indicated. (The bulk of the jobs in the manual work group are for production workers, including semiskilled machine operators, and involving some manipulative skills). Jobs listed by employers as most numerous involve skills in metal-machine operating (including set-up), machine shop, blueprint reading, and the use of precision instruments. In addition, training in closely allied skills such as welding shop, sheet metal work shop and shop mathematics would appear appropriate.

Although the heaviest concentration of jobs suitable for youth, currently and in the future periods covered by the survey, were reported in occupations in the manufacturing process; a significant number of jobs in white collar and service occupations in nonmanufacturing industries were reported as suitable for youth. The data presented in the tables in the Appendix adhere solely to that gathered from the employer survey forms. Since nonmanufacturing firms are more numerous and usually smaller than manufacturing firms, needs are more widely scattered, more varied in skill requirements and more difficult to assess. The current and future jobs in the trade and service industry divisions, particularly, are understated in this report because of this diffusion of employment and the survey coverage. Therefore, we recommend that when referring to survey data by industry group, Table II, the added and replacement needs in the wholesale and retail trade industry be approximately doubled and those for the service industry be multiplied by ten. Such occupational skills as clerical and related, salesmanship and customer service, cooking, and food service are prevalent in these industry groups. The additional numbers shown as needed in the future and replacement needs listed in the survey for these types of workers should be considered as minimum needs.

Table A and Table B in the Appendix present detailed listings of the suitable jobs and skill requirements. Since many of the jobs involve multiple skills, it is important to study the skill needs along with the job needs in order to relate the two.

EMPLOYER NEEDS

BY OCCUPATIONAL GROUP

Results from the 160 responding firms in the surveyed area indicate that of the current total of 7,742 people working in these companies, 4,575 are employed in positions for which the employer would hire inexperienced youth, assuming the jobs were open.

TABLE I

CURRENT EMPLOYMENT AND ANTICIPATED NEEDS IN JOBS SUITABLE FOR YOUTH, BY OCCUPATIONAL GROUP

OCCUPATIONAL GROUP	CURRENT EMPLOYMENT	ANTICIPATED ADDITIONS 1965-1967	ANTICIPATED ADDITIONS 1967-1970	REPLACEMENT NEEDS FOR NEXT YEAR
Professional, Technical & Managerial	54	36	11	15
Clerical and Related	574	100	102	105
Public Contact Work	241	39	48	44
Service Work	199	24	21	27
Machine Trades	1,014	188	235	200
Crafts	463	116	121	107
Manual Work	2,030	679	796	312
TOTAL	4,575	1,182	1,334	810

Area employers estimate that two years hence, in 1967, their expanding needs will provide 1,182 additional job openings in occupations for which inexperienced youth could qualify; and from 1967 to 1970 the continuing increase in activity is expected to generate an added 1,334 jobs. Thus, expanding business needs are expected to add a total of 2,516 jobs by 1970 in occupations in which youth would be considered. Replacement expectations for next year will provide an additional 810 openings.

It should be noted that of the 4,575 jobs that employers consider suitable for youth, about three-quarters are in what is usually termed the blue-collar jobs--the machine trades, the crafts, and manual work. Of the two-year expansion needs, more than 83 per cent are estimated for the same three groups; and for the 1967-1970 period, better than 86 per cent fall in the same categories. Of the replacements estimated for next year, 76 per cent are anticipated in these groups.

Data in this study are based entirely on surveyed firms. No allowance was made for jobs or skill requirements in firms outside the survey coverage.

One-year replacement requirements reported were not expanded to cover a longer period of time. Caution should be used in projecting long-term replacement needs on the basis of employers' expressed estimates for next year, though some allowance should be made for replacement needs in subsequent years.

BY INDUSTRY GROUP

Manufacturing industries, particularly those in the durable goods segment of the Connersville area economy, offer the most employment opportunities for inexperienced youth. Of the jobs currently occupied by the 7,742 people in the responding firms, 4,575 were considered suitable for youth by the employer. Just under 80 per cent of these youth-oriented jobs were in manufacturing, with durable goods industries accounting for 3,509 openings, and nondurable goods manufacturing making up the remainder of 139.

Nonmanufacturing industry employers reported 927 youth-suitable jobs, with more than half concentrated in wholesale and retail trade establishments.

TABLE II

EMPLOYMENT IN OCCUPATIONS SUITABLE FOR YOUTH,
BY INDUSTRY GROUP

INDUSTRY GROUP	EMPLOYMENT IN JOBS SUITABLE FOR YOUTH			
	CURRENTLY EMPLOYED IN THESE OCCUPATIONS	ADDED NEEDS 1965-67	ADDED NEEDS 1967-70	REPLACEMENT NEEDS 1966
MANUFACTURING				
DURABLE GOODS	3,509	958	1,103	582
NONDURABLE GOODS	139	39	55	16
TOTAL	3,648	997	1,158	598
NONMANUFACTURING				
MINING & CONSTRUCTION	65	17	7	21
COMMUNICATIONS & PUBLIC UTILITIES	74	14	18	12
WHOLESALE & RETAIL TRADE	495	116	98	138
FINANCE, INSURANCE & REAL ESTATE	89	11	17	19
SERVICES	22	3	6	3
GOVERNMENT	182	24	30	19
TOTAL	927	185	176	212
TOTAL--ALL INDUSTRY GROUPS	4,575	1,182	1,334	810

Surveyed manufacturing firms listed a total of 144 occupational titles as suitable for inexperienced youth, while nonmanufacturing firms listed a total of 257 job titles. In the manufacturing companies, occupations suitable for youth involved substantially greater numbers of people, but the openings were restricted to fewer occupational choices than in the nonmanufacturing firms.

Most of the 1965-67 increase in number of jobs suitable for youth will be in manufacturing industries (958 in durable goods and 39 in nondurable goods). An increase of 185 workers is anticipated in the two-year period for nonmanufacturing organizations. Over 60 per cent of this gain is attributed to wholesale and retail trade companies.

A similar pattern exists in the distribution of the 1,334 job increase anticipated for 1967-70 period. Manufacturing industries are expected to absorb 1,158 new workers, with the durable goods group accounting for 1,103, and the nondurable goods group for 55. An increase of 176 workers in nonmanufacturing firms is predicted for the three-year span, with firms engaged in wholesale and retail trade requiring 55 per cent of these jobs.

In addition to the openings created by the expected expansion, replacements needed next year by the responding firms are estimated at 810 people. Of this total, 598 workers will be in manufacturing, and 212 in nonmanufacturing industries. Almost two-thirds of the estimated replacement needs in nonmanufacturing firms are anticipated in the wholesale and retail trade groups.

SKILLS AND KNOWLEDGE REQUIREMENTS

To aid in planning school curriculum, it is necessary to look at skill requirements for jobs in terms of needs for enrollments in separate training courses. Many of the jobs require workers trained in multiple skills; however, these skills must be considered separately when counting the actual number of course enrollments needed.

Employers listed a total of more than 100 different types of skills, knowledge or personal attributes required for qualifying youth in the various suitable entry jobs. By 1967, more than 2,200 total enrollments in various training courses in the listed skills will be needed, and from 1967 to 1970, expansion expectations will require another 2,570 course enrollments in the required skills. Replacement needs next year will involve a total of 1,586 skill requirements.

The skills and knowledge required to prepare youth are the most numerous in jobs associated with the machine trades, crafts and manual work. The two- and five-year expansion needs of employers indicate the greatest needs for additional enrollees in metal-machine operating, machine shop, the use of hand and power tools, blueprint reading, and the use of precision instruments.

More than 900 of the present jobs specified as suitable for youth involve the skill of metal-machine operating; the expansions show that the greatest number of additional training needs will be in the skill of the use of hand and power tools. Though this is the single skill requirement indicated by employers in the most numerous jobs, these same jobs involve various other skills to provide well-rounded youth training in these occupations. Machine shop training will be required for more than 130 additional jobs in two years, and for another 175 which will be added in the succeeding three years; next year's replacement needs involve in excess of 160 jobs.

In the clerical skills, typing was reported most often as a needed skill in a wide variety of occupations. In two years, 45 typing trainees will be needed and another 38 workers will need to be trained by 1970 to handle expansion expectations. Anticipated replacement needs for the next year involve 39 jobs. Other skills involved in the clerical jobs are bookkeeping, stenography, secretarial skills, business arithmetic, business machines operating, cash register operating, and office practice.

Table B in the Appendix lists each skill separately and shows the increased training needs for the skills indicated by employers for those jobs in which vocational or high school training courses were checked as the desired training method.

ADULT EDUCATION NEEDS

No adult education courses are available at present in the area, although some surveyed employers indicated a strong interest in the establishment of such a program. The need for re-training adults to upgrade or update their skills was specifically expressed for the following skills:

- Precision instrument reading
- Blueprint reading
- Mechanical drafting
- Machine shop
- Tool and die making
- Time and motion study
- Cost estimating
- Machine and engineering math (including use of slide rule)
- Basic electricity
- General plant maintenance skills (welding, millwright, plumbing, and machine repair)
- Various office skills

EXISTING TRAINING COURSES

The local high schools offer a limited number of vocational courses in some of the skills required by employers. Many additional skills were listed as required by industry for entry jobs.

The curriculum of the Fayette County School Corporation includes training in machine shop, mechanical drawing, auto mechanics, electricity, agriculture, business education, home economics and general shop (including some woodworking).

Brookville High School offers courses in business education, agriculture, industrial arts (including general shop, machine shop and mechanical drawing), and home economics.

Liberty High School offers business education, agriculture, home economics, and industrial arts (including general shop, drafting and three years of shop which consists of 1 year of auto mechanics, 1 year of metal shop and 1 year of woodworking).

There are no training courses in progress under the Manpower Development and Training Act in the area.

RECOMMENDED TRAINING METHODS

High school or vocational school courses were shown by employers as the recommended training method for over 3,300 of the jobs listed as suitable for inexperienced youth. A combination of specific institutional courses and on-the-job training was recommended for slightly over one-half of the total 4,575 jobs. About 600 were shown as requiring on-the-job training only and another 595 require no formal training.

TABLE III

DISTRIBUTION OF EMPLOYER RECOMMENDATIONS FOR TRAINING OF YOUTH

	NUMBER		PER CENT	
Total Jobs Suitable for Youth		4,575		100%
High School or Vocational Courses		3,348		73%
(combined with on-the-job training)	2,500		54%	
On-the-job Training only		632		14%
No Formal Training needed		595		13%

Two hundred and seventy-four separate occupational listings were included in the 3,348 jobs for which employers recommended high school or vocational courses. For 2,500 of the jobs for which employers recommended this type of training, need for additional on-the-job training was expressed. On-the-job training was indicated as the sole training need for only 632 jobs, but altogether, 3,132 jobs for 231 separate occupational titles were reported as requiring on-the-job training as a part, at least, of the job preparation method.

In responses involving 595 workers and 47 separate listings, the employers did not indicate that either high school or vocational courses or on-the-job training was required for the occupations. Among these occupations were stock boys, waitresses, janitors and custodians, and general laborers and helpers in the manufacturing and construction industries.

Table A in the Appendix lists numbers and kinds of occupations suitable for youth, and the skills needed to qualify for the jobs, along with the training methods recommended by employers.

APPENDIX

METHODOLOGY

In October 1965, survey forms were mailed to 251 firms covered by the Indiana Employment Security Act 1/ in Fayette, Franklin and Union Counties and the larger firms in Cambridge City (Wayne County), plus two large noncovered firms.

Employers were asked to list the jobs for which they would hire inexperienced youth who had recently completed high school. They were also asked to indicate the specific skills and knowledge required by youth for entry into these jobs. In order to estimate the extent of the needs in terms of kinds and numbers of courses to be taught, information on current and anticipated employment by occupation two and five years hence was requested. In addition, replacement needs by occupation were estimated for the coming year. Replacement need consists of jobs left vacant by workers who retire, die, leave the occupation, or move out of the area.

The employing firms were asked to express their opinion as to how the necessary skills and knowledge could best be acquired--whether through high school courses, or through their own on-the-job training of the youth. They were also asked to indicate those jobs that they listed which required no formal training for entry.

The survey results were not expanded to allow for nonrespondents; some nonresponding firms undoubtedly would have had additional suitable jobs to report, as well as some of the firms not included in the survey coverage. Replacement needs were not projected to two and five year totals, one-year expectations alone were reported.

1/ Firms subject to the Act include those which employ four or more workers in any twenty weeks of a year. Excluded from coverage are agriculture, railroads, government and domestic help and casual labor. In general, about three-fourths of nonfarm employment is covered, including about 96% of manufacturing but a smaller percentage of nonmanufacturing.

SURVEY RESPONSE

Of the 251 firms contacted in the survey, 160 responded, representing nearly 64 per cent of the total. These responding firms employ 7,742 workers, comprising over 80 per cent of the total 9,639 employed in all the surveyed establishments. No replies were received from 91 firms with the employment of approximately 1,900 persons.

TABLE IV

RESPONSE AND EMPLOYMENT IN THE SURVEYED FIRMS, BY COUNTY

	TOTAL SURVEYED		RESPONDING FIRMS		PER CENT RESPONSE	
County	Number of Firms	Employment	Number of Firms	Employment	Firms	Employment
Fayette	153	7,142	108	6,078	70.6	85.1
Franklin	54	1,034	28	534	51.9	51.6
Union	27	388	12	272	44.4	70.1
Wayne*	17	1,075	12	858	70.6	79.8
TOTAL	251	9,639	160	7,742	63.7	80.3

* Cambridge City only.

By county, the best response was from Fayette County where 71 per cent of the 153 companies answered. These 108 answering firms in Fayette County represent just over 85 per cent of the employment in 153 establishments in the county.

In Wayne County, where 17 of the larger businesses in Cambridge City were contacted, 12 (71 per cent) responded; this represents almost 80 per cent of the employment in the contacted firms.

INDUSTRY RESPONSE

Firms in manufacturing industries constitute about 18 per cent of the total number of covered establishments in the surveyed area and are responsible for nearly three-quarters of the total covered employment. In both the manufacturing and the non-manufacturing segments surveyed, reports were received from about two-thirds of the firms; employment in responding manufacturing firms constituted about 82 per cent of total manufacturing employment while 75 per cent of the covered nonmanufacturing employment was represented in the responses.

TABLE V

RESPONSE AND EMPLOYMENT IN SURVEYED FIRMS, BY INDUSTRY GROUP

	TOTAL SURVEYED		RESPONDING FIRMS		PER CENT RESPONSE	
	Number of Firms	Employment	Number of Firms	Employment	Firms	Employment
MANUFACTURING						
Durable Goods	27	6,106	22	5,339	81.5	87.4
Nondurable Goods	17	849	6	388	35.3	45.7
TOTAL	44	6,955	28	5,727	63.6	82.3
NONMANUFACTURING						
Mining & Construction	18	144	11	103	61.1	71.5
Trans., Comm., & Pub. Utilities	8	191	8	191	100.0	100.0
Wholesale & Retail Trade	126	1,265	74	811	58.7	64.1
Fin., Ins., & Real Estate	18	197	15	174	83.3	88.3
Services	27	265	14	114	52.0	43.0
Government	10	622	10	622	100.0	100.0
TOTAL	207	2,684	132	2,015	63.8	75.1
TOTAL--ALL INDUSTRY GROUPS	251	9,639	160	7,742	63.7	80.3

Three major manufacturing industry groups--fabricated metal products, nonelectrical machinery and electrical machinery employ over 5,000 of the total of 6,995 employed in the manufacturing firms surveyed; these three industry groups expect continued growth. The percentage of response in the durable goods industries was nearly 82 per cent of the firms and over 87 per cent of the employment; in nondurable goods, experience was less spectacular.

About one-half of the covered firms in the area are engaged in wholesale and retail trade. These establishments, though the most numerous, are responsible for only about 13 per cent of total surveyed employment. Responses were received from more than 58 per cent of the firms in this group, representing about 64 per cent of the total employed in the wholesale and retail trade firms surveyed. All of the ten surveyed government agencies and all of the eight firms in the transportation-communications-public utilities group responded.

DETAILED TABLES

Table A - The Youth-Suitable Jobs
(34 pp.)

Table B - The Skill Requirements
(10 pp.)

TABLE A - INVENTORY OF JOBS SUITABLE FOR INEXPERIENCED YOUTHS, BY OCCUPATION

SUITABLE OCCUPATIONS		EMPLOYMENT IN THE OCCUPATION				RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION			
D.O.T. ENTRY CODE NUMBER	JOB TITLE	Current Employment	Future Employment: Total In 2 years (1967)	Future Employment: Total In 5 years (1970)	Replacements Needed Next Year	Skills or Knowledge Needed	Vocational or High School Training	On-the-Job Training	No Formal Training Needed
Professional, Technical and Managerial Work									
0-X1.5	Advertising Display Man	1	1	1	1	Commercial Art	x	x	
0-X7	Lab Technician Trainee	2	3	3	1	Blueprint Reading Use of Precision Instruments Use of Slide Rule	x	x	
0-X7.1	Cost Estimator Trainee	2	3	4	1	Advanced Math. Blueprint Reading Use of Precision Instruments Machine Shop Tool & Die Making Use of Slide Rule	x		
0-X7.4	Time Study Trainee	2	3	4	1	Time and Motion Study Use of Slide Rule	x		
0-X7.4	Lab Technician	22	30	35	0	Advanced Math. Technical Quality Control	x	x	
0-X7.4	Laboratory Technician, Jr.	5	10	10	4	Machine Shop Electrical Shop Blueprint Reading	x	x	
0-X7.7	Draftsman, Jr.	2	12	12	0	Drafting Advanced Math.	x	x	
0-X7.7	Draftsman, Jr.	4	6	6	2	Blueprint Reading Drafting	x	x	
0-X7.7	Draftsman	4	5	7	1	Advanced Math. Tool & Die Design Drafting	x	x	
0-X7.7	Draftsman	6	8	10	2	Drafting Blueprint Reading Machine Shop Use of Slide Rule	x		

TABLE A - INVENTORY OF JOBS SUITABLE FOR INEXPERIENCED YOUTHS, BY OCCUPATION

SUITABLE OCCUPATIONS		EMPLOYMENT IN THE OCCUPATION				RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION			
D.O.T. ENTRY CODE NUMBER	JOB TITLE	Current Employment	Future Employment: Total In 2 years (1967)	Future Employment: Total In 5 years (1970)	Replacements Needed Next Year	Skills or Knowledge Needed	Vocational or High School Training	On-the-Job Training	No Formal Training Needed
0-X8.1	Assistant Manager	1	1	1	1	General High School Training	x	x	
0-X8.1	Assistant Manager	0	1	1	0			x	
0-X8.1	Assistant Manager and Bookkeeper	1	1	1	0	Accounting and Advanced Bookkeeping Business English Pleasing Personality	x	x	
0-X8.10	Manager	0	2	2	0	General High School Training	x	x	
0-X8.2	Produce Manager	2	3	3	0			x	
0-X8.4	Shop Foreman	0	1	1	1	Shop Management	x	x	
	TOTAL	54	90	101	15		14	13	0
Clerical and Related Work									
1-X2.0	Clerk, General Office	6	7	8	1	Bookkeeping Computational Office Machines Payroll	x		
1-X2.0	Clerk, General Office	1	1	1	0	Typing Bookkeeping	x		
1-X2.0	Clerk, General Office	6	7	8	1	Typing Business Arithmetic Penmanship	x	x	
1-X2.0	Office Clerk	2	4	5	0	Bookkeeping	x	x	
1-X2.0	General Clerical Work	2	3	3	0	Typing Bookkeeping Dictaphone Operating Computational Office Machines	x		
1-X2.0	General Recording Work	1	1	1	1	Bookkeeping	x		

TABLE A - INVENTORY OF JOBS SUITABLE FOR INEXPERIENCED YOUTHS, BY OCCUPATION

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D.O.T. ENTRY CODE NUMBER	JOB TITLE	Current Employment	Future Employment: Total In 2 years (1967)	Future Employment: Total In 5 years (1970)	Replacements Needed Next Year	Skills or Knowledge Needed	Vocational or High School Training	On-the-Job Training	No Formal Training Needed
1-X2.0	Bookkeeping Machine Operator	1	1	1	0	Typing Bookkeeping Machine Operating	x	x	
1-X2.0	Bookkeeping Machine Operator	6	6	6	2	Office Practice Bookkeeping Machine Operating Commercial High School Training	x	x	
1-X2.0	Accounting Clerk	1	1	1	0	Business Arithmetic	x	x	
1-X2.0	Accounting Clerk	3	4	4	1	Bookkeeping Typing Accounting and Advanced Bookkeeping	x	x	
1-X2.0	Timekeeper	2	4	6	2	Use of Slide Rule	x		
1-X2.0	Bookkeeper	3	4	5	1	Typing Bookkeeping Machine Operating	x		
1-X2.0	Bookkeeper	2	2	2	1	Bookkeeping Business Arithmetic Typing Spelling	x		
1-X2.0	Bookkeeper	4	6	8	2	Typing Business Arithmetic Business Machine Operating	x		
1-X2.0	Bookkeeper	1	1	1	0	Bookkeeping Typing Stenography Bookkeeping Machine Operating	x		
1-X2.0	Bookkeeper	5	6	6	0	General High School Training	x	x	
1-X2.0	Bookkeeper	10	12	15	1	Bookkeeping Business Machine Operating Business Arithmetic	x		

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1-X2.0	Bookkeeper	3	4	5	2	Bookkeeping Business Machine Operating	x		
1-X2.0	Bookkeeper	3	3	3	0	General High School Training Business Machine Operating	x	x	
1-X2.0	Bookkeeper	2	1	1	0	Accounting and Advanced Bookkeeping	x	x	
1-X2.0	Bookkeeper	1	2	2	1	Bookkeeping	x	x	
1-X2.0	Bookkeeper	1	1	1	0	Bookkeeping Stenography Computational Office Machines	x		
1-X2.0	Bookkeeper	1	1	1	0	Bookkeeping Banking	x	x	
1-X2.0	Bookkeeper	1	1	1	0	Bookkeeping Commercial High School Training	x		
1-X2.0	Bookkeeper	2	3	3	0	Typing Bookkeeping Stenography Filing Payroll	x		
1-X2.0	Bookkeeper	0	1	1	0	Bookkeeping Typing	x		
1-X2.0	Bookkeeper	5	5	6	1	Bookkeeping	x		
1-X2.0	Bookkeeper-Secretary	1	1	1	0	Typing Stenography Bookkeeping Computational Office Machines	x		

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1-X2.0	Bookkeeper-Warehouseman	1	1	1	0	Typing Bookkeeping Computational Office Machines	x		
1-X2.0	Bookkeeper-Stenographer	1	1	2	0	Stenography Bookkeeping Salesmanship Computational Office Machines	x		
1-X2.0	Bookkeeper-Typist	2	2	3	0	Typing Bookkeeping Office Practice	x		
1-X2.0	Commercial Clerk	1	1	1	0	General Business Courses	x	x	
1-X2.0	Teller	12	16	20	5	Typing Business Arithmetic Business Machine Operating	x		
1-X2.0	Teller	12	12	14	1	Office Practice Commercial High School Training	x	x	
1-X2.0	Insurance Writer	1	1	1	0	Typing Business Arithmetic Insurance Sales License	x	x	
1-X2.0	General Office Work	3	3	3	0	Bookkeeping Typing	x	x	
1-X2.2	Typist	2	2	2	0	Typing	x		
1-X2.2	Typist	10	12	15	2	Typing Office Practice	x		
1-X2.2	Typist	6	6	6	2	Typing Office Practice Telephone Usage	x	x	

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1-X2.2	Typist	20	25	30	3	Typing Spelling Office Practice Business English Business Machine Operating	x		
1-X2.2	Typist	0	1	4	1	Typing	x		
1-X2.2	Clerk-Typist	1	1	1	0	Typing Bookkeeping	x	x	
1-X2.2	Clerk-Typist	1	1	2	0	Typing Business Machine Operating	x	x	
1-X2.2	Clerk-Typist	1	1	1	0	Typing Bookkeeping Filing	x	x	
1-X2.2	Clerk-Typist	1	1	1	0		x	x	
1-X2.2	Office Clerk	20	25	25	5	Typing	x	x	
1-X2.2	General Clerical Work	2	3	4	0	Stenography Bookkeeping Computational Office Machines	x		
1-X2.2	Administrative Clerk	6	8	8	3	Stenography General High School Training	x	x	
1-X2.2	Varitypist	5	6	8	0	Typing English Art Business Machine Operating	x	x	
1-X2.2	Telegraphic Typewriter Operator	1	2	2	0	Typing	x	x	

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1-X2.3	Stenographer	2	2	2	1	Typing Stenography	x		
1-X2.3	Stenographer	6	10	10	0	Typing Stenography	x	x	
1-X2.3	Stenographer	4	5	6	1	Stenography Office Practice	x		
1-X2.3	Stenographer	9	11	12	2	Stenography Office Practice Telephone Usage	x	x	
1-X2.3	Stenographer	20	25	30	3	Typing Stenography Office Practice Spelling Business Machine Operating Business English	x		
1-X2.3	Stenographer-Typist	4	4	5	1	Stenography General High School Training	x	x	
1-X2.3	Secretary	6	8	10	2	Secretarial Skills Tape Recorder Operator	x		
1-X2.3	Secretary	3	5	7	2	Typing Stenography	x		
1-X2.3	Secretary	0	1	1	0	Secretarial Skills	x		
1-X2.3	Secretary	1	1	1	1	Typing Stenography Business Arithmetic	x	x	
1-X2.3	Secretary	19	21	24	2	Typing Stenography Secretarial Skills Filing	x		

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1-X2.3	Secretary	4	6	7	1	Typing Secretarial Skills Filing	x		
1-X2.3	Secretary and Bookkeeper	1	1	1	0	Computational Office Machines Bookkeeping Stenography	x		
1-X2.3	Secretary and Teller	2	1	1	0	Secretarial Skills	x	x	
1-X2.8	Shipping and Stores	30	32	35	5	Blueprint Reading	x		
1-X2.8	Shipping Clerk	55	55	55	5				x
1-X2.8	Stock Clerk	3	3	3	3	Stock Shelves		x	
1-X2.8	Stock Clerk	1	1	1	1	General High School Training	x	x	
1-X2.8	Stock Clerk	16	20	25	0	Record Keeping	x	x	
1-X2.8	Stock Clerk	4	4	4	1	Salesmanship Record Keeping		x	
1-X2.8	Stock and Carry Out Boy	4	5	6	1				x
1-X2.8	Stock and Carry Out Boy	3	4	5	3				x
1-X2.8	Stock Boy	1	1	1	0	General High School Training	x	x	
1-X2.8	Stock Boy	2	3	3	3	General High School Training	x	x	x
1-X2.8	Stock Boy	5	6	8	2			x	

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1-X2.8	Stock Boy	4	4	4	0			x	
1-X2.8	Stock Chaser	89	105	125	10			x	
1-X2.8	Part-Time Stock Boy	2	2	2	1	Business English Business Arithmetic	x		
1-X2.8	Receiving and Marking Clerk	2	2	3	1	Business Arithmetic Commercial High School Training	x		
1-X2.8	Parts Man	1	2	2	0	Reading General High School Training	x	x	
1-X2.8	Parts Man	1	1	2	0	Auto Mechanics Auto Parts Clerk-Servicing	x	x	
1-X2.8	Parts Man	2	2	3	1	Merchandising Commercial High School Training Auto Parts Clerk-Servicing Buying	x		
1-X2.8	Parts Man, Farm Equipment	1	1	1	0	Farm Mechanics Auto Parts Clerk-Servicing	x		
1-X2.8	Parts Assistant	1	2	2	0	Auto Parts Clerk-Servicing	x	x	
1-X2.8	Parts, Manager	1	2	2	1	Auto Mechanics Stock Keeping Auto Parts Clerk-Servicing	x	x	
1-X2.8	Credit Clerk	2	2	3	0	Salesmanship Bookkeeping Commercial High School Training	x		

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1-X2.8	Purchasing Clerk	2	2	2	0	Typing General High School Training	x	x	
1-X2.8	Warehouseman	1	1	1	0				x
1-X2.9	Proofreader	2	2	2	1	English Spelling Typing	x		
1-X2.9	Teller	3	3	3	0	Bookkeeping General High School Training	x	x	
1-X4	General Clerical Work	1	1	1	0		x	x	
1-X4.0	General Clerical	20	24	30	4	Typing Business Machine Operating	x		
1-X4.0	General Office Clerk	4	5	6	0	Office Practice	x	x	
1-X4.0	Clerk, General	1	2	2	1	General High School Training	x	x	
1-X4.0	Office Clerk	3	3	4	1	Business Arithmetic Commercial High School Training	x		
1-X4.0	Clerk	4	4	5	0	Business Machine Operating Commercial High School Training		x	
1-X4.0	File Clerk	1	2	3	1	Filing	x		
1-X4.0	File Clerk	1	1	1	1	Filing	x	x	
1-X4.0	Sub Clerk	7	9	11	2	Business Arithmetic Typing Filing		x	

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1-X4.0	Post Office Clerk	4	4	4	0			x	
1-X4.0	Sub Carrier	15	18	20	2	Business Arithmetic Filing Typing		x	
1-X4.0	City Carrier	3	3	3	0			x	
1-X4.0	Rural Route Carrier	6	6	6	0			x	
	TOTAL	574	674	776	105		88	54	5
Public Contact Work									
1-X5.0	Operator	36	40	45	4			x	x
1-X5.0	Loan Interviewer	8	9	12	2	Customer Service	x		
1-X5.5	Salesman, Insurance	10	10	10	1	Salesmanship		x	
1-X5.5	Salesperson, Furniture	2	3	4	1	Salesmanship Public Contact	x		
1-X5.5	Salesperson, Furniture	2	1	1	0	Salesmanship	x		
1-X5.5	Salesperson, Building Supplies	3	3	9	2			x	
1-X5.5	Salesperson, Building Materials	3	3	3	0				
1-X5.5	Salesperson, General	22	26	30	4	Salesmanship Marketing	x		
1-X5.7	Cashier	2	2	3	1	Business English Business Arithmetic Salesmanship			
1-X5.7	Cashier	1	1	1	0	General Business Courses	x	x	

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1-X5.7	Cashier	2	2	2	1	Cash Register Operating		x	
1-X5.7	Cashier	4	5	6	0	Cash Register Operating	x		
1-X5.7	Cashier	7	9	9	3	Cash Register Operating	x	x	
1-X5.7	Check-Out Cashier	2	3	4	1			x	
1-X5.7	Check-Out Girl	3	4	4	1	Cash Register Operating	x		
1-X5.7	Cash Register Girl	5	5	5	0			x	
1-X5.7	Salesman	1	2	2	1	Animal Husbandry	x	x	
1-X5.7	Salesman	4	5	6	1			x	
1-X5.7	Salesman	0	1	1	1	Product Knowledge		x	
1-X5.7	Driver Salesman	5	5	5	0	Alertness Business Arithmetic General High School Training	x	x	
1-X5.7	Ad Salesman	4	6	6	0	Art Spelling English Public Speaking	x	x	
1-X5.7	Sales Clerk	12	12	12	0	General High School Training	x	x	
1-X5.7	Sales Clerk	5	8	10	1	General High School Training	x	x	
1-X5.7	Sales Clerk	23	29	35	0				x
1-X5.7	Sales Clerk	2	2	2	0			x	

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1-X5.7	Sales Clerk	4	4	4	2	Business Arithmetic Cash Register Operating Salesmanship	x	x	
1-X5.7	Sales Clerk	9	9	12	2	Cash Register Operating Customer Service	x		
1-X5.7	Part-Time Sales Clerk	3	3	4	2	Business English Business Arithmetic Salesmanship		x	
1-X5.7	Catalog Sales Clerk	2	3	4	1	Writing Salesmanship Marketing	x		
1-X5.7	Inventory and Sales Clerk	1	1	1	1	Filing Record Keeping Salesmanship Customer Service	x		
1-X5.7	Sales and Service Farm Store	1	1	2	0	General High School Training	x	x	
1-X5.7	Produce Clerk	1	1	2	0	Salesmanship Business Arithmetic		x	
1-X5.7	Produce Clerk	2	3	3	0	Produce Preparation		x	
1-X5.7	Produce Help	1	2	2	1	Produce Preparation		x	
1-X5.7	Grocery Clerk	4	5	5	1	Stock-Keeping		x	
1-X5.7	Grocery Checker	4	5	7	1	Business Arithmetic Personality	x	x	
1-X5.7	Counter Clerk	3	3	3	2			x	

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1-X5.7	Routeman	3	3	4	0	Salesmanship Motor Vehicle Operating	x	x	
1-X5.7	Bakery-Wagon Driver	6	6	8	1	Business Arithmetic Salesmanship	x		
1-X5.7	Truck Driver	1	2	2	1	Auto Mechanics Agricultural Training	x		
1-X5.7	Building Supply Worker	2	3	3	0	Product Knowledge Truck Driving	x	x	
1-X5.7	Service Representative	3	4	5	0	General Business Courses	x	x	
1-X5.7	Plant Serviceman	0	1	1	0	Plumbing	x	x	
1-X5.7	Service Station Attendant	6	7	7	2	Auto Mechanics	x		
1-X5.7	Service Station Attendant	8	8	8	0				x
1-X5.7	Service Station Attendant	5	6	7	1	Auto Mechanics	x	x	
1-X5.7	Gas Pump Attendant	2	2	3	1	Auto Mechanics Business Arithmetic	x	x	
1-X5.7	Lubrication Man	1	1	2	0			x	
1-X5.7	Cleanup Man	1	1	2	0			x	
	TOTAL	241	280	328	44		28	33	3

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Service Work									
2-X1.1	Cook	2	2	2	0	Cooking and Food Preparation Food Service	x		
2-X1.2	Cook and Food Service	31	32	35	4	Cooking and Food Preparation Food Service	x		
2-X1.2	Cook	1	1	1	0	Cooking and Food Preparation	x		
2-X5.2	Waitress	2	2	2	0				x
2-X5.2	Waitress	4	4	4	0	General High School Training	x	x	
2-X5.2	Waitress	4	4	4	0	General High School Training	x	x	
2-X5.2	Waitress	2	3	3	1			x	
2-X5.2	Waitress	5	6	8	0	Food Service	x		
2-X5.2	Waitress	7	10	10	3	Cash Register Operating Food Service Customer Service	x		
2-X5.2	Waitress	5	5	5	3	Cooking and Food Preparation Food Service	x		
2-X5.2	Sandwich Girl	8	8	8	0	Pleasing Personality		x	
2-X5.2	Fountain	2	2	3	0			x	
2-X5.2	Car Hop	6	6	6	0	General High School Training	x	x	

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2-X5.2	Car Hop	11	14	14	4			x	x
2-X5.2	Busboy	1	1	1	0				x
2-X5.2	Cook	5	6	7	0	Cooking and Food Preparation	x		
2-X5.6	Nurse Aide	14	14	14	1	Patient Care	x		
2-X5.6	Orderly	1	1	3	0	Patient Care	x		
2-X5.9	Janitor	1	2	2	1			x	
2-X5.9	Janitor	1	1	1	0				x
2-X5.9	Janitor	11	13	15	3			x	
2-X5.9	Custodian	32	35	40	2	Janitorial Service	x	x	
2-X5.9	Custodial Worker	1	1	1	0				x
2-X5.9	Maintenance and Custodial Worker	2	2	2	0			x	
2-X5.9	Housekeeper	1	1	1	0			x	x
2-X5.9	Sanitation	37	45	50	5				x
2-X5.9	Utility Worker	2	2	2	0				x
	TOTAL	199	223	244	27		13	12	8

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Machine Trades									
4-X2	Auto Supply Trainee	10	15	18	2	Auto Mechanics Truck Driving Stock Keeping		x	
4-X2	Teamster	8	10	14	0	Welding Shop Machine Set-Up Blueprint Reading Metal Machine Operating	x	x	
4-X2.0	Tool and Die Maker	12	15	18	2	Blueprint Reading Use of Precision Instruments Machine Shop Tool and Die Making	x		
4-X2.0	Tool and Die Maker	11	15	15	3	Tool and Die Making Machine Shop	x		
4-X2.0	Tool Maker	10	12	15	2	Machine Shop	x	x	
4-X2.0	Die Maker Apprentice	19	20	25	4	Advanced Mathematics Blueprint Reading Machine Shop	x	x	
4-X2.0	Machinist	2	4	5	0	Machine Shop Metal Machine Operating Blueprint Reading Use of Precision Instruments	x		
4-X2.0	Machinist and Apprentice	7	10	15	3	Machine Shop Metal Machine Operating Heat Treating Use of Hand and Power Tools Blueprint Reading Use of Precision Instruments Shop Layout Work	x	x	
4-X2.0	Apprentice Machinist	16	20	30	4	Machine Shop Shop Math	x		

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4-X2.0	Apprentice Machinist and Assemblyman	6	8	10	2	Machine Shop Mechanical Aptitude Vocational High School Training	x	x	
4-X2.0	Machine Development Trainee	2	4	6	2	Blueprint Reading Use of Precision Instruments Machine Shop Advanced Mathematics Machine Development	x		
4-X2.0	Engine Lathe Operator	1	1	1	1	Machine Shop Blueprint Reading Shop Math Metal Machine Operating	x		
4-X2.0	Engine Lathe Operator	8	8	8	2	Machine Shop Metal Machine Operating Heat Treating Machine Repair and Maintenance Electrical Shop Welding Shop Tool Knowledge Blueprint Reading	x	x	
4-X2.0	Turret Lathe	4	4	4	1	Machine Shop Metal Machine Operating Heat Treating Machine Repair and Maintenance Electrical Shop Welding Shop Tool Knowledge Blueprint Reading	x	x	
4-X2.0	Machine Operator (Drill-Mill-Screw)	250	275	350	25	Blueprint Reading Machine Shop Use of Precision Instruments	x	x	

TABLE A – INVENTORY OF JOBS SUITABLE FOR INEXPERIENCED YOUTHS, BY OCCUPATION

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D.O.T. ENTRY CODE NUMBER	JOB TITLE	Current Employment	Future Employment: Total In 2 years (1967)	Future Employment: Total In 5 years (1970)	Replacements Needed Next Year	Skills or Knowledge Needed	Vocational or High School Training	On-the-Job Training	No Formal Training Needed
4-X2.0	Milling Machine Operator	6	6	6	1	Machine Shop Metal Machine Operating Heat Treating Machine Repair and Maintenance Electrical Shop Welding Shop Tool Knowledge Blueprint Reading	x	x	
4-X2.0	Internal-External Grinding	27	45	55	10	Blueprint Reading Machine Shop Use of Precision Instruments	x	x	
4-X2.0	Press Operator	34	38	38	5				
4-X2.0	Press Operator	60	70	80	5			x	
4-X2.0	Machine Operator	6	8	8	2	Metal Machine Operating	x		
4-X2.0	Inspector	12	15	15	2				
4-X2.0	Rack Builder	4	4	4	2	Blueprint Reading Use of Precision Instruments Welding	x		
4-X2.0	Machine Operator Trainee	16	16	16	5	Metal Machine Operating Blueprint Reading Sheet Metal Work Use of Hand and Power Tools	x		
4-X2.0	Assembler	120	150	180	20			x	
4-X2.0	Assembler	12	12	12	2	Sheet Metal Work Blueprint Reading Use of Precision Instruments Use of Hand and Power Tools	x		

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4-X2.0	Assembler	14	14	14	0	Use of Power and Hand Tools Sheet Metal Work Blueprint Reading Use of Precision Instruments	x		
4-X2.0	Assembler-Water Pump	10	15	25	5	Blueprint Reading Machine Shop Use of Precision Instruments	x	x	
4-X2.0	Helpers and Learners	3	3	3	2	Metal Machine Operating Sheet Metal Work Blueprint Reading Use of Hand and Power Tools	x		
4-X2.0	Helpers and Learners	7	7	7	2	Machine Shop Sheet Metal Work Metal Machine Operating	x		
4-X2.010	Apprentice-Tool and Die Maker	1	2	2	0			x	
4-X2.010	Machinist	14	19	22	3	Shop Math Blueprint Reading Machine Shop	x	x	
4-X2.010	Machine Operator	40	40	40	5	Machine Shop Metal Machine Operating Blueprint Reading Use of Precision Instruments	x		
4-X2.011	Engine Lathe Operator	40	45	50	10	Blueprint Reading Use of Precision Instruments Machine Shop Metal Machine Operating Machine Set-Up	x		

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4-X2.011	Turret Lathe Operator	10	15	20	5	Blueprint Reading Use of Precision Instruments Machine Shop Metal Machine Operating Machine Set-Up	x		
4-X2.012	Milling Machine Operator	20	25	30	10	Blueprint Reading Use of Precision Instruments Machine Shop Metal Machine Operating Machine Set-Up	x		
4-X2.015	Grinder	20	25	30	5	Blueprint Reading Use of Precision Instruments Machine Shop Metal Machine Operating Machine Set-Up	x		
4-X2.1	Mechanic	2	2	2	1	Auto Mechanics		x	
4-X2.1	Mechanic	2	3	4	0	Auto Mechanics	x		
4-X2.1	Apprentice Mechanic	1	2	2	1	Auto Mechanics	x		
4-X2.1	Auto Mechanic Apprentice	4	5	6	1	Auto Mechanics Use of Hand and Power Tools Manual Dexterity	x	x	
4-X2.1	Auto Body Repairman Apprentice	2	3	4	0	Auto Body Repairing Use of Hand and Power Tools Spray Painting Manual Dexterity	x	x	
4-X2.1	Paint and Body Helper	1	2	2	1				
4-X2.1	Truck Mechanic	3	4	5	1	Auto Mechanics	x		
4-X2.1	Truck Mechanic Helper	2	3	4	1	Auto Mechanics	x		

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4-X2.1	Farm Machinery Set-Up, Repair	3	5	7	0	Machine Repair and Maintenance Farm Mechanics Truck Driving Auto Parts Clerk-Servicing	x		
4-X2.1	Maintenance	16	20	22	5	Millwright Welding Machine Repair and Maintenance Plumbing	x		
4-X2.1	Maintenance Assistant	2	3	4	0	Machine Repair and Maintenance	x	x	
4-X2.1	Appliance Installer	1	2	3	1	Home Appliance Installation and Repair	x	x	
4-X2.100	Maintenance Mechanic	1	2	2	0	Blueprint Reading Electrical Shop Machine Shop	x	x	
4-X2.102	Diesel Operator	1	2	3	0	General High School Training	x		
4-X2.103	Auto Mechanic	4	5	5	1	Auto Mechanics	x	x	
4-X2.103	Auto Mechanic	2	3	4	0	Auto Mechanics	x	x	
4-X2.103	Auto Mechanic	3	4	5	1	Auto Mechanics	x	x	
4-X2.103	Auto Mechanic	2	3	4	2	Auto Mechanics	x	x	
4-X2.103	Mechanic	6	8	10	1	Auto Mechanics	x	x	
4-X2.103	Mechanical Work	3	4	4	1	Farm Mechanics Hydraulics	x	x	
4-X2.103	Mechanic Helper	4	5	7	1	Auto Mechanics	x	x	

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4-X2.106	Office Machine Repair Helper	1	1	1	1	Small Machine Repair		x	
4-X2.4	Machine Operator (Punch-Brake-Shear)	80	88	98	20	Metal Machine Operating	x	x	
4-X2.4	Punch and Forming Press Operator	7	7	13	2			x	
4-X2.4	Roll-Form Operator	5	5	7	1	Blueprint Reading Use of Precision Instruments	x		
4-X2.489	Power Shear Operator	8	8	8	2	Metal Machine Operating Sheet Metal Work Blueprint Reading	x		
4-X2.493	Crane Operator	6	8	10	1			x	
	TOTAL	1,014	1,202	1,437	200		52	33	0
Crafts									
4-X6	Plating Racker	16	19	27	4				x
4-X6	Auto Mechanic and Helper	8	11	11	0	Auto Mechanics	x	x	
4-X6.1	Electrician	2	4	6	2	Electrical Shop	x	x	
4-X6.1	Apprentice Lineman	1	1	1	0	General High School Training	x	x	
4-X6.1	Groundman	1	1	1	0			x	
4-X6.1	Assistant Serviceman	0	1	2	0	Home Appliance Service and Repair	x	x	
4-X6.181	Lineman	12	12	14	1	Electronics		x	

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4-X6.181	Combination Man	11	13	18	1	Electronics		x	
4-X6.2	Carpenter	5	8	10	0	Carpentry	x	x	
4-X6.2	Carpenter	2	4	4	2	Carpentry Blueprint Reading	x		
4-X6.2	Carpenter	4	6	6	0			x	
4-X6.2	Carpenter	3	3	3	1			x	
4-X6.2	Carpenter Helper	13	15	17	2	Carpentry Use of Hand and Power Tools Blueprint Reading	x		
4-X6.2	Welder, Arc	1	2	2	1	Arc Welding	x		
4-X6.2	Welder	2	3	5	2	Welding Shop	x	x	
4-X6.2	Painter, Construction	2	4	4	1	House Painting	x	x	
4-X6.2	Heating and Air Conditioning Service	1	2	2	1	Electrical Shop Fuels and Combustion Refrigeration and Heating	x	x	
4-X6.2	Helper, Heating-Air Conditioning	1	2	2	0	Tool Knowledge	x	x	
4-X6.2	Assist. Skilled Worker	4	6	6	0	Sheet Metal Work Carpentry		x	
4-X6.2	Building Maintenance Man	1	1	1	1	Mechanical Aptitude			x
4-X6.209	Furnace Installer	1	1	1	0	Sheet Metal Work	x		

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4-X6.209	Tractor Repairman	4	5	6	1	Farm Mechanics Hydraulics Auto Mechanics	x		
4-X6.211	Ironworker Helper	1	1	2	0	Metal Machine Operating Spot Welding Band Saw Operating	x	x	
4-X6.217	Plumber	1	2	3	0	Plumbing Shop	x		
4-X6.217	Plumber Helper	2	4	6	0	Plumbing Shop	x		
4-X6.220	Carpenter	4	6	8	2	Carpentry	x	x	
4-X6.28	Welder	2	3	4	0	Welding Shop Sheet Metal Work	x	x	
4-X6.28	Welder, Arc	3	3	6	0	Arc Welding Heli-Arc Welding Band Saw Operating Flame-Cutter Operating Shop Lay-Out Work	x	x	
4-X6.281	Arc Welder	27	27	27	10	Arc Welding Acetylene Welding Brazing	x		
4-X6.281	Arc Welder	8	8	8	0	Arc Welding Acetylene Welding Brazing	x		
4-X6.285	Silver Solderer	55	70	80	5	Soldering Manual Dexterity Welding Shop Brazing	x	x	
4-X6.3	Meat Cutter	2	3	5	0	Public Contact Work Meat Cutting		x	
4-X6.3	Meat Cutter	3	4	4	1			x	

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4-X6.3	Meat Cutter	3	3	3	0			x	
4-X6.3	Meat Apprentice	1	1	1	1	Meat Cutting	x	x	
4-X6.3	Inspector	40	50	60	8	Blueprint Reading Use of Precision Instruments Inspecting, Machine Shop	x		
4-X6.3	Inspector	81	110	150	5	Inspecting, Machine Shop Shop Math Use of Precision Instruments	x	x	
4-X6.3	Sheet Metal Worker	12	12	12	2	Sheet Metal Work Metal Machine Operating Arc Welding Blueprint Reading	x		
4-X6.3	Sheet Metal Worker	2	2	2	0	Shop Math Brazing Soldering	x	x	
4-X6.3	Woodworking Machine Operator	20	20	20	5	Woodworking Machine Operating	x	x	
4-X6.3	Mill Worker	1	1	1	0	General High School Training	x	x	
4-X6.3	Alterations Woman	1	1	2	0	Sewing	x		
4-X6.310	Electrical Assembler	25	35	50	25	Blueprint Reading Machine Shop Mechanical Aptitude	x	x	
4-X6.313	Sheet Metal Worker	8	10	12	3	Sheet Metal Work Blueprint Reading Inspecting, Machine Shop Metal Machine Operating Shop Math	x	x	

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4-X6.313	Roofer and Sheet Metal Helper	5	5	5	4	Carpentry Tool Knowledge Welding Shop Sheet Metal Work	x	x	
4-X6.376	Meat Cutter	2	2	2	1	Meat Cutting	x		
4-X6.376	Meat Cutter	3	4	4	1	Meat Cutting	x	x	
4-X6.386	Static-Balancer	3	5	5	1	Blueprint Reading Use of Precision Instruments Machine Shop Metal Machine Operating Machine Set-Up	x		
4-X6.386	Inspector	2	2	2	1	Machine Shop Inspecting, Machine Shop Tool Knowledge Technical Quality Control Use of Precision Instruments			
4-X6.5	Linotype Operator	6	6	5	0	Machine Shop	x	x	
4-X6.5	Printer	3	4	4	1	Spelling Machine Shop Printing Shop	x	x	
4-X6.5	Blueprint Operator	2	2	2	0	Strong and Healthy			x
4-X6.5	Spray Painter	6	7	9	0	Spray Painting	x	x	
4-X6.6	Mill Operator	1	2	2	0	Machine Shop	x	x	
4-X6.6	Mill Operator Assistant	3	4	6	2	Chemistry Advanced Mathematics	x	x	
4-X6.6	Mill and Elevator Worker	4	5	6	2	Farm Background	x	x	

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4-X6.6	Mill Hand	2	4	5	1			x	
4-X6.6	Feedmixer	2	3	3	1	Machine Shop Animal Husbandry			
4-X6.6	Farm Supply Worker	4	4	5	1	Farm Background Chemistry	x	x	
4-X6.6	Plater	18	20	20	4			x	
	TOTAL	463	579	700	107		44	41	3
Manual Work									
6-X2	Buffing Machine Operator	70	90	90	15				x
6-X2	Casting Operator	30	45	45	5				x
6-X2.014	Borematic Operator	6	7	3	1	Blueprint Reading Use of Precision Instruments Machine Shop Metal Machine Operating Machine Set-Up	x		
6-X2.4	Truck Driver	3	3	3	0				
6-X2.4	Truck Driver	1	1	1	0	Truck Driving		x	
6-X2.4	Truck Driver	6	8	8	2	Truck Driving		x	
6-X2.4	Truck Driver	10	10	15	0	Motor Vehicle Operating		x	
6-X2.4	Truck Driver	1	1	1	0			x	
6-X2.4	Truck Driver	1	1	1	1	Truck Driving	x		
6-X2.4	Truck Driver	2	3	4	1			x	

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6-X2.4	Truck Driver	3	4	5	1				x
6-X2.4	Truck Helper	1	2	3	1	Furniture Assembling	x		x
6-X2.411	Automatic Screw Machine Operator	3	3	3	1	Machine Shop Welding Shop Electrical Shop Blueprint Reading Machine Repair and Maintenance Tool Knowledge Heat Treating Metal Machine Operating	x	x	
6-X2.439	Drill Press Operator	50	65	75	25	Blueprint Reading Use of Precision Instruments Machine Shop Metal Machine Operating Machine Set-Up	x		
6-X2.439	Drill Press Operator	7	7	7	1	Metal Machine Operating	x	x	
6-X2.492	Routeman	3	3	3	1	Auto Mechanics Electrical Shop Salesmanship Plumbing Shop	x		
6-X2.492	Routeman	2	2	2	0			x	
6-X2.492	Route Salesman	7	8	8	2	Salesmanship Motor Vehicle Operating Auto Mechanics	x	x	
6-X2.492	Routeman, Fuel Oil	3	3	3	0	Farm Background Salesmanship	x	x	
6-X2.492	Driver Helper	3	8	8	10	Penmanship Filing	x	x	x
6-X2.492	Truck Driver	4	4	10	2				x

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6-X2.492	Truck Driver	2	2	2	0			x	
6-X2.492	Truck Driver	4	4	4	4	Motor Vehicle Operating			x
6-X2.492	Hauling Machine Operator	86	100	125	10	Truck Driving	x	x	
6-X2.6	Disposal Plant Operator	2	2	2	0	General High School Training	x		
6-X4	Packer	1	2	6	0	Welding Shop Machine Set-Up Blueprint Reading Metal Machine Operating	x	x	
6-X4	Loader	1	2	4	0	Welding Shop Machine Set-Up Blueprint Reading Metal Machine Operating	x	x	
6-X4	Assembler	7	25	30	2	Welding Shop Machine Set-Up Blueprint Reading Metal Machine Operating	x	x	
6-X4	Rolline Helper	8	12	14	0	Welding Shop Blueprint Reading Machine Set-Up Metal Machine Operating	x	x	
6-X4	Brake Helper	16	16	16	1	Welding Shop Blueprint Reading Machine Set-Up Metal Machine Operating	x	x	
6-X4	Laundry and Cleaning Worker	1	1	1	1			x	
6-X4.2	Fitters Helper	0	2	4	1	Pipefitting	x		

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6-X4.213	Body Repair Man	1	1	2	0	Auto Body Repairing	x	x	
6-X4.213	Body Shop Apprentice	3	4	5	1	Auto Body Repairing Sheet Metal Work	x	x	
6-X4.3	Metal Polisher	18	20	20	4	Blueprint Reading	x	x	
6-X4.3	Metal Finisher	25	25	30	0	Use of Hand and Power Tools Metallurgy	x	x	
6-X4.3	Painter, Spray	111	130	150	0	Spray Painting	x	x	
6-X4.3	Spray Painter	10	12	15	5	Spray Painting	x	x	
6-X4.3	Porcelain-Enamel Sprayer	85	100	125	0	Spray Painting	x	x	
6-X4.3	Meter Painter	0	1	1	1			x	x
6-X4.3	Spot Welder	36	40	44	10	Spot Welding Blueprint Reading	x	x	
6-X4.3	Spot Welder	1	1	1	0				
6-X4.3	Assembly Worker	10	10	10	2			x	
6-X4.3	Assembly Worker	640	1,000	1,500	100	Use of Hand and Power Tools Manual Dexterity	x	x	
6-X4.309	Wrapper	12	15	15	2			x	
6-X4.309	Packer	12	15	15	2			x	
6-X4.318	Spot Welder	95	175	250	15	Welding Shop Sheet Metal Work	x	x	

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6-X4.4	Pressman, Printing	5	5	6	0	Machine Shop Printing Shop	x	x	
6-X4.4	Press Operator	274	300	325	20	Metal Machine Operating Shop Math	x	x	
6-X4.4	Punch Press Operator	15	15	15	6	Metal Machine Operating	x		
6-X4.4	Punch Press-Shear-Brake Operator	8	8	8	2	Blueprint Reading Metal Machine Operating Sheet Metal Work	x		
6-X4.4	Pressman	4	4	6	2				x
6-X4.4	Plate Burner	2	2	4	0	Acetylene Welding Shop Lay-Out Work Sheet Metal Work Metal Machine Operating Spot Welding	x	x	
6-X4.44	Laborer, Tube Department	75	90	110	5				x
6-X4.44	Tube Helper	20	35	55	5			x	
6-X4.44	Utility Man	3	6	12	1				x
6-X6	Truck Loader	1	1	1	0				x
6-X6	Car Clean-Up	1	1	2	0				x
6-X6	Set-Up Work	2	3	3	1	Reading Farm Mechanics	x	x	
6-X6	Janitor	1	1	1	0				x
6-X6	Sweeper	2	2	2	0	Welding Shop Machine Set-Up Blueprint Reading Metal Machine Operating	x	x	

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6-X6	Helper	11	12	15	1	Welding Shop Machine Set-Up Blueprint Reading Metal Machine Operating	x	x	
6-X6	General Laborer	25	30	35	0				x
6-X6	Laborer, Miscellaneous	20	20	20	10				x
6-X6.1	Delivery Man	5	6	7	2				x
6-X6.1	Truck Driver Helper	3	3	3	0				x
6-X6.6	Maintenance Man	15	15	15	0				x
6-X6.6	Booth Cleaner	14	20	25	5				x
6-X6.6	Dishwasher	1	1	1	0				
6-X6.6	Dishwasher	2	2	3	0			x	
6-X6.6	Common Laborer	21	25	30	0				x
6-X6.6	Construction Laborer	2	2	2	0				x
6-X6.6	Laborer	12	12	12	2			x	x
6-X6.6	Laborer	2	4	4	2	Carpentry	x		
6-X6.6	Yard Laborer	5	6	6	4				x
6-X6.6	Common Yard Laborer	2	2	2	0				x
6-X6.6	Yard Helper	1	2	2	0				

TABLE A - INVENTORY OF JOBS SUITABLE FOR INEXPERIENCED YOUTHS, BY OCCUPATION

SUITABLE OCCUPATIONS		EMPLOYMENT IN THE OCCUPATION				RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION			
D.O.T. ENTRY CODE NUMBER	JOB TITLE	Current Employment	Future Employment: Total In 2 years (1967)	Future Employment: Total In 5 years (1970)	Replacements Needed Next Year	Skills or Knowledge Needed	Vocational or High School Training	On-the-Job Training	No Formal Training Needed
6-X6.62	Dishwasher	1	1	1	0				x
6-X6.62	Dishwasher	3	3	3	3	Reliability		x	
6-X6.62	Janitor	1	1	1	0			x	
6-X6.62	Custodian	2	3	3	1	Cleaning-Janitorial Service			x
6-X6.64	Laborer	65	70	70	10				x
6-X6.64	Greaser	1	1	1	0			x	
	TOTAL	2,030	2,709	3,505	312		37	45	28
	GRAND TOTAL	4,575	5,757	7,091	810		267	231	47

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Art	3	2	1	Ad Salesman Varitypist Advertising & Displayman
English	3	2	1	Ad Salesman Varitypist Proofreader
Writing	1	1	1	Catalog Sales
Public Speaking	2	0	0	Ad Salesman
Chemistry	1	3	3	Farm Supply Worker Mill Operator Assistant
Advanced Mathematics	24	17	10	Lab Technician Junior Draftsman Cost Estimator Trainee Draftsman Mill Operator Assistant Machine Development Trainee Die Maker
Drafting	15	4	5	Junior Draftsman Draftsman
Machine Development	2	2	2	Machine Development Trainee
Tool & Die Design	1	2	1	Draftsman
Metallurgy	0	5	0	Metal Finisher
Time & Motion Study	1	1	1	Time Study Trainee
Shop Management	1	0	1	Shop Foreman
Accounting & Advanced Bookkeeping	1	0	1	Assistant Manager & Bookkeeper Bookkeeper Accounting Clerk
Typing	45	38	39	Insurance Writer Bookkeeper Bookkeeper-Typist General Clerical Work Clerk-Typist Bookkeeper-Secretary Bookkeeper-Warehouseman Telegraphic Typewriter Operator Typist Stenographer General Office Work Bookkeeping Machine Operator Purchasing Clerk Clerk, General Office Proofreader Accounting Clerk Secretary Teller Office Clerk
Stenography	21	15	16	Bookkeeper-Stenographer Bookkeeper General Clerical Work Bookkeeper-Typist Bookkeeper-Secretary Stenographer Secretary Stenographer-Typist Administrative Clerk Stenographer-Secretary

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS	
	1965-1967	1967-1970	NEXT YEAR	
Secretarial Skills	5	5	5	Secretary-Teller Secretary Secretarial Work
Dictaphone Operating	1	0	0	General Clerical Work
Tape Recorder Operating	2	2	2	Secretarial Work
Filing	11	4	16	Bookkeeper-Typist Driver Helper Clerk-Typist Inventory & Sales Clerk File Clerk Secretary
Telephone Usage	2	1	4	Stenographer Typist
Spelling	14	12	9	Proofreader Bookkeeper Printer Ad Salesman Varitypist Stenographer-Secretary Typist
Office Practice	16	19	16	Bookkeeper-Typist General Office Clerk Stenographer Teller Typist Bookkeeping Machine Operator Stenographer-Secretary
General Business Courses	1	1	0	Cashier Service Representative Commercial Clerk
Penmanship	6	1	11	Driver Helper Clerk, General Office
Reading	2	0	1	Parts Man Set-Up Work
Business English	9	13	9	Assistant Manager & Bookkeeper Cashier Part-Time Sales Clerk Stenographer-Secretary Typist
Business Arithmetic	10	19	21	Insurance Writer Accounting Clerk Driver Salesman Grocery Checker Bakery-Wagon Driver Cashier Office Clerk Receiving & Marking Clerk Bookkeeper Gas Pump Attendant Secretary Clerk, General Office Part-Time Sales Clerk Sales Clerk Teller
Bookkeeping	12	11	9	Bookkeeper-Stenographer Bookkeeper Office Clerk General Clerical Work Bookkeeper-Typist Clerk-Typist Bookkeeper-Secretary

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS	
	1965-1967	1967-1970	NEXT YEAR	
Bookkeeping (Continued)				Bookkeeper-Warehouseman Credit Clerk General Office Work Teller Clerk, General Office Accounting Clerk General Recording Work
Bookkeeping Machine Operating	1	1	3	Bookkeeper Bookkeeping Machine Operator
Computational Office Machine Operating	3	3	1	Bookkeeper-Stenographer General Clerical Work Bookkeeper-Secretary Bookkeeper-Warehouseman Bookkeeper Clerk, General Office
Business Machines Operating	24	30	20	General Clerical Work Varitypist Bookkeeper Teller Stenographer-Secretary Typist Clerk-Typist Clerk
Payroll	2	1	1	Bookkeeper-Typist Clerk, General Office
Cash Register Operating	7	4	11	Cashier Check-Out Girl Sales Clerk Waitress
Record Keeping	4	5	1	Stock Clerk Inventory & Sales Clerk
Stock-Keeping	1	0	1	Parts Manager
Auto Parts Clerk-Servicing	4	4	2	Farm Machine Set-Up & Repair Parts Assistant Parts Man Parts Man, Farm Equipment Parts Manager
Buying	0	1	1	Parts Man
Salesmanship	5	14	16	Bookkeeper-Stenographer Salesperson, Furniture Credit Clerk Routeman, Fuel Oil Routeman Bakery-Wagon Driver Cashier Catalog Sales Inventory & Sales Clerk Part-Time Sales Clerk Sales Clerk Route Salesman Salesperson, General
Marketing	5	5	5	Catalog Sales Salesperson, General
Public Contact	2	3	2	Grocery Checker Salesperson, Furniture

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Customer Service	4	6	8	Inventory & Sales Clerk Loan Interviewer Sales Clerk Waitress
Merchandising	0	1	1	Parts Man
Product Knowledge	1	0	0	Building Supply Worker
Cooking & Food Preparation	2	4	7	Cook Waitress Cook & Food Service
Food Service	5	5	10	Waitress Car Hop Cook Cook & Food Service
Home Economics	0	1	0	Alterations Woman
Cleaning-Janitorial Service	3	5	2	Custodian
Patient Care-Nurse Aide	0	0	1	Nurse Aide
Patient Care-Orderly	0	2	0	Orderly
Agricultural Training	1	0	1	Truck Driver
Farm Background	1	2	3	Mill & Elevator Operator Farm Supply Worker Routeman, Fuel Oil
Animal Husbandry	1	0	1	Salesman
Tool & Die Making	8	4	6	Tool & Die Maker Cost Estimator Trainee
Machine Shop	132	175	166	Engine Lathe Operator Apprentice-Machinist Machine Development Trainee Draftsman Cost Estimator Trainee Mill Operator Die Maker Machinist Maintenance Mechanic Linotype Operator Printer Pressman, Printing Tool & Die Maker Assembler, Water Pump Internal-External Grinding Machine Operator Lab Technician, Junior Helpers & Learners Drill Press Operator Milling Machine Operator Turret Lathe Operator Static-Balancer Borematic Operator Grinder Electrical Assembler Tool Maker Automatic Screw Machine Operator
Bandsaw Operating	0	4	0	Welder, Arc Ironworker Helper

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Metal Machine Operating	131	168	166	Machine Operator Learners Helper Sweeper Packer Loader Rolline Helper Assembler Brake Helper Press Operator Plate Burner Ironworker Helper Machine Operator Trainee Punch Press Operator Power Shear Operator Helpers & Learners Punch Press, Shear & Brake Operator Sheet Metal Worker Drill Press Operator Milling Machine Operator Engine Lathe Operator Turret Lathe Operator Static-Balancer Boromatic Operator Grinder Automatic Screw Machine Operator Machinist & Apprentice Machinist
Machine Set-Up	63	47	61	Learners Helper Sweeper Packer Loader Rolline Helper Assembler Brake Helper Drill Press Operator Milling Machine Operator Engine Lathe Operator Turret Lathe Operator Static-Balancer Boromatic Operator Grinder
Machine Repairing & Maintenance	10	8	12	Tool & Die Maker Maintenance Worker Maintenance Assistant Turret Lathe Operator Engine Lathe Operator Automatic Screw Machine Operator Milling Machine Operator Farm Machine Set-Up & Repair
Heat Treating	3	5	8	Turret Lathe Operator Engine Lathe Operator Automatic Screw Machine Operator Milling Machine Operator Machinist & Apprentice
Auto Mechanics	21	14	20	Truck Driver Routeman Mechanic Helper & Apprentice Truck Mechanic Helper Truck Mechanic Auto Mechanic Gas Pump Attendant Apprentice Mechanic Route Salesman Service Station Attendant

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Auto Mechanics (Continued)				Parts Manager Tractor Repairman Auto Mechanic Apprentice
Auto Body Repairing	2	3	1	Body Shop Apprentice Body Repairman Auto Body Repair Apprentice
Electrical Shop	9	2	13	Routeman Maintenance Mechanic Laboratory Technician, Junior Electrician Heating & Air-Conditioning Installation Turret Lathe Operator Engine Lathe Operator Automatic Screw Machine Operator Milling Machine Operator
Home Appliance Installation & Repair	2	2	1	Appliance Installer Assistant Service Man
Woodworking Machine Operating	0	0	5	Woodworking Machine Operator
Furniture Assembling	1	1	1	Truck Helper
Carpentry	11	6	12	Carpenter Laborer Roofer & Sheet Metal Helper Carpenter Helper
Arc Welding	1	3	13	Welder, Arc Sheet Metal Worker
Heli-Arc Welding	0	3	0	Welder, Arc
Flame-Cutter Operating	0	3	0	Welder, Arc
Brazing	15	10	15	Silver Solderer Arc Welder
Soldering	15	10	5	Silver Solderer Sheet Metal Worker
Welding Shop	126	106	42	Rack Builder Maintenance Worker Learners Helper Sweeper Packer Loader Rolline Helper Assembler Brake Helper Spot Welder Silver Solderer Welder Sheet Metal Worker Roofer & Sheet Metal Helper Turret Lathe Operator Engine Lathe Operator Automatic Screw Machine Operator Milling Machine Operator
Acetylene Welding	0	2	10	Plate Burner Arc Welder
House Painting	2	0	1	Painter, Construction

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Farm Mechanics	5	3	3	Set-Up Work Mechanical Work Farm Machine Set-Up & Repair Tractor Repairman Parts Man, Farm Equipment
Meat Cutting	1	0	3	Meat Cutter Meat Cutter Apprentice
Sheet Metal Work Shop	84	81	40	Body Shop Apprentice Spot Welder Welder Plate Burner Machine Operator Trainee Assembler Power Shear Operator Helpers & Learners Punch Press, Shear & Brake Operator Sheet Metal Worker Roofer & Sheet Metal Helper Furnace Installer
Plumbing Shop	8	5	6	Maintenance Worker Routeman Plant Serviceman Plumber Plumber's Helper
Pipefitting Shop	2	2	1	Fitter's Helper
Printing Shop	1	1	1	Printer Pressman, Printing
Use of Hand and Power Tools	367	514	115	Assembly Worker Metal Finisher Machine Operator Trainee Assembler Helpers & Learners Carpenter Helper Machinist & Apprentice Auto Mechanic Apprentice Auto Body Repair Apprentice
Tool Knowledge	1	0	9	Helper, Heating & Air-Conditioning Roofer & Sheet Metal Helper Turret Lathe Operator Engine Lathe Operator Automatic Screw Machine Operator Milling Machine Operator
Blueprint Reading	148	127	187	Engine Lathe Operator Metal Polisher Lab Technician Trainee Rack Builder Inspector Tool & Die Maker Shipping & Stores Clerk Machine Development Trainee Draftsman Cost Estimator Trainee Die Maker Machinist Maintenance Mechanic Learners Helper Sweeper Packer Loader Rolline Helper Assembler Brake Helper

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Blueprint Reading (Continued)				Assembler, Water Pump Internal-External Grinding Draftsman, Junior Laboratory Technician, Junior Machine Operator Trainee Power Shear Operator Helpers & Learners Punch Press, Shear & Brake Operator Machine Operator Sheet Metal Worker Carpenter Drill Press Operator Milling Machine Operator Turret Lathe Operator Static-Balancer Borematic Operator Grinder Electrical Assembler Spot Welding Roll-Form Operator Carpenter Helper Machinist & Apprentice
Shop Mathematics	66	80	35	Machinist Inspector Press Operator Sheet Metal Worker Apprentice Machinist
Use of Slide Rule	7	6	7	Lab Technician Trainee Timekeeper Time Study Trainee Draftsman Cost Estimator Trainee
Use of Precision Instruments	137	190	129	Lab Technician Trainee Rack Builder Inspector Tool & Die Maker Machine Development Trainee Cost Estimator Trainee Assembler, Water Pump Internal-External Grinding Machine Operator Assembler Drill Press Operator Milling Machine Operator Engine Lathe Operator Turret Lathe Operator Static-Balancer Borematic Operator Grinder Roll-Form Operator Machinist & Apprentice Machinist
Inspecting, Machine Shop	41	52	16	Inspector Sheet Metal Worker
Technical Quality Control	8	5	1	Lab Technician Automatic Screw Machine Operator
Shop Layout Work	3	10	3	Welder, Arc Plate Burner Machinist & Apprentice
Fuels and Combustion	1	0	1	Heating & Air-Conditioning Installation

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Refrigeration & Heating	1	0	1	Heating & Air-Conditioning Installation
Hydraulics	2	1	2	Mechanical Work Tractor Repairman
Spray Painting	38	51	5	Porcelain-Enamel Worker Spray Painter Auto Body Repair Apprentice
Motor Vehicle Operating	1	1	2	Routeman Route Salesman
Spot Welding	4	7	10	Plate Burner Ironworker Helper Spot Welding
Truck Driving	19	31	11	Teamster Building Supply Worker Hauling Machine Operator Truck Driver Farm Machine Set-Up & Repair
General High School Training	11	6	13	Bakery-Wagon Driver Sales Clerk Waitress Stock Boy Assistant Manager Stock Clerk Sales & Service Farm Store Bookkeeper Stenographer-Typist Administrative Clerk Purchasing Clerk Parts Man Mill Worker Teller Secretary-Teller Apprentice Lineman Manager Clerk General Disposal Plant Operator Diesel Operator Driver Salesman
Commercial High School Training	1	8	6	Credit Clerk Office Clerk Receiving & Marking Clerk Cashier Service Representative Commercial Clerk Bookkeeping Machine Operator Teller Bookkeeper Clerk Parts Man
Vocational High School Training	2	2	2	Apprentice-Machinist

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Employers also listed the following personal attributes as important for specific jobs:				
Pleasing Personality	0	3	1	Grocery Checker Assistant Manager & Bookkeeper
Manual Dexterity	377	512	106	Assembly Worker Silver Solderer Auto Mechanic Apprentice Auto Body Repair Apprentice
Mechanical Aptitude	12	17	27	Apprentice-Machinist Electrical Assembler
Strong and Healthy	2	2	2	Apprentice-Machinist
Reliability	10	0	0	Blueprint Operator
TOTALS	2,200	2,570	1,586	

VT 003 284
Layfayette Vocational School Training Survey.

Indiana Employment Security Div., Indianapolis. Research and Statistics
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Apr66 47p.

*OCCUPATIONAL SURVEYS; *EMPLOYMENT OPPORTUNITIES; LABOR FORCE; EMPLOYER ATTITUDES; EMPLOYMENT STATISTICS; *EMPLOYMENT QUALIFICATIONS; EMPLOYMENT TRENDS; *HIGH SCHOOL GRADUATES; EDUCATIONAL NEEDS; OCCUPATIONAL INFORMATION; JOB SKILLS; OCCUPATIONAL CLUSTERS; *VOCATIONAL EDUCATION; ON THE JOB TRAINING; YOUTH EMPLOYMENT LAYFAYETTE, INDIANA

A survey determined jobs in the area which were suitable for inexperienced high school graduates and identified the skills and knowledge required by employers to qualify youth for entry into these jobs. The results were to be used by school officials in evaluating current courses and in planning future vocational training facilities. More than one-third of the estimated 33,925 workers employed in nonfarm industries in the Layfayette area were working on jobs that inexperienced high school graduates could fill, provided the jobs were open and the necessary training was given. Growth was predicted in most of these occupations, and an additional 3,319 openings would be available each year to replace workers who retire, die, or leave the occupation. Vocational training skills associated with clerical and related jobs were cited most frequently as a requirement for anticipated job openings. The second most frequently cited were those closely related to the machine trades and crafts occupations with mechanical and carpentry skills predominating. Assessment of the proficiency level of desired skills and clarification of employer's terminology is needed to assure maximum usefulness of the data in setting up certain specific training courses. Detailed tables of youth-suitable jobs and skills requirements are included in the appendix. (HC)

VT 003 284

EDO 30001

LAFAYETTE VOCATIONAL TRAINING SURVEY

INDIANA EMPLOYMENT SECURITY DIVISION

EDO 030384

STATE OF INDIANA
ROGER D. BRANIGIN, GOVERNOR
Indiana Employment Security Division
Lewis F. Nicolini, Director

LAFAYETTE VOCATIONAL SCHOOL

TRAINING SURVEY

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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INDIANA EMPLOYMENT SECURITY DIVISION
Research and Statistics
10 North Senate Avenue
Indianapolis, Indiana 46204

April 1966

PREFACE

The Lafayette Vocational Training Survey was initiated by Mr. Karl Leffler, Director of Vocational and Adult Education in the Lafayette School Corporation, and was conducted by the Lafayette local office and the Research and Statistics Section of the Indiana Employment Security Division. The purpose was to determine what jobs in the area would be suitable for inexperienced high school graduates, and to identify the skills and knowledge required by employers to qualify youth for entry in these jobs. Employers were asked to recommend new and additional training courses which would be most valuable in preparing youth for jobs in their firms.

The results of this survey of employers' needs in Tippecanoe County will aid school officials in evaluating their present courses, and in planning future vocational training facilities that will be most practical and useful. Both employers and educators have become more aware of the need for closer cooperation and the necessity for setting up a regular exchange of information between hiring officials in industry and training officials in schools. This awareness of interdependence and the need for planning is of great value to an entire community.

The tendency in most secondary schools has been to emphasize academic programs geared to provide students with the necessary background to meet college entrance requirements. Although this type of educational approach is necessary, it may tend to neglect the needs of the students who must compete in the labor market immediately after high school graduation. Because the number of youths entering the labor force has increased and the rate of teenage unemployment remains high in relation to the total unemployment rate, more attention is being focused on vocational training. Schools must be allowed adequate space, up-to-date facilities and equipment, and sufficient teaching staff to provide non-college bound youths with well-rounded training and marketable skills.

Under the provisions of the Vocational Education Act of 1963, the identification and reporting of area training needs to the Vocational Education Department is the responsibility of the Indiana Employment Security Division. The following study was made to comply with this responsibility.

SUMMARY

More than one third of the people currently employed in nonfarm industries in the Lafayette area are working on jobs that inexperienced high school graduates could fill, provided the jobs were open and the necessary training given. Growth was predicted in most of the occupations for which youth could be trained. Many additional openings will be available each year to qualified young people to replace those workers who retire, die, leave the occupation or withdraw from the area's labor market.

Surveyed employers estimate that during the next five-year period, job opportunities for youth will grow at the average annual rate of seven per cent. By 1967, a total of 2,032 new jobs will be added and during the remaining three-year period, 2,143 additions will be made. Replacement needs* for next year numbering 3,319, a rate of 27 per cent, were reported by employers.

Vocational facilities designed to meet employers' increasing needs in a wide variety of skills is indicated. Vocational training in skills associated with clerical and related jobs, with emphasis on typing training, was cited most frequently as a requirement for anticipated job openings. Skills closely related to the machine trades and crafts occupations were reported as having the second largest number of increased needs for training, with mechanical training and carpentry skills predominating.

Recommendations by employers for new or additional training to be offered in an expanded high school program covered a wide variety of skills. Assessment of the proficiency level in the desired skills is needed and clarification of employers' terminology in some instances would be required to assure maximum usefulness of this data by the school system in setting up certain specific training courses.

Table A and Table B in the Appendix present detailed listings of the suitable jobs and skill requirements. Since many of the jobs involve multiple skills, it is important to study the skill needs along with job needs in order to relate the two.

* Replacement needs represent jobs to be filled because the previous employees are no longer available for work in the occupation. One of the reasons why replacement needs are high is that many jobs which are suitable for youth require little or no specific training for entry and are filled by students on a part-time or temporary basis. When their schooling is completed, these youth leave such jobs for others more closely related to their new qualifications. Another reason is the many jobs suitable for youth at Purdue University and the fact that many are filled by students and their working wives during their periods of enrollment. Such jobs are included in replacement needs; however, influx of new enrollees provides a continual source of supply from outside the Lafayette area.

Employers were asked to exclude workers going from one firm to another in the same occupation, but this is difficult to do unless exit interviews are conducted and permanent records are kept. We feel that replacement needs probably include some turnover in the occupations and are over-stated because of this.

To have disregarded replacement needs altogether in this study would have been to understate needs; we chose to release the one-year figures, with explanation of their content and a caution about their use in estimating actual numbers of future training needs for youth.

OCCUPATIONS SUITABLE FOR YOUTH

The results of the survey of Lafayette employers show that there is a substantial number of jobs suitable for qualified youth in the area. Growth in most of these occupations is predicted over the next two and five-year periods.

There are an estimated 12,302 jobs in the area which are suitable for inexperienced high school graduates. This constitutes more than one-third of the estimated total of 33,925 employed in nonagricultural jobs in October 1965, the survey period. In the next two years, employers anticipate expansion to 14,334 employed in these occupations and a further increase to nearly 16,500 is expected by 1970. Growth will approximate 4,200 over the next five-year period amounting to 840 new jobs per year.

Replacement needs reported by surveyed employers total 3,319 for a year. Replacements are workers who leave the labor force for reasons such as retirement, disability, death, or entry into the Armed Forces, or those who leave the occupation or move from the area. Several factors (which are related in the summary) may have a bearing on this seemingly higher-than-normal replacement rate.

Although considerable caution is advised in using replacement figures to estimate actual numbers of future needs, the total replacements as reported do represent the strength of training needs in certain specific occupational categories.

TABLE I

ESTIMATED CURRENT EMPLOYMENT AND ANTICIPATED NEEDS IN OCCUPATIONS SUITABLE FOR YOUTH, BY OCCUPATIONAL GROUP

OCCUPATIONAL GROUP	CURRENT EMPLOYMENT	ANTICIPATED ADDITIONS 1965-1967	ANTICIPATED ADDITIONS 1967-1970	REPLACEMENT NEEDS FOR NEXT YEAR
Professional, Technical & Managerial Work	264	53	92	67
Clerical & Related Work	3,033	330	562	1,076
Public Contact Work	1,260	91	66	239
Service Work	1,514	109	181	605
Skilled Work	1,513	334	263	252
Manual Work	4,718	1,115	979	1,080
Total	12,302	2,032	2,143	3,319

The largest number of workers currently employed in occupations listed as suitable for youth appeared in the semiskilled and unskilled jobs in manual work; more than 38 per cent of the estimated total of 12,302 workers are employed in this group. This group also reported the largest number of anticipated needs for expansion and replacements. Of the jobs listed in the manual work category, the largest numbers are currently employed as production workers, assemblers and janitors. More than 41 per cent of the jobs in this group are in these occupations, while approximately 81 per cent of the two-year anticipated additions for this group will be in these three occupations also.

TABLE II

GROWTH AND REPLACEMENT RATES IN OCCUPATIONS SUITABLE FOR YOUTH, BY OCCUPATIONAL GROUP

OCCUPATIONAL GROUP	CURRENT EMPLOYMENT	RATE OF GROWTH ANTICIPATED ADDITIONS 1965-1967	RATE OF GROWTH ANTICIPATED ADDITIONS 1967-1970	RATE OF REPLACEMENTS NEXT YEAR
Professional, Technical & Managerial Work	264	20%	29%	25%
Clerical & Related Work	3,033	11%	17%	35%
Public Contact Work	1,260	7%	5%	19%
Service Work	1,514	7%	11%	40%
Skilled Work	1,513	22%	14%	17%
Manual Work	4,718	24%	17%	23%
Total	12,302	17%	15%	27%

Nearly one fourth of the total currently employed in youth-suitable jobs are in the clerical and related group with the second largest number of total anticipated needs here also. Of the 3,033 workers currently employed in jobs in this category, nearly half are working as typists, clerk-typists and general office clerks, and almost one third of the new jobs in this category will be in these three occupations. Further increases are anticipated in the succeeding three years, and by 1970, almost 40 per cent of the new clerical jobs will be in these three occupations. Replacements will be needed at the rate of 35 per cent in all clerical occupations as a group; the one-year replacement rate for these three occupations is slightly less than 34 per cent.

Growth in secretarial positions will be less spectacular; during the coming two-year period, there will be 6 per cent more jobs and during the succeeding three-year period there will be an increase of 20 per cent. Replacements in

this occupation are very high; almost half of the total number now working will have to be replaced next year. The large numbers of women who have a temporary attachment to the labor force or to the area probably cause this high rate of leaving. This may be considered as a factor influencing replacement needs in other clerical occupations as well.

Growth in the skilled occupations is anticipated at the rate of 22 per cent during the next two-year period, and 14 per cent for the succeeding three-year period. The annual replacement rate in these occupations is the smallest of any of the groups; only 17 per cent of the total currently employed will need to be replaced in the coming year. In the next two-year period, more than half of the new jobs in the skilled group will be in the crafts segment and the following three-year period will show an increase which will amount to around 30 per cent of the total new jobs in this group. More than 56 per cent of the annual skilled replacements will be in the crafts. Less growth and fewer replacement needs are predicted for the machine trades.

Although growth rate in the service jobs for youth will be less than any other group, the replacement rate is the highest at 40 per cent of those currently employed. Many young people accept service jobs on a part-time or temporary basis and move on to a different occupation upon completion of training. In these jobs, the large number of women who marry and leave the labor force also affects the replacement rate.

Of the total number of occupations listed by the surveyed firms as suitable for youth, 43 per cent are in manufacturing industries. These firms predicted a greater growth rate than nonmanufacturing establishments over the next two-year and five-year periods; by 1967, more than 45 per cent of the jobs for youth will be in manufacturing firms. More than two thirds of the yearly replacements will be needed in the nonmanufacturing jobs for youth.

Table A in the Appendix contains a detailed listing of the separate occupations indicated by employers as suitable for youth, with a tabulation of anticipated available openings.

Training methods recommended by employers in these occupations varied from one employer to another in the same occupation and from one occupation to another according to individual hiring requirements. Employers recommended vocational or general high school training in more than half of the occupations, involving two thirds of the workers; three quarters of the listed occupations were checked as requiring some type of on-the-job training, involving approximately 85 per cent of the workers. In many of the jobs, employers felt that a combination of both high school and additional on-the-job training was required; in 44 per cent of the occupations involving 56 per cent of the workers this combination was indicated.

Totaled in the table below are the number of occupations and current employment in these occupations listed according to the preparation methods recommended by employers.

TABLE III

TRAINING METHODS RECOMMENDED BY EMPLOYERS IN OCCUPATIONS SUITABLE FOR YOUTH, BY OCCUPATIONAL GROUP

OCCUPATIONAL GROUP	TOTAL NUMBER LISTED	HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING	COMBINATION H.S. & O.J.T.
PROFESSIONAL, TECHNICAL AND MANAGERIAL				
Number of Occupations	15	11	13	10
Current Employment	264	248	229	221
CLERICAL AND RELATED				
Number of Occupations	102	76	72	52
Current Employment	3,033	2,615	2,459	2,073
PUBLIC CONTACT WORK				
Number of Occupations	35	24	29	20
Current Employment	1,260	1,122	1,210	1,098
SERVICE WORK				
Number of Occupations	49	12	45	12
Current Employment	1,514	278	1,437	278
SKILLED WORK				
Number of Occupations	69	46	54	35
Current Employment	1,513	1,232	1,389	1,136
MANUAL WORK				
Number of Occupations	85	31	59	27
Current Employment	4,718	2,770	3,759	2,044
TOTAL				
Occupations Listed	355	200	272	156
Current Employment	12,302	8,265	10,483	6,850

In eleven of the fifteen separate occupations in the professional, technical and managerial category, employers indicated high school training was needed; in all except one of these, some kind of on-the-job training was also indicated. In thirteen of the occupations, on-the-job training was indicated as a requirement, and in ten of these, a combination of both high school training and additional on-the-job training was indicated.

In the service occupations, entrants in 45 of the 49 occupations listed as suitable for youth could receive training on the job, while only twelve required high school training for entry. In twelve of the occupations, high school training and additional training on the job were recommended.

In the manual work group involving semiskilled and unskilled job openings, only 31 of the 85 occupations listed required high school training, and only 27 occupations required a combination of high school training and additional on-the-job training. For 59 of the 85 occupations in this category on-the-job training was indicated; for some of these high school training was also desirable.

Table A in the Appendix lists the separate occupations as reported by the surveyed employers with the type of training considered desirable in each. The skills for which employers considered high school or vocational training as necessary preparation are tabulated by the number of additions and replacements needed in the next two and five-year periods to fill anticipated openings.

SKILLS AND KNOWLEDGE REQUIREMENTS

As a guide to area educators in setting up school curriculum, skills and knowledge requirements for the jobs available to youth have been tabulated in detail in the Appendix, Table B, and summarized by broad occupational classifications in the table below. Many of the jobs require workers trained in multiple skills; however, these skills must be considered separately when estimating future enrollments needed.

TABLE IV

ENROLLMENTS REQUIRED TO FILL ANTICIPATED SKILL REQUIREMENTS, BY OCCUPATIONAL GROUP

	TRAINING NEEDS IN THE SKILLS REQUIRED		
	FOR EXPANSION		FOR REPLACEMENTS
OCCUPATIONAL GROUPING	1965-1967	1967-1970	NEXT YEAR
Professional, Technical & Managerial Skills	160	311	238
Clerical and Related Skills	587	1,041	2,263
Public Contact Skills	42	10	152
Service Skills	34	72	48
Agricultural Skills and Knowledge	12	6	18
Machine Trades and Crafts Skills	517	478	730
Manual Work Skills	8	9	10
High School Training (General, Commercial & Vocational)	305	437	521
Total	1,665	2,364	3,980

In relating the skills and knowledge to the associated jobs, it should be noted that employers often expressed different opinions about what qualities are important in the same types of jobs. Others may have noted only the principal qualifying skills, while taking for granted that high school graduates in general would possess certain skills in the necessary degree. In this survey, skills were identified, but no attempt was made to evaluate proficiency or level of skill needed.

Employers listed nearly 100 separate skills, knowledge, aptitudes or personal traits needed to perform various jobs considered suitable for youth. Around 80 of these were also associated with jobs for which high school or vocational training was considered important.

By 1967, 1,665 total enrollments in the various training courses will be needed to handle expansion expectations and from 1967 to 1970, 2,364 additional courses will be needed. To replace workers who leave jobs vacant, an estimated total of 3,980 skill requirements will be needed next year.

The most numerous expansion and replacement needs appeared in skills associated with clerical and related jobs. Of the 587 additions expected in these skills by 1967, 60 per cent were in typing, office procedures and business arithmetic, 64 per cent of the additions anticipated from expansion requirements over the succeeding three-year period and 70 per cent of one-year replacement needs were in these categories also. Total five-year expansion needs for typing will amount to 483 training courses and replacement needs for next year will require 730 courses.

Next most numerous were the skill requirements associated with the skilled machine trades and crafts grouping, with the needs for mechanical training and carpentry predominating.

Completion of high school training (general, commercial or vocational courses) was listed as sufficient qualification for entry workers in many of the jobs. Some employers also specified certain skills to be obtained in this training.

EXISTING TRAINING COURSES

At present, the Tippecanoe County schools offer very limited vocational education facilities. The following 1964-65 enrollment information was supplied by the State Vocational Education Department:

Name of School Corporation	Training Program (Apprenticeship)	Enrollment Day	Enrollment Evening	Total
Lafayette School Corporation	Carpentry	--	16	
	Electricity	--	24	
	Plumbing	--	10	
	Diversified Cooperative Ed.	48		
				98
West Lafayette Community School Corporation	Diversified Cooperative Ed.	8		8
Tippecanoe County School Corporation	Vocational Agriculture	147	--	
	Horticulture	--	24	
	Farm Management	--	12	
	Productive Agriculture	--	50	
				233
	Total in County			339

Courses in welding, machine shop and vocational homemaking are available. In addition, the establishment of local vocational training facilities in the office occupations has been approved.

There are no training courses in progress under the Manpower Development and Training Act in the area.

Most of the surveyed employers provide some form of company training, either as the entire amount of the qualifying training, or as additional on-the-job apprenticeship or orientation training to entry workers. The majority of these employers indicated that their programs were adequate to fill their anticipated needs provided a sufficient supply of qualified applicants is available. However, for certain jobs, applicants must have obtained specific background skills in high school in order to qualify.

EMPLOYER TRAINING RECOMMENDATIONS

Although employers in general felt their existing company training programs were adequate to fill the needs for which they were designed, some employers indicated a definite lack in certain occupations. Inadequate company training provisions were reported in the construction crafts occupations; additional company training could also be provided for mechanical repairmen, stock clerks, clerical workers (particularly typists), cashiers, salesmen (retail and wholesale), meat cutters, cooks and food service workers, laboratory assistants and maintenance workers.

Employers listed under the appropriate training method those occupations or skills for which new or additional training is most needed to prepare workers for jobs in their firms.

Following are the skills and occupations most frequently shown:

MANUFACTURING FIRMS

COMPANY TRAINING (INCLUDING APPRENTICESHIP)

Automatic Screw Machine Operator
Maintenance Work
Mechanic
Mixer Operator
Plant Batchman
Skilled Trades
Tool and Die Maker
Tool Training

HIGH SCHOOL TRAINING

Blueprint Reading
Electrician
Machine Shop
Mechanics
Ready-Mix Mfg.
Shop Math
Toolmaking
Woodworking
Clerical Skills
Large Vehicle Oper.
Machinist
Oper. of Weight Scales
Sheet Metal Shop
Tool Care
Trigonometry

NONMANUFACTURING FIRMS

COMPANY TRAINING (INCLUDING APPRENTICESHIP)

Bricklayer
Carpenter
Cement Finisher
Checker
Cooks, Bakers, General Restaurant Workers
Crafts and Machine Trades Apprentices
Forklift Operator
Ironworker
Lineman
Mechanics and Parts Clerks (Auto, Diesel and Farm Equipment)
Office Clerks
Retail Grocery Occupations
Salesman

HIGH SCHOOL TRAINING

Arithmetic
Carpentry
Engineering
Lab Assistant
Mathematics
Mechanics
Shop
Vocabulary
Blueprint Reading
English
Food Service and preparation
Mechanical Training
Penmanship
Spelling
Welding
Occupations in Crafts and Trades
Retail Grocery Occupations

Information useful in setting up an expanded high school program was sought from employers in an effort to find out what courses would be most valuable in preparing youth for jobs in their firms. The following tabulation of widely diversified training recommendations is the result:

Accounting and Math	Agriculture	Architectural Drafting
Arithmetic	Auto Mechanics	Bacteriology
Baking	Biology	Blueprint Reading
Building Trades	Business Admin.	Business Law
Business Management	Care of Tools and Machines	Carpentry
Cashier	Composition	Cooking
Cost Estimating	Diesel Engine Repair	Economics
Electricity	Electronics	English
Farm Equipment Repair	Filing	Finance
Food Handling	Gasoline Engine Repair	Health and Sanitation
Home Economics (Boys)	Key-Punch Operating	Letter Writing
Machine Shop	Maintenance	Mathematics
Meat Cutting	Mechanical Drawing	Office Practice
Penmanship	Pipefitting	Produce and Stock Clerk
Public Relations	Reading	Ready-Mix Operator
Sales	Science	Service Writing
Sewing	Simple Layout	Sheet Metal Work
Shipping and Receiving	Shop Math	Shop Craft--Mechanical
Shorthand-Typing	Spelling	Tool Making
Typing	Use of Hand and Machine Tools	Use of Precision Instruments
Use of Slide Rule	Waitress	Welding

Some area employers also suggested the possibility of including high school courses to improve the personal attributes of the individual young workers. Among those mentioned were good grooming and personal development.

Surveyed firms were asked to list any part-time jobs in their firms for which they would consider using students in a cooperative work-school program. More than 38 per cent of the responding employers listed jobs adaptable to this type of program.

Manufacturing firms listed ten different kinds of occupations suitable for students in a cooperative program. These were listed in eight different industries and included the occupations of baker helper, laborer (18 years old or over), key-punch operator, machine operator helper, machinist, molder helper, technician, office clerk, apprentice printer and draftsman.

More than forty nonmanufacturing employers listed jobs suitable for youth in a cooperative program. Nearly 88 per cent of these were engaged in wholesale and retail trade, offering the suitable occupations of sales clerks and cashiers, office clerks, stock clerks, order and mail clerks, laborers and dock and warehouse workers, and various types of restaurant work. In other nonmanufacturing industries, such jobs as drafting, apprentice pharmacist, mechanic helper and car washers were mentioned as adaptable to a cooperative program.

APPENDIX

METHODOLOGY

In October 1965, survey forms were mailed to a sample of firms selected from those covered by the Indiana Employment Security Act 1/ in Tippecanoe County, plus the largest noncovered firms in the area.

Employers were asked to list the jobs for which they would hire inexperienced youth who had recently completed high school. They were also asked to indicate the specific skills and knowledge required by youth for entry into these jobs. In order to estimate the extent of the needs in terms of kinds and numbers of courses to be offered, information on current and anticipated employment by occupation two and five years hence was requested. In addition, replacement needs by occupation were estimated for the coming year. Replacement need consists of jobs left vacant by workers who retire, die, or leave the occupation, or move out of the area.

The employing firms were asked to express their opinion as to how the necessary skills and knowledge could best be acquired--whether through high school courses or through their own on-the-job training of youth.

The survey results were expanded to area totals by applying industry and size group inflation factors. The table below lists total estimated Tippecanoe County employment by industry grouping as of October 1965.

TABLE V

EMPLOYMENT, BY INDUSTRY

TIPPECANOE COUNTY EMPLOYMENT, BY INDUSTRY
OCTOBER 1965

TOTAL EMPLOYED	37,765
Employed in Nonfarm Industries	33,975
Manufacturing	9,310
Durable Goods	7,435
Nondurable Goods	1,875
Nonmanufacturing	24,665
Mining	50
Construction	1,180
Transportation, Communication and Public Utilities	1,365
Wholesale and Retail Trade	6,715
Finance, Insurance and Real Estate	1,770
Service Industries	4,500
Government	9,000
All Other Nonmanufacturing	85
All Other Nonagriculture	2,780
Agriculture	1,010

Total employment in the Lafayette area was estimated at 37,765 in October 1965. Of this figure, 65 per cent were employed in nonmanufacturing and 25 per cent in manufacturing industries, while nearly 3 per cent of the total were employed in agriculture.

1/ Firms subject to the Act include those which employ four or more workers in any twenty weeks of a year. Excluded from coverage are agriculture, railroads, government and domestic help and casual labor. In general, about three fourths of nonfarm employment is covered, including about 96% of manufacturing but a smaller percentage of nonmanufacturing.

DETAILED TABLES

Table A - The Youth-Suitable Jobs
(21 pp.)

Table B - The Skill Requirements
(7 pp.)

TABLE A -- INVENTORY OF OCCUPATIONS SUITABLE FOR YOUTH AND ESTIMATED NEEDS

SUITABLE OCCUPATIONS		ESTIMATED NUMBER OF ADDITIONAL NEEDS			RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION		
D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
Professional, Technical and Managerial Work							
0-X1.2	Art Layout and Chartist	0	0	0	Advertising Layout	x	
0-X7.03	Apprentice, Pharmacist	0	0	0			
0-X7.03	Apprentice, Pharmacist	0	0	4	Business Arithmetic	x	x
0-X7.04	Laboratory Assistant	5	7	5	Biology	x	x
	Laboratory Technician	19	55	43	Chemistry Physics Biology Laboratory Techniques	x	x
0-X7.4	Assistant Engineer	0	2	2	Engineering Commercial High School Training	x	x
	Electronics Technician	25	26	10	Electronics Advanced Mathematics Chemistry	x	x
0-X8.10	Assistant Parts Manager	2	2	1	Cataloging Auto Parts Digital and Alphabetical Filing	x	x
	Department Manager	0	0	0	Business Management Business Arithmetic Knowledge of Farm Machinery Sales	x	x
	Office Manager	0	0	0	Accounting	x	x
	Trainee, Department Manager	2	0	2	Grammar Business Arithmetic Cash Register Operating Penmanship	x	x
0-X8.25	Assistant Manager	0	0	0	Commercial High School Training Business Management	x	x
	Assistant Manager	0	0	0	Knowledge of Food Business		x
0-X8.41	Maintenance Foreman	0	0	0	Wiring and Machine Maintenance		x

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D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
0-X8.41	Tool and Die Foreman	0	0	0	Tool and Die Training		x
	TOTAL	53	92	67		11	13
Clerical and Related Work							
1-X1.1	Comptometer Operator	0	0	1	Comptometer Operating		x
	Junior Machine Operator	5	6	3			
1-X2.0	Accounting Clerk	1	1	3	Business Arithmetic Bookkeeping	x	x
	Accounting Clerk	0	0	2	Business Arithmetic	x	
	Bookkeeper	1	1	1	Bookkeeping	x	
	Bookkeeper	0	0	0	Accounting Bookkeeping	x	x
	Bookkeeper	0	0	0	Bookkeeping	x	
	Cashier	0	0	1	Typing Business Arithmetic	x	x
	Cashier and Teller	8	10	20	Business Arithmetic Money Counting Cash Register Operating	x	x
	Clerk	0	0	12	Typing Shorthand Bookkeeping	x	x
	Credit Reporter	5	4	0	Typing Office Procedures	x	x
	Fiscal Clerk	11	6	18	Accounting Typing	x	x
	General Office Clerk	0	0	0	Typing Digital and Alphabetical Filing	x	
	General Office Clerk	12	31	160	Typing Office Procedures	x	x
	General Office Clerk	0	7	5	Commercial High School Training	x	

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D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
1-X2.0	General Office Clerk	1	0	2	Typing Digital and Alphabetical Filing Office Procedures	x	x
	General Office Clerk	0	0	3	Typing Filing Shorthand Commercial High School Training	x	x
	General Office Clerk	0	0	26	General High School Training	x	
	General Office Clerk	2	2	2	Average Intelligence	x	x
	General Office Clerk	2	0	1	Typing Clerical Aptitude Commercial High School Training	x	x
	General Office Clerk	24	33	24	Typing Bookkeeping	x	x
	General Office Clerk	0	2	2			
	General Office Clerk	4	7	8	Commercial High School Training	x	x
	General Office Clerk	0	0	2	Commercial High School Training Typing	x	x
	General Office Clerk	0	0	0	Bookkeeping Shorthand Typing	x	
	General Office Clerk	0	0	0	Typing Shorthand Business Arithmetic Business English Transcribing Machine Operating Copy Machine Operating	x	x
	General Office Clerk	3	2	0	Office Procedures Typing	x	x
	General Office Clerk	0	2	2	Office Machines Operating Office Procedures General High School Training	x	x

TABLE A - INVENTORY OF OCCUPATIONS SUITABLE FOR YOUTH AND ESTIMATED NEEDS

SUITABLE OCCUPATIONS		ESTIMATED NUMBER OF ADDITIONAL NEEDS			RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION		
D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
1-X2.0	General Office Clerk	0	3	8	General High School Training Typing Office Machines Operating	x	x
	Junior Office Clerk	2	0	2	Office Machines Operating Business Arithmetic Grammar Office Procedures	x	x
	Office Machine Operator	0	0	4	Bookkeeping Typing	x	x
	Ward Clerk	4	8	3	General High School Training	x	x
1-X2.2	Clerk-Typist	0	0	1	Typing Business Arithmetic	x	x
	Clerk-Typist	8	8	24	Typing	x	
	Clerk-Typist	0	2	2	Office Procedures Typing General High School Training	x	x
	Clerk-Typist	0	4	0	Clerical Aptitude Business Arithmetic Pleasing Personality Business English Neat Appearance	x	x
	Clerk-Typist	0	0	0	Typing	x	
	Office Machine Operator	2	0	0	Typing	x	
	Office Machine Operator	0	0	2	General High School Training Office Machines Operating Vocational High School Training	x	x
	Transcribing Machine Operator	3	4	3	Typing Transcribing Machine Operating	x	x
	Typist	25	91	208	Typing Office Procedures	x	x

TABLE A -- INVENTORY OF OCCUPATIONS SUITABLE FOR YOUTH AND ESTIMATED NEEDS

SUITABLE OCCUPATIONS		ESTIMATED NUMBER OF ADDITIONAL NEEDS			RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION		
D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
1-X2.2	Typist	10	24	16	Typing Transcribing Machine Operating	x	x
	Typist	0	0	2	Typing Commercial High School Training	x	
	Typist	5	4	0	Typing Office Procedures	x	
1-X2.3	Clerk-Stenographer	2	3	0	General High School Training Typing Shorthand	x	x
	Secretarial Work	3	0	3	Secretarial Skills Business Letter Writing	x	
	Secretary	9	38	84	Typing Shorthand Office Procedures	x	x
	Secretary	0	0	2	Typing Shorthand	x	
	Secretary	0	0	27	Office Procedures Use of Slide Rule Bookkeeping Typing Office Machines Operating	x	
	Secretary Receptionist	2	2	4	Pleasing Personality Neat Appearance Clerical Aptitude Business Arithmetic Business English	x	x
	Stenographer	3	4	6	Typing Shorthand	x	
	Stenographer	11	49	108	Office Procedures Typing Shorthand	x	x
	Stenographer	0	0	2	Typing Shorthand	x	
	Stenographer-Typist	0	2	1	Business English Typing Shorthand	x	x

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D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
1-X2.8	Floor Stock Clerk (Checker)	2	2	10	Pleasing Personality Neat Appearance Figure Aptitude		x
	Inventory Clerk	2	2	3	Accuracy	x	
	Medical Records Clerk	2	5	2	Digital and Alphabetical Filing	x	x
	Parts Clerk	0	2	0	Mechanical Aptitude		x
	Parts Man	2	4	2	Business Arithmetic	x	x
	Purchasing Expediter	1	0	1	Commercial High School Training	x	
	Receiving and Shipping Clerk	2	0	0	Good Reading Comprehension Penmanship Typing Shop Math Good Color Vision	x	x
	Receiving Clerk	0	2	0	Figure Aptitude Physical Dexterity		x
	Sack Boy and Stock Clerk	0	0	0			
	Shipping and Receiving Clerk	4	0	12			x
	Shipping and Receiving Clerk	0	0	0	General High School Training	x	x
	Stock and Receiving Clerk	0	4	2	Shipping and Receiving Inventory Control Merchandise Display Commercial High School Training	x	x
	Stock Clerk	2	4	3	General High School Training	x	x
	Stock Clerk	24	49	73	Business Arithmetic	x	x
	Stock Clerk	6	4	6	Business Arithmetic	x	x
	Stock Clerk	10	4	10			x
	Stock Clerk	3	5	2			x
	Stock Clerk	0	1	0	Record Keeping		x

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SUITABLE OCCUPATIONS		ESTIMATED NUMBER OF ADDITIONAL NEEDS			RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION		
D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
1-X2.8	Stock Clerk	0	3	0	Commercial H. S. Training	x	x
	Stock Clerk	0	0	0	Record Keeping		
	Stock Clerk	2	2	6	General High School Training	x	x
	Stock Clerk	4	4	10			x
	Stock Clerk	4	0	10	Stock Keeping		x
	Stock Clerk	0	0	0			
	Stock Clerk	2	2	2			x
	Stock Handler	2	2	8	Figure Aptitude Physical Dexterity		x
	Stockman	0	0	4	General High School Training		x
	Storeroom Clerk	0	0	0	General High School Training	x	x
	Talley Checker	1	1	3	Accuracy		x
	Warehouse Supervisor	0	0	0	Average Intelligence	x	x
1-X2.9	Billing Clerk	1	1	1	Commercial High School Training Office Machines Operating	x	
	Check Sorter and Filer	3	0	0	Pleasing Personality Typing Average Intelligence Clerical Aptitude	x	x
	Data-Processing Equipment Operator	21	14	10	Business Arithmetic Computer Operating Keypunch Operating	x	x
	Keypunch Trainee	16	17	5	Typing Keypunch Operating	x	x
1-X4.0	Carrier (City and Rural)	15	20	5			x
	Clerk (Sorter)	3	7	1			x
	Coding Clerk	1	1	2	Digital and Alphabetical Filing Accuracy	x	x

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SUITABLE OCCUPATIONS		ESTIMATED NUMBER OF ADDITIONAL NEEDS			RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION		
D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
1-X4.0	File Clerk	17	24	16			x
	File Clerk	2	2	4	Digital and Alphabetical Filing	x	
	File Clerk	3	3	8	Digital and Alphabetical Filing	x	x
	Filing Clerk	1	1	1	Commercial High School Training Office Machines Operating	x	
	Mail Clerk	0	0	0			x
	Office Service Clerk	0	3	1	Digital and Alphabetical Filing Office Procedures	x	x
1-X4.4	Addressograph Operator	1	0	2	Typing	x	
1-X4.9	Mail Room Clerk	0	0	0	Manual Dexterity Mechanical Aptitude Typing Office Machines Operating	x	
	Messenger	0	2	2	Driver's License		
	Office Boy	0	0	37			x
	Postal Operator	3	5	2			x
	TOTAL	330	562	1,076		76	72
Public Contact Work							
1-X5.5	Clerk	4	2	4	Business Arithmetic Ability to Meet Public Neat Appearance	x	x
	Clerk	4	0	4	Ability to Meet Public General High School Training Ordering Inventory Control Merchandise Display	x	x
	Cosmetician	0	0	0			
	Dairy Clerk	0	0	2			x

TABLE A -- INVENTORY OF OCCUPATIONS SUITABLE FOR YOUTH AND ESTIMATED NEEDS

SUITABLE OCCUPATIONS		ESTIMATED NUMBER OF ADDITIONAL NEEDS			RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION		
D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
1-X5.5	Dairyman	0	0	0	General High School Training	x	x
	Farm Machine Parts Sales	0	0	2	Business Management Business Arithmetic Sales Knowledge of Farm Machinery	x	x
	Farm Machinery Salesman	0	0	0	Business Management Business Arithmetic Sales Knowledge of Farm Machinery	x	x
	Farm Supply Sales	0	0	0	Knowledge of Agricultural Products Sales	x	x
	Petroleum Product Sales	0	0	0	Product Knowledge Petroleum Products Business Arithmetic Sales	x	x
	Produce Clerk	0	2	2			x
	Produce Clerk	2	0	0			x
	Produce Man	2	0	2	General High School Training	x	x
	Sales and Stock Clerk	10	20	10	Cash Register Operating Business Arithmetic Grammar Penmanship	x	x
	Sales Clerk	22	0	121	Business Arithmetic Sales	x	x
	Sales Clerk	0	0	24			
	Sales Clerk	0	0	2	General High School Training	x	
	Sales Clerk	6	4	4	Good Personality Good Memory		x
	Salesman	0	0	2	Average Intelligence	x	x
	Salesman	2	0	0	Sales	x	

TABLE A -- INVENTORY OF OCCUPATIONS SUITABLE FOR YOUTH AND ESTIMATED NEEDS

SUITABLE OCCUPATIONS		ESTIMATED NUMBER OF ADDITIONAL NEEDS			RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION		
D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
1-X5.5	Salesman, Insurance	8	4	10	General High School Training Business Law Economics Sales Business Arithmetic Business English	x	x
	Salesman, Truck	2	2	1	Sales Knowledge of Auto Mechanics	x	x
1-X5.7	Cashier	2	4	6	Business Arithmetic Ability to Meet Public	x	x
	Cashier	2	0	2	Business Arithmetic	x	
	Cashier	0	0	4	Business Arithmetic	x	x
	Cashier	2	0	6	General High School Training	x	x
	Cashier	4	0	4	Cash Register Operating		x
	Cashier	0	0	0	General High School Training Cash Register Operating Ability to Meet Public	x	x
	Countergirl, Laundry	3	6	5	Good Health Neat Appearance Ability to Count		x
	Drug Clerk	2	0	0	Business Arithmetic Good Reading Comprehension	x	
	Drug Clerk	0	0	2	Business Arithmetic	x	x
	Sack Boy	4	0	8			x
	Sack Boy	4	0	10			x
	Sales Clerk	2	2	2	Commercial High School Training	x	x
	Sales Clerk, Part-time	4	20	0	General High School Training	x	x
	Service Station Attendant	0	0	0			x
	TOTAL	91	66	239		24	29

TABLE A -- INVENTORY OF OCCUPATIONS SUITABLE FOR YOUTH AND ESTIMATED NEEDS

SUITABLE OCCUPATIONS		ESTIMATED NUMBER OF ADDITIONAL NEEDS			RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION		
D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
Service Work							
2-X1	Kitchen Trainee Part-time	0	0	40	Cooking		x
2-X1.2	Cook	30	62	37	Food Equipment Operating	x	x
	Cook Helper	0	0	24	Cooking Food Serving		x
	Cook Helper	0	0	2	General High School Training	x	x
	Dietary Helper	0	6	15	Food Preparation Sanitation		x
	Dietary Worker	4	4	5			x
	General Kitchen Helper	6	4	4	General High School Training	x	x
	Grill Cook	2	2	2	General High School Training	x	x
	Grill Man	4	4	4	Good Manual Dexterity		x
	Kitchen Helper	0	0	4	Good Manual Dexterity Learning Ability		x
	Pastry Helper	2	6	10	Cooking	x	x
	Salad Helper	5	11	6			x
2-X5.2	Bus Boy	0	0	10			x
	Bus Boy	0	0	12			x
	Bus Boy	0	0	2			x
	Bus Boy	0	0	7	General High School Training	x	x
	Bus Girl	0	0	40			x
	Car Attendant	0	0	14	Good Math Aptitude Pleasing Personality Neat Appearance		x
	Clerk	8	8	12	Ability to Add Ability to Meet Public		x
	Coffee Shop Waitress	0	0	7			x

TABLE A - INVENTORY OF OCCUPATIONS SUITABLE FOR YOUTH AND ESTIMATED NEEDS

SUITABLE OCCUPATIONS		ESTIMATED NUMBER OF ADDITIONAL NEEDS			RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION		
D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
2-X5.2	Curb Girl	0	0	12	General High School Training	x	x
	Fountain Girl	0	0	6			x
	Fountain Waitress	0	0	73			
	Fountain Worker	8	12	15			x
	General Restaurant Worker	12	12	20	Mathematics		x
	Soda Fountain Help	2	0	4	General High School Training	x	x
	Waitress	0	0	4			x
	Waitress	6	4	4	General High School Training	x	x
	Waitress	0	0	4	General High School Training	x	x
	Waitress	0	0	10	Good Math Aptitude Pleasing Personality Neat Appearance		x
	Waitress	0	0	12	Food Serving		x
2-X5.6	Nurse Aide	0	18	30	Patient Care		x
	Nurse Aide	4	7	2	Practical Nursing	x	x
	Nurse Aide	3	15	115			x
	Orderly	4	6	23	Patient Care		x
	Orderly	0	0	2			x
2-X5.9	Bellman	0	0	2			x
	Maid	7	0	0			x
	Pinhopper	0	0	0			x
	Porter	2	0	2	General High School Training	x	x
	Porter and Houseman	0	0	5			x
	Porter and Maintenance Worker	0	0	3			x
	TOTAL	109	181	605		12	26

TABLE A -- INVENTORY OF OCCUPATIONS SUITABLE FOR YOUTH AND ESTIMATED NEEDS

SUITABLE OCCUPATIONS		ESTIMATED NUMBER OF ADDITIONAL NEEDS			RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION		
D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
Skilled Work							
4-X	Skilled Maintenance Man	24	31	31	Machine Maintenance Building Maintenance	x	x
4-X2	Machine Shop Worker	0	0	0			x
4-X2.0	Small Machine Operator	7	11	3	General High School Training	x	x
4-X2.010	Apprentice Machinist	15	24	8	Vocational High School Training Mechanical Training	x	x
	Die Repair Apprentice	17	17	8	Machine Tool Operating	x	x
	Machinist	5	0	5	Machine Shop	x	
4-X2.011	Lathe Operator	0	0	1	Machine Tool Operating Machine Shop Shop Math Blueprint Reading	x	
4-X2.012	Milling Machine Operator	0	0	3	Machine Tool Operating Machine Shop Shop Math Blueprint Reading	x	
4-X2.100	Apprentice Mechanic	0	0	2	Vocational High School Training Machine Shop	x	x
	Maintenance Assistant	2	0	0	Good Reading Comprehension Building Maintenance Shop Math Machine Maintenance	x	x
	Maintenance Helper	0	2	3	Mechanical Aptitude		x
	Maintenance Worker	2	1	0	Mechanical Training Machine Shop	x	x
	Mechanic	2	0	1	Mechanical Training	x	
	Service Operator	7	14	3	General High School Training Mechanical Training Average Intelligence	x	x
4-X2.103	Apprentice Auto Mechanic	6	6	2	Knowledge of Auto Mechanics Diesel Engine Mechanics	x	x

TABLE A -- INVENTORY OF OCCUPATIONS SUITABLE FOR YOUTH AND ESTIMATED NEEDS

SUITABLE OCCUPATIONS		ESTIMATED NUMBER OF ADDITIONAL NEEDS			RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION		
D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
4-X2.103	Apprentice Mechanic	0	0	4	Knowledge of Auto Mechanics	x	x
	Mechanic	6	10	4	Machine Shop Mechanical Aptitude General High School Training	x	x
	Mechanic	0	0	0			
	Mechanic Trainee	10	4	2	Mechanical Aptitude		x
	Reconditioning Man	2	0	0			x
	Used Car Reconditioning Man	4	2	4			x
4-X2.106	Customer Engineer	6	6	4	Neat Appearance Pleasing Personality Mechanical Aptitude Electricity Electronics Mechanical Training	x	
4-X2.463	Offset-Press Operator	0	0	0	Printing, Offset		x
4-X2.492	Dump-Truck Driver	1	0	0	Truck Driving	x	x
	Locomotive Fireman	12	17	6	Mechanical Training General High School Training	x	x
	Ready-Mix Driver	2	0	3	Truck Driving	x	x
	Switchman	10	16	8	General High School Training	x	x
	Truck Driver	6	4	5			
4-X6.181	Apprentice Electrician	2	0	2	Apprenticeship Training		x
	Electrical Apprentice	2	3	2	Electricity	x	x
	Electrician Helper	0	0	2	Vocational High School Training Mechanical Training	x	x
	Lineman	7	4	8	Vocational High School Training	x	x
4-X6.183	Telegrapher	0	0	2	Typing General High School Training	x	x

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D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
4-X6.188	Power-Plant Helper	7	6	3		x	x
4-X6.2	Maintenance and Material Handler	1	1	1	Mechanical Training	x	x
	Trades Helper	10	17	5	General High School Training Mechanical Training Average Intelligence	x	x
4-X6.209	Apprentice Carman	19	29	8	Mechanical Training Vocational High School Training	x	x
	Farm Mechanic	0	0	2	Mechanical Training	x	x
4-X6.211	Iron Worker	2	0	2	Mechanical Drawing Shop and Vocational Courses Math		x
4-X6.220	Apprentice Carpenter	0	0	2	Woodworking Vocational High School Training	x	x
	Carpenter	13	8	5	Math Shop and Vocational Courses Mechanical Drawing		x
	Carpenter	2	1	2	Vocational High School Training	x	
	Carpenter (Rough)	52	0	0	Use of Carpenter Tools		x
4-X6.232	Brick Mason	6	5	2	Shop and Vocational Courses Math Mechanical Drawing		x
	Mason	2	1	2	Vocational High School Training	x	
4-X6.244	Cement Finisher	3	2	2	Math Mechanical Drawing Shop and Vocational Courses		x
4-X6.246	Apprentice Painter	0	0	2	Vocational High School Training Machine Shop	x	x

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D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
4-X6.246	Painter	2	1	2	Vocational High School Training	x	
4-X6.280	Construction Welder	24	0	47	Welding Carpentry	x	x
4-X6.281	Arc Welder	0	0	0	Welding	x	x
	Welder, Heliarc	0	0	1	Blueprint Reading Welding Machine Tool Operating Machine Shop Shop Math	x	
4-X6.3	Sheet Metal Set-up	0	0	0	Set-up Knowledge		x
	Sheet Metal Worker	3	0	0			
	Sheet Metal Worker	0	0	3	Machine Tool Operating	x	
	Tester	0	5	2	Machine Shop Blueprint Reading Shop Math	x	x
4-X6.348	Dental Technician Apprentice	7	5	2	Mechanical Aptitude Finger Dexterity		x
4-X6.376	Apprentice Meat Cutter	3	0	3	General High School Training	x	x
	Meat Cutter	3	2	1	Meat Cutting	x	x
	Meat Cutter	3	0	3	Meat Cutting		x
	Meat Cutter	0	4	4	Meat Cutting	x	x
	Meat Cutter Apprentice	5	4	14			x
	Meat Cutter Apprentice	0	0	0			x
4-X6.568	Apprentice Printer	2	2	4	Typesetting, Hand Advertising Layout	x	x
4-X6.588	Blueprint and Errand Boy	0	0	0	General High School Training	x	
4-X6.651	Cleaner Helper	2	0	0	Mechanical Training	x	x
	Sorter	0	0	0			

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D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
4-X6.675	Baker Helper	2	2	0	Business Arithmetic Manual Dexterity	x	x
	Baker Helper	4	4	0			x
4-X6.693	Bulk Plant Helper	0	2	2	Mechanical Aptitude		x
	TOTAL	334	263	252		46	54
Manual Work							
6-X2.290	Guard	3	9	3	Average Intelligence General High School Training Mechanical Training	x	x
	Watchman	0	0	0			
6-X2.3	Inspector	2	5	3	General High School Training	x	x
	Inspector	6	3	3	Shop Math Commercial High School Training	x	x
	Inspector	0	0	0			x
6-X2.412	Mill Helper	0	0	204	General High School Training	x	
6-X2.413	Gear Cutting and Shaping Machine Operator	71	0	26	Care of Tools and Machinery Use of Precision Instruments Blueprint Reading Shop Math Mechanical Drawing	x	x
6-X2.439	Drill Press Operator	2	5	2	General High School Training	x	x
6-X2.492	Brakeman	12	18	4	General High School Training	x	x
	Car Jockey	0	0	2	Driver's License		x
	Delivery Truck Driver	0	2	2			x

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D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
6-X2.492	Truck Driver	4	8	4	Average Intelligence	x	x
	Truck Driver	0	0	0	Truck Driving		x
6-X2.493	Feed and Grain Elevator Manager	0	0	4	Knowledge of Agricultural Products Sales Business Arithmetic Record Keeping	x	x
	Grain and Feed Mill Operator	0	0	0	Business Arithmetic Knowledge of Agricultural Products	x	x
6-X2.6	Finishing, Assembly and Machine Operator Helper	4	7	26	Machine Shop Mechanical Aptitude	x	x
	Production Worker	0	0	0	Shop Math Machine Shop	x	x
	Production Worker	102	0	102	Mechanical Aptitude		x
	Production Worker	103	51	102	Carpentry	x	
	Production Worker	68	101	34	Average Intelligence Mechanical Training General High School Training	x	x
	Semi-skilled Worker	0	0	1			x
6-X2.601	Batch Man	2	0	1	Cement Plant Operation		x
	Chemical Operator	12	0	18	Good Reading Comprehension Penmanship Shop Math Good Color Vision	x	x
	Laborer	0	0	0			x
	Laborer	0	17	22	Good Reading Comprehension Penmanship	x	x
	Laborer	2	0	1			
6-X4.20	Common Laborer	6	0	13	Woodworking	x	
	Common Laborer	26	0	0	Literacy		x
	Construction Helper	6	8	5			

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D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
6-X4.20	Construction Laborer	49	72	0			
	Laborer	8	8	11			x
6-X4.213	Body Shop Trainee	4	8	2	Mechanical Aptitude		x
6-X4.3	Assembler	12	30	8	General High School Training	x	x
	Assembler	0	0	7			
	Breaker, Beater and Feeder	0	0	0	Willingness to Work Healthy Good Character		x
	Cutter Boy	0	0	0	Willingness to Work Healthy Good Character		x
	Second Finisher	0	0	0	Willingness to Work Healthy Good Character		x
	Spot Welder	0	0	3			
	Stock Marker	2	0	2			x
6-X4.308	Electronics Assembler	606	408	77			x
6-X4.352	Sewing Mender	3	9	3	Sewing	x	x
6-X4.358	Presser	0	5	0	Equipment Operating Knowledge of Fabrics		x
6-X4.4	Folder	3	3	3	Ability to Count Neat Appearance Good Health		x
	Loader, Laundry	1	2	3	Ability to Count Neat Appearance Good Health		
	Punch Press Operator	3	3	4	General High School Training	x	x
	Shake Out Girl	3	3	9	Ability to Count Neat Appearance Good Health		
	Sorter	0	0	2	Ability to Count Good Health Neat Appearance		

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SUITABLE OCCUPATIONS		ESTIMATED NUMBER OF ADDITIONAL NEEDS			RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION		
D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
6-X4.449	Production Finisher	5	5	17	Use of Hand Tools	x	x
6-X4.489	Molder Helper	0	0	0	General High School Training	x	x
	Molding Press Operator	9	8	25	Use of Precision Measuring Instruments Shop Math	x	
6-X4.601	Production Trainee	2	0	2	Good Reading Comprehension Penmanship Good Color Vision Shop Math	x	x
6-X6	Set-Up Man	4	6	2	General High School Training Mechanical Aptitude Machine Shop	x	x
6-X6.10	Delivery Boy	0	0	26			x
	Delivery Helper	0	0	0			x
	Delivery Man	0	2	4			x
	Truck Helper (Delivery)	2	0	4	Good Driving Record General High School Training Truck Driving Ability to Count Change Knowledge of Auto Mechanics	x	x
6-X6.4	Trucker	0	3	2	General High School Training	x	x
6-X6.6	Groundskeeper	6	14	12			x
	Laborer	0	0	2			x
	Mail Handler (Laborer)	0	0	2			x
	Material Handler	0	0	3			
	Material Handler	11	12	6	General High School Training Mechanical Training Average Intelligence	x	x
	Unskilled Laborer	0	0	1			x

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SUITABLE OCCUPATIONS		ESTIMATED NUMBER OF ADDITIONAL NEEDS			RECOMMENDED METHOD OF QUALIFYING FOR OCCUPATION		
D.O.T. ENTRY CODE NUMBER	JOB TITLE	FOR EXPANSION 1965-67	FOR EXPANSION 1967-70	FOR REPLACEMENTS NEXT YEAR	SKILLS OR KNOWLEDGE NEEDED	VOCATIONAL OR HIGH SCHOOL TRAINING	ON-THE-JOB TRAINING
6-X6.6	Warehouse and Stockroom Man	0	0	2			x
	Warehouseman	0	0	0			
	Warehouseman	10	10	10	Average Intelligence	x	x
	Warehouseman	12	6	12		x	x
6-X6.62	Dishwasher	2	0	42			x
	Dishwasher	0	0	4	General High School Training	x	x
	Dishmachine Operator	16	25	16			x
	Janitor	29	66	154			x
6-X6.64	Car Washer	0	0	0			
	Car Washer	2	0	2			x
	Lube Man	2	0	0			x
6-X6.69	Dock Laborer	0	0	0			
	Laborer	19	29	10			x
	Laborer	5	8	4			
	TOTAL	1,115	979	1,080		31	59
	GRAND TOTAL	2,049	2,164	3,376		200	272

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Accounting	11	6	18	Office Manager Bookkeeper Fiscal Clerk
Advanced Mathematics	25	26	10	Electronics Technician
Chemistry	44	81	53	Lab Technician Electronics Technician
Physics	19	55	43	Lab Technician
Biology	24	62	48	Laboratory Assistant Lab Technician
Engineering	0	2	2	Assistant Engineer
Grammar	14	20	14	Trainee, Department Manager Junior Office Clerk Sales and Stock Clerk
Advertising Layout	2	2	4	Art Layout and Chartist Apprentice Printer
Business Management	0	0	2	Department Manager Assistant Manager Farm Machinery Salesman Farm Machinery Parts Sales
Cataloging Auto Parts	2	2	1	Assistant Parts Manager
Laboratory Techniques	19	55	43	Technician
Typing	158	325	730	General Office Clerk Clerk Machine Operator Cashier Credit Reporter Fiscal Clerk Clerk-Stenographer Office Machine Operator Clerk-Typist Transcribing Machine Operator Typist Stenographer Secretary Stenographer-Typist Shipping & Receiving Clerk Check Sorter and Filer Keypunch Trainee Addressograph Operator Mail Room Clerk Telegrapher
Shorthand	25	96	218	General Office Clerk Clerk Clerk-Stenographer Stenographer Stenographer-Typist Secretary
Secretarial Skills	12	38	87	Secretarial Worker Secretary
Office Procedures	73	226	596	General Office Clerk Junior Office Clerk Credit Reporter Clerk-Typist Typist Secretary Stenographer Office Service Clerk

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Transcribing Machine Operator	13	28	19	General Office Clerk Transcribing Machine Operator Typist
Cash Register Operating	20	30	32	Trainee, Department Manager Cashier & Teller Sales and Stock Clerk Cashier
Office Machines Operating	4	7	43	Junior Office Clerk General Office Clerk Office Machine Operator Secretary Billing Clerk Filing Clerk Mail Room Clerk
Copy Machine Operating	0	0	0	General Office Clerk
Keypunch Operating	37	31	15	Keypunch Trainee Data-Processing Equipment Operator
Computer Operating	21	14	10	Data-Processing Equipment Operator
Business Arithmetic	120	120	295	Apprentice Pharmacist Department Manager Trainee, Department Head Accounting Clerk General Office Clerk Junior Office Clerk Cashier Cashier & Teller Clerk-Typist Secretary-Receptionist Parts Man Stock Clerk Data-Processing Equipment Operator Farm Machinery Salesman Farm Machinery Parts Sales Petroleum Products Salesman Sales Clerk Clerk Sales and Stock Clerk Salesman, Insurance Drug Clerk Baker Helper Feed & Grain Elevator Manager Grain & Feed Mill Operator
Bookkeeping	26	35	71	Accounting Clerk Bookkeeper General Office Clerk Clerk Machine Operator Secretary
Money Counting	8	10	20	Cashier & Teller
Business Law	8	4	10	Salesman, Insurance
Economics	8	4	10	Salesman, Insurance
Shipping and Receiving	0	4	2	Stock & Receiving Clerk
Inventory Control	4	4	6	Stock & Receiving Clerk Clerk

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Record Keeping	0	0	4	Feed & Grain Elevator Manager
Digital and Alphabetical Filing	11	16	23	Assistant Parts Manager General Office Clerk Medical Records Clerk File Clerk Coding Clerk Office Service Clerk
Business Letter Writing	3	0	3	Secretarial Worker
Penmanship	26	37	54	Trainee, Department Manager Shipping & Receiving Clerk Sales and Stock Clerk Chemical Operator Laborer Production Trainee
Business English	10	12	15	General Office Clerk Clerk-Typist Secretary-Receptionist Stenographer-Typist Salesman, Insurance
Sales	34	6	138	Department Manager Salesman, Truck Farm Machinery Salesman Farm Machinery Parts Sales Farm Supply Sales Petroleum Products Salesman Sales Clerk Salesman Salesman, Insurance Feed & Grain Elevator Manager
Ordering	4	0	4	Clerk
Merchandise Display	4	4	10	Stock & Receiving Clerk Clerk
Product Knowledge, Petroleum	0	0	0	Petroleum Products Salesman
Practical Nursing	2	4	1	Nurse Aide
Cooking	2	6	10	Pastry Helper
Food Equipment Operating	30	62	37	Cook
Knowledge of Agricultural Products	12	6	16	Farm Supply Sales Feed & Grain Elevator Manager Grain & Feed Mill Operator Warehouseman
Knowledge of Farm Machinery	0	0	2	Department Manager Farm Machinery Salesman Farm Machinery Parts Sales
Meat Cutting	3	6	5	Meat Cutter
Printing, Offset	0	0	0	Offset Press Operator
Typesetting, Hand	2	2	4	Apprentice Printer
Shop Math	31	11	82	Shipping & Receiving Clerk Lathe Operator Milling Machine Operator Maintenance Assistant

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Shop Math (Continued)				Welder, Heliarc Sheet Metal Worker Inspector Gear Cutting & Shaping Machine Operator Production Worker Chemical Operator Molding Press Operator Production Trainee
Blueprint Reading	0	0	34	Lathe Operator Milling Machine Operator Welder, Heliarc Sheet Metal Worker Gear Cutting & Shaping Machine Operator
Mechanical Drawing	0	0	26	Gear Cutting & Shaping Machine Operator
Use of Slide Rule	0	0	27	Secretary
Use of Precision Measuring Instruments	9	8	51	Gear Cutting & Shaping Machine Operator Molding Press Operator
Use of Hand Tools	5	5	17	Production Finisher
Care of Tools and Machinery	0	0	26	Gear Cutting & Shaping Machine Operator
Machine Shop	21	24	49	Machinist Lathe Operator Milling Machine Operator Maintenance Worker Apprentice Mechanic Mechanic Apprentice Painter Welder, Heliarc Sheet Metal Worker Finishing, Assembly, & Machine Operator Helper Production Worker Set-Up Man
Mechanical Training	165	237	86	Apprentice Machinist Service Operator Mechanic Maintenance Worker Customer Engineer Locomotive Fireman Electrician Helper Power Plant Helper Trades Helper Maintenance & Material Handler Apprentice Carman Farm Mechanic Cleaner Helper Guard Production Worker Material Handler
Machine Tool Operating	17	17	16	Die Repair Apprentice Lathe Operator Milling Machine Operator Welder, Heliarc Sheet Metal Worker
Machine Maintenance	26	31	31	Skilled Maintenance Man Maintenance Assistant

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Building Maintenance	26	31	31	Skilled Maintenance Man Maintenance Assistant
Welding	24	0	48	Construction Welder Arc Welder Welder, Heliarc
Woodworking	6	0	15	Apprentice Carpenter Common Laborer
Carpentry	127	51	149	Construction Welder Production Worker
Electricity	8	9	6	Customer Engineer Electrical Apprentice
Electronics	31	32	14	Electronics Technician Customer Engineer
Knowledge of Auto Mechanics	10	8	11	Salesman, Truck Apprentice Auto Mechanic Truck Helper (Delivery)
Diesel Engine Mechanics	6	6	2	Apprentice Auto Mechanic
Sewing	3	9	3	Sewing Mender
Truck Driving	5	0	7	Ready-Mix Driver Dump-Truck Driver Truck Driver Truck Deliveryman
General High School Training	229	341	436	General Office Clerk Ward Clerk Clerk-Stenographer Clerk-Typist Office Machine Operator Stock Clerk Shipping and Receiving Clerk Storeroom Clerk Sales Clerk Dairyman Produce Man Clerk Salesman, Insurance Sales Clerk, Part-Time Cashier Grill Cook General Kitchen Helper Cook Helper Waitress Curb Girl Soda Fountain Helper Bus Boy Janitor Small Machine Operator Service Operator Mechanic Switchman Locomotive Fireman Telegrapher Power Plant Helper Trades Helper Tester Apprentice Meat Cutter Blueprint and Errand Boy Guard Inspector Mill Helper Drill Press Operator Brakeman

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES
AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
General High School Training (Continued)				Production Worker Assembler Punch Press Operator Molder Helper Set-Up Man Truck Helper (Delivery) Dishwasher Trucker Material Handler
Vocational High School Training	59	66	52	Office Machine Operator Apprentice Machinist Apprentice Mechanic Electrician Helper Lineman Apprentice Carman Carpenter Apprentice Carpenter Mason Painter Apprentice Painter Warehouseman
Commercial High School Training	17	30	33	Assistant Engineer Assistant Manager General Office Clerk Typist Purchasing Expediter Stock Clerk Stock & Receiving Clerk Billing Clerk Filing Clerk Sales Clerk Inspector
TOTALS	1,665	2,364	3,980	

TABLE B

SKILLS AND KNOWLEDGE TO BE ACQUIRED IN VOCATIONAL OR HIGH SCHOOL COURSES AS RECOMMENDED BY EMPLOYERS TO QUALIFY YOUTH FOR SUITABLE JOBS

SKILLS OR KNOWLEDGE RECOMMENDED	NUMBER OF ADDITIONAL NEEDS			JOBS REQUIRING THIS SKILL OR KNOWLEDGE
	FOR EXPANSION NEEDS		FOR REPLACEMENTS NEXT YEAR	
	1965-1967	1967-1970		
Employers also listed the following aptitudes and personal attributes as important for specific jobs:				
Pleasing Personality	11	12	8	Clerk-Typist Secretary-Receptionist Check Sorter and Filer Customer Engineer
Neat Appearance	12	14	12	Clerk-Typist Secretary-Receptionist Clerk Customer Engineer
Good Color Vision	14	0	20	Shipping & Receiving Clerk Chemical Operator Production Trainee
Average Intelligence	125	179	72	General Office Clerk Warehouse Supervisor Check Sorter and Filer Salesman Service Operator Power Plant Helper Trades Helper Guard Truck Driver Production Worker Material Handler Warehouseman
Accuracy	3	3	5	Inventory Clerk Coding Clerk
Good Reading Comprehension	18	17	42	Shipping & Receiving Clerk Drug Clerk Maintenance Assistant Chemical Operator Laborer Production Trainee
Clerical Aptitude	7	6	5	General Office Clerk Clerk-Typist Secretary-Receptionist Check Sorter and Filer
Mechanical Aptitude	20	29	36	Mail Room Clerk Mechanic Customer Engineer Finishing, Assembly, Machine Operator Helper Set-Up Man
Manual Dexterity	2	2	0	Mail Room Clerk Baker Helper
Ability to Count Change	2	0	4	Truck Helper (Delivery)
Ability to Meet Public	10	6	14	Clerk Cashier

VT 003 285
Indiana Job Vacancies; Job Vacancies in Seven Major Indiana Areas: Evansville, Fort Wayne, Gary-Hammond-East Chicago, Indianapolis, Muncie, South Bend, Terre Haute.

Indiana Employment Security Div., Indianapolis. Research and Statistics
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Dec64 23p.

*OCCUPATIONAL SURVEYS; *EMPLOYMENT OPPORTUNITIES; LABOR MARKET; LABOR FORCE; EMPLOYMENT LEVEL; *OCCUPATIONAL CLUSTERS; EMPLOYMENT SERVICES; *METROPOLITAN AREAS
INDIANA

The objectives of this job vacancy survey were to obtain information about (1) number, location, and kinds of unskilled jobs, (2) the training needs to be initiated or accelerated, (3) types of unfilled jobs in an area as compared to types of job orders in the Indiana State Employment Service, and (4) job vacancies that could be filled by unemployed workers registered in local unemployment offices. Practically the same types of job vacancies were found in each of the seven largest labor markets surveyed. More than one third of the vacancies in 734 firms were for professional, technical, skilled, or craft occupations. About one fourth of the vacancies existed in clerical and semi-skilled occupations requiring some degree of training. Sales and service jobs constituted about 17 percent of the nearly 4,700 job vacancies, and more than 60 percent were considered hard to fill. Only about 3 percent of the job vacancies in the survey, but not listed in local office order files, could be filled by applicants currently registered for work. Vacancies were reported for practically all of the occupations for which Manpower Development and Training Act training was in progress. Additional welding courses were added after almost 100 vacancies for welders were reported. Only about 4 percent of the employers asked to return survey forms failed to do so. An individual report is included for each of the seven major areas surveyed. (MM)

VT 003 285

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21 pgs

INDIANA JOB VACANCIES

JOB VACANCIES IN SEVEN MAJOR INDIANA AREAS

Evansville
Fort Wayne
Gary-Hammond-East Chicago
Indianapolis
Muncie
South Bend
Terre Haute

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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VT003285

STATE OF INDIANA
MATTHEW E. WELSH, GOVERNOR
Indiana Employment Security Division
Lewis F. Nicolini, Director

PUBLIC EMPLOYMENT SERVICE

SERVICE FOR EVERYONE
LOCAL · STATE · NATIONAL

DECEMBER 1964

INDIANA EMPLOYMENT SECURITY DIVISION

Research and Statistics
10 North Senate Avenue
Indianapolis, Indiana 46204

INTRODUCTION

Job vacancy surveys were conducted in September and October 1964 in seven areas: Evansville, Ft. Wayne, Gary-Hammond-East Chicago, Indianapolis, Muncie, South Bend and Terre Haute.

The Indiana surveys followed closely, but not exactly, the pattern of a series of Federally-sponsored surveys in other selected areas across the country and were undertaken for the following specific purposes:

1. To obtain information about the number, location and kinds of unfilled jobs.

2. To determine the occupations for which there is a shortage of qualified workers so that training for these can be initiated or accelerated.

3. To determine whether or not the types of job orders in local offices of the Indiana State Employment Service are representative of the types of jobs which are unfilled in an area.

4. To find out whether or not the job vacancies existing in industry could be filled by the unemployed workers registered in local employment offices.

SUMMARY OF FINDINGS

More than one third of the job vacancies found in 734 firms in the seven largest labor market areas in Indiana were for professional, technical, skilled or craft occupations. Almost 700 vacancies were reported for registered nurses, graduate engineers, tool and die makers, machinists and precision machine operators.

About one fourth of the job vacancies existed in clerical and semiskilled occupations for which some degree of training is required.

Practically the same types of job vacancies were found in each of the seven areas.

In all, nearly 4,700 job vacancies were reported by employers in the survey.

Ninety per cent of the job vacancies in professional, managerial and official positions reported by employers in the survey were designated by the employers as hard to fill, and more than 80 per cent of the semiprofessional and skilled jobs were shown as hard to fill.

Nearly one half of the job vacancies in clerical and semiskilled jobs were reported by employers as hard to fill.

Vacancies were reported for practically all of the occupations for which training under the provisions of the Manpower Development and Training Act is being given.

Sales and service jobs constituted about 17 per cent of all job vacancies. More than two thirds were considered hard to fill. In all, nearly 500 service jobs and more than 300 sales jobs were listed. Waitresses, countergirls, and porters predominated in the service occupations, sales clerks for retail stores constituted most of the sales jobs. Large numbers of openings for these jobs are always on file in local employment offices, but shortages of applicants to fill them are not always attributable to lack of training. Often these jobs are in small firms, not centrally located, not offering wages or benefits comparable to those in larger firms and other types of industry. Frequently, rigid experience requirements are given and personality factors considered. Study of the recruitment problems in these fields of work might prove helpful.

Other occupations appeared to justify establishment of training programs or extension of existing ones.

The kinds of job openings filed by employers in local employment offices corresponded closely to the kinds of openings reported in the job vacancy survey although the numbers by occupation differed.

In almost all cases, the job vacancies reported by employers as hard to fill were for the same types of occupations which local offices have difficulty filling from their files of unemployed worker registrations. Sufficient qualified applicants were not available either through the employment offices or through other sources utilized by employers. Only about three per cent of the job vacancies listed by employers in the survey but not listed in local office order files could be filled by applicants currently registered for work.

Listed below are the occupations in which most job vacancies were reported and the areas in which the vacancies were found:

Occupations	Number of Vacancies	Areas Reporting Vacancies
Professional		
Engineers (Mechanical, Electrical, Industrial and Civil)	186	Indianapolis, South Bend, Gary-Hammond-East Chicago, Terre Haute, Ft. Wayne, Muncie, Evansville
Nurses (Staff, General, Public Health, Psychiatric, and Nurse Supervisors and Instructors)	195	Indianapolis, South Bend, Gary-Hammond-East Chicago, Terre Haute, Ft. Wayne, Evansville
Semiprofessional Occupations		
Draftsmen (Detailer, Architectural, Structural, Mechanical, Topographical and Tool Designer)	57	Indianapolis, Gary-Hammond-East Chicago, Ft. Wayne, Evansville, Muncie
Clerical and Kindred Occupations		
General Office Clerks	79	Indianapolis, South Bend, Gary-Hammond-East Chicago, Ft. Wayne, Muncie, Evansville
Secretaries and Stenographers	57	Indianapolis, South Bend, Gary-Hammond-East Chicago, Ft. Wayne, Evansville, Muncie, Terre Haute
Clerk-Typists, Typists and Dictaphone Operators	66	Indianapolis, South Bend, Gary-Hammond-East Chicago, Ft. Wayne, Evansville
Sales and Kindred Occupations		
Retail Sales Clerks	199	Indianapolis, South Bend, Gary-Hammond-East Chicago, Ft. Wayne, Evansville, Muncie
Wholesale Salesmen	73	Indianapolis, South Bend, Gary-Hammond-East Chicago, Ft. Wayne, Evansville, Muncie, Terre Haute

<u>Personal Service Occupations</u>		
Waitresses and Countergirls	136	Indianapolis, South Bend, Gary-Hammond-East Chicago, Ft. Wayne, Evansville, Muncie
Licensed Practical Nurses Nurse Aides and Orderlies	102	Indianapolis, South Bend, Gary-Hammond-East Chicago, Ft. Wayne, Evansville
<u>Building Service Workers & Porters</u>		
Porters and Janitors	45	Indianapolis, Gary-Hammond-East Chicago, Ft. Wayne
<u>Skilled Occupations</u>		
Machinists and Tool and Die Makers	179	Indianapolis, South Bend, Gary-Hammond-East Chicago, Ft. Wayne, Muncie, Evansville
Skilled Machine Operators	106	Indianapolis, South Bend, Gary-Hammond-East Chicago, Ft. Wayne, Muncie
Welders (Arc, Acetylene and Heliarc)	95	Indianapolis, South Bend, Gary-Hammond-East Chicago, Muncie, Evansville
Electricians and Electrical Repairmen	48	Indianapolis, South Bend, Gary-Hammond-East Chicago, Ft. Wayne, Evansville, Terre Haute, Muncie
<u>Semiskilled Occupations</u>		
Semiautomatic and Automatic Machine Operators	78	Indianapolis, South Bend, Gary-Hammond-East Chicago, Ft. Wayne, Evansville, Muncie
Taxicab and Truck Drivers	245	Indianapolis, South Bend, Gary-Hammond-East Chicago, Ft. Wayne, Evansville, Muncie
<u>Unskilled Occupations</u>		
Laborers (Iron and Steel)	442	Gary-Hammond-East Chicago, Ft. Wayne
Laborers (Electrical Equipment)	150	Indianapolis, South Bend, Ft. Wayne, Evansville

EMPLOYER JOB VACANCY SURVEY

Job vacancy surveys which were conducted during September and October in seven labor market areas of the State revealed 4,674 vacant jobs in 734 firms. A total of 2,634 firms responded to survey questionnaires in the Evansville, Ft. Wayne, Gary-Hammond-East Chicago, Indianapolis, Muncie, South Bend and Terre Haute areas. About 812,000 people were employed in nonagricultural jobs in these areas during the survey period; about 25,000 people were unemployed.

Employment in the responding firms totaled 441,270 constituting slightly more than one half of nonagricultural employment in the seven areas. Only 4 per cent of the firms asked to return survey forms failed to do so. Not all firms were asked to participate in the survey and, therefore, not all vacancies were obtained; however, coverage was broad enough to secure information from almost all firms employing 100 or more, as well as from many smaller ones.

The distribution of the number of job vacancies by industry paralleled the distribution of employment by industry in the seven areas. Fifty-six per cent of the vacancies were in nonmanufacturing firms - the largest numbers in trade and government (primarily hospitals). Seventy-nine per cent of the job vacancies in manufacturing industries were reported by primary metals, fabricated metals, transportation equipment, and electrical and nonelectrical machinery firms.

Slightly more than one third of the job vacancies were in professional, technical and skilled or craft occupations. About one fourth were in clerical and semiskilled occupations for which some degree of training is required. Twenty per cent were in unskilled occupations, primarily for laborers in the Gary-Hammond-East Chicago area where the steel mills were recruiting laborers and in Ft. Wayne where the electrical machinery industry was building its work force seasonally. About 17 per cent were in sales and service occupations.

JOB VACANCIES REPORTED BY SURVEYED EMPLOYERS, BY OCCUPATIONAL GROUP

OCCUPATIONAL GROUP	NUMBER OF VACANCIES	PER CENT OF VACANCIES	NUMBER HARD TO FILL	PER CENT HARD TO FILL
TOTAL	4,674	100.0	2,817	60.3
PROFESSIONAL	605	12.9	547	90.4
SEMIPROFESSIONAL	149	3.2	131	87.9
MANAGERIAL AND OFFICIAL	107	2.3	97	90.7
CLERICAL AND KINDRED	609	13.0	258	42.4
SALES AND KINDRED	324	6.9	225	69.4
PERSONAL SERVICE	419	9.0	305	72.8
PROTECTIVE SERVICE	17	0.4	15	88.2
BUILDING SERVICE WORKERS AND PORTERS	49	1.0	27	55.1
AGRICULTURAL,HORTICULTURAL AND KINDRED	4	0.1	2	50.0
SKILLED	800	17.1	651	81.4
SEMISKILLED	629	13.5	309	49.1
UNSKILLED	962	20.6	250	26.0

EMPLOYER JOB VACANCY SURVEY - continued

More than 60 per cent of the job vacancies were reported by employers as hard to fill; 68 per cent had been unfilled one week or more. Those occupations involving the highest skills and longest training periods were those reported most often as hard to fill. Professional, managerial and official positions were described as hard to fill in 90 per cent of the listings; more than 80 per cent of the semiprofessional and skilled jobs were reported as hard to fill. Unskilled jobs were least often shown in this category; about one fourth of these jobs were described as hard to fill.

More than one third of the job vacancies in skilled occupations were for machinists, tool and die makers and precision machine operators. In the professional group, more than one half of the vacancies were for registered nurses and graduate engineers. Almost 700 vacancies were reported for these five occupations.

Vacancies were reported for practically all of the occupations for which training under the provisions of the Manpower Development and Training Act is in progress. Although several training courses have been completed for welders, almost 100 vacancies were reported for this occupation. Additional welding courses are now in progress. Licensed practical nurses, nurse aides, office clerks, stenographers, secretaries, draftsmen, typists and dictaphone operators were among those reported for which training is currently being conducted.

The survey period in each area covered one month to allow time for collection of the desired information; employers listed current job vacancies at varying points in time during this period, depending on the date on which the form was completed. Vacancies were defined as job openings for which the employer was actively seeking workers from outside the firm.

In each area a sample of firms to be surveyed was drawn from the latest (March 1964) tabulation of firms covered by the Indiana Employment Security Act. All firms employing more than 100 people and a sampling of smaller firms in all industries were selected. The number of firms in the sample in each area varied according to the amount of employment and total number of firms in the area. In addition, the largest non-covered firms, consisting of hospitals, government agencies, and other non-profit organizations were surveyed.

Concurrently with the employer survey, local offices reviewed the job orders on file in their offices. At the beginning of the survey period, each local office listed all unfilled openings on job orders placed previously with the office by employers. Many of these firms with job orders on file in the employment office were not selected in the employer survey sample and a few were firms which did not respond to the survey. About 30 per cent of the employer job orders represented firms not included in the survey because they were too small to be covered by the Indiana Employment Security Act or failed to meet the criterion for government and non-profit organizations. In instances where the surveyed firms also had existing openings listed as job orders in the local office, information was used from the job vacancy form and the entry deleted from the unfilled job order count.

EMPLOYMENT SERVICE JOB ORDER REVIEW

Partly to supplement the information obtained from the sample of employers in the job vacancy survey and partly to determine whether or not the kinds of jobs on file in the local employment offices were representative of job vacancies in general, local offices in the seven areas compared job vacancy forms with their unfilled job orders. The local offices had on file 3,221 additional unfilled jobs, as well as about 1,400 of the same jobs that were reported by employers in the survey.

ADDITIONAL JOB ORDERS ON FILE IN LOCAL OFFICES,
BY OCCUPATIONAL GROUP

OCCUPATIONAL GROUP	JOB ORDERS ON FILE	PER CENT OF JOB ORDERS
TOTAL	3,221	100.0 %
Professional	181	5.6
Semiprofessional	93	2.9
Trainees (Prof. & Kindred)	26	0.8
Managerial and Official	91	2.8
Clerical and Kindred	422	13.1
Sales and Kindred	436	13.5
Personal Service	452	14.0
Protective Service	8	0.2
Building Service Workers and Porters	72	2.2
Agricultural, Horticultural and Kindred	17	0.5
Skilled	588	18.3
Semiskilled	426	13.3
Unskilled	409	12.8

A comparison of the distribution of job vacancies with the distribution of total job orders by occupational groups revealed a similarity in the kinds of unfilled jobs with differences in proportion of openings in some occupational groups.

About 72 per cent of the additional openings listed as unfilled job orders were considered hard to fill by the local offices and almost half of these were hard to fill because of the lack of trained applicants; more than 71 per cent had been in the job order file for one week or longer.

The largest number of these additional openings was in skilled occupations; nearly 600 additional openings were on file for primarily the same kinds of workers as reported in the employer survey.

An additional 81 openings for welders, machinists, and tool and diemakers were listed as job orders. Almost all of these openings were considered as hard to fill and more than half of them had been open for one week or longer. There were an additional 67 openings for automobile and truck mechanics and automobile body repairmen and nearly all were considered as hard to fill because of a scarcity of applicants with sufficient training to meet employer needs.

In the professional occupational group, more than one third of the openings were for engineers; almost all were listed as hard to fill and had been open for a week or longer. There were 36 additional job orders listed for draftsmen and

tool designers in the semiprofessional group and over 60 per cent of these were listed as hard to fill, primarily because of need for trained applicants.

In the clerical and kindred groups, the largest number of additional openings on job orders appeared in the occupations of office clerks, stenographers, secretaries, and typists which together totaled 192. In the sales and kindred group there were 196 additional openings for retail sales clerks.

In the personal service group 168 additional job orders for waitresses and countergirls were reported. More than three fourths of these openings were considered as hard to fill, but only a few of these were hard to fill because of lack of trained applicants on file.

In the unskilled group, the largest number of unfilled orders considered as hard to fill was for laborers in the iron and steel and electrical equipment manufacturing industries; almost two fifths of these were considered hard to fill by the local offices because of a shortage of applicants who meet employer requirements of high school graduation with some technical knowledge of the field of electricity.

JOB VACANCY SURVEY RESULTS
EVANSVILLE AREA

During October 1964, 262 firms employing 34,509 people in the Evansville area were contacted by mail or personal visit in the job vacancy survey. Of the 238 firms who responded, 69 firms reported 370 job vacancies in 109 occupations. The responding firms represented 91 per cent of those contacted; employment in the responding firms was 32,855. Total nonfarm employment for the Evansville area in October was 68,600.

The largest number of vacancies reported by employers was in the clerical and sales occupational group. Salespeople for retail trade establishments predominated in this group. Nurses and managers of various kinds constituted almost half of the professional and kindred group vacancies and ward attendants accounted for half of the service industry vacancies. Skilled jobs included arc welders, tool and die makers, mechanics and several occupations in furniture manufacturing. Taxi drivers and machine operator vacancies made up most of the semiskilled group, and the unskilled included a number of laborers in the electrical machinery industry.

Three fourths of the job vacancies were considered hard to fill by the reporting employers: practically all of the professional and kindred and skilled jobs; more than three fourths of the clerical and sales, the skilled, and service jobs; and about one third of the unskilled job vacancies were reported by employers as hard to fill.

TOTAL JOB VACANCIES REPORTED ON SURVEY FORMS AND ADDITIONAL JOB ORDERS ON FILE IN THE LOCAL OFFICE, BY MAJOR OCCUPATIONAL GROUP

OCCUPATIONAL GROUP	JOB VACANCIES REPORTED	PER CENT OF VACANCIES	JOB ORDERS ON FILE	PER CENT OF ORDERS
TOTAL OPENINGS	370	100.0	273	100.0
PROFESSIONAL AND KINDRED	62	16.8	17	6.2
CLERICAL AND SALES	99	26.8	61	22.3
SERVICE	58	15.7	87	31.9
AGRICULTURAL AND KINDRED	0	0.0	1	0.4
SKILLED	39	10.5	36	13.2
SEMISKILLED	72	19.1	42	15.4
UNSKILLED	40	10.8	29	10.6

In addition to the job vacancies reported by the 238 responding firms in the survey, other employers not included in the survey had 273 additional openings in 136 occupations on file as job orders in the Evansville local employment office. The local office also had 11 domestic service openings. These additional job openings included many other sales jobs, cooks, waitresses, nurse aides and kitchen workers. Auto service station attendants and a variety of other semiskilled and skilled jobs were open.

JOB VACANCY SURVEY RESULTS
FT. WAYNE AREA

In October 1964, 330 firms employing 53,879 people in the Ft. Wayne area were contacted by mail or personal visit in the job vacancy survey. Of the 317 firms who responded, 92 firms reported 738 job vacancies in 139 occupations. The responding firms represented 96 per cent of those contacted and employment in these firms totaled 53,686. Total nonfarm employment for the Ft. Wayne area in October was 92,800.

The largest number of job vacancies reported by employers was in the unskilled occupational group. Nearly half of these vacancies were reported by one employer in the electrical machinery industry due to a step-up in production. Openings in rubber, metals and public utility occupations were also prominent in the unskilled group. Engineers constituted more than one third of the professional and kindred openings; almost 70 per cent of the clerical and sales vacancies were in the clerical field. In the skilled group, openings for machinists and tool and die makers constituted more than one fourth of the total; other skills reported were lathe operators, electricians, carpenters, mechanics and service and maintenance men for both equipment and buildings. More than one half of the service openings were for hospital personnel with restaurant and hotel jobs next in line. Openings for taxi drivers and sewing machine operators made up more than one half of the semiskilled job vacancies.

Three fourths of all job vacancies were considered hard to fill by employers. More than two thirds of the unskilled openings were so designated but this is because of rigid physical and educational requirements established by some employers. Nearly all of the professional and skilled openings were classified as hard to fill; 85 per cent of service and semiskilled jobs were also in this category. Sales openings were considered hard to fill in almost all instances but clerical openings less frequently so; less than half of the vacancies in the combined clerical and sales group were considered hard to fill.

TOTAL JOB VACANCIES REPORTED ON SURVEY FORMS AND ADDITIONAL JOB ORDERS ON FILE IN THE LOCAL OFFICE, BY MAJOR OCCUPATIONAL GROUP

OCCUPATIONAL GROUP	JOB VACANCIES REPORTED	PER CENT OF VACANCIES	JOB ORDERS ON FILE	PER CENT OF ORDERS
TOTAL OPENINGS	738	100.0	246	100.0
PROFESSIONAL AND KINDRED	120	16.3	17	6.9
CLERICAL AND SALES	110	14.9	101	41.1
SERVICE	85	11.5	38	15.5
AGRICULTURAL AND KINDRED	0	0.0	2	0.8
SKILLED	91	12.3	20	8.1
SEMISKILLED	64	8.7	30	12.2
UNSKILLED	268	36.3	38	15.4

In addition to the job vacancies reported by the 317 responding firms, other employers not included in the survey had 246 additional openings in 120 occupations on file as job orders in the Ft. Wayne Employment Service office. The local office also had 42 domestic service openings. The largest number

of openings in the local office was for clerical and sales occupations, with about half of these considered hard to fill by the local office because of a lack of qualified or interested applicants. Service and unskilled occupations constituted nearly one third of the local office openings. More than two thirds of the service occupation job openings were considered hard to fill with transportation difficulties most frequently given as the reason. Slightly over one half of the unskilled jobs were hard to fill.

JOB VACANCY SURVEY RESULTS, GARY-HAMMOND-EAST CHICAGO AREA

During October of 1964, 543 firms employing 123,928 people in the Gary-Hammond-East Chicago area were contacted by mail or personal visit in the job vacancy survey. Of the 533 firms who responded, 115 firms reported 1,024 job vacancies in 143 occupations. The responding firms represented a 98 per cent response and employment in these firms was 107,597. Total nonfarm employment for the Gary-Hammond-East Chicago area in October was 190,800.

Of the vacancies reported by the surveyed employers, the largest number was in the unskilled occupational group, which comprised almost half of the total job vacancies reported. More than four fifths of these vacancies were located in the steel mills.

More than one third of the vacancies in the clerical and sales group were for retail salespeople; others were for federal post office mail clerks and carriers, while smaller numbers of vacancies were reported for clerk typists, stenographers and secretaries.

Vacancies for machinists, tool and die makers and welders comprised nearly one half of the total number of vacancies in the skilled group. One third of the vacancies reported in the semiskilled group were for truck drivers and semi-skilled machine operators.

While only a very small percentage of the unskilled jobs were shown as hard to fill by the employers, extensive recruitment was being conducted outside the area by the steel mills for laborers who could meet rigid physical and educational requirements.

More than three fourths of the professional, technical, and managerial and the skilled job vacancies were considered by employers as hard to fill. Fewer than half of the semiskilled, service, and clerical and sales jobs were classified in this category.

TOTAL JOB VACANCIES REPORTED ON SURVEY FORMS AND ADDITIONAL JOB ORDERS ON FILE IN THE LOCAL OFFICES, BY MAJOR OCCUPATIONAL GROUP

OCCUPATIONAL GROUP	JOB VACANCIES REPORTED	PER CENT OF VACANCIES	JOB ORDERS ON FILE	PER CENT OF ORDERS
TOTAL OPENINGS	1,024	100.0	828	100.0
PROFESSIONAL AND KINDRED	75	7.3	54	6.5
CLERICAL AND SALES	110	10.7	192	23.2
SERVICE	37	3.6	49	5.9
AGRICULTURAL AND KINDRED	0	0.0	4	0.5
SKILLED	223	21.8	200	24.2
SEMISKILLED	78	7.6	62	7.5
UNSKILLED	501	49.0	267	32.2

The unskilled group also contained the largest numbers of additional job orders on file in the local office; almost one half of these openings were reported also in the steel industry. The local office considered these jobs as hard to fill in terms of the scarcity of workers who could meet employer specifications.

Structural steel workers, welders, auto mechanics and machinists made up over 57 per cent of the additional openings in the skilled occupational group; all of these were hard to fill because of a shortage of trained applicants.

In the sales and kindred and the personal service groups, openings for retail sales clerks and waitresses - countergirls predominated. Retail sales clerks comprised nearly one half of the additional number of sales and kindred openings; waitresses - countergirls accounted for more than 40 per cent of the total number of personal service openings. Almost three fourths of the additional openings for waitresses - countergirls were listed as hard to fill for various reasons; about two thirds of these were unfilled because some firms were not centrally located, required unusual working hours or did not offer wages or benefits comparable to those in other types of industry. Very few were hard to fill solely because of a lack of trained people. Nearly one half of the orders for retail sales clerks were considered hard to fill for a variety of reasons; one third because of a lack of trained or experienced applicants.

Truck drivers, routemen and auto service station attendants made up one third of the additional job orders in the semiskilled group; nearly 70 per cent of these were listed as hard to fill.

Laborer openings in the unskilled occupational group were scattered throughout many industries with the iron and steel industry predominating. Many of the job openings were reported hard to fill because a high school education was required. Some of the other industries reporting multiple openings were construction, auto repair and wholesale and retail trade.

JOB VACANCY SURVEY RESULTS
INDIANAPOLIS AREA

During October of 1964, 945 firms employing 186,797 people in the Indianapolis area were contacted by mail or personal visit in the job vacancy survey. Of the 928 firms who responded, 287 firms reported 1,776 job vacancies in 323 occupations. The responding firms represented a 98.0 per cent response and employment in these firms was 166,341. Total nonfarm employment for the Indianapolis area in October was 309,600.

Of the vacancies reported by the surveyed employers, the largest number of openings was in the clerical and sales occupational group, which comprised 26.6 per cent of the total job vacancies reported. In the clerical and sales occupational group, general office clerks, stenographers, secretaries, typists, clerk-typists and transcribing machine operators were the most numerous, comprising one fourth of the total number of vacancies in this group. Retail sales clerks accounted for almost 12.0 per cent of these openings.

Waitresses, countergirls and countermen predominated in the service industries, totaling almost one third of the openings in this occupational group; practical nurses, orderlies and nurse aides accounted for more than 20.0 per cent of the vacancies in the group.

Machinists, tool and die makers, and precision machine operators were the most numerous in the skilled occupational group making up more than 40.0 per cent of the vacancies reported in this group.

Most of the professional, technical and managerial jobs as well as skilled jobs were reported by the employer as hard to fill. About two thirds of the service jobs, one half of the clerical and sales jobs, one third of the semi-skilled and only about 12.0 per cent of the unskilled jobs were found hard to fill with qualified applicants by the employer.

TOTAL JOB VACANCIES REPORTED ON SURVEY FORMS AND ADDITIONAL JOB ORDERS ON FILE IN THE LOCAL OFFICE, BY MAJOR OCCUPATIONAL GROUP

OCCUPATIONAL GROUP	JOB VACANCIES REPORTED	PER CENT OF VACANCIES	JOB ORDERS ON FILE	PER CENT OF ORDERS
TOTAL OPENINGS	1,776	100.0	1,115	100.0
PROFESSIONAL AND KINDRED	443	24.9	215	19.3
CLERICAL AND SALES	473	26.6	269	24.9
SERVICE	213	12.0	218	19.6
AGRICULTURAL AND KINDRED	1	0.1	0	0.0
SKILLED	262	14.8	197	17.7
SEMISKILLED	289	16.3	151	13.5
UNSKILLED	95	5.3	65	5.8

In addition to the job vacancies reported by the 927 responding firms in the area, other employers not included in the survey had 1,115 additional openings in 369 occupations on file as job orders in the Indianapolis local office of the Employment Service. The local office also had 181 domestic service openings and 53 commission sales openings.

INDIANAPOLIS AREA - continued

Of the 1,115 additional openings listed in the local office, the largest numbers were reported in the clerical and sales occupational group, which comprised 24.9 per cent of the total. In the clerical and sales occupational group, secretaries, stenographers, typists and clerk-typists accounted for almost one fourth and retail sales clerks made up more than one fifth of the total additional job orders in this category.

Additional job orders in the service group were primarily in the restaurant occupations with cooks, waitresses and countergirls making up a little less than one half of the total additional orders in this occupational group.

Among the skilled and semiskilled additional job orders were listed for welders, machinists, tool and die makers, precision machine operators and craftsmen in the construction industries. Requests for automobile mechanics and automobile body repairmen were also listed; the majority of these as well as the other skilled jobs were considered as hard to fill, primarily because of lack of qualified applicants in the file.

JOB VACANCY SURVEY RESULTS
MUNCIE AREA

During October 1964, 159 firms employing 22,274 people in the Muncie area were contacted by mail or personal visit in the job vacancy survey. All of the firms responded; 45 firms reported 271 job vacancies in 73 occupations. Total nonfarm employment in the Muncie Area in October was 35,900.

The largest number of openings was in the skilled occupational group. Tool and die makers, platers, machinists, jig-boring and other types of machine operators, welders, auto body repairmen and carpenters were listed among the skilled job vacancies. Almost as many semiskilled job vacancies were shown, including assemblers, buffers and taxi and truck drivers. Half of the professional and kindred jobs vacant were for engineers and draftsmen. Most of the clerical and sales group job vacancies were for office clerks.

More than two thirds of all the job vacancies were considered hard to fill by the employers reporting them. Although only a few service openings were reported, all were listed as hard to fill; about 90 per cent of the professional and kindred jobs and the skilled jobs were reported as hard to fill. Around half of clerical and sales and semiskilled jobs were in the hard-to-fill category. Only one of the 13 unskilled jobs was reported hard to fill.

TOTAL JOB VACANCIES REPORTED ON SURVEY FORMS AND ADDITIONAL JOB ORDERS ON FILE IN THE LOCAL OFFICE, BY MAJOR OCCUPATIONAL GROUP

OCCUPATIONAL GROUP	JOB VACANCIES REPORTED	PER CENT OF VACANCIES	JOB ORDERS ON FILE	PER CENT OF ORDERS
TOTAL OPENINGS	271	100.0	239	100.0
PROFESSIONAL AND KINDRED	41	15.1	25	10.5
CLERICAL AND SALES	26	9.6	49	20.5
SERVICE	5	1.9	27	11.3
AGRICULTURAL AND KINDRED	2	0.7	1	0.4
SKILLED	99	36.5	46	19.2
SEMISKILLED	85	31.4	72	30.1
UNSKILLED	13	4.8	19	8.0

In addition to the job vacancies reported by the 159 responding firms, other employers not included in the survey had 239 additional openings in 101 occupations on file as job orders in the Muncie local office of the Employment Service. More than one half of these were listed as hard to fill. The local office also had 49 domestic service openings and 5 commission sales openings. The largest number of openings in the local office was in the semiskilled occupational group; more than two thirds of these were hard to fill for a variety of reasons but very few were unfilled due to shortage of trained applicants.

JOB VACANCY SURVEY RESULTS
SOUTH BEND AREA

During September of 1964, 331 firms employing 44,199 people in the South Bend area were contacted by mail or personal visit in the job vacancy survey. Of the 305, or 92.0 per cent, who responded, 385 job vacancies were reported in 140 occupations. Employment in the responding firms totaled 42,746. Total nonfarm employment in the South Bend area in September was 77,400.

Of the vacancies reported by the surveyed employers, the largest number of openings was in the professional and managerial occupational group, which comprised 23.3 per cent of the total job vacancies reported. Almost three fourths of these openings were for engineers and nurses, and practically all were considered hard to fill. More than 20.0 per cent of the vacancies in the clerical and sales occupational group were for retail sales clerks; most of them were hard to fill.

Restaurant workers made up 92.0 per cent of the vacancies reported in the service occupational group and more than one half of these were waitresses and cooks; all vacancies except one were considered by the employer as hard to fill.

TOTAL JOB VACANCIES REPORTED ON SURVEY FORMS AND ADDITIONAL JOB ORDERS ON FILE IN THE LOCAL OFFICE, BY MAJOR OCCUPATIONAL GROUP

OCCUPATIONAL GROUP	JOB VACANCIES REPORTED	PER CENT OF VACANCIES	JOB ORDERS ON FILE	PER CENT OF ORDERS
TOTAL OPENINGS	385	100.0	378	100.0
PROFESSIONAL AND KINDRED	90	23.3	39	10.3
CLERICAL AND SALES	75	19.5	101	26.7
SERVICE	75	19.5	91	24.1
AGRICULTURAL AND KINDRED	1	0.3	8	2.1
SKILLED	79	20.5	69	18.3
SEMISKILLED	40	10.4	58	15.3
UNSKILLED	25	6.5	12	3.2

In addition to the job vacancies reported by the 305 responding firms in the area, other employers not included in the survey had 378 additional openings in 164 occupations on file as job orders in the South Bend local office of the Employment Service. The local office also had listed 113 domestic service openings.

Of the 378 openings listed in the local office, the largest numbers were reported in the clerical and sales occupational group, which comprised 26.7 per cent of total job orders on file. More than 89.0 per cent of the total number of additional openings were considered hard to fill. In the clerical-sales group, retail sales clerks made up almost one fourth of the total number of additional job orders; most of these were hard to fill. More than two thirds of the unfilled orders in the service group were for waitresses and cooks; all of these were hard to fill.

JOB VACANCY SURVEY RESULTS
TERRE HAUTE AREA

During October of 1964, 166 firms employing 16,381 people in the Terre Haute area were contacted by mail or personal visit in the job vacancy survey. Of the 154 firms who responded, 25 firms reported 110 job vacancies in 40 occupations. The responding firms represented a 93.0 per cent response and employment in these firms was 15,771. Total nonfarm employment in the Terre Haute area in October was 36,700.

Of the vacancies reported by the surveyed employers, the largest number of openings was in the clerical and sales occupational group, which comprised 36.3 per cent of the total job vacancies reported. Half of these vacancies were for key-punch operators involving one employer. Three fourths of the clerical and sales vacancies were considered by the employers as hard to fill. Ninety per cent of the professional, technical and managerial jobs but only about one third of the unskilled jobs were classified as hard to fill.

TOTAL JOB VACANCIES REPORTED ON SURVEY FORMS AND ADDITIONAL JOB ORDERS ON FILE IN THE LOCAL OFFICE, BY MAJOR OCCUPATIONAL GROUP

OCCUPATIONAL GROUP	JOB VACANCIES REPORTED	PER CENT OF VACANCIES	JOB ORDERS ON FILE	PER CENT OF ORDERS
TOTAL OPENINGS	110	100.0	117	100.0
PROFESSIONAL AND KINDRED	30	27.3	16	13.7
CLERICAL AND SALES	40	36.3	59	50.4
SERVICE	12	10.9	22	18.8
AGRICULTURAL AND KINDRED	0	0.0	1	0.8
SKILLED	7	6.4	5	4.3
SEMISKILLED	1	0.9	7	6.0
UNSKILLED	20	18.2	7	6.0

In addition to the job vacancies reported by the 154 responding firms in the area, other employers not included in the survey had 117 additional openings in 65 occupations on file as job orders in the Terre Haute local office of the Employment Service. The local office also had 44 domestic service openings and 19 commission sales openings.

Of the 117 additional openings listed in the local office, the largest numbers were reported in the clerical and sales occupational group, which comprised 50.4 per cent of the total. Almost one third of the orders in this group were for wholesale and insurance salesmen; most of these were considered hard to fill. Restaurant workers comprised the majority of the openings in the service group with about two thirds of the additional orders represented by waitresses and cooks. Most of these were considered hard to fill, although seldom because of a shortage of applicants.

BACKGROUND INFORMATION

In 1964, Indiana nonfarm employment reached record levels, and unemployment as a per cent of the work force was consistently lower than the national experience. Even so, unemployment numbered many thousands in the State and was unevenly distributed by area, by skill level, and by personal characteristics. The under-developed areas, and areas which had lost firms or employment in existing firms were exceptions to the general high-employment level. Less skilled workers, youth entering the labor force, older workers, and minority groups experienced disproportionately high unemployment rates.

Employment in the seven largest labor market areas of the State was at or near the peak for the year during the survey period (in two areas labor disputes held down October employment totals). In each area, except South Bend, nonfarm employment was above the corresponding period in 1963 and the unemployment rate below the year-ago rate. The State and area rates, except South Bend, were all below the national rate of 4.4.

NONAGRICULTURAL EMPLOYMENT AND UNEMPLOYMENT IN SEVEN AREAS, OCTOBER 1964

	Nonagricultural Employment	Unemployment	Unemployment Rate
Evansville	68,600	2,200	2.8
Ft. Wayne	92,800	1,900	1.8
Gary-Hammond-E. Chicago	190,800	4,700	2.2
Indianapolis	309,600	8,200	2.3
Muncie	35,900	1,700	3.7
South Bend*	77,400	5,300	5.9
Terre Haute	36,700	1,400	3.2
State	1,556,700	58,000	3.1
*South Bend (Sept.)	77,500	6,200	6.8

It was in this setting of high employment and spotty unemployment that the Indiana Employment Security Division undertook to broaden its knowledge of the kinds and numbers of jobs unfilled in industry through the vacancy survey of a sample of employers. Since 1961, the Division has been placing heavy emphasis on obtaining information about occupational opportunities and outlook through continuing analysis of job orders received in local offices, by employer surveys in selected industries, by special surveys in selected areas, and, in 1962, through a 30-area employer survey of shortage occupations. The job vacancy study differed from these in that the survey penetrated all types of industry and included information about all unfilled jobs in surveyed firms, whether or not the unfilled jobs were considered hard-to-fill, or shortage, occupations.

VT 003 301

Information on the Milwaukee Vocational, Technical and Adult Schools' Program for Compulsory Attendance Age Students. Staff Brief I.

Wisconsin Legislative Council, Madison. Educational Committee
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 28Jan66 7p.

*VOCATIONAL EDUCATION; HIGH SCHOOL STUDENTS; *VOCATIONAL SCHOOLS; EDUCATIONAL NEEDS; STUDENT ENROLLMENT; *CONTINUATION EDUCATION; PROGRAM DESCRIPTIONS
MILWAUKEE; WISCONSIN

The summary information regarding the Milwaukee Vocational, Technical, and Adult School's (MVTAS) program for compulsory attendance age students was prepared as a supplement to the Legislative Council Staff Report on Vocational Programs for Compulsory Attendance Age Youth in Wisconsin. The MVTAS consists of five divisions operating as components of the single institution: (1) Milwaukee Institute of Technology, (2) continuation school, (3) apprentice school, (4) adult high school, and (5) adult school. General information on enrollment and attendance in all the school's programs is presented, but the continuation school, which serves the compulsory attendance age student who is not attending high school, is the only one discussed. The student's first quarter in the continuation school is devoted to determining his abilities and interests and acquainting him with the program. When he chooses a program, he spends half the time in a work area and half the time in general education. Work area courses are available in business, graphic and applied arts, home economics, and industrial. General education subject areas are social studies, practical English, driver education, physical education, consumer education, safety, social relations, and special-purpose subjects. Students with good records are entitled to the help of the MVTAS placement department. Some conclusions were: (1) The unique problem of youth who enroll in vocational programs must be recognized by the faculty of the institution providing the training, (2) Although enrollment in the continuation school has decreased, the needs of those remaining students evidently cannot be easily met by the comprehensive high schools without a specialized program, and (3) These young people will be the educational responsibility of the vocational school system when they become 18 years of age. (WB)

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Legislative Council
Education Committee

January 28, 1966

STAFF BRIEF I

INFORMATION ON THE MILWAUKEE VOCATIONAL, TECHNICAL AND ADULT SCHOOLS' PROGRAM FOR COMPULSORY ATTENDANCE AGE STUDENTS

At the request of the legislative council staff, the head of the student services division of the Milwaukee vocational, technical and adult schools [MVTAS] provided information on the MVTAS program for compulsory attendance age students. This staff brief summarizes that information. This staff brief, in effect, supplements the Legislative Council Staff Report on Vocational Programs for Compulsory Attendance Age Youth in Wisconsin, (SR-67-1), January 28, 1966.

The MVTAS consists of 5 divisions, which operate as components of the single institution. Each of the 5 divisions, or schools, has its own curriculum, its own objectives, and in the main, its own student body. These 5 schools include: (1) Milwaukee Institute of Technology; (2) continuation school; (3) apprentice school; (4) adult high school; and (5) adult school. The continuation school serves the compulsory attendance age student who is not attending a high school. At the present time 37 persons are spending 50% or more of their time working with continuation students at the MVTAS.

Enrollment data on the MVTAS are found in 2 tables at the end of this brief. Table 1 gives the cumulative enrollments in the 5 schools from 1954-55 through 1964-65. Table 2 is a further refinement of the enrollment data for the MVTAS from 1954-55 through 1964-65.

In order to enroll in the continuation school, a student secures a transfer from the high school he is attending. Prior to registering at the continuation school the student, and at least one of his parents, is required to attend a counseling session at the MVTAS at which time the work at the vocational school is explained. This counseling session is intended to make clear to both the prospective student and his family what are the differences between the educational programs available at the vocational school and the high school. The continuation school program is not designed

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to teach a student a trade immediately, but is geared to determining whether the student has the ability to learn enough arithmetic and reading to progress toward a trade and whether the student has the special ability to progress in any of the trade areas.

A compulsory attendance age student entering the MVTAS continuation school normally must complete the first quarter of his work in what is called the "diagnostic quarter." The diagnostic quarter plan is devoted to determining what are the abilities and interests of the student and to acquaint the student with the programs available at the vocational school. If a student is recommended by his high school principal as having the ability to progress and to be dependable, the diagnostic quarter is not necessary.

At the end of the first quarter, the student decides upon a program that best fits his abilities and interests. This program usually consists of one-half time in some work area and one-half time in general education. The work area courses enable a student to gain work experience and to develop good work habits and attitudes which may help him get initial employment. Students in the continuation school who want to qualify for better employment opportunities are urged to complete their high school education and then to enter a chosen field through an apprenticeship program or through completion of a special program in the MVTAS adult school.

Work area courses are available in the following fields: (1) business; (2) graphic and applied arts; (3) home economics; and (4) industrial. The general education subjects include: (1) social studies; (2) practical English; (3) driver education; (4) physical education; (5) consumer education; (6) safety; (7) social relations; and (8) special-purpose subjects.

Continuation students with good school records are entitled to have the help of the MVTAS placement department. The placement department usually requires the student to be at the vocational school for some time before referring him to a job. However, if the student has a good high school record and is recommended by the principal as being regular in attendance, dependable and able to get along with people, the student is eligible for job placement help at once.

There is no formal arrangement between the MVTAS and the local high schools under which regular full-time high school students can take courses at the MVTAS for which the student receives credit toward high school graduation. However, many high school principals will accept credits earned at the MVTAS. The credits usually are earned through the evening school program. Sometimes, the student who is about ready to

graduate from high school will be permitted to secure his last one or 2 credits at the MVTAS. Normally this is done through the adult high school division. Occasionally a principal will evaluate shop work at the MVTAS in determining whether a student is eligible for high school graduation.

The MVTAS reports that up to the present time the only problem which has arisen under the new compulsory attendance law is associated with those students who were already working. [The new law requires students in Milwaukee who are not in high school to attend the vocational school full-time until age 18.] The MVTAS is enforcing the full-time attendance requirement; but individual exceptions to the full-time requirement have been made in the case of students already working, where it was felt that it was in the best interest of the student that he continue to work. Usually such students have been required to either attend the vocational school half-time or in the evening.

Regardless of whether the high schools or the vocational schools provide vocational type programs for the compulsory age youth, it is the opinion of the MVTAS that the unique problem of the youth who enroll in vocational programs must be recognized by the faculty of the particular institution. It was pointed out by the MVTAS that while the number of students in the continuation school program has decreased steadily over the years, "this only means that the group that is left has needs that are not easily met by the comprehensive high school without a specialized program." It also was noted that these young people will be the educational responsibility of the vocational school system when they become 18 years of age.

TABLE 1

Milwaukee Vocational Technical and Adult Schools
Cumulative Enrollment Reports by Schools
1954-55 to 1964-65

	Continuation	Apprentice	High School	Adult	MIT	Cumulative
64-65	1,770	1,033	2,056	21,283	11,494	37,636
1963-64	1,809	920	1,927	21,627	9,596	35,879
1962-63	1,816	817	1,589	20,727	8,106	33,055
1961-62	1,848	909	1,515	20,274	6,737	31,283
1960-61	2,305	962	1,480	20,311	5,321	30,379
1959-60	2,432	1,047	1,307	18,803	4,091	27,680
1958-59	2,243	1,123	1,373	20,194	3,470	28,403
1957-58	2,611	1,478	1,326	20,661	2,898	28,974
1956-57	2,972	1,683	1,365	22,042	2,376	30,438
1955-56	2,773	1,494	1,365	21,454	2,303	29,389
1954-55	2,609	1,371	1,244	20,987	2,161	28,372

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TABLE 2

Milwaukee Vocational Technical and Adult Schools

Full-Time Equivalency for the Enrollment as of the Fifth Week of School

	Day H.S.	Day MIT	Day Adult	Cont.	Appr.	DAY TOTAL	Eve. H.S.	Eve. MIT	Eve. Adult	EVE. TOTAL	GRAND TOTAL
1964-65	373	3213	1536	592	161	5875	214	999	1614	2827	8702
1963-64	325	2540	1383	713	146	5107	208	853	1711	2772	7879
1962-63	223	2194	1048	638	138	4241	174	761	1633	2568	6809
1961-62	203	1750	1014	748	148	3863	176	637	1745	2558	6421
1960-61	196	1323	944	884	150	3497	172	500	1706	2378	5875
1959-60	176	1103	927	647	166	3019	136	383	1650	2169	5188
1958-59	181	996	1086	839	172	3274	160	300	1751	2211	5485
1957-58	151	755	982	785	247	2920	155	262	1628	2045	4965
1956-57	145	669	994	677	243	2728	161	222	1619	2002	4730
1955-56	133	653	979	651	200	2616	162	206	1656	2024	4640
1954-55	98	529	916	847	205	2595	161	214	1720	2095	4690

VT 003 414

Accredited Correspondence Education, An Answer to Training Needs of Business. Washington Report, Special Supplement, Nov. 30, 1962.

Chamber of Commerce of the United States, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 30Nov62 4p.

*CORRESPONDENCE STUDY; *ADULT VOCATIONAL EDUCATION; *PROGRAM DESCRIPTIONS; EDUCATIONAL BENEFITS

Correspondence training has been overlooked by many employers although 7,000 businesses and 10 million people have used corespondence study. Some advantages of correspondence education are that it permits students to study subjects at numerous educational levels, students can complete instruction in short time or over an extended period, it meets the diversified interests and needs of people who have unlike backgrounds and differing abilities, it can be the most economical way of training workers, no time is lost from the work day, and courses can be specific, concentrated, and applied immediately to work. Although learning without a teacher's presence and lack of classroom stimulation may be limitations, they are minor when compared to no training at all. Over 800,000 persons are enrolled in 56 accredited schools, and an estimated 700,000 are enrolled in nonaccredited schools. A cooperative training plan can be developed whereby the employee pays the original tuition, and the company refunds part of all of the costs on completion of the training. The United State Chamber of Commerce has compiled a list of accredited schools with over 400 course offerings. Documents treating other business training and retraining programs are available as VT 003 415-VT 003 427. (MM)

VT 003 414

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SPECIAL SUPPLEMENT

NOVEMBER 30, 1962

WASHINGTON REPORT

Chamber of Commerce of the United States

1615 H Street, N. W. • Washington 6, D. C.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Accredited Correspondence Education

AN ANSWER TO TRAINING NEEDS OF BUSINESS

The secret is long out: business and industry desperately need trained and trainable employees at all levels and in all fields—managerial, technical, administrative, machine operators, clerical. From 1960 to 1970 the U. S. Labor Department estimates* that we shall need

41% more professional and technical personnel;
27% more clerical and sales trained personnel;
24% more proprietors;
24% more skilled workers;
18% more semi-skilled workers;
25% more service workers;
0% unskilled (No Increase).

Millions of jobs will become available by 1970, but—at the present rate of training—we could have many unemployed.

Expanded Training Capability Needed

What is the answer? Employers have found only a small part of the answer in variations of the traditional classroom method of training. In-plant instruction, short courses, evening classes, late afternoon classes, Saturday morning classes, early morning television, and off-campus programs to outlying communities have *not* supplied enough training fast enough to enough employees at costs which are economically feasible. Although they are unable to provide the mass vocational training required to meet the automation revolution that even now is well under way, these traditional methods should be continued, supported, and used more intensively than ever. However, there is at least one other training method that can be called on to help in the task before us.

Correspondence Education Industry-Tested

In looking for the answer, we found that most employers, large and small, have overlooked a method that has been used most effectively in a limited way for a long time—CORRESPONDENCE TRAINING. It is true that 7,000 businesses and industries have used and more than 10 million people have been instructed and upgraded through correspondence study, but from what we have been able to learn, the vast potential of the method remains largely untapped. Based on our probe, the results are good. One company, for instance, reports its maintenance and repair costs were reduced 30% as a result of a company correspondence program.

* *Does not include replacements.*

Why correspondence? Because we need an approach which will provide a wide range of course offerings while allowing for development of the individual learner's ability. Most vital: home study permits the trainee to adjust to the time and place of study. The mass training of individuals for their work today and tomorrow requires an approach which is flexible. It must

- permit students to study subjects at numerous educational levels;
- allow them to complete instruction in a short time or over an extended period—at their own choice;
- meet the diversified interests and needs of people who have unlike backgrounds and differing abilities.

After surveying the problem and looking at the methods, it appears that correspondence education provides the majority of blue and white-collar workers a convenient and a valuable means to participate in a learning situation on an organized basis.

Correspondence Method Sound

In the past, some have had doubts about the correspondence method. It probably is true that a serious student who has the benefit of a skilled and competent teacher and a well-organized curriculum can learn and learn well in the classroom—perhaps better than in any other way. The employer's problem is: how to get the student and the teacher together—the teacher teaching and the student learning the subject matter needed for the efficient operation of your industry or business. Without an expensive in-plant training pro-

Correspondence student experiments with electronics equipment built from training kit supplied by one of the 56 accredited correspondence schools.

VT003414

gram, the problem often is insurmountable, and the training is neglected. As a result your business continues to produce at a status-quo rate; you are unable to expand production and to increase the profit margin obtained by greater volume.

Actually, all of the ingredients of any learning situation are present: the student, the instruction materials, and the instructor. The difference is that communication between teacher and student takes place through the written rather than the spoken word. This appears to have advantages; students must learn every part of the subject matter and respond in writing to every part of every lesson. In contrast, not everyone has the opportunity to recite at every meeting of every class on all parts of the subject under discussion. Students studying University of Wisconsin correspondence courses learned just as well as in a lecture course where they were able to question their instructor directly, research has brought to light. Although the test scores of students taking classroom and correspondence courses did not vary significantly, a University of Michigan study showed that home study students retested four months after taking a course retained more than the regular classroom group.

Employee Incentive—Future Job Capacity

Motivation? It appears to be built-in. If your people need to know more to increase production, to keep their jobs, to advance within the company, to prepare for major or minor changes within your plant in the future, you should have no trouble encouraging good personnel to study in their off-hours. If they are reimbursed, in whole or in part, for costs upon completing the course, good employees will find this additional incentive hard to resist. Employees provided this motivation will come to know that their company not only has an enlightened self-interest, but it also has the interest of its employees at heart—an important factor in reaching maximum production in any business, large or small.

Role of Correspondence Courses in Business, Military and Government

Most Americans are not aware of the role correspondence education is playing in business, in the military and in government. In industry, more than 7,000 (including over 290 of the largest) business firms use it or carry out all of their training through correspondence. Most recent enrollment figures show:

- about 1,000,000 active and reserve military personnel are enrolled in military-type courses through one of the services;
- 240,000 active duty military personnel are enrolled in academic courses through the Armed Forces Institute;
- 100,788 are enrolled in vocational and cultural courses in 45 colleges and universities;
- 800,000 are enrolled in 56 accredited schools, according to the National Home Study Council, in technical, vocational, and high school-level courses;
- an estimated 700,000 are enrolled in non-accredited schools.

Directory of Accredited Schools Available

How can employers be certain that their employees will receive quality courses, that the business ethics of the schools are reliable? We knew you would need help in this area. Although substandard schools operate from coast to coast, we were able to obtain a list of accredited schools and their course offerings in more than 400 subject areas. Write to us, and we shall send you a limited number of directories without charge.

The educational service and reliability of accredited correspondence schools have been gone over by an independent Accrediting Commission which is approved by the U. S. Office of Education as a "nationally recognized accrediting agency." Having looked at the accrediting standards, we are convinced that the Commission's standards for a school are rigorous, indeed:

- It has a competent faculty;
- It offers educationally sound and up-to-date courses;
- It screens students carefully for admission;
- It provides satisfactory educational services;
- It has demonstrated ample student success and satisfaction;
- Its tuition charges are reasonable;
- It advertises its courses truthfully;
- It is financially able to deliver a high quality of educational service.

Employer and Employee Gains from Correspondence Education

Having been satisfied that the high standards provided ample protection, we checked more thoroughly into the advantages employers and employees could expect from correspondence study. From our research, we have found that those business and industry operatives which use home study to train employees utilize it for several reasons:

- Many workers can be trained in different fields at the same time;
- Each worker can learn at his own rate because study is carried out on an individual student basis;
- As a method of training workers, it can be the

AFBCOCTV

Mr. Samuel Thompson, pictured above, has taken many correspondence courses which have prepared him for his present position as Project Coordinator for RCA's Data Communication Computer line. He graduated from high school in 1944 and accepted a job as a laborer in RCA's Camden, N. J., plant. At this time he began taking correspondence courses in business. This was a fundamental or beginner's course. He was then promoted to the occupation of Stockman, at which time he continued this correspondence program. Upon completion, he was promoted to the position of Inventory Clerk. Realizing his need for a background in mathematics in order to advance further, he took correspondence courses in general mathematics and followed that with advanced mathematics. After this he entered the armed services and during his eighteen months in the service took USAFI correspondence in the field of accounting. Upon returning from the service, he was re-employed in his old job as Inventory Clerk and then promoted to Cataloger Compiler. During this time he pursued studies in English and business at Woodrow Wilson Evening School. After the completion of this training, he became a Parts Specialist for RCA's computer line. During the one and one-half years he was a Parts Specialist, he took business courses specially tailored to his needs by a correspondence school. His next position was that of Leader, Inventory Control—he held this position for two years. Six months ago, he was promoted to his present position. Needless to say, he is planning for new programs of study. This case study demonstrates vividly how a person can prepare himself for new opportunities in business and, at the same time, business also benefits through such well-educated employees.

most economical way. (A full in-plant training program is expensive and usually insufficient to meet multiple company needs.)

Still other employer advantages were uncovered:

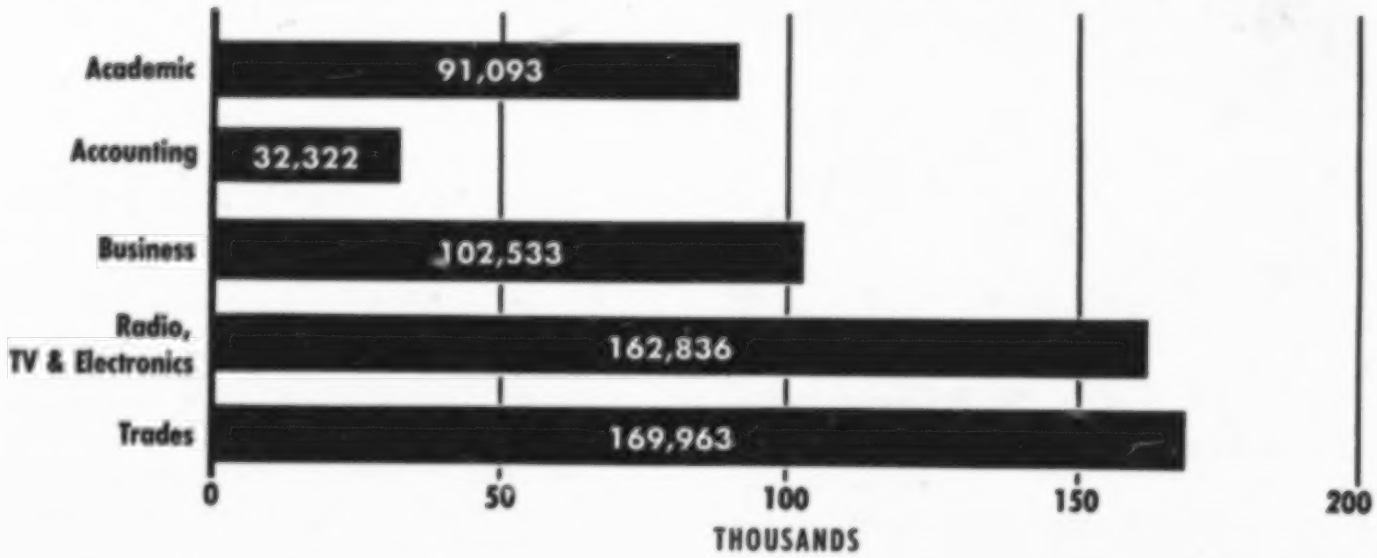
- No time is lost from the work day;
- Home study can be tied into an in-service training program, and examinations and progress can be checked by company supervisors and training personnel;
- Certain schools can provide diagnostic testing services for business and industry embarking on a group training effort by means of home study. Testing is used to find the skill-knowledge level of employees in order to design a course which will begin and continue training at a proper level for employees, as well as meet the company's training objectives;
- Courses are specific and concentrated; the emphasis is on learning which can be applied immediately to the employee's work. Courses range from air conditioning, arithmetic, and architecture, to welding, wiring, and work simplification.

In a recent survey of hundreds of correspondence school graduates, the employee gains were significant. Here is a summary of the findings among students:

- They learned from the course what they anticipated it would provide;
- Based on prior earnings, pay increases averaged $22.50 per week—about 90% received those increases;
- They were promoted (over 40%) or were able to relocate in better jobs;
- Graduates were well satisfied—in fact, enthusiastic—about the quality of the subject matter as well as the correspondence study method;
- More than three-fourths of the men reported receiving better wages;
- More than three-fifths said they now had a better chance for promotion;
- More than one-third emphasized receiving a greater supervisory role;
- Three-tenths of the respondees reported that their status in the neighborhood where they lived had improved;
- More than half of those surveyed felt better about their work;
- More than four-fifths of the students said that they would study through home study if they had to make the choice again.

In addition to these advantages, several personal benefits were noted:

RECENT ANNUAL ENROLLMENTS IN HOME STUDY COURSES OF SPECIAL INTEREST TO BUSINESS & INDUSTRY



This graph provides a comparison of subject area enrollments selected by new students enrolled in accredited home study courses in one year. 558,747 of 860,190 students chose courses vocationally beneficial for working adults.

- Employees can pay for the courses by installment as they learn;
- Each man receives individual attention from the instructor;
- A student can study subjects not available locally —business courses, skilled trades, preparation for professional licenses, hobbies, academic subjects;
- Employees can continue to learn while remaining at home and can do it without travel;
- Where the skill requires equipment, a kit often is furnished giving a student practice in his skill— e.g., assembling a radio or TV set as part of a course.

Still another benefit: many adult workers have dropped out of high school and now want and need a high school program both for background and basic skill knowledge. High school programs and preparation for an equivalency diploma are offered through home study. With high school training, an employee then can fruitfully continue his education in courses dealing with his particular job.

Tuition Reimbursement Plan

Savings for employers and employees? As compared to in-plant training, the savings are considerable, even if the company supports a Cooperative Refund Plan for employees. If a firm needs additional skill development among its employees in a reasonably short time, it is wise to start a Cooperative Training Plan. In this program, an employee pays the original tuition and training costs, and the company refunds part or all of the costs on satisfactory completion of training. A brochure describing variations of the plan will be sent to anyone requesting it.

Noteworthy under a Cooperative Training Plan are the tax considerations:

- For the company, tuition refunds are written off as operating expenses;
- For the employee, under Treasury Ruling, expenditures for education are deductible if undertaken primarily for maintaining or improving skills required by the student to perform duties of employment "when the educational expense was incurred," or for meeting the mandates of the employer who has imposed the educational requirement "as a condition for the retention by the student of his salary, status, or employment."

Correspondence Education Offers Many Advantages

For some employees, correspondence courses have certain limitations. For instance:

- Learning without a teacher standing over them may be difficult.
- Classroom stimulation may seem necessary for learning.

These limitations are minor when compared with the need for another educational tool. The new demands on education require methods which do not take men and women out of the labor force; methods flexible enough to keep pace with rapid change; and methods capable of maintaining high quality during periods of unparalleled growth. Home Study meets some of these demands, and in our view it has become a significant part of the new adult education.

On request, we shall send you additional information on correspondence education.

VT 003 415

Apprenticeship, An Answer to Training Needs of Business. Washington Report, Special Supplement; Feb. 8, 1963.

Chamber of Commerce of the United States, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 8Feb63 4p.

*APPRENTICESHIPS; ADULT VOCATIONAL EDUCATION; *EDUCATIONAL BENEFITS

Apprenticeship is a method of learning a skill through a predetermined schedule or training outline which consists of not less than 4,000 hours of on-the-job training and related theoretical instruction. Apprenticeship is not limited to any single business or industry. Manufacturing, construction, utilities, and trade and service have trained apprentices for years. Expansion in apprentice employing industries during 1960-1970 has been projected as (1) construction, 30 percent, (2) trade and services, 25 percent, (3) manufacturing, 15 percent, (4) transportation, utilities, and mining, 5 percent. There are 8.5 million skilled workers in all industries. Fewer than 60,000 apprentices completed their programs in 1960-61. Planned training pays dividends to the employer in terms of assured skilled workers, lower production costs, satisfied customers, reduced labor turnover, reduced supervison, and a source of supervisory personnel. A study of apprentices 6 years after completing the program showed that more than one-fourth had advanced to supervisory positions, and 93 percent had used the skills they learned. The U.S. Department of Labor, Bureau of Apprenticeship and Training provides consultant services to employers on request. Addresses of regional bureaus are included. Documents treating other business training and retraining programs are available as VT 003 414-VT 003 427. (MM)

VT 003 415

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SPECIAL SUPPLEMENT

FEBRUARY 8, 1963

WASHINGTON REPORT

Chamber of Commerce of the United States
1615 H Street, N.W. / Washington 6, D. C.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
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Apprenticeship

AN ANSWER TO TRAINING NEEDS OF BUSINESS

What is Apprenticeship?

Leaders of business and labor who are serving on the Federal Committee on Apprenticeship define apprenticeship as a method of learning a skill through a predetermined schedule or training outline which consists of not less than 4000 hours (a minimum of 2 years) of on-the-job training and related theoretical instruction.

An apprentice learning a skill receives on-the-job training, but a person receiving on-the-job training is not necessarily an apprentice. To avoid confusion, the above definition is utilized in this supplement.

EDITOR'S NOTE: This is the second in a series of Special Supplements on training and retraining programs utilized by business firms. The first, "Accredited Correspondence Education," published in the November 30, 1962, issue of *Washington Report*, was received enthusiastically by company officials and by personnel and training directors. If you missed this supplement, you may obtain a complimentary copy upon request to the National Chamber. A third in this series will feature "On-The-Job Training" and will be printed in a later issue of *Washington Report*. If you have developed a unique training program that might be of interest to other businessmen, please send details to the Education Department.

Voluntary Skill Development Encourages Individuality

Progress of business and industry in the United States is attributed to the principle that an individual is free to develop his skills. This benefits him, his employer, his family, the community and, most important, contributes to the democratic way of life. Most employers agree that employees have an inherent potential in three basic areas:

- **Attitude**
- **Skill**
- **Knowledge**

Effective Training

Business and industry can limit employee effectiveness by refusing to recognize that planned training will motivate a qualified person to develop his skills while he is acquiring both maturity and judgment. Often creativeness exists, but needs the stimulation of management.

What Apprenticeship Does

Apprenticeship provides employers with an effective training plan whereby employees help themselves develop a wide and diverse range of skills. As a training plan, it is designed to afford a qualified person an opportunity to earn while he learns a skilled occupation. A sound apprenticeship program stresses quality workmanship and creates a keen sense of its awareness in the apprentice. An integral part of his training is that he is taught to recognize the full meaning of quality workmanship and intuitively strive for it in his work.

Who Uses Apprenticeship?

Apprenticeship by its very nature is not limited to any single business or industry. Business and industry in the four major groups—manufacturing, construction, utilities, and trade and service—have trained apprentices for many years.

Jerome Kessler, right, Certified Prosthetist at Kessler Associates Inc., Newark, New Jersey, instructs Robert Hessberger in the finishing processes for plastic laminating. Hessberger, who has a post-polio disability, is serving his apprenticeship as an artificial limb maker.

VT003415

"Build the People— The People Will Build the Planes"

"Our job is to build people. The people will build the airplanes." With these words, Robert E. Gross, the former chairman of the board and chief executive officer of Lockheed Aircraft Corporation, set the pace for the company's apprenticeship program.

A Voluntary Training Program

Apprenticeship is a completely voluntary training program on the part of both business and industry. They are responsible for its administration, operation, and the effect it has on the community and the nation. Specifically, management and labor, when employees are affected by a bargaining agreement, jointly decide on the terms and conditions under which apprentices are employed. When employees are not covered by a bargaining agreement, management develops the necessary mechanics of its apprenticeship plan.

The Apprentice

- learns and earns while on the job
- studies related theoretical subjects
- produces during his training
- is paid and his production is sold
- has a written or oral agreement covering terms and conditions of his employment and training plan

The person pictured above is Frederic Rutherford, plumbing-pipe-fitting apprentice of the Ford Motor Company, Dearborn, Michigan. He began his apprenticeship in August, 1960, and now is assigned to the coke oven-blast furnace operation in the Rouge manufacturing area. Before he completes his apprenticeship, he will have worked in nearly every Rouge facility where his kind of skill is needed.

Apprenticeable Occupations

Occupations generally recognized as suitable for apprenticeship are those which can be learned through two or more years of training and work experience on the job. Traditionally these include such skilled occupations as electrician, plumber, carpenter, tool and die maker, stationary engineer, machinist and printer. However, there are large numbers of other apprenticeable occupations less commonly known. Some of these are:

Aircraft Mechanic
Artist—Sign, Scene & Pictorial
Baker
Barber
Bookbinder
Brewer
Butcher-Meat Cutter
Candy Maker
Cook
Cosmetician
Dairy-Products Maker
Dental Technician
Draftsman & Designer
Dry Cleaner, Spotter & Presser
Electronic Technician
Electroplater
Engraver
Floor Coverer
Foundryman
Furrier
Heat Treater
Helicopter Mechanic
Jeweler
Leather Worker
Mattress Maker, Custom
Musical Instrument Mechanic
Optical Technician
Photographer
Tailor
Textile Technician Mechanic
Upholsterer
Wire Weaver
X-ray Equipment Mechanic

Projected Needs

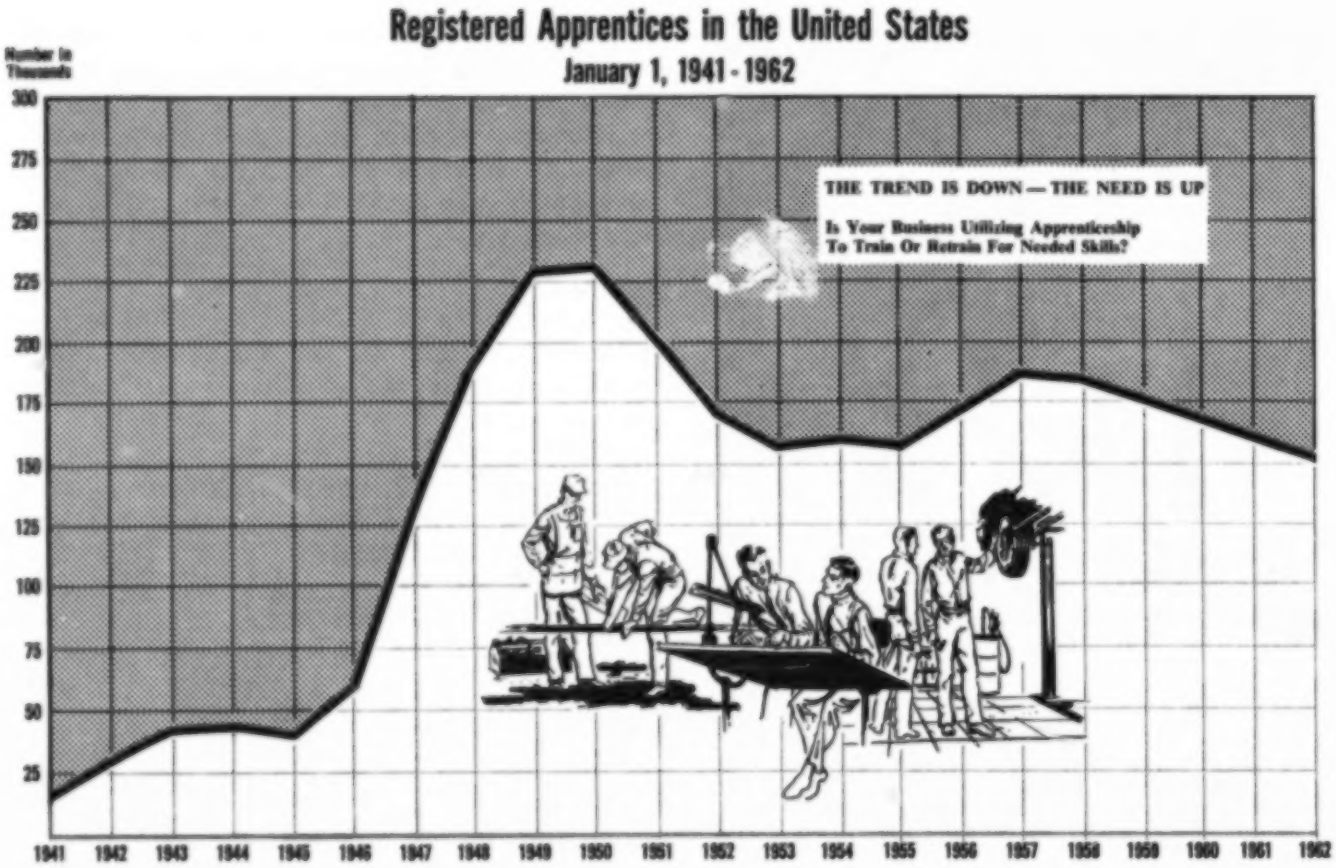
From 1960 to 1970, the U. S. Department of Labor estimates this nation will need 24 percent more skilled workers. There are now approximately 8.5 million skilled workers in all industries. Fewer than 60,000 apprentices in registered programs completed their apprenticeships in 1960 and 1961.

Expansion in apprentice-employing industries during the current decade (1960-1970) has been projected as follows:

Construction	up 30% or more
Trade and Services	up 25% or more
Manufacturing	up 15% or more
Transportation	up 5% or more
Utilities	up 5% or more
Mining	up 5% or more

Business and industry need versatile, easily retrainable skilled workers. A number of highly skilled workers are unemployed because they are unable to adapt their skills to the changing needs of industry.

The day of the specialist is fast losing its status in some industries. When business and industry must adapt to technical changes, their employees also must retrain to acquire essential new skills. As the number of apprentices decreases, business and industry become less able to keep pace with current market demands.



Information, Research Division, Bureau of Apprenticeship and Training, U. S. Department of Labor.

Planned Training Pays Dividends in Terms of:

Company Security—Planned training assures an adequate supply of skilled workers trained in efficient methods of production.

Lower Production Costs—Planned training decreases production costs by reducing waste. The more skilled are the workers, the less spoiled are the materials.

Satisfied Customers—Skilled workers, trained in accuracy and precision, assure customers of high-quality products.

Reduced Labor Turnover—Planned training provides opportunities for advancement within the organization, thus tending to decrease the frequency of hiring and rehiring.

Reduced Supervision—Planned training develops the ability and initiative of the work force. Trained workers require minimum supervision in planning and performing their assignments.

Source of Supervisory Personnel—Planned training prepares skilled workers for advancement to supervisory jobs.

National Security—The development of the nation's skilled manpower through planned training is as important to our national security as is the training of men for the armed forces.

Looking Ahead—Technical developments in the years immediately ahead will require a work force possessing high skills and creativity. New industrial techniques will necessitate additional skills and new twists to existing skills. Planned training is a necessary tool for progress.

What Happens to Those Completing Apprenticeships?

A study made by the Department of Labor's Bureau of Apprenticeship and Training to determine what happens to apprentices after they complete their training disclosed that:

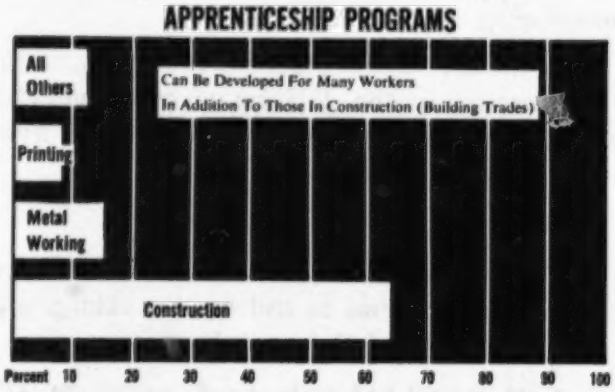
Six years after completing:

- More than one-fourth had advanced to supervisory positions or had become managers or proprietors of their own businesses
- 93 percent had made specific use of the skills learned during their apprenticeships
- Only 7 percent had gone into completely different types of work
- Virtually all were highly enthusiastic about apprenticeship training

John D. Dewhurst, President of the Arrow Tool Company, Inc., Wethersfield, Conn., is pictured above (at left) discussing a die model with one of the company's executives. Mr. Dewhurst got his training through an apprenticeship program as a graduate tool and die maker apprentice from Underwood Elliott Fisher. In addition to running his own company, he is President of the National Tool, Die & Precision Machining Association, located in Cleveland, Ohio.

Where and How Many Apprentices are Employed

The U. S. Department of Labor's Bureau of Apprenticeship and Training reports there are more than 150,000 registered apprentices in training, most of whom are in construction industries. Of course, there are a number of apprentices being trained in other industries. The following graph shows distribution of registered apprentices by industry:



Apprentices are being trained in every state in the union, for example:

- Aero-Jet Mechanics ..... in California
- Electronic Technicians .... in Massachusetts
- Foundrymen ..... in Pennsylvania
- Furriers ..... in Alaska
- Maintenance Mechanics in Pineapple Plants ..... in Hawaii
- Tool & Die Makers ..... in Michigan

The number of apprentices must be substantially increased to meet scientific and technological innovations in business and industry. Those now in training are insufficient to cover losses resulting from deaths, retirements and transfers to other occupations, to say nothing of meeting demands for supervisors, foremen, and industrial managers.

DO YOU KNOW . . .

The U. S. Department of Labor's Bureau of Apprenticeship and Training and cooperating State apprenticeship agencies provide consultant service available to you on request.

Specifically, they will . . .

- Assist in determining your training needs
- Furnish information on training aids, programs, and materials
- Assist, where necessary, in planning training activities to meet specific needs

If additional information on apprenticeship and training is desired, contact the Bureau of Apprenticeship Training official in your region listed below:

REGION I
(Maine, N. H., Vt., Mass., R. I., Conn.)
Ernest R. Sias
Room 501, 18 Oliver Street
Boston 10, Massachusetts
LIberty 2-2115—Ext. 12, 13

REGION II
(N. Y., N. J.)
Cornelius L. Kort
Room 903, Parcel Post Bldg.
341 Ninth Avenue
New York 1, New York
PEnnsylvania 6-7700
Ext. 577, 578

REGION III-IV
(Del., D. C., Md., N. C., Pa., Va., W. Va.
Robert F. Handley
Room 321, Professional Arts Bldg.
Chambersburg, Pa.
COlony 3-4181—Ext. 41, 42, 43

REGION V
(Ala., Fla., Ga., Miss., S. C., Tenn.)
Charles N. Conner
Room 525, 1371 Peachtree Bldg., 17th & Peachtree St. N.E.
Atlanta 9, Ga.
TRinity 6-3311—Ext. 5405, 5406

REGION VI
(Ky., Mich., Ohio)
John R. Newland
Room 1008, Engineers Bldg.
1365 Ontario Street
Cleveland 14, Ohio
CHerry 1-7900—Ext. 520, 521

REGION VII
(Ill., Ind., Wis.)
Alvin A. Dost
Room 1000, Bankers Bldg.
105 W. Adams Street
Chicago 3, Illinois
STate 2-9510—Ext. 46, 47

REGION VIII
(Minn., Mont., N. Dak., S. Dak.)
P. Wesley Johnson
106 Federal Bldg.
110 S. 4th Street
Minneapolis 8, Minnesota
334-2597—Ext. 2638, 2639

REGION IX
Iowa, Kans., Mo., Nebr.)
Taylor F. Custer
Room 2811, Federal Office Bldg.
911 Walnut Street
Kansas City 6, Missouri
BAltimore 1-7000—Ext. 212, 213

REGION X
(Ark., La., Okla., Texas)
Fred W. Erhard
Room 212, 1114 Commerce St., Dallas 2, Texas
RIverside 8-5611—Ext. 2901, 2902

REGION XI
(Colo., N. Mex., Utah, Wyo.)
D. L. Frodine
Room 832, Equitable Bldg., 730 - 17th Street
Denver 2, Colorado
KEystone 4-4151—Ext. 204

REGION XII
(Ariz., Calif., Hawaii, Nev.)
John T. Douthit
Room 108, Appraisers' Bldg., 630 Sansome Street
San Francisco 11, California
YUkon 6-3111—Ext. 482, 483

REGION XIII
(Alaska, Idaho, Oreg., Wash.)
Roscoe H. Burt
1809 Smith Tower
506 Second Avenue
Seattle 4, Washington
MUtual 2-3300—Ext. 453, 454, 455

VT 003 416
Career Guidance for Youth, An Answer to Training Needs of Business. Washington Report, Special Supplement, Apr 12, 1963.

Chamber of Commerce of the United States, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 12Apr63 4p.

CAREER PLANNING, *OCCUPATIONAL GUIDANCE, *YOUTH PROGRAMS, *COMMUNITY INVOLVEMENT, GUIDANCE PROGRAMS, *PROGRAM DESCRIPTIONS, SCHOOL INDUSTRY RELATIONSHIP
EVERETT, MASSACHUSETTS

The "Everett Plan," nicknamed the Everett Prep Club, is a voluntary, action-oriented, youth-centered program of planned extra-curricular activities open to high school age youth which helps in preparing them to make the transition to the world of work. The program was introduced, developed, and coordinated by the Everett Massachusetts Chamber of Commerce as a total community project and is directed by a 21-member advisory council representing many segments of the community. It is financed and administered by the business community with individual firms sponsoring individual Prep Clubs. The program operates as an association of different occupational interest groups with a common pattern of activity. Prep clubs meet twice a month in the evening under the direction of a volunteer adult leader from sponsoring firms with youth officers presiding at all meetings. Some of the club activities are field trips, films, speakers, and social events. Club members benefit by gaining personal and business knowledge and understanding, getting experience in self-analysis and career and job exploration, associating with peers and adults conpetent in many areas, and developing personal plans. Documents treating other business training and retraining programs are available as VT 003 414-VT 003 427. (MM)

VT 003 416

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SPECIAL SUPPLEMENT

APRIL 12, 1963
WASHINGTON REPORT
Chamber of Commerce of the United States
1615 H Street, N.W. / Washington 6, D. C.

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Career Guidance for Youth, AN ANSWER TO TRAINING NEEDS OF BUSINESS.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
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The jobless rate among youth is two to three times that of the rest of the population. The heart of the unemployment problem is the uneducated and unskilled who are not wanted for jobs. Jobs for the skilled and educated are plentiful. There are answers to the problem of youth unemployment. The answers involve programs, such as those sponsored by the Chamber of Commerce of the United States to prevent high school dropouts. These include improvement in local vocational training and retraining programs, close cooperation between schools and businesses so youths are taught skills that are needed in business, and better apprentice training.

Pilot Study Offers a Solution

A pilot study (called the EVERETT PLAN) sponsored by the Everett, Massachusetts, Chamber of Commerce working in collaboration with the Center for Continuing Education of Northeastern University and the Massachusetts Department of Labor and Industries, Division of Apprentice Training, has been completed. An annual program is now in effect which is utilizing pilot study findings to bring community resources to bear on this problem.

Early Career Planning a Must

Selecting the right career and the way to earn one's living probably is the most important decision a person makes in his entire lifetime. Therefore, it is essential that career interests and personal goals be set early so that they can serve as guidelines in determining the kind and amount of education to plan for.

Delays in making such an important decision makes education or training more difficult to obtain, and valuable years of productivity and personal development are wasted, both to the individual and the nation's economy.

Authorities agree that much of the frustration encountered by youth in the transition from school to work could be eliminated, job turnovers reduced and the gap, averaging six years between high school graduation and continuing education, could be narrowed by adequate guidance and proper career planning.

Despite vast strides forward in guidance and career planning in recent years, the need of America's youth has not been met and this gave impetus to the birth of "The Everett Plan for Preparation for Employment."

What is the Everett Plan?

The Everett Plan which has been nicknamed the "Everett Prep Club" by members is a voluntary, action-oriented, youth-centered program of planned, extracurricular activities open to boys and girls of high school age, regardless of race, color, creed, or school affiliation, including those who have discontinued their attendance at high school prior to graduation.

The project is designed to aid Club members in preparing themselves to make the transition to the world of work; to select the kind of work that is suited to their needs, interests and qualifications; and to find a satisfactory starting point for continuing progress, growth and achievement.

While the program provides benefits for college-bound youth, it is primarily aimed at the approximately 70 percent of high school students who plan to enter the work force after graduation and at those youths who have dropped out of school.

The program brings to bear the total resources of the community to resolve a problem that is national in scope.

At work on the construction of a mock-up of a Mercury space capsule for the National Aeronautics and Space Administration in the Everett plant of the United Industries, Incorporated, are members of the woodworking Prep Club who have afternoon jobs at this plant. L. to R. are James E. Butler, Roy E. Whitson and Peter Amato, company president and chairman of the Chamber Prep Club Advisory Council.

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Why the Everett Plan?

In these rapidly changing times, technological advances have resulted in the elimination of many laborious and unskilled jobs and have created many new jobs and career opportunities calling for a higher level of education, skill, and training. The indications are that, in the years ahead, a much larger number of boys and girls will be graduating from our high schools and seeking employment in business and industry.

Most of these young people are unfamiliar with the realities of the world of work, with the opportunities available to them, with the requirements and responsibilities which employment will place on them, and with the abilities, skills, and personal habits and attitudes they will be called on to develop.

While much help is available through the school system and through parents and friends, study shows there is a real need for a better planned, organized and continuing approach during the years prior to entering the work force to assure early and satisfying jobs for our nation's youth.

Prep Club Goals

1. To prepare youth for the transition from school to work;
2. To reduce school dropouts;
3. To assist school dropouts in advancing their career interests;
4. To help terminal high school students to find early and satisfying employment;
5. To increase the flow of youth to formal apprentice training programs;
6. To elevate the dignity of all useful occupations;
7. To motivate youth to pursue advanced education and training;
8. To assist youth in selecting a satisfying and rewarding career;
9. To place a new and greater emphasis on a successful high school career;
10. To assist youth in setting personal goals;
11. To assist youth in identifying the elements of life planning that contribute to success, continued growth, and happiness;
12. To advance the understanding of youth in the value of our free enterprise system.

What About the Future?

While the present program is for youth of the 12th grade age level, the ultimate goal of the Chamber's Prep Club Advisory Council is to introduce a similar program in the 9th grade through the 12th grade with an appropriate program for each grade level.

Loretta J. Altieri, President of the Graphic Arts Prep Club, tries her hand at opaquing a negative at the Acme Printing Company in Everett, with Robert K. McCabe, a club member, looking on during a recent field trip. To the right is William Prianti, Company executive and club leader.

Studies show that it is in the lower grades that the dropout problem can best be resolved.

How Does the Program Operate?

The program operates as an association of different occupational interest groups and functions within a common pattern of activity and towards the same general objectives to accomplish Prep Club goals.

All Prep Clubs meet twice a month during the school year at the same time in the evening under the direction of competent adult leaders from sponsoring firms. Each individual club has its own youth officers who preside at all meetings. Several joint meetings feature keynote speakers prior to individual club meetings. At other meetings films and visual aids are used, panel discussions are arranged, and field trips to various firms are made. Leaders are provided manuals covering subjects and methods of conducting meetings. Each member is issued a guide which includes career information, aptitude tests, job analysis work sheets, hints on personal development, job surveys, etc.

Sessions cover: Establishing Personal Goals, Career Planning, How a Business Operates, Where and How to Find Employment, Business Understanding, Labor-Management Relations, Career Opportunities, The Job Interview, Government's Role in our Economy, Economic Understanding, Evaluating Opportunities, Selling One's Self, and other subjects.

Who Operates the Program?

The Everett Chamber of Commerce introduced, developed and coordinates the program. Administration is provided by the Chamber staff. The operation of the project is directed by the Chamber's twenty-one member advisory council which includes representatives of management, labor, government, schools, clergy and other segments of the community. The council approves occupational interest groups, sponsoring firms, program contents, meeting sites, frequency of meetings, arranges for finances, and provides general direction for the successful operation of the program.

How is it Financed?

The program is financed and administered by the business community through its Chamber of Commerce Advisory Council. Firms sponsoring individual Prep Clubs assume miscellaneous expenses in connection with field trips and other activities. Club leaders serve on a voluntary basis.

How Does Youth Benefit?

Club Members

develop new knowledge and understanding of:

—Our business system and how business operates
—Personal goals and career planning
—Self-development suited to their needs, interests and qualifications

get experience in:

—Self-analysis of their experiences, educational interests, and abilities
—Career and job exploration
—Individual and group work projects
—Effective presentation of ideas and information to others
—Working with others
—Preparing applications for employment
—Participating in job interviews
—Selling one's self

"Pick the brains" of:

—Club leaders
—Fellow club members
—Guest speakers
—Competent individuals in management, labor, government, and education

find out new sources of information which will aid in personal planning, in career and job exploration, and in finding employment—so that they will know where to look and who to see

develop personal plans for further education, self-development, and eventual employment.

Meetings Not All Work

Occasionally planned social affairs are included as part of Prep Club activities and are held following club meetings.

Not to be overlooked is the "Prep Club News" which is prepared by the Clubs' news staff and published twice monthly to keep members informed on club affairs and activities of club members.

Sponsoring Firms Play a Big Part

In addition to providing leaders for individual Prep Clubs and serving as members of the advisory council, sponsoring firms assume miscellaneous expenses in connection with club activities. They also make valuable contributions as to the kind of information to be included in Prep Club sessions. In-plant meetings are often held with the firm's Prep Club leaders to assist them in their voluntary post and to advance the effectiveness of the program.

In numerous cases sponsoring firms have hired Prep Club members for work after school hours and some are slated for full-time employment and training after graduation. This is not a prerequisite of a sponsoring firm, however.

How our business system operates was the topic of discussion by Prep Club members with company executives at the Everett General Electric plant following plant visit. Paul N. Martin, club leader, is standing to the left. Seated at the head of table are company panel members.

A Working Partnership

The Prep Club program is not a substitute for present school guidance activities; it is designed, however, to complement the valuable work guidance counselors are currently doing in the vital area of career planning.

An Everett Prep Club reporter asked a guidance counselor of the Everett Public Schools the following question: "Do you think the Everett Prep Club is interfering with the work of the Guidance Department?" He answered: "No, I don't. The Everett Prep Club can be a supplementary asset to the work of the Guidance Department. Just by meeting people in industry and business, being exposed to their ideas can contribute tremendously in the students' problems of choosing a career." The Guidance Director, incidentally, is a valuable member of the Chamber Prep Club advisory council, as are the superintendent of schools and the principals of the local senior and vocational high schools.

John J. Cronin, left, Prep Club leader explains mechanical devices to club members during a field trip to Monsanto Chemical Company's Everett plant. L. to R. are: Silvio Albano, Robert Vesperini, Joseph Harrington and Allan Johnson.

The Role of Club Leaders

Leaders of individual Prep Clubs are the backbone of the fledgling new youth program. They regularly attend club meetings, set up field trips, collaborate with club officers in the conduct of meetings, provide visual aids, arrange for panelists for club sessions when required, motivate members to maximum participation in club affairs, and serve as advisors to club members.

Leaders meet regularly to discuss club sessions and swap tips on successful methods of leadership.

Leaders include both men and women and come from the top echelon of local firms and organizations.

At the present time, twenty-nine leaders are serving fourteen individual Prep Clubs that were established to advance the career interests of the two hundred enrolled club members.

A Solid Program

It took ten months of advanced planning and research before the pilot study was introduced in May, 1962. Five additional months of work were devoted to analyzing the evaluation of the pilot study and to further program planning before the full year's program was presented to Everett youth in October, 1962.

A continuing evaluation of club members, leaders, and sponsors is an important part of the current program and will prove valuable in keeping the project in tune with the career interests of members, changes in the demand for various types of work, new training techniques, educational needs, and changes in the nation's economy.

The Center for Continuing Education of Northeastern University in Boston conducted the research studies, prepared evaluation procedures, and developed the contents of the program in collaboration with the Chamber, school authorities, sponsoring firms, and State and Federal agencies.

How Will the Nation's Economy Benefit?

- A reduction in youth unemployment will ensue.
- The number of school dropouts will be reduced.
- More youth will pursue formal apprentice training to fill the increased demand for skilled craftsmen.
- The waste of valuable human resources will be reduced.
- A more knowledgeable work force better prepared to accept and cope with technological changes will be provided.
- More youth will be motivated to seek advanced training and education.
- The number of job turnovers will be reduced.
- America's youth will be better prepared to find earlier and satisfying employment.
- The program will produce better citizens, more knowledgeable, as it relates to our free enterprise system and how our economy operates.
- A new meaning will be placed on the value of all useful occupations.
- Our youth will be better adjusted and happier workers.
- A closer working relationship will be established between youth who represent our future manpower resources, school authorities, guidance directors, the business world, other community segments and government agencies.

Additional information may be obtained by writing to:
Mr. Harry B. Coholan
Executive Vice President
Everett Chamber of Commerce
425A Broadway
Everett 49, Massachusetts

VT 003 417

On-the-Job Training, An Answer to Training Needs of Business. Washington Report, Special Supplement, June 28, 1963.

Chamber of Commerce of the United States, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 28Jun63 4p.

*ON THE JOB TRAINING; *INDUSTRIAL TRAINING; MANPOWER DEVELOPMENT; ADULT VOCATIONAL EDUCATION; *PROGRAM DESCRIPTIONS

On-the-job training combines instruction with work experience to insure that the employee acquires better management of production skills. In 1962 more than 2½ million employees were given some type of formal training in programs sponsored by their employers or joint labor-management arrangements. These programs were developed, supervised, and administered by employment managers, training directors, or supervisors. Supervisory training on how to instruct is essential to accomplish desired goals. Public and private agencies also provide business with up-to-date services for their training needs. The Manpower Development and Training Act of 1962 has special provisions for on-the-job training programs to be implemented by the Bureau of Apprenticeship and Training, U.S. Department of Labor. By 1970, the 58 million now at work will have 26 million young workers and three million women who have switched from housework to jobs added to the labor force to make a total of 87 million Americans working full time. On-the-job training can help both individuals and businesses to meet manpower needs. Documents treating other business training and retraining programs are available as VT 003 414-VT 003 427. (MM)

VT 003 417

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SPECIAL SUPPLEMENT

JUNE 28, 1963

WASHINGTON REPORT
Chamber of Commerce of the United States
1615 H Street, N.W. / Washington 6, D. C.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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On-the-Job Training

AN ANSWER TO TRAINING NEEDS OF BUSINESS

What is On-The-Job Training?

A method of training, which combines instruction with work experience to see that an employee acquires better management of production skills, is called On-The-Job Training. The exact length of a training period will vary depending on the skills taught.

EDITOR'S NOTE: This is the fourth in a series of Special Supplements on training and retraining programs utilized by business firms. This article, "On-The-Job Training," is a companion piece to the one on "Apprenticeship." Previous *Washington Report* supplements: "Accredited Correspondence Education," November 30, 1962; "Apprenticeship," February 8, 1963; and "Career Guidance for Youth," April 12, 1963, were received enthusiastically by business. If you missed any one or all of these supplements, you may obtain complimentary copies upon request to the National Chamber. A fifth in this series will feature "Vocational Education: Trade Extension Training" and will be printed in a later issue of *Washington Report*.

Why On-The-Job Training?

On-the-job training is a program with a definite purpose. It is an action plan whereby businessmen offer their employees the opportunity to develop skills. This type of training—learning while doing—provides common interest goals between the employer and the employee. Common interest goals encourage people to be better informed, more productive, and more responsible citizens. Business and industry have long accepted the fact that there is a direct relationship between the development of their product and the development of the people who do the work.

Most employees have that quality which is conducive to American progress—a natural desire to advance in their work. Employers can do much to stimulate mutually helpful training opportunities for employees. Self-improvement goes hand in hand with management skills and production goals. For a successful enterprise, there should be a mutual appreciation and concern for management and production goals. On-the-job training improves the overall social and economic position of the employer, the employee, and the community.

U. S. Labor Department Official Lauds Efforts of Business

"Trade associations and chambers of commerce have demonstrated a real interest in helping in this area of manpower development," stated John Shouligian of the Office of Industry Promotion of the Bureau of Apprenticeship & Training. "Since your Supplement on 'Apprenticeship' the activities of our 12 Regional offices have definitely increased." He further stated, "We want to assist business in every way possible to establish Apprenticeship and On-The-Job Training programs. Our field staffs in every state are making personal calls on businessmen daily to assist in organizing training activities."

"Whenever a chamber of commerce or trade association invites one of these BAT representatives to talk to a large group of plant and store owners, it multiplies the effectiveness of each Apprenticeship and Training representative and gives every taxpayer a better return on the funds appropriated to finance BAT."

Department head Jim Kistler instructs Evelyn Custer in the really fine points of micro welding. Working under a microscope, Evelyn is welding wires on the chassis of a miniature hearing aid marketed by the Maico Electronics Company, Inc., of Minneapolis. The Maico Co. is one of the pioneers in the hearing aid field and has utilized on-the-job training at all levels from production to sales.

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Where Does On-The-Job Training Apply?

On-the-job training is not limited to any single business or profession. A medical intern receives on-the-job training, so do literally thousands of other people in all industries.

A survey by the Bureau of Apprenticeship and Training of the U. S. Department of Labor shows that, in the spring 1962, more than 2½ million employees in American industry were being given some type of formal training in programs sponsored by their employers or through joint labor-management arrangements. Almost half of these workers—about 1¼ million—were employed by large firms with 500 or more employees. Manufacturing firms alone accounted for more than 1 million of the worker-trainees, followed next by retail trade establishments which were training well over ½ million. (See chart below.)

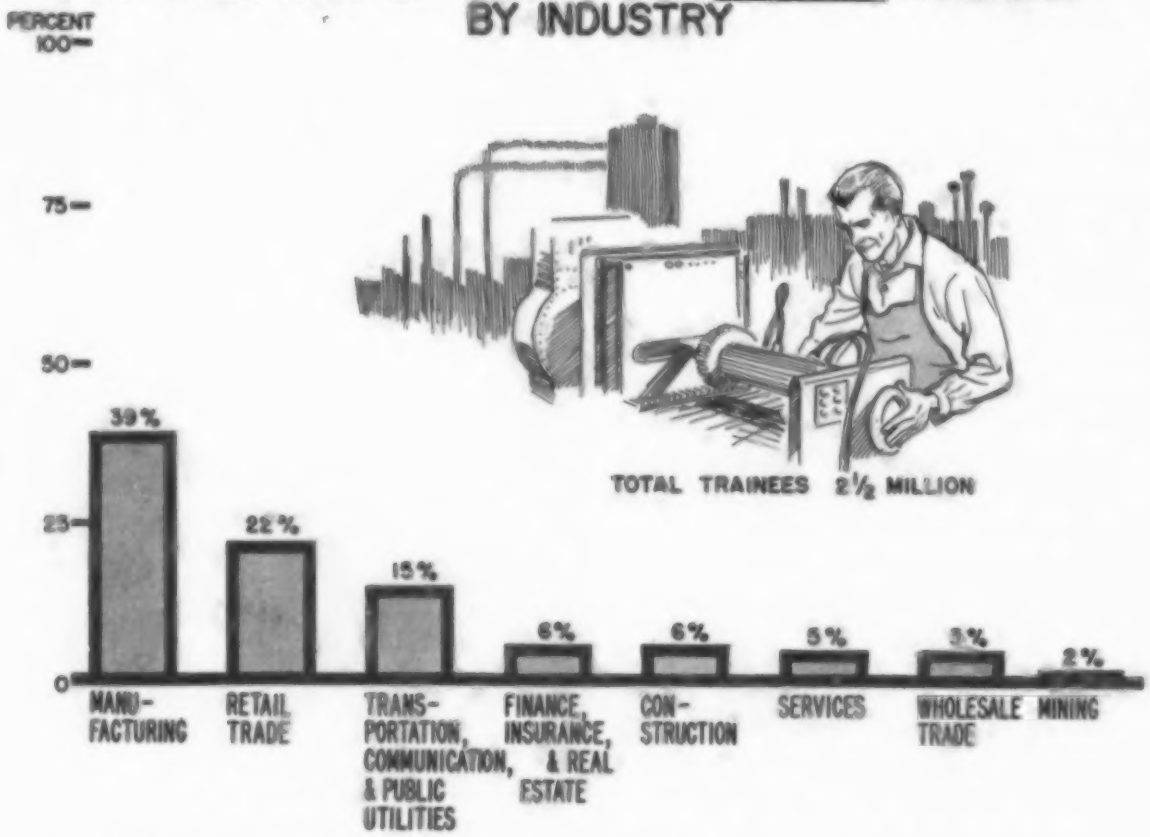
"It's like this," explains Fred Davey, instructor at Tektronix, Inc. to future field engineers and field maintenance engineers who are receiving their technical on-the-job training. "Eight months of intensive training, using up-to-date teaching aids, gives each candidate a thorough understanding of Tektronix oscilloscopes and accessories and prepares him for permanent assignment in any of Tek's field offices." Founded in January, 1946, Tektronix, Inc. of Beaverton, Oregon, has grown from the five original employees to approximately 5,000 people, with 39 field offices throughout the United States and Canada.

To Whom Does it Apply?

All types of employed persons, from the managerial level to employees at the work site, participate in on-the-job training programs. The following classifications are most common:

- **Supervisors**
- **Engineers**
- **Technicians**
- **Journeymen**
- **Apprentices**
- **Semiskilled operators**
- **Co-op students**
- **Clerks**

DISTRIBUTION OF TRAINEES IN FORMAL TRAINING BY INDUSTRY



Source: Mildred Barber, Chief, Division of Research, Bureau of Apprenticeship and Training, U. S. Department of Labor.

Every type of occupation requires skills. The properly trained person possesses the aptitude for his occupation. He has the knowledge of and competency for performing all phases of his work.

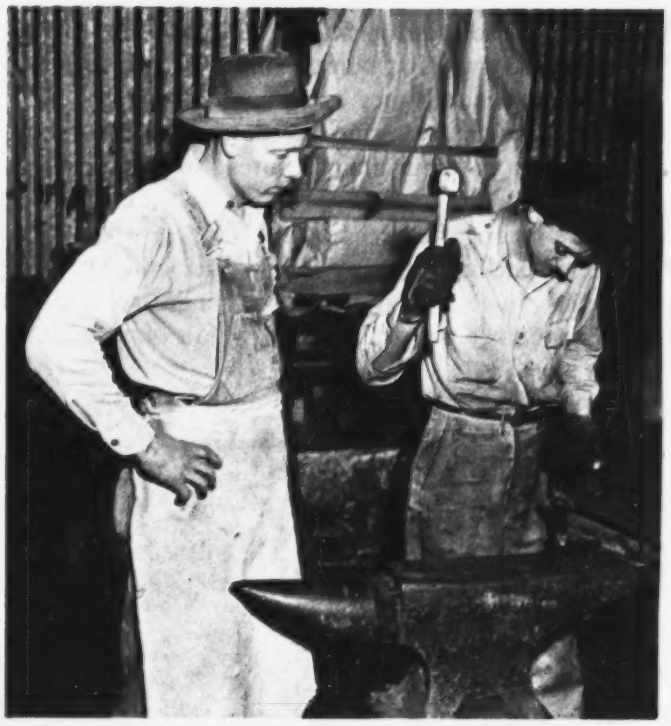
Identifying Employee Training Needs

Many companies have set up functions that help employees develop skills through on-the-job training. Various methods are used to identify training needs of the employee, such as:

- **Testing**
- **Individual counseling, etc.**

Who Does the Training?

Not too many years ago, owners and operators of business and industry not only operated and managed their business but also trained their employees. Now, because of the diverse demands of the company owner or official, on-the-job training programs are developed, supervised, and administered by employment managers, training directors, or supervisors. Today, public and private agencies provide business and industry with up-to-date services for their training needs.



Norman Childs, left, is instructing Walter Pepper, in techniques of tool sharpening at the Comolli Granite Co., Elberton, Ga. Mr. Pepper not only completed his training as a tool sharpener, but has become one of the Elberton area's most skilled workmen as a cutter and carver.

Instructor, Mrs. Katherine Phillips, of the Jantzen Knitting Mills of Portland, Oregon, explains to beginning trainee Eleanor Gardner proper method of Power Sewing Machine operation. (Upper left) Eleanor Noland, advanced trainee. This "in-plant" training program was started for all production workers and a large portion of the clerical and supervisory staff in 1943, and since that time all beginning employees have been trained through this program. Training is of six weeks average duration and is conducted during working hours and on company time.

Business and industry employ specialists who develop training programs and transfer skills as well as knowledge to employees on and off the job. Many companies which do not require a full-time trainer arrange for private or public assistance. Various management associations pool their resources toward acquiring professional trainers.

What Type of Training is Provided?

- **Management**
- **Supervisory**
- **Production**
- **Apprenticeship**
- **Safety**
- **Sales**

Do You Need a Trainer?

Many large companies employ a specialist who does the training. In smaller firms, supervisors who have the responsibility for training often delegate training functions to a journeyman, skilled operator, technician, etc.

Today, line supervisors are often required to instruct new and old employees working under them. As a result, supervisory training on how to instruct is essential to accomplish desired goals.

Benefits that Accrue

Business and industry stress the importance of recognizing and guarding human values in today's world of technological advance and material progress.

More leaders of business and industry are taking time out from their many chores to participate in training programs which promote self-reliance and initiative among their employees.

Their specific objectives for participating in such activities are to keep business and industry dynamic and expanding, and to create new job opportunities.

Employee "team training" pays off in garment plant. Pattern maker Jean La Bore, left, and designer Don Purdy examine a pattern problem, as Mrs. Jules Gurstel checks the result. Mrs. Gurstel, in partnership with her husband, Jules, is owner of "Juliette Originals" at St. Paul, Minnesota. Her successful efforts in "in-plant training" have led to broader activity in women's clubs and civic circles to promote industrial recognition of training responsibility.

Business and Industry Need Flexibility In:

- Meeting demands
- Work force
- Skill requirements
- Training programs
- Sales approach

On-the-job training programs of business and industry usually are influenced by:

- Competition
- Expansion
- Diversification
- Demand
- Quality Control

The Manpower Development and Training Act of 1962

Congress included in the Manpower Development and Training Act of 1962 specific provisions for on-the-job type training programs throughout the country. This Act establishes a nationwide program for both institutional and on-the-job training to meet current and future occupational demands.

The Bureau of Apprenticeship and Training, U. S. Department of Labor, has the responsibility for implementing the on-the-job training features of this Act. Assistance is available to employers and other organizations to set up training programs and, in some instances, funds to defray training costs. There are provisions for trainer salaries, consumable supplies, and other allowable costs. Employers should contact the Bureau of Apprenticeship and Training Office in their vicinity for specific details.

By 1970, Eighty-seven Million Americans will be Working Full-Time

58 MILLION
Now at Work Will Still be Employed

They need training to keep pace with new methods, new materials, new opportunities. Many will require retraining as their jobs disappear due to automation and economic change.

26 MILLION
Young Workers Will Start Work, 1960-70

Their aptitudes, skills and education must match the needs of a changing economy. The eight out of ten who will not complete college must gain occupational competence in other ways.

3 MILLION
Women Will Switch From Housework To Jobs, 1960-70

These wives, mothers and widows will need marketable skills in the decade ahead.

On-the-job training will not only help the individual but will assist businesses of all sizes in meeting the manpower needs of a changing economy.

Additional Information on Apprenticeship and On-The-Job Training may be obtained from:
Mr. Hugh C. Murphy
Office of Industry Promotion
Bureau of Apprenticeship and Training
Washington 25, D. C.

VT 003 418

Vocational Education--Upgrading Adult Skills, An Answer to Training Needs of Business. Washington Report, Special Supplement; August 2, 1963.

Chamber of Commerce of the United States, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 2Aug63 8p.

*TRADE AND INDUSTRIAL EDUCATION; *ADULT VOCATIONAL EDUCATION; *EXTENSION EDUCATION; SCHOOL INDUSTRY RELATIONSHIP; *PROGRAM DESCRIPTIONS

Trade and industrial education programs for upgrading adult skills operated under a plan that involves a working relationship between local, state, and federal governments. Approximately 70 percent of the more than one million enrollees in trade and industrial education are adults or youth who have left the full-time schools. If the vocational schools are to serve the needs of workers who need updating, upgrading, and lifelong learning to cope with the challenge of an era of change, they must have (1) a skilled vocational administrator, (2) equipment and facilities to extend vocational opportunities, (3) industrial and business leaders who know their needs and the needs of the citizens, (4) periodic evaluation of the program by experts in the training field, industrialists, businessmen, personnel workers, and analysts, (5) trade teachers who have an excellent standing in their craft and training in the techniques of instruction, (6) advisory groups and craft committees, and (7) a flexible program and schedules to fit the needs of people. Employers, associations, unions, and private citizens working together with local school officials can develop more courses that help to keep the skilled work force operating at a high level of production. A directory of all state supervisors of trade and industrial education is included. Documents treating other areas of business training and retraining programs are available as VT 003 414-VT 003 427. (MM)

VT 003 418

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SPECIAL SUPPLEMENT

AUGUST 2, 1963 CD 8p*

WASHINGTON REPORT
Chamber of Commerce of the United States
1615 H Street, N.W. / Washington 6, D. C.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Vocational Education: Upgrading Adult Skills

AN ANSWER TO TRAINING NEEDS OF BUSINESS

Need Will Grow to Upgrade Adult Skills

As the labor force expands during the 1960's and as demands increase for highly skilled manpower, the need for more classroom instruction to upgrade skills will also increase.

Expansion of the labor force is indicated by the following estimates:*

- In five years 87 million persons will be working full time the year around.
- 26 million of these workers will have entered the labor force during the last ten years.
- By 1970 those working or seeking work will total 100 million persons.

EDITOR'S NOTE: This is the fifth in a series of Special Supplements on training and retraining programs utilized by business firms. Previous *Washington Report* supplements cover "Accredited Correspondence Education," November 30, 1962; "Apprenticeship," February 8, 1963; "Career Guidance for Youth," April 12, 1963 and "On-the-Job Training," June 28, 1963. All five supplements have been combined in a *Manpower Development and Training Kit* which may be obtained from the Education Department of the National Chamber. (Single kits free.)

Vocational educators as a group are aware of the fact that their programs must provide training for the millions of workers whose skills and technical knowledge must be updated. They recognize that adequate training courses must be available for those whose jobs will disappear because of increased efficiency, automation, and changed economic conditions.

These educators are alert to the fact that the traditional methods of developing skilled craftsmen are not providing adequate numbers of replacements for those who leave the labor force due to normal attrition, and that many present-day workers will need updating and upgrading courses to extend their skill and knowledge.

**Education for a Changing World of Work—Report of the Panel of Consultants on Vocational Education, U. S. Department of Health, Education, and Welfare, Office of Education, U. S. Government Printing Office, Washington, 1963. OE-80021.*

Many vocational programs are operating under a local school administrator—usually a local superintendent of schools—who may not be fully aware of the needs of industry and the business community. Frequently, the superintendent of schools has many problems which appear more pressing than those of the adult population that left his schools as "finished" graduates some years before.

A Skilled Vocational Administrator is Important

If vocational schools are to serve the needs of workers who need updating, upgrading and lifelong learning to cope with the challenge of an era of changing materials, processes, tools, and techniques, then a local vocational school administrator should be available with time to devote to such activity and the "know-how" that will permit him to successfully carry out his assignment.

The employer with the carefully attuned ear can tell when he is in friendly territory with an industrially oriented administrator. The well oriented administrator

The Bullard-Havens Technical School offers many varied opportunities to the citizens in and around Bridgeport, Conn. Mr. Stephen Filakosky, at left, is instructing Mr. C. Miles (right front) in various techniques of using basic machine tools. Mr. R. Zdrodowski is seen working at right rear. Students enrolled at Bullard-Havens Technical School come from many types of industries in the area.

VT003418

will come up with such terms as "instructor, group, learner, trainee, apprentice," and the like. This person is likely to have an excellent knowledge of the needs of employer and employee alike. He will be more knowledgeable about the facilities needed to do a suitable training job. Qualifications of local administrators should include an excellent educational background, several years occupational experience at the journeyman or supervisory level, teacher training courses in the field of vocational education, and teaching or similar experiences.

The business community recognizes the importance of dealing with a skilled administrator who understands community training needs. Industry understands the importance of skill in job analysis, curriculum development, foreman and supervisory training, labor-management relationships, teacher training, working advisory groups and a host of other phases of vocational extension training that only a well-trained local director possesses.* The local vocational education director best suited for the job should have had substantial work experience in business and industry, a good educational background, and proved himself as a vocational teacher. With this background the vocational school director should have the answer to many of industry's needs for suitable courses, facilities, and teachers to do the job of keeping the work force abreast of the changing world of work.

Where does one find such an administrator? It is to be admitted that they are becoming more and more difficult to find. However, in Wisconsin, Connecticut, Georgia, North Carolina, and California they appear frequently. Many other states like Kentucky, Ohio, Louisiana, New Jersey,† Colorado, and Texas have splendid programs headed by skillful local administrators who are well-oriented to the needs of their industrial and business communities.

Many states face up to this challenge and one state does it rather uniquely. Wisconsin provides for a local director of vocational education in every community of 5000 population or over.‡

**Determining Requirements for Development of Technical Abilities Through Extension Courses. U. S. Department of Health, Education, and Welfare, Office of Education, U. S. Government Printing Office, Washington, 1961. OE-80010.*

†1961 Annual Report, Vocational Division, New Jersey State Department of Education, Trenton, New Jersey.

‡Fifty Years of Continuous Growth in Education—Madison Vocational Technical and Adult School, Madison, Wisconsin.

See also, Opportunity Through Education In Wisconsin Schools of Vocational-Technical and Adult Education. C. L. Greiber, Director, State Board of Vocational and Adult Education.

The smiles on the faces of the students in Machine Shop illustrate that learning can be fun. Many men and women in and around Chippewa Falls, Wisconsin, benefit from the evening extension classes offered by their school system.

A local director trained in the administration of vocational education programs can keep training in balance with the needs of the community.

Facilities Help Training

Schools sometimes put forth every effort to meet the needs of day school enrollees. Where such is the case one will hear much talk about the comprehensive high school. While some high schools may be truly comprehensive in nature, too often a comprehensive high school is one with a few shop offerings superimposed upon a predominantly academically oriented curriculum. It is obvious that such a school, while it may meet the needs of the college preparatory students, may be poorly adapted to meet the extension training needs of business and industry.

Equipment and facilities must be provided to extend vocational education opportunities to many more workers, especially those living in communities where training is a critical need. Training opportunities should be expanded by mutual action of business and industry, employers and union groups. A trained vocational school director can provide the leadership needed to keep the expansion in harmony with needs.

The area-type vocational school is coming into its own because of the services these facilities can render the industrial and business community and citizens in general. The area school should serve a sufficiently large geographical area to spread the costs over a broad tax base. This larger area should make training opportunities available to more citizens than the traditional high school. With greater resources, the area school can provide training in a greater variety of fields of work than would otherwise be the case. The area school should operate around the calendar where needed, and should operate any time, day or night, to better meet the needs of its patrons. Educational facilities, including shops and laboratories, should be provided in such schools in keeping with the expressed need of industry, as suggested by an advisory committee.*

The area vocational school with its occupationally oriented administrator should be well aware of the needs of the industries within its service sphere. Such a school often has an industrial coordinator who makes periodic calls on the business houses and the plants it serves. This coordinator should have responsibility for meeting periodically with advisory groups. He should keep in close contact with several comprehensive high schools that serve as satellites to the area school. The successful school is the one geared to the needs of the people of the area it serves including representatives of the business community, government, associations, unions, and other groups.

A Joint Working Relationship Exists

Vocational schools operate under a plan that involves a working relationship between local, state and the federal governments. In general, state and local expenditures far exceed the matching requirements of the several federal vocational education acts. Local communities are generally spending $117 million, states $89 million, and the federal government $48 million on vocational education.

Approximately 70 percent of the more than one million enrollees in Trade and Industrial Education are adults or youth who had left the full-time schools.

The Report of the Panel of Consultants on Vocational Education states: "Education for occupational competency is a lifelong process that starts when one acquires his first basic skills and concepts and ends when he quits his last job. Much of the competency for occupational life is acquired outside the formal educational program, but for many individuals there is need for organized vocational education at successive stages. The need for new skills is especially great in an economy which is undergoing rapid technological change, as at present." * Many kinds of training are available to the citizen and the business community. The quality varies widely and the objectives of the training differ.

The three students at the left are paying close attention to Mr. Theodore Woolsey, instructor of Metallurgy. Expensive, up-to-date equipment is required to teach such courses, and the Los Angeles Trade-Technical College, Los Angeles, Calif., has such equipment available.

Participation in Community Service

Good vocational education is no accident. It exists where industrial and business leaders know their needs and the needs of the citizens of the community and take an active part in translating known needs into an action program. If adult training is an economic asset in the community—and practice has demonstrated that it is—then high quality programs should be established, maintained and supported.

To maintain a high level of quality of instruction to meet changing community needs, it has been found that a periodic evaluation of the program should be made. This evaluation should be done by experts in the training field. Included on an evaluation team should be industrialists, businessmen, personnel workers, analysts and others.

**Organization and Effective Use of Advisory Committees*—U. S. Department of Health, Education, and Welfare, Office of Education, U. S. Government Printing Office, Washington, 1960. OE-48009.*

**Education for a Changing World of Work*—Report of the Panel of Consultants on Vocational Education, U. S. Department of Health, Education, and Welfare, Office of Education, U. S. Government Printing Office, Washington, 1963. OE-80021.*

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Students of the Technical High School in Fort Worth, Texas, are adjusting tappets and throttle control on a Bosch Fuel System. They are profiting by the up-to-date, modern equipment of the Diesel Mechanics Department.

The businessman should find himself involved in many activities associated with the vocational school in his area. He can be of service—and he, in turn, will receive the best service—when he participates in one or more of the following school activities as a member of a:

- local school board
- board of vocational education
- local advisory group
- joint apprenticeship council
- committee on vocational education of the service organization

Through active participation one can keep abreast of vocational education developments and understand better the needs of the adults of the community. The active participation in school affairs of citizens who understand the business community will do much to keep local school curricula in line with current needs. When this participation is lacking, an academic imbalance may result in the preparation of a disproportionate number of youth and adults for occupational areas in which their chances of success are small.

Vocational education programs can be enriched through participation in community activities by business leaders with a knowledge of the program. Such leaders should become knowledgeable about the extension training program, understanding not only the objectives but the elements necessary to its success.

Identifying Vocational Education

The term "vocational education" used correctly identifies a specific area of education. Vocational education provides training in the fields of trades and industry, distribution and marketing, homemaking, manpower development, technical and agricultural fields.

Recent manpower development activity, automation, training and retraining have given added emphasis to the fact that vocational education is an important and vital force in the economic growth of the nation. Consequently, the business community and citizens in general should know how to identify effective vocational instruction.

The title of a course alone is not a reliable guide for recognizing vocational training. Genuine vocational instruction meets the following criteria:

It provides training to develop the abilities, skills, understandings, and attitudes needed by a worker in an occupation.

It is of greater value to a worker in his occupation than to a worker not in the occupation.

It is of value to all workers in the same occupation on the level for which training is given.

Trade and Industrial Education Objectives

Trade and Industrial Education has as its major objectives:

To increase the performance skills, including those relating to safety, and technical knowledge of persons already employed in trades and industry, through extension or supplemental courses which will develop their job judgment and give them related industrial information.

To develop basic manipulative skills and knowledge that will enable persons to get jobs in trades and industry.

These objectives are accomplished through a variety of programs in schools having many names. Among the groups served by these schools are journeymen, technicians, apprentices, in-school youth and adults, and out-of-school trainees, including industrial workers.

There are many opportunities for employment in the various service fields today. The men pictured above have been out of school for a number of years, but are learning appliance repair skills at the Emily Griffith Opportunity School in Denver, Colo.

Trade Extension Training

In the United States there are more than 565,000 persons enrolled in trade extension courses. Representative craft, occupational, or industrial advisory groups work with local school administrators and the employment service in identifying occupational areas in which training should be offered. In addition, school administrators call upon advisory groups when analyzing occupations, setting up curricula, equipping shops, laboratories, and training facilities.

Trade extension courses provide instruction which supplements the experience gained on the job in various occupations. An industrial employer, a trade union, a trade association, or a group of workers may request a local vocational-technical school to conduct extension training courses.

Who Teaches Extension Courses?

Requirements set forth in State Plans for Vocational Education stipulate that trade extension teachers in reimbursed programs shall have an excellent standing in their craft. This standing is obtained through demonstrated skill and experience as a journeyman prior to teaching in a vocational or technical school.

Departments of Vocational Education in the states supervise courses offered in local schools. Teacher training is provided craftsmen who come into teaching from a trade or occupation.* This instruction in the techniques of teaching adults is usually given by an expert called a teacher-trainer. Trade extension instruction of recognized quality is the goal of vocational courses for today's journeymen, craftsmen or industrial workers.

Instructors are employees of the local public school system in most instances. Several states, however, have a system of state-operated vocational schools. In these special instances the teacher is a state employee.

**Teacher Competencies in Trade and Industrial Education—U. S. Department of Health, Education, and Welfare, Office of Education, U. S. Government Printing Office, Washington, 1960. OE-84006.*

Qualification standards for all teachers, set forth in the State Plan for Vocational Education, apply uniformly throughout a state. While advisory groups and craft committees often suggest the name of prospective instructors, the hiring, supervision, and discharging of teachers is a prerogative of the local board of vocational education or its representative. In the case of a state operated program, the appropriate state official is the employing agent.

A program supported with public tax funds must be under public supervision and control.

Post-high school boys from Madison, Wisconsin, are attending a class in Civil Engineering Aid Technology. The course is approved by the State Highway Department.

Opportunities for Participation

Trade extension courses for men and women should be reaching far more people than is the case at present. More communities should be providing training in the evening or after working hours to help individuals keep abreast of the changing technology. Retraining and updating must go on continually if workers are to keep up with changes occurring in occupations. A wide variety of courses is available in such areas as automotive, building trades, drafting, electronics, graphics, machine and metal trades, photography, service trades and welding. Opportunity does not end with employment. Trade extension programs provide the setting for employees to grow within their chosen field to the peak of their capability.

More employed workers are in need of information and knowledge related to their jobs than in need of additional skills. Classrooms and laboratories usually are more readily available than shop facilities. Technological developments occurring at an accelerated pace provide the schools with an opportunity to render invaluable services to the business community through making available needed courses in work-related subjects.

Extension courses can operate any time, day or night. The length of a session may vary from one to four hours. There is great latitude in scheduling. A short, intensive course may operate for only one eight-hour day, or it could operate two hours per night, one or more nights per week. A typical evening school

The picture above could have been taken at any large restaurant or hotel kitchen in the country. It wasn't—the chef at left is an instructor at the Emily Griffith Opportunity School in Denver, Colo. This school is supported through a special levy which the citizens of Denver have found to be a very worthwhile investment in their future.

schedule provides 40 or more weeks of instruction, usually no more than two nights per week of two or three hours per night. Short units of 20 or 40 hours have been found to be more attractive than longer units. Schools frequently issue a certificate for each short unit course. Men and women look forward to receiving a certificate of recognition upon completion of a course.*

Small enrollment fees are customarily charged. They may amount to no more than a small charge to help defray the cost of bookkeeping for the school. Some shop and laboratory courses consume large

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**Administration of Vocational Education—Rules and Regulations*—*U. S. Department of Health, Education, and Welfare, Office of Education, Government Printing Office, Washington, 1958. Bulletin No. 1, General Series No. 1. OE-80017*

quantities of supplies or involve the use of expensive equipment, making it necessary for the school to seek assistance in defraying these higher costs. The size of the fee is a local matter and is not a requirement of state or federal statutes. In fact, student fees may not be used to match federal funds in reimbursed vocational educational classes.

Are Classes Available in Your Community?

Trade extension classes are available in many communities throughout the nation. The office of the local superintendent of schools should have information about training opportunities available in the community. A letter of inquiry addressed to the "State Supervisor of Trade and Industrial Education" in the state capital should bring information about the location of courses or the availability of state and federal funds to assist in the financing of extension courses for industrial workers. The Trade and Industrial Education Branch of the U. S. Office of Education has prepared a listing of schools that offer vocational-technical courses for high school youth and adults.*

The Welding Department of the Technical High School in Fort Worth, Texas, is equipped with the type of tools found in industry. The student above is practicing Tungsten Inert Gas Shielding on Electric Welding of Stainless Steel.

**Preparatory Trade and Industrial Training Programs in Public Schools, A Directory: 1961-62. U. S. Department of Health, Education, and Welfare, Office of Education, U. S. Government Printing Office, Washington, 1962. OE-84028-62.*

It takes many types of vocational-technical courses to prepare individuals for the world of work. Pictured above are students in commercial art enrolled at the Los Angeles Trade-Technical College. Mr. William Beynon, standing in the rear of the room, is the instructor of this popular course.

Evening courses continue to attract large numbers of workers who enroll in trade extension courses to help their advancement on the job and to become better acquainted with the newest technological developments in their occupation. The earning power of enrollees frequently is increased as a result of the effort put forth in courses of this kind that operate in the evening or after working hours. Participation in courses that extend the skill, knowledge, and attitudes of workers has proved to be a wise investment for employees and employers alike.

Summary

Vocational trade extension training is provided by the public schools. In some states additional state appropriations are needed to match local tax monies to provide quality instruction helpful in updating training, and retraining employed men and women. Employers, associations, unions, and private citizens working together with local school officials can develop even more courses helpful in keeping the skilled work force operating at a high level of productive activity.

Additional information on "Vocational Education: Trade Extension Training" may be obtained from:

Mr. Earl M. Bowler
Trade and Industrial Education Branch
Office of Education
U.S. Department of Health, Education and Welfare
Washington, D. C. (20201)

VT 003 419

Work Study Programs--Part-Time in School, Part-Time On-the-Job, An Answer to Training Needs of Business. Washington Report, Special Supplement; October 11, 1963.

Chamber of Commerce of the United States, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 11Oct63 4p.

*WORK STUDY PROGRAMS; *COOPERATIVE EDUCATION; *VOCATIONAL EDUCATION; HIGH SCHOOLS; POST SECONDARY EDUCATION; *PROGRAM DESCRIPTIONS; SCHOOL INDUSTRY RELATIONSHIP

Work-study programs or cooperative training prepares carefully screened and selected students for employment in entry level jobs as advanced learners or apprentices. The programs integrate school and work for 16-year old boys and girls in grades 11 and 12 and those at the community college level. The student works half-time under supervision of an employer and a school coordinator and he attends school half-time where he receives related occupational and other course work instruction required for high school or post-secondary graduation. This should not be mistaken for work-experience programs designed to provide a temporary source of income to permit a youngster to remain in school. The four major types of vocational education cooperative programs are industrial cooperative, diversified occupations, cooperative office occupations, and cooperative distributive occupations training. Such programs are valuable to the employer, the community, and the cooperative student, and the costs range from $200 to $400 per pupil, a modest outlay compared to the returns. Documents treating other areas of business training and retraining programs are available as VT 003 414-VT 003 427. (MM)

VT 003 419

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SPECIAL SUPPLEMENT

OCTOBER 11, 1963

WASHINGTON REPORT
Chamber of Commerce of the United States
1615 H Street, N.W. / Washington 6, D. C.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Work-Study Programs: Part-Time In School / Part-Time On-the-Job

AN ANSWER TO TRAINING NEEDS OF BUSINESS

Preparing Youth for Employment

Vocational education has as its principle purpose the fitting of individuals for useful and gainful employment. Vocational trade and industrial education programs develop skills, abilities, work habits, and appreciations. The needs of two clearly defined groups are met by well designed programs for:

1. those who are employed and have entered the world of work
2. those who are preparing to enter an occupation of their choice.

The vocational preparatory program usually takes place at the secondary or post-secondary school level with grade 14 being the upper limit for such activity. Three types of programs are offered to prepare selected students for entrance into gainful employment. Included are trade preparatory, technical education, and cooperative training.

EDITOR'S NOTE: This is the sixth in a series of Special Supplements on training and retraining programs utilized by business firms. Previous Washington Report supplements cover "Accredited Correspondence Education," November 30, 1962; "Apprenticeship," February 8, 1963; "Career Guidance for Youth," April 12, 1963; "On-the-Job-Training," June 28, 1963; and "Vocational Education: Upgrading Adult Skills," August 2, 1963. All six supplements have been combined in a Manpower Development and Training Kit which may be obtained from the Education Department of the National Chamber. (Single kits free.)

The training offered prepares carefully screened and selected students for employment in the skilled occupations as advanced learners or apprentices. Vocational education should be made available to increasing numbers of young people both at the high school and post-high school levels.

Cooperative Training is Effective

A cooperative program is an efficient and effective way of providing vocational instruction. It develops fundamental occupation competencies usable in full-time industrial and business employment. The program expertly combines the needed academic preparation for high school graduation and course material closely related to supervised job activity. Vocational industrial cooperative programs carefully integrate school and work. In their employment, high school boys and girls, 16 years of age or over, are placed on jobs involving one year and preferably two years of part-time employment and training. The job activities of the trainee are organized in advance. A written agreement between the parent, the employer and the school should place the program on a sound learning basis for the student.

Job performance and progress towards development of skills and knowledge helpful in continuing in full-time employment are provided by the employer and are supervised in cooperation with a representative of the school called a coordinator. On the job, the learner is paid a wage while learning to master the manipulative skills. On a half-time basis in school, he receives instruction related to the occupation and actively participates in course work required for high school graduation.

Cooperative training organized along these lines should not be mistaken for work-experience programs frequently designed to provide a temporary source of income to permit a youngster to remain in school while completing academic requirements for graduation.

Roy Taylor (right) student-learner of Covington, Georgia, is threading wire through a diamond die of a wire drawing machine. The plant superintendent of the Dodge Wire Corporation, Mr. Jack Shelton (left), observes the operation. This work-study program and many others of Newton County High School operate under the daily supervision of a teacher-coordinator, Mr. Alton Blaker.

VT003419

The cooperative program places boys or girls 16 years of age or over in jobs involving a year or more of part-time employment training. The occupation should be one that requires a minimum of 2,000 hours to reach proficiency. Future employment in the occupation should be a definite possibility and continuing on the payroll of the same employer following the training period is highly desirable. One state indicates that seventy different broad employment fields are represented in the training that has taken place in a 10-year period. Because job classifications are in constant flux, the seventy employment fields in no way limit the job possibilities in cooperative training. In 1962, more than 20,000 young people were enrolled in Industrial Cooperative Training courses in the vocational schools of the nation. There were more than 44,000 trainees enrolled in the distributive education cooperative programs with more than 1,800 of them in post-high school programs.

The Teacher-Coordinator Should Be Qualified

The teacher-coordinator is a well qualified individual who conducts the related instruction in school and supervises the employment training on the job. Certification requirements vary from state to state but the teacher-coordinator frequently has no less than two years of industrial experience, three years of teaching experience and special courses in teacher training for cooperative coordinators. These special teachers usually work 10 or 11 months each year. Much time spent outside the schoolhouse is given over to working with employers, visiting training stations, finding placement opportunities, meeting with advisory groups and consulting with parents and students in the home. The coordinator must possess special talent as a counselor and advisor to the student, the parent, and the employer.

Purpose of the Program

The purpose of the cooperative program is to provide opportunity for students to acquire marketable skill and knowledge in an occupation in which they have aptitude. The program makes it possible for the secondary schools to offer vocational training in many occupations in which the manipulative phases cannot be developed in the classroom. It utilizes the employer's establishment as a shop or laboratory in which the employer becomes an integral part of the training process of the school. Student eligibility for enrollment is determined through testing, counseling, reviewing school records, and exploring many occupations in which the individual is likely to succeed.

Kay McDowell is learning floral design and earning a wage while participating in her high school's Industrial Cooperative Training program. She became a full-time employee in floral design in Roanoke, Virginia, following high school graduation.

Types of Cooperative Training

Businessmen and industrialists should find any one or any combination of cooperative training programs suitable for exploration. There are four major types of vocational education cooperative programs:

1. Industrial Cooperative Training (I.C.T.)
2. Diversified Occupations Training (D.O.T.) (or D.C.T., Diversified Cooperative Training)
3. Cooperative Office Occupations Training
4. Cooperative Retailing (distributive) Occupations Training

The diversified training program appears best suited to the very small community where the number of training stations would be few and widely diversified in nature. In medium-sized communities and in the larger centers, the distributive office occupations, or the industrial cooperative training provides an excellent medium for the development of skilled young workers who almost without exception prove to be an economic asset to their employer when retained in the organization following the part-time training period.

Boys or girls sixteen years of age who are juniors or seniors in high school or those enrolled at the community college level should be encouraged to enter a cooperative program. Those taken into the program should have a definite vocational objective. Aptitude, interest, and other tests should have revealed that the

applicant is suited for the kind of training in which an interest has been manifested. Education accomplishment, personality and other factors should indicate that the individual can profit from the instruction and the training given in the program.

The College Co-op Plan

The co-op plan generally operates as follows: A full-time job in an industrial concern or governmental agency is shared by two students, one of whom works while his partner or "alternate" attends college. At the end of a certain period of time the two change places. Thus the job is kept continuously filled, and each student spends about half of his time in college. The length of the period of alternation varies in different institutions, as do the total amount of work experience required and the point in the student's curriculum at which it starts.

While the "two-man team" principle is generally observed in college co-op programs, it is not universally followed and is not a fundamental principle of the co-op system. In some institutions all co-op students go to work at the same time. In individual situations only one co-op student is provided for a given job, which is handled so as to permit him to return to college for the regular class periods. The essential feature is not the "pairing" of students, but the alternation between job and school.

Edwin Miller (standing at left), service manager at the Dean and Harris Ford Service, is deciding with the coop students, Jose Lopez (left) and Severs Vargas (center), whether the engine block should be rebored. A former coop student, now a full-time employee, is looking on at the right. Lawrence Pancost (right rear) is the cooperative trade and industrial coordinator in the Lansing, Michigan, Public Schools.

The co-op plan was originally designed for the education of engineers, and it still finds its widest use in engineering colleges. The plan is probably more directly and easily applicable to engineering than to most other fields, although it is finding increasing favor in schools of business administration, and it has been extended in some institutions to curriculums in architecture, science, education, home economics, the arts and sciences, and other fields.

Betty Brewer is one of the thirty young ladies training as dental assistants in a homogeneous Industrial Cooperative Training program operated in the Fort Worth Technical High School. Student learners are employed for four hours each afternoon in local dental offices. The related subjects classroom is equipped with a demonstration dental unit which is used frequently by local dentists to demonstrate special techniques. The program is endorsed and assisted by the local and the Texas Dental Associations and is under the direction of Miss LaNell Ayer, teacher-coordinator, who is both a licensed dental assistant and a dental technician. Student placement is over 90 percent.

Industrial Cooperative Training in Texas began operations thirty years ago with three programs under the name "Diversified Occupational Training." Eighty public high schools are presently operating programs with a total enrollment of nearly 3,000 students. Teacher-coordinators conduct two related subjects classes each school day, one for first-year students, and one for second-year students. These teachers devote their remaining time to coordination activities. Follow-up studies covering the post two-year period show that 92.5 percent of graduates are currently employed, with 87.1 percent in the occupation for which they trained.

The plan is also in use in a number of technical institutes, some of these programs being among the oldest and largest in the country. It has found limited application in junior colleges, and in at least two institutions at the graduate level. Additional details and a roster of college co-op programs may be obtained from a March 1961 U. S. Office of Education Circular OE-50018, Washington, D. C. (20201)

Values to the Employer

The cooperative program is of value to the employer because it provides him with a carefully selected employee who should possess qualities and aptitudes and abilities needed in the type of work carried on in his establishment. The program provides the employer with the opportunity to develop future full-time employees to his exact specifications with the assistance of the local school. The conscientious businessman and public-spirited employer see in the program the opportunity to share in the development of young men and women, many of whom become profitable workers and useful citizens.

Rodney Jackson (right), a part-time Cooperative Trade and Industrial Education student at the Tuscaloosa County High School in Northport, Alabama, is shown training at the Northside Welding-Garage. His chosen occupation is welding, and he is shown with Jimmy Thrash, a welder, instructing him.

Values to the Community

The program develops a school-business-industry relationship that benefits all three. The young people of the community tend to remain in the area in which they are trained and can find suitable employment. The school tends to become a functional entity in the economy of the community meeting the needs of a greater number of youth. Many citizenship values are derived from the program which introduces youth to the realities of the world of work at an early age.

Values to the Cooperative Student

Cooperative training provides a program carefully fitted to the needs of the trainee. Interests, aptitudes, and abilities are tested. The individual is counseled. Parents and the employer are consulted and much preliminary arrangement goes into the matching of the individual to the job opening. The trainee is learning while earning which frequently motivates the individual to do a better job both in school and in a business establishment. The youth gets a feeling that he has entered the adult world where success must be demonstrated. Records indicate that cooperative students have improved interest and grades in all school subjects once they participate in the program.

What Does the Program Cost?

In a community where a coordinator would draw a salary of $9,000 with up to $600 for travel expenses, and $200 for instructional supplies, the cost per student would range from $200 to $400 per pupil for a group of 30 students. Certainly, this is a modest outlay compared to the returns to the trainee, the employer, and the community. Fitting young people for gainful employment is a worthwhile objective of vocacational education. Many communities need vocational training for their youth. Some cannot afford elaborate shops and laboratories, yet the young people need training if they are to become economically sound citizens in a rapidly growing technological world of work. To many communities, and to many young people, the logical approach to continuation in school and to problems of employment is a vocational cooperative education program.

Additional information on "Work-Study Programs" may be obtained from:
Mr. Earl M. Bowler
Trade and Industrial Education Branch
Office of Education
U.S. Department of Health, Education, and Welfare
Washington, D. C. (20201)

VT 003 420

Office Education--A Source of Skilled Office Personnel, An Answer to Training Needs of Business. Washington Report, Special Supplement; Dec 20, 1963.

Chamber of Commerce of the United States, Washington, D.C.

MF AVAILABLE IN VT-ERIC SET.
Pub Date - 20Dec63 4p.

*BUSINESS EDUCATION; *OFFICE OCCUPATIONS; *PROGRAM DESCRIPTIONS; EDUCATIONAL NEEDS; SCHOOL INDUSTRY RELATIONSHIPS

The function of office education is to help provide trained persons for office occupations. Although vocational education has supported the economic functions of production, distribution, and consumption, a fourth major classification, facilitation, is developing. Its function is to make easy or facilitate the achievement of the goals of production and distribution. Office education in high schools, post high schools, junior colleges, universities, and private business schools are engaged in training to supply the office with workers who are trained and prepared for change. Office occupations account for more than 10½ million persons or 15 percent of the total civilian work force. It is predicted that there will be over 14 million office workers by 1975. Courses that are now offered in many high schools are not adequate to meet the growing need for office workers An adequate program should include a career objective for each student, a vocational office orientation course a vocationally competent and experienced teacher, adequate coordination of course and on-the-job education, and sufficient time for classroom, laboratory, and field activities. Documents treating other business training and retraining programs are available as VT 003 414-VT 003 427. (MM)

VT 003 420

ED0 30001

SPECIAL SUPPLEMENT

DECEMBER 20, 1963

WASHINGTON REPORT
Chamber of Commerce of the United States
1615 H Street, N.W. / Washington 6, D. C.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Office Education: A Source of Skilled Office Personnel

AN ANSWER TO TRAINING NEEDS OF BUSINESS

The Role of Office Education

It is the function of Office Education to help provide trained persons for office careers.

Traditionally vocational education in the United States has supported the economic functions of the nation's economy.

Economic Function	Vocational Program
PRODUCTION	Agriculture, Trade and Industrial, and Technical Education
DISTRIBUTION	Distributive Education
CONSUMPTION	Home Economics Education

In our world today where more facts about more things must be handled, a fourth major classification of economic function is developing:

FACILITATION	Office Education(Initial, refresher, upgrading vocational education leading to employability and advancement in office careers)

The facilitating function of the office includes the recording and retrieval of data . . . organization and analysis of data . . . coordination and supervision of office activities . . . communication of ideas and data . . . reporting of information for management decision. . . . In short its purpose is . . . to make easy . . . to "facilitate" the achievement of the goals of production and distribution.

On the job the office worker must use many types and kinds of equipment as the tools for an office career. In addition to learning technical skills, post-secondary school programs also stress appearance, poise, and occupational intelligence.

EDITOR'S NOTE: *Office Education* is the seventh in a series of Special Supplements on training and retraining programs utilized by business firms. Previous Washington Report Supplements cover:

Accredited Correspondence Education
Apprenticeship
Career Guidance for Youth
On-the-Job Training
Vocational Education: Upgrading Adult Skills
Work-Study Programs

All seven supplements have been combined in a Manpower Development and Training Kit which may be obtained from the Education Department of the National Chamber. (Single kits free.)

Office Worker is an Important Team Member

Production, Facilitation and Distribution are a team. . . . Each is dependent upon the other two for support and, in turn, helps to support the others. The facilitating function is like the motor of a car . . . the car won't run without the motor, and the business can't operate without the office. Neither the motor nor the office has value in itself, but instead has value as part of the team.

Office education is offered in high schools, post-high schools, junior colleges and universities, as well as in private business schools and the in-training programs provided by industry. At the university level, office education is mainly concerned with teacher training activities supported by programs in secretarial studies, office management and similar specialties.

Photos—Courtesy of United Business School Association, Washington, D.C.

VT003420

Second Largest Employment Classification

The office today is the second largest employment classification in the civilian work force; for that matter, it is also the second largest work classification in the assignment of military enlisted personnel.

About 15 percent of the civilian work force are engaged in office work . . . more than 10½ million persons are involved. By 1975, it is predicted that there will be over 14 million office workers in the nation. Over 33 percent of the employed white women and about 10 percent of the employed non-white women find work in the office area. Because many of these workers are young women who will marry and stop work, at least for a while, the turnover rate in office occupations is relatively high. This means that the schools must "overtrain" to keep up with the demand for office workers. A look at the Want Ads in the daily paper will show the demand for *skilled and educated office workers.*

New Skills Required

Fact accumulation and data processing call for skills today which are not commonly taught in the typical school curricula. The private business school has in many cases taken a lead in training for up-to-date "automation." The greater flexibility of its organization and the fact that it has its finger on the pulse of the business community enable it to provide specialized training not now available in most public high schools.

It has been estimated that there are a quarter of a million students enrolled in the 1,200 private business schools of the nation. Their functional approach is indicated by the fact that about 40 percent of their enrollment is in night schools, presumably for persons who wish to upgrade their office skills.

Impact of Automation

The impact of automation on office occupations has often been misstated. Research shows that while there may be a temporary slowdown of employment of office personnel, during the transition period most of those "on the books" will be retained in the automated section or reabsorbed by other groups within a business establishment. After a "shakedown" period, the demand for other office personnel begins to climb.

Records control activities in the modern office. Office activities have grown 750 percent between 1900 and 1950 and another 32 percent between 1950 and 1960. It is predicted that between 1960 and 1975 office employment will climb by approximately 45 percent.

In modern industries such as the missile industry, 20 to 25 percent of the employees today are office workers. NASA has reported that clerical and administrative personnel on five of their bases constitutes some 13 to 31 percent of the employees.

Many Youths Trained for Office Work

In addition to the vital part office work plays in our economic world, there is another consideration which must be examined. Office occupations provide 40 percent of our high school graduates . . . 61 percent of the employed girls and 11 percent of the employed boys . . . with their first job. Any program which embraces this many of our young people becomes important simply on the basis of numbers involved. Any improvements which can be made in a program of this type will have benefits affecting a great many young people.

It was reported that more than 4 out of 5 high school graduates take one or more courses in business education. More than 9 out of 10 of the female high school graduates take one or more units in business subjects.

Professors Ralph F. Berdie and Albert B. Hood of the University of Minnesota recently completed a study on the future plans of high school seniors based on a state-wide survey in Minnesota. Interestingly enough, this survey showed that seven percent of the senior girls in the State indicated that they intended to go to business school upon graduation from high school. Out of every six girls who continue their education, one enters business school immediately upon graduation. When we add to these high school graduates, who go on to business school, the number of college dropouts who transfer to full courses at private business schools, we see once again that the private

Calculating

Keypunching

Transcribing

Typing

business school is a highly significant component of the national educational establishment.

Education for office careers takes place in many ways and at many levels. Business education is the fourth largest field in adult education today. Yet it constitutes only 11 percent of the total enrollment in the field.

Office education has something to offer students of many ability levels. For gifted students, there are many rewarding office positions in keeping with their special abilities and many opportunities for advancement. For less gifted students, there are satisfying opportunities in less complex jobs, even jobs calling for rather simple skills.

Courses Not Adequate

The courses that many high schools are now offering are not adequate to meet the growing need for office workers. Our office manpower shortage makes it essential that schools now offer programs for adults, too, to give them initial, refresher or upgrading training for all levels of office activity. Cooperative education, in which the school and industry join hands, offers a possibility which office educators should explore. Changes should be made in the traditional organization of instruction and objectives so as to provide a realistic, clear-cut program of instruction to meet the growing manpower needs of the nation.

Good Future Ahead for Office Workers

The future is unlimited for the office worker who is well trained and prepared for change. There is no doubt that many changes are needed in office education and that many changes will be made because educators and others concerned with office education are growing aware of the need for better and more diversified preparation.

Office skills in the facilitating function are easily adaptable to classroom instruction. Training in this area is of economic importance to individuals, businesses, communities and the nation as a whole. There is now, and apparently will continue to be, a "job vacuum" to be filled in the office area. Our present programs are not filling the demand.

Office work is a field which attracts late entry on the part of those such as widows who must suddenly support themselves, elderly persons who wish partial employment and the handicapped who can operate very successfully in an office environment.

The facilitating function of the office has such a scope that it can include a considerable ability range. Some office occupations are routine and quite simple, others are extremely complex and require the highest of abilities. Office work offers a socially acceptable place for workers of all types where they can be useful and successful citizens.

The Abilene, Kansas, Chamber of Commerce conducted an educational survey in the summer of 1963 of 205 business firms. Each business manager was asked to list what types of training or education would benefit his future employees and would be an asset to his business. The results may have surprised some observers, but "Business Training" was the most suggested for emphasis. The response to the survey indicated some overlap, but in summary, the replies clearly indicated the importance of business education. Of the 205 replies, the top nineteen subjects stressed were: business 75, salesmanship 43, mathematics 37, auto mechanics 22, general education courses 21, bookkeeping 14, secretarial training 13, vocational 11, English 10, home economics 9, public speaking 8, economics 8, general mechanics 7, physics 7, biology 6, typing 6, science 5, mechanical drawing 4, chemistry 4.

Students and activities pictured below represent several of the many Office Training courses developed for youth by the Fairfax County, Virginia, public school system. Office training is one of many vocational-technical programs offered at the new $3.5 million W. T. Woodson High School.

Mr. John Broaddus, assistant principal, said, "It is essential that all youth acquire an adequate education before entering the world of work. We feel that our high-caliber teachers and excellent facilities are helping us perform this important task."

Duplicating

Practicing Shorthand

Card Sorting

Telephoning (Etiquette)

What is Office Education

The title of a course or program is not sufficient to tell you if the program is really an office education program. An office education program is made up of all the general education required courses such as English, mathematics, the sciences, and their electives, and in addition technical office education and related courses leading to vocational competency and advancement in office careers. Specifically one can look to see if there is:

- A career objective statement for each student;
- A vocational office orientation course;
- A vocationally competent and experienced teacher;
- Adequate coordination of course and on-the-job education;
- Sufficient time for classroom, laboratory, and field activities;
- A class session long enough for effective teaching and learning.

The final and the most important criterion in the evaluation of business education training program is that the abilities and skills of the person completing the training are needed in the office.

If Office Workers Are Unprepared Maybe It's Your Fault

Many of our youth who start grade school do not go beyond high school or have an opportunity to enroll in office education classes. Therefore, it is essential that an adequate office education program be established in the high schools, post-high schools and private business schools to provide the necessary skills needed in the offices of today and tomorrow. Cooperation in the development of these various programs between the businessmen and state and local office educators is essential.*

Typewriting, a basic skill in office occupations is taught in modern surroundings by modern methods.

Photo—Courtesy of the United Business School Association, Washington, D.C.

If you are not satisfied with the quantity and quality of the office workers who come for employment, maybe it is your fault!

Have you been in contact with the local office education teacher?

Have you met with and expressed your interest and support for office education to your school superintendent as well as the state supervisor of office education?

Are you serving on a local Office Education Advisory Committee?

Proper Use of Manpower

The maximum use of our manpower potential requires that professionals and technicians be freed from the need to perform routine office activities and hence be able to devote more of their time to their specialized activities. The shortage of people able to record, coordinate and report information needed to provide guidance for managerial decisions is becoming more acute.

Just as it is necessary to maintain a steady source of skilled workmen in production and distribution, so is it necessary to maintain a ready pool of skilled office workers. Both production and distribution depend upon a multiplicity of record keeping today. It is in the interest of all groups to recognize the need for adequate office workers and to translate this need into concrete form in terms of money, facilities, and programs.

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* *The National Office Management Association, Willow Grove, Pennsylvania has prepared a pamphlet,* ***Education for Office Employment—A Program for Action,*** *which includes suggestions for constructive support of Office Education.*

Additional information on "Office Education" may be obtained from:

Bruce I. Blackstone
Specialist—Office Education
Division of Vocational Education
Office of Education
U.S. Department of Health, Education, and Welfare
Washington, D.C. (20201)

VT 003 421
Distributive Education, An Answer to Training Needs of Business. Washington Report, Special Supplement,; Feb 21, 1964.

Chamber of Commerce of the United States, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 21Feb64 4p.

*DISTRIBUTIVE EDUCATION; *COOPERATIVE EDUCATION; *PROGRAM DESCRIPTIONS; SCHOOL INDUSTRY RELATIONSHIP

Distributive education is a cooperative program operated by local public schools in which students can be trained in merchandising, marketing, and management. Its goal is to develop full-time employees in the area through on-the-job training and classroom related training. Generally, the high school program places emphasis upon employee training, and the post-high school upon midmanagement training. The instructional program includes the functions of selling, sales promotion, buying, operation, market research, and management. The program is coordinated by a teacher-coordinator trained by both education and occupational experience. This cooperative approach is carried on in nearly 2,000 of about 20,000 high schools. Closely associated with the instructional program is the local chapter of the Distributive Education Clubs of America (DECA). The largest part of the program, in terms of enrollment, is the area of adult education. Documents treating other business training and retraining programs are available as VT 003 414-VT 003 427. (MM)

VT 003 421

EDO 30001

SPECIAL SUPPLEMENT

FEBRUARY 21, 1964

WASHINGTON REPORT
Chamber of Commerce of the United States
1615 H Street, N.W. / Washington 6, D. C.

(C) 4p*

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Distributive Education

AN ANSWER TO TRAINING NEEDS OF BUSINESS

"We acclaim the initiative these students show, their early interest in the field of distribution and the steps they are taking to pursue careers in this field."

This was the conclusion reached by the W. T. Grant Company in their appraisal of distributive education students in the high school cooperative program.

Right from the start, distributive education students learn the basics of business in our free enterprise system and this, in itself, is highly commendable. For through no other organized educational venture has the spirit of free enterprise been so adequately demonstrated to the young people of this country.

On one hand, distributive education serves as a mainstream to those initiating and advancing their careers in a field of extensive employment opportunity, and, on the other, stands as a bulwark against the real and fabricated challenges to our economic way of life.

EDITOR'S NOTE: *Distributive Education* is the eighth in a series of Special Supplements on training and retraining programs utilized by business firms. Previous Washington Report Supplements cover: **Accredited Correspondence Education, Apprenticeship, Career Guidance for Youth, On-the-Job Training, Vocational Education: Upgrading Adult Skills, Work-Study Programs, and Office Education.** All eight supplements have been combined in a Manpower Development and Training Kit (code #0577) which may be obtained from the National Chamber. (Single kits free.)

The Role of Personnel in Profit Formation

Profits, the heartbeat of competitive enterprise, are related to personnel in much the same way they relate to products and services. When appraised as a profit-producing investment, employees are selected and handled with the same attention to customer preferences and company operating policies as, for example, a model stock plan.

Profits come from personnel who are competent to make discriminating judgments about products and people to the satisfaction of both customer and employer. It all comes down to the basic issue of what a customer is worth in terms of profits to the business and what happens to the profit structure when a customer is lost through inept performance by an employee. Through training programs planned to reflect current practices and also trends in employment performance requirements, distributive education assists employees and management to use *profit estimates* rather than *cost estimates* in making personnel decisions. In this regard, distributive education is dedicated to profit development through people.

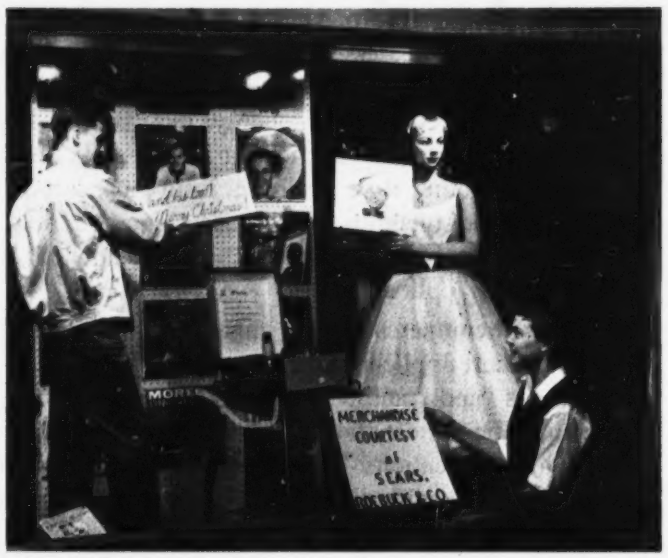
The Field Distributive Education Serves

What is this program of distributive education that is attracting so much attention by businessmen throughout the country?

During the twenty-five years it has been in existence nationally, distributive education has grown to become a significant vocational educational program offered and operated by local public schools. It has been developed under the supervision of local school boards and school administration with the help and cooperation of the local business community.

Distributive education derives its name from that vital link between production and consumption called distribution. It cannot be denied that distribution, as a major segment of the economy, plays a significant role in giving vent to the productive might of this country. Employment opportunities in distribution with their accompanying job competencies continually forge ahead as productive achievement, through advancing technology and automation, is constantly realized.

Employment trends, alone, place special urgency



Steve Prince and Brenda Justice arrange a window display in the new Spartanburg (S.C.) High School. Merchandise has been loaned by a local store which employs D.E. students. Distributive Education has been taught in Spartanburg for 25 years.

VT003421

for specialized training in distribution. In a period of 100 years, employment in the broad field of sales and services increased from less than 25 per cent to more than 50 per cent of the labor force. In the four-year period, 1956-1960, total employment in wholesale and retail trade increased six per cent, and in finance, insurance, real estate, and the service trades more than 12 per cent. In face of new business methods and increasing competition, an expanded, organized approach to training is essential to profitable business operation.

Distributive education, which has its instructional base in merchandising, marketing, and management, is organized to provide the kind of training that develops and improves employment qualifications for distributive occupations found in:

retailing	storing
wholesaling	business services
insurance	personal services
real estate	manufacturing
transportation	hotels; housing

. . . and other areas of the economy.

Requirements for Employment

To get, to hold, and to advance in a job in the field of distribution is accompanied by a set of specific competencies. The degree to which these competencies are demonstrated in employment determines the individual's ability to produce profit for the business and to advance his own financial standing.

Marketing competency. One engaged in distribution demonstrates accomplishment in the performance of one or more of the functions of distribution particularly in the art of selling.

Technology competency. One engaged in distribution is associated with a specialty, typically a product or service. The degree of success is dependent upon the knowledge he possesses of this specialty which, in view of the growing complexity of products and services being produced in the economy, may be referred to as his technology. A functioning knowledge of this technology, whether it be furniture, insurance, fabrics, automobiles, petroleum or data processing equipment, becomes the focal point upon which other knowledges and skills are applied.

Basic skill competency. One engaged in distribution makes constant application of the basic skills of communications and mathematics to his employment situation. The whole field of distribution revolves around communications. This fact places the premium on one's facility with these tool subjects as a basis for employment in distribution.

Social competency. One engaged in distribution has a set of personal characteristics which are occupationally relevent. Distribution is characterized as being

Kathy Delwarte, a student trainee in Tucson, Arizona, H.S. is "ringing up the sale" while others in her class observe. D.E. was initiated at Tucson H.S. in 1945. Since then, four more high schools with model stores as D.E. laboratory facilities have been erected. A Distributive Education Advisory Committee of the Tucson Chamber of Commerce works with all five high schools.

people-oriented, not machine-oriented, and as such, human relationships are of paramount importance. Personal traits, appearance, attitudes add up to this social competency which becomes a qualifying factor in employment.

While the immediate job responsibility is generally centered on one of these functions, an accomplished worker has understandings and appreciations of all the functions operating within the business enterprise.

These competency areas may be thought of as the standards for employment in distribution.

The Instructional Program

From these competency areas, the basis of instruction in distributive education is derived. While interweaving the development of social and skill competencies, the distributive educator gives primary attention to the development of the marketing competency and, in some cases, the technology competency. The need for the technology competency shows the desirable relationship of distributive education to other instructional programs, such as agriculture, industry, and home economics. It is in these areas that many of the technologies needed by distributive workers are taught.

The marketing competency is developed through instruction in the functions of distribution. For instructional purposes, those functions are defined as follows:

1. Selling—that which is concerned with communicating to business and individuals,

through the desirable techniques, the details needed for a decision to buy and then assisting them to buy and following through with required service.

2. Sales promotion—that which is concerned with stimulating sales through appropriate advertising, display and other means of publicizing available goods and services.
3. Buying—that which is concerned with procuring products for resale or raw materials to be transformed into products for resale or further transformation.
4. Operations—that which is concerned with facilitating the buying and selling functions such as stockkeeping, traffic, credit, protection, customer services and purchasing.
5. Market research—that which is concerned with investigating the climate for sale of goods and services.
6. Management—that which is concerned with formulating policies and implementing policies regarding men, money and markets available for the merchandising of goods and services.

Distributive education is organized to permit the enrollment of all persons who have occupational goals in distribution. Such an educational opportunity extends to those enrolled in high schools and post high schools as well as to adults who are already employed in distributive occupations.

Cooperative Program

Currently, distributive education programs in high schools and post-high schools are organized as cooperative programs.

The term *cooperative* identifies a plan whereby students are provided, through cooperative arrangements between the school and employers, instruction in the school and in a business organization through part-time employment.

D.E. students in Newark, Ohio, pictured above are receiving instruction in sales promotion. Their classwork provides instruction in merchandising and management.

What businessmen say * . . .

"These youngsters are learning firsthand how our company functions in this great free enterprise system. And, at the same time, they are making an important contribution to our selling efforts."

VICTOR HOLT, JR.
Executive Vice President
The Goodyear Tire and Rubber Company

"Our store managers report that the student worker is usually cooperative, eager to learn, and a substantial asset in the store organization. We encourage our managers to cooperate with their local distributive education program."

HARRY B. CUNNINGHAM
President
S. S. Kresge Company

"We have watched hundreds of D.E.-trained students take their places in our business. We have watched many of them progress up the ladder to store management positions.

L. C. LUSTENBERGER
President
W. T. Grant Company

"We believe that D.E. and DECA serve a necessary and very beneficial function in the opportunities provided young people to better understand and participate in the distribution of goods and services in the American economy."

F. M. SIMPSON
President
Cities Service Oil Company

** Excerpts from correspondence addressed to Mr. Harry Applegate, Executive Secretary, DECA, in 1962.*

The goal of the cooperative program is to develop qualified people for full-time employment in an area for which instruction is to be provided. Generally speaking, the high school program places emphasis upon employee training—the post-high school program upon mid-management training.

Classroom subject matter is drawn from an analysis of competencies needed by those engaged in distribution. The two major aspects of the instruction center on the functions of marketing and on specializations relating to products, services and procedures associated with specific businesses.

Employment in a distributive occupation, as part of the instructional plan, is regarded as an extension of classroom instruction. The "training station," which is the employing firm, provides a laboratory environment in which the student tests, observes, applies concepts and skills presented in the D.E. class in school, thereby assuring transfer of learning to employment situations. In addition, the student gains experience in the occupation which for him becomes the first

step in achieving his career goal.

The program is coordinated by a teacher-coordinator who by virtue of his training, through education and occupational experience, is uniquely qualified to fulfill the role of a vocational teacher.

For those looking into the program for the first time, it should be made clear that D.E. students are not denied the normal academic offerings of the school. Instruction in distribution is only one part of a student's load. A distributive education student qualifies for a regular graduation diploma, having completed or continuing his instruction in math, English, social studies and so on, but adds to his qualifications specifc training for specialized work.

This cooperative approach in developing competent personnel for distribution as well as achieving economic independence for the individual is a sound educational practice carried on in nearly 2,000 schools of the land. In view of the fact that there are about 20,000 high schools, there exists a void that must be filled if the goals of distributive education are to make an impact on the national economy. The challenge appropriately lies with both school administrators and businessmen.

Students Join Distributive Education Clubs

Closely associated with the instructional program is the local chapter of the Distributive Education Clubs of America. This student-directed activity is an effective part of the learning and training process. Chapter activities bring various instructional parts of the program into sharper focus by means of research projects and recognition events. By participating in such activities, which in many cases involve the business leaders of the community, students add materially to their poise and self-reliance, important qualities needed in distribution. DECA's purpose is to develop future leaders for marketing and distribution. A national DECA leadership conference is held each year to provide additional opportunities for individual growth and recognition of achievement.

Adult Program

The largest and most extensive part of the distributive education program, in terms of enrollment, is found in the area of adult education. For the most part, curricula are relatively specialized and geared to the needs of a particular distributive occupation. Such programs are planned to provide instruction that will result in greater job proficiency, preparation for promotional opportunities, or acquisition of new techniques in sales, supervision or management.

A great variety of adult programs exist, many of which are developed in cooperation with trade associations, local advisory committees composed of businessmen, government agencies, or State and local Chambers of Commerce. These specialized programs include, among others, food merchandising, export trade, hotel and motel hospitality, service station management, sales and supervisory seminars, insurance workshops.

In those communities where distributive education is fully developed, any one person may advance toward his chosen occupational goal by participating in the total offerings of the program: high school, post-high school and adult. It is with expectation that those engaged in distributive work may look upon distributive education as a continuing companion in education throughout their careers.

YOUR DISTRIBUTIVE EDUCATION ACTION CHECKLIST

____ Is D.E. offered in your high school? If not:

____ Have you informed school administration of your interest?

____ Have you discussed D.E. with other businessmen? If yes:

____ Have you invited teacher-coordinator to meet with you?

____ Do you know how program is conducted locally?

____ Are D.E. students interviewed, selected and provided part-time employment?

____ Do you provide opportunities for D.E. students to learn? (A training plan can be worked out between you and teacher-coordinator.)

____ Are you available for membership on D.E. advisory committee?

____ Are you active in supporting D.E.?

____ Do you participate in DECA activities?

____ Do you encourage full-time employees to enroll in adult classes?

Additional information on Distributive Education may be obtained from:

Your State Supervisor of Distributive Education,
State Board of Vocational Education,
State Capital;

Or

John A. Beaumont, Director
Distributive Education Branch
Division of Vocational and Technical Education
Office of Education
U.S. Department of Health, Education, and Welfare
Washington, D. C. 20202

VT 003 422

Local Technical Schools, An Answer to Training Needs of Business. Washington Report, Special Supplement; Apr 10, 1964.

Chamber of Commerce of the United States, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 10Apr64 4p.

*VOCATIONAL SCHOOLS; COMMUNITY INVOLVEMENT; VOCATIONAL EDUCATION; *PROGRAM DESCRIPTIONS; *SCHOOL INDUSTRY RELATIONSHIP
KENOSHA; WISCONSIN

Kenosha, Wisconsin, a medium-sized city of 73,000 is an example of how a community can provide job training for its adults and all of its youth, not merely those who are qualified for college. Support of the city and business community and cooperation of the public school has resulted in successful job training programs in the two branches of Kenosha School of Vocational, Technical, and Adult Education. In 1963-64, 5,600 students were enrolled in day and night study programs. While the nation as a whole has a school dropout rate of 30 percent, Kenosha's is less than 10 percent. Many adults take courses at the school to upgrade their skills. Although state law allows the schools up to 2 mills of the tax dollar, in 1964 1.64 mills were requested and granted. The 1964 budget for the school was $594,726, of which $538,551 came from local and state sources. The school staff has 15 advisory committees from business and industry to keep the course work up to date. Industry also cooperates by supplying many materials at no cost, such as $50,000 worth of fluid power equipment. The school trains in 28 areas of apprenticeship and provides preemployment training, upgrading courses for the functionally illiterate, and other more general courses. Teachers, to be certified, must have both work experience and educational training. Documents treating other business training and retraining programs are available as VT 003 414-VT 003 427. (MM)

VT 003 422

EDO 30001

SPECIAL SUPPLEMENT

APRIL 10, 1964

WASHINGTON REPORT
Chamber of Commerce of the United States
1615 H Street, N.W. / Washington 6, D. C.

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4p*

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Local Technical Schools

AN ANSWER TO TRAINING NEEDS OF BUSINESS

Enterprising Community Points The Way

KENOSHA, WISCONSIN, furnishes an excellent example of what an enterprising community can do to train its youth—and its adults too—for the exacting job requirements of an age of rapid technological expansion.

This medium-sized city of 73,000 population has found the answer to the job-training problem in the Kenosha School of Vocational, Technical and Adult Education. In the 1963-64 school year, 5,600 students were enrolled in day and night study programs, and the school is growing each year. The Technical Institute, a part of this school, was started three years ago. Its expected enrollment for next year will exceed 600 students. This skyrocketing enrollment for technical education indicates that the young people want better education and a better way of life.

This remarkable success record is due to the enthusiastic support of the City and the business community, and the close cooperation among the School, the public school system and local businessmen in meeting problems as they arise and in training students to fill actual needs.

EDITOR'S NOTE: *Local Technical Schools* is the ninth in a series of Special Supplements on training and retraining programs utilized by business firms. Previous Washington Report Supplements cover: **Accredited Correspondence Education, Apprenticeship, Career Guidance for Youth, On-the-Job Training, Vocational Education: Upgrading Adult Skills, Work-Study Programs, Office Education, and Distributive Education.** All nine Supplements have been combined in a Manpower Development and Training Kit (code #0577) which may be obtained from the National Chamber. *(Single kits free.)*

Youth Learn Skill Before Leaving School

Wisconsin has a school dropout rate of 20 percent while the rate for the nation as a whole is 30 percent. In some states it runs as high as 42 percent.

Kenosha, however, has a dropout rate of less than ten percent. This is due, in a considerable measure, to a program operated by the School, in cooperation with the public school system, to find the potential dropout and provide training for him.

The City's goal is to train all its youth, and not merely those who are qualified for college. Thus it is avoiding the error made by so many American communities that slant their high school programs entirely—or almost entirely—toward equipping graduates for college.

Many Adults Go To School

For adults also, the Kenosha vocational institution offers a long list of courses, extending from English refresher, citizenship, and homemaking courses to bookkeeping, business law and welding.

Thus, the school is a general community educational institution of the type that American communities are going to need to an increasing degree in the future. Moreover, what Kenosha has done other communities can and should do, either through a special vocational school or by expansion of the high school program.

The Kenosha school has two branches, the Kenosha Technical Institute and the Kenosha Vocational and Adult School. These are municipal institutions.

Local Taxes Support Training

Kenosha youngsters receive free instruction, but persons living beyond the city limits must pay tuition ($1.50 a day). Wisconsin residents under 21 years of age have their tuition paid by the municipality in which they live.

State law at the present time allows the School up to two mills of the tax dollar. But the full amount has not been claimed. At present, 1.64 mills have been requested and granted. The 1964 budget for the School amounts to $594,726, of which $538,551 will come from local and state sources.

The machine shop of the Kenosha, Wisconsin, School of Vocational-Technical and Adult Education is equipped with the type of tools that the students will find in industry after completing their training program. Businessmen in Kenosha serve on Advisory Committees to assure the students that the equipment is up to date, and that there is a real need for the training acquired.

VT003422

One of the businessmen deeply interested in the school is George I. Craft, Promotional Supervisor, Wisconsin Electric Company, Kenosha, Wisconsin. He said that money to operate the school is always a problem, "but somehow it seems to be available when there is a genuine need for it."

He added: "I think this investment goes back to the people of the community who support the institution through their taxes. They are aware of the work being done and apparently approve of it wholeheartedly."

Two business leaders, Mr. George H. Becker, left, and Mr. George I. Craft, center, are examining a shaper at the Kenosha School with Mr. Oliver Chubb, the School's trade and industrial education coordinator.

Local Advisory Committees Keep Programs Current

The School adopts various methods of keeping abreast of community needs for workers.

George H. Becker, President, Sullivan-Becker Machine Co. of Kenosha, explained that great help toward this objective is provided by a school board which is aware of community needs.

"We check with the various industries," he said, "to determine their training needs." Business and industry often come to the school with a particular training problem. Individuals often contact the school, too, to inquire if a certain type of training is available.

The school searches continually for new occupational areas. How this is done was explained by Mr. Craft:

"The first and foremost way this is done is through some 15 or more advisory committees, made up of people associated with business, trade and industry. All facets of the local economy are represented on these committees which serve in the capacity of advisors to the staff of Kenosha Technical Institute.

"These people spend a great deal of time evaluating the actual curriculum of a given course in relation to their particular interests, and recommend improvements and changes that might be made, and work with the administrative staff of the Kenosha Technical Institute to put these changes into effect.

"They also conduct various surveys of commercial and industrial activity to find what the people in business really want."

A continuous watch is maintained to find out whether new courses are needed.

"Our marketing program," Mr. Craft said, "is now being given a good hard look with an eye toward expansion. This program was essentially retail oriented. As everyone knows, this is just one phase of marketing. The course could well be expanded to include marketing by manufacturers, for instance."

He continued: "We can institute complete courses or short courses to cover a particular need in the area. This is done again and again, especially in the distributive education area, where we set up special courses for certain groups of retailers or manufacturers—even in the insurance area."

New Courses Started When Needed

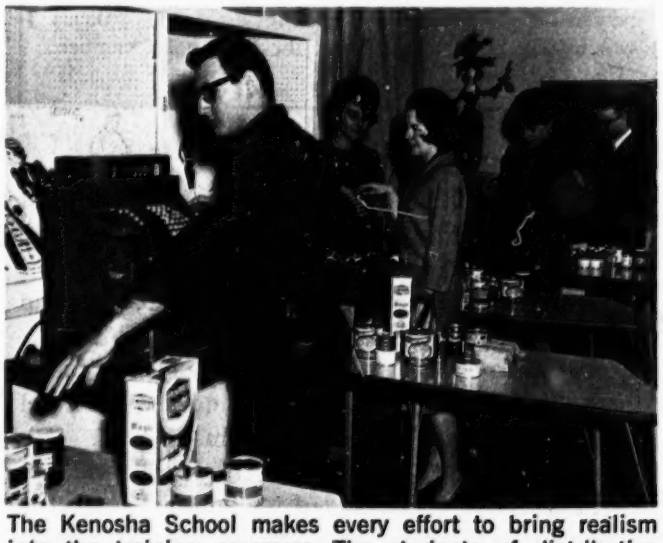
Mr. Becker explained that when a new program is presented to the school, it is reviewed thoroughly as to its cost and practicability.

He explained: "We certainly have to check to see what equipment is needed and where we can get such equipment. If we can get some industry to supply the equipment, we ask for their help."

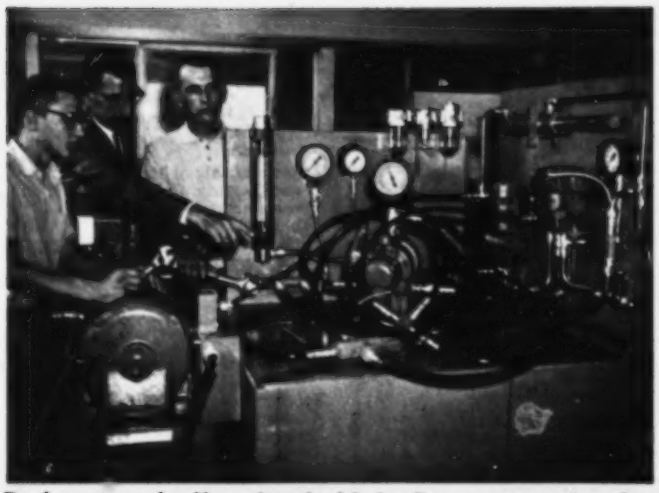
An example of a program newly instituted at the school is one on fluid power.

"Industry cooperates fully with the school by supplying materials at no cost," Mr. Becker said. "Let us take this recent one—fluid power. We at the school invested approximately $25,000. Fluid power manufacturers have donated over $50,000 worth of laboratory equipment."

He continued: "It is not only the industrial community of Kenosha which has contributed. These are pieces of equipment from all over the United States, which shows the intense interest on the part of indus-



The Kenosha School makes every effort to bring realism into the training programs. The students of distributive education pictured above in the Checker Training Class use real merchandise and money.



Businessmen in Kenosha decided after a comprehensive study that a course in Fluid Power was essential. The instructor, pictured above, is pointing out some of the complex gear to the first two students to enroll in a two-year technical program.

try throughout the entire country in a program which we put into our school. This is not just a local situation."

Youth Not Permitted To Commit Economic Suicide

How the School works with the public school system to catch the potential high school dropout and keep him in school was explained by Mr. Becker.

"The two school systems," he said, "are working with youth from the junior high school level up to discover the potential dropout, and get him embarked on a program that will keep him in school until he graduates from high school."

> WE CHALLENGE YOU . . . to measure the vocational-technical education program offered to the youth and adults in your community against that of Kenosha. Are you doing as much? Can you afford to do less?

Under this arrangement, the potential dropout is given credit as part of his high school program for vocational courses taken at the school.

Mr. Craft observed that the greatest difficulty facing the potential dropout is that "he doesn't know that he is committing economic suicide.

"If we can point that out to him," he added, "I think this is half the battle right there."

Adequate Guidance Is Essential

A highly important factor in finding and guiding the potential dropout is a counseling and testing program to direct him properly.

Mr. Craft pointed out that the School has "several guidance counselors who work with these people to determine their abilities and interests, and to guide and place them in courses that fit their capabilities."

Alert industrialists in Kenosha admonish untrained workers of the need for training, and of the likelihood that unskilled jobs will disappear with advancing technology.

Mr. Becker said: "In my own small shop, I am advising individuals of the classes they can take at the School. Mine is a small operation. I don't necessarily have job elimination, but I do have job improvement. I let my workers know they can improve themselves in my plant by taking the classes offered at the School."

Functional Illiterate Receive Training

Mr. Craft commented that perhaps the largest educational problem in a primarily industrial community is the training of the "functional illiterate."

"For these people," he said, "we have instituted several courses to upgrade them through their own efforts. Shop math, blueprint reading, industrial electricity—courses of this nature would prepare them to hold a better job than they could get without any further training. These courses tie in with the employer's effort to improve his people and train them."

For persons who do not qualify for technical training either through lack of ability or desire, special courses are provided slanted toward their interests and achievement levels.

Mr. Craft said: "For instance, we train in the area of construction work. These people will be qualified to work in this area—even unskilled labor today requires previous training.

"Checker training for the supermarket clerk, waitress training, service attendant training, basic sales training for dime store and variety store clerks, these are all areas where we must work with people to improve their general economic standing."

In many communities throughout the country, persons interested in working as laborers receive little or no training before applying for their first jobs in building construction. In Kenosha, a special one-year Vocational Certificate program is open to youth and adults alike. The scale model pictured above was constructed by the students.

INDUSTRIAL TECHNOLOGY

Fluid Power

First Year

1st Semester Subjects	Credit Hours	2nd Semester Subjects	Credit Hours
Fluid Power I	4	Fluid Power II	4
Communications I	3	Communications II	3
Technical Science I Fluid Power Mechanics	3	Technical Science II Fluid Power Mechanics	3
Technical Math I	3	Technical Math II	3
Psychology of Human Relations	3	Basic Technical Drafting	2
Elective	1	Elective	1
Orientation			

Second Year

1st Semester Subjects	Credit Hours	2nd Semester Subjects	Credit Hours
Fluid Power III	4	Fluid Power IV	4
American Institutions	3	Economics	3
Sketching	2	Industrial Safety	1
Instrumentation and Testing (Lab)	2	Electronics	2
Statics and Strength of Materials	3	Fluid Power Seminar	3
Industrial Processes	1	Plant Layout	1
Technical Math III	3		

Metallurgical Technology

First Year

1st Semester Subjects	Credit Hours	2nd Semester Subjects	Credit Hours
Principles of Metallurgy	3	Fundamentals of Inspection and Testing of Materials	4
Communication Skills I	3	Communication Skills II	3
Technical Science I	3	Technical Science II	3
Technical Math I	3	Technical Mathematics II	3
Psychology of Human Relations	3	Basic Technical Drafting	2
Elective	1	Elective	1
Orientation			

Second Year

1st Semester Subjects	Credit Hours	2nd Semester Subjects	Credit Hours
Static and Strength of Materials	3	Economics	3
Principles of Metallography	3	Advanced Metallography	3
Chemical Analysis I	4	Chemical Analysis II	4
Fundamentals of Heat Treatment	2	Advanced Heat Treatment	2
American Institutions	3	Industrial Safety	1
Welding Applications	2	Fundamentals of Photography and X-ray	2
		Electives	2

The two-year courses in Fluid Power and in Metallurgical Technology are comprehensive programs that have been developed at the Kenosha Technical Institute to assist students planning to enter these specialized fields.

"A Man Can Live A Full Life"

Mr. Becker commented: "And what we attempt to do with the young person in our school is to point out to him what he is capable of doing, so that he doesn't hitch his wagon to some unattainable star. We try to set a goal he can reach."

"A man can live a full life," Mr. Craft observed, "by doing what he has the capacity to do."

The Kenosha School aids in apprentice training. It trains in 28 different areas of apprenticeship. It also undertakes to provide preemployment training.

"We invite people to come in for preemployment training," Mr. Becker explained. "We advertise in newspapers. We send out to industry many circulars advising of the classes that we will have, such as shop math and blueprint reading. We have many classes of workers. After attending this type of session, they could go to an employer and build upon a solid foundation."

The students pictured above are perfecting their skills and getting experience in the Metallurgical Class.

Teachers Well Trained

Special attention is paid to the qualifications and continued training of teachers at the School.

"To be certified," Mr. Craft explained, "teachers in our system must have certain practical or work experience in their field, as well as education training with additional courses in the philosophy of vocational education.

"Many teachers go back to school in the summer, but many also go back into industry during the vacation period. At the rate the school is growing, it's practically a year-round operation. In-service training sessions are held for the teachers throughout the year."

All faculty members serve on committees at the School, such as on graduation, public relations, safety, community services, student affairs, and similar groups.

Generally, the Kenosha School is a realistic approach to two primary facts of modern life: The world of today is based on technology, and this places a premium on training which will increase with time. People—youth and adults—have different capabilities and aptitudes, and modern conditions require that they be trained for available jobs that they can perform.

Additional information on Kenosha's program may be obtained from:

Mr. Eugene I. Lehrmann, Director
Kenosha School of Vocational, Technical and Adult Education
625 Fifty-Second Street
Kenosha, Wisconsin 53140

Published each week by the Chamber of Commerce of the United States, 1615 H Street, N.W., Washington 6, D. C. Subscription rate: $5.00 per year. Each additional subscription to same address, $2.50 per year. Editor, James F. Donovan. Associate Editors: Hilton Davis, Harry Lambeth, Fred Lindsey, Robert A. McPheeters, Marion Olverson, Jeanne Rogers, George Seidl.

VT 003 423

Experienced Vocational-Technical Teachers, An Answer to Training Needs of Business. Washington Report, Special Supplement; Aug 14, 1964.

Chamber of Commerce of the United States, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 14Aug64 4p.

VOCATIONAL EDUCATION; *TEACHER SHORTAGE; *TEACHER RECRUITMENT; *VOCATIONAL EDUCATION TEACHERS; TECHNICAL EDUCATION; *SCHOOL INDUSTRY RELATIONSHIP

Experienced vocational-technical teachers are needed to train the technicians and craftsmen to build, test, try out, adjust, and repair the equipment designed by scientists and engineers. Two areas from which these instructors can be recruited are industry and the armed services. Cooperation from business in giving early retirement to trained people on the condition that they take a teaching position is a possible solution to the shortage. School officials and business leaders serving on school boards must recognize the need to establish a salary differential between the instructor who is a journeyman of standing with a B.S. degree and a first-year academic teacher. The American Vocational Association has set up a recruitment and placement service to help meet the needs for vocational personnel to staff the new classrooms and shops being built from the additional funds from state, local, and federal governments. Examples of what some states are doing in vocational education are included. Documents treating other business training and retraining programs are available as VT 003 414-VT 003 427. (MM)

VT 003 423

EDO 30001

SPECIAL SUPPLEMENT

AUGUST 14, 1964
WASHINGTON REPORT

CI 4p*

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
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*Experienced Vocational-Technical Teachers**

AN ANSWER TO TRAINING NEEDS OF BUSINESS

Saleable Skills Needed

One of the most perplexing problems facing our nation and innumerable citizens is the lack of saleable skills. Students leave school as dropouts or with their high school diplomas, many with outstanding academic records but with few skills which can be utilized by the technical world of today.

It is a fact that our modern society does not place proper emphasis on and, in too many cases, does not even recognize the important part craftsmen and technicians play in this technological age. Scientists and engineers have created this technological era which may be retarded in the future unless we make trained manpower available. It is needed to build and service present and improved automated machines of industry, the home, the highway and the office.

Many educators and parents have been blind to their responsibility of preparing youth to make a living. This responsibility must be faced now! For many years schools have assumed only the responsibility of teaching the basic skills of reading, writing, and arithmetic, plus subjects required for admission to college. If the student amassed the 16-20 required Carnegie units, he was given his diploma at which time too many schools washed their hands of the entire affair. Then, for a time, industry assumed the responsibility of training the nation's work force. The occupational world has changed. Young people today are facing a highly technical world where employers naturally hire those workers who possess basic technical skills and knowledge.

More Craftsmen and Technical Workers are Needed

We are faced with the fact that we must have in this new era the scientist, the engineer, both of whom are college trained. For each one, however, there are half a dozen or more technicians and craftsmen needed to carry on work which is as important as that of the man who thought up the idea. The men who build, test, try out, adjust and repair the equipment are as vital in our industrial economy as the engineer and the scientist. Through teamwork they build a strong, developing Nation. Many young people desire to attend vocational schools and technical institutions, but they are discouraged from doing so by their parents, advisors, and others. Oftentimes, young people poorly equipped to carry a difficult academic load are prodded into attempting to do so by sincere, but misinformed adults. Thus they become reluctant learners or even drop out of school completely. Fearful and resentful both at school and home, they learn to hate school because of the criticism of teachers and administrators. When they go home, the same refrain is taken up by parents who find fault with the same things which they heard at school. As one young adolescent remarked, "It's really tough to have two sets of critics."

Mr. Clarence E. Stanford, right, is instructing a class in electronics at the Technical Education Center, St. Petersburg, Florida. Mr. Stanford brings to the class a wealth of information—he worked in industry for 32 years in various engineering capacities before joining the faculty at this fine training center.

The instructors in the vocational and the technical schools cannot overcome all the problems involved in developing young people with marketable skills, but they will provide many youth with the background needed for success in the world of work. The graduates of many of these schools are in great demand by industry and business. They enjoy full employment and their status in the community equals that of those who may have traveled the academic route to success.

*Editor's Note: *Experienced Vocational-Technical Teachers* is the tenth in a series of Special Supplements on training and retraining programs. Previous Washington Report Supplements cover: *Accredited Correspondence Education, Apprenticeship, Career Guidance for Youth, On-the-Job Training, Vocational Education: Upgrading Adult Skills, Work-Study Programs, Office Education, Distributive Education* and *Local Technical Schools.* All ten Supplements have been combined in a Manpower Development and Training Kit (code 0577) which may be obtained from the National Chamber. (Single Kits free.) If you have information which you feel could be developed into a Special Supplement, write to John E. Harmon, Director of Manpower Development and Training of the National Chamber's staff.

VT003423

STATE, LOCAL AND NATIONAL ACTION PROGRAMS DEVELOPING SCHOOLS . . .

The Congress, numerous State legislatures, and local school boards are quite cognizant that some vocational schools need additional help. As examples (and only as a minute sampling) of State and local action already in progress, the following programs are cited. In all of them, and in hundreds of others, businessmen actively participated as school board members or served on special project committees:

Georgia. In addition to the two State Vocational-Technical schools that have been in operation for a number of years, twelve new area schools were opened last September. Fifteen additional area schools approved by the State Board of Education are in the planning stages. The building program, involving State and local funds, will cost approximately $21,000,000.

South Carolina. Nine Technical Education Centers have been approved by the State Committee for Technical Education, and the one in Greenville is now operating at capacity. Five centers are scheduled to open this year with more to follow. The centers are built as community projects with the communities providing 87 percent of the cost, and the State 13 percent.

Minnesota. The area vocational-technical schools now number fifteen—three schools began operation last September. Minnesota now has such schools in all geographic areas except the Southwest where at least one school will be started at an early date. All area schools provide vocational-technical education programs at both the high school and post-high school levels.

Pennsylvania. The Chamber of Commerce of Greater Pittsburgh, in cooperation with the Board of Education and the State Employment Office, conducted a comprehensive survey of the kinds of skills that are now needed in the Pittsburgh area. The purpose of this survey was to provide information that will make it possible for the educators to adjust the school curriculum to better equip students to qualify for employment. The respondents to the questionnaire indicated that 6 per cent of their future job

Instructors: From Industry—Services—Or?

What experience should instructors have before they commence to teach? How are they going to secure this experience? These and many other questions that relate to faculty ceased to be purely academic but became real considerations when confronted with the problem of selecting qualified personnel for a new technical institute. The Technical Education Center of Pinellas County, Florida, faced these problems during 1963, when it opened its doors as the first post high school co-educational technical institute in the State of Florida.

A rapidly expanding complex of electronics and space-age industries had prompted a forward-seeking Pinellas County school system to establish such an educational center. A new structure was erected on a tract of 30 acres of land. The air conditioned Center contained laboratories, classrooms and other essential office and service areas. Staffing the new institution became the responsibility of the Director of the Center, Milton E. Larson.

Before discussing the matter of selection of faculty members it is important to understand that the Technical Education Center is a junior or community college-type terminal institution whose major objective is to provide both practical and intensive education in order that the graduates will become employable after two years of technical education.

To achieve this objective, every care was exercised to obtain the best possible instructors for each class. This required that individuals selected needed, in addition to knowledge of the theories involved, good practical experience and the ability to communicate and teach the students.

Occupational instructors in the industrial-technical areas must have obtained the necessary experience either in industry or in the armed forces. This is true of the instructors in several of the technologies at the Technical Education Center who teach in the Day School and to some extent of those who teach in the Evening School as well. Which experience is most desirable for those who teach industrial-technical subjects—that gained in industry or that gained in the armed forces technical operations? The Electronics Technology Department of TEC consists of well-trained, highly skilled faculty members. The backgrounds of two of these instructors provide a comparison between the individual who gained his experience in the armed forces and the one who worked in industry.

William R. Tripp, a member of this instructional group, recently retired as a Lieutenant Colonel in the United States Army. Colonel Tripp served on active duty for twenty-one years with the United States Army Signal Corps, actively engaged in the application of electronics in the field of communications. During this period he spent approximately half of the time as a member of the faculty of various service schools. In discussing his recent change of employment, Colonel Tripp stated that the teaching was relatively easy. He indicated that the major difference in the training situations related to the fact that in teaching students planning to become electronics technicians, these individuals must be qualified to enter employment in any one of several entry jobs; whereas, in the case of the person in the armed forces being trained as an electronics technician, he would be trained in a particular skill within the total field.

Clarence E. Stanford, another member of the instructional staff in the Electronics Department, decided he would like to teach after having devoted 32 years to industry in various engineering capacities such as designing and developing communications and electronics equipment, evaluating and testing antennas on military aircraft, engineering field service, and engineering administration on both civilian and military projects. Clarence Stanford describes his experience in words such as, "Many of these projects were asso-

BUT WILL EXPERIENCED INSTRUCTORS STAFF THE SHOPS AND CLASSES?

placements can be hired with less than a high school education; 23 per cent require high school graduation, including specialized training such as clerical, business, distributive, occupational or vocational; 33 per cent require one to three years of post-high school education or training; and 24 per cent require four years of college or more.

Washington. Of the twenty area schools in Washington which offer post-secondary vocational and technical programs, thirteen are community colleges and seven are vocational-technical schools. It is estimated that these schools now supply one-third of the technicians needed in the State. A substantial increase in technical eduaction programs is planned, and it is anticipated that the community colleges will increase their technical program offerings approximatey 200 per cent.

Colorado. A unique vocational center, the Emily Griffith Opportunity School, was started forty-seven years ago as part of the free public school system of Denver. The school has a yearly average enrollment of 30,000 men and women. It is tuition-free to city residents over sixteen years of age. Classes are held both day and night, every month of the year, offering approximately three hundred different subjects in eight broad areas.

National. To assist the States and communities with additional "seed money," the Congress passed the Vocational Education Act of 1963. It is hoped that this legislation will encourage new and improved programs of vocational-technical training to be launched throughout the country. However, the States and local school boards will continue to raise the bulk of the funds needed for vocational-technical training. This increased effort will help alleviate a part of the unemployment problem, curb the trend of youth leaving school without a saleable skill, and provide technical knowledge for youth who have interests, abilities, and aptitudes in many of the vocational areas which have been mentioned previously. (See Editor's Note on front page of Special Supplement.)

ARE YOUR COMMUNITY AND STATE DOING AS MUCH—CAN YOU AFFORD TO DO LESS?

ciated with the nation's most important military programs and a challenge from start to finish." The transfer from problem solving in engineering to problem solving in teaching technicians was not difficult for Clarence Stanford. The ability to understand and communicate with members of the engineering team made the adjustment to teaching quite easy. Some of the same characteristics which are essential in industry are also important in teaching; namely, patience, understanding of people, cooperation, and the ability to take difficult problems and concepts and simplify them for others.

How have these two individuals drawn from very different previous experiences succeeded as instructors?

"Both are doing an excellent job", said Director Larson. "Their respective backgrounds, though different, have resulted in significant application of the theories involved. The meaning they have given the theories provided the opportunity to attach an understanding to elusive concepts which might have been very vague and meaningless if either individual had moved directly into teaching after college. Teachers, just out of college need to be tried and tempered in the furnace of work, whether this be in industry or in the armed forces."

If students are to be prepared for jobs in industry after two years of technical education, experienced teachers who can give practical meaning to theoretical concepts are essential.

Mr. Eugene E. Lescroat, center, has just completed a very successful year in the Howell Cheney Regional Vocational Technical School, Manchester, Connecticut. The students, Robert Hallowell, left, and Reginald Hathaway, right, are benefiting from the many years of experience which Mr. Lescroat gained as a Senior Chief Repairman of the U.S. Army. Mr. Lescroat also served as an instructor at the U.S. Naval Advanced Metalwork School in San Diego.

Schools Must Recruit From Business

G. W. Haverty, President of the North Dakota State School of Science in Wahpeton, the largest and most comprehensive vocational training center in the state, believes it is essential that faculty members have "cut their teeth" in business. Mr. Haverty said in a recent interview, "we must recruit from industry, we cannot go to another college, we cannot go to a placement service. We scan industry and look for men with real ability that have had not less than five years of real experience." It is important to note that President Haverty insists that his teachers know *what* to teach, in addition to knowing how to teach. He further observed that "we look for men who have had some foremanship experience. Then we apprentice them to a veteran teacher for the first year. During that first year we give what we call in-service teacher training to make them into qualified instructors."

There seems to be general agreement among vocational education directors that they would prefer their faculty to come from the ranks of business.

Business Has Important Role To Play

Business should have a keen interest in providing adequate teachers for vocational schools. This may mean a sacrifice to make available on loan or to retire some of their skilled technicians at an early age. In the long run, however, business and industry will come out ahead, for they will be able to employ graduates of vocational and industrial schools trained by their own people. The business and community will save money, for the men they hire will have the skills heretofore they have had to provide through training. Now, the new employee will have the desirable techniques and abilities needed.

Business frequently retires men with exceptional skill and knowledge at a fairly early age. The so-called "senior citizen" in retirement puts a lot of production skill on the shelf. Most of these men have many skills which could be shared with the youth in the vocational schools and the technical institutes. Many schools are looking for men with these skills.

It would be helpful if business and industry would consider retiring men early on the condition that they would take a position teaching in a vocational or technical institute. In this way, there would be a greater contribution to the youth of our country. It is something that management should seriously consider.

What else can leaders in business do to help solve the problems confronting vocational-technical training? To this question, the educators and other experts in this field give these answers:

1. Help to promote the establishment of more vocational training high schools and junior colleges.

2. Establish a close and continuing relationship with these schools.

3. Don't take the easy way out and follow an arbitrary policy of requiring a high school diploma as a prerequisite for employment. Many jobs undoubtedly can be filled by persons who never graduated from high school. Some firms already have adopted specific policies not to make a high school diploma a prerequisite for employment.

4. Provide up-to-date information and forecasts on the skills and types of personnel that are needed. Such an information pool or job inventory on a continuing basis could be provided through trade and business associations.

5. Give the fullest possible support and participation to on-the-job training phases of vocational education programs.

6. Take an active interest in helping to place graduates of vocational training in jobs immediately upon graduation.

Business participation is probably the most important factor in these problems. All the money that is spent on vocational training in many areas might well be wasted unless business becomes involved deeply in these programs.

Staffing is a Big Job

One can immediately recognize the key role staffing must assume in order that programs will develop commensurate with the already established need. The days of marginal salaries have long since passed and the competition from industry for "top drawer" people is no longer a fair contest. School officials and business leaders serving on school boards must recognize the need to establish a salary differential between the instructor who is a journeyman of standing with a B.S. degree and a first year geography teacher. Such differentials can more readily be made in residential schools and in area schools apart from the comprehensive high school. The salaries of administrators, supervisors, and other professional supporting staff should be similarly upgraded.

The current and anticipated shortage of coordinators, local supervisors, local directors, assistant State supervisors, State supervisors, teacher trainers, and others is startling. One needs only to reflect on the vocational network that is needed to reach all persons in all areas of the Nation to realize the acuteness of this shortage.

American Vocational Association Building Reservoir of Class and Shop Talent.

The American Vocational Association is an organization of professional educators. With the increasing State and local action and the additional funds which have been allocated by Congress, much is being done and can be done to modernize the vocational schools of the United States. Once the classrooms and shops have been completed, then the problem arises as to where one will obtain the necessary teachers with the technical ability to operate machines. The American Vocational Association has set up a Recruitment and Placement Service with which they hope to partially answer the question. There are large numbers being retired monthly from the Armed Forces. Many are being registered for future positions which will be available at the opening of the new school year. There are not enough registered at the present time. Many more are needed if we are to meet the demands which will come from the activities of these specialized schools.

For detailed information about the openings in vocational-technical courses, contact:

- **Your local school superintendent**
- **Your State Director of Vocational Education, State Office of Education, State Capital**
- **Dr. Joseph Barber, American Vocational Association, 1510 H Street, N.W. Washington, D.C. 20005**

VT 003 424

Expert Calls for More Apprenticeship, An Answer to Training Needs of Business. Washington Report, Special Supplement; Jan 8, 1965.

Chamber of Commerce of the United States, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 8Jan65 4p.

*APPRENTICESHIPS; *ON THE JOB TRAINING; *PROGRAM DESCRIPTIONS; SKILLED OCCUPATIONS; PROGRAM ADMINISTRATION

An interview with Edward E. Goshen, retired administrator of the Bureau of Apprenticeship and Training of the Labor Department about the apprenticeship program is reported in question and answer form. Some of his views were: (1) Industry is becoming so complicated that all workers are going to have to be trained, (2) Apprenticeship lasts at least 2 years and can run as long as 6 years, (3) To be successful, the apprenticeship program should be formalized so that the apprentice learns all elements of his trade, (4) Management and labor should set up more apprenticeship programs to forestall possible passage of a law forcing them to do so, (5) Regardless of the size of a shop, or whether it is union or nonunion, a program can be set up, (6) Any training in a vocational school should be limited to the tools and fundamental ideas of the trade, (7) The government role in the program should be to guide and to act as a catalyst, (8) The bureau should confine its work to apprenticeship and on-the-job training programs and should receive additional money to expand its apprenticeship program. (MM)

VT 003 424

EDO 30001

JANUARY 8, 1965

SPECIAL SUPPLEMENT

WASHINGTON REPORT

Chamber of Commerce of the United States

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Expert Calls For More Apprenticeship

AN ANSWER TO TRAINING NEEDS OF BUSINESS

"The big job is for more employers and employees to set up apprenticeship programs. And this applies particularly to employers. . . . Here is a major challenge. Management and labor should take on this job, and see that it is carried out before somebody decides that a law must be passed which would force them to do it. This is not idle talk. A few years ago a State Apprenticeship Director requested a Congressman to introduce a bill that had all of the earmarks of government control of apprenticeship. I discussed this with the Congressman, and he was in agreement with me that it would not be good for government to control apprenticeship. The bill was never reported out of committee."

This is the way Edward E. Goshen, who retired recently as Administrator of the Bureau of Apprenticeship and Training of the Labor Department, sums up the big job in the field of apprentice training, doubtless the most pressing manpower problem of the present era.

In the following interview, Mr. Goshen gives his views on a wide range of apprenticeship problems. Emphasizing that the need for skilled craftsmen is increasing, he discusses the essentials of apprenticeship and explains that apprenticeship must be formalized so that the youngster learns all elements of his trade.

EDITOR'S NOTE: This exclusive interview with Edward E. Goshen was conducted by the National Chamber's Director of Manpower Development and Training, John E. Harmon. *Expert Calls For More Apprenticeship* and ten other Special Supplements on Training are available in a Manpower Development and Training Kit (code #0577) from the National Chamber. (Single kit free.)

He tells how, by following accepted standards, a small shop employing only a few people can carry out an apprenticeship program, with a prospect of better results than that of large shops if the apprentice receives the careful attention of a craftsman.

In the case of minority groups, Mr. Goshen points out that apprenticeship can best be achieved by the voluntary cooperation of management and labor. He warns against an attempt by the Government to force management and labor to accept members of minority groups as apprentices. The choice of apprentice, he explains, must be on the basis of qualifications, with no discrimination because of race.

Mr. Goshen emphasizes that apprenticeship is a local matter which must be left to management and labor in the area and shop. He admonishes against Government dictation, such as exists in Canada, and against a Government subsidy to stimulate apprentice training, pointing out that it would result in Government regulation.

The proper role of Government, he explains, should be one of a catalyst of help to management and labor in establishing apprenticeship programs, such as the Bureau of Apprenticeship and Training has carried on in the past. In this regard, he says the Government

The Secretary of Labor, Willard Wirtz (center) pictured above, is seen conferring with the former Administrator of the Bureau of Apprenticeship and Training, Mr. Edward Goshen (right) and the Under Secretary of Labor, John F. Henning (left).

would save money by expanding the apprenticeship work of the Bureau. The Bureau should be relieved, meanwhile, he adds, from extraneous jobs saddled upon it in recent years, and from continual interference by top-level political Labor Department officials.

Mr. Goshen, what in your judgment is the primary need at the present time in the field of manpower development and training?

The basic need is the development of more skilled craftsmen. As technological development progresses, and our industrial processes become more complicated, the need for skilled craftsmen grows proportionately. There is a greater need than ever for skilled craftsmen now.

This need places a special emphasis on apprenticeship programs. There is also a need for the development of skills not as elaborate as those for which apprenticeship programs are set up, and some of this can be done by on-the-job training. Industry is becoming so complicated that all workers are going to have to be trained.

Could you tell us just what apprenticeship is?

Apprenticeship is a method of work and training which results in the development of a craftsman or journeyman. This means, under standards which we

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have long accepted, an apprenticeship lasting at least 4,000 hours, or two years. Actually, apprenticeship periods vary considerably, both for the occupation and the person being trained. Usually, the apprenticeship runs from two to six years.

A person completing such a training program learns all of the elements of an occupation, all of the intricacies, so that he can work on his own with very little supervision, and sometimes with none. He also gains a knowledge of the industry or trade in which he works.

One noteworthy fact is that an apprentice, like the on-the-job trainee, is an employee. He earns as he learns. He is paid wages. He pays taxes. His product is sold, and goes into commerce.

Can a person learn several elements of a skill and not be a craftsman?

Yes. A person who learns two to three elements of a skill can be very skilled and still not be a craftsman. He doesn't have the knowledge or the ability to handle all the elements of the trade. During the two world wars, some of the trades were broken down into jobs involving elements of the trades, and the result was the war production worker, who became skilled in a limited way.

For example, a person could learn to operate a lathe, and he could proceed a step further and learn to set the lathe for two or three operations, but he would not be a machinist.

What is involved in the establishment of an apprenticeship program?

To be successful, the program should be formalized. This means that you abandon any hit-or-miss technique, and set down on paper a schedule of work which is followed carefully so that the person learns all of the elements of the trade. Of course, as is traditional in apprenticeship, he works under the guidance of a craftsman.

In addition to the training in the shop, the apprentice should go to school and acquire a broader knowledge of his trade and of the industry in which he works. Most of this schooling will take place in the evening, perhaps some of it on the company's time during the day. Usually, the instruction is given through the public schools under vocational education programs. In the Bureau of Apprenticeship and Training, we have recommended that the instruction extend for at least 144 hours a year, or four hours a week for a school period of 36 weeks.

Usually, the apprentice's wage is based on a percentage of that of the craftsman with whom he is working. As he gains in knowledge and competence, his wage should increase progressively, so that, by the time he has completed his apprenticeship, his rate will be close to that of the craftsman.

The Federal Committee on Apprenticeship, a management and labor advisory group, has recommended eleven fundamentals to be followed in an apprenticeship program. This is probably the oldest advisory committee to any Government agency, and the Bureau of Apprenticeship and Training has followed its advice over the years. If the Committee's eleven fundamentals are included in a formalized apprenticeship program, the result should be good apprenticeship.

What is the big job in the field of apprenticeship at the present time?

The big job is for more employers and employees to set up apprenticeship programs. And this applies particularly to employers. Too many people who hire skilled craftsmen do not have apprenticeship programs. What is needed is to get these employers interested, and to persuade them to set up apprenticeship programs. If this can be done, the pressure for intervention by the federal government will be removed. Moreover, we shall increase the number of craftsmen, and thereby serve an increasing need. We do not dare be short on craftsmen again.

Here is a major challenge. Management and labor should take on this job, and see that it is carried out before somebody decides that a law must be passed which would force them to do it.

What is the range of occupation or skills that would be susceptible to apprenticeship?

Many people seem to think that apprenticeship should be limited to the building trades. That is not true. There are a lot of trades that have got to have apprenticeship, regardless of what it is called. Apprenticeship by its very nature is not limited to any single business or industry. The apprenticeable occupations range from chefs and cosmeticians to jewelers and dental technicians. Metal trades and printing trades are large areas for apprenticeship.

Under what circumstances is a local committee on apprenticeship set up?

Where workers are organized in unions and have collective bargaining agreements, the Bureau of Apprenticeship and Training has advocated that a local joint apprenticeship committee be established. There are about 7,000 such committees in the United States now. These committees meet regularly, develop their own apprenticeship programs, watch the programs and see that they operate properly.

How does management in a firm that does not have union representation for its employees set up an apprenticeship program?

In that case, a committee cannot be established because the workers are not organized. They have nobody representing them, and if you created a committee you would run the risk of being accused of forming a company union. You work out a program very similar to the ones that you find in your area. The program should be formalized, of course, if you hope to realize your best expectations, and it should include the eleven fundamentals recommended

by the Federal Committee on Apprenticeship. Management should follow the program just as is done where an apprenticeship committee is in operation. Somewhere the employer has to come into contact with his craftsmen to solicit their support in developing his apprentices.

How would a small corporation employing only twelve or fifteen people, or even fewer, go about setting up an apprenticeship program? Is it possible for a small business with only two or three people in the shop to set up a program?

Regardless of the size of the shop, or whether it is union or non-union, a program can be set up. The main thing is to see that tried and proven principles are incorporated in the program, that it is formalized, and that it is carried out properly. If a group of small employers wish to establish a program, they could create one that would apply to all the shops in the area, and they could set up a committee to handle it. But each shop would have to operate its own individual program.

As for the very small shops, they ought to have a program because they should look ahead. They probably expect to grow. In any case, what are they going to do in the future for craftsmen if they do not develop them? I would think that a manager of a plant that made personnel analyses would decide that he should have at least one apprentice.

An apprentice can turn out well in a small plant, sometimes better than in big plants. He can get more attention in a small plant. A lot depends upon the interest that the employer takes, and a great deal too on the apprentice himself.

There should be an evaluation of the apprentice's progress as he goes along, both on the job and in the school. Care should be taken to see that he is advancing in both places. Then there must be employer-employee cooperation. The craftsman must teach the apprentice. Moreover, the apprentice must realize that what he has taken on is not a path of roses. It is hard work, and the youngster must show something of what it takes to master his trade. If he does, he is assured of a good wage. But the interested youngster should be urged to take a good, hard look at what he is undertaking before he commits himself, and his employer, to the discipline of apprenticeship.

There is one danger to watch out for. This is that the employer doesn't decide after a certain period of time that the apprentice has become a craftsman, and leave him without supervision while he is out soliciting business.

What do you think of the idea that a prospective apprentice should have preliminary training before undertaking an apprenticeship?

This is a very good thing if it is done properly. This would mean getting the people who are going to give the pre-job training to do it as the industry wants, and to give the training that the industry wants. Any training in a vocational school should be limited to the tools and fundamental ideas of the trade or industry, and should be given on the direct advice of management, or of management and labor. Pre-job training, properly done, will give the youngster a chance to have some understanding of what he is getting into before he attempts an apprenticeship, and will enable him to decide better whether he wants to undertake it.

What would you say about a youngster getting at least a high school education before undertaking an apprenticeship?

I would urge the youngster who wants to get into a trade to stay in school as long as he can, and to get all the education he can. He should try to get a high school education at least.

All this is not to say that a boy cannot become a craftsman if he is denied an education because of circumstances. It is simply that he should get all the education he can.

In recent months there was issued a new federal directive intended to accelerate the placement in apprenticeship programs of persons from minority groups. What is your view of this problem?

I think the proper way to handle this problem, and to get minorities into apprenticeship programs, is to meet with people from management and labor at all levels, and ask for their help. Management and labor have never let the Government down in a time of difficulty. They know, moreover, that the minority question is a problem today, and that it has to be met head on.

Asking for the cooperation of management and labor, in my judgment, will produce better results than trying to force them to take on minorities. You can, of course, place a minority person in an apprenticeship program. But the result that you're after is to make sure that he learns his trade. If management and labor accept him in a voluntary spirit, then they have assumed a responsibility to train him, and they will help him. But if you force him on them, there is certainly a question as to how much interest they will show in the apprentice.

All persons do not have apprenticeship qualifications, because they do not adapt themselves to the type of work involved. This applies regardless of race. The main question to be answered, in considering a person for apprenticeship, is whether he is adaptable, and whether he can and will learn the trade. And in answering this question, there should be no discrimination.

In your judgment, the development and expansion of apprenticeship programs has to be on a voluntary basis?

Definitely. The actual apprenticeship has to be conducted by management and labor. Government cannot

do this job. An apprenticeship program must be planned to meet the local situation. An individual trade varies in different localities and even in different shops. Thus, apprenticeship is purely a local matter. If the eleven fundamentals, recommended by the Federal Committee on Apprenticeship, are included in an apprenticeship program, it can be recognized by having it registered with the Bureau of Apprenticeship and Training, or with a state agency where one exists.

What do you think of the proposal that the Government should determine the period of training under apprenticeship programs, or of the system in effect in Canada under which everybody has to follow standards drawn up by management and labor and approved by the Minister of Labor?

As for the proposal that the Government should fix training periods, I disagree completely. The people in industry are closer to this matter. They know how fast the apprentice can assimilate the necessary knowledge and skills. As for the Canadian system, I would not advise its use in this country. This is too much Government intervention, and it detracts from the necessary local control over apprenticeship programs. It establishes a rigidity that would diminish effectiveness and discourage cooperation in many places. The basic difficulty is that you may get somebody administering the law who has never worked in industry.

What do you think of the proposal that Government should subsidize apprenticeship?

America doesn't need such subsidies. Management and labor in this country have demonstrated that they will finance their own apprenticeships. Millions of dollars are now being spent in the development of apprenticeship programs over and beyond the wages paid the apprentices. Apprenticeship costs and wages are a proper cost for tax purposes. When you take a subsidy, you are bound to get Government regulation, many times by individuals who know nothing about your business. American industry does not want the bureaucratic method in apprenticeship, and this goes for both management and labor.

What, in your judgment, should be the proper role of the Government in the development of apprenticeship programs?

It should be one of guidance, and of encouragement to induce management and labor to set up apprenticeship programs. Government should act as a catalyst. This has been in a large degree the function of the Bureau of Apprenticeship and Training, whose origin dates back to the industry codes of the depression era. The Bureau has acted as a kind of coordinator in promoting formalized programs that would establish common practices in trades that could apply throughout the country.

Has the Bureau been able to carry out this policy effectively?

The Bureau has been effective in creating a greater interest in apprenticeship programs, and in encouraging the establishment of more formalized programs in which every element of a trade is included.

In many cases, it has helped those interested in setting up apprenticeship programs to analyze their personnel, and to establish formalized programs. In doing this, the Bureau field staff has passed on the experience of others who have conducted successful programs.

However, the Bureau has had to operate under many handicaps. It has usually received lip support from Secretaries of Labor who have failed to back up their praise of the Bureau by providing it with the necessary staff. Moreover, in recent years the Bureau has been diverted from its basic objective by having other tasks assigned to it. When the Manpower Development and Training Act came into existence, the Bureau was assigned the job of working on it, and meanwhile no money was provided for a field staff for this work. Naturally, the apprenticeship work suffered.

The Bureau has also been hampered by some unfortunate cases of bad management in the Labor Department. Department officials have at times gone over the head of the Bureau chief by sending directives to subordinates in the Bureau. There have been some other instances in which the Bureau head has been bypassed. This, of course, is not conducive to good morale or to teamwork. It is a kind of operation that seems to plague government. Business does not function that way. Ford Motor Company does not try to tell Firestone how to make tires; it only furnishes specifications.

What, in your opinion, should be done?

I think the work of the Bureau should be confined to the apprenticeship program, and to the on-the-job training program under the Manpower Development and Training Act. Then it should receive some additional money to enable it to expand its apprenticeship work, and to promote the solution of this problem by voluntary methods. This actually would involve a saving for the Government, because these work programs cost less than the institutional type of program in which the emphasis is on training which is not associated with a job in industry. I believe there should be less attention to this type of program.

In addition to relieving the Bureau of extraneous jobs so that it could do what it was set up to do, the Bureau administrator should be given freedom to act, without continual interference from top-level officials in the Labor Department, who are not informed or have very limited knowledge of these types of programs within industry. There should be one line of command extending to him from one supervisor.

If these things were done, I am sure that the Bureau could get on with a highly essential work.

VT 003 425

Training for Health Service Occupations, An Answer to Training Needs of Business. Washington Report, Special Supplement; Feb 26, 1965.

Chamber of Commerce of the United States, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 26Feb65 4p.

*HEALTH OCCUPATIONS EDUCATION; *PARAMEDICAL OCCUPATIONS; VOCATIONAL SCHOOLS; *PROGRAM DESCRIPTIONS; PROGRAM ADMINISTRATION

Health occupations now employ more than 2.6 million people and represents 5.4 percent of the gross national product. The investment in hospitals alone now totals more than $20 billion. Each professional worker requires about 12 persons to serve in supporting roles. Public vocational funds have been used in training health workers for nearly 50 years, but the effort was expanded in 1956 to provide training for practical nurses and similar health workers. The Springfield Massachusetts Technical Institute, has pioneered in developing a post-secondary course for training dental, medical laboratory, and physical therapy assistants, practical nurses and surgical technicians. A five-floor adjoining hospital makes available cooperative hospital-school externship agreements which provide opportunities for students to correlate theory and practice. Advisory committee keep the program attuned to the medical needs of society. Advantages of training in one facility are: (1) Instructional facilities may be shared by several classes enrolled concurrently, (2) It provides one location with which health agencies may communicate in relation to student training, worker need, and graduate placement, (3) Short term training courses can be organized and operated on a temporary basis, and (4) Applicants have the opportunity to select from a number of occupational objectives. Documents treating other business training and retraining programs are available as VT 003 414-VT 003 427. (MM)

VT 003 425

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FEBRUARY 26, 1965

SPECIAL SUPPLEMENT

WASHINGTON REPORT
Chamber of Commerce of the United States
Washington, D. C. 20006

(C) 4 p*

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Training For Health Service Occupations

AN ANSWER TO TRAINING NEEDS OF BUSINESS

Health Services Expanding Rapidly

Health services today comprise one of the fastest growing occupational fields, with occupations ranging from the highly professional, for which several degrees may be required, to the skilled worker trained on the job. The health industry in the United States has become big business, as shown by these facts:

- National expenditures for health services increased from $12 billion in 1950 to $33 billion in 1964, when it represented 5.4 per cent of the gross national product. The investment in hospitals alone now totals more than $20 billion.
- In addition to hospitals, huge assets are invested in clinics, physicians' offices, the pharmaceutical industry, medical laboratories, and other related facilities.
- Health findings and services seriously affect all business and industry.
- Productivity of the Nation is dependent on the health of the people.
- More than 2.6 million people are now working in the health industry, which ranks seventh among all industries.

EDITOR'S NOTE: Training for Health Service Occupations is the twelfth in a series of Special Supplements on training and retraining programs. Previous WASHINGTON REPORT Supplements cover: Expert Calls For More Apprenticeship, Accredited Correspondence Education, Apprenticeship, Career Guidance for Youth, On-the-Job Training, Vocational Education: Upgrading Adult Skills, Work-Study Programs, Office Education, Distributive Education, Local Technical Schools, and Experienced Vocational-Technical teachers. All twelve Supplements have been combined in a Manpower Development and Training Kit (code 0577) which may be obtained from the National Chamber. (Single Kits free.)

Lack of Health Services Costly

The direct costs of health services in a community can be computed in dollars and cents. At any given time, the local hospital can cite a figure on its average cost for a patient's stay of one day.

To cite an example of this cost to communities, and to the nation, let us take a look at the estimated cost of malaria in the 13 southern States prior to World War II. Some half a billion dollars a year was lost in productivity alone. The malaria control program, on the other hand, costs about one-tenth of the productivity loss. Another example can be found in the effects of poliomyelitis on the economy. With the tremendous achievements in controlling this dread disease, New York City reports that $2.2 million a year is being saved in funds which formerly were spent in caring for those stricken with the disease. Many persons who have failed to take flu shots have suffered unnecessary attacks of epidemic flu as a result, with consequent debilitating illness and loss of time from work.

Mrs. Janet Wolsky, left, is supervising a class in nursing at the North Dakota State School of Science at Wahpeton, N. D. Approximately 140 students enroll in this practical nursing course every 12 months. The course lasts 12 months. Instruction is given in medical, surgical, obstetric, geriatric, pediatric nursing. Courses include basic pharmacology, anatomy and physiology. This is one of more than 900 state-approved programs in the Nation where students may prepare to become licensed practical nurses.

Professionals Need Supporting Personnel

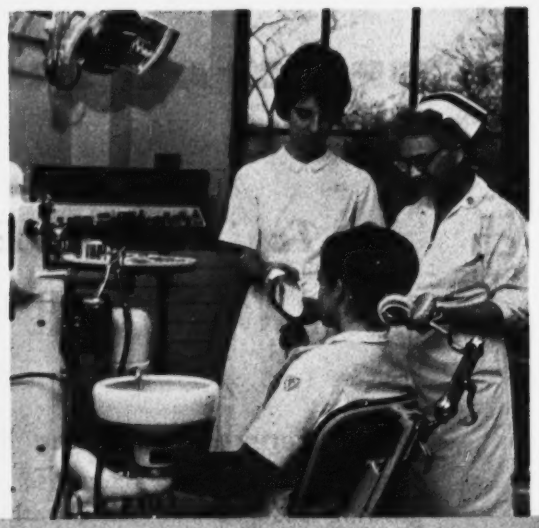
Public awareness of professional occupations in the health field has been sharpened as new knowledge, new services, and improved health measures have been developed. As demands for more and better health services have grown, national concern over providing sufficient numbers of physicians, dentists, nurses, pharmacists, and other professional practitioners has also increased. Medical services today are more accessible to all Americans.

In general, the public is much less aware of the phenomenal growth in numbers and kinds of health

VT003425

Medical Assistant

Medical Laboratory Assistant



Dental Assistant

Mrs. T. B. Thompson, Assistant Principal of Springfield (Mass.) Technical Institute pointed out that the students pictured above are reaping some of the benefits of this fine eight million dollar institute. She further observed that this 150-room school is located on a 24-acre tract in the center

workers who are supportive to the professional health manpower. In order to deliver health services to more people, physicians, dentists, and others have increasingly used larger numbers of supporting personnel with highly diverse skills and training. Current estimates of health manpower show that each professional requires about 12 persons to serve in these assisting or supporting roles. Of these 12 persons, roughly half are skilled workers whose preparation for the job requires from one to several years of specialized training.

Improved health services are being provided where well trained supportive personnel are available to work with and under the supervision of professionals. To illustrate, experimental studies have shown that one trained dental assistant who assists at the chairside can increase a dentist's services to patients by 35 percent. With two such assistants, one dentist can provide 65 percent more service than if he were working alone. Another recent study showed that, when professional nurses used trained licensed practical nurses in the nursing team in place of aids, both the quality and quantity of nursing care provided to patients increased remarkably. Significant contributions to improvement of patient services are being made by other trained workers, such as medical assistants for doctors' offices; occupational and physical therapy assistants for rehabilitation centers, nursing homes, homes for the aging, and hospitals; laboratory assistants for medical laboratories; technicians for dental laboratories; and management personnel for nursing homes and hospital units.

The general public needs to understand that, if quality health services are to be made available, training for the vast army of technicians and assistants needed in the health services must be provided and that safeguards must be initiated to assure acceptable standards for their training and utilization.

Public vocational funds have been used in training health workers for nearly 50 years. In 1956, this effort was expanded when State and Federal agencies increased expenditures to provide training for practical nurses and other similar health workers under public vocational education. The success of the training program for practical nursing is a matter of record. Under the stimulation of these annual appropriations, remarkable progress was made in providing licensed practical nurses.

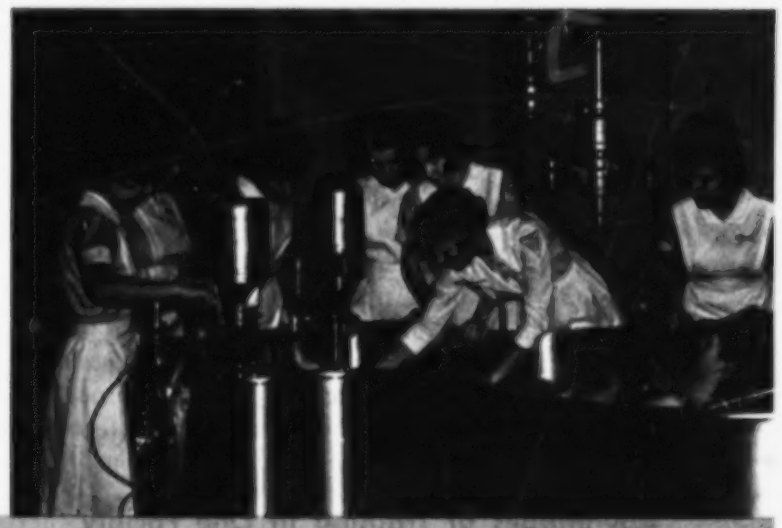
Training Health Manpower Through Public Education

A larger share in training "middle" or supporting health manpower can and will be undertaken by public education. The difficult job of providing both quantity and quality in training for health occupations is being streamlined today in public vocational and technical programs in every State and Territory. Training may be provided in secondary schools, in adult vocational and technical schools, in community colleges, as well as in other education agencies. All such training includes instruction in organized classes and instruction in clinical application of the knowledge gained. Levels of training range from the simple short training program of six weeks such as a course for aids to the more complex program at the technical level. The latter may range from secondary school to community college level instruction.

Training for jobs in this field is usually open to almost any age group from 16 to 60. While women seem to be predominant in the health occupations, men are welcomed in most of the occupations. With the increasing growth of technical jobs such as medical laboratory assistants, inhalation therapy tech-

Surgical Technician

Practical Nursing



Physical Therapy Assistant

of the city. More than 400,000 feet of classroom space, an auditorium, gymnasium and cafeteria as well as a separate five-story completely equipped hospital, have been made available through the efforts of the citizens of Springfield.

nicians, and X-ray technicians, there will continue to be increasing demands for men as well as for women recruits.

Training Center Approach

One community with vision has established something of a precedent in training health workers. The Board of Education of Springfield, Massachusetts, attacked this problem in a rather unique way several years ago. Beginning in 1949, the Board operated a State approved adult program to train practical nurses in the Springfield Technical Institute.

Recognizing the opportunity to link vocational education to the further development of technical programs in the areas of health service occupations, the Springfield Technical Institute has pioneered in the development of the following courses offered on a post-secondary level of training: dental assistant, medical assistant, medical laboratory assistant, practical nursing, physical therapy assistant and surgical technician.

Students are selected on the basis of achievement, aptitude, health factors, personal interview and a complete review of records by an Admissions Committee.

Training facilities include a fully equipped modern dental clinic, laboratory and classroom as part of the Springfield Technical Institute. A five-floor hospital adjoining the school provides medical, surgical nursing arts laboratories, classrooms, specialized teaching units, an overhead projector, visual aids and a medical library. Teaching staff includes a dentist, a dental hygienist, a registered medical technologist, a registered physical therapist, and six registered nurses.

Important to note is the fact that hospital facilities have been made available to the school, for the purpose of expansion of offerings in the health service occupations, by vote of the Springfield Municipal Hospital Board of Trustees. This is another indication of a forward, enlightened look taken by cooperating community agencies.

Cooperative hospital-school externship agreements make it possible for students to correlate theory and practice with supervised on-the-job clinical experience. Community affiliating agencies now number fifteen, spotlighting an outstanding example of how school and community services go hand in hand to further enhance Springfield vocational goals.

Courses Are Kept Current

Advisory committees, consisting of outstanding representatives from business, industry, dental and medical professions, and the hospital team, meet periodically with administration and staff to consult on problems of course standards, curriculum, instructional method, lecture to students, equipment selection, and placement. Their counsel and guidance is invaluable in keeping the programs attuned to the medical needs of society.

Placement opportunities are unlimited for the well qualified graduate. The constant demand for trained assistants to work as partners on the health team permits the school to enjoy a unique placement record yearly.

Businessmen Endorse Health Training

Mr. Paul J. Greeley, Executive Vice President of the Springfield, Massachusetts Chamber of Commerce said, "the specific occupational skills for which the school is currently providing training were selected after careful study and review with the personnel of health services agencies. The training is of the highest quality using the very best of equip-

ment. A genuine simulated work situation is provided in order to make the training as meaningful as possible."

The President of the Third National Bank of Hampden in Springfield, Russell B. Ness, said this about the school, "I have visited the school on many occasions and have personally witnessed the care with which this training is provided. The recruitment of students for these courses is meticulously done and close supervision is provided throughout the training programs. The community is fortunate to have such occupational training available."

Advantages of Training in One Facility

Of interest to all communities are the many advantages in centralizing training for health workers in one school facility. The following comments, made by persons visiting the Springfield center and others of similar nature, reflect a conservative evaluation of such projects:

- The center is more effective in producing the kinds and quality of workers needed for the variety of occupations in the health field.
- Instructional equipment and facilities may be shared by several classes enrolled concurrently. The library, laboratories, and teaching models are available to students, whether enrolled in nursing, dental assisting, medical assisting, or similar programs. Faculty teaching in subject fields such as anatomy, bacteriology, or community health and resources may serve all groups enrolled. Better qualified teachers can be employed for such specialization.
- The center provides one location with which health agencies in the community may communicate in relation to the training of students, needs for trained workers, and placement of graduates.
- Short-term training courses that are not continuous over the years can readily be organized in such a center and operated on a temporary basis where necessary.
- Applicants have the opportunity to select from a number of occupational objectives and may be more readily counseled into the career best suited to their capabilities. Students may transfer easily if their career objectives change.

Improvement in Instruction

There is much to be learned about education for health careers. The isolated class that prepares for one health career is limited in resources. A center for such training provides the environment for experimentation and demonstration in such areas as teaching, student selection, and curriculum for in-school, adult, and post-secondary trainees. Vocational educators have responsibility for determining the most effective methods that will provide all the training needed by all the types of people to be trained for a wide variety of health occupations. This cannot be done in the isolated training class operated periodically.

The U.S. Office of Education is increasing its efforts to provide more training programs and thereby alleviate some of the shortages in supporting health manpower. Under the Vocational Education Act of 1963, $118,500,000 was appropriated for fiscal 1965 to cover all purposes of the act. The federal funds allocated to States must be matched at least fifty per cent. A State's allocation may be used for construction, for program operation, for the instructional costs in programs, and for other required educational services.

Many Groups Contribute to Program

The business community can discharge some of its responsibility for cooperating with school officials and health service groups in planning programs and facilities for the training of health manpower. Representatives of business now serve in an advisory capacity to the schools offering training programs. In many States, they also serve as advisors to the State Board of Education in the development of the statewide program for training health service workers.

State Departments of Vocational and Technical Education administer the Federal-State matching monies that are made available to local schools for training health manpower. States also provide consultative services to local school districts and communities in developing training programs. One or more consultants for health occupations training are employed in most State departments of vocational and technical education. (List may be obtained from the Health Occupations Section of the U.S. Office of Education, note address below).

The Division of Vocational and Technical Education of the U.S. Office of Education also furnishes consultative assistance to States, national groups, individuals, and other agencies through the staff of the Section on Health Occupations Training.

Additional information on Health Service Occupations may be obtained from:

Helen K. Powers
Chief, Health Occupations
Division of Vocational and Technical Education
Office of Education
U.S. Department of Health, Education, and Welfare
Washington, D.C. 20202

VT 003 426
Industrial Arts, An Answer to Training Needs of Business. Washington Report, Special Supplement; Apr 16, 1965.

Chamber of Commerce of the United States, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 16Apr65 4p.

*INDUSTRIAL ARTS; *PROGRAM DESCRIPTIONS; SCHOOL INDUSTRY RELATIONSHIP; GENERAL EDUCATION

In industrial arts the student uses techniques and devices which, with further training, will be useful to him in industrial employment. While vocational-technical education fits individuals into gainful employment, the function of industrial arts is to arouse interest and aid in discovering aptitudes. In grades 7 through 9 in public schools, 3,361 or 57.4 percent of all male students study industrial arts. It is offered in elementary, junior high, high schools, and college and adult levels of instruction. Over 200 colleges prepare instructors of industrial arts. Even though industrial arts is one of the major programs of instruction, 29 states have no state supervisor, four have supervisors assigned to general education, and 17 have industrial arts supervision in vocational departments. The need for increased supervision at all levels is the single greatest need of the profession. Business and industry leaders could support the program by (1) encouraging local and state supervision, field and study trips, and cooperative work-study programs at college level, (2) making summer jobs available for teacher in-service education, and (3) aiding local schools to become acquainted with the needs of industrial arts programs at the local level. Documents treating other business training and retraining programs are available as VT 003 414-VT 003 427. (MM)

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WASHINGTON REPORT
Chamber of Commerce of the United States
Washington, D. C. 20006

SPECIAL SUPPLEMENT

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Industrial Arts

AN ANSWER TO TRAINING NEEDS OF BUSINESS

What is Industrial Arts?

The subject of industrial arts is a field of study in which the student is introduced to the use of techniques and devices which, with further training, will be useful to him in industrial employment. For example, the industrial arts students may learn something about drafting. But his industrial arts training does not make him a draftsman.

There is a wide difference between the study of industrial arts and vocational-technical education. The latter is designed to fit individuals into gainful employment as semi-skilled or skilled workers or technicians in recognized occupations.

Industrial arts has a special function in relation to the total program of education. It is one of the "general education" offerings. It serves to arouse interest and to aid in the discovery of aptitudes that relate to special preparation for industrial employment. It aids students who need instruction involving general shop and related experience. It can be especially helpful in keeping potential dropouts in school.

Industrial arts is the *only* program of public education which has accepted the responsibility of teaching the basic *concepts* of industry and technology to *all* students. A recent U. S. Office of Education report showed that in grades 7 through 9 in public schools 3,361,699 students, 57.4 per cent of all male students, were studying industrial arts.

Industrial arts is an essential part of the education of all youth and is offered on the elementary school, junior high school, high school, college, and adult levels of instruction.

In the elementary schools the general education function of industrial arts places emphasis upon the planning, construction, and experimentation with industrial processes required in the social studies, science, mathematics, and language arts activities. Pupils receive satisfaction and understanding by producing objects which they have previously tried to visualize. Abstract concepts are made more meaningful with concrete evidence. The elementary classroom teacher assumes the responsibility for integrating industrial arts activities with other learning experiences. The teacher has the assistance of an industrial arts consultant or supervisor who provides additional instruction and guidance.

In the junior high school, industrial arts is often a required part of the total program of education for all youth. Programs fulfilling the general education and pre-professional functions are common at this grade level. Students are usually guided through a series of exploratory experiences in areas such as drafting, elemental electronics, graphic arts, metalworking, and woodworking. In most junior high schools, these courses are taught by teachers specially trained in their subject area and in laboratories designed for industrial arts exploratory activities.

Junior high school student working on a technical illustration of a small gas engine at Portola Junior High, Los Angeles. (Courtesy: Los Angeles City Schools)

Students in some high schools may elect industrial arts as a major discipline to be followed during their entire school program. In high school programs, the

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EDITOR'S NOTE: Industrial Arts is one in a series of Special Supplements on training and retraining programs. Previous WASHINGTON REPORT Supplements cover: *Training for Health Service Occupations, Expert Calls for More Apprenticeship, Accredited Correspondence Education, Apprenticeship, Career Guidance for Youth, On-the-Job Training, Vocational Education: Upgrading Adult Skills, Work-Study Programs, Office Education, Distributive Education, Local Technical Schools and Experienced Vocational-Technical Teachers.* These Supplements have been combined in a Manpower Development and Training Kit (code 0577) which may be obtained from the National Chamber. (Single Kits free.)

general education and pre-professional functions prevail in one and two semester courses and provide instructional shopwork of a non-vocational type offering orientation in the areas of appreciation, production, consumption, and recreation through actual experience with materials and goods. As in the junior high school, professionally trained teachers instruct students in facilities designed for student laboratory activities.

Industrial arts at the collegiate level provides:

- Broad general education courses for all college students
- Specific service courses for other college majors

High school students using the latest teaching aids and devices as they experiment and learn the theory and application of electronic circuitry.
(Courtesy: Tretow-Northfield High School, Northfield, New Hampshire)

- Instruction leading to industrial arts teaching
- Instruction leading to technical training for industry.

Industrial arts facilities at many of the leading colleges and universities are multi-million dollar investments and are staffed by skilled and professional faculty members. Most of the nation's four-year industrial technology programs are related to or originated from industrial arts teacher education programs. In many cases teachers receive their technical preparation from the technology programs.

In the area of special education, industrial arts provides programs for slow learners and physically handicapped as well as the mentally gifted students. Adult education programs provide beneficial avocational activities and permit development of skill and involvement in creative expression in industrial materials.

A Deterrent to Dropouts

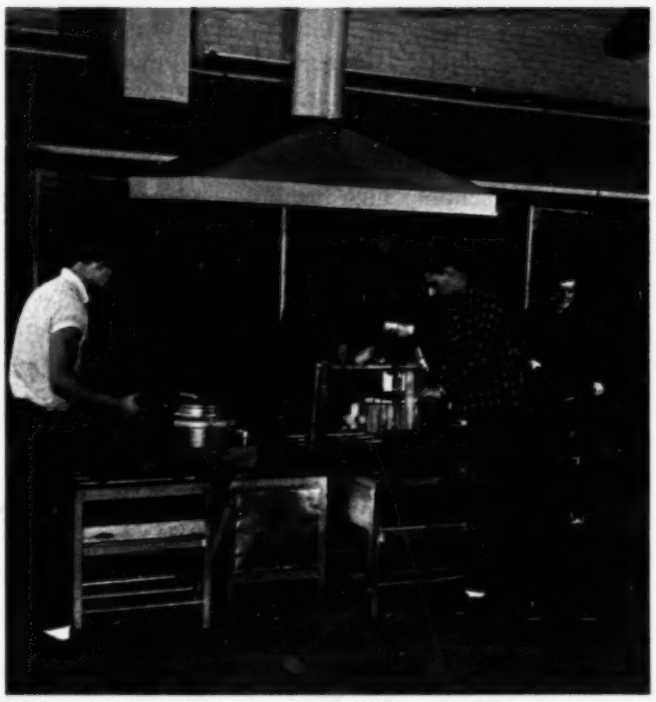
One of the significant contributions of industrial arts to the total school program is its motivating influence. The Statistical Department of the U. S. Office of Education predicts that 900,000 students will drop out of school before completing high school this year. Relatively few of these children are mentally incapable. Many of these students would fulfill their potential if education would show them the ideas and concepts which give life meaning. Industrial arts and similar courses if well organized and adequately staffed could create enthusiasm and interest in school life. As a true study of technology and the interpretation of our industrial culture, industrial arts motivates the underachiever, alert or dull, the potential scientist, the consumer, the academically talented, the pre-engineer, the occupationally oriented, and other students as they realize that their whole life will be influenced by the wonderful but complex world of industry.

Modern Teaching Methods

Industrial arts teachers emphasize the use of student *laboratory* activities in design, planning, experimentation, construction, testing, and analysis of industrial materials processes and mechanisms. Student activities are combined with an organized program of lectures and demonstrations which involve a variety of two and three dimensional teaching aids and devices. In each course, students gain experience and knowledge *about* the materials, tools, machines, and products used in the area of industry they are studying. Many industrial arts teachers have conducted experiments using the newest and most promising methods of instruction—instructional television, team teaching, and machine and programmed instruction.

Sources of Teachers

Over 200 colleges and universities throughout the country have departments dedicated to the preparation of quality instructors of industrial arts. Teachers prepared by these schools meet the same certification standards established by state legislative bodies



High school students learning different industrial methods of hot-working of metals—casting—forging—welding.
(Courtesy: Menomonie High School, Menomonie, Wisconsin)

for all liberal arts, business, and other academic school programs. In most states, minimum requirements include a baccalaureate degree, and often a fifth year of graduate instruction. A typical teachers college program includes:

- Industrial arts—both depth in the subject he wishes to teach and breath in related industrial subjects. For example, a drafting teacher studies technical and architectural drawing, electronic drafting, photo and graphic reproduction, industrial illustration, industrial design, surveying, descriptive geometry, and industrial responsibilities of the draftsman, designer, and engineer. Related study includes courses in electronics, industrial materials, industrial processes, graphic arts and photography.
- Related science—physics, chemistry, and mathematics. It is no longer possible for a teacher of industrial arts to be just a practitioner. He must know the how and why of his subject and be able to instruct students in the concepts and principles of science which apply to industry.
- Humanities—courses in history, government, English, philosophy, and arts, or an organized humanities program involving all disciplines, form the broad base of liberal education for industrial arts teachers. Education in the humanities is valuable to the industrial arts teacher as he conducts his own life and guides the lives of his pupils.
- Professional education—psychology of learning, instructional procedures, vocational guidance, evaluation, philosophy of education, and student teaching or teaching internship. These are the foundation fields which a teacher needs in order to understand how people learn and react and how to organize and teach his subject.

In addition to this organized program of instruction, many industrial arts teachers have some industrial experience. This experience is gained by either precollegiate employment or by a cooperative work-study program between the industrial arts department and industry.

As a representative with some knowledge of industry in public education, the industrial arts teacher is able to bring to his teaching area a background of thorough preparation in his subject area, the exact sciences, humanities, and professional education. He has the same teaching credentials as the other regular teachers.

Supervision of Teachers

The industrial arts teacher should be supervised by a specialist who has a broad knowledge of industry and its needs as well as a thorough understanding of the industrial arts program of instruction and the problems of teachers. Unfortunately, the industrial arts teacher is often supervised by a person unfamiliar with the total needs of industry or with the potential of the industrial arts department under his direction. Even though industrial arts is one of the major programs of instruction in the country, twenty-nine states have no state supervisor of industrial arts. Of the remaining states, four have supervisors assigned to the general education supervisory staff and seventeen have industrial arts supervisors in vocational departments. The need for increased supervision by industrial arts specialists at all levels of the school system represents the single greatest need of the profession.

Students preparing to become industrial arts teachers must develop a broad understanding of industrial materials, processes and mechanisms. This picture shows students preparing for a hydro-carbon distillation experiment as they study the structure, properties, and potential utilization of industrial materials in a modern industrial arts testing laboratory. (Courtesy: San Jose State College, California)

Importance to Business and Industry

Industrial arts programs deserve the interest, support, and assistance of business and industry. As a representative with a knowledge of industry in public education, industrial arts:

- Provides guidance in helping students who have aptitudes and interests in industrial subjects to select careers commensurate with their abilities. These careers may be in engineering, industrial science, technology or trades.
- Provides initial training in industrial arts subjects for future technicians, engineers, and scientists.
- Provides instruction in the manner business and industry serve the economic and social lives of Americans.
- Provides instruction in technical understanding,

Austell Sherard, industrial arts teacher from Tuskegee Institute, receives instructions on how hydraulics contributes to the operation of tape controlled machine-tools at Parker Hannifin Corp., Cleveland. Mr. Sherard attended a six-week institute for the in-service education of industrial arts teachers, sponsored and financed by the National Fluid Power Society. Following the institute, the participants were provided an opportunity to work with one of the fluid power companies. (Courtesy: NFPA)

performance, and the integration of the creative arts and exact sciences with industrial subjects.

- Develops student abilities in industrial problem solving, creativity in design, inventiveness, and exploration with materials and mechanisms.

With more active participation of industry in the industrial arts program, students, who hold the future of business and industry in their hands, will be appraised of the varied needs of industry.

An Action Program for Business and Industry

Business and industry leaders should acquaint themselves with the industrial arts programs in their communities. Since these programs identify their principal objective as "teaching industry and technology," local business and industry personnel should express a vital interest in these programs. Most industrial arts programs could profit from the following support:

- Local and state supervision—encourage Boards of Education to appoint people specially trained to serve as industrial arts supervisors. These supervisors will coordinate the industrial arts programs, provide for improved standards of instruction, and provide the path by which industry can communicate directly with the industrial arts teacher.
- In-service education of teachers—following closely to the need for supervision is in-service education of teachers. The industrial arts teacher serves as an informed spokesman for industry in the school. However, industrial changes and developments take place in the research and manufacturing division of industry. In order to maintain a high level of instruction, the teacher must remain aware of changes and developments. While most teachers subscribe to industrial journals, this avenue cannot provide the degree of training needed. Business and industry should make summer jobs available to teachers—jobs which will acquaint the teacher with new industrial developments in his subject and *not just* summer employment. Business and industry should also encourage the development of school district in-service education programs and contribute the time of leading personnel to serve as instructors and resource personnel.
- Field and study trips—encourage and permit schools to arrange field and study trips through industrial plants. Help the industrial arts program use industry as part of their classroom.
- Cooperative work-study programs — encourage colleges and universities to develop cooperative work study programs. These should not be just jobs for college students but should be organized programs whereby the prospective teacher is sent to different departments and serves in different capacities to learn about the total responsibility of his area of instruction. They may be titled industrial internship or industrial training and should have as their primary goal the education of the prospective teacher.
- Aid local schools—become acquainted with the needs of industrial arts programs in the local community. Business and industry should cooperate and assist with the abilities and resources at their disposal.

A close working relationship between business and industry and the industrial arts program will result in improved education for the student and a great step toward the solution of the shortage of competent personnel for occupational, technical, engineering, and research positions.

Additional information on industrial arts may be obtained from:

- **Your local or state supervisor of industrial arts**
- **American Industrial Arts Association—write to Dr. Robert Swanson, President AIAA, 1201 Sixteenth Street, N.W., Washington, D.C. 20036**
- **American Council on Industrial Arts Teacher Education—write to Dr. Ralph Bohn, President, ACIATE, Department of Industrial Arts, San Jose State College, San Jose, California 95114**
- **Office of Education—write to Dr. Marshall L. Schmitt, Specialist for Industrial Arts, Bureau of Educational Research and Development, Office of Education, U. S. Department of Health, Education and Welfare, Washington, D.C. 20202.**

VT 003 427
Vocational Rehabilitation, Developing Needed Manpower. Washington Report, Special Supplement; Jun 25, 1965.

Chamber of Commerce of the United States, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 25Jun65 4p.

*VOCATIONAL REHABILITATION; *JOB TRAINING; VOCATIONAL ADJUSTMENT; OCCUPATIONAL THERAPY; PHYSICALLY HANDICAPPED; MENTALLY HANDICAPPED; *PROGRAM DESCRIPTIONS; *EMPLOYMENT PROGRAMS

The Vocational Rehabilitation Administration (VRA), a federal agency, works in close collaboration with the states to create efficient and gainful employees from handicapped citizens. In 1965, state agencies were providing rehabilitation services to 450,000 disabled persons, of which 130,000 were to be employed that year. In recent years the number being rehabilitated has increased at the rate of 8 percent annually, and a minimum goal of 200,000 annually is sought. Among the 1964 rehabilitant disabilities were (1) muscular, skeletal amputation, 37 percent, (2) mental illness, 10 percent, (3) visual impairment, 6 percent, (4) hearing and speech, 6 percent, (5) mental retardation, 6 percent, (6) cardiac defects, 5 percent, and (7) others, 30 percent. Over 70 percent of the rehabilitated in 1964 were unemployed when they began to receive services, and their conversion from tax consumers to wage earners cost about $16 million in a one-time outlay, a saving of many more millions in federal and state public assistance funds. More than 900 research or demonstration projects have been supported by the VRA. Documents treating other business training and retraining programs are available as VT 003 414-VT 003 426. (MM)

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SPECIAL SUPPLEMENT

JUNE 25, 1965

WASHINGTON REPORT
Chamber of Commerce of the United States
1615 H Street, N.W. / Washington, D. C. 20006

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Vocational Rehabilitation

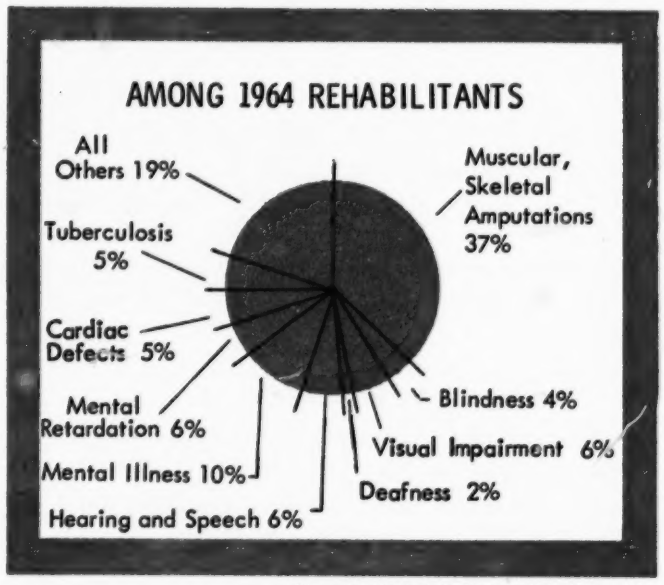
DEVELOPING NEEDED MANPOWER

What is Vocational Rehabilitation?

Broadly speaking it is a Federal-State grants-in-aid program for preparing handicapped persons for entry or return to the world of work. For nearly fifty years a relatively little publicized agency of the Federal Government, the Vocational Rehabilitation Administration, has been working in close collaboration with the States which do the actual rehabilitation work, and the business-industry community to create efficient and gainful employees from our handicapped citizens. While not enjoying the notice of poverty programs or the school dropout, the rehabilitation services have aided our physically and mentally handicapped, the least visible of the unseen poor, in their search for a full, productive, and independent life. The handicapped have been enabled to acquire self-reliance and gainful employment after months, years, or even lifetimes of dependence upon family and/or welfare agencies. Now thanks to desire, will, and even heroic efforts they have purpose, skill, and remuneration which benefits not only themselves, but those upon whom they were once dependent.

Who do we Rehabilitate?

A wide variety of disabilities are represented among the clients of the modern rehabilitation agency, and the list is getting longer as research continues to find means to restore people who have in the past been thought to be beyond help. Victims of cardiac ailments and of strokes, for example, are beginning to show up with greater regularity on the lists of clients being served. Young people with emotional troubles and with mental retardation are being worked with to good advantage. Add to these the deaf, the blind, the orthopedically handicapped, and the others with disabilities who, without special assistance, would be unable to work, and it can be seen that vocational rehabilitation is a growing field. This year state agencies are providing rehabilitation services to 450,000 disabled persons. Of these, more than 130,000 will take their place in the ranks of the employed this year. The number being rehabilitated has increased at the rate of eight percent annually during recent years. A minimum goal of 200,000 is earnestly and actively being sought.



Vocational Rehabilitation Administration

The chart indicates the kinds of disabilities dealt with successfully by the State-Federal program of vocational rehabilitation during 1964.

Why we Rehabilitate

Miss Mary E. Switzer, Commissioner of Vocational Rehabilitation, points out that the primary motivation behind the rehabilitation program is humanitarian. She says:

"Rehabilitation is simply in line with common humanity to assure the well being of disabled people. It is equally in line with the American free enterprise system to assure them of their full opportunity to contribute their labor and brain power to our society, and to realize their own sense of personal dignity and worth."

The economic benefits also are great. Over 70 percent of the people rehabilitated last year were unemployed when they began to receive services. Most of the others had comparatively low earnings. Moreover, substantial numbers of those rehabilitated were receiving public assistance and residing in tax-supported institutions. The mean weekly earnings of persons rehabilitated during 1964 jumped from $7.55 at intake to $42.87 at closure.

Another way of looking at these figures is to note that in 1964 conversion of these disabled people from

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tax consumers to wage earners of economic independence cost about $16 million in a one-time outlay of funds. The expenditure of this $16 million saved many more millions in Federal and State public assistance funds. While estimates vary as to the exact amount rehabilitated workers repay through income taxes, the money expended does serve to remove them from welfare roles and dependence upon family and/or community charity.

In brief, rehabilitation gets people off the relief rolls onto the tax rolls, or prevents them from getting on relief in the first place. It is good business and good economics to restore them to their rightful place in the community.

Howard A. Rusk, M.D., a top authority on rehabilitation, puts it another way. He says, "If we don't do something about using the disabled, the chronically ill, and the older age group in our economy, by 1980 for every able-bodied worker in America there will be one physically handicapped, one chronically ill, and one beyond the age of 65 on that able-bodied worker's back."

How do we Rehabilitate?

In many instances, the right combination of services, applied with dedication and skill by knowledgeable experts, can make the difference between a wholly disabled person, unfit for work, and a well-trained worker. This combination is provided under the vocational rehabilitation program. The men and women who have had this help are specially trained in the line of work for which they are best fitted.

Disabled people get this training—and health restorative services as well as other services—from their state vocational rehabilitation agency. Often, welfare agencies send them. Some are referred by their doctors or by hospitals; some show up on their own initiative. However they get there, after they are measured against three simple standards of eligibility, they are given intensive personalized care which will ready them for the future.

The eligibility standards screen out those for whom there can be no reasonable expectation that rehabilitation services can overcome the disabilities which prevent them from working; also screened out are those who are insufficiently disabled so that their present work is interferred with and those who are either over or below legal working age, as that term is defined in their state.

Those who remain include people with a wide variety of disabilities—the deaf, the blind, the victims of birth defects, paraplegics, amputees, epilepsy victims, arthritics, the mentally retarded and the mentally ill, persons who have suffered from heart disease, cancer and stroke, and victims of many other disabling conditions.

Services provided by State Rehabilitation Agencies

These people are interviewed and tested to discover vocational potential. Medical examinations are conducted. Then, a qualified rehabilitation counselor—a key person in the rehabilitation process—is assigned. Together, the disabled person (called a "client") and the counselor plan a course of action which will help build up the trainee's skills and abilities. Medical help and physical aids, such as hearing devices, braces, and artificial limbs, are made available when necessary. In the event that special training is needed, the counselor will make necessary arrangements. The client, for example, may be sent to a rehabilitation center for specialized physical conditioning and job training; or he may be found to be in need of acquiring job skills which can best be learned in a workshop.

E. I. du Pont Photograph

Dan Sherwood is in charge of a tool room at the Dupont Company's Newport, Delaware, chemical plant which stocks 3,500 items. He has invented an adjustable jig (shown above) on which he does precision sharpening of drills when work is slack.

Workshops

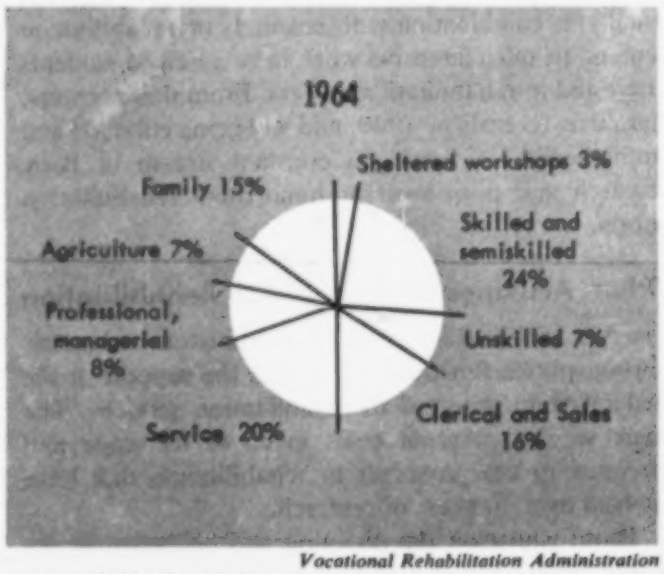
There are an estimated 1,000 workshops of various kinds in existence around the country. These centers train disabled persons in work skills; they provide useful employment for persons who are too severely disabled for regular competitive employment; and in filling those needs, they offer a helpful source for various kinds of contracted services to industry.

Packaging, various light assembly jobs, mailing, and a wide variety of practical tasks are done on a contract basis for businessmen in workshops. Workshops fall

under the provisions of the Fair Labor Standards Act, but in order to allow them to operate to the benefit of their clients, they are allowed to pay wages lower than the statutory minimum to handicapped workers.

The U. S. Department of Labor issues certificates allowing this exemption. These provide a floor rate which must be guaranteed to every client employed in the shop. Thus, if the going wage in the community for a particular job is $1.50 per hour, the workshop client must be paid $1.50 per hour if he is doing the same job at the same rate of production. If his disability allows him to be only one-half as productive as the outside worker, however, then he should be paid not less than 50 percent as much, or 75 cents an hour.

Businessmen wishing to investigate the uses of workshops in carrying out contracted jobs for them should check with the State vocational rehabilitation agency in their area for information on location and tasks performed.



Vocational Rehabilitation Administration

The 120,000 rehabilitated people served during 1964 entered employment of every kind. Most of them took paying jobs. An exception were the unpaid family workers. The 15 percent shown in the chart as entering family employment were in large part, disabled housewives who, in being enabled to take up once again the burden of home management, often released another member of the family for competitive employment.

The Right Man for the Right Job

When all the evaluation and training is completed and the client is deemed ready for outside employment, the counselor will help him find the right job. To this end, he will work with the local State employment office, with interested businessmen in the community who have expressed a desire to hire handicapped people, and with other sources of information on the job market.

Thus, it can be seen that when a businessman hires a disabled worker through vocational rehabilitation, he is getting a person who has been thoroughly assessed as to his capabilities, and one who has received such training as is needed for him to perform well on the job.

Skilled and unskilled help Available

Disability is no respecter of persons. While it is true that many disabled persons before rehabilitation are at the lowest end of the economic scale, this is far from saying that they are necessarily unskilled or without potential. Disabled persons are filling some of the most skilled jobs, some of the most demanding managerial positions in our society. It is this fact to which rehabilitation workers are referring when they say that "It is not what a man has lost but what he has left that is important."

A rheumatoid arthritis patient, for example, with severe curvature of the spine underwent training as a bookkeeper under vocational rehabilitation agency auspices. His frail appearance made it extremely difficult for him to find a job, but at last he went to work as a bookkeeper and inventory clerk and has been highly successful.

It would be possible to fill pages with individual success stories. Paraplegics are filling many office jobs with great credit. Deaf people are hard at work in many positions in which high-noise level, combined with the need for deep concentration, make it difficult for hearing people to keep up production. Blind people are being hired for computer operation and as linguists.

Blind people have distinguished themselves as individual businessmen and women in the operation of vending stands and snack bars in public and private office buildings. Under the general supervision of the

NEPH Week 1945-1964

Miss Majorie Peggy Morgan, a paralytic polio victim at age 13, who is confined to a wheelchair is the very efficient credit manager of Harold Fillmore's Gem State Oil Company in Twin Falls, Idaho, where she has been employed for ten years.

State-Federal vocational rehabilitation program, these vending stands did a $54 million gross business in 1964, returning an average profit of $4,452 to 2,641 blind or near-blind operators.

In short, within the reasonable limitation set by the nature of the disability and the natural potential of the individual, there simply is no job—managerial, skilled, semi-skilled, or unskilled—which some disabled person cannot fill.

What kind of Workers do they make?

Recently, a Los Angeles company, Hallman Products, Inc., hired a group of people suffering from epilepsy. The new employees perform a variety of jobs—assembling, packaging, shipping and receiving, supervising, machine operations, and other duties. Herb Jacobs, the firm's vice president, told this to the President's Committeee on Employment of the Handicapped, about their performance: "These people are so used to being rejected that when they are put in a position of equality, their reaction to this acceptance is loyalty. We feel we have a better group of workers than would be expected from any group of normal workers."

Another illustration: The Rahn Granite Surface Plate Company of Dayton, Ohio, hired its entire skilled labor force from among the ranks of deaf persons. Says R. J. Rahn, president and founder of the company: "Our deaf mute employees . . . are earning two to three times as much as they had in their old unskilled jobs. We have been well repaid. We have absolutely no labor turnover. We do not have to continually teach replacement employees. Furthermore, these men go all out on their job. There is no stalling or time-killing in our shop."

Whether employers have hired their entire work force from among the ranks of the handicapped, or have simply hired handicapped workers as they applied and were found qualified, the story is much the same. The handicapped worker in a job he can do is just as competent, able, and loyal as his fellow employee who has no disability.

Commissioner Switzer has said: "Just as there is no limit to human ingenuity, so there is no limit to the abilities of the so-called disabled. We think of a man confined to a wheelchair as disabled—and so he is, if by disabled we mean that he cannot take part in a foot race. But the mind—the personality—the skill of hand is not impeded by that disability. Perhaps the surprising thing about disability is that we are still surprised by handicapped people who overcome their handicaps."

More than 900 research or demonstration projects conducted by public and non-profit institutions have been supported by the Vocational Rehabilitation Administration. Through such research, both at home and overseas, many new services have been developed which enable those with disabilities to be fitted into modern employment.

Along with the basic service program and the research effort, VRA supports another vital area of work in rehabilitation—professional training. In response to serious shortages of virtually every discipline in the rehabilitation field, the training program works with colleges, universities, hospitals, and medical schools to train rehabilitation counselors, physicians, nurses, therapists, and a number of others. Grants are awarded to institutions for teaching to defray part of the cost of instruction; for traineeships to provide tuition, stipends and other costs for students enrolled in the training program; and for a combination of both.

In addition, there are presently 14 rehabilitation research and training centers set up at universities, usually in combination with hospitals or rehabilitation centers, to offer intensive work in research to students interested in rehabilitation careers. From these centers, started as recently as 1960, and still being enlarged and strengthened, is coming a constant stream of basic research and personnel for tomorrow's rehabilitation efforts.

Other Activities of Vocational Rehabilitation

The Vocational Rehabilitation Administration has important public functions other than the support of the Federal-State program of rehabilitation services. The basic service program owes much of its scope and direction to new concepts in rehabilitation that have evolved over 10 years of research.

Those who plan the direction and operation of the public program now must be aware of great changes in the labor market; the kinds of jobs and the kinds of employees needed to fill them; the increased demand for skills; the rising place of the scientist, clinician, and the technician; the decline of "common labor" as a means of livelihood; and the smaller number of persons needed in agriculture. These factors have a wide influence on the course of vocational training and placement of persons restored to employability. Many of the answers are found in rehabilitation research and demonstration programs.

Additional Information on Vocational Rehabilitation may be obtained from:

Mr. Joseph Hunt
Assistant Commissioner
Program Services
Vocational Rehabilitation Administration
U.S. Department of Health, Education, and Welfare
Washington, D. C.

VT 003 434
The Next Twenty Years; A Forecast of Population and Jobs in the New York-New Jersey-Connecticut Metropolitan Region, 1965-1985.

New York Port Authority, N.Y.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Aug66 39p.

POPULATION DISTRIBUTION, POPULATION GROWTH; *POPULATION TRENDS; *LABOR MARKET; *METROPOLITAN AREAS; *MANPOWER NEEDS; *EMPLOYMENT PROJECTIONS
NEW YORK; NEW JERSEY; CONNECTICUT

The regional population and jobs forecast included the areas of regional distribution of population, comparison of regional population forecasts, changes in the structuring of the region, the region's industrial structure, geographic distribution of jobs, and comparison of regional employment forecasts. Data used as a basis for forecasts were from the U.S. Census Bureau, the Statistical Guide for New York City, the Annual Reports of the New York City Board of Education, Bureau of Labor Statistics, the New York Bureau of Labor, and previous studies. Some of the principal findings were: (1) New York City's continuing losses of population have stopped, (2) There will be a growing importance of multi-family structures in the outlying areas, (3) The region will grow from the present 17.8 million to 23.1 million residents, (4) Job growth will closely parallel population growth, (5) By 1985 there will be a gain of 1.8 million jobs in the region, (6) Construction, finance-insurance-real estate services and government will be the high job growth industries, (7) Manufacturing, transportation, communications, public utilities and wholesale and retail trade will have relatively low growth rates, and (8) Manhattan will continue its headquarters role as the center of economic activity of both the nation and the region and will have an increase of 150,000 jobs. In this report jobs encompass all wage and salary workers, self-employed, unpaid family workers, and secondary jobs of dual jobholders. Twenty-one tables and charts present relevant data. (MM)

VT 003 434

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HE NEXT TWENTY YEARS

Forecast of Population and Jobs in e New York-New Jersey-Connecticut Metropolitan Region 1965-1985

CI
34p.*

The Port of New York Authority
August 1966

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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This report was prepared in the Central Research and Statistics Division of the Planning and Development Department by the Regional Studies Section under the general direction of Mr. Carl A. Franzmann and under the immediate supervision of Mr. Herman Friedman. The section on population was prepared by Mr. Bernard P. Geizer and the section on jobs by Mr. Ronald H. Miller. Mr. Harold D. Spillane was in charge of collecting and processing the base data.

Design/Robert Leydenfrost
Cover photo/Peter Eckel
Drawings/Bill Basso

Second Printing

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INTRODUCTION

The planning of public transportation and terminal facilities as well as the promotion and protection of commerce in the New York-New Jersey Port District is a basic function of The Port of New York Authority under the Port Compact of 1921 which established the bi-state agency.

As a part of this basic planning responsibility, the Port Authority, in 1963, published *Metropolitan Transportation: 1980* which was subtitled "A framework for the long-range planning of transportation facilities to serve the New York-New Jersey Metropolitan Region" and dealt with all factors involved. As this report stated at the beginning of Chapter 2 entitled "Population and Employment in the Future:"

"Basic to the transport problems that will be faced by the New York Metropolitan Region in 1980 are the growth prospects for population and for business and industry."

In his foreword to *Metropolitan Transportation: 1980,* Port Authority Executive Director Austin J. Tobin said:

"Planning is a continuous process. New data are produced continually, on the basis of which conclusions must be reshaped. For this reason, the present study will be kept under review by the Port Authority during the years ahead and its findings modified to reflect changes in conditions, in experience and judgment."

This study represents just such a modification of the basic findings on population and employment trends included in Chapter 2 of *Metropolitan Transportation: 1980.* The research involved covers those factors which are most fundamental to future development of the Port District, and upon which the future transportation requirements of the Region ultimately depend.

Population growth and job development in the Metropolitan Region and its geographic sectors provide the bases for developing specialized transportation facilities. Before plans can be made and designs transformed into steel and concrete, specific questions must be answered. Where will the population grow? Where will the new jobs and economic activities associated with them be located within the Region? How will job location and job opportunities relate to each other? The forecast covering the next two decades, contained in this report, was developed to answer these questions, as well as many others.

PRINCIPAL FINDINGS

The population forecast which appeared in the Port Authority's *Metropolitan Transportation: 1980* employed the unpublished (1961) revision of the projections contained in *Metropolis 1985 (1960),* the volume containing the principal findings of the New York Metropolitan Region Study. A further revision appeared in Regional Plan Association's *Spread City* report (1962).

All of these forecasts envisioned a rather loosely structured metropolitan area resulting from a high growth rate in the outlying suburbs with population settlement primarily in the form of single family dwellings. *Spread City* maintained that continued population loss would occur in New York City, following the experience of the 1950-1960 decade, and that growth in Regional population would occur in the intermediate and outlying suburban areas.

However, the factors which produced the *Spread City* type of growth between 1950 and 1960 are diminishing. One of the major findings of our current study is that New York City's continuing losses in population have stopped. In fact, the trend has been reversed.

A second major finding is that future population settlement in the Region will be marked by the growing importance of multi-family structures in the outlying areas, as

well as in the core of the Region. As a consequence, this forecast foresees a more closely knit, densely developed Region than was anticipated in the two earlier forecasts.

All sectors of the Region will gain in population, with the New Jersey and Connecticut Sectors growing at a more rapid rate than the New York Sector. The overall gain will be substantial. Over the next 20 years, the Region will grow from the present 17.8 million to 23.1 million residents—a gain of 5.3 million persons.

Contrary to earlier projections, this study forecasts an increase of 150,000 jobs in Manhattan by 1985 and the continuation of its headquarters role as the center of economic activity of the nation, as well as of the Region.

Outside of Manhattan, the study finds the job growth in the geographic sectors of the Region will closely parallel population growth.

By 1985, there will be 9.5 million jobs in the Region—a gain of 1.8 million jobs over the present level. The New Jersey Sector of the Region will have a job growth rate double that of the New York Sector, 36 per cent as compared to 18 per cent. In both Sectors, the suburban counties will have the highest growth rates while the older, more densely settled areas will have relatively low growth rates.

On a Region-wide basis, construction, finance-insurance-real estate, services and government will be the high job growth industries. Manufacturing, transportation-communications-public utilities, wholesale and retail trade will have relatively low growth rates.

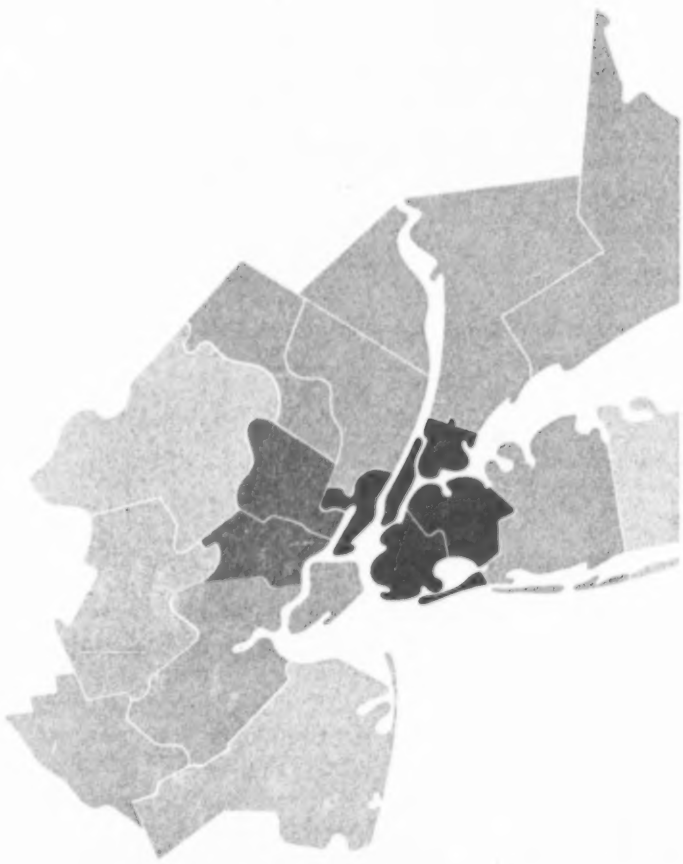
METHODOLOGY

The basic ingredients of the forecast are data on population, housing, land use, and employment for the counties making up the Region. Entering into the forecast is an assessment of past trends, changes in the critical relationships in labor force participation, household size, age groupings, and a host of other factors. Just as important as the determination of intra-regional dynamics involving these factors, however, is the changing relationship of the Region to the states of which they are a part, and to the nation.

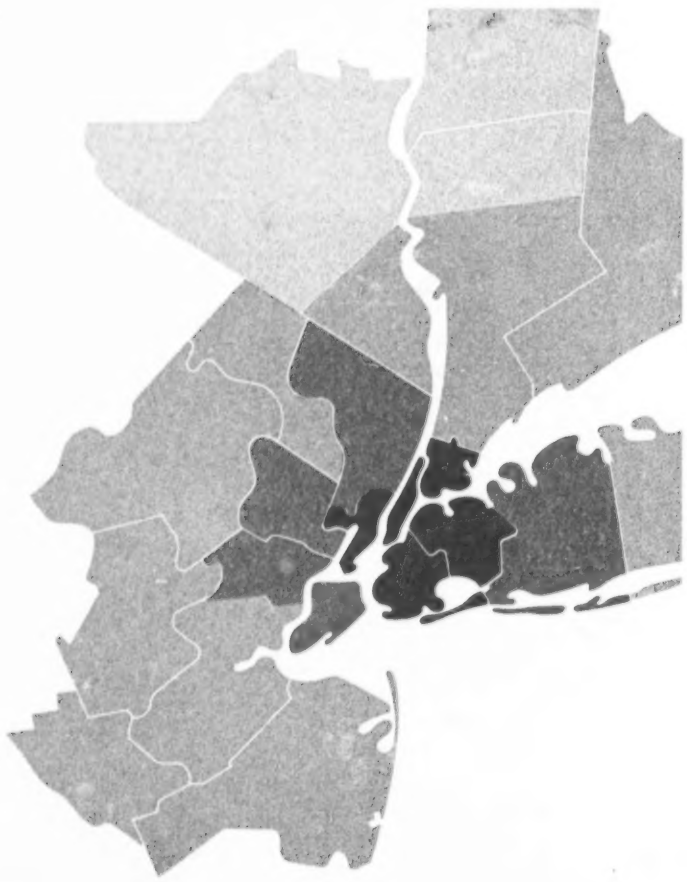
Previous studies of this nature have covered the Region, which, as defined by the Regional Plan Association, includes 22 counties in New York, New Jersey and Connecticut. However, an analysis of the most recent journey-to-work data revealed that Mercer County, in New Jersey, is now an integral part of the area's traffic generating system. Consequently, it was included in the Region for the purpose of this study. Except for comparisons with other forecasts and where noted, the 23-county Region is used throughout this report.

In this report employment figures refer to the number of *jobs* rather than a count of employed persons. Jobs encompass the totality of wage and salary workers, self-employed, unpaid family workers, and the secondary jobs of dual jobholders.

1965

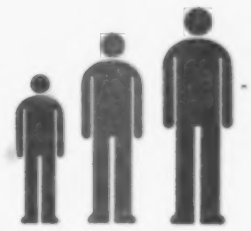


1985



Population Densities in the Metropolitan Region. **Persons/Square Mile**

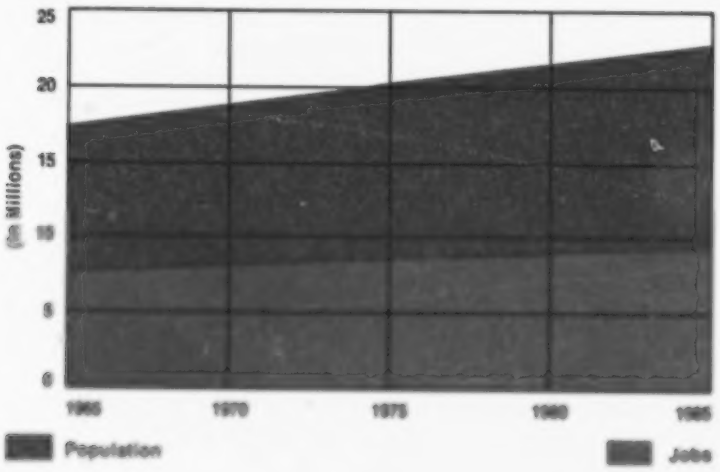
10,000 and over | 5,000—9,999 | 1,000—4,999 | 500—999 | Less than 500



SECTION 1

The Population and Job Forecast

Population and Jobs in the Metropolitan Region 1965-1985



REGIONAL POPULATION: 1965-1985

The Regional Studies Section of the Port Authority's Planning and Development Department foresees a population growth of 5.3 million in the Metropolitan Region during the next 20 years, an increase of 29.8 per cent, to a total of 23 million persons by 1985. With the nation's population growth projected at 38.8 per cent during this same period, the Region will continue its declining share of the nation's population from 9.3 per cent in 1965 to 8.7 per cent in 1985.

Table 1

National and Regional Population Growth: 1965 and 1985 (in thousands)

	1965	1985	Change Number	Change Per cent
United States	191,338	265,515	74,177	38.8
23-County Region	17,760	23,053	5,293	29.8

Regional Distribution of Population

Population growth will not be distributed evenly throughout the Region. The population changes anticipated within the 23-County Region will be of a much more dynamic nature than the changes in the Region's population as a whole. The largest absolute population increase will occur in the New York Sector of the Region which will grow by 2,518,000 persons from 11,875,000 in 1965 to 14,393,000 in 1985. (Table 2) However, the New York Sector's estimated share of the Region's population will decline from 66.9 per cent in 1965 to 62.5 per cent by 1985. New York City will add more than 600,000 inhabitants, but its share of the Region's population will decline from 45.6 per cent to 37.9 per cent by 1985.

Metropolitan Region Population Growth by Geographic Sector 1965-1985

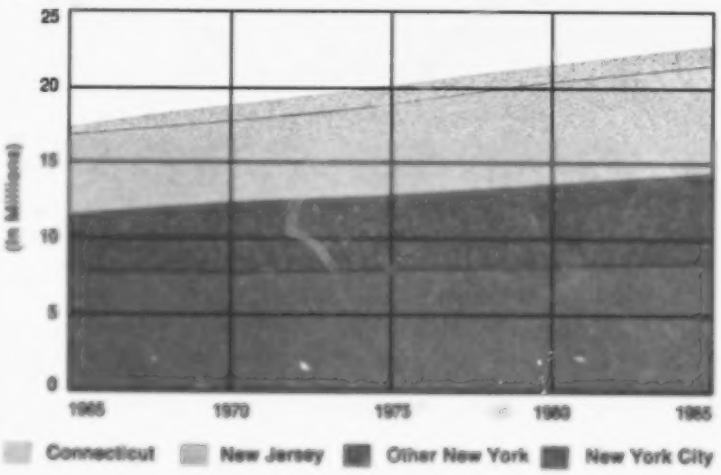


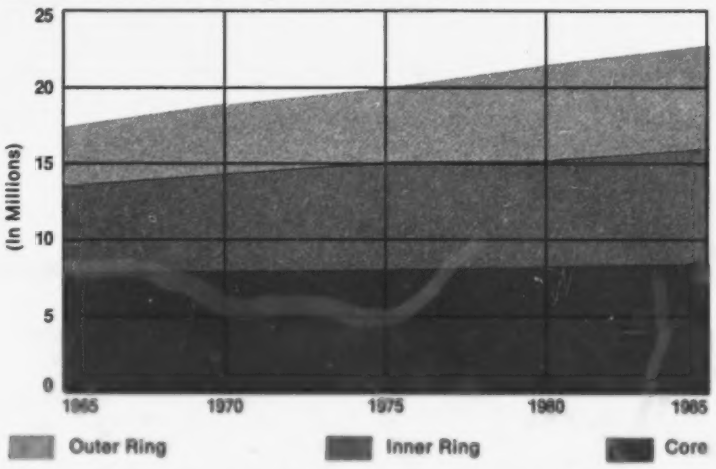
Table 2

REGIONAL POPULATION GROWTH: 1965 AND 1985
(in thousands)

	1965	1985	Net Gain	Per cent Gain	Per cent Distribution 1965	Per cent Distribution 1985
22-COUNTY REGION	17,468	22,671	5,203	29.8	—	—
23-COUNTY REGION[1]	17,760	23,053	5,293	29.8	100.0	100.0
NEW JERSEY SECTOR	5,140	7,590	2,450	47.7	28.9	32.9
Bergen	920	1,367	447	48.6	5.2	5.9
Essex	949	1,026	77	8.1	5.3	4.4
Hudson	594	620	26	4.4	3.3	2.7
Mercer[1]	292	382	90	30.8	1.6	1.7
Middlesex	510	1,035	525	102.9	2.9	4.5
Monmouth	390	863	473	121.3	2.2	3.7
Morris	310	662	352	113.5	1.7	2.9
Passaic	450	591	141	31.3	2.5	2.6
Somerset	165	343	178	107.9	0.9	1.5
Union	560	701	141	25.2	3.2	3.0
NEW YORK SECTOR	11,875	14,393	2,518	21.2	66.9	62.5
New York City	8,100	8,739	639	7.9	45.6	37.9
Bronx	1,430	1,460	30	2.1	8.1	6.3
Kings	2,635	2,689	54	2.0	14.8	11.7
New York	1,710	1,750	40	2.3	9.6	7.6
Queens	2,060	2,450	390	18.9	11.6	10.6
Richmond	265	390	125	47.2	1.5	1.7
Dutchess	200	355	155	77.5	1.1	1.6
Nassau	1,400	1,650	250	17.9	7.9	7.2
Orange	205	400	195	95.1	1.2	1.7
Putnam	40	89	49	122.5	0.2	0.4
Suffolk	888	1,465	577	65.0	5.0	6.4
Rockland	187	380	193	103.2	1.1	1.6
Westchester	855	1,315	460	53.8	4.8	5.7
CONNECTICUT SECTOR						
Fairfield	745	1,070	325	43.6	4.2	4.6

[1]Mercer County included in 23-County Region

Projected Population Growth and Population Distribution in the Metropolitan Region by Urban Zones 1965-1985



Among the counties outside New York City in the New York Sector, only Nassau will decline in its share of the Region's population, from 7.9 per cent to 7.2 per cent between 1965 and 1985.

The eleven county New Jersey Sector will exhibit both absolute and relative population gains during the forecast period. The gain here will amount to nearly 2,500,000 residents between 1965 and 1985, and New Jersey's share of the Region's population will increase from 28.9 per cent to 32.9 per cent. Seven of the ten New Jersey counties taken individually will show both absolute and relative population gains. Hudson County will grow by 26,000 people but its relative share of the Region's population will decline from 3.3 per cent to 2.7 per cent by 1985. Union County will gain 141,000 inhabitants, but its share will decrease from 3.2 per cent to 3.0 per cent and Essex County's share will decline from 5.3 per cent to 4.4 per cent in 1985, but its population will grow by about 77,000.

Fairfield County in Connecticut will increase its share of the Region's population from 4.2 per cent in 1965 to 4.6 per cent in 1985, adding 325,000 inhabitants to its current 745,000.

Comparison of Regional Population Forecasts

Several forecasts of future population and employment in the Region have been prepared in recent years by various regional agencies. The Regional Plan Association's *Spread City*, a 1962 publication, contained projections of population and employment growth for the 22-County New York Metropolitan Region through 1985. The Port of New York Authority's *Metropolitan Transportation: 1980* included a series of forecasts based on the projections made for the New York Metropolitan Region Study which had been revised to take into account 1960 Census of Population data. The forecast described in this report, designated as the Regional Studies Section Forecast, was adjusted for comparative purposes to the Regional Plan Association's 22-County Region.

As may be seen in Table 3, the Regional Studies Section's estimates for population growth between 1965 and 1985 are higher than the projections developed by Regional Plan Association and *Metropolitan Transportation: 1980*. The difference in the 1965 base for each forecast is due to the fact that the estimates for 1965 in *Spread City* and *Metropolitan Transportation: 1980* were developed several years ago, whereas the Regional Studies Section's estimate is current and takes advantage of more recent data.

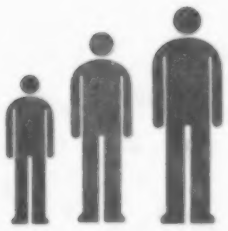


Table 3

SUMMARY COMPARISON OF REGIONAL POPULATION FORECASTS: 1965 and 1985
22-COUNTY REGION (in thousands)

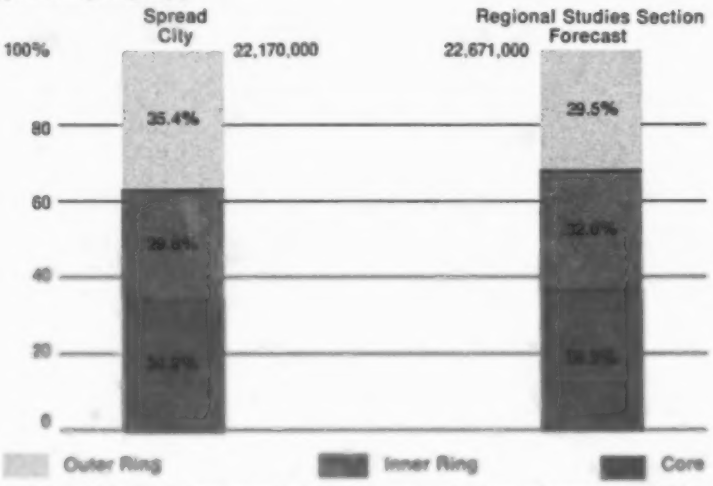
	1965	1985	Change Number	Change Per cent
Regional Plan Association Spread City	17,180	22,170	4,990	29.0
Metropolitan Transportation 1980	17,180	22,170	4,990	29.0
Port Authority Regional Studies Section	17,468	22,671	5,203	29.8

Changes in the Structuring of the Region

The major differences among the projections of the Region's growth relate to the structure of the Region. *Spread City* and, to a lesser degree, *Metropolitan Transportation: 1980* envisioned a rather loosely structured metropolitan area stemming from a high growth rate in the outlying suburbs, with population settlement primarily in single-family dwellings. However, the forecast developed by the Regional Studies Section depicts a more closely knit Region with higher densities in the Core and nearby counties, and with more modest absolute growth occurring in the outlying counties.

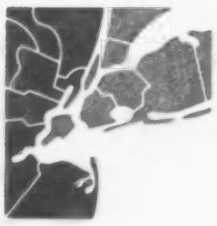
It should be recognized that the factors which produced the *Spread City* type of growth between 1950 and 1960 are diminishing. The basic rationale underlying the New York Metropolitan Region Study forecast and its revisions was that continued population losses would occur in New York City, following the experience of the 1950-1960 decade, and that the growth in the Regional population would take place in the intermediate and outlying suburban areas.

Comparison of 1985 Regional Population Distributions (22-County Region)

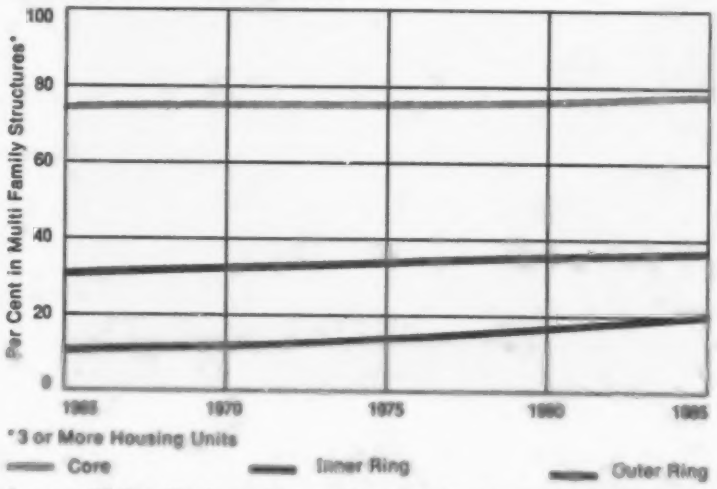


The information available for population changes which have occurred since 1960 does not fall into a pattern which would confirm the validity of this rationale. A consensus of the latest population estimates by county as developed separately by the U.S. Bureau of the Census, Consolidated Edison and the New York City Planning Commission, indicate that population decline in New York City has stopped and, in fact, has been reversed.

The Regional trend of housing construction since 1958 indicates that a larger proportion of the Regional housing stock will consist of multi-family or apartment units. The major share of future population growth which is expected to occur within the Core and the more densely inhabited Inner Ring counties will probably reside in medium and high density housing units. The Outer Ring suburban counties will also continue to show substantial gains in the construction of apartments. As the amount of developable land diminishes throughout the Region, the demand



Projected Percentage of Housing Units in Multi-Family Structures by Urban Zones 1965-1985



for multi-family housing will push hard against existing single family zoning provisions in almost every portion of the Region. Land scarcity and its increasing cost is the key factor in the trend towards multi-family housing, and results from factors such as the rapid increase in households, the major job concentration in the Region's Core and limitations of the commuter transportation network.

Table 4 shows the differences among the various forecasts with respect to the distributions of the projected populations within the Region for 1965 and 1985. Regional Studies Section's estimate for 1965 reveals the incipient trend: New York City's share is larger than that of the other forecasts and the Outer Ring share smaller. By 1985 the contrasts are magnified in line with the assumption adopted in the case of each forecast.

Table 5 presents the historical population series, 1920-1960 by decades, and the forecast by five-year intervals, for the Region and its constituent counties.

Table 4

COMPARISON OF REGIONAL POPULATION PROJECTIONS: 1965 AND 1985 (in per cent)

	1965			1985		
	R.S.S.[1]	Met. Transp. 1980	Spread City	R.S.S.	Met. Transp. 1980	Spread City
22-COUNTY REGION	100.0	100.0	100.0	100.0	100.0	100.0
CORE						
New York City	46.4	45.1	45.1	38.5	34.3	34.8
Bronx	8.2	8.2	8.2	6.4	6.1	6.1
Kings	15.1	15.1	15.1	11.9	11.0	11.0
New York	9.8	9.5	9.5	7.7	6.6	6.6
Queens	11.8	10.9	10.9	10.8	8.7	8.7
Richmond	1.5	1.4	1.4	1.7	1.9	2.4
INNER RING	32.8	33.4	33.1	32.0	29.3	29.8
Bergen	5.3	5.4	5.2	6.0	5.4	5.0
Essex	5.4	5.5	5.5	4.5	4.3	4.6
Hudson	3.4	3.4	3.4	2.7	2.4	2.4
Nassau	8.0	8.1	8.1	7.3	7.0	6.8
Passaic	2.6	2.5	2.6	2.6	2.2	2.6
Westchester	4.9	5.2	5.2	5.8	5.0	5.6
Union	3.2	3.3	3.1	3.1	3.0	2.6
OUTER RING	20.8	21.5	21.8	29.5	36.4	35.4
Dutchess	1.1	1.2	1.2	1.6	1.9	1.6
Fairfield	4.3	4.4	4.3	4.7	6.4	5.2
Middlesex	2.9	3.1	3.2	4.6	5.2	4.6
Monmouth	2.2	2.3	2.4	3.8	5.2	5.3
Morris	1.8	1.8	2.0	2.9	3.3	4.0
Orange	1.2	1.2	1.2	1.8	2.4	1.9
Putnam	0.2	0.2	0.2	0.4	0.4	0.6
Rockland	1.1	1.0	1.0	1.7	1.6	1.8
Somerset	0.9	1.0	1.0	1.5	2.5	1.7
Suffolk	5.1	5.3	5.3	6.5	7.5	9.0

[1]Regional Studies Section

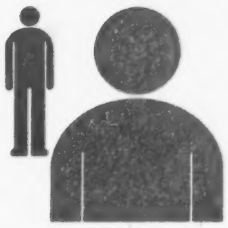
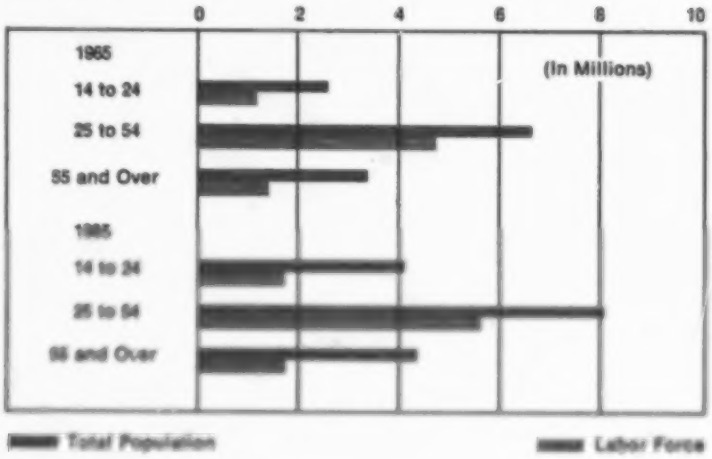


Table 5

HISTORICAL AND PROJECTED POPULATION GROWTH: 1920-1985 (In thousands)

	1920	1930	1940	1950	1960	1965	1970	1975	1980	1985
23-COUNTY REGION	9,299	11,830	12,714	14,181	16,407	17,760	19,086	20,300	21,695	23,053
22-COUNTY REGION	9,139	11,643	12,517	13,951	16,141	17,468	18,775	19,965	21,338	22,671
NEW YORK SECTOR	6,469	8,224	8,985	9,866	11,087	11,875	12,503	13,063	13,698	14,393
New York City	5,620	6,930	7,455	7,893	7,782	8,100	8,242	8,408	8,547	8,739
Bronx	732	1,265	1,395	1,451	1,425	1,430	1,440	1,448	1,455	1,460
Kings	2,018	2,561	2,698	2,739	2,627	2,635	2,645	2,665	2,675	2,689
New York	2,284	1,867	1,890	1,960	1,698	1,710	1,710	1,720	1,730	1,750
Queens	469	1,079	1,298	1,551	1,810	2,060	2,155	2,250	2,332	2,450
Richmond	117	158	174	192	222	265	292	325	355	390
Dutchess	92	105	121	137	176	200	230	260	313	355
Nassau	126	303	407	673	1,300	1,400	1,540	1,580	1,610	1,650
Orange	120	130	140	152	184	205	235	270	310	400
Putnam	11	14	17	20	32	40	46	55	71	89
Rockland	46	60	74	89	137	187	225	280	337	380
Suffolk	110	161	197	276	667	888	1,035	1,155	1,335	1,465
Westchester	344	521	574	626	809	855	950	1,055	1,175	1,315
NEW JERSEY SECTOR	2,509	3,219	3,311	3,811	4,666	5,140	5,728	6,307	6,977	7,590
Bergen	211	365	410	539	780	920	1,050	1,155	1,269	1,367
Essex	652	835	837	907	924	949	974	995	1,012	1,026
Hudson	629	691	652	647	611	594	593	597	601	620
Mercer	160	187	197	230	266	292	311	335	357	382
Middlesex	162	212	217	265	434	510	630	740	920	1,035
Monmouth	105	147	161	225	334	390	480	600	769	863
Morris	83	110	126	164	262	310	360	450	526	662
Passaic	259	302	309	337	407	450	510	550	570	591
Somerset	48	65	74	99	144	165	210	245	279	343
Union	200	305	328	398	504	560	610	640	674	701
CONNECTICUT SECTOR										
Fairfield	321	387	418	504	654	745	855	930	1,020	1,070

Participation of the Region's Population in the Labor Force 1965 and 1985



REGIONAL JOBS: 1965-1985

From the current 1965 estimated base of 7.6 million Regional jobs, an increase of over 1.8 million jobs, a growth of 24 per cent to just under 9.5 million jobs by 1985 is anticipated.

The 1965 to 1985 job growth rate will be somewhat lower than that of population, thus decreasing the ratio of jobs to population.

Table 6

Job Growth in the 23-County Region: 1965 and 1985

	1965	1985	Increase 1965-85 Number	Increase 1965-85 Per cent
Jobs (in thousands)	7,642.2	9,466.3	1,824.1	23.9
Ratio of Number of Jobs to 100 Population	43.0	41.1		

The decline in the Region's job-to-population ratio reflects demographic and socio-economic factors that will influence the national, as well as the Regional job picture during the next 20 years. One basic factor will be not only the greater proportion of people under age 20 in the population, but also their diminishing participation in the labor force in favor of extended education. In addition, economic developments in the Region which would substantially increase the rate of labor force participation of housewives or elderly persons are not foreseen.

The Region's Industrial Structure

Striking differences are expected in the job growth patterns of the Region's industrial sectors over the next 20 years.

As seen in Table 7, government, the service industries, finance-insurance-real estate, and construction will have high growth rates, each with an increase of over 30 per cent in their job totals by 1985. These four sectors will account for almost eight out of every ten new jobs generated in the Region during the forecast period. Wholesale and retail trade will experience moderate growth with increases of about 16 per cent. Job growth in manufacturing and transportation will be under 6 per cent.

The differences in the growth patterns of the Region's industrial sectors will be reflected in the shares of total Regional jobs. The single most significant change will occur in the service industry group, which will supersede manufacturing as the largest single source of jobs. Government, finance and construction will also gain in their shares of the total Regional jobs.

The Geographic Distribution of Jobs

The rate of job growth through 1985 will vary widely among the counties of the Region. Table 8 compares the job

Table 7

JOBS BY MAJOR INDUSTRY GROUP IN THE 23-COUNTY REGION: 1965-1985

	Number in thousands					Per cent distribution				
	1965	1970	1975	1980	1985	1965	1970	1975	1980	1985
ALL INDUSTRIES	7,642.2	8,171.4	8,610.0	9,027.4	9,466.3	100.0	100.0	100.0	100.0	100.0
Manufacturing	1,972.4	2,030.5	2,061.5	2,070.5	2,074.5	25.8	24.8	23.9	22.9	21.9
NON-MANUFACTURING	5,669.8	6,140.9	6,548.5	6,956.9	7,391.8	74.2	75.2	76.1	77.1	78.1
Agriculture & Mining	45.5	42.0	40.0	37.0	35.0	0.6	0.5	0.5	0.4	0.4
Construction	366.9	395.5	420.5	445.5	480.5	4.8	4.9	4.9	5.0	5.1
Transportation, Communications & Public Utilities	527.4	532.0	537.0	542.0	548.0	6.9	6.5	6.2	6.0	5.8
Wholesale Trade	511.6	540.6	557.8	570.0	598.0	6.7	6.6	6.5	6.3	6.3
Retail Trade	1,169.1	1,236.1	1,268.5	1,315.4	1,355.8	15.3	15.1	14.7	14.6	14.3
Finance, Insurance and Real Estate	581.0	645.5	688.5	742.9	804.2	7.6	7.9	8.0	8.2	8.5
Services	1,597.4	1,776.4	1,954.8	2,115.1	2,266.5	20.9	21.8	22.7	23.4	23.9
Government	870.9	972.8	1,081.4	1,189.0	1,303.8	11.4	11.9	12.6	13.2	13.8

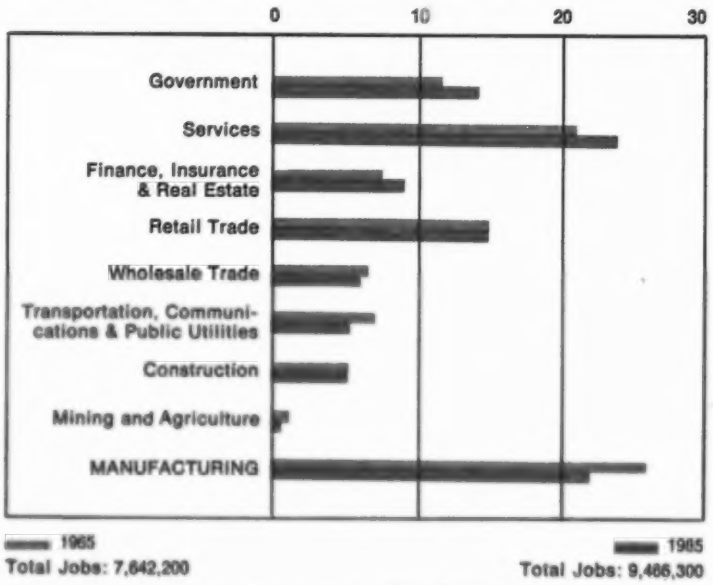
growth among the 23 counties of the Region, and Table 9 indicates the change in each county's share of the Region's employment from 1965 through 1985.

The projected county job growth patterns in the Region basically parallel the county population projections. The majority of new jobs within the counties in the Region, except for Manhattan, will service the local population. Thus, the growth in jobs within a county is to a large extent a reflection of the need to provide goods and services for a growing resident population.

Over the next two decades, the New Jersey Sector will show a 36 per cent increase in numbers of jobs, as compared to 18 per cent for the New York Sector. Nevertheless, in absolute terms, the New York Sector, with its large job base, will add 965.4 thousand jobs compared to 742.9 thousand jobs added in the New Jersey Sector from 1965 through 1985.

In New Jersey, Somerset, Morris, Mercer, Monmouth

Jobs in the Metropolitan Region
Per Cent Distribution by Major Industry Group 1965 and 1985



and Middlesex Counties, all in the Outer Ring, will enjoy high job growth rates, with Monmouth more than doubling its employment by 1985. Despite rapidity of growth, these counties as a group will contain only 10.5 per cent of the Region's total jobs in 1985. However, they will account for about 56 per cent of the *new* jobs added in the New Jersey Sector over the next twenty years. Bergen, Passaic and Union Counties, in the Inner Ring, will have more moderate rates of job growth. However, with their large job base in 1965 they will account for about 31 per cent of the new jobs added in the New Jersey Sector through 1985. Essex and Hudson Counties will have relatively low rates of job growth, and will account for the remaining 13 per cent of new jobs projected for the New Jersey Sector.

In the New York Sector of the Region, the Outer Ring counties of Suffolk, Dutchess, Orange, Rockland and Putnam will have high growth rates, and will account for 28 per cent of the new jobs generated in the New York Sector. Nassau and Westchester combined will have relatively moderate rates of growth, but will account for 36 per cent of the New York Sector's new jobs through 1985.

The overall percentage gain in New York City jobs over the next two decades will be comparatively low, 11 per cent. This will result in a decline in New York's share of the Region's jobs from 53.3 per cent in 1965 to 47.8 per cent in 1985. Nevertheless, New York City's absolute increase of 445 thousand jobs over the 4.1 million job base in 1965 will account for 46 per cent of the new jobs in the New York Sector and one out of every four new jobs added in the entire Region over the next twenty years.

Manhattan (New York County), the center of economic activity in the Region, with a third of the Region's jobs in 1965, will have a job growth of only 6.0 per cent during the forecast period. However, its increase of 150 thousand jobs will be the largest absolute gain of any county in the Region.

Comparison of Regional Employment Forecasts

Owing to differences in employment and industry definitions in *Spread City, Metropolitan Transportation: 1980,* and this study, it is possible to compare the respective employment forecasts only in terms of geographic distributions. These are presented as percentage relationships in Table 10.

There is basic agreement among the forecasts concerning the *direction* of change in the relative shares of the Region's jobs by Core, Inner Ring and Outer Ring between 1965 and 1985. The differences are found in the magnitude of the changes. The Regional Studies Section forecast

maintains a somewhat greater concentration of employment in the Core and Inner Ring counties through 1985.

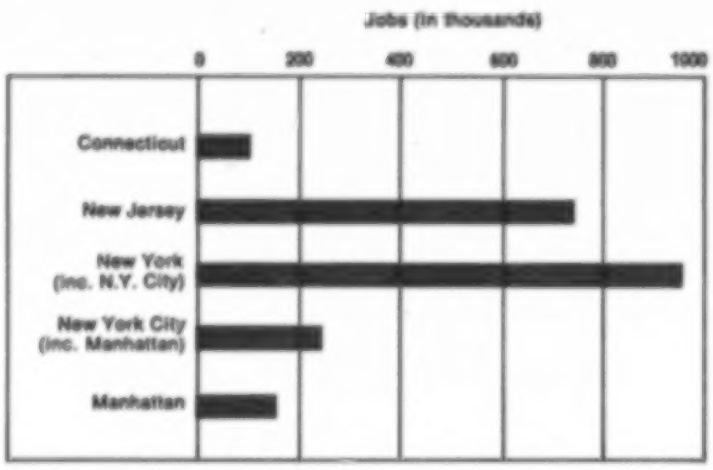
In all three forecasts, the Core will decline in its share of Regional jobs, with relatively little change taking place in the Inner Ring counties share between 1965 and 1985.

The Outer Ring, however, is the area of the greatest relative growth in employment between 1965 and 1985. In all three forecasts, the Outer Ring will greatly increase its share of Regional jobs by 1985. The *Spread City* projection has the greatest share increase, with the Outer Ring commanding 23.8 per cent in 1985 as compared to Regional Studies Section's figure of 20.4 per cent for the same year.

The differences in the 1985 employment distributions between the Regional Studies Section forecast, on the one hand, and those of *Spread City* and *Metropolitan Transportation: 1980,* on the other, stem from differences in the kind of economic growth that was envisioned for the Region. *Spread City* and to a lesser degree, *Metropolitan Transportation: 1980,* foresaw substantial gains in manufacturing employment, the greater part of which would be found in the Inner and Outer Rings. But, growth in manufacturing employment has, to date, not taken place in line with the projected magnitudes, while expansion in non-manufacturing employment in Core and in Inner Ring counties has accounted for the majority of new Regional jobs. The Regional Studies forecast anticipates a continuation of these trends through 1985.

Tables 12 through 20 show the distribution of projected jobs by industry group and by geographic sector of the Region.

Absolute and Per Cent Job Growth in the Geographic Sectors of the Metropolitan Region 1965-1985



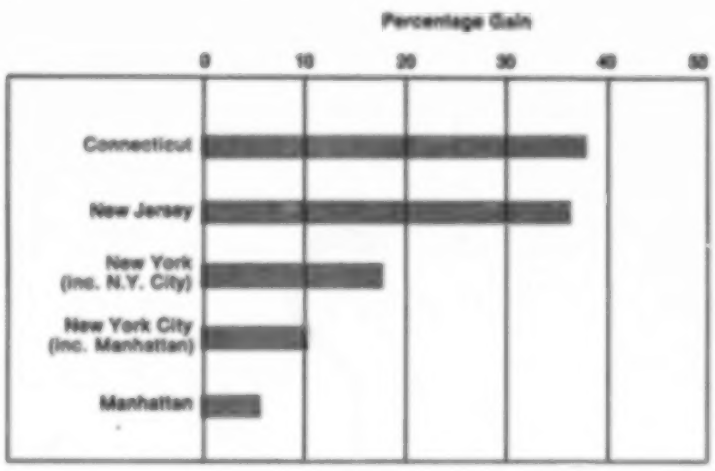
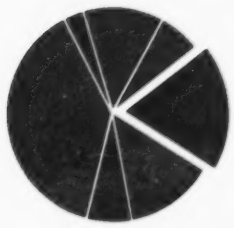


Table 8

TOTAL JOBS BY COUNTY: 1965-1985 (in thousands)

	1965	1970	1975	1980	1985	Change 1965-1985 Number	Change 1965-1985 Per cent
23-COUNTY REGION	7,642.2	8,171.4	8,610.0	9,027.4	9,466.3	1,824.1	23.9
NEW JERSEY SECTOR	2,040.2	2,241.5	2,415.1	2,605.7	2,783.1	742.9	36.4
Bergen	285.2	321.7	348.5	372.1	392.8	107.6	37.7
Essex	470.2	496.7	513.5	532.5	547.0	76.8	16.3
Hudson	277.9	286.0	293.4	299.6	305.0	27.1	9.8
Mercer	132.8	146.1	155.8	168.5	178.6	45.8	34.5
Middlesex	187.2	215.7	245.6	283.4	317.8	130.6	69.8
Monmouth	120.7	146.4	175.7	211.5	245.5	124.8	103.4
Morris	87.6	101.6	117.5	134.1	153.4	65.8	75.1
Passaic	187.8	205.2	219.5	233.4	246.3	58.5	31.2
Somerset	52.6	61.0	69.9	80.3	92.9	40.3	76.6
Union	238.2	261.1	275.7	290.3	303.8	65.6	27.5
NEW YORK SECTOR	5,294.1	5,585.5	5,824.1	6,022.6	6,259.5	965.4	18.2
New York City	4,076.4	4,236.4	4,351.2	4,422.5	4,521.9	445.5	10.9
Bronx	276.5	295.5	307.5	309.5	315.5	39.0	14.1
Kings	704.8	728.3	743.3	752.4	759.4	54.6	7.7
New York	2,502.1	2,559.4	2,590.8	2,609.0	2,653.3	151.2	6.0
Queens	541.7	588.3	629.7	658.7	685.6	143.9	26.6
Richmond	51.3	64.9	79.9	92.9	108.1	56.8	110.7
Dutchess	67.6	76.0	83.2	94.8	105.1	37.5	55.5
Nassau	496.1	547.4	587.0	613.4	640.1	144.0	29.0
Orange	60.2	67.2	74.6	84.9	100.3	40.1	66.6
Putnam	7.7	9.2	11.0	13.3	16.3	8.6	111.7
Rockland	52.7	63.7	78.0	96.9	116.2	63.5	120.5
Suffolk	302.9	229.9	257.0	291.8	325.8	122.9	60.6
Westchester	330.5	355.7	382.1	405.0	433.8	103.3	31.3
CONNECTICUT SECTOR							
Fairfield	307.9	344.4	370.8	399.1	423.7	115.8	37.6



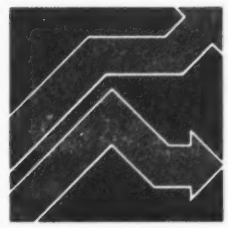


Table 9

PER CENT DISTRIBUTION OF JOBS BY COUNTY: 1965-1985

	1965	1970	1975	1980	1985
23-COUNTY REGION	100.0	100.0	100.0	100.0	100.0
NEW JERSEY SECTOR	26.7	27.4	28.1	28.9	29.4
Bergen	3.7	3.9	4.0	4.1	4.1
Essex	6.2	6.1	6.0	6.0	5.8
Hudson	3.6	3.5	3.4	3.3	3.2
Mercer	1.7	1.8	1.8	1.9	1.9
Middlesex	2.5	2.6	2.9	3.1	3.4
Monmouth	1.6	1.8	2.0	2.3	2.6
Morris	1.1	1.2	1.4	1.5	1.6
Passaic	2.5	2.5	2.6	2.6	2.6
Somerset	0.7	0.8	0.8	0.9	1.0
Union	3.1	3.2	3.2	3.2	3.2
NEW YORK SECTOR	69.3	68.4	67.6	66.7	66.1
New York City	53.3	51.9	50.5	49.0	47.8
Bronx	3.6	3.6	3.6	3.4	3.3
Kings	9.2	8.9	8.6	8.3	8.0
New York	32.7	31.4	30.1	29.0	28.0
Queens	7.1	7.2	7.3	7.3	7.3
Richmond	0.7	0.8	0.9	1.0	1.2
Dutchess	0.9	0.9	1.0	1.1	1.1
Nassau	6.5	6.7	6.8	6.8	6.8
Orange	0.8	0.8	0.9	0.9	1.0
Putnam	0.1	0.1	0.1	0.1	0.2
Rockland	0.7	0.8	0.9	1.1	1.2
Suffolk	2.7	2.8	3.0	3.2	3.4
Westchester	4.3	4.4	4.4	4.5	4.6
CONNECTICUT SECTOR					
Fairfield	4.0	4.2	4.3	4.4	4.5

Table 10

COMPARISON OF REGIONAL EMPLOYMENT PROJECTIONS: 1965 AND 1985 (in per cent)

	1965			1985		
	R.S.S.[1]	Met. Transp. 1980	Spread City	R.S.S.	Met. Transp. 1980	Spread City
22-COUNTY REGION	100.0	100.0	100.0	100.0	100.0	100.0
CORE						
New York City	54.3	55.9	55.6	48.7	47.9	46.8
Bronx	3.7	—	3.5	3.4	—	3.0
Kings	9.4	—	9.3	8.2	—	7.1
New York	33.3	—	35.9	28.6	—	30.1
Queens	7.2	—	6.3	7.4	—	5.4
Richmond	0.7	—	0.6	1.1	—	1.2
INNER RING	30.4	29.0	29.2	30.9	29.1	29.5
Bergen	3.8	4.1	3.8	4.2	4.7	4.5
Essex	6.2	5.6	6.1	5.9	4.8	5.4
Hudson	3.7	4.0	4.0	3.3	3.3	3.5
Nassau	6.6	5.0	5.6	6.9	5.2	5.2
Passaic	2.5	2.9	2.5	2.6	3.1	3.0
Union	3.2	3.5	3.1	3.3	3.7	3.6
Westchester	4.4	3.9	4.1	4.7	4.3	4.3
OUTER RING	15.3	15.1	15.2	20.4	23.0	23.7
Dutchess	0.9	1.0	1.1	1.1	1.5	1.4
Fairfield	4.1	3.8	4.0	4.6	4.7	4.2
Middlesex	2.5	2.7	2.6	3.4	3.8	3.8
Monmouth	1.6	1.3	1.3	2.6	2.6	2.6
Morris	1.2	1.2	1.2	1.6	2.0	2.3
Orange	0.8	0.9	0.9	1.1	1.5	1.4
Putnam	0.1	0.1	0.1	0.2	0.2	0.3
Rockland	0.7	0.6	0.7	1.3	1.0	1.3
Somerset	0.7	0.7	0.7	1.0	1.5	1.2
Suffolk	2.7	2.8	2.6	3.5	4.2	5.2

[1]Regional Studies Section

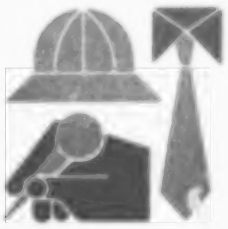


Table 11

DISTRIBUTION OF JOBS BY MAJOR INDUSTRY GROUP BY SECTOR: 1965-1985[1] (in per cent)

	Manufacturing			Construction			Transportation & Utilities			Wholesale Trade		
	1965	1975	1985	1965	1975	1985	1965	1975	1985	1965	1975	1985
23-COUNTY REGION	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
NEW JERSEY SECTOR	34.6	37.0	39.3	29.0	29.7	31.5	25.2	26.8	28.6	21.5	26.7	31.4
NEW YORK SECTOR	59.6	56.6	53.8	66.5	65.8	63.8	71.9	70.0	68.1	76.4	70.4	65.2
NEW YORK CITY	45.2	41.4	37.4	45.4	44.6	42.1	61.8	58.8	55.8	68.2	59.1	52.9
New York County	24.4	21.1	18.7	22.7	21.7	20.0	39.1	36.5	34.6	51.1	43.8	38.0
CONNECTICUT SECTOR	5.8	6.4	6.9	4.5	4.5	4.7	2.9	3.2	3.3	2.1	2.9	3.4

	Retail Trade			Finance, Insurance & Real Estate			Services			Government		
	1965	1975	1985	1965	1975	1985	1965	1975	1985	1965	1975	1985
23-COUNTY REGION	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
NEW JERSEY SECTOR	26.6	27.7	29.2	15.9	16.1	16.8	22.4	24.0	25.3	25.5	25.9	26.7
NEW YORK SECTOR	69.1	67.6	65.8	82.1	81.6	80.8	73.8	72.0	70.6	71.4	71.0	70.2
NEW YORK CITY	48.4	45.8	43.0	73.3	72.4	71.0	56.4	53.1	49.9	52.5	50.3	48.5
New York County	25.4	22.7	20.8	59.5	57.9	56.3	39.0	35.9	33.1	23.2	21.5	20.4
CONNECTICUT SECTOR	4.3	4.7	5.0	2.0	2.3	2.4	3.8	4.0	4.1	3.1	3.1	3.1

[1]Agriculture and Mining industry groups excluded

Table 12

MANUFACTURING JOBS BY COUNTY: 1965-1985 (In thousands)

	1965	1970	1975	1980	1985	Change 1965-1985 Number	Change 1965-1985 Per cent
23-COUNTY REGION	1,972.4	2,030.5	2,061.5	2,070.5	2,074.5	102.1	5.2
NEW JERSEY SECTOR	681.7	730.7	762.2	790.7	815.2	133.5	19.6
Bergen	94.8	101.8	105.8	107.8	109.3	14.5	15.3
Essex	134.7	144.7	149.7	152.7	154.7	20.0	14.8
Hudson	112.1	118.1	122.1	125.1	127.1	15.0	13.4
Mercer	40.9	44.4	46.4	48.4	50.4	9.5	23.2
Middlesex	76.4	82.4	87.4	91.4	95.4	19.0	24.9
Monmouth	18.4	22.4	25.4	29.9	33.9	15.5	84.2
Morris	24.8	27.8	29.3	31.3	34.3	9.5	38.3
Passaic	76.8	79.8	82.8	84.8	85.8	9.0	11.7
Somerset	20.4	22.4	24.4	27.4	29.4	9.0	44.1
Union	82.4	86.9	88.9	91.9	94.9	12.5	15.2
NEW YORK SECTOR	1,175.5	1,173.6	1,168.1	1,142.6	1,116.1	-59.4	-5.1
New York City	891.4	871.3	852.6	813.6	775.6	-115.8	-13.0
Bronx	54.2	55.2	56.7	54.7	50.7	-3.5	-6.5
Kings	221.3	224.3	226.3	224.3	216.3	-5.0	-2.3
New York	481.0	458.4	435.2	404.2	387.2	-93.8	-19.5
Queens	126.4	124.4	123.4	118.4	108.4	-18.0	-14.2
Richmond	8.5	9.0	11.0	12.0	13.0	4.5	52.9
Dutchess	23.5	25.5	26.5	28.5	30.0	6.5	27.7
Nassau	107.0	112.0	115.0	117.0	118.0	11.0	10.3
Orange	16.4	17.4	18.4	19.9	21.4	5.0	30.5
Putnam	1.3	1.5	1.7	2.2	2.7	1.4	107.7
Rockland	13.8	15.8	17.8	20.3	22.3	8.5	61.6
Suffolk	47.1	51.1	54.1	58.1	61.1	14.0	29.7
Westchester	75.0	79.0	82.0	83.0	85.0	10.0	13.3
CONNECTICUT SECTOR							
Fairfield	115.2	126.2	131.2	137.2	143.2	28.0	24.3

Table 13

AGRICULTURE AND MINING JOBS BY COUNTY: 1965-1985 (in thousands)

	1965	1970	1975	1980	1985	Change 1965-1985 Number	Change 1965-1985 Per cent
23-COUNTY REGION	45.5	42.0	40.0	37.0	35.0	−10.5	−23.1
NEW JERSEY SECTOR	25.9	24.1	22.8	20.9	19.8	−6.1	−23.6
Bergen	0.6	0.5	0.4	0.3	0.3	−0.3	−50.0
Essex	1.4	1.3	1.3	1.2	1.1	−0.3	−21.4
Hudson	0.1	0.1	0.1	0.1	0.1	—	—
Mercer	0.9	0.8	0.8	0.7	0.6	−0.3	−33.3
Middlesex	3.2	2.9	2.6	2.4	2.3	−0.9	−28.1
Monmouth	6.3	5.9	5.7	5.2	5.0	−1.3	−20.6
Morris	5.1	4.9	4.7	4.4	4.2	−0.9	−17.6
Passaic	2.2	2.1	2.0	1.9	1.8	−0.4	−18.2
Somerset	5.0	4.6	4.3	4.0	3.8	−1.2	−24.0
Union	1.1	1.0	0.9	0.7	0.6	−0.5	−45.5
NEW YORK SECTOR	18.2	16.7	16.1	15.1	14.2	−4.0	−22.0
New York City	3.4	3.4	3.3	3.2	3.1	−0.3	−8.8
Bronx	0.1	0.1	0.1	0.1	0.1	—	—
Kings	0.3	0.3	0.3	0.3	0.3	—	—
New York	2.3	2.3	2.3	2.2	2.2	−0.1	−4.3
Queens	0.6	0.6	0.5	0.5	0.4	−0.2	−33.3
Richmond	0.1	0.1	0.1	0.1	0.1	—	—
Dutchess	2.8	2.6	2.5	2.4	2.2	−0.6	−21.4
Nassau	1.9	1.7	1.7	1.5	1.4	−0.5	−26.3
Orange	3.8	3.5	3.4	3.4	3.2	−0.6	−15.8
Putnam	0.3	0.2	0.2	0.1	0.1	−0.2	−66.7
Rockland	0.3	0.2	0.2	0.1	0.1	−0.2	−66.7
Suffolk	3.6	3.2	3.0	2.8	2.6	−1.0	−27.8
Westchester	2.1	1.9	1.8	1.6	1.5	−0.6	−28.6
CONNECTICUT SECTOR							
Fairfield	1.4	1.2	1.1	1.0	1.0	−0.4	−28.6

Table 14

CONSTRUCTION JOBS BY COUNTY: 1965-1985 (In thousands)

	1965	1970	1975	1980	1985	Change 1965-1985 Number	Change 1965-1985 Per cent
23-COUNTY REGION	366.9	395.5	420.5	445.5	480.5	113.6	31.0
NEW JERSEY SECTOR	106.2	114.2	124.7	136.2	151.2	45.0	42.4
Bergen	19.3	21.3	23.3	24.8	26.8	7.5	38.9
Essex	22.4	21.4	21.4	22.4	23.9	1.5	6.7
Hudson	8.7	7.7	7.2	6.7	6.7	-2.0	-23.0
Mercer	6.9	7.9	7.9	8.9	10.4	3.5	50.7
Middlesex	10.5	13.0	16.5	19.5	23.0	12.5	119.0
Monmouth	7.3	8.8	11.3	13.3	16.3	9.0	123.3
Morris	4.4	4.9	5.4	6.4	7.4	3.0	68.2
Passaic	10.1	11.1	12.6	14.1	15.1	5.0	49.5
Somerset	2.8	3.3	3.8	4.3	4.8	2.0	71.4
Union	13.8	14.8	15.3	15.8	16.8	3.0	21.7
NEW YORK SECTOR	244.1	263.2	276.7	288.7	306.7	62.6	25.6
New York City	166.6	180.0	187.5	194.3	202.3	35.7	21.4
Bronx	17.8	19.8	20.8	20.8	21.8	4.0	22.5
Kings	30.0	30.0	30.5	31.5	32.5	2.5	8.3
New York	83.3	89.2	91.2	93.5	96.0	12.7	15.2
Queens	31.9	34.9	36.9	38.9	40.4	8.5	26.6
Richmond	3.6	6.1	8.1	9.6	11.6	8.0	222.2
Dutchess	3.4	3.7	3.9	4.2	5.2	1.8	52.9
Nassau	32.8	34.3	36.3	37.8	39.3	6.5	19.8
Orange	2.8	3.1	3.3	3.6	4.6	1.8	64.3
Putnam	0.8	0.9	1.0	1.1	1.6	0.8	100.0
Rockland	3.6	4.1	4.6	5.1	6.6	3.0	83.3
Suffolk	14.3	15.8	17.8	19.8	22.3	8.0	55.9
Westchester	19.8	21.3	22.3	22.8	24.8	5.0	25.3
CONNECTICUT SECTOR							
Fairfield	16.6	18.1	19.1	20.6	22.6	6.0	36.1

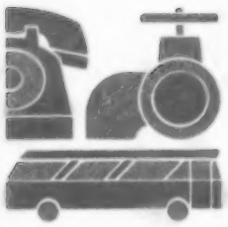


Table 15

TRANSPORTATION, COMMUNICATIONS AND PUBLIC UTILITIES JOBS BY COUNTY: 1965-1985 (in thousands)

	1965	1970	1975	1980	1985	Change 1965-1985 Number	Change 1965-1985 Per cent
23-COUNTY REGION	527.4	532.0	537.0	542.0	548.0	20.6	3.9
NEW JERSEY SECTOR	132.9	138.1	143.8	150.3	156.8	23.9	18.0
Bergen	13.7	15.2	16.2	16.7	17.2	3.5	25.5
Essex	34.4	33.4	33.4	34.4	34.4	—	—
Hudson	36.1	34.6	34.1	34.1	34.1	–2.0	–5.5
Mercer	6.5	6.8	6.8	6.8	7.3	0.8	12.3
Middlesex	8.4	10.4	12.4	13.9	15.4	7.0	83.3
Monmouth	5.6	7.1	8.1	9.4	11.4	5.8	103.6
Morris	3.6	3.8	4.0	4.5	5.5	1.9	52.8
Passaic	8.9	9.4	10.4	10.9	10.9	2.0	22.5
Somerset	1.8	2.0	2.0	2.2	2.7	0.9	50.0
Union	13.9	15.4	16.4	17.4	17.9	4.0	28.8
NEW YORK SECTOR	379.0	377.4	375.7	373.7	373.2	–5.8	–1.5
New York City	325.8	319.8	315.6	310.2	305.7	–20.1	–6.2
Bronx	18.8	18.8	19.3	18.3	17.8	–1.0	–5.3
Kings	40.8	38.3	36.3	34.9	34.4	–6.4	–15.7
New York	206.1	200.4	196.2	192.7	189.7	–16.4	–8.0
Queens	57.8	59.3	60.3	60.3	59.8	2.0	3.5
Richmond	2.3	3.0	3.5	4.0	4.0	1.7	73.9
Dutchess	2.3	2.3	2.4	2.5	2.6	0.3	13.0
Nassau	18.8	20.8	20.8	21.3	21.8	3.0	16.0
Orange	3.3	3.3	3.4	3.6	4.0	0.7	21.2
Putnam	0.3	0.3	0.3	0.4	0.4	0.1	33.3
Rockland	2.2	2.4	2.7	3.2	3.7	1.5	68.2
Suffolk	9.1	10.3	11.3	12.8	14.8	5.7	62.6
Westchester	17.2	18.2	19.2	19.7	20.2	3.0	17.4
CONNECTICUT SECTOR							
Fairfield	15.5	16.5	17.5	18.0	18.0	2.5	16.1

Table 16

WHOLESALE TRADE JOBS BY COUNTY: 1965-1985 (in thousands)

	1965	1970	1975	1980	1985	Change 1965-1985 Number	Per cent
23-COUNTY REGION	511.6	540.6	557.8	570.0	598.0	86.4	16.9
NEW JERSEY SECTOR	110.0	130.2	149.3	167.1	187.5	77.5	70.5
Bergen	19.3	24.3	29.3	33.3	37.3	18.0	93.3
Essex	27.5	29.5	30.5	32.0	34.0	6.5	23.6
Hudson	15.5	17.5	20.5	24.0	28.0	12.5	80.6
Mercer	4.3	4.8	5.3	5.6	5.8	1.5	34.9
Middlesex	6.7	9.7	11.7	14.2	17.2	10.5	158.7
Monmouth	4.0	6.0	8.5	10.5	12.0	8.0	200.0
Morris	2.3	2.8	3.3	3.6	4.1	1.8	78.3
Passaic	10.6	12.6	13.6	15.1	17.1	6.5	[illegible]
Somerset	2.1	2.3	2.4	2.6	2.8	0.7	33.3
Union	17.7	20.7	24.2	26.2	29.2	11.5	65.0
NEW YORK SECTOR	391.1	396.9	392.5	384.9	390.2	-0.9	-0.2
New York City	338.9	340.1	329.7	316.4	316.4	-22.5	-6.6
Bronx	13.1	17.1	18.1	18.1	19.1	6.0	45.8
Kings	30.8	31.8	30.8	30.8	31.8	1.0	3.2
New York	261.6	255.4	244.5	231.7	227.2	-34.4	-13.1
Queens	32.1	34.1	34.1	33.1	34.6	2.5	7.8
Richmond	1.3	1.7	2.2	2.7	3.7	2.4	184.6
Dutchess	2.1	2.3	2.4	2.5	2.7	0.6	28.6
Nassau	23.2	25.2	28.2	30.2	31.2	8.0	34.5
Orange	2.3	2.6	2.8	3.1	3.3	1.0	43.5
Putnam	0.1	0.1	0.1	0.1	0.2	0.1	100.0
Rockland	1.4	1.5	1.7	2.0	2.3	0.9	64.3
Suffolk	6.4	7.4	8.4	9.9	11.4	5.0	78.1
Westchester	16.7	17.7	19.2	20.7	22.7	6.0	35.9
CONNECTICUT SECTOR							
Fairfield	10.5	13.5	16.0	18.0	20.3	9.8	93.3

Table 17

RETAIL TRADE JOBS BY COUNTY: 1965-1985 (in thousands)

	1965	1970	1975	1980	1985	Change 1965-1985 Number	Per cent
23-COUNTY REGION	1,169.1	1,236.1	1,268.5	1,315.4	1,355.8	186.7	16.0
NEW JERSEY SECTOR	310.6	336.6	351.6	378.6	396.1	85.5	27.5
Bergen	51.3	56.3	57.8	59.8	60.8	9.5	18.5
Essex	71.6	70.6	69.6	70.6	70.1	−1.5	−2.1
Hudson	34.0	33.0	32.0	32.0	32.0	−2.0	−5.9
Mercer	20.6	21.6	21.6	23.6	23.6	3.0	14.6
Middlesex	26.7	31.7	35.7	42.7	46.7	20.0	74.9
Monmouth	21.3	26.3	30.3	36.3	41.3	20.0	93.9
Morris	15.0	18.0	21.0	24.0	26.0	11.0	73.3
Passaic	28.3	30.3	31.3	33.3	36.3	8.0	28.3
Somerset	7.1	10.1	12.6	14.6	16.6	9.5	133.8
Union	34.7	38.7	39.7	41.7	42.7	8.0	23.1
NEW YORK SECTOR	808.3	843.3	857.7	872.6	892.5	84.2	10.4
New York City	565.4	578.4	581.3	579.7	583.1	17.7	3.1
Bronx	54.7	56.2	56.2	54.7	54.7	—	—
Kings	115.3	118.3	117.8	116.3	115.3	—	—
New York	297.2	293.7	288.1	282.5	282.5	−14.7	−4.9
Queens	88.0	97.0	103.0	108.0	111.0	23.0	26.1
Richmond	10.2	13.2	16.2	18.2	19.6	9.4	92.2
Dutchess	10.3	11.3	12.3	14.3	15.3	5.0	48.5
Nassau	107.8	115.8	117.8	119.8	121.8	14.0	13.0
Orange	9.6	11.1	12.1	14.1	17.1	7.5	78.1
Putnam	1.5	2.0	2.5	3.0	3.5	2.0	133.3
Rockland	8.6	10.6	12.6	15.6	18.6	10.0	116.3
Suffolk	43.7	49.7	53.7	58.7	63.7	20.0	45.8
Westchester	61.4	64.4	65.4	67.4	69.4	8.0	13.0
CONNECTICUT SECTOR							
Fairfield	50.2	56.2	59.2	64.2	67.2	17.0	33.9

Table 18

FINANCE, INSURANCE AND REAL ESTATE JOBS BY COUNTY: 1965-1985 (in thousands)

	1965	1970	1975	1980	1985	Change 1965-1985 Number	Change 1965-1985 Per cent
23-COUNTY REGION	581.0	645.5	688.5	742.9	804.2	223.2	38.4
NEW JERSEY SECTOR	92.5	103.1	111.0	122.5	135.2	42.7	46.2
Bergen	9.7	11.7	13.7	15.7	18.2	8.5	87.6
Essex	41.1	45.1	47.1	50.1	52.6	11.5	28.0
Hudson	9.6	10.0	10.0	10.0	10.5	0.9	9.4
Mercer	4.9	5.4	5.6	6.1	6.6	1.7	34.7
Middlesex	3.8	4.6	5.6	7.1	9.1	5.3	139.5
Monmouth	3.7	4.2	5.2	6.7	8.4	4.7	127.0
Morris	2.5	2.7	3.2	3.7	4.2	1.7	68.0
Passaic	7.0	8.0	8.5	9.5	10.5	3.5	50.0
Somerset	1.0	1.2	1.4	1.9	2.4	1.4	140.0
Union	9.2	10.2	10.7	11.7	12.7	3.5	38.0
NEW YORK SECTOR	476.9	528.8	561.9	603.3	649.9	173.0	36.3
New York City	426.0	472.1	496.7	532.5	570.8	144.8	34.0
Bronx	18.7	20.7	21.7	22.7	24.2	5.5	29.4
Kings	35.6	38.6	40.6	43.6	46.1	10.5	29.5
New York	345.8	380.3	398.9	424.2	452.5	106.7	30.9
Queens	23.6	29.7	34.2	38.2	43.7	20.1	85.2
Richmond	2.3	2.8	3.3	3.8	4.3	2.0	87.0
Dutchess	2.0	2.4	2.6	2.9	3.1	1.1	55.0
Nassau	21.4	24.4	27.9	30.9	33.9	12.5	58.4
Orange	2.2	2.4	2.6	2.9	3.4	1.2	54.5
Putnam	0.2	0.2	0.3	0.3	0.4	0.2	100.0
Rockland	2.0	2.4	2.9	3.4	3.9	1.9	95.0
Suffolk	7.8	8.6	9.6	11.6	13.6	5.8	74.4
Westchester	15.3	16.3	17.3	18.8	20.8	5.5	35.9
CONNECTICUT SECTOR							
Fairfield	11.6	13.6	15.6	17.1	19.1	7.5	64.7

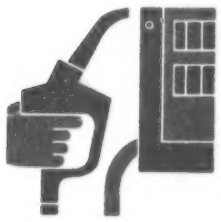


Table 19

SERVICE INDUSTRY JOBS BY COUNTY: 1965-1985 (In thousands)

	1965	1970	1975	1980	1985	Change 1965-1985 Number	Change 1965-1985 Per cent
23-COUNTY REGION	1,597.4	1,776.4	1,954.8	2,115.1	2,266.5	669.1	41.9
NEW JERSEY SECTOR	358.0	414.5	469.5	523.4	573.4	215.4	60.2
Bergen	49.0	59.0	67.0	75.0	81.0	32.0	65.3
Essex	86.6	96.6	104.6	111.6	117.6	31.0	35.8
Hudson	33.8	36.8	38.8	38.8	36.8	3.0	8.9
Mercer	25.6	28.6	31.6	33.6	34.6	9.0	35.2
Middlesex	27.5	32.5	38.5	47.5	57.5	30.0	109.1
Monmouth	31.3	38.3	47.3	57.3	67.3	36.0	115.0
Morris	20.4	25.4	32.4	39.4	46.4	26.0	127.5
Passaic	30.1	36.1	41.1	45.0	49.0	18.9	62.8
Somerset	8.3	9.8	11.8	14.8	19.8	11.5	138.6
Union	45.4	51.4	56.4	60.4	63.4	18.0	39.6
NEW YORK SECTOR	1,179.2	1,293.7	1,408.1	1,506.5	1,600.9	421.7	35.8
New York City	901.3	971.8	1,038.7	1,090.6	1,132.0	230.7	25.6
Bronx	49.2	54.2	58.2	61.7	64.7	15.5	31.5
Kings	118.9	127.9	135.9	141.9	147.9	29.0	24.4
New York	622.6	663.1	701.5	728.9	750.3	127.7	20.5
Queens	103.9	117.9	131.9	143.9	151.9	48.0	46.2
Richmond	6.7	8.7	11.2	14.2	17.2	10.5	156.7
Dutchess	10.6	13.6	16.6	20.1	23.6	13.0	122.6
Nassau	119.9	136.9	151.9	163.9	177.9	58.0	48.4
Orange	9.8	12.3	15.3	18.8	22.8	13.0	132.7
Putnam	1.5	2.0	2.5	3.0	3.5	2.0	133.3
Rockland	9.8	12.8	17.8	23.8	30.8	21.0	214.3
Suffolk	38.3	45.3	53.3	63.3	75.3	37.0	96.6
Westchester	88.0	99.0	112.0	123.0	135.0	47.0	53.4
CONNECTICUT SECTOR							
Fairfield	60.2	68.2	77.2	85.2	92.2	32.0	53.2

Table 20

GOVERNMENT JOBS BY COUNTY: 1965-1985 (In thousands)

	1965	1970	1975	1980	1985	Change 1965-1985 Number	Change 1965-1985 Per cent
23-COUNTY REGION	870.9	972.8	1,081.4	1,169.0	1,303.8	432.9	49.7
NEW JERSEY SECTOR	222.4	250.0	280.2	316.0	347.9	125.5	56.4
Bergen	27.5	31.6	35.0	38.7	41.9	14.4	52.4
Essex	50.5	54.1	55.9	57.5	58.6	8.1	16.0
Hudson	28.0	28.2	28.6	28.8	29.7	1.7	6.1
Mercer	22.2	25.8	29.8	34.8	39.3	17.1	77.0
Middlesex	24.0	28.5	35.2	44.7	51.2	27.2	113.3
Monmouth	22.8	27.4	33.9	42.9	49.9	27.1	118.9
Morris	9.5	11.3	14.2	16.8	21.3	11.8	124.2
Passaic	13.8	15.8	17.2	18.8	19.8	6.0	43.5
Somerset	4.1	5.3	7.2	8.5	10.6	6.5	158.5
Union	20.0	22.0	23.2	24.5	25.6	5.6	28.0
NEW YORK SECTOR	621.8	691.9	767.3	835.2	915.8	294.0	47.3
New York City	457.6	499.5	543.8	582.0	632.9	175.3	38.3
Bronx	49.9	53.4	56.4	58.4	62.4	12.5	25.1
Kings	111.8	118.8	124.8	128.8	134.8	23.0	20.6
New York	202.2	216.6	232.9	249.1	265.7	63.5	31.4
Queens	77.4	90.4	105.4	117.4	135.4	58.0	74.9
Richmond	16.3	20.3	24.3	28.3	34.6	18.3	112.3
Dutchess	10.6	12.3	14.0	17.4	20.4	9.8	92.5
Nassau	63.3	76.3	87.4	91.0	94.8	31.5	49.8
Orange	10.0	11.5	13.3	15.5	20.5	10.5	105.0
Putnam	1.7	2.0	2.4	3.1	3.9	2.2	129.4
Rockland	11.0	13.9	17.7	23.4	27.9	16.9	153.6
Suffolk	32.6	38.5	45.8	54.8	61.0	28.4	87.1
Westchester	35.0	37.9	42.9	48.0	54.4	19.4	55.4
CONNECTICUT SECTOR							
Fairfield	26.7	30.9	33.9	37.8	40.1	13.4	50.2

SECTION 2

How the Forecasts Were Made

DEVELOPMENT OF THE POPULATION FORECAST

The projection of population represents one of the most critical areas in the structure of an over-all forecast of Regional activity, since population is a key to estimating such factors as employment, housing and land use. These elements, along with population growth, will determine the Region's future development.

Preparation of the Regional Studies Section population forecast involved the development of four inter-related approaches to obtain 1965-1985 population forecasts for the Region and its counties. The first two approaches developed forecasts of Regional population and its distribution by age groups. The third and fourth approaches were concerned primarily with allocating this population growth among the various counties within the Region.

1. Total Population Forecast

The total population forecast for the Region was developed from U.S. Census population projections for Connecticut, New York, and New Jersey. A projection through 1985 was prepared for the share of the Tri-State population expected to reside in the 23-County Region based on historic trend.

The Census Bureau has published a series of alternative projections of individual state populations based on a number of alternative assumptions. These include population redistribution through interstate migration and different rates of natural population increase. The Regional Studies Section, guided by an analysis of the changing demographic composition of both the Region and the nation, elected to use a projection based on Census Series II-B. This assumes a convergence of the gross migration rate of the nation with that of states in the study area and a moderate decline in fertility.

2. Projection of Regional Population by Age Groups

The population forecast by age group involved the development of a model breaking the projected Regional population into age groups and households by five-year intervals through 1985. This data was critical in the development of forecasts of housing, settlement patterns and labor force participation rates. The projection of Regional population age groups and households was based on the relationships of the Region to the nation developed from the 1960 U.S. Census of Population. When applied to the Census Bureau's national projections of population by age group, these Region-to-nation relationships yielded Regional population totals within 3% of the independently arrived at Regional forecast figure reached in the first approach.

3. Forecast of Regional Population Shifts

The forecast of Regional population shifts involved the development and projection of population flows into, out of, and within the Region. This type of analysis is necessary in determining future population settlement patterns within the Region.

The movement of people leaving New York City for suburban counties has been a key element in the redistribution of population growth between the Region's core and suburban areas. The actual quantification of past intra-regional shifts and the estimation of future movements was based on estimates of natural increase and analyses of population flows. The sources for these data were the 1950 and 1960 censuses of Population and Housing, and local sources, such as the *Statistical Guide for New York City* and the *Annual Reports* of the New York City Board of Education.

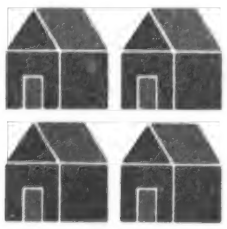


Table 21

ESTIMATE OF HOUSEHOLDS IN THE REGION: 1965-1985

	1965	1970	1975	1980	1985
23-COUNTY REGION	5,563,000	5,961,900	6,334,100	6,758,800	7,168,200
CORE					
New York City	2,768,800	2,827,100	2,894,100	2,956,700	3,029,300
INNER RING	1,699,900	1,841.900	1,955,200	2,057,400	2,167,800
Bergen	271,900	311,200	343,400	377,300	406,400
Essex	298,400	307,300	314,900	320,300	325,800
Hudson	193,000	193,300	194,300	196,200	202,700
Nassau	375,000	412,500	424,300	432,400	444,300
Passaic	139,100	157,700	170,600	176,800	183,300
Westchester	255,200	277,600	315,900	351,800	394,600
Union	167,300	182,300	191,800	202,600	210,700
OUTER RING	1,094,300	1,292,900	1,484,800	1.744,700	1,971,100
Dutchess	53,300	61,500	69,500	84,000	95,200
Fairfield	222,400	256,000	278,400	306,300	321,300
Mercer	83,900	89,600	96,500	103,200	110,400
Middlesex	141,200	174,400	205,400	255,400	287,300
Monmouth	112,100	138,400	173,000	222,400	249,600
Morris	85,400	99,400	124,300	145,700	183,900
Orange	59,900	68,700	79,100	90,900	117,200
Putnam	11,700	13,900	16,100	20,900	26,200
Rockland	47,900	58,400	74,100	90,100	103,300
Somerset	45,900	58,600	68,400	78.100	96,000
Suffolk	230,600	274,000	300,000	347,700	380,700

Population projections by county were based on an analysis of core-suburb population flows, changing age composition of the population, projections of housing and settlement patterns, and population projections prepared by utilities and by county, state and other official planning agencies. Population forecasts for each county in the Region were developed by five-year intervals to 1985. The sum of the Region's county projection derived from this procedure tied in closely with the Regional population estimate arrived at using the first approach. The variation for 1985 between the Regional forecast and the sum of county projections was approximately 2 per cent.

4. Household Projections by County

The projections of households and housing units were used in the forecast as a measure, over time, of internal consistency in terms of population distribution by county within the Region. These projections were based on Census Bureau fertility assumptions and unpublished forecasts of the number and average size of households in the nation.

Estimates of the average size of households in the Region for the forecast period were prepared by comparing 1960 relationships for the counties in the Region and the nation. It was assumed that the factors which operated to cause variations in county household size from the national average would continue, though to a diminishing degree, throughout the forecast period.

Estimates of the total number of county housing units were developed by applying a housing vacancy factor to the forecast of households. A vacancy factor for each county was obtained from the 1960 Census of Housing. It was assumed that the county vacancy rates would remain at the 1960 level throughout the forecast period except for those counties whose unusually high vacancy rates were due to the seasonal use of many units. These high vacancy rates are expected to approach the Regional average as increasing land and housing pressures force the conversion of seasonal units within the Region to year-round use.

DEVELOPMENT OF THE JOB FORECAST

The model used by the Port Authority in transportation forecasting requires job projections in considerable geographic and qualitative detail. To fulfill these requirements, three coordinate approaches were utilized in preparing the forecast of jobs by major industry group for the Region and for each of its 23 counties.

1. Forecast of Regional Labor Force and Total Regional Jobs

In this approach the relationships between the Region's present and projected population, labor force and jobs were established. The Region's current and future labor force was estimated by means of the development and application of labor force participation rates, that is, the proportion of a given population that is in the labor force. The current labor force participation rates were derived from the Census of Population.

Based upon probable future economic and social forces in the Region and the nation, Regional participation rates were projected and applied to the population forecast to obtain the Regional labor force. To obtain total Regional jobs from the calculated Regional labor force, it was necessary to make appropriate adjustments to account for current and future persons in institutions, persons in the Armed Forces, unemployed persons, and persons holding more than one job.

2. Forecast of Regional Jobs by Major Industry Groups

The second forecasting approach covered the estimation and projection of the Region's jobs by major industry groups. The first step involved preparing estimates for the 1965 base year for each industry group. Used for this purpose were the employment series of the Bureau of

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Labor Statistics and estimates derived from Census data on agricultural, domestic, and self-employed workers. This established the 1965 job-by-industry universe. The next step was to project these jobs for each major industry group by five-year intervals to 1985. The sum of the major industry group jobs for each five-year interval was controlled by the forecast of total Regional jobs.

Factors which were taken into account in the projection of jobs among the major industry groups in the Region included historical trends, present economic, social, and demographic patterns and their interrelationships in the future. Particular cognizance was taken of the projected increase in the Region's population, the future relationship of this Region to the nation in terms of types of employment and services performed, and the effect of projected growth of Regional and national incomes as reflected in changes in consumer, business, and government demand for goods and services.

3. Forecast of Jobs by Major Industry Groups for Counties

The third segment of the forecast covered the development of jobs by county and by major industry group. The initial procedure was the development of a 1965 benchmark for each county. It involved combining published employment series and various job estimates to arrive at a 1965 universe by county and by industry group.

Non-agricultural wage and salary job estimates were drawn from the Bureau of Labor Statistics' *Non-Agricultural Establishment Wage and Salary Series;* the employment data published by the Bureau of the Census (based upon Social Security records) in *County Business Patterns;* the *Covered Employment* job data from the New York State Department of Labor on wage and salary jobs reported under the State Unemployment Insurance Law; and the 1962 U.S. Census of Governments. The county estimates of agricultural and domestic jobs for 1965 were derived from the 1960 Census of Population. The 1960 Census of Population was also the basis for estimating and distributing self-employed by industry and county.

Various guidelines were established to distribute the projected Regional totals, developed in the previous approaches, for each of the major industry groups among the 23 counties by five-year intervals in the forecast period.

With the exception of Manhattan, population was the basic guide for distributing jobs in retail trade, finance, services and government among all counties.

The projection of construction jobs in the 23 counties was also related to the provision of facilities for expected population and job growth over the next twenty years.

The projection of jobs in transportation, communications and public utilities in each of the 23 counties was related to past trends and the projected over-all economic activity in the counties.

For the estimate of future manufacturing and wholesale trade jobs, an analysis was made of national and Regional trends in manufacturing and distribution, of the availability of suitable land for future development, and of the present and future transportation networks. An important factor entering in the evaluation of future job growth in manufacturing and distribution in the New Jersey sector, as well as the Region, was the probable large-scale industrial and commercial development of the Jersey Meadows.

Jobs in Manhattan—Particular attention was given to the analysis of key determinants to project future changes in the job structure in Manhattan. Included among these were: the scarcity and high cost of land; the difficulty of transporting and distributing commodities in and through Manhattan; the shift of retail trade and householders' consumer services within the Region; the continued growth of the headquarters and office function and its multiplier effect on business services and other related employment; the greater role of government in the economic and social life of the nation and the Region; increases in Regional and national income; and the development of closer economic and social ties with Europe and the rest of the world.

The Port of New York Authority, 111 Eighth Avenue, New York, New York 10011

Printed in U.S.A.

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Proposed Occupational and Vocational-Technical Education Programs for Rhode Island; Rhode Island Vocational Technical Education Development Project.

Columbia Univ., New York, N.Y. Inst. of Field Studies
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Dec65 83p.

*PROGRAM IMPROVEMENT; *PROGRAM PLANNING; PROGRAM DEVELOPMENT; PROGRAM COORDINATION; *VOCATIONAL EDUCATION; *MANPOWER NEEDS; EDUCATIONAL NEEDS; HIGH SCHOOLS; POST SECONDARY EDUCATION; VOCATIONAL SCHOOLS; ADULT VOCATIONAL EDUCATION; EMPLOYMENT PROJECTIONS; OCCUPATIONAL CLUSTERS
RHODE ISLAND

Specific recommendations for programs designed to meet the occupational needs of high school and post-high school students, out-of-school youth, and adults in a society influenced by technological change are presented. Projected labor needs in the State in 11 occupations areas for 1960-70, the potential supply of trained workers from public preparatory programs in the State, and program implications are included. Recommended programs for secondary schools are (1) metal construction and electrical-electronics trades, (2) office and distributive occupations, and (3) others such as agriculture and agriculture-related, cosmetology, industrial drafting, home economics occupations, basic graphic arts, and textiles. Recommended programs at the post-secondary level are (1) chemical, civil engineering and construction, mechanical, electrical-electronics, instrumentation, drafting, and data processing technology, (2) business administration, marketing management, and hotel and resort management, (3) horticulture and landscaping technology, (4) secretarial science, and (5) medical and health science technology. Recommended programs for out-of-school youth and adults are (1) foods trades, (2) manufacturing such as machine tool operator, maintenance mechanic, welder, and assembler, (3) power sewing machine operator, and (4) service occupations such as automobile body and electrical appliance repairmen. Major recommendations presented in five previous reports, recommendations as to future use of the Rhode Island Vocational and Technical School at Corliss Park, and important concepts basic to successful programs are included. (MM)

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RHODE ISLAND
VOCATIONAL-
TECHNICAL
EDUCATION
DEVELOPMENT
PROJECT

PROPOSED OCCUPATIONAL AND VOCATIONAL-TECHNICAL EDUCATION PROGRAMS FOR RHODE ISLAND

DECEMBER, 1965

VT003525

Institute of Field Studies
Teachers College, Columbia University
New York City 10027

Rhode Island Vocational-Technical
Education Development Project

PROPOSED OCCUPATIONAL AND VOCATIONAL-TECHNICAL EDUCATION PROGRAMS FOR RHODE ISLAND

Prepared by

Institute of Field Studies
Teachers College, Columbia University
New York, New York

December 1965

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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FOREWORD

The reader should understand that this is one of a series of reports which have been prepared for the State Board of Education by the Institute of Field Studies, Teachers College, Columbia University. Titles of other reports in the series follow:

- Occupational Education in the Comprehensive High School
- Where Should Occupational Education be Taught at the Secondary Level?
- Occupational and Vocational-Technical Education in the United States
- Present Programs of Occupational Education in Rhode Island
- Rhode Island: Its People and Its Economy
- A Proposed Long-Range Plan for Occupational and Vocational-Technical Education for Rhode Island

This group of documents should be viewed as a single, unified report, the purpose of which is to assist the State Board of Education to plan an expanded and improved program of occupational and vocational-technical education for Rhode Island. Regarded in this manner, each individual report deals with a segment of the problem and may be likened to a chapter in the total report.

This report is important because it spells out specific recommendations for programs designed to meet the occupational needs of high school and post-high school students and of out-of-school youth and adults in a society profoundly influenced by technological change. Recommendations that are basic to this report as well as supportive data and reasoning are provided by other reports in the series.

It will be noted that school enrollment data used in this report are derived from the 1963-1964 academic year. This has been done intentionally because data cited in previous reports have been drawn from that school year. To introduce another base could only be confusing.

No one is omniscient enough to predict the future with certainty. The surest prognosis is continued and accelerated change. The consultants have given careful attention to the probable nature of this change and have recommended programs designed to meet the needs of the future. However, it would be an illusion to view the programs herein proposed, or any others, as final answers. No forecast of the future can assume to be accurate over a long period; consequently, no educational program can be considered static. It is implicit that school officials remain sensitive to change and that programs be kept flexible enough to respond to new developments.

The consultants wish to express gratitude to the staff of the State Department of Education, to the administrative staff of the Junior College, and to officials of the Rhode Island Department of Employment Security. All requests for both general information and specific data were promptly granted.

The consultants also wish to acknowledge the valuable insights and perceptions of the local situations received from these same sources, which were helpful in developing the recommendations of this report.

I. INTRODUCTION: MAJOR RECOMMENDATIONS PRESENTED IN PREVIOUS REPORTS

As indicated in the Foreword, the program suggestions included in this report must be considered within the context of four basic recommendations made in previous reports. These four recommendations may be briefly summarized as:

1. Occupational education at the secondary level should be taught in comprehensive high schools rather than in specialized schools. Education for the world of work cannot realistically be separated from general education, and it is too important to be shunted into a separate compartment. (For full discussion of this recommendation see the reports; Where Shall Occupational Education be Taught at the Secondary Level and Occupational Education in the Comprehensive High School.)

2. A broad choice of occupational curricula should be made available to all high school students of the state. If appropriate programs are not offered in their own school districts, students should have the opportunity to attend "area" comprehensive high schools which offer diversified programs supported by state and federal funds. Recognizing the fact that an enrollment of 1,500 to 2,000 students is usually required to provide a satisfactory range of occupational courses and that many high schools cannot, therefore, justify suitable programs in terms of either numbers or cost, federal legislation (the Vocational Education Act of 1963) provides special financial support for "area" high schools. The State Board of (Vocational) Education should designate "area" schools, which are then entitled to federal assistance for construction or alteration of facilities necessitated by the expansion or improvement of their programs in occupational education. This federal assistance is in addition to federal support of occupational programs, which all schools enjoy. Under the provisions of the Vocational Education Act of 1963, the programs in occupational education offered by an "area" school must be available to all residents of the state or to an area designated by the State Board.

In recommending the establishment of "area" comprehensive high schools, the consultants have also indicated that as a general policy students from other districts should become full-time members of the student body of the "area" high school, as contrasted with attendance on a part-time basis. Tuition should be paid by the home district. (For further details concerning this recommendation, including a list of proposed "area" comprehensive high schools and the areas which they might service, see the report; A Proposed Long-Range Plan for Occupational and Vocational-Technical Education for Rhode Island, pages 21-26.)

3. A strong program of vocational-technical education at the post-secondary level should be developed in comprehensive Junior College - Vocational Technical Centers, rather than in separate technical institutes. The whole spectrum of students' needs at the thirteenth and fourteenth grade levels - both academic and occupational - would then be provided for in unified centers. Furthermore, competing institutions and duplicated facilities would be avoided. To implement this plan, the State Board of Education should enter into a contractual and cooperative agreement with the Board of Trustees for State Colleges for those programs which are designed to prepare students in two years or less for employment in specific occupational fields. In addition to providing the most economical solution this arrangement best serves student interests. (See the report; A Proposed Long-Range Plan for Occupational and Vocational-Technical Education for Rhode Island, pages 27-31.)

4. There should be a massive expansion of vocational and technical programs of short and long term duration to meet the needs of youth who have left school, of youth and adults who suffer from inadequate training, and of adults who require retraining or upgrading. The facilities of high schools, area high schools and Junior College - Vocational Technical Centers should be utilized, especially for late afternoon and evening programs, where they are adequate and when they are in proximity to persons who need their services. In addition, the Corliss Park building should be converted to new purposes, a major one of which should be an adult occupational training center. As such, it should operate both day and evening and offer programs not easily provided elsewhere, as well as apprentice training, MDTA and other government sponsored programs. (See further recommendations in the report; A Proposed Long-Range Plan for Occupational and Vocational-Technical Education for Rhode Island, pages 32-34.)

II. PROJECTED LABOR MARKET NEEDS, PRESENT SOURCES OF SUPPLY, AND PROGRAM IMPLICATIONS

A sound program of occupational education at the state-wide level should be planned to satisfy, insofar as possible, the needs of those preparing for employment and at the same time to serve the requirements of the economy. It becomes necessary, therefore, to anticipate shifts in the patterns of employment, to foresee changes in job requirements, and to measure both the quantity and the quality of the products of existing training programs against probable future employment demands.

The national impact of automation upon the labor force has been discussed in the report; A Proposed Long-Range Plan for Occupational and Vocational-Technical Education for Rhode Island. Trends in the economy of Rhode Island and in its labor force have been explored in the report; Rhode Island: Its People and Its Economy.

The first objective of this report is to examine data that will (1) indicate Rhode Island's probable future needs for labor in representative occupations, and (2) reveal the degree to which present training programs in the state are preparing a supply of labor for those occupations. Such data have program implications; they provide clues to the types of occupational programs that should be offered and, to some extent, how extensively they should be offered.

Estimated Future Need for Labor in Representative Occupations

The first source of data used is that portion of the United States

Census which deals with the characteristics of the population in Rhode Island. A comparison between the numbers employed in selected occupations in 1950 and the numbers employed in 1960 reveals the percentage of change that occurred in each occupation within the ten year period. By assuming that the rate of change will be the same over the next decade and allowing for attrition (deaths, retirements, and other separations), it is possible to estimate the number of new workers who will be needed in each occupation in the 1960-70 period and to reduce this figure to an average number needed per year.

This has been done in Table 1. It must be borne in mind, however, that the past and the present do not always provide accurate forecasts of the future. The experience of the last decade cannot be assumed to be the experience of the next decade. The data must be considered within the context of general trends. Even then, two variables in particular are difficult to predict: the health of the economy and the rapidity with which technological change will affect labor demands in specific occupational fields. Despite these qualifications, this method yields estimates that are as good as any others.

The second source of data used in estimating the future need for labor in specified occupations is a study conducted by the Rhode Island Department of Employment Security titled Manpower Resources in Rhode Island 1962-65. As a part of this study the Department sent questionnaires to a representative sampling of employers in 1960. These employers were asked to estimate the numbers of new employees (exclusive of those in plant training) they would require between 1960 and 1965 to provide for anticipated expansion and replacement needs. The study covers a group of selected occupations. Results

TABLE 1

ESTIMATED FUTURE NEEDS FOR LABOR IN SELECTED OCCUPATIONS
IN RHODE ISLAND, AS PROJECTED FROM UNITED STATES CENSUS DATA
1960-1970

Occupations	Numbers Employed 1950	Numbers Employed 1960	Percentage Change	New Workers Needed 1960-70 Growth	New Workers Needed 1960-70 Attrition	New Workers Needed 1960-70 Total	Average Number Needed per Year
Agricultural-Related							
Farmer	1,839	1,076	-41	-441	290	-151	-15
Gardener, Groundskeeper	1,076	1,185	10	119	300	419	42
Construction							
Brickmason	738	683	7	- 48	170	122	12
Cabinetmaker	317	327	3	10	80	90	9
Carpenter	4,661	4,019	-14	-563	1,010	447	48
Electrician	1,533	1,556	2	31	390	421	42
Painter	2,527	2,062	-18	-371	520	149	15
Plasterer	277	300	8	24	80	104	10
Plumber, Pipefitter	1,598	1,462	- 8	-117	360	243	24
Sheetmetal Worker	591	622	5	31	160	191	19
Structural metal Worker	150	396	164	649	100	749	75
Excavating Road Machine Operator	286	519	81	420	130	550	55
Foods							
Baker	922	894	- 3	- 27	230	203	20
Cook (except household)	1,944	2,272	17	386	760	1,146	115
Meatcutter	745	864	16	138	220	358	36
Waiter, Waitress	2,405	3,189	33	1,052	1,460	2,512	251

TABLE 1 (Continued)

ESTIMATED FUTURE NEEDS FOR LABOR IN SELECTED OCCUPATIONS
IN RHODE ISLAND, AS PROJECTED FROM UNITED STATES CENSUS DATA
1960-1970

Occupations	Numbers Employed		Percentage Change	New Workers Needed 1960-70			Average Number Needed Per Year
	1950	1960		Growth	Attrition	Total	
Manufacturing							
Machinist	3,911	3,244	-17	-551	820	269	27
Millwright	231	151	-35	- 53	40	- 13	- 1
Pattern & Model Maker	251	277	10	28	70	98	10
Molder (metal)	447	678	52	353	200	553	55
Job Setter (machine)	125	223	78	174	60	234	23
Tool & Die Maker	1,803	1,541	-14	-216	380	164	16
Heat Treater	161	212	32	68	50	118	12
Assembler	3,442	4,294	25	1,074	1,520	2,894	289
Inspector Checker	4,742	4,299	- 9	-389	1,760	1,373	137
Pressman & Plate Printer	163	231	42	97	60	157	16
Photoengraver, Lithographer	192	165	14	- 23	50	27	3
Compositor, Typesetter	921	1,022	11	112	280	392	39
Medical & Health Occupations							
Professional Nurse	2,336	3,067	31	951	1,510	2,461	246
Practical Nurse	597	1,118	87	973	540	1,513	151
Medical & Dental Assistant	197	270	37	100	130	230	23
Medical & Dental Technician	430	586	36	211	240	451	45
Needle Trade Occupations							
Seamstress (factory)	3,684	4,039	10	404	1,980	2,384	238
Dressmaker (not factory)	923	548	-41	-225	270	45	5
Tailor	509	302	-41	-124	90	- 34	- 3

TABLE 1 (Continued)

ESTIMATED FUTURE NEEDS FOR LABOR IN SELECTED OCCUPATIONS
IN RHODE ISLAND, AS PROJECTED FROM UNITED STATES CENSUS DATA
1960-1970

Occupations	Numbers Employed		Percentage Change	New Workers Needed 1960-70			Average Number Needed per Year
	1950	1960		Growth	Attrition	Total	
Office Occupations							
Bookkeeper	4,198	4,313	3	129	2,040	2,169	217
Office Machine Operator	651	1,201	84	1,009	660	1,669	167
Payroll Clerk	362	752	108	812	320	1,132	113
Receptionist	382	539	41	221	270	491	49
Stenographer, Secretary	5,960	7,219	21	1,516	3,520	5,036	504
Telephone Operator	2,237	1,743	-22	-383	860	477	48
Typist	1,734	2,197	26	571	1,050	1,621	162
Stock Clerk, Storekeeper	1,291	2,248	74	1,663	660	2,323	232
Shipping, Receiving Clerk	2,612	2,382	- 9	-214	670	456	46
Miscellaneous Clerical Jobs	13,565	14,665	8	1,173	6,000	7,173	717
Personal Service Occupations							
Cosmetologist	981	1,292	32	413	600	1,013	101
Shoe Repairman	369	211	-43	- 91	50	- 41	- 4
Barber	1,080	894	-17	-152	230	78	8
Laundry, Dry Cleaning Worker	2,247	2,002	-11	-220	830	610	61
Sales Occupations							
Salesman (retail)	13,842	12,431	-10	-1,243	4,640	3,397	340
Salesman (wholesale)	1,866	2,342	25	586	610	1,196	120
Salesman (manufacturing)	1,904	1,966	3	59	550	609	61
Salesman (real estate)	437	636	45	286	190	476	48
Salesman (insurance)	1,392	1,613	16	258	350	608	61

TABLE 1 (Continued)

ESTIMATED FUTURE NEEDS FOR LABOR IN SELECTED OCCUPATIONS
IN RHODE ISLAND, AS PROJECTED FROM UNITED STATES CENSUS DATA
1960-1970

Occupations	Numbers Employed 1950	Numbers Employed 1960	Percentage Change	New Workers Needed 1960-70 Growth	New Workers Needed 1960-70 Attrition	New Workers Needed 1960-70 Total	Average Number Needed Per Year
Technical Service Occupations							
Electrical Lineman (telephone and power)	976	1,198	23	276	300	576	58
Airplane Mechanic	560	797	42	335	190	525	53
Automobile Mechanic & Auto Body Repairman	3,101	3,100	---	---	780	780	78
Radio, TV Serviceman	447	517	16	83	130	213	21
Air Conditioning Mechanic	300	276	- 8	- 22	70	48	5
Loom Fixer	1,249	616	-51	-314	150	-164	-16
Welder	582	867	49	425	250	675	68
Miscellaneous Mechanics	5,640	7,241	28	2,027	1,870	3,897	390
Technician Occupations							
Draftsman	770	951	24	228	250	478	48
Surveyor	79	131	66	86	30	116	12
Radio Operator	55	103	87	90	20	110	11
Electrical, Electronic Technician	51	348	582	2,025	90	2,115	212
Other Engineering & Science Technicians	419	916	118	1,081	290	1,371	137
Miscellaneous Technicians	88	178	102	182	50	232	23

Source: Compiled from data in U.S. Census of Population, 1960.
Rhode Island - Characteristics of the Population, Table 120.
Projections assume same per cent change in 1960-70 as in 1950-60.
Attrition rates: 2 1/2 per cent per year for men; 5 per cent per year for women.

are shown in Table 2.

This method of projecting future labor needs is totally different from the method which utilizes census figures. It is not surprising then that it shows somewhat differing results. Like the census method it has shortcomings. It must rely upon the judgment of individuals who are called upon to predict trends within their own companies as well as general business trends. This fact is made clear by the Department of Employment Security in its study and in subsequent bulletins. Predictions of occupational needs derived in any manner are only approximate.

One additional piece of information relating to needs for labor in specific occupations is worth considering. In October 1965, the Department of Employment Security released to the consultants a list of occupations which the Department then considered in short supply of labor. This list appears in Table 3.

Since no highly accurate prediction of labor needs is possible, indications taken from past employment experience in Rhode Island (Table 1) and from careful projections by Rhode Island employers (Table 2) plus a current appraisal (Table 3) seem, if viewed in the light of anticipated trends, to provide the basis for judgments necessary to program planning.

Potential Supply of Trained Workers in Various Occupational Fields

Consideration has been given to the labor needs of various occupational fields. In order to determine to what extent programs of occupational education are required, it is necessary to measure these needs against the

TABLE II

ESTIMATED NEEDS FOR LABOR IN SELECTED OCCUPATIONS IN RHODE ISLAND
RHODE ISLAND DEPARTMENT OF EMPLOYMENT SECURITY
1960-1965

Occupations	1960 Employment	Expansion	Replacement	Total	In-Plant Training	Net Needs 1960-1965	Number Needed Per Year
Construction							
Carpenter, Woodworker	415	- 4	63	59	--	59	12
Electrician	194	13	14	37	--	37	7
Plumber, Steamfitter	150	- 4	22	18	--	18	4
Tinsmith, Sheetmetal Worker	385	-11	36	25	--	25	5
Foods							
Baker	411	--	47	47	--	47	9
Manufacturing							
Machinist	1,328	59	148	207	71	136	27
Machine Tool Operator	3,618	461	389	850	40	810	162
Millwright	727	35	82	117	--	117	23
Molder	244	40	8	48	--	48	10
Coremaker	282	--	28	28	--	28	6
Jeweler, Watchmaker Silversmith, Goldsmith, Engraver	737	117	138	255	15	240	48
Solderer, Ringmaker	1,051	48	125	173	--	173	35
Toolmaker, Diemaker	1,390	95	167	262	142	120	24
Printing Occupations	1,035	--	87	87	15	72	14
Electroplater	403	49	17	66	50	16	3
Loom Starter	271	22	46	68	8	60	12
Weaver	2,348	-14	371	357	101	256	51

TABLE II (Continued)

ESTIMATED NEEDS FOR LABOR IN SELECTED OCCUPATIONS IN RHODE ISLAND
RHODE ISLAND DEPARTMENT OF EMPLOYMENT SECURITY
1960-1965

Occupations	1960 Employment	Expansion	Replacement	Total	In-Plant Training	Net Needs 1960-1965	Number Needed Per Year
Needle Trade							
Dressmaker, Seamstress	177	10	42	52	20	32	6
Tailor	863	--	182	182	--	182	36
Technical Service							
Electrical Lineman Serviceman	524	13	41	54	--	54	11
Automobile Mechanic	2,223	-39	122	83	--	83	17
Maintenance Mechanic	4,806	353	494	847	84	763	153
Loom Fixer	527	-27	76	49	53	- 4	--
Welder	145	3	14	17	15	2	--
Technician							
Electromic Technician	184	228	33	261	--	261	52

Source: Manpower Resources in Rhode Island 1962-65 by the Rhode Department of Employment Security.

TABLE III

SELECTED OCCUPATIONS CONSIDERED IN SHORT SUPPLY OF LABOR BY THE DEPARTMENT OF EMPLOYMENT SECURITY OCTOBER 1965

Agricultural-Related Occupations

- Nurseryman

Foods Occupations

- Baker (all-round)
- Baker (helper)
- Cook (hotel and restaurant)
- Cook (restaurant, short order)
- Cook's Helper
- Waitress (restaurant)
- Counterman, Countergirl
- Kitchen Helper (hospital)

Manufacturing Occupations

- Automatic Screw Machine Operator
- Machine Tool Operator (general)
- Milling Machine Operator
- Turret Machine Operator
- Silk Finisher and Presser
- Weaver

Medical and Health Occupations

- Dental Assistant
- Hospital Orderly
- Hospital Janitor
- Hospital Maid (ward)
- Hospital Nurse's Aide
- Hospital Clerk-Typist (medical terminology)

Needle Trades Occupations

- Seamstress
- Slipcover Seamstress

Office Occupations

- Clerk-Typist
- Clerk-Stenographer
- Secretary

Personal Service Occupations

- Dry Cleaner and Spotter

Technical Service Occupations

- Automobile Body Repairman
- Automobile Body Repairman (helper)
- Automobile Service Station Mechanic
- Electrical Appliance Serviceman
- Loom Fixer
- Welder

Technician Occupations

- Draftsman (architectural)
- Draftsman (mechanical)
- Draftsman (structural)

Source: Rhode Island Department of Employment Security

numbers being prepared to fill them. This is the raw material for the judgment of whether a given program should be offered and if so, how extensively it should be offered.

Table 4 shows the numbers who were prepared for various occupational fields by public programs in the school year 1963-1964.

Implications for Programs in Occupational Education

The remainder of this section is devoted to implications for specific programs of occupational education as seen by the consultants after analysis of the data presented in Tables 1,2,3,and 4. Program developments in other states and national employment trends have also been considered.

As used in the following material, Labor Market Needs refers to the need for employees in the particular occupation under discussion; Potential Labor Supply means the labor supply that may be expected from existing training programs. Enrollment data are for the 1963-1964 school year.

Agricultural - Related Occupations

Farmer

Labor Market Needs:	Decreasing numbers are required annually. This is a national trend and very marked in Rhode Island.
Potential Labor Supply:	Nearly 500 students are enrolled in high school programs; there are an estimated 110 graduates each year.
Program Implications:	The demand does not match the supply in general farming. Occupational programs to prepare for allied occupations should be considered. See Farming-Related.

TABLE IV

POTENTIAL SUPPLY OF TRAINED WORKERS FROM
PUBLIC PREPARATORY PROGRAMS IN RHODE ISLAND
1963-1964

Occupations	Apprenticeship		Full-time Day Programs		Cooperative Programs		MDTA	Total
	Enrollment	Estimated Graduates	Enrollment	Estimated Graduates	Enrollment	Estimated Graduates		
Agricultural-Related								
General Agriculture	---		491	110	---	---	---	110
Construction								
Mason	13	3	---	---	---	---	---	3
Carpenter, Cabinet Maker	52	13	302	60	9	6	---	79
Electrician	37	9	182	34	7	5	---	48
Painter and Decorator	---	---	72	12	---	---	---	12
Plumber	103	25	---	---	---	---	---	25
Steamfitter	24	6	---	---	---	---	---	6
Sprinkler Fitter	7	2	---	---	---	---	---	2
Sheet Metal Worker	39	10	80	10	6	4	20	44
Structural Metal Worker	33	8	---	---	---	---	---	8
Sign Builder & Painter	31	8	---	---	---	---	---	8
Foods								
No Formal Program	---	---	---	---	---	---	---	---
Manufacturing								
Machine Tool Operator	---	---	268	75	33	28	228	331
Printer	---	---	156	35	13	8	---	43
Textile Worker	---	---	24	2	2	2	---	4

TABLE IV

POTENTIAL SUPPLY OF TRAINED WORKERS FROM
PUBLIC PREPARATORY PROGRAMS IN RHODE ISLAND
1963-1964

Occupations	Apprenticeship		Full-Time Day Programs		Cooperative Programs			
	Enrollment	Estimated Graduates	Enrollment	Estimated Graduates	Enrollment	Estimated Graduates	MDTA	Total
Medical and Health								
Practical Nurse	---	---	100	77	---	---	---	77
Nurse's Aide	---	---	---	---	---	---	40	40
Medical Secretary	---	---	---	---	10	9	---	9
Needle Trade								
Dressmaker	---	---	40	10	---	---	---	10
Office								
Clerk-Stenographer	---	---	---	---	---	---	36	36
Sales								
Retail Salesman	---	---	---	---	63	57	---	57
Technical Service								
Automobile Mechanic	---	---	404	65	32	20	65	150
Auto Body Repairman	---	---	---	---	---	---	15	15
Electronic	---	---	141	34	---	---	---	34
Loom Fixer	---	---	---	---	---	---	8	8
Building Custodian	---	---	---	---	---	---	29	29
Technician								
Draftsman	---	---	46	10	---	---	---	10

Note: Data in the above table do not include students enrolled in business education programs in the high schools which formerly were not subsidized by federal funds, persons trained in private business and trade-technical schools, and workers trained within industry.

Source: Rhode Island State Department of Education.

Farming-Related

Labor Market Needs: Tables 1 and 3 indicate a demand for gardeners, groundskeepers and nurserymen. Higher standards of living plus beautification of public buildings and highways make this an expanding occupational field.

Potential Labor Supply: No specific programs are offered.

Program Implications: Some high school programs in general agriculture should be converted to preparation for gardeners, nursery employees, landscaping assistants, florists, etc. At the post-secondary level programs for landscape architects, nurserymen, greenhouse operators, etc., should be provided in the Junior College - Vocational Technical Centers.

Construction Occupations

Woodworker

Labor Market Needs: Tables 1 and 2 show a moderate demand for carpenters and cabinetmakers.

Potential Labor Supply: Seven high schools offer programs; there is also an apprentice program. Total annual output is estimated at 79. This figure exceeds estimates of need.

Program Implications: Placement records of woodworking programs should be watched. Content of the programs should be expanded to include wood finishing and possibly boat building.

Painter

Labor Market Needs: The needs appear small; Table 1 estimates 15 per year.

Potential Labor Supply: Two high schools offer programs in painting and decorating with an estimate of 8 graduating. There are also 31 apprentices in more specialized sign construction and painting with an estimate of 8 completions per year.

Painter (continued)

Program Implications: Present programs should be continued only if placement records are satisfactory.

Plumber - Steamfitter

Labor Market Needs: Tables 1 and 2 indicate a comparatively small need.

Potential Labor Supply: There are no high school programs. Training is handled through apprenticeships. There are an estimated thirty completions per year.

Program Implications: The apprentice program apparently meets the needs. There is no reason to organize a high school occupational program.

Mason

Labor Market Needs: Table 1 indicates 12 per year as bricklayers and plasterers.

Potential Labor Supply: There are no high school programs. Training is handled through apprenticeships. There are an estimated 3 completions per year.

Program Implications: If the apprentice program does not meet the needs, encourage more applicants. No formal high school program should be organized.

Foods Occupations

Baker, Cook

Labor Market Needs: There is a heavy demand and evidence that restaurant and hotel bakers and cooks are in short supply.

Potential Labor Supply: There are no organized training programs.

Program Implications: Programs should be developed as part of a larger food trades program in an adult occupational training center.

Meat Cutter

Labor Market Needs: There is a moderate demand. Table 1 estimates 36 needed per year.

Potential Labor Supply: No organized programs are available.

Program Implications: A course should be developed as part of a larger food trades program in an adult occupational training center.

Waiter, Waitress, Counterman

Labor Market Needs: The demand is heavy. These occupations are in short supply of labor.

Potential Labor Supply: No organized programs exist.

Program Implications: Short term courses should be included as a part of a larger foods trade program in an adult occupational training center.

Manufacturing Occupations

Machinist-Toolmaker

Labor Market Needs: Table 1 estimates 27 machinists and 16 toolmakers needed per year. Table 2 indicates 27 machinists and 24 toolmakers.

Potential Labor Supply: Training is done in apprentice programs operated by industry.

Program Implications: The apprentice program should be continued by industry.

Machine Tool Operator

Labor Market Needs: There is a heavy demand for general machine tool operators and for operators of turret lathes, milling machines, and automatic screw machines. A short supply of labor is indicated.

Potential Labor Supply: Approximately 103 high school students are graduated from machine shop programs. In addition, 228 were trained in MDTA programs in 1963-1964.

Machine Tool Operator (Continued)

Program Implications: High school machine shop programs should be expanded and care given to quality preparation. MDTA programs should be continued at adult occupational training center. Other evening adult programs should be offered at well equipped area comprehensive high schools as the need requires.

Maintenance Mechanic

Labor Market Needs: Large numbers are needed. This is a growing occupational field.

Potential Labor Supply: There are no organized programs for this specific purpose.

Program Implications: Programs of broad basic character should be introduced as program clusters in area comprehensive high schools. (Program clusters are commented upon later in this report.) One unit should be small engine repair. A program should also be organized for adults in an adult occupational training center.

Welder

Labor Market Needs: The demand for welders is relatively heavy. Table 1 estimates that 68 are needed per year. There is evidence that they are in short supply.

Potential Labor Supply: Incidental training is available, but there is no organized program in welding.

Program Implications: In high school occupational programs welding should be considered as a service to other occupations and included in basic training. Adult courses should be offered in an adult occupational training center and in evening sessions at area comprehensive high schools as the need requires.

Jeweler, Watchmaker, Silversmith, Goldsmith, Solderer, Ringmaker

Labor Market Needs: There is a moderate demand.

Jeweler, Watchmaker, Silversmith, Goldsmith, Solderer, Ringmaker (Continued)

Potential Labor Supply: No organized programs are offered.

Program Implications: If the demand increases or there is evidence of a short supply of workers, the possibility of a training program of broad scope for adults should be studied.

Sheetmetal Worker (also in Construction Occupations)

Labor Market Needs: Table 1 estimates that 19 are needed per year; Table 2, that 5 are needed per year.

Potential Labor Supply: Apprenticeship produces about 10 per year. There are programs in two high schools which graduate about 14. In addition MDTA produced about 20 in 1963-64, making a total of 44 prepared that year.

Program Implications: Present programs should be continued, as long as placement records are satisfactory. The MDTA program can be dropped if the need for it no longer exists.

Pattern Maker, Molder

Labor Market Needs: The numbers needed do not appear to be large.

Potential Labor Supply: There are no organized programs.

Program Implications: Further investigation is called for. The equipment is expensive for the numbers to be trained. If foundry practice is introduced, patternmaking should accompany it. Otherwise, apprentice training may be the best solution.

Printer

Labor Market Needs: Table 1 estimates that 39 compositors and 16 pressmen are needed per year. Table 2 estimates that 14 new employees are required annually in the printing occupation.

Printer (Continued)

Potential Labor Supply:	About 43 are graduated from high school programs each year. There are no enrolled apprentices but the International Typographical Union has a correspondence program. Equipment in the schools is not generally good and offset processes are not provided for.
Program Implications:	At the secondary school level printing should be continued as a broad program basic to the graphic arts and without specialization. Basic offset processes should be included in the program. At the post-secondary level programs in the graphic arts including managerial aspects should be considered in the Junior College - Vocational Technical Centers.

Assembler

Labor Market Needs:	There is a fairly heavy demand with seasonal variations for assemblers. The jewelry industry requires many women.
Potential Labor Supply:	There is no organized program of preparation.
Program Implications:	No school program should be introduced since this is a semi-skilled job. MDTA programs can be operated at the adult occupational training center as needs require.

Medical and Health Occupations

The national trend is a rapid expansion in all medical and health occupations. Increased emphasis upon health including governmental health programs for the aged has created a national shortage of trained workers. At the same time mounting specialization in medicine and dentistry accompanied by new laboratory techniques has resulted in growing demands for medical and dental technicians. Comparison with other states shows that Rhode Island is

far down the list in preparing persons for medical and health occupations.

(See the report Present Programs in Occupational Education in Rhode Island, pages 12-15.)

Professional Nurse

Labor Market Needs:	Many professional nurses are needed; Table 1 estimates 246 per year.
Potential Labor Supply:	Not known.
Program Implications:	There is a marked trend toward two-year college or university training for nurses. Junior Colleges throughout the country are developing nursing programs. The Junior College-Vocational Technical Centers should offer such a program.

Practical Nurse

Labor Market Needs:	Practical nurses are also in short supply. It appears that at least 151 and probably more are needed per year in Rhode Island.
Potential Labor Supply:	The Rhode Island School of Practical Nursing enrolls about 100.
Program Implications:	The Rhode Island School of Practical Nursing should be incorporated into a larger program in one or more of the Junior College-Vocational Technical Centers.

Medical and Dental Laboratory Technicians

Labor Market Needs:	The demands for sub-professional medical and dental assistants are increasing rapidly and are not being met.
Potential Labor Supply:	There are no organized programs.
Program Implications:	Preparation should be assumed by the Junior College-Vocational Technical Centers.

Medical and Dental Assistants

Labor Market Needs:	General assistants capable of a variety of duties, some of which border on the sub-professional, are in short supply. Secretaries and typists trained in medical terminology are also needed.
Potential Labor Supply:	A small number are enrolled in a cooperative program preparing medical secretaries in Cranston East High School.
Program Implications:	Basic preparation for typists with some knowledge of technical terms can be given in high school programs. More advanced training for medical secretaries and preparation for sub-professional knowledge and skills such as required for dental hygienist should be placed in the Junior College-Vocational Technical Centers.

Needle Trade Occupations

Dressmakers, Seamstresses, and Tailors

Labor Market Needs:	There is a steady and moderate demand for dressmakers and tailors. Seamstresses appear to be in short supply.
Potential Labor Supply:	There are about 10 high school graduates per year in dressmaking.
Program Implications:	The high school home economics specialist should develop further programs in this field as permitted under the Vocational Education Act of 1963. Training for power sewing machines might be provided for girls in a large area comprehensive high school. A program for adult women should be operated in an adult occupational training center.

Office Occupations

General Office Workers

Labor Market Needs:	All evidence points toward heavy demands for bookkeepers, office machine operators, secretaries, stenographers, typists, and clerks.
Potential Labor Supply:	Large numbers are enrolled in occupational or semi-occupational high school business programs. There are also several private business schools.
Program Implications:	High school programs should be continued and improved where possible. That phase of of the program which deals with business machines requires the continual acquisition of newly developed machines. Advanced programs should be placed in the Junior College-Vocational Technical Centers.

Data Processing-Programmer, System Analyst, Machine Operator

Labor Market Needs:	Data processing is one of the most rapidly growing occupational fields in the nation. There is, consequently, a marked need for trained personnel.
Potential Labor Supply:	There are no public training programs.
Program Implications:	One or more training centers for business and technical data processing should be planned in the Junior College-Vocational Technical Centers. Ancillary training programs should be introduced in area comprehensive high schools.

Personal Service Occupations

Cosmetologist

Labor Market Needs:	Cosmetology is a developing occupation. Table 1 estimates that 100 new employees are needed per year.

Cosmetologist (Continued)

Potential Labor Supply:	There are no training programs operated at public expense. There are, however, several proprietary schools.
Program Implications:	Cosmetology is being introduced into high school occupational programs in other states. Programs should be developed in two or more of the area comprehensive high schools situated in population centers.

Laundryman, Dry Cleaner, Spotter

Labor Market Needs:	The whole area of personal service is experiencing national growth. There appears to be some shortage of labor in these fields.
Potential Labor Supply:	No organized training programs exist.
Program Implications:	MDTA programs should be developed if needed at an adult occupational training center.

Distributive Occupations

Salesmen and Saleswomen

Labor Market Needs:	Table 1 estimates 340 retail salesmen, 120 wholesale salesmen, and 61 manufacturing salesmen needed per year. Salesmen and saleswomen are usually in demand in an expanding economy.
Potential Labor Supply:	In 1963-1964, 63 girls (no boys) enrolled in high school cooperative programs.
Program Implications:	High school offerings, including cooperative programs, should be greatly expanded especially in populous areas. Approximately one-half of the enrollment in these programs should be boys. Advanced programs in merchandising and management should be operated by the Junior College-Vocational Technical Centers.

Technical Service Occupations

Automobile Body Repairman

Labor Market Needs:	Increasing numbers of automobiles and congested traffic lead to substantial demands. The Department of Employment Security reports a short supply.
Potential Labor Supply:	In 1963-1964, 15 completed an MDTA program.
Program Implications:	Training should be provided in an adult occupational training center.

Automobile Mechanic

Labor Market Needs:	The demand appears to be moderately heavy with a present shortage of service station mechanics.
Potential Labor Supply:	A large number are being trained. About 90 are being graduated per year from high school programs. MDTA programs are also operating. A total of approximately 150 are entering the labor market annually.
Program Implications:	Present high school programs should be continued. Better facilities and equipment should be provided in area comprehensive high schools.

Electrician - Electrical Appliance Serviceman

Labor Market Needs:	Table 1 estimates that 42 electricians are needed per year, many of them in the construction field. Table 2 estimates only 7 needed per year. The Department of Employment Security includes electrical appliance servicemen in its list of occupations now in short supply of labor.
Potential Labor Supply:	High school programs are graduating about 40 students per year from their programs in electricity. Apprenticeship adds another 9 or 10. In addition the high schools are preparing about 35 per year in electronics.

Electrician-Electrical Appliance Serviceman (Continued)

Program Implications: A cluster program designed as general preparation for the electrical-electronic trades including small appliance repair should be developed in high schools. At least one evening adult program in appliance repair should be provided at an adult occupational training center or at an area comprehensive high school.

Radio and Television Repairman

Labor Market Needs: Table 1 estimates 21 per year.

Potential Labor Supply: About 35 high school students are being graduated from electronics programs.

Program Implications: High schools should develop a cluster program as general preparation for the electrical and electronic trades including radio and television servicing.

Technician Occupations

Electronic, Electrical, Engineering Technicians and Draftsmen

Labor Market Needs: Technology and automation including the trend toward scientific and engineering "teams" have created heavy demands for technicians or subprofessional workers in various fields. No need is more important to the nation's developing economy and no field offers greater opportunity for young people. Table 1 estimates 212 technicians needed per year in electricity and electronics and 137 needed per year in engineering and science. The estimates are probably low. The Department of Employment Security reports architectural, mechanical, and structural draftsmen in short supply.

Potential Labor Supply: In September 1965, the Rhode Island Junior College established programs in chemical, electronic, and mechanical technology.

Electronic, Electrical, Engineering Technicians and Draftsmen (Continued)

Program Implications: The Junior College programs just established should be vigorously pushed and preparation in other technologies should be added to the program of the Junior College-Vocational Technical Centers

III. OCCUPATIONAL EDUCATION IN THE SECONDARY SCHOOLS OF RHODE ISLAND

General guidelines for a modern program in occupational education at the high school level, as seen by the consultants, will be found in the report, A Proposed Long-Range Plan for Occupational and Vocational-Technical Education for Rhode Island, pages 17-19.

The specific program recommendations that follow are based upon the general needs of youth, the implications derived from the study of the Rhode Island labor market in the preceding section of this report, and the national trends in occupational education. It is not intended that any one high school should offer all the recommended programs. Some large area comprehensive high schools should offer most of the list; certain small high schools will be able to justify only very limited offerings.

It will be noted that some of the recommended programs are divided into related groups or clusters. These clusters have educational significance, which is commented upon later.

Recommended Programs in Secondary Schools

1. Trade and Industrial Programs

a. Metal Trades

(1). Machine Shop
(2). Automobile Mechanics
(3). Small Engine Repair

1. Trade and Industrial Programs (Continued)

b. Construction Trades

(1). Carpentry
(2). Electric Construction
(3). Sheet Metal Work
(4). Painting and Decorating

c. Electrical-Electronics Trades

(1). Electrical Wiring
(2). Electrical Maintenance
(3). Radio-T.V.Servicing
(4). Small Appliance Repair

2. Office and Distributive Programs

a. Office Occupations

(1). Stenography
(2). Bookkeeping
(3). Office Practice
(4). Basic Data Processing

b. Distributive Occupations

(1). Salesmanship

3. Other Programs

a. Agriculture and Agriculture-Related
b. Cosmetology
c. Industrial Drafting
d. Home Economics-Occupations for Women
e. Basic Graphic Arts
f. Textiles

The Cluster Concept of Program

Programs listed under Metal Trades, Construction Trades, Electrical-Electronics Trades, and Office Occupations are grouped as clusters. The cluster concept implies a broad general base of preparation with specialization deferred

insofar as possible until the 12th grade. Changing job requirements have made it less desirable for students to start specialized skills too early. New occupational demands emphasize competencies such as understanding and judgment, rather than manipulative skills. Programs at high school level should be designed to develop general background and knowledge plus those skills that will enable youth to obtain initial employment but which will also provide a base for further learning through apprenticeship or extension programs. Clusters are devised for occupations closely enough allied to warrant common instruction in basic skills and knowledge with specialized laboratory and shop work deferred to Grade 12.

To illustrate, preparation for three Trade and Industrial clusters would include the following basic subject matter given in appropriate sequence before Grade 12:

Metal Trades

Exploratory shop with a period of time for basic experience in machine shop, auto shop, sheet metal shop, and welding.

Basic metal-forming processes including machining, cutting, forging, and casting.

Materials and their properties including ferrous and non-ferrous materials. Related to applied physics. Some experience with simple testing machines.

Blueprint reading for machine work, welding, basic electrical circuits, and sheet metal.

Mathematics with application to the metal-working field including applied arithmetic, basic algebra, and necessary phases of elementary trigonometry.

Applied Physics in both classroom and laboratory using very practical principles of physics.

Construction Trades

Exploratory shop with a period of time for basic experience in such shops as carpentry, sheet metal, electrical, and if available, masonry and painting.

Materials of construction, their properties and strengths taught with relationship to applied physics.

Blueprint reading related to architecture.

Drafting related to architecture.

Mathematics with application to the building trades including applied arithmetic and applied geometry.

Applied Physics in both classroom and laboratory using very practical principles of physics pertinent to construction.

Electrical-Electronic Trades

Shop Practice emphasizing bench work, the use of hand tools, test instruments, etc.

Blueprint reading in mechanical and electrical areas.

Drafting in mechanical and electrical areas.

Mathematics with application to electricity including arithmetic, basic algebra, and simple elements of trigonometry.

Applied Physics with emphasis on electrical theory.

Basic electric laboratory for application of electrical theory to practical use.

In grade 12 the student who will terminate his education upon graduation from high school should specialize sufficiently to give him a saleable skill in the occupation of his choice. Up to half his school day should be spent

in the appropriate shop or laboratory and in related mathematics and science.

Placement of Programs

As previously stated, it is not proposed that any one school offer all the recommended programs. Certain large high schools designated as area schools will offer the greatest diversity. For instance, the area high schools in the Blackstone Valley might consider the entire list with the exception of agriculture. Providence might do the same but probably should exclude textiles as well as agriculture. In order to ascertain the number of programs that can be offered in other area high schools, careful studies should be made of (1) the occupational needs of the population in the area, and (2) the probable enrollment in each occupational program.

Small high schools, not designated as area schools, should continue their present programs and improve them. Usually they can offer programs in home economics and office occupations. If enrollments justify, small high schools may in some instances add instruction in the use of tools in various types of mechanical maintenance. However, the role of the high school of under a thousand students is limited in occupational education. Such schools should utilize the area comprehensive high schools for students whose needs they cannot meet.

Certain programs are best placed in particular environments. For instance the textile program belongs in the Blackstone Valley. Cosmetology, retailing and graphic arts are best placed in the populous centers. There is, however, a caution. The immediate environment cannot be the sole criterion

for program placement. Rhode Island is a small state; workers both commute and migrate. Furthermore, place of residence should not deprive youth of opportunity. Therefore, programs for which there is a recognized demand in the labor market can justifiably be placed in area comprehensive high schools located outside the apparent logical environment for such programs.

The preceding section of this report, Projected Labor Market Needs, Present Sources of Supply, and Program Implications, provides clues to the numbers of students who should be prepared in the state for a given occupational field and, therefore, to the number of schools that should offer a preparatory program. For instance, textiles should not be offered beyond the Blackstone Valley. It is difficult to justify carpentry and woodworking programs in seven schools unless the occupations for which they prepare are expanded and placement of graduates is satisfactory. Agriculture, now offered in nine schools, presents the same problem.

Recommendations in Particular Program Areas

Programs in Distributive Education

Increase in emphasis on distributive education is important in Rhode Island. Although, the percentage of workers in the sales field is rising in the state, little preparation is offered. In 1963-1964, programs were conducted only in Providence and Cranston and enrolled a total of 63 twelfth grade students - all girls. Figures comparing this enrollment with that of neighboring states in 1962-1963 are shown on the following page.

Enrollment in Cooperative Distributive Education Programs
in Selected States -1962-63 *

	Female	Male	Total	Per Cent Female
Connecticut	183	141	324	56
Massachusetts	189	216	405	47
New Jersey	321	298	619	52
New York	3,664	4,030	7,694	48
RHODE ISLAND	52	0	52	100

*Source: Vocational and Technical Education. U.S. Office of Education. Bulletin OE 80008-63.

In the United States as a whole in 1962-63, only 45 per cent of the students enrolled in cooperative distributive education were females.

It is strongly recommended that there be a substantial increase in distributive education and also that boys be encouraged to select the program.

Programs in Office Occupations

Programs in office occupations (sometimes called business education) were not federally reimbursable until the Vocational Education Act of 1963 became effective. Since the State Department of Education in Rhode Island must yet define what constitutes a reimbursable program, exact figures of the numbers of students who are actually preparing for employment in stenography, typing, office and clerical work are not available. However, visits to the various high schools of the state by the consultants indicate that the numbers enrolled in one or more courses in office occupations are large (approximately 20,000 in grades 10,11, and 12). All high schools visited (except the strictly vocational schools) operated programs in office occupations. Facilities and

equipment range from excellent to meager; however, it is interesting to note that the consultants rated the equipment in more than one-third of the schools as excellent.

Rhode Island is not neglecting education for office occupations, however, more attention to the area is justified. In Rhode Island during the 1950-60 decade, the percentage increase in employed workers in this field (including typists, stenographers, office and clerical workers) was second only to the percentage increase among the professional and technical workers. Well devised programs should be encouraged.

The following recommendations seem in order:

1. The business machines equipment and programs require improvement in many schools. New machines designed for bookkeeping, calculating, duplicating, and communicating are playing an increasingly important role in office practice.

2. Basic data processing, such as preparation for key punch operator, should be introduced at least into the larger schools in urban centers.

Cooperative Part-time Programs

The development of more cooperative part-time work programs in Rhode Island at the 12th grade level is strongly recommended. In these programs the student spends half of the school day at a paid job in business or industry and the other half-day in school. He works under the direction of a school coordinator, who arranges the necessary relationships with business or industrial firms. The coordinator places students in job situations related to their fields of study, maintains contact with employers, and generally supervises the students in

their work experience. He meets with students for one class period each day.

Such supervised work experience is considered excellent preparation for initial job entry. The general plan of combining study with work experience is not a new one and has found favor not only among high schools but also a growing number of colleges which employ the same concept in various ways. The actual experience in the world of work makes school preparation meaningful and helps to develop attitudes acceptable to business and industry. Cooperative programs are adaptable to the office and clerical fields, to retailing, to graphic arts, and to many of the trade and industrial fields.

The programs in distributive education already mentioned are cooperative but too limited in numbers. In 1963-64, the State Department of Education reported 102 students in trade and industrial cooperative courses. These programs were operated in four schools: Central Falls, Pawtucket, Providence, and Vocational Technical. Enrollment by occupational fields was as follows:

Machine Shop	33
Auto Mechanics	32
Printing	13
Woodwork	9
Electricity	7
Sheet Metal	6
Textiles	2
	102

The consultants believe that it is important to expand cooperative education to other occupational fields and to all schools in Rhode Island where the student body is sufficiently large and arrangements with business and industry can be made.

Twelfth Grade Course in Industrial Economics and Labor Relations

Every student planning to seek employment following high school graduation should be given subject matter related to industrial economics and labor relations in the 12th grade. Students should have a healthy concept of our free enterprise system, of how business and industry operate , and of other basics of our economy. Students should also understand the elements of organization within business and industry, labor-management relations, unions, and collective bargaining. They should see the function and responsibility of both management and labor in our economy. Such a course at 12th grade level could obviously deal only with basics and should be acceptable to both labor and management. For students who will continue their education beyond the high school, it would be wise to defer this content to the post-high school institution where it can be taught at a more sophisticated level.

Programs Preparing for Vocational-Technical Education at Post-High School Level

Discussion to this point has been centered around occupational programs for students who will leave school upon their graduation from high school. However, the high school also bears a heavy responsibility for preparing students to continue their occupational education at the 13th and 14th grade levels. With the development of the Junior College - Vocational Technical Centers, large numbers of students should be encouraged to seek additional education in preparation for jobs at the technical or sub-professional level. This development is vital to Rhode Island. Programs suggested for inclusion at the Centers are enumerated in the section of this report dealing with post-high school vocational-technical programs.

Many students who will pursue vocational-technical programs at the 13th and 14th grade levels will undoubtedly come from high school programs preparing for four-year colleges. These will be students whose goals are altered for economic or academic reasons. Others will come from high school programs in general education. However, the high schools should plan programs designed as preparatory to terminal programs of vocational-technical education at the Junior College - Vocational Technical Centers. A large segment of the students (60 per cent), who presently leave school upon graduation are condidates for this type of program.

A basic principle to be observed is to give all students as much general education as possible. Specialized preparation should be deferred as long as feasible. This principle is clearly in operation in the colleges, which tend more and more to devote undergraduate preparation to the liberal arts and to rely upon the graduate schools for specialized education.

As applied to high school students who will pursue vocational-technical education at the 13th and 14th grade levels, this principle means that they should be given less shop and laboratory work and more general education than students who must be prepared for immediate job entry upon graduation. English, social studies, and some form of mathematics, and science are required of both groups. Those who are continuing with their education should have the opportunity to add foreign language, benefit from music and art, and, very important, study mathematics and science in greater depth. Their programs should be arranged accordingly.

On the other hand, some exposure to shop and laboratory work related to their occupational interests will be valuable and in many instances necessary for these students. For instance, those electing a mechanical technology will profit from exposure to appropriate shops and mechanical drafting. Those preparing for the graphic arts will require a basic knowledge of printing. Girls going on to advanced secretarial skills will need basic typing and stenography.

Obviously the programs under discussion must provide emphases on the subjects that might be considered pre-requisites. The engineering technologies, for example, require a high school background in mathematics, physics, and drafting. Nursing education demands a knowledge of chemistry. Horticulture implies a background in chemistry and earth science. The high schools and the Junior College - Vocational Technical Centers will need to agree upon the basic requirements deemed necessary for success in post-secondary programs.

A point of considerable importance centers around the fact that a certain number of students enrolled in terminal occupational programs in the high schools will show themselves sufficiently proficient to warrant further education in the Junior College - Vocational Technical Centers; yet their preparation especially in the mathematics and science areas may be too weak for probable success. It has been repeatedly said that interest and aptitudes of teen-agers change. "Openendedness" must be preserved; those who are capable must not be "frozen into" an organizational straight jacket that precludes further education. If the high school records and developing aptitudes of students indicate a capacity to pursue work at the 13th and 14th grade levels, such students should be encouraged to continue. Provisions should be made, preferably at the Junior College-

Vocational Technical Centers, for them to make up their deficiencies. The numbers of such students may not be large, but the principle is important.

Recommendations Related to Program

The guidance function is vital to occupational education. Unfortunately most guidance counselors are not well prepared in the vocational area. Few have had trade or industrial experience. Furthermore, the counselors have been primarily engaged in personal, academic, and college advisement. Realistically, it is too much to expect that a general counselor will have the employment background, knowledge, and contacts to make him a competent vocational counselor. This fact poses a problem in many schools.

The most practical solution is specialized vocational counselors who know job requirements, job opportunities, labor trends and other information requisite to intelligent guidance of students in occupational programs. Such counselors should maintain close contact with employers in important areas of business and industry. They should also maintain close contact with the Junior College - Vocational Technical Centers.

Vocational Counselors should not operate independently, but should relate themselves to other counselors who are handling academic and college advisement, thus creating a kind of school guidance team. It is recommended that a student in occupational education be assigned to the same counselor for his entire high school career.

Counseling for summer employment is an area in which vocational guidance officers can make a valuable contribution. Work experience during

vacation periods offers some of the advantages inherent in cooperative and work-study programs, provided that students are placed in situations related to their field of study. Maximum values would be achieved if area comprehensive high schools offered summer placement service and if vocational counselors were employed during the summer to maintain contact with employers. Obviously such an effort must be governed by state labor laws specifying ages at which youth can be employed.

In their conversations with Dr. Grant Venn, author of Man, Education and Work, and Superintendent of Schools in Parkersburg, West Virginia, the consultants were impressed with the values which he has observed in after-school and summer employment under general school supervision in Parkersburg. Dr. Venn also suggests that report card grades be given in the area of work experience. In many instances, grades earned on-the-job are higher than those which the student can achieve in school, consequently providing both satisfaction and incentive.

In area comprehensive high schools active placement service for graduates of occupational programs is a necessity.

Potential Drop-Outs

Drop-outs constitute one of the more serious problems with which schools contend. It is estimated that one out of every three of the boys and girls who leave school before high school graduation is unemployed.

Students leave before they finish high school for varied and complex reasons. One factor, however, appears to remain constant; they want to be

associated with the world of work. For this reason, occupational education at the high school level must be gravely concerned with the problem of drop-outs.

There is no panacea. A program to induce potential drop-outs to remain in school cannot be molded into a simple pattern. Although difficult to achieve, the high school must make serious efforts in the following directions:

1. early recognition of potential drop-outs through alert guidance,
2. remedial programs especially in reading and arithmetic,
3. ungraded classes for certain groups of students,
4. special programs, some of unorthodox nature, in the various shops that will hold the interest of non-academic students,
5. use of the work-study plan included under the Vocational Education Act of 1963, for those students who are under financial pressure. Employment of these students in the school store, the office, the food services, and the maintenance operation serves the additional purpose of providing them with the feeling that they have a place in the school setting.

It is unlikely that any effort will eliminate all drop-outs. Viewing the matter realistically, some pupils will continue to leave school before graduation. The high schools must do the best they can for this group. Two suggestions seem pertinent:

1. that students intending to leave school be induced to take some form of specific occupational training before they terminate, even though the instruction is relatively scanty and of short duration. The object is to give them as much marketable skill as possible,
2. that students who drop out be encouraged to return to school or at least to continue with some type of education at a later date. In this connection Professor Donald E. Super of Teachers College, Columbia University, made a study which followed the careers of drop-outs over a period of years in Middletown, New York. He discovered the following:

140 students entered grade 9
37 dropped out before high school graduation

103 or 74 per cent of those who entered grade 9 completed high school, but

15 of the drop-outs later received high school diplomas or the equivalent, hence

118 or 84 per cent completed high school work within two years after the class was graduated

It is difficult to get accurate information on drop-outs, but this study lends credence to the fact that many subsequently realize their educational deficiencies and wish to remedy them. It also argues for encouraging these students to return to school or to take extension courses at a later date.

It is encouraging to note, that the percentage of students who leave high school before graduation is decreasing. The goal is to reduce the numbers as much as possible. Occupational education is vitally important to the effort.

Education for Change

The rapidity of change and the pace of advancing technology create painful problems for educators. What do you educate for? A product, a process, a skill, or even an occupation may be completely obsolete within a few years. It is commonly acknowledged that workers ranging from the semi-skilled to the professional will require retraining several times during their lives. If they are to survive, workers must become adaptable; they must be educated for change itself.

Whereas there are no pat answers, there are two implications. One pertains to the content to be taught and the other pertains to attitudes that must be developed.

Relative to content, the only sensible course is to keep subject matter as broad and as basic as possible so that it will serve as a foundation for change. This report therefore suggests a broad base for each program cluster in occupational education with specialization deferred as long as possible. The base should retain value though the specialization changes.

Relative to developing student attitudes that prepare the individual for change without devastating results, it seems sound to emphasize the inevitability of change wherever possible in the curriculum. The study of science, for instance, is a study of change. The use of business machines is an illustration of change. Electronics and data processing are examples of change. Using these opportunities and others, teachers should wherever possible create an understanding of the process of change and the implications that change holds for the future lives of students. Continued learning throughout life must be understood as the way of life.

Advisory Committees

The knowledge of the business and industrial community should be utilized by educators planning and operating occupational programs. The value of these groups is well established. Advisory committees should obviously include representation from both management and labor. Most schools maintain a permanent over-all committee but use special and temporary committees with

specific competencies when planning a new course or considering a particular problem.

Department of Employment Security

Close relationship with the Department of Employment Security is not only required by the Vocational Education Act of 1963 but represents a substantial resource for educators. Officials of the department are cooperative in supplying current data on the labor force and on employment needs. Information is available on both local and state-wide levels.

Respectability of Occupational Education

Professor Ralph C. Wenrich of the University of Michigan stated the case well in a speech to a work conference of curriculum workers in secondary education, July 15, 1964, Teachers College, Columbia University.

> "We must be unequivocally committed to the idea that education of employment-bound youth is as important as the education of college-bound youth.------Once having made the commitment we must demonstrate our intent by giving at least as much moral and financial support to programs for employment-bound youth as we have given to programs for college-bound youth. It has been clearly demonstrated that vocational --programs--can acquire the same prestige as the more academic varieties of education if they are adequately supported and properly operated."

High schools found their inception as college preparatory institutions. Today 60 per cent of their students do not go to college. The residual notion that occupational education is second-class education is dangerous as well as erroneous. It affects the election of occupational programs by students who clearly should be enrolled in them. Teachers, administrators, and guidance

counselors play important roles in developing the prestige of occupational education.

IV. VOCATIONAL TECHNICAL EDUCATION IN POST-SECONDARY INSTITUTIONS IN RHODE ISLAND

The report of the consultants, A Proposed Long-Range Plan for Occupational and Vocational-Technical Education in Rhode Island, pages 27-31, and Section II of this report emphasize the need for strong post-secondary programs to prepare for the rapidly developing category of occupations that require more than a high school education but less than a baccalaureate degree. Many of these occupations are related to engineering and science and are, therefor, technical in nature. Career opportunities might be termed "sub-professional." Workers are frequently called "technicians." The need for the sub-professionals is growing more rapidly than the need for the professionals themselves. The United States Department of Labor has pointed out that between 1963 and 1964 there was a 60 per cent increase in job openings for scientists, a 40 per cent increase for engineers, but a 300 per cent increase for technical workers who support the scientists and engineers. Other occupations related to business and commerce are in the same category. They require deeper insights and more highly developed and specialized skills than are usually provided by a high school education.

Typical job designations which give a clue to the occupational level with which the post-secondary program should be concerned are:

Analyst	Laboratory Aide	Registered Nurse
Draftsman	Office Manager	Research Assistant
Executive Secretary	Programmer	Technician

Workers in these categories usually operate under the direction of a professional but must exercise a considerable degree of judgment on their own. They clearly need a body of knowledge and theory drawn from the disciplines of science and the arts from which they can make practical applications. This body of knowledge and theory need not be so extensive as that required by the professional, but it contrasts with the practical and more rudimentary knowledge required of the skilled worker to make application of his skills in practical job situations.

Programs preparing for careers such as those listed usually require two years of education beyond the high school level; some require less than two years of preparation.

Recommended Programs

To prepare youth and adults for the types of career opportunities just described and to serve the economic needs of the state, it is recommended that the following programs in post-secondary vocational-technical education be offered in Rhode Island. These programs are in conformity with the occupational needs of the state and with trends in other states. It will be noted that each program is aimed at a group or cluster of technical or highly skilled ocupations which have a body of common content.

Programs Related to Engineering and Science

Chemical Technology with application to development, production, sale, and utilization of chemical and related products and equipment. Preparation for such position as:

Chemical Laboratory Technician
Chemical Research Assistant
Chemical Control Technician
Chemical Analyst
Salesman for Chemical Equipment

(Consideration should be given to the chemistry of plastics and synthetic fibers.)

Civil Engineering and Construction Technology with options toward building construction and highway construction. Preparation for such positions as:

Engineering Draftsman
Surveyor
Specifications Writer
Estimator
Construction Inspector
Construction Superintendent

Mechanical Technology related to the work of mechanical engineers in the design, development, production, and maintenance of machines and machine tools. Preparation for such positions as:

Production Supervisor
Time and Motion Analyst
Assistant Plant Engineer
Foreman
Machine Designer
Air Conditioning and Refrigeration Technician

Electrical-Electronic Technology with content related to the production, use, and distribution of electric power; also with the design, production and servicing of electronic devices used in manufacturing and communications. Preparation for such positions as:

Electrical Engineering Assistant
Electronic Technician
Research Assistant
Sales Engineer

Instrumentation Technology related to development, production, use, and sale of automatic controls and precision measuring devices in manufacturing plants. Preparation for such positions as:

Quality Control Technician
Production Estimator
Supervisor of Instrument Makers
Salesman for Instrumentation Equipment

Drafting Technology related to building and civil construction and to mechanical, electric and electronic engineering. Preparation for such positions as:

Electrical Draftsman
Architectural Draftsman
Mechanical Draftsman
Structural Draftsman

Data Processing Technology related to the development, installation, operation, and servicing of the rapidly expanding field of data-processing. Preparation for such positions as:

Systems Analyst
Programmer
Computer Operator
Installation Technician

Programs related to Business and Commerce

Business Administration With an option toward the accounting or management aspects of business. Preparation for such positions as:

Accountant
Cost Accountant
Office Manager

Marketing Management with reference to responsible and efficient wholesale and retail merchandising. Preparation for such positions as:

Junior Executive
Store Manager
Merchandiser
Purchasing Agent

Hotel and Resort Management with emphasis on the business and managerial aspects and with relationship to the developing recreational facilities in Rhode Island. Preparation for such positions as:

Owner of Motels and Hotels
Manager of Motels and Hotels
Manager of other Recreational Facilities

Horticulture and Landscaping Technology concerned with the rapidly expanding occupational opportunities dealing with the beautification of public facilities and homes as opposed to the declining employment in agricultural production of foods. Preparation for such occupations as:

Greenhouse Operator
Nurseryman
Landscape Draftsman
Tree Surgeon

Secretarial Science with content related to highly developed secretarial skills, basics of office management and, if in demand, training for specialized secretarial skills. Preparation for such positions as:

Executive Secretary
Secretarial Supervisor
Medical Secretary
Legal Secretary

Programs Related to Health Service

Medical and Health Sciences to include preparation for such positions as:

Professional Nurse
Practical Nurse
Medical Assistant
Laboratory Technician
Dental Hygienist

Other technologies that warrant evaluation are in the areas of (a) Graphic Arts and Advertising, (b) Food Technology , and (c) Communication related to skilled writing and reporting in specialized fields. Detailed curricula for a number of the programs that have been suggested are available from the United States Office of Education: others are in preparation.

The programs just enumerated would for the most part require the equivalent of two years of full-time study beyond the high school level. Some, such as Practical Nursing, would require only one year. The following are important considerations:

Programs should be offered during the day sessions to full-time students.

The same programs should be offered in evening sessions over a longer period of time to serve the interests of employed workers who wish to advance their competency and status.

Enrollment in individual courses should be permitted especially in the evening sessions to allow workers to upgrade specific knowledges or skills.

Junior College - Vocational Technical Centers

In the report, A Proposed Long-Range Plan for Occupational and Vocational-Technical Education in Rhode Island, pages 29-31, it was strongly recommended that these post-secondary programs for highly skilled and technical occupations be offered in unified Junior College - Vocational Technical Centers

as a joint responsibility of the Board of Trustees for State Colleges and the State Board of Education.

At the time of this writing implementation of the recommendation just quoted is being explored by the Board of Trustees for State Colleges and the State Board of Education. This report makes the assumption that the facilities now being planned for the Knight Campus in Warwick and those proposed for later dates in the Blackstone Valley and in the Mount Hope area will be unified and comprehensive Junior College - Vocational Technical Centers.

Placement of Programs in Junior College - Vocational Technical Centers

Warwick Center

The following vocational technical programs of terminal nature are proposed for the Knight Campus in Warwick:*

Chemical Technology	Hotel and Resort Management
Mechanical Technology	Horticulture and Landscaping Technology
Electric-Electronic Technology	Secretarial Science
Drafting Technology	Professional Nursing
Data Processing Technology	Practical Nursing Training (1 year)
Business Administration	Medical Technician Training

These programs should be offered during day sessions, usually as two-year sequences. However, they should also be offered in night sessions over a longer period of time if the Center is to fulfill its obligation to employed workers.

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*The Rhode Island Junior College included in its offering for the 1965-66 academic year the following technical programs on a two-year terminal basis: Chemical Technology, Electronic Technology, Mechanical Technology and Business Administration. A program for Registered Nurses was announced to start in the fall of 1966.

It is not expected that all programs will emerge full-blown with the opening of the doors on the Knight Campus. It is, however, believed that the programs enumerated should be given priority consideration and that they should develop as the vocational-technical aspect of the Center grows in acceptance. Experience, experimentation, and further study will be required.

Proposed Blackstone Valley Center

Since the Blackstone Valley Junior College - Vocational Technical Center will probably open at a later date than the Warwick Center, it will be possible in planning new programs to take advantage of experience gained over the next few years. It is logical, however, to plan for inclusion in the Blackstone Valley institution certain programs related to the industry of the Valley. It also seems certain that the demand for other programs will warrant inclusion at both Warwick and the Blackstone Valley Centers. A tentative list of programs for Blackstone Valley follows:

Mechanical Technology
Electric-Electronic Technology
Civil Engineering and Construction Technology
Drafting Technology
Data Processing Technology
Business Administration
Marketing Management
Secretarial Science
Dental Technician Training

Proposed Mount Hope Center

In the opinion of the consultants program decisions for the Center planned in the Mount Hope area should be deferred until plans for that facility reach further maturity. Program considerations will be influenced by the background experience which will have been gained at the Warwick and Blackstone

Valley Centers, by movements in industry and population, and by changing technology.

Short-Term Programs

In addition to the formally structured programs thus far discussed, the Junior College - Vocational Technical Centers should plan, especially in evening sessions, to offer single courses or short-term programs required by individuals for up-grading or retraining purposes. Such individuals will have specific and comparatively limited needs. They will not be candidates for an associate degree. Service to them is a very important function of the Centers. A few illustrations of the types of needs that may be anticipated are as follows:

> A worker may need a basic knowledge of chemistry for employment in the manufacture of plastics.
>
> A bookkeeper may be called upon to gain familiarity with newly developed business machines and skills necessary to their operation.
>
> A salesman may need two or three courses in mechanical technology to sell industrial equipment.
>
> A secretary may require courses in medical terminology and office practice to qualify as a medical secretary.
>
> An employee may need some knowledge of instrumentation to be considered for foreman.
>
> A foreman may be called upon for a greater knowledge of mathematics to understand a new technical process which he will supervise.
>
> An industry planning to locate in Rhode Island may demand employees with a basic knowledge of electronic circuitry. Training of applicants may be necessary.

In many instances, such needs might be met by permitting the individual to enroll in existing courses. However, the Centers must be alert to substantial new needs which emerge and, if feasible, should develop programs to satisfy them.

It may be safely predicted that demands upon the Centers for short-term programs will increase steadily. Enrollment in evening sessions will almost certainly come to exceed enrollment in day sessions. By responding fully to the needs for short-term programs the Centers will not only best serve Rhode Island, but they will also make fullest use of their staff and facilities.

Recommendations Related to Program

Admissions Requirements

Broadly stated, admission to programs that prepare for highly skilled and technical occupations in the Junior College - Vocational Technical Centers should be open to high school graduates and to out-of-school youth and adults over eighteen years of age who are able to benefit from the instruction.

High school graduates applying for some of the technically oriented programs may be required to have reasonable background in the sciences and mathematics. If they are lacking in this respect, they should be afforded the opportunity to make-up their deficiencies. They should not, however, be held to the level of academic competency required of students applying to transfer programs. This implies, of course, that the content and academic expectancy of the terminal programs in technical fields will not be synonomous with transfer programs leading toward a baccalaureate degree.

In the case of out-of-school youth and adults, high school graduation and academic record should not be the sole criteria of acceptance. Maturities and motivations change with intervening experiences. Courses taken in the armed services and under other auspices make a difference. Intelligence and equivalency tests together with the judgment of a qualified committee on admissions should determine whether an applicant can carry a given program and profit from it.

Admission to single courses or short-term programs should be based upon the single criterion of whether the applicant can benefit from the instruction.

Flexibility of Program

One of the great values of combining transfer education with terminal education in comprehensive Junior College - Vocational Technical Centers is the flexibility of program which is attainable. Within the limitations of good educational and administrative procedures, programs should be tailored to meet individual needs. In terminal programs, the Centers will not be straight-jacketed by rigid college requirements. It should be possible for terminal students to take certain courses at college level if they are capable of doing so. Conversely, it should be possible for college-bound students to benefit from practical applications of theory made available by equipment and laboratories designed primarily for terminal students. Very important, some students who enroll in terminal vocational-technical programs may develop sufficient academic interest and ability to be shifted to programs leading to a baccalaureate degree; and vice versa, some who find difficulty with transfer programs may be encouraged to

shift to vocational-technical programs.

This philosophy of maximum flexibility to best serve individual needs obviously implies a well manned and effective guidance program.

Technical Education for Women

All national figures show that increasing numbers of women are entering the labor market. Their competency in high level occupations is recognized in the health and secretarial fields. However, there is growing evidence of their ability to compete successfully with men in other technologies. Data processing, chemical technology, and electronic technology give evidence of employing more women. Guidance counselors at both the secondary and post-secondary levels should recognize these possibilities and encourage women to enroll in appropriate programs.

Placement Service

Alert and aggressive placement offices should be included in the student personnel services of the Centers. The reputation of the vocational-technical programs will be greatly influenced by the effectiveness of placement service. However, the function of the offices should be expanded beyond the sole responsibility of placing students. Because placement officials maintain a close contact with employers and have a firsthand knowledge of employment trends, they should play an important role in program planning.

Advisory Council and Committees

A permanently structured Advisory Council should be maintained to

assist in developing the overall program for post-secondary vocational-technical education. This Council should include representatives from business, industry and labor as well as educators representing the Board of Trustees for State Colleges and the State Board of Education.

In addition to the Advisory Council, "ad hoc" committees should be appointed as the need arises to assist in the development of specific courses or programs. Obviously, committee members representing labor, business and industry should be chosen because of their specialized knowledge of the area which the offering is designed to serve.

Respectability of Vocational-Technical Programs

The academic areas in American education have traditionally enjoyed greater status than vocational-technical areas. As has been already pointed out, this attitude begins in the high schools; it carries over into the junior colleges. It affects the status of both faculty and students and has a significant effect upon enrollment in vocational-technical programs.

About eighty per cent of the junior college offerings in the nation are directed toward transfer to four-year institutions. This is a curious emphasis when it is realized that only twenty per cent of our youth are graduated from four-year colleges.

Special efforts should be made at the outset to enhance the prestige of the terminal vocational-technical programs including those offered at night and those of short-term duration. Much will be achieved by the very unification of the Centers themselves and by the mingling of students enrolled in the

terminal and specialized occupational programs with those representing the transfer and academic programs. However, other factors will be important including the emphasis placed upon the vocational-technical aspects of the program by the administrators of the Centers; by skilled guidance performance at both the high school and junior college level,which will dispel the notion that enrollment in a transfer program is necessarily the "thing to do";and by the degree of public acceptance of education for direct employment that is engendered by school authorities and by the industrial community.

The climate of the Centers must not relegate students in the vocational-technical programs to second-class citizenship. Occupational education must be equal in importance to academic education.

Robert L. McKee* reports that nationwide enrollment in post-secondary vocational-technical programs has not increased at the same pace as enrollment in transfer programs. Between 1958 and 1963 the number of students enrolled in occupational programs in two-year colleges increased 40 percent, from 100,000 to 140,000. During the same period enrollment in academic transfer programs increased from 380,000 to 628,000, or 65 per cent. McKee deplores the slower growth in vocational-technical programs as contrary to the needs of youth. In ascribing reasons he gives prominent mention to the factors upon which comment has just been made. To illustrate, he points out that students who have difficulty

---

*Paper by Robert L.McKee, Program Specialist, Division of Vocational and Technical Education. United States Office of Education. Sources: United States Office of Education Opening Fall Enrollments Survey and Organized Occupational Curriculums Survey.

with the academic program prefer to drop out rather than sacrifice "status" by transferring to a terminal program. Such a situation reflects upon both the guidance function and the climate of respectability that has been developed by junior colleges for vocational-technical programs.

If programs at the proposed Junior College - Vocational-Technical Centers leading directly to employment can attain a status image and if they can be creative in design, flexible in operation, and dedicated to service, the consultants foresee a reversal of the national experience in Rhode Island. The student enrollment in vocational-technical programs should grow to equal or perhaps exceed the enrollment in transfer and liberal arts programs.

V. VOCATIONAL EDUCATION FOR OUT-OF-SCHOOL YOUTH AND ADULTS IN RHODE ISLAND

The consultants in their reports have emphasized the need for a wide range of vocational education available to out-of-school youth and adults. (See A Proposed Long-Range Plan for Occupational and Vocational-Technical Education in Rhode Island, pages 32,33.) The impact of expanding technology and automation on the lives of people is just being realized and is not generally appreciated. Machines, processes, and whole industries can become obsolete within a few years. At best, workers at all levels will need upgrading to keep abreast of their fields; at worst, they will require retraining. It may be necessary to re-educate a single individual four or five times during the course of his working career. Present efforts are insufficient to meet the demands that may be anticipated in the next decades Rhode Island, in the interests of its economy and its human resources, will be wise to plan for these developments.

The scope of the occupational education which will be required by out-of-school youth and adults is broad. It will range from training courses of a few weeks duration for single manipulative skills to educational programs of one, two, or three years in complex technologies. It will embrace instruction in elementary reading and arithmetic as well as college science and math; in welding as well as computer operation. It will include both men and women. It will be diversified enough to cover not only the manufacturing field but also business and office occupations, health services, and horticulture. Programs will operate during the day for unemployed workers and during the late

afternoon and evening for employed workers

Any given program of instruction should be placed in an institution which can provide adequate facilities and equipment, which is appropriate to the age and status of those who require the instruction, and which, insofar as possible, is in geographic proximity to the demand. The Junior College - Vocational Technical Centers and the high schools will both play important roles. In addition, there will be a need for a centrally located occupational training center for adults.

The very important function of the Junior College - Vocational Technical Centers in providing short and long-term instruction at appropriate level for out-of-school youth and adults has received comment in the preceding section of this report.

Occupational Education in the High Schools for Out-of-School Youth and Adults

The function of the high schools in upgrading out-of-school youth and adults is no less important than that of the Junior College - Vocational Technical Centers Expanded evening programs of occupational education in Rhode Island high schools are called for. High schools should operate principally at a lower instructional level than the Junior College - Vocational Technical Centers. Some programs should be planned to meet the needs of drop-outs who, upon exposure to the world of work, have become cognizant of their deficiencies and wish to remedy them. Other programs should be designed for high school graduates who require further specialized but basic training. In addition, courses should be offered for unskilled or semi-skilled workers whose jobs demand that they acquire greater knowledge or skill. Consequently, programs should be diversified and of both short and long-term duration.

It is apparent that high school educators, in cooperation with the Department of Employment Security, must be alert to the needs of individuals within the communities which they serve. It is also evident that individual courses and programs must be tailored in content and duration to meet these needs. Flexibility is essential. Furthermore, continuous appraisal is necessary to determine what instruction should be offered at a given time.

In view of these facts, it is impossible to outline a fixed set of high school offerings for out-of-school youth and adults. The following examples illustrate only a few of the types of needs that should be considered:

A young service station attendant may require training in automobile mechanics.

A drop-out may need remedial instruction in reading and arithmetic.

A receptionist may find that she is called upon for basic typing skills.

A clerk in an electrical appliance store may need instruction in repairing the appliances.

An industrial worker may need to learn blue-print reading.

A girl graduated from a general curriculum may develop an interest in cosmetology and request training to enter the field.

A bank clerk may find that he needs instruction in key-punch operation for data processing.

A recent graduate employed in a marina may require a course in small engine repair to permit him to service outboard motors.

It will be noted from the illustrations given that the principal (though not exclusive) responsibility of the high schools will lie in the area of upgrading rather than retraining. Upgrading implies the acquisition of new knowledge and

skills that will keep a worker abreast of new developments or improve his occupational status. Retraining, on the other hand, usually suggests that a worker master a new manipulative skill in substitution for one that is no longer saleable. In most instances retraining will be better accomplished in an adult occupational training center, while upgrading fits naturally into the function of the Junior College - Vocational Technical Centers and the high schools.

A district high school should offer programs for which it is equipped and for which there is sufficient need within the community. In many instances district high schools have good facilities for office occupations, very adequate science laboratories, and some shops. An area comprehensive high school should be better equipped for a broad range of instruction. It should not only meet the needs of its own community, but it should also offer justifiable programs which are not available at the district high schools in its designated area. Cooperative planning within areas will be required to avoid unnecessary duplication of programs.

The importance of adequate guidance to young people has previously been emphasized in this report. It is urgently suggested that as high school guidance programs are expanded, they be extended to include service to drop-outs and young graduates.

Occupational Education in a Proposed Occupational Training Center for Adults

Certain types of occupational training programs for mature adults do not fit easily into either the high schools or the Junior College-Vocational Technical Centers. These programs may ordinarily be characterized as retraining activities.

In general they are involved with manipulative skills. In some instances the high schools do not possess the equipment necessary to offer the instruction. In other cases the best worker response is obtained by placing the programs in a central industrial-type facility devoted to intensive, practical, and short-term courses. Such a facility should also accommodate apprentice training.

Based upon known and anticipated labor market needs, Section II of this report recommends that instruction in the following occupations be offered in an occupational training center for adults:

Foods Trades Occupations

Baker
Cook
Meat Cutter
Waiter, Waitress

Manufacturing Occupations

Machine Tool Operator
Maintenance Mechanic
Welder
Assembler

Needle Trades Occupations

Power Sewing Machine Operator

Service Occupations

Automobile Body Repairman
Electrical Appliance Repairman

Other programs will be required and certainly this list will respond to changing needs.

An adult occupational training center should meet certain physical criteria.

1. It should be located in a center of population.

2. It should possess good equipment including facilities that permit it to offer instruction not available in the high schools and the Junior College - Vocational Technical Centers.

3. It should convey an industrial rather than an academic atmosphere.

In the opinion of the consultants, the Rhode Island Vocational and Technical School at Corliss Park provides an excellent facility for an occupational training center for adults. Its location is ideal. It is well equipped and would require only the addition of a foods center, an automobile repair shop, and possibly an installation of power sewing machines. It is therefore recommended that after a period of transition to permit the development of the area comprehensive high schools, an occupational training center for apprentices and adults be established in the Corliss Park facility. (Other recommendations pertaining to the use of the building are made in the next section of this report: Future use of the Rhode Island Vocational and Technical School at Corliss Park.)

The administrator of the proposed adult occupational training center should operate a flexible and service-oriented program. He should operate in close relationship to the Department of Employment Security.

Implementation of Vocational Education for Out-of School Youth and Adults

The dimensions of the overall program which will be required to upgrade and retrain out-of -school youth and adults in Rhode Island may make implementation appear difficult and expensive. Actually, segments of the suggested plan will fall into place with the expansion of occupational and vocational-technical programs in the high schools and in the

Junior College - Vocational Technical Centers. Federally subsidized facilities and equipment procured for day programs will be available for evening sessions. Also staff recruited for day sessions can be drawn upon for evening programs. Furthermore it will be noted that most of the programs suggested for the occupational center for adults are of the type eligible for federal subsidy under the Manpower Development and Training Act. This act has provided 100 per cent reimbursement for programs operated for unemployed workers and 50 per cent of the cost of upgrading programs for under-employed workers. It is significant that in 1965 the provisions of the act were altered to pay 100 per cent of the costs of programs for both unemployed and under-employed workers. The consultants therefore believe that the broad plan herein proposed can be achieved without undue burden or expense.

VI. FUTURE USE OF THE RHODE ISLAND VOCATIONAL AND TECHNICAL SCHOOL AT CORLISS PARK

If occupational education at the secondary level is provided in comprehensive high schools, as recommended, the Corliss Park facility will become available for other purposes. The consultants view this as a fortuitous circumstance because they foresee a need for a central facility of this type. The recommendation has already been made in the preceding section of this report that an adult occupational center, to include apprentice and MDTA programs, be housed in the building. In the report A Proposed Long-Range Plan for Occupational and Vocational-Technical Education for Rhode Island it was also recommended that centers for instructional materials and for research be established here. It is now furthermore proposed that consideration be given to moving the offices of the Vocational Division of the State Department of Education to this location, thus creating a kind of Vocational-Technical Education Center. Alteration of the gymnasium to a two-story structure might add sufficient facilities to accommodate the several purposes mentioned.

Under the impetus of the Vocational Education Act of 1963, occupational education has become one of the most rapidly developing fields in American education. There is urgent need for new programs and courses, for expanded services, and for improved teaching methods and materials. The Act itself underscores the problem by reserving 10 per cent of the annual national appropriation for research. With this incentive other states are setting up instructional materials centers and developing proposals for experimentation.

The consultants believe that Rhode Island should move in this direction. A few suggestions for important research and experimentation follow:

Further study of subject matter that can provide common basic background for families or "clusters" of occupations.

Development of courses in occupational education for girls that should be offered within the home economics program.

Experimentation with new cooperative (work-study) programs in several different occupational fields.

Study of a selected sample of drop-outs to determine, (1) why they left school, (2) what types of occupational programs they need, and (3) what approaches will motivate them to further schooling.

Pilot studies in expanded vocational guidance including school sponsorship of work experience in the afternoons and during summer vacations.

Placing the central staff in proximity to facilities and resources necessary to research and experimentation has real advantages. The arrangement is also ideal for conducting in-service training programs for teachers. The proposed Vocational-Technical Education Center, then, would not only provide needed facilities for adult occupational training, for research activities, and for enlarged office space to accommodate an expanded division of vocational education, but it would also effect a happy marriage of coordinate activities. The consultants believe that the proposal has merit.

VII. SUMMARY OF CONCLUSIONS

This report is an effort to suggest programs in occupational and vocational education which are related to the needs of Rhode Island. This summary makes no attempt to enumerate the many specific offerings that have been proposed for post-secondary students, for high school pupils, and for out-of-school youth and adults. However, a purpose may be served by reviewing the important concepts which are basic to successful programs.

1. Programs must be planned to meet current and anticipated needs. In order to avoid lag in a fast-moving technological economy, educators must be sensitive enough to recognize change and astute enough to foresee the implications of the present for the future.

2. Occupational and vocational-technical education can assume no fixed pattern. It must maintain sufficient flexibility in both overall design and specific content to meet changing needs.

3. In an era when learning has become a life long necessity, instruction for out-of-school youth and adults is assuming major importance in the lives of people and in the development of the economy.

4. The public image of occupational education must be improved. Leadership of the educational and business enterprises must join forces to make education for employment equal in respectability to preparation for college. Unrealistic notions of the distinction between general education and preparation for employment must be broken down.

5. Occupational and vocational-technical education should be designed to provide as broad a base as possible, and specialization should be deferred as long as possible.

6. The insights of qualified industrial and business leaders should be sought in planning programs of occupational and vocational-technical education.

7. Intelligent guidance including placement service should support occupational and vocational programs.

8. The occupational education of females should receive increased attention.

9. Actual work experience provides holding power and creates valuable attitudes. Cooperative (work-study) programs should be much more fully developed than they are at present.

10. Experimentation and research are required to improve programs and teaching in occupational and vocational-technical education.

It is not anticipated that all the recommendations made in this report can be implemented immediately. Some time will be required to effect a sound and orderly growth. In the light of developing circumstances certain recommendations may need modification. However, it is believed that the proposals made and the principles upon which they are based are sound. It is hoped that they will be helpful in developing an outstanding program of occupational vocational-technical education for the benefit of the people and the economy of Rhode Island in the years to come.

VT 003 529

Trade Preparatory Training Planning Guide: Auto Mechanics.

North Carolina State Dept. of Public Instruction, Raleigh. Trade and Industrial Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jul64 16p.

PROGRAM GUIDES; *ADMINISTRATOR GUIDES; *AUTO MECHANICS; *TRADE AND INDUSTRIAL EDUCATION

This program guide is to aid school administrators in planning facilities for conducting trade preparatory classes in auto mechanics. It was developed by the State Staff for Trade and Industrial Education from the recommendations and suggestions of trade preparatory teachers in the secondary schools. The purpose of the auto mechanics course is to develop skills and understanding needed in making inspections and tests to determine the causes of faulty operation of vehicles and in making repairs or replacing defective parts to restore vehicles to proper operating condition. The suggested course of study requires 3 hours per day, 5 days per week for a 2-year period and covers 18 units such as engine units, the clutch, the transmission, wheel alignment and balance, and brakes. The students should have achieved a level of maturity expected of any beginning worker, have satisfactorily completed eight high school units, have average intelligence or above, and score satisfactorily on a standardized intelligence quotient test or The General Aptitude Test Battery. Upon completion of this 2-year course, the students should be employable as apprentice mechanics. The shop facility should be a self-sustaining unit with a recommended area of 6,160 square feet. An extensive equipment list to serve as a guide to proper equipment selection is provided. (HC)

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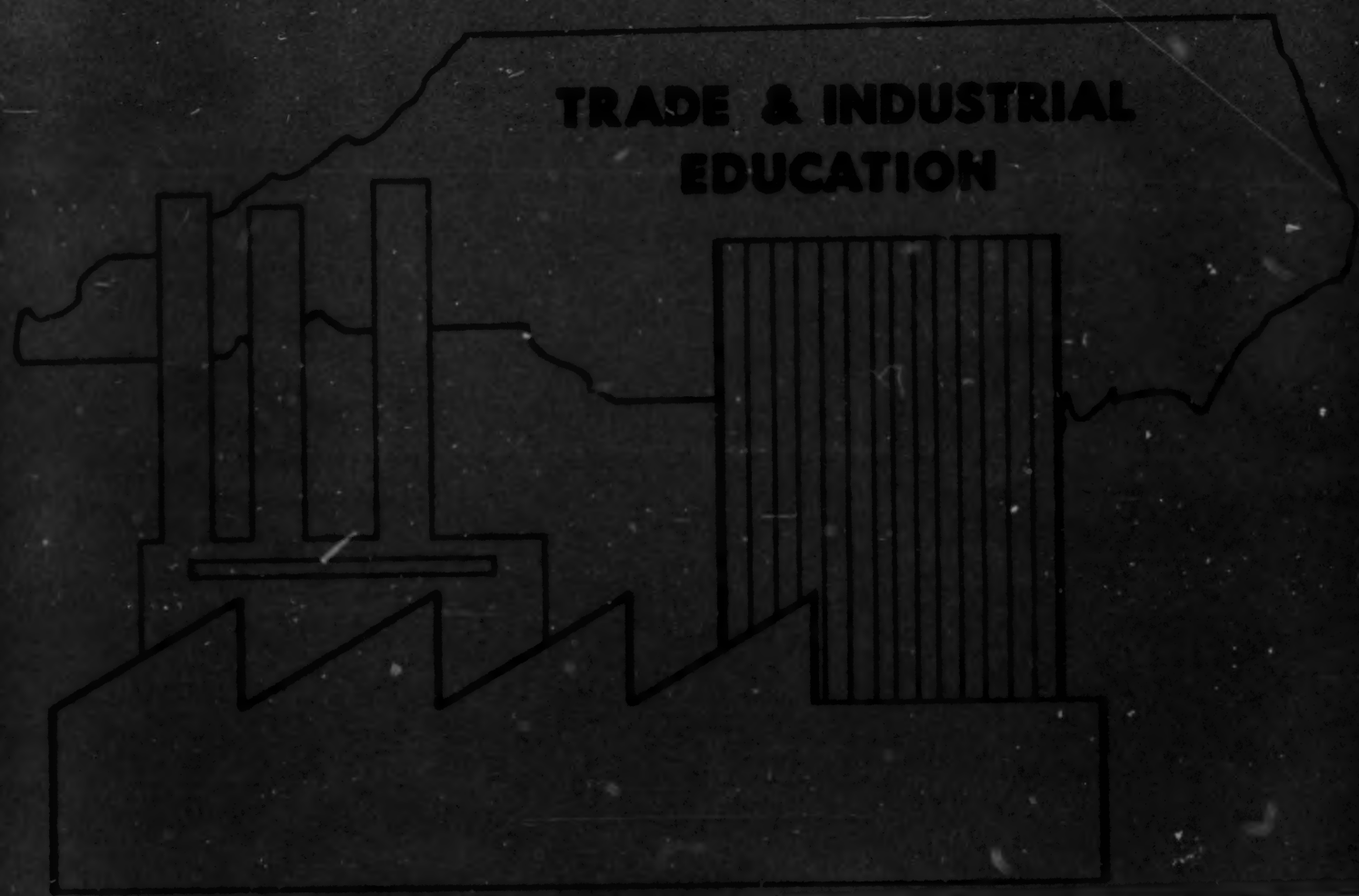
TRADE PREPARATORY TRAINING

Planning Guide

Auto Mechanics



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STATE DEPARTMENT OF PUBLIC INSTRUCTION
DIVISION OF VOCATIONAL EDUCATION
TRADE AND INDUSTRIAL EDUCATION
RALEIGH, NORTH CAROLINA

PREFACE

This planning guide has been developed to aid school administrators in planning facilities for conducting Trade Preparatory classes.

The recommendations and suggestions contained in this guide are a composite of the thinking and practices of the Trade Preparatory instructors who are now teaching in the secondary schools of North Carolina. The State Staff for Trade and Industrial Education has compiled this information and put it in its final form.

It is hoped that through its use adequate facilities will be provided wherein effective programs of Trade Preparatory Training can be conducted.

Charles D. Bates

Charles D. Bates, State Supervisor
Trade and Industrial Education

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AUTO MECHANICS

(D.O.T. 5-81.000 through 999, 7-99.060,
7-81.000 through 999)

Introduction

Motor vehicles are kept in good running order by automobile mechanics. These skilled workers maintain and repair mechanical, electrical, and body parts of truck and buses as well as passenger cars.

While many automobile mechanics are classed as "all-round mechanics", many of them are specialists who deal only with problems in a special category such as, automatic transmissions or tune-up.

The skilled mechanic must know how to use many different kinds of tools and equipment. These may range from simple hand tools such as screw drivers, wrenches, and pliers to complicated and expensive machines and equipment.

Upon completion of this two-year course, the students should be employable as apprentice mechanics. Following completion of his apprenticeship program, the trainee would retain his present employment as an all-round mechanic or in his speciality field.

AUTO MECHANICS

Objectives

1. To develop the necessary skills, technical information, and job judgment required for employment as an advanced learner in the automotive trades.

2. To provide basic experience in such manner that its use may be applied to other closely allied mechanical pursuits.

3. To develop safe, orderly and reliable work habits.

4. To develop occupational competence and high standards of workmanship.

5. To develop an appreciation and understanding of the work done by other crafts and how this work fits into the automotive trades.

As new methods, materials, tools and labor saving devices are gradually being introduced into the automotive industry, it becomes increasingly important that yearly evaluations be made of the course content of our training programs in order that the type of craftsmen that can meet the demands of our society might be developed.

AUTO MECHANICS

Admission Requirements

The applicant requesting admission to this course should have achieved a level of maturity expected of any beginning worker. He should show evidence of having satisfactorily completed eight high school units. It is desirable that at least two of the eight units be in mathematics; two shall be in English and one shall be in science.

The applicant shall be of average intelligence or above, and should show evidence that he has scored satisfactorily on a standardized intelligence quotient test or make a qualifying score on the General Aptitude Test Battery. For this field of work, he should be mentally alert, physically fit and possess the interest and ability to profit by the experience he will receive. These factors will be determined by tests and interviews administered by the guidance center and/or administration.

The teacher in charge of the course shall conduct the final interview and upon the basis of this interview and the student's test profile, he shall make whatever recommendations are necessary. If all of the above mentioned information leaves any doubt in the teacher's mind about the applicant's ability and intention, he may recommend that the applicant be admitted for a probationary period. This period is to be terminated at the teacher's request.

AUTO MECHANICS

Housing and Physical Facilities

Adequate space is a prime requisite in establishing a vocational training program. Inadequate space creates safety hazards and impairs instructional efficiency. The shop should be a self-sustaining unit, free of inside obstruction. Maximum flexibility can be achieved with the use of non-load-bearing walls. Recommended sizes of the areas required are listed below:

1.	Work area	4,000 sq. ft.
2.	Tool room	300
3.	Storage	600
4.	Office	100
	*Subtotal	5,000 sq. ft.
5.	Related classroom	750
6.	Restroom	150
7.	Shower +	110
8.	Locker room	150
	Total	6,160 sq. ft.

*Subtotal - This will meet space requirements if provision is made elsewhere for items # 5, 6, 7, and 8.

+ - Highly desirable - not absolutely required.

If it is quite obvious that spaces nearly equal to those listed above cannot be provided, it is recommended that a mechanic training program requiring a lesser amount of space be considered. Two such programs and the respective space requirements are:

Internal Combustion Engines - 4,160 sq. ft.

Small Gas Engines - 2,650 sq. ft.

AUTO MECHANICS

Course Description and Outline

This course is designed to develop skills and understandings needed in making inspections and tests to determine the causes of faulty operation of vehicles and in making repairs or replacing defective parts to restore vehicles to proper operating condition.

The course of study for Auto Mechanics requires three hours per day, five days per week for a two-year period in the following units:

- Safety
- Precision instruments and hand tools
- Soldering and welding
- Engine operating principles
- Engine units
- The fuel system and carburetion
- The ignition system and distributor
- The starter motor and controls
- The generator and regulator system
- Troubleshooting
- The clutch
- The transmission
- Universal joints and the propellor shaft
- The differential
- Rear axle, springs and shock absorbers
- Wheel alignment and balance
- Brakes
- Automotive maintenance

AUTO MECHANICS

Tools and Equipment

The equipment listed herein is basic to this area of training. This list is intended for use as a guide to proper equipment selection. The complete and detailed list of equipment should be developed by the local advisory craft committee and instructor with the approval of local administration. All equipment and supplies purchases should conform to the instructional program.

If the list of tools and equipment developed by the advisory craft committee for Auto Mechanics proves to be more than can be provided, at this time, it might be well to consider initiating a course with fewer tools and items of equipment. Two such courses are:

1. Internal Combustion Engines
2. Small Gas Engines.

In addition to the tools and equipment, it will be necessary to have various automotive components such as, engines, transmissions, differentials, etc. Some new car dealers, through factory arrangements, can supply automotive units for study purposes. Used-parts dealers are often happy to contribute used assemblies for use in the local school program.

It is suggested that after the original equipping of the Auto Mechanics shop an annual budget of $500 to $1,000 be established. This will help to keep the shop equipment up-to-date and in good repair. This in turn will strengthen the instructional program.

AUTO MECHANICS

Tool and Equipment List

Quantity	Description
1	Caliper, 6" inside, spring type
1	Caliper, 6" outside, spring type
1 ea.	Carburetor tool kit, complete set of overhaul tools for popular carburetors--Carter, Rochester, Halley, Strombery
6	Chisels, cape 1/4" - 6"
6	Chisels, cold 1/2"-6"
3	Chisels, diamond point 6"
1	Complete set of taps and dies and die stock and T-handle, uss, sae, No 4 screw to 1/2
1	Divider , 6" with replaceable points, spring type
1	Drill stand-fractional 1/16" to 1/2"
1	Flaring tool - 3/16" to 5/8" O.D. tubing size
1	Leaf type feeler gauge, brake drum and shoe
1	Tire gauge, 0-60 lbs. capacity
1	Screw pitch gauge, 60° V type thread, 22 pitches, 32 to 74
1	Thickness gauge , 6" blade, 8 tapered leaves, .002, .003, .004, .006, .008, .010, .012, and .015 leaves
1	Thickness gauge, 2 5/16" length blade, 22 blades, .004" to .025" cased
5	Machinist hammers, 12 oz. ball peen, forged steel
5	Machinist hammers, 24 oz. ball peen, forged steel
1	Sledge hammer, 7 lb. bell face, forged hardened
6	Soft face hammers, all hammers with wooden handles
6	Putty knives, 1 1/4" wide, 3 1/2" long tempered steel
1	Micrometer, inside diameter - calibrated to .001", range 2"-9 1/2", calibrated thimble with ground steel extension rods. Angular grooved extensions.
1 ea.	Micrometer, outside diameter - drop forged 1" section frame. Anvil, spindle and barrel high quality ground steel. Standard calibrations sizes 0-1", 1-2", 2-3", 3-4"
4	Oilers, 5 oz. 3" spout, steel can
2	Oilers, 1 pt. capacity 9" spout, hydraulic pump oiler
1	Oil stone, 4" x 1 3/4" x 1/2" medium
1	Oil measure, 2 qt. galvanized
2	Piston ring inserters
1	Pliers, 5" flat nose, cross-checked, forged tool steel
1	Pliers, 7" flat nose, long tapered forged steel
6	Pliers, 8" combination slip joint forged tool steel
6	Pliers, 7" diagonal
2 sets	Punches, drive pin 8" knurled steel, set of 8 1/16" dia. to 5/16" dia.
2	Punches, center 1/4 x 4"
4	Rules, 12" x 1" steel, graduated 1/8", 1/16", 1/32", 1/64"
4	Saws, hand hack, 8"-12" adjustable frame, 2 3/4" throat, with pistol grip handle
6	Screw drivers, 3" common
12	Screw drivers, 6" common 5/16" diameter
6	Screw drivers, 9 1/2" common 5/16" diameter
6	Screw drivers, 6" common 3/16" diameter
2 sets	Screw drivers, offset, forged and tempered tool steel set of 6 for 3/16" to 3/4"

Quantity	Description
2 sets	Phillips screw drivers, set of 4 to fit No. 1, 2, 3 & 4
2 sets	Clutch head screw drivers, set of 4. No. 1,2,3 and 4
2 sets	Screw extractors
2	Scriber - 1/8" dia. 10" double point
2	Snips, tin, straight 3" drop forged hardened tool steel
1	Snips, tin, curved 3" drop forged hardened tool steel
1	Soldering iron electric, 5/8" electric soldering copper, 200 watt complete with cord and stand
1	Square, steel, tempered 12" blade with forged square, center, protractor heads
1 set	Stamps, steel, 3/16" hand cut figures 1 to 0
1 set	Stamps, steel, 3/16" hand cut letters A to Z
3	Wrenches, 8" single and adjustable jaw, forged steel
3	Wrenches, 12" single and adjustable jaw, forged steel
2	Wrenches, pipe - 10" length, 2" capacity, forged jaws
1 set	Wrench, Spanner-adjustable hook, drop forged, set of 3, 3/4" to 4 3/4" diameter
1	Wrench, spanner-adjustable face spanner, drop forged
1	Wrench, Allen, one set of 11
5	Wrenches, double broached hex, double offset drop, forged chrome alloy steel, guaranteed (short length) 4 1/2" to 6" size from 3/16" to 11/16"
2	(long length) 8" to 19" size from 5/16" to 1"
2 sets	Wrenches, ignition and electrical open end, double end, set of 9; 13/64" to 5/16"
5 sets	Square drive socket wrench set, 1/2" including sockets, U joint. Extension, 3 lengths and 4 drive handles.
2 sets	Square drive deep socket wrenches 1/2"
5 sets	Wrenches, 3/8" square drive socket wrench set including sockets, U joint, 3 extensions and 4 drive handles, speed, henged offset, ratchet, sliding offset
1 set	Wrenches, set of 3/8" drive deepsockets, open end
5 sets	Wrenches, set of open ends, 1/4" to 1" openings
2 sets	Wrenches, tappet
1	Equipment and testing devices, Air compressor As needed - Airlines and chucks
1	Aligning jig - for connecting rods
1	Arbor press - 25 ton hydraulic
3	Carriers (battery equipment)
1	Slow charger - 6 and 12 volt (battery equipment)
1	Fast charger - 6 and 12 volt (battery equipment)
2	Hydrometers (battery equipment)
1	Syringe and container (battery equipment)
1	Voltmeter, prong type (battery equipment)
8	Benches, work with vices (4" vice)
1	Bench, work portable with vice
1	Reliner - combination riveter and grinder (brake equipment)
2	Braker bleeder (brake equipment)
1	Lining bonder and remover (brake equipment)
1	Drum lathe with necessary attachments, drum micrometer, Cylinder hone, lining clamps (brake equipment)
1	Lining grinder with necessary adapters to grind and centralize brake shoes
4	Containers - pans, galvanized radiator drain with pour spout

Tools and Equipment (Cont'd)

Quantity	Description
6	Containers - can, waste, galvanized
1	Chain hoist - with overhead trolley and monorail, 3 ton capacity
1	Steam or solvent type (cleaner parts)
1	Ring groove cleaner
8	Cord - extension light, complete with rubber handle and socket, outlet on handle, 25' length
8	Creepers - 4 universal casters
1	Drill, electric portable 1/4"
1	Drill, electric portable 1/2"
1	Drill, press 21" with motor and chuck
8	Pairs of fender covers
1	Cylinder gauge, dial indicator, universal type attachments complete in case
1	Compression gauge, dial face
1	Grease dispenser - chassis pressure type
1	Grease dispenser - transmission lube dispenser
2	Grinders - electric bench grinder, 2 six-inch dia. wheels with motor, switch, gards, and tool rests
1	Grinder - cylinder, with motor and hone, use with drill
1	Growler, 110 V-60 Cycle, for testing generator and starter armatures
1	Honing machine - electric motor driven, for piston pins, king pins, etc. with mandrels 1/8" to 2 5/8" inside dia.
4	Jacks - floor roller, hydraulic 2 ton
1	Jack - hand stationary jack, hydraulic type, 1 1/2 ton lifts
1	Lift - automobile, hydraulic, twin post
1	Lift - automatic transmission hydraulic lift
1	Meter - AVR 75 ampere D.C. 6, 12 and 24 volt scales D.C. complete with standard load resistors. Encased in durable portable case with heavy leads and clips attached
1	Meter - ammeter, 30 amp. capacity
1	Meter - voltmeter, 10 volt rating
1	Pullers, 1 complete set for all types of jobs as needed
1	Radiator hydrometer, calibrated for alcohol, glycerine, and ethylene glycol with built-in thermometer
1	Spring tension scale - brush and point, 0-48 oz. with book prong
1	Spring tension scale - steering gear scale, 0-4 lbs.
16	Stands - car stands (horse) 2 ton min. capacity
1	Stands - engine build up stand 360° swing
1	Rear axle overhaul stands
1	Coil tester
1	Condenser tester
1	Distributor tester, tachometer
1	Mutor tester analyzer - M.M.T.
1	Power timing light
1	Sparkplug cleaner and tester
1	Headlight tester
1	Thermometer tester, fahrenheit scale
1	Vacuum and fuel pump tester
1	Bead expander (tire service)
1	Tire changer with bead breaker
1	Tire gauge
1	Tire tester (water tank)

Tools and Equipment (Cont'd)

Quantity	Description
1	Tire repair kit (tubeless)
1	Valve refacer with adjustable base, 110 v. 60 cycle motor-priced with seat grinder
1	Valve seat grinder, complete with stones
1	Valve spring compressor, adjustable for L-Head engines
1	Valve spring compressor, adjustable for overhead valves
1	Test rack with front pit preferred (wheel alignment equipment)
1	Three-way alignment gauge set for camber, caster, and kingpin inclination, including adapter sleeve and clamp to fasten to spindle and turning radius plates
1	Toe-in gauge (wheel alignment equipment)
1	Wheel balancer, static and dynamic
	File Card
	Assorted small tools as needed
	File, assorted as needed
	Cylinder boring bar
	Oxy-acetylene welding unit complete with regulators, tips, hose, and cutting tip

AUTO MECHANICS

Recommended Text and References

It will be necessary for each student to have an Auto Mechanics textbook. In addition, a library should be established and maintained in the related study classroom. The library should include three or four good automotive encyclopedias and a good selection of other automotive reference books.

The State Supervisor of Trade and Industrial Education should be contacted for a list of books that will meet these needs.

VT 003 530
Trade Preparatory Training Planning Guide; Electricity/Electronics.

North Carolina State Dept. of Public Instruction, Raleigh. Trade and Industrial Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jul64 23p.

PROGRAM GUIDES; *ADMINISTRATOR GUIDES; *TRADE AND INDUSTRIAL EDUCATION; *ELECTRICITY; HIGH SCHOOLS; HAND TOOLS; *ELECTRONICS

This program guide is to aid school administrators in planning facilities for trade preparatory courses in electricity and electronics in secondary schools. It was developed by the State Staff for Trade and Industrial Education from recommendations and suggestions of trade preparatory teachers. The program objective is to develop the necessary skills, technical information, and job judgment required for employment as an advanced learner in an electrical trade. The basic course outline includes (1) Basic Electricity and Electronics, (2) Electric Appliance Repair, (3) Electric Motor Repair, (4) Electrical Installations, and (5) Radio and T.V. Service. The course requires 1,080 hours of instruction which may be presented as either plan I, a 2-year program, or plan II, a 3-year program. The students should have achieved a level of maturity expected of any beginning worker, have completed 8 high school units, preferably two each in mathematics and English and one or more in science, and have scored satisfactorily on a standardized intelligence quotient test or the General Aptitude Test Battery. Upon completion of the training, the students should be employable as apprentices. A suggested tool and equipment list contains the names and prices of necessary breadboard and test equipment, student tool kits, and general tools and equipment for each of the electrical areas. Adequate space is a prime requisite in establishing a vocational training program. The recommended space requirement for 15 to 20 students is 2,250 square feet. (HC)

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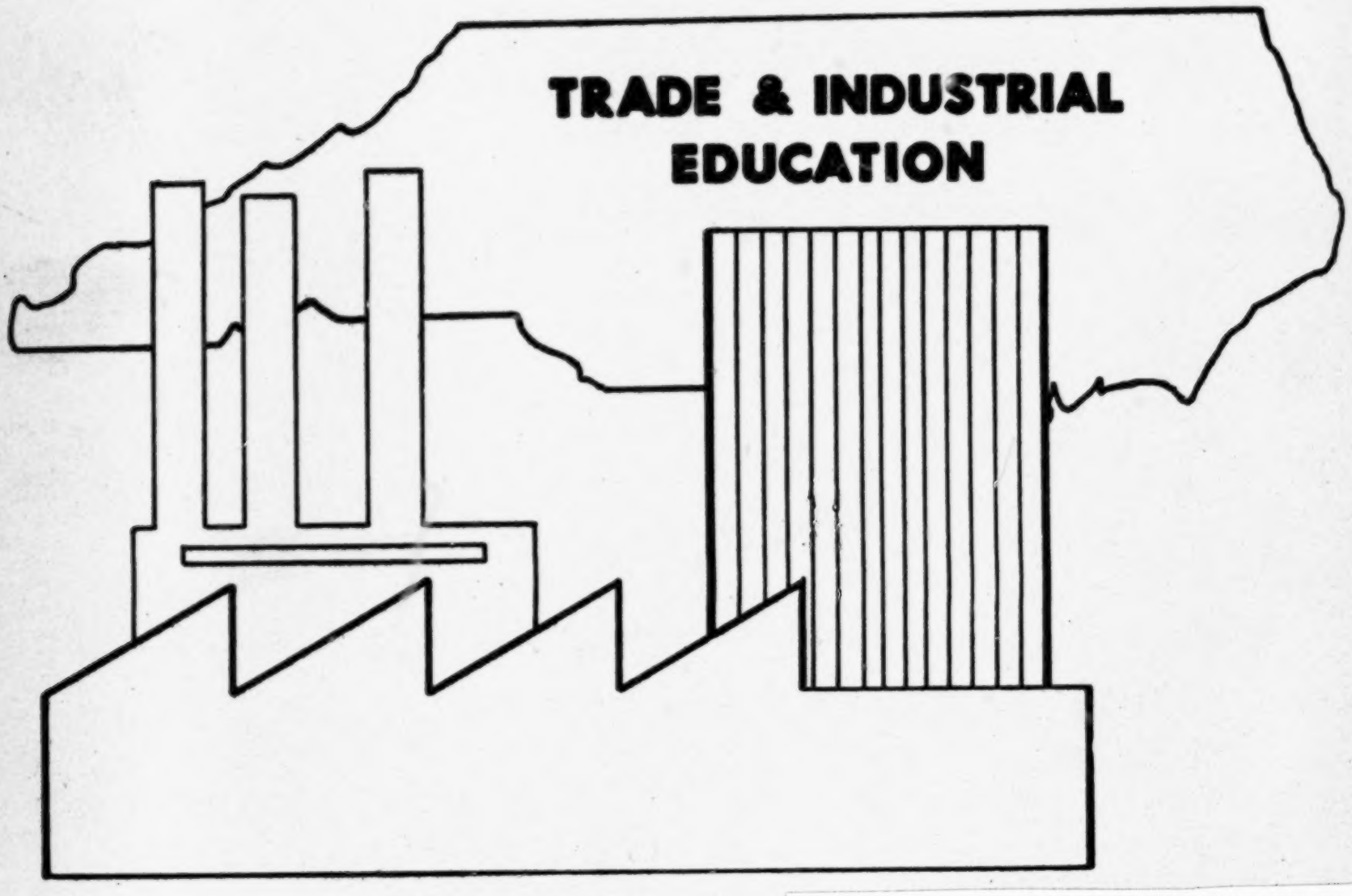
TRADE PREPARATORY TRAINING

Planning Guide

Electricity/Electronics



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Jul-64

STATE DEPARTMENT OF PUBLIC INSTRUCTION
DIVISION OF VOCATIONAL EDUCATION
TRADE AND INDUSTRIAL EDUCATION
RALEIGH, NORTH CAROLINA

VT003530

PREFACE

This planning guide has been developed to aid school administrators in planning facilities for conducting Trade Preparatory classes.

The recommendations and suggestions contained in this guide are a composite of the thinking and practices of the Trade Preparatory instructors who are now teaching in the secondary schools of North Carolina. The State Staff for Trade and Industrial Education has compiled this information and put it in its final form.

It is hoped that through its use adequate facilities will be provided wherein effective programs of Trade Preparatory Training can be conducted.

Charles D. Bates, State Supervisor
Trade and Industrial Education

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ELECTRICITY/ELECTRONICS

Introduction

The age of the electron has arrived and is evident throughout our environment. Persons cannot exist today without becoming aware of the marvels of electricity and electronics. The electric alarm that starts our day, the electric range on which we cook, and the relaxation derived from television, show us that the electron dominates our world.

As electronic devices are developed, so must the knowledge of the people who repair these marvels. House wiring is no longer a do-it-yourself job. Trained men must deal with the house or plant load, phasing, and special switching arrangements. The electric range is no longer a dependent appliance. Meals desired at noon or in the evening may be prepared and started in the morning. While the shopping is being done, the range cooks the meal. The appliance repairman can no longer be the handyman on the block, but must be a trained person. Electric motors serve our society in many ways. The air conditioner motor, elevator motor and many others help to make us aware of the fact that a trained person must build, maintain, and repair these motors. The average time spent before the television set is about 20 hours per week, per family. The special circuitry of our television, stereo, and hi-fi systems require a trained person for maintenance and repair.

Persons preparing for an electricity/electronics occupation should have a thorough introduction to electricity. The basics of electricity, whether for motor repair or for T.V. repair, are the same. The type of special work in each area requires specialized study by the student. These specialties may appear as appliance repair, electric motor repair, electrical trades and radio and T.V. repair. In order for a student to be proficient in these

occupations, he must have a desire to use hand tools and equipment, a will to accomplish, and an understanding of mathematics.

Upon completion of high school training in one of these four fields, the students should be employable as apprentices. Following the completion of apprenticeship programs, the trainees would probably retain their present employment in their respective specialty fields.

ELECTRICITY/ELECTRONICS

Objectives

1. To develop the necessary skills, technical information, and job judgment required for employment as an advanced learner in the field of Electricity/Electronics, specifically in one of the four following areas:

   a. Electric Appliance Repair

   b. Electric Motor Repair

   c. Electrical Installations

   d. Radio and T.V. Service

2. To provide basic experience in such manner that its use may be applied to other closely allied electrical or electronics occupations.

3. To develop safe, orderly, and reliable work habits.

4. To develop occupational competence and high standards of workmanship.

5. To develop an appreciation for and understanding of the work done by other crafts and how this work relates to occupations in the field of Electricity/Electronics.

As new methods, materials, tools and labor saving devices are gradually being introduced, it becomes increasingly important that yearly evaluations be made of the course content of our training programs in order that the type of craftsmen that can meet the demands of our society might be developed.

ELECTRICITY/ELECTRONICS

Admission Requirements

The applicant requesting admission to the course should have achieved a level of maturity expected of any beginning worker. He should show evidence of having satisfactorily completed eight high school units. It is desirable that at least two of the eight units be in mathematics, two in English, and one or more in science.

The applicant should be of average intelligence or above, and should show evidence that he has scored satisfactorily on a standardized intelligence quotient test or make a qualifying score on the General Aptitude Test Battery. For this field of work, he should be mentally alert, and possess the interest and ability to profit by the experience he will receive. These factors will be determined by tests and interviews administered by the guidance center and/or administration.

Teachers and guidance counselors should screen the applicants according to aptitude and ability so that students wishing to study advanced options may progress at a rate necessary for those areas. This will maintain a standard throughout classes, allowing the teacher to add special projects or move at a faster or slower rate, according to the ability level in each class.

The teacher in charge of the course shall conduct the final interview, and on the basis of this interview and the student's test profile, he shall make whatever recommendations are necessary. If all of the above mentioned information leaves any doubt in the teacher's mind about the applicant's ability and intention, he may recommend that the applicant be admitted for a probationary period. This period is to be terminated at the teacher's request.

ELECTRICITY/ELECTRONICS

Housing and Physical Facilities

Adequate space is a prime requisite in establishing a vocational training program. Inadequate space creates safety hazards and impairs instructional efficiency. Maximum flexibility can be achieved with the use of non-load-bearing walls.

The related study room should include the following:

1. Adequate chalkboard
2. Projection screen and room darkening facilities
3. Adequate study materials - books, references, charts, etc.
4. Sufficient lighting, heating, and ventilation
5. Standard classroom furniture for approximately 20 students.

Electronic shops should be designed for team study, and it is recommended that stations for two students each be supplied. These benches may have drawers and space underneath for equipment storage, or equipment may be stored in wood or metal storage cabinets along the side of the room. A storage room adjacent to the electronics laboratory should be kept for specialized equipment and needed accessories.

Electrical requirements for each station should include a minimum of four duplex 110 A.C. outlets. It is desirable that each bench be fused separately.

RECOMMENDED SPACE REQUIREMENTS

(15 to 20 students)

Work space	1,400 sq. ft.
Classroom space	400
Tool room	150
Storage	180
Office	120
Total	2,250 sq. ft.

ELECTRICITY/ELECTRONICS

Course Plan

The class time required to complete this course in Electricity/Electronics is 1,080 hours. This may be accomplished through one of the following two plans of course organization:

Plan I

Grade 11 - 3 hours per day for one year	(540 hours)
Grade 12 - 3 hours per day for one year	(540 hours)
	(Total 1,080 hours)

Plan II

Grade 10 - 1 hour per day for one year	(180 hours)
Grade 11 - 2 hours per day for one year	(360 hours)
Grade 12 - 3 hours per day for one year	(540 hours)
	(Total 1,080 hours)

The first 540 hours includes Introduction to Electricity/Electronics (180 hours) and Basic Electricity/Electronics (360 hours) which allows the flexability to establish the course as a two or three-year program.

The last 540 hours includes advanced training in Electricity/Electronics and one of the following options:

1. Electric Appliance Repair (DOT 5-83.043)
2. Electric Motor Repair (DOT 5-83.443)
3. Electrical Installations (DOT 4-97.010)
4. Radio and T.V. Service (DOT 5-83.411)

It is not expected that any but the larger schools will have sufficient enrollment to justify the establishment of facilities for all four options. It is recommended that adequate provision be made for additional terminal options as rapidly as student need and financing will allow. The introductory and basic levels of training should be geared to the final options provided for, in each school.

ELECTRICITY/ELECTRONICS

Course Outline

The course of study for Electricity/Electronics requires 1,080 hours. (This includes Introduction to Electricity/Electronics, Basic Electricity/Electronics, and one option - note course plan.) The study in each of the four final options requires three hours per day, five days per week for the final year in the course (540 hours). The basic outline includes:

Basic Electricity/Electronics

- Introduction
- Materials, tools, and processes
- How electrons flow
- Electrons at work
- Sources of electric energy
- Electrical tests and measurements
- Common electrical equipment
- Communications systems
- Radar and television
- Schematic diagrams
- Soldering techniques
- Direct current
- Ohm's Law
- Kirchhoff's Law
- Measuring devices
- Inductance
- Transformer characteristics
- Capacitors
- Reactance
- Thermistors
- Vacuum tubes
- Amplifiers
- Power supplies
- Audio amplifiers
- Power amplifiers
- Diode detection
- Oscillators
- Hetrodyne detection
- Transistors
- Transistor characteristics
- Transistor circuitry

Electric Appliance Repair Option

- Routine shop work
- Appliance construction and operations
- Live cords, plugs and attachments
- Heating elements and thermostats
- Motor-driven appliances
- Appliance servicing as a business

Course Outline (Cont'd)

Electric Motor Repair Option

- Motor and generator principles
- Introduction to A.C. motors
- Split-phase induction motors
- Capacitor motors
- Repulsion motors
- Shaded pole and universal motors
- Polyphase motors
- D. C. armatures
- Direct current motors
- A. C. and D. C. generators

Electrical Installations Option

- Underwriters and codes
- Types and sizes of wire
- Different wiring methods
- Service entrance and branch circuits
- Planning and installation
- Installation of switches and outlets
- Wiring heavy appliances
- Modernizing and installation
- Non-residential installations
- Wiring motors
- Wiring schools and churches
- Wiring offices
- Wiring stores

Radio and T. V. Service Option

- The superheterodyne receiver
- The pentagrid converter
- The I. F. amplifier
- Commercial receivers
- Side band receivers
- Power supply - portables
- The auto radio
- The F. M. receiver
- Communications receiver
- Transistor radio receivers
- Lab procedure
- T. V. controls and adjustments
- Vertical sweep circuits
- Horizontal sweep circuits
- High voltage section
- Damper circuit
- Deflection circuits
- Synch circuits
- Video amplifiers
- PIX IF amplifiers
- A.V.C. circuits
- Sound circuits
- Power supplies
- Tuners
- Sweep and marker generators
- Alignment
- Antennas

Suggested Tools and Equipment
for
Introduction to Electricity/Electronics
and
Basic Electricity/Electronics

The equipment and tools for teaching the beginning phases of Electricity/Electronics should be purchased in sets. Each set will accommodate the needs of two students. If a class of 15-16 students is planned, 8 sets would be required; for 20 students, 10 sets would be required.

Basically, the equipment is referred to as "breadboard" type equipment. This involves a board to which may be attached any of the various Electricity/Electronics components to be temporarily wired into a functioning circuit.

The following items should be included in each set. The prices listed are approximate and will vary according to manufacturer and quality level:

Breadboard and Test Equipment

Quantity	Description	Total Price
1	Basic-type electricity/electronics "breadboard" set	$ 225.00
1	Extra "breadboard" base	10.00
1	Regulated power supply	100.00
1	Wide band D. C. oscilloscope with probe set	175.00
1	Signal generator: 1 audio, 1 RF (or combination)	200.00
1	Vacuum tube voltmeter with probe sets	65.00
1	High sensitivity VOM with probe set	45.00
	Total	$ 820.00

One each of the following tools should be purchased and placed in a kit. One kit should be placed at each station and should be used by the two students assigned to this station. If a class of 16 is being planned for, eight (8) tool kits should be purchased.

Student Tool Kit

Quantity	Description	Total Price
1	Long nose pliers, 6"	$ 2.55
1	Diagonal cutters, 6"	2.78
1	Combination pliers, 6"	.94

Student Tool Kit (Cont'd)

Quantity	Description	Total Price
1	4" Screwdriver, blade length 2", diameter of blade, 1/8"	$ .18
1	8" Screwdriver, blade length 4", diameter of blade 1/4"	.78
1	2 3/4" Screwdriver, blade length 1 1/4", diameter of blade 3/16"	.45
1	7 3/4" Phillips screwdriver, blade length 4"	.87
1	1/4" Spintite	
1	Pencil soldering iron, 55 watts, 8 3/16", overall length	6.94
1	1/4" Soldering tips	.57
1	Wire stripper and cutter	.89
1	Soldering aid with plastic handle	.25
	Approx. cost per set	$ 17.20

General Tools and Equipment

Quantity	Description	Total Price
1	Curved nose pliers, 5 1/2"	2.93
1	Short chain needle nose pliers with cutters	2.52
1	Electrician's side cutting pliers, 8"	3.12
1	Channel lock pliers, 10"	2.63
2	7 1/2" Screwdrivers, blade length 5", diameter of blade 5/32"	.90
1	10" Screwdriver, blade length 6", diameter of blade 1/4"	.84
2	6 3/8" Phillips screwdrivers, blade length 3"	1.38
2	10" Phillips screwdrivers, blade length 6"	2.34
2	Double-end Del prier hex iron core tool, .100 hex	.90
2	Double-end del prier hex iron core tool, .125 hex	.90
2	I.F. alignment screw	.72
2	I.F. alignment screwdriver	1.32
2	Oscillator alignment tool	2.28
2	K-tran alignment tool	1.14
2	Dual-heat professional gun, 100/150 watts with 7135 tip	19.42
1 set	Sloyd knives, 3 1/8" blade	1.15
1 set	Retractable steel rule, 12' chrome clad	2.25
1 set	Electric grinder (bench type) single phase	139.00
1 set	Machinists' vises with swivel base, jaw width 3", max. opening, 4 3/4"	31.68
1 set	Files	8.00
1 pr.	Pointed steel scissors, 6" length	1.00
1 pr.	10" tin snips	
2 sets	Screw and nut driver sets	11.94
1 set	16 oz. Hammers	3.50
1 set	8 oz. Soft face hammers	2.50
3 sets	Center punches	2.70
3 sets	Prick punches	1.80

General Tools and Equipment (Cont'd)

Quantity	Description	Total Price
1 set	Chassis punches, 1/2" to 1 1/4"	$ 5.00
1 set	Electric drills, 1/4" cap., heavy duty	49.50
1 set	Cold chisels, 4 sizes 1/4", 3/4", 1/2" and 5/8"	2.80
2 sets	Hack saws, adjustable 10", 12" with rigid frame and complete reinforced handle	7.70
1 set	Crescent wrenches, 4"	1.79
	6"	1.81
	8"	2.07
	10"	2.63
1 set	14 piece roll of combination wrenches, 3/8" to 1 1/4"	19.79
1 set	Tap and dies, complete	32.95
1 set	High speed drills, 1/16" thru 1/2" by 64th's 29 drills in metal index	29.95
1 set	Allen wrench set	2.00
1 set	Tube-pin straightner 7-pin & 9-pin	2.00
1	bench model drill press	
	Total	$ 408.85

The approximate equipment costs for initiating classes in the basic phases of Electricity/Electronics would be arrived at in the following manner:

For 20 students

10 sets breadboard & test equipment @ $820.00 per set	$ 8,200.00
10 student tool kits @ $17.20	172.00
1 group of general tools and equipment	408.85

Approx. total equip. cost $ 8,780.85

Although the advisory craft committee should determine the actual equipment used in the advanced phases (options) of Electricity/Electronics, lists are attached hereto, to give administrators some insight as to the equipment and approximate cost involved to prepare for the different options.

It should be noted that the equipment for these options need not be purchased at the same time as the equipment for the basic phases. Students will require at least one year (possibly two - according to the course plan) of preparation before they will be ready to study in the option areas.

Suggested Tools and Equipment
for
Electric Appliance Repair
(15-20 students)

Quantity	Description	Total Price
1	Air compressor, 1 H. P., 3 phase, 220 volt motor	$ 190.00
1	6" Grinder with safety guard, 1/3 H. P., 1 phase 115-volt motor, 3450 R.P.M.	40.00
3	Machinist's vises, 5 x 3", 5 x 4" jaws	75.00
1	1/2" Electric drill, 115 volts	35.00
2	1/4" Drill	26.50
1	High speed drill set, 1/16 to 1/2"	14.00
6	6 x 11" Face shields for protecting eyes	13.80
1	Electric arc welder, 200 amps.	175.00
10	5-piece screwdriver set	21.60
5	Nut driver sets	22.15
3	6" adjustable wrenches	5.11
3	8" Adjustable wrenches	5.97
3	10" Adjustable wrenches	7.50
1	Electric circuit tester	1.29
2	18 piece hex wrench set	2.60
1	20,000 ohms/volts, volt ohm meter	60.00
10	Electrician's plier set (pliers, side-cutters, and duckbill)	47.90
1	Volt-ammeter	66.70
6	Machinist's hammers, 8 oz.	13.20
3	Machinist's hammers, 1 1/4 lbs.	9.00
3	Hacksaws	8.43
2	Hammers, Eswing	7.48
4	Pliers, Channelock type	9.60
1	Level, Torpedo	2.96
1	Phillips screwdriver	1.15
1	8" pipe wrench	1.73
1	10" pipe wrench	2.28
1	14" pipe wrench	3.12
1	Socket set, 7/16 to 1 1/4"	16.25
1	14-piece combination wrench set (open and boxed ends) 1/4 to 1 1/16"	14.50
1	16-piece socket set 7/16 to 1 1/4", 18 point sockets, 1/2" sq. drive	16.25
1	11-piece 3/8 to 3/4" socket wrench set	8.25
1	Bell-ringing magneto for testing	15.00
	Approx. total price	$ 939.32

Suggested Tools and Equipment
for
Electric Motor Rewinding and Repair
(15-20 students)

Quantity	Description	Total Price
1	Coil winding machine with motor	$ 685.00
1	3-phase coil winder head	175.00
1	Combination single & 3-phase winding heads, baseholder and forms	200.00
1	Baking oven, electric	630.00
1	Parts cleaner, 60 cycle, 1 phase	239.00
1	Growler, 1 phase, 115 volts	33.00
1	Electric soldering iron, 300 watts, 115 volts	17.60
1	Insulation creaser and cutter	85.00
1	Rawhide hammer #0	1.89
1	Rawhide hammer #1	2.55
1	Rawhide hammer #2	3.11
1	Lamping pliers, complete set	15.00
1	Terminal pliers	5.10
1	Lathe with motor switch and other attachments, 10"-1-1/16 (Engine)	1,800.00
1 set	Reamers in metal box: contains 1/2, 5/8, 13/16, 3/4, 11/16, 1" reamers	90.00
1 set	Wrenches, Spintite	6.15
1	Automatic wire stripper	5.75
1	Air compressor, 1 H.P., 3-phase, 220 volts	184.73
1	V. O. meter, similar to Simpson #260	60.00
1	Voltmeter, 0-600 volts	66.00
1	Ammeter, 0-150 amperes	66.00
1	Drill press, with motor	120.00
2	High speed press, 23 tons	150.00
1	100-pound anvil	25.00
15	Pliers, as Klein #201-8NE	52.50
15	Diagonal pliers, as Klein #220-7	42.45
15	Machinist's hammers, 1 lb.	33.00
15	Screwdrivers, 8"	26.40
15	Screwdrivers, 4"	7.95
15	Screwdrivers, 10"	15.15
3	Machinist's vises, 5 x 3, 5 x 4, 3 1/2 x 4	75.00
1	Socket set, 7/16 to 1 1/4"	16.25
1	Combination wrench set, 14 piece, (open and boxed ends) 1/4 to 11/16"	14.50
1	16-piece socket set, 7/16 to 1 1/4", 18-point sockets, 1/2" sq. drive	16.25
1	11-piece socket wrench set, 3/8 to 3/4"	8.25
1	Bell-ringing magneto for testing	15.00
1 set	Screw wrenches, as Allen	2.00
1	Wire gauge	4.00
3	Micrometers, 0-1, 1-2, 2-3"	49.98
3	8" Adjustable wrenches	5.97
3	10" Adjustable wrenches	7.50

Suggested Tools and Equipment (Cont'd)

Quantity	Description	Total Price
1	Grinder, 1 H. P., 3 phase, 220 volt motor - 7-8 in. capacity	$ 190.00
1	Electric arc welder, 200 amperes	175.00
1	2-lb. machinist's hammer	2.50
3	Pump oil cans	4.50
1	Soldering gun, 250 watts	12.50
1	Tap & die set, small	8.50
1	Tap & die set, large	59.95
	Approx. total price	$ 5,510.98

Suggested Tools and Equipment
for
Electrical Installations
(15-20 students)

Quantity	Description	Total Price
1	1/2" Electrical drill, 115 volts, reversible	$ 34.95
2	Keyhole saw, as Douglas #100	6.60
3	Hammer, as Eswing # E165	8.22
15	Pliers, as Klein #201-8N.E.	52.50
15	Grips	7.95
2	Knives, as Utica #260	3.00
15	Needle-nose pliers, 7"	40.95
15	Pliers, as Channelock #420	36.00
2	Torpedo levels, as Douglas #509	5.92
6	Hacksaws	16.86
6	Bit braces, 10"	34.02
1	Bending tool (1/2" EMT)	3.00
1	Bending tool (3/4" EMT)	4.70
1	Bending tool (1" EMT)	8.00
15	Screwdrivers, 8"	26.40
15	Screwdrivers, 4"	7.95
15	Screwdrivers, 10"	15.15
15	Screwdrivers, 3"	15.15
7	Phillips screwdrivers, as #2753	7.35
15	Offset screwdrivers, as #671	8.40
1	1/4" drill, as M. F. #1040	13.25
1	Hand saw	5.00
6	All-steel wood chisels, 3/4"	9.24
6	Tang-Bull wood chisels, 1"	14.16
6	6-ft. steel rules	5.34
10	Extension rules	21.00
1	50' Steel tape	4.12
1	Fish tape reel and puller, 50'	5.00
1	Knockout punch set	12.00
1 set	Unispar auger bits, #21 Electrician	
	solid-center bit, size 10/16	2.00
	solid-center bit, size 11/16	1.50
	solid-center bit, size 12/16	1.50
1 set	Unispar auger bits, #18 Power Electrician	
	size 11/16, solid-center	2.00
	solid-center bit, size 12/16	2.10
	solid-center bit, size 13/16	2.20
2	Solid-center bits, size 5/8 x 18" long, electrician's bit	5.00
1	Wrench, 6", as Klein #500-6	1.80
1	Voltage tester, Square D	10.00
1	Volt-ammeter, as Amprobe RS #1	75.00
2	Pipe wrenches, size 10"	5.70
2	Pipe wrenches, size 14"	7.60
2	Pipe wrenches, size 18"	11.00
2	8' wooden electrician's stepladders	24.00
1	20' wooden extension ladder	35.00
1	Testing magneto for shorts and grounds	15.00
	Approx. total price	$ 633.58

Suggested Tools and Equipment
for
Radio and T.V. Service
(15-20 students)

Quantity	Description	Total Price
1 set	Chassis punch (round) 1/2", 5/8", 3/4", 7/8", 1"	$ 11.45
1	Chassis punch (square) 5/8"	4.90
1	Tap and die set, as Hanson	27.95
1 set	Nut and driver set (for instruction) as Xcelite #99 Pr	8.65
6 sets	Nut and driver set, as Xcelite #127	38.70
2 sets	Hex - spline key set, as Walsco	2.64
1	Metal nibbling tool, as Adel	3.85
12	Needle nose pliers, as Kraeuter	26.40
12	Diagonal cutters, as Kraeuter	35.28
2	Aviation snips 10", straight cut	6.46
1	10" left-cut snips	3.23
1	10" right-cut snips	3.23
30	Trainer slide rules (4' Trainer free)	58.50
1	Drill bit set, 1-60 with stand or case	23.60
1	21 pc. 3/8 drive socket set	15.00
1	Power shear, as Burke	70.00
2	1/4" drills	30.00
10	Solder guns, as Weller #8200	45.60
2	Solder irons, 200 watts	20.30
1	Power nibbler, Skil model 566	50.00
1	12" Box & pan metal brake	175.00
10	8" Combination plier	10.00
2	Combination wrench sets, as Thorsen BOE 14	33.32
1	Signal generator, as Triplett	99.50
1	Oscilloscope, as RCA model WO-91A	239.50
1	5" Handiscope	144.95
4	V.O.M., as Simpson model 260 series 4	195.80
2	V.O.M. (wired), as Eico, model 565	59.90
2	V.T.V.M., as R.C.A. model SR Voltohmist	115.90
1	V.T.V.M., as Hickok model 209B	239.50
1	Load check appliance tester, as Hickok model 900C	126.75
1	Volt - amp - wattmeter, as Simpson model 390	39.50
2	Resistor - capacitor substitution box (wired), as Eico	29.90
2	Rectopower supply model, as Mallory model 12 RSDF	119.90
1	Tube tester, wired, as Eico model 628-X	44.95
1	Tube tester, as B & K model 700	166.55
1	Picture tube tester & rejuvenator, as B & K model 445	73.45
1	Adaptor for color - 110° deflection tubes	9.95
1	Transmulator, as Sprague model LF-1	79.50
1	Resistance - capacity ratio bridge kit, as Paco	20.95
1	Vibradaptor	2.69
1	Sweep & marker generator, as Hickok model 615	359.50
2	Signal tracer (wired), as Eico model 145	65.90
1	Dip meter, wired, as Eico model 710-K	49.95
1	C.R.T. tester, wired, as Eico model 630	27.95
1	V. O. M. & ammeter set, as Triplett	64.50
1	Electrical demonstration unit, as Universal 1000	260.00

Suggested Tools and Equipment (Cont'd)

Quantity	Description	Total Price
2	Ball pein hammers, 1/2 lb.	$ 7.00
4	Screwdrivers 1/4" x 12"	3.60
2	Screwdrivers 1/8" x 4 1/2"	.66
2	Screwdrivers 1/8" x 10 1/2"	1.08
2	Screwdrivers 3/8" x 12 1/8"	2.76
1	Phillips screwdriver 4"	.39
1	Phillips screwdriver 6"	.75
1	Phillips screwdriver 13 3/4"	1.17
1	Phillips screwdriver 10"	1.17
1	Drill & wire gauge (1-60)	1.34
1	1" Micrometer, as Hanson 120	10.95
1	Hand reamer	1.19
2	Chassis cradle	14.70
2	Half round files 8"	2.50
2	Round files 82 second cut	1.60
2	Files 10"	1.50
2	Hack saw w/blade	5.00
3	Bench vise, as Columbian 603M2	95.04
1	Bench grinder	135.00
2	Compass saws, as Diston #402	2.40
4	Center punches, as Stanley 494	2.80
3	Combination squares, as Stanley	9.75
1	RPM indicators, as Starrett #104	5.00
1	Armature growler, as B & G model 1409	40.00
	Approx. total price	$ 3,688.35

ELECTRICITY/ELECTRONICS

Recommended Text and References

It will be necessary for each student to have books for each area. In addition, a library should be established and maintained in the related study classroom. The library should include three or four good encyclopedias and a good selection of other reference books.

The State Supervisor of Trade and Industrial Education should be contacted for a list of books that will meet these needs.

VT 003 532
Trade Preparatory Training Planning Guide; Machine Shop.

North Carolina State Dept. of Public Insturction, Raleigh. Trade and Industrial Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jul64 12p.

PROGRAM GUIDES; PROGRAM PLANNING; *ADMINISTRATOR GUIDES; *TRADE AND INDUSTRIAL EDUCATION; *METAL MACHINING OCCUPATIONS; HIGH SCHOOLS

This program guide is to aid school administrators in planning facilities for trade preparatory courses in machine shop in secondary schools. It was developed by the State Staff for Trade and Industrial Education from the recommendations and suggestions of trade preparatory teachers. The program objective is to develop in the student the necessary skills, technical information, and job judgment required for employment as an advanced learner in the machine trades. The suggested course of study requires 3 hours per day, 5 days per week for a 2-year period and covers units such as related math, blueprint reading, engine lath, drill press, planer, turret lathe, and universal grinder. The students should have achieved a level of maturity expected of any beginning worker, have completed eight high school units, and have scored satisfactorily on a standardized intelligence test or the General Aptitude Test Battery. Upon completion of the training, the students should be employable as apprentice machinists. A basic equipment list for a class of 15 to 20 students is suggested, but the complete and detailed list of equipment should be developed by the local advisory craft committee and the instructor with the approval of the local administrator. The physical facility should be a self-sustaining unit with a recommended floor space of 6,160 square feets. (HC)

VT 003 532

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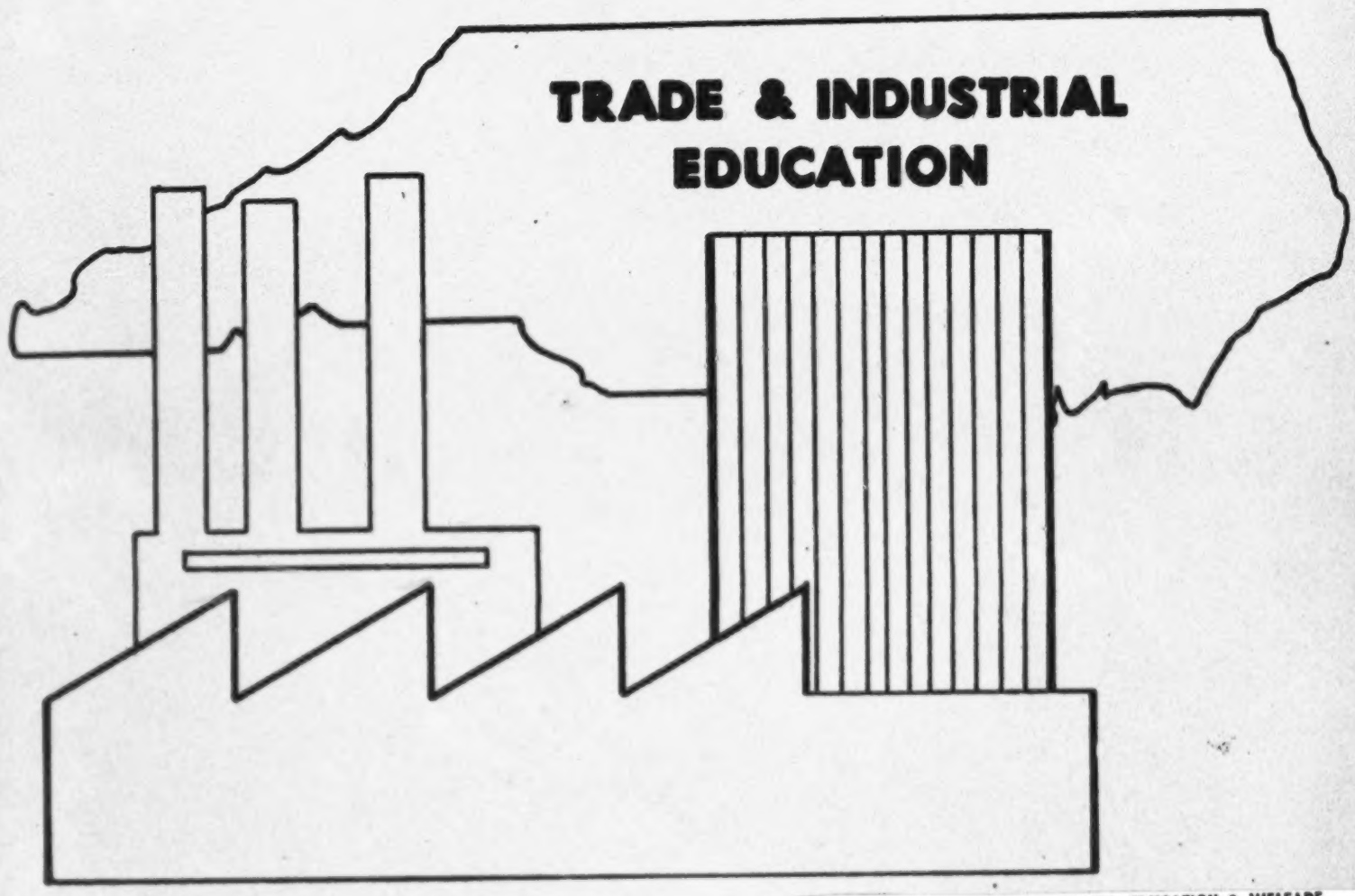
TRADE PREPARATORY TRAINING

Planning Guide

Machine Shop



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Jul-64

STATE DEPARTMENT OF PUBLIC INSTRUCTION
DIVISION OF VOCATIONAL EDUCATION
TRADE AND INDUSTRIAL EDUCATION
RALEIGH, NORTH CAROLINA

VT003532

PREFACE

This planning guide has been developed to aid school administrators in planning facilities for conducting Trade Preparatory classes.

The recommendations and suggestions contained in this guide are a composite of the thinking and practices of the Trade Preparatory instructors who are now teaching in the secondary schools of North Carolina. The State Staff for Trade and Industrial Education has compiled this information and put it in its final form.

It is hoped that through its use adequate facilities will be provided wherein effective programs of Trade Preparatory Training can be conducted.

Charles D. Bates

Charles D. Bates, State Supervisor
Trade and Industrial Education

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MACHINE SHOP
(Machinists - 4-75.010 and .120)

Introduction

Almost every product of American industry contains metal parts or is manufactured by machines made of metal parts. Many of these metal parts are made by machinists and machining workers who make up the largest group in the metalworking trades. A machinist can set up and operate most types of machine tools. In addition, he must be able to read blueprints, interpret specifications, estimate materials, and use proficiently all hand tools and instruments of the trade.

The students, upon completion of this course, should be employable as apprentice machinists. Upon completion of apprenticeship training, these students will be employable in one of the many machine trades. These would include such occupations as:

All-round Machinist (D.O.T. 4-75.010 and .120)

Machine Tool Operators (D.O.T. 4-78.000 through 589 and 6-78.000 through 589)

Tool and Die Makers (D.O.T. 4-76.010, 040 and .210)

Instrument Makers (mechanical) (D.O.T. 4-75.130)

Set-up Men (machine tools) (D.O.T. 4-75.160)

Layout Men (D.O.T. 4-75.140)

For additional lists and definitions of machine trades occupations, consult the Dictionary of Occupational Titles.

MACHINE SHOP

(Machinists - 4-75.010 and .120)

Objectives

1. To develop the necessary skill, technical information, and job judgment required for employment as an advanced learner in machine trades.

2. To provide basic experience such as may be applied to other closely allied metal trades.

3. To develop safe, orderly and reliable work habits.

4. To develop an appreciation and understanding of the work done by other crafts and how this work fits into manufacturing, fabrication and the other metal trades.

As new methods, materials, equipment, tools, and labor saving devices are introduced into the machining trades, it becomes increasingly important that annual evaluations of course content be made to be certain that this training is developing the type of craftsmen competent to meet the needs of this dynamic trade.

ADMISSION REQUIREMENTS

The applicant requesting admission to this course should have achieved a level of maturity expected of any beginning worker. He should show evidence of having satisfactorily completed eight high school units. It is desirable that at least two of the eight units be in mathematics; two shall be in English and one shall be in science.

The applicant shall be of average intelligence or above, and should show evidence that he has scored satisfactorily on a standardized intelligence quotient test or make a qualifying score on the General Aptitude Test Battery. For this field of work, he should be mentally alert, physically fit and possess the interest and ability to profit by the experience he will receive. These factors will be determined by tests and interviews administered by the guidance center and/or administration.

The teacher in charge of the course shall conduct the final interview and upon the basis of this interview and the student's test profile, he shall make whatever recommendations are necessary. If all of the above mentioned information leaves any doubt in the teacher's mind about the applicant's ability and intention, he may recommend that the applicant be admitted for a probationary period. This period is to be terminated at the teacher's request.

HOUSING AND PHYSICAL FACILITIES

Adequate space is a prime requisite in establishing a vocational training program. Inadequate space creates safety hazards and impairs instructional efficiency. The shop should be a self-sustaining unit, free of inside obstructions. Maximum flexibility can be achieved with the use of non-load-bearing walls. Recommended sizes of the required space needs are listed below:

1.	Work area	4,000 sq. ft.
2.	Tool room	400
3.	Storage	450
4.	Office	150
	*Subtotal	5,000 sq. ft.
5.	Related classroom	750
6.	Restroom	150
7.	Shower +	110
8.	Locker room	150
	Total	6,160 sq. ft.

*Subtotal - This will meet space requirements if provision is made elsewhere for items #5, 6, 7, and 8.

+ - Highly desirable, not absolutely required.

COURSE OUTLINE FOR
MACHINE SHOP CLASSES

The course of study for Machine Shop requires three hours per day, five days per week for a two year period in the following units:

- Related math
- Blueprint reading
- Measuring instruments
- Bench operations
- Engine lathe
- Shaper
- Surface grinder
- Milling machine
- Drill press
- Bandsaw
- Forge
- Welding
- Buffing
- Planer
- Turret lathe
- Universal grinder

MACHINE SHOP EQUIPMENT

(15 - 20 students)

The equipment herein listed is basic to this area of training. This list is incomplete and should be considered only as a beginning. The complete and detailed list of equipment should be developed by the local advisory craft committee and instructor with the approval of local administration. All equipment and supplies purchased should conform with the instructional program.

The prices of items listed on the following page are approximate. Trade names are used merely to describe a type of machine. The purpose of the two sets of prices is to indicate that a machine shop need not be equipped exclusively with surplus or new equipment. Variations can be noted in equipment sizes and units included in one list and omitted from the other.

The purchase of "surplus equipment" is not normally recommended because of incompleteness or obsolescence. However, with the careful selection of surplus items, the total cost of developing a well equipped machine shop can be drastically reduced.

If the equipping of a machine shop with surplus equipment is contemplated, the following points should be considered.

- Items considered for purchase should conform with the advisory committee's recommendations.
- Age, condition, and completeness of equipment determine the fiscal and educational value of a machine.
- The size of a machine does not determine its educational value. If the machine is too small, it is inadequate; if too large, it wastes valuable training space and costs excessively to operate, maintain and supply with practice material.
- Purchasing surplus equipment will require considerable time and frequent trips by someone who is well acquainted with machine shop equipment.

<u>Budget note:</u> It is suggested that after the original equipping of this shop that an annual budget of $600 to $1,200 be established. This will help to keep the shop equipment up to date and in good repair. This in turn strengthens the instructional program.

MACHINE SHOP EQUIPMENT
(15 - 20 students)

Complete shop with all new equipment						Complete shop with surplus and new equipment	
Total Price	Unit Price	Item No.	Quantity	Description	New or Surp.	Unit Price	Total Price
$ 8,400.00	$ 1,200.00	1	7	10" Lathes, fully equipped			
		1	7	13" Lathes, fully equipped	N	$ 3,500.00	$22,500.00
3,000.00	3,000.00	2	1	14" Lathes, fully equipped	S	300.00	300.00
3,250.00	3,250.00	3	1	14" Turret Lathe	S	300.00	300.00
3,190.00	3,190.00	4	1	Vertical mill-Bridgeport #BRJ or equal	S	250.00	250.00
5,000.00	5,000.00	5	1	Horizontal mill #2	S	300.00	300.00
		6*	1	Horizontal mill #2 w/vertical head	S	300.00	300.00
300.00	300.00	7	1	Drill press,1/2" floor model	N	300.00	300.00
1,500.00	1,500.00	8	1	Drill press,1" floor model	N	1,500.00	1,500.00
		9*	1	Radial arm drill	S	300.00	300.00
300.00	300.00	10	1	7" grinder, pedestal base	N	300.00	300.00
275.00	275.00	11	1	6" Carbide tool grinder	N	275.00	275.00
2,500.00	2,500.00	12	1	Surface grinder,6 x 18	S	250.00	250.00
		13*	1	Cylindrical grinder	S	200.00	200.00
350.00	350.00	14	1	Power hacksaw	S	150.00	150.00
1,500.00	1,500.00	15	1	Band Saw--DoAll or equal	S	200.00	200.00
150.00	150.00	16	1	Gas welding outfit	N	150.00	150.00
300.00	300.00	17*	1	Electric welding outfit	S	100.00	100.00
3,000.00	3,000.00	18		Precision measuring tools & cutters	N	3,000.00	3,000.00
500.00	500.00	19		Storage equipment	N	500.00	500.00
** $33,515.00							** $31,175.00

*These are standard machine shop units. Whether or not they should be included should be determined by the local advisory craft committee which should keep this course directed to meet local needs.

**With careful selection of surplus and new equipment, in combination, the total cost can be considerably reduced.

MACHINE SHOP

Recommended Texts and References

It is suggested that enough books be purchased so that each student will be supplied with a machine shop math textbook, blueprint reading textbook, and a general machine shop textbook.

Additional books involving various phases of machine shop work and training should be purchased to establish a library for reference work for these students.

The State Supervisor of Trade and Industrial Education should be contacted for a list of books to meet these needs.

VT 003 550
Chansky, Norman N.
The Introduction to Vocations Course: An Evaluation, Summary.

MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jun64 11p.

*OCCUPATIONAL GUIDANCE; *VOCATIONAL DEVELOPMENT; *CURRICULUM EVALUATION; GRADE 9
NORTH CAROLINA

"The Introduction to Vocations Course--An Evaluation" is summarized. See abstract VT 003 551 which is the complete study. (MM)

VT 003 550

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9p*

SUMMARY

THE INTRODUCTION TO VOCATIONS COURSE: AN EVALUATION

School Year 1963-64

by

Norman M. Chansky, Ph.D.

Associate Professor of Education and Psychology

N. C. State of the University of North Carolina at Raleigh

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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June, 1964

(Note: This is a Summary Report. A full report is available in the office of the Director, Division of Vocational Education, Education Building, Raleigh, North Carolina.)

VT003550

Introduction to Vocations (IV) is a new course instituted in the ninth grade curriculum in selected schools in North Carolina. The course familiarizes the student with the world of work, economic factors related to labor, current employment trends, and training requirement for the several careers. In addition, students were tested to determine aptitudes and vocational interests. Scores were explained, discussed, and correlated with information acquired about occupation. Low concepts of self as workers, occupational misfit, and constant revision of employment needs and trends within the economy of the United States were sufficient justification for offering the course.

IV teachers were selected by their superintendents to attend a summer training institute. Teachers were recruited largely from vocational agriculture, industrial arts, home economics, and guidance fields. Supervisors of the project planned two approaches to the IV course. One was to be the individual teacher instructional plan and the other was to be a team approach involving the IV, English, mathematics, and science teachers. The summer training institute, therefore, included subject matter specialists, also.

The outline for the course was developed by H. E. Beam. Lesson plans and activities were contained in it. The teachers discussed and implemented the several ideas presented in the outline. During the academic year 1963-64, the teachers could orient themselves to the several IV topics by using the outline. Wide latitude was provided the teacher, however, to elaborate upon the outline and to introduce new ideas.

Plans were made in August for evaluating the outcomes of the project. The questions one asks limits the kinds of information the research worker will be able to obtain. While there are many possible outcomes to evaluate, only a few were selected for study. As a result many knowledge and attitude changes were not studied at all.

Certain beliefs guided the phrasing of the research questions. It was believed that the IV course would make such an impact on the students that he will become more serious as a potential worker. Changes in aptitudes and vocational interests, therefore, were predicted. Vocational thoughts of the young adolescent are known to be a result of fantasy and wishing. It was predicted, therefore, that a fact oriented occupational information and self inventory course would develop more realistic thoughts about the world of work. The course, it was further expected, would become more concerned with the features inherent in their career choice than with irrelevent factors. Educational requirements of careers were to be more easily grasped. Greater awareness of the joys and dangers of careers was anticipated. A more active seeking of occupational information was expected. For that matter, vocations were to be orienting foci of the students' lives. Achievement in the course, it was believed, could be explained on the basis of known characteristics of the students. Team teaching, it was hypothesized, would yield better achievement results than the individual approach. Because of the multidimensional nature of this project and because computer programming has advanced markedly, many interrelationships could be found even though they were not intentionally sought.

Growth in knowledge and changes in attitudes appear to take place as a function of time. It was impossible to determine whether the outcomes of the course were realized if a second group similar to the IV students received no training. The superintendents of schools offered in addition to IV students comparable students to serve as a control group. Statewide, it may be said that there were few initial differences in aptitudes and interests between the two groups.

The validities and reliabilities of the tests used were designated to point out the degree to which the findings presented may not be completely faithful or accurate. Chance factors, it is well known, operate in any testing situation. They cause the observed test scores to fluctuate around the true scores. The tests used in this study were the Multiple Aptitude Tests (MAT); The Picture Interest Inventory (PII), Standardized tests published by the California Test Bureau, the Business Information Survey (BIS), My Career, and the final survey, unstandardized tests developed by the writer especially for this project. The MAT measure specific aptitudes like verbal, spatial and numerical. PII yields scores on vocational interests in interpersonal relationships, mechanics, nature, business, words, and numbers. BIS yields two types of scores: Objective and Subjective. The Objective scores reveal the degree to which the students' ordinal arrangements of seven major career groups agree with their actual arrangements for employment opportunities, mental ability requirements, earnings, and prestige. The subjective scoring key reveals the degree of relationship of the students' arrangements of the careers with his own career plans. My Career reveals the kinds of careers students plan to enter, reason for entry, educational requirements, traits required, joys and dangers anticipated, and steps taken to

learn about the career. The final survey was a series of true-false items about economics, occupations, and other facets of the world of work. Items were taken from the content of the IV courses taught throughout the State.

Students were tested at the beginning of the academic year and again seven months later. The second set of scores were compared with the first. Changes in aptitudes and interests of both experimental and control groups were not different from chance. High group scores on pretests were lower on retests; low pretest scores were higher on retests. This is the familiar "regression toward the mean" phenomenon which takes place during retests merely due to the original statistical deviations or errors which cause scores to fluctuate. The hypotheses dealing with improvement in the IV group in aptitude and interests were not tenable. The individual members of the IV group did change considerably in their aptitudes and vocational interests. These changes for individuals far exceeded changes made by the individuals in the control group. Greatest changes were noted for the following characteristics: aptitudes for arithmetic reasoning, applied science and mechanics, and interests in mechanics, business, esthetics, science, words, numbers, period of career training.

These findings should be viewed in the context of the scores originally obtained on the two groups. In reference to the national average, the groups were above average for the following aptitudes: word meaning, arithmetic computation, applied science and mechanics, and spatial relations - three dimensions, but below average in paragraph meaning, arithmetic reasoning, and spatial relations - two dimensions. The vocational interests at or above average were inter-

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personal relationships, nature, words; below average were interests in mechanics, business, esthetics, science, numbers, and time perspective. The low reading comprehension scores, moreover, confirm the teachers judgment that students were inadequate. To explain achievement on the final survey, the several aptitude and interest scores were examined. Although all correlations explained achievement in the course to a far greater extent than did any of the aptitudes, including reading ability. While the data obtained could not be said to explain all achievement in IV, they nevertheless provide clues to the importance of initial vocational interests in attaining the goals of the course. Team teaching, contrary to the hypothesis, was not observed to influence the achievement test scores any more than did the individual approach. Size of school, moreover, was also not found to be related to scores on the achievement test.

To study the subjective factors associated with vocational interests, the My Career inventory was administered to control and IV group in September and again in April. Few differences appeared between the two groups and between administrations. The category most frequently chosen was professional; next, technical; next, operative; next, clerk; next, service; next, farm owner; least, merchant. Between administrations, the control group was found to be more consistent. That is more career choices changes in the IV group. The career group to which the IV students switch is the "professional." With respect to the training requirements for the career, there appeared to be few differences between the groupd. Most students have general and relevant information about their choices. Next to be considered was the maturity of reasons for selecting a career, there was a slight, but statistically significant

tendency for the IV group to give more mature reasons for selecting their careers. Although many of the reasons for both groups were similar, the IV group gave more reasons for entering a career than were related to inherent features of the job. The IV group cited "personality" as the most important trait necessary for their chosen career. "Personality" was also cited as the major trait necessary but absent. The IV group, in addition, was more aware of dangers inherent in the job. Career choices were discussed most often with members of the family. The IV group tended more to discuss their plans with teachers and counselors than did the control group. The IV group tended to do more reading about their vocational choices. Finally, the alternative choices were compared with original choices after all careers were rescored according to Roe's system of classification. The IV group was observed to select alternative choices of the same level of responsibility; whereas, the control group selected alternative choices of different levels of responsibility. In addition, more IV students selected the same field of interest. This was observed less often in the control group.

Some common factor was believed to account for the judgments of earnings, openings, mental ability requirements, and prestige of the careers. This was determined on the basis of rankings of these attributes on the Business Information Survey. Receiving the lowest rankings on these attributes were the service careers, moderate rankings were received by the clerk and operatives, higher by the technicians, and the highest by the professions.

It had been hypothesized that the IV group would become more realistic in the perception of the several attributes of the world of work. Five of these attributes were examined in the BIS. The

differences between the IV and control group both at the beginning and end of the academic year were generally negligible, making such hypothesizing untenable. The career entry plans for the IV group was more closely to the perception of job openings than those of the control group. Although the hypotheses concerning the added perspective of the IV were not substantiated, several observations were made which add to our understanding to the prevocational behavior of adolescents. The ninth graders understood fairly well what were the relative positions of the several careers with respect to earnings, job openings, and mental ability requirements for careers. Their grasp of the ordering of the careers according to prestige was fair. The number of people employed in the several careers was not known to them. The subjective element in judging the attributes of the several careers was quite apparent in both groups, although more obvious in the IV. The judgments about the number employed, job openings, and prestige were more closely related to personal plans for entering the careers than they were for the actual ordinal arrangements of the careers with respect to these attributes. Judgments of earnings and mental ability requirements were found to be more closely related to the correct ordinal arrangements of the careers. IV students, then, not only perceive the attributes of the world of work more in light of their own plans than of the objective reality, but they perceive them subjectively to a far greater degree than do the control students.

The IV students heartily endorsed the course. They recommended that all students be permitted to take it. When asked what they learned in the course which they could not learn elsewhere, they cited the several types of occupational information. To them the

advantages of the course was the learning about jobs and finding out what were their vocational aspirations. Few activities were disliked by the students.

The writer recommends a sharpening of the instructional approaches, emphasizing student self discovery, teaching relevant note taking, taking more field trips and assigning basic texts. Greater financial support is necessary. As important as this is, though, of far greater urgency is for the teachers to know how their students perceive their own vocational choices, interests, and aptitudes. Relating these to the educational requirements and employment openings in these careers is the zenith of the course.

Although some hypotheses were found tenable, most could not be accepted on the basis of data obtained. Yet this research has spawned several suggestions for revising the approaches to the IV class. In addition, several new facets of the prevocational behavior of adolescents were uncovered.

VT 003 551
Chansky, Norman
The Introduction to Vocations Course: An Evaluation.

MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jan64 130p.

*OCCUPATIONAL GUIDANCE; *VOCATIONAL DEVELOPMENT; *CURRICULUM EVALUATION; ACADEMIC APTITUDE; VOCATIONAL INTERESTS; *CAREER CHOICE; TEAM TEACHING; GRADE 9; COMPARATIVE ANALYSIS; EXPERIMENTAL GROUPS; CONTROL GROUPS
NORTH CAROLINA

The purpose of the study was to evaluate the Introduction to Vocations (IV) course by use of objective and subjective tests, teacher diaries, teacher interviews, case studies, and parent judgments. Hypotheses to be tested were: (1) IV students will make greater gains in aptitudes than the control group, will become more specific in vocational interest, will become more fact oriented and less fantasy oriented with respect to occupational information, will become more stable in career choices, and more specific in stating associated factors and educational requirements of a career, and will differ with respect to statements of traits which are necessary and not necessary for a career, values resulting from work, and dangers present in an occupation, and (2) Team teaching will result in greater learning than the individual teacher approach. In 28 of the participating schools an individual teacher administered the program, and in 20 a team of teachers administered it. Both the IV students and control groups were evaluated by pretest, post-test methods. Findings were: (1) The hypothesis that IV students would make greater gains in aptitudes was not supported except on an individual basis, (2) Few differences in becoming more specific in vocational interests appeared between groups, except that IV students did give more mature reasons for their selection and made alternative choices at the same level of responsibility, (3) Differences between the groups were negligible, regarding fact or fantasy orientations with respect to occupatioal information, (4) The IV group was not more stable in career choice, (5) The IV group gave reasons for entering a career that were related to job features, cited personality as the most important trait, and were more aware of dangers inherent in the job, and (6) Team teaching did not influence achievement test scores any more than did the individual approach. (MM)

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THE INTRODUCTION TO VOCATIONS COURSE: AN EVALUATION

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OFFICE OF EDUCATION

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June, 1964

VT003551

This report is dedicated

to

Dr. Gerald B. James

a dynamic leader in vocational education

in

North Carolina

ACKNOWLEDGMENTS

Under the supervision of Dr. Gerald James, Director of the Division of Vocational Education, North Carolina Department of Public Instruction, a new course in the Introduction to Vocations (IV) was designed to promote awareness of self. Better understanding of self and of the world of work by ninth graders were its aims. Mr. Thomas Shore, Mr. Charles Law and Dr. Harry Beard not only participated in the planning of the program but contributed to its realization.

The writer's function was to evaluate the program. This report is its fulfillment. Utilized herein are results of objective tests, subjective tests, teacher diaries, teacher interviews, case studies, and parent judgments. The writer is greatly indebted to the teachers who, despite considerable teaching loads, gave their time freely to this project. Their own evaluations of the IV program was weighed heavily in this report.

The tireless efforts of the IV research staff should not go unnoticed. Mrs. Sylvia Barnes, research instructor, N. C. State of the University of North Carolina at Raleigh, at considerable sacrifice to her family, gave abundantly of her time for the good of the project. Appreciation is given also to Mrs. Nancy Cooke, James McKinney, and Miss Sarah Blizzard who served on the research staff. Messers Steve Harris and James B. Jones of the research staff of Operation Second Chance donated their time so that the IV project could be completed on time.

Many others contributed indirectly to the success of the project. They are too numerous to mention. An especial citation of gratitude must be given the N. C. State Computing Center, who pressed for time on other projects, donated time for the rapid computation of the results contained herein.

The writer is grateful to Drs. Charles Morehead and Roy Anderson, of the Department of Occupational Information and Guidance, for their suggestion in scoring "My Career."

Few deans have the foresight to create positions in educational research. Dean J. Bryant Kirkland has accorded the writer the opportunity to pursue freely his own research interests. This freedom is cherished.

Finally, Miss Loyce Blaylock, my secretary, deserves a note of thanks. Her services to me have been invaluable.

PREFACE

As the high school doors close behind them, thousands of adolescents in North Carolina are being catapulted, with almost jet like force, into a rapidly changing world of work. Certain jobs, especially those requiring little skill, are vanishing altogether. New careers, unknown fifteen years ago are appearing. Familiar career names are being redefined. An adolescent who as a child always imagined that he would follow the trade practiced by the family for generations finds that he has to compete for a job with a machine. Employers today not only seek the most able workers in the professions, but demand quality workmanship from the unskilled. High school students must not only be prepared to adapt the world of work today but also to adjust to constant changing of work conditions and employment markets.

The less than perfect plan for our economy intensifies the crisis of adolescents. Heard today are such questions as "Who am I?" "What job am I able to hold?" "Is there a market for my talents and interests?" Waste of human resources is quite common in our economy. More pervasive, though, is the absence of knowledge about one's own aptitudes and interests as well as of the kinds of employment opportunities which require them.

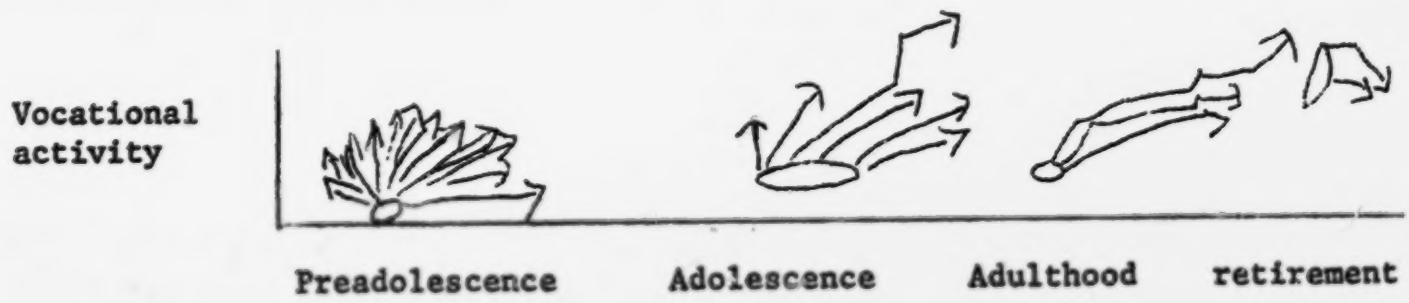
STATEMENT OF THE PROBLEM

Prior to 1909, thinking and writing about vocations was sparse and unsystematic. Parson's (1909) book on career choice was a milestone in the educational thinking about vocations. Briefly, he stated that a future worker should analyze rationally the many facets of his personality, the several aspects of his proposed calling, and the interrelationships among his propensities and occupational requirements. Two world wars catalyzed research on job adjustment. Not only were tests of aptitudes, interests, and motivation proliferated, but an information explosion has infused the several vocational guidance and education fields.

Despite the inchoate state of facts about vocations, some notable progress has been made in theorizing about vocational development. In simple societies in which vocational choice is limited, the skills necessary to practice the adult calling are learned early in life. In late adolescence and early adulthood, the members of the society merely continue practice of the skills they have already learned, say those connected with fishing, farming or hunting. In contemporary, highly technological western civilization, occupations are highly diversified. In addition, the several thousand avenues for gainful employment have experience, age, sex or race prerequisites.

To fully understand development of vocational decision making, theorists have presented networks of ideas which provide contexts for viewing the several vocational behaviors comprising maturity. One such theorist was Buhler (1933). To her the early and rapid physiological and mental development preceded the adolescent period of exploration. After he found himself, the worker established himself in a career and directed his energies toward improving himself as well as toward raising a family. Later, he narrowed his interests to those associated with success. Finally, the worker's life ended after a period of decline in productivity. Another theory is derived from the work of Miller and Form (1951). They focused on the adolescent-adult development rather than on total development as did Buhler. To them, a worker moves from an initial work period to a trial work period, during which he may hold many part time or temporary jobs; next, to the stable work period, during which he may hold but a few jobs and these of long duration; and finally, to retirement, during which he may not work at all. Ginzberg and his colleagues (1951) developed a theory of vocational behavior for boys. From the ages of 4-10 when boys first think about vocations, they asserted many of the ideas are influenced by romantic and imaginative notions. At about age eleven, a transition period between fantasy and reality sets in. During this period vocational decisions are first influenced by interests, later by abilities,

and still later by values. During late adolescence and early adulthood, the worker becomes more realistic in his vocational choices. After a period of exploration, the worker synthesizes his vocational thoughts and restricts his vocational behaviors to a career choice which combines employment opportunities, interests, abilities and values. Although the theories of vocational development differ from one another, they largely explain vertical development to be emergence of increasingly more specific and realistic vocational decisions from relatively general and vague thoughts. A period of stabilization follows in which vocational behaviors become restricted and refined. Finally, during retirement, there is a decline in vocational activity. Graphically, this may be represented:



During the period of adolescence there are two major crises which demand adjustment. The physiological changes which thrust a child into puberty and mark him physiologically an adult but psychologically not are bewildering. His confused status is exacerbated by the fact that he is suddenly transformed into an economic independent. Hitherto, he relied almost entirely on adults for mediating satisfaction of his needs. His self concept is unclear. Should he view himself as an adult or as a child? Is he to know himself as a worker responsible for his own livelihood? What vocational decisions must he make in order to be a self respecting worker with adult obligations? May he experience-economic and sexual satisfactions seemingly reserved for adults?

Deep as these crises might be and as restless as they may make adolescents in our society, the potential losses of manpower and its correlative contributions to our society and our economy are incalcuble. In addition to the anxiety related disorganized vocational behavior of the adolescent, the sizeable number of adult vocational misfits and the existence of occupational maladjustments is cause for grave concern. Counseling, according to Super and Crites (1962) could contribute to the improvement of vocational adjustment as well as of our economy through the effective use of manpower. Guidance personnel, however, are not in great abundance. The magnitude of the problem of adolescent vocational adjustment is so great that counselors could not possibly cope with it.

Better self understanding may be attained by techniques other than counseling. Reading, discussion, film viewing provide the adolescent with the verbal equipment to try out new solutions to his problems. Classroom instruction in vocations could be so programmed as to reach large audiences, hence, economizing on both time and money. Most school systems, Eckert and Marshall (1938) assert, lack the necessary comprehension to abet good vocational adjustment or even good citizenship. Stone (1948), however, presents data which shows that a group of adolescents who are taught information about occupations formulate sounder vocational judgments than do a similar group without such training.

Introduction to vocations was a course launched in the summer of 1963. It was sponsored and developed by supervisors at the Division of Vocational Education of the State Department of Public Instruction at Raleigh, North Carolina. The objectives of the course will be recognized as those enunciated by the Educational Policies Commission of the National Education Association and later revised by French (1954) using more recent concepts in Education.

What the Introduction to Vocations tried to achieve was, 1. the development of understanding and appreciation of the world of work, the American economic systems, and specialization of occupational roles; 2. the analysis of vocational interests, differential aptitudes and self-concepts as workers; 3. the acquisition of the knowledge of the educational requirements of jobs and availability of employment opportunities; 4. the acquisition of knowledge of the basic skills common to many occupations as well as specific to others; 5. the acquisition of knowledge about resource materials which contain information about occupations; 6. the development of tools which would permit the making of more realistic judgments about occupational preferences; and, 7. the promotion of realization of the student's vocational goals.

The present study was conducted to determine the degree to which these goals could be attained as well as to shed light on reactions to the new program. Various aspects of the personality, such as aptitudes, interests, and values change little in young adolescents, over the short span of a year. But it is also known that some adolescents will change dramatically in that time. Climactic reorganization of personality is not altogether unknown. What is yet to be clarified are the catalysts of these changes. Might a course in vocations contribute to such change? Might this course be so meaningful as to orient the adolescent toward greater vocational maturity? After the completion of the course, might his values change.

Growing into vocational maturity and developing greater realism in vocational choices are two processes which it was anticipated the IV course would accelerate. According to Super and his coworkers (1955 and 1957) vocational maturity may be viewed as the realization of age oriented developmental tasks. A second view of maturity deals with methods of coping with sociologically oriented developmental tasks, irrespective of age.

Five dimensions of vocational maturity are especially relevant here. Super lists these and has endeavored to investigate these in studies with Overstreet (1960). A ninth grader is expected to be aware of a need to make an occupational choice, even though it will not be his ultimate choice. Some tentative plans, moreover, could be expected to be drawn up. Such a plan would involve awareness of educational requirements of a job as well as duties, working conditions, and job opportunities. The vocational preferences of the ninth grader could be expected to be relatively stable. The mature ninth grader will not differ from day to day in his career choices. By the ninth grade, signs of vocational independence could be observed. Obtaining work on one's own is a sign of independence as are working for outsiders, i.e., not family members; working with a minimum of supervision; working with complex tasks; and working at the same job for a long period of time, that is infrequent changes in jobs. Finally, prudent vocational decision making at this level is to involve maximum utilization of information about self, information about jobs, and feedback from one's work experience.

The ninth grade representing an age range of several years encompasses the vocational behavioral stage of tentative choice. During this period values come into sharper focus and occupational choices become crystallized. Little vertical growth toward the stable work period or toward the specification stage of realistic choices could be expected. Developmental tasks are neither suitable nor available at this grade level. On the other hand, horizontal growth, may be observed, at this level. If sharper focus can be interpreted to mean "specificity of judgment," then, progressive differentiation of gross, unrefined decisions, could be considered an index of maturity of horizontal growth. An outgrowth of the theorizing of Snygg and Combs (1949) is education makes one more mature by refining his perceptions about the world. Evidence for the growth of maturity of judgment by educational interventions may be seen in the work of Abercrombie (1960).

No single factor has a determining influence on either vocational choice or success. Super (1957) enumerated several determinants of a career. Among the broad categories he considers are psychology, physiology, geography, sociology and

demography. Under each category, several specific traits are subsumed. He also considers some nonpredictable factors such as illness, unanticipated opportunities and unanticipated liabilities. A person's drive, family background, current social status, attitudes of the significant people in one's life, occupational structure and trends in a community are among the several determinants which he considered.

What determines career choice in one culture may yield little or no information in another. McArthur (1954) found the vocational interest inventory he used to predict occupational interest did so more satisfactorily in the middle class than in the upper class. He offered as an explanation that upper class members enter family approved occupations. Middle class members are freer to choose careers on the basis of values or interests.

The real test of any theory is how well it predicts behavior of known groups. In their study of the vocational choices of ninth grade boys Super and Overstreet (1960) do test the several aspects of their conceptual framework. Condensed here are the concepts guiding their study. They were: 1. vocational behavior is processive and develops over time; 2. with increasing age vocational behavior becomes more complex, more specific and more reality-bound; 3. there are several stages in occupational behavior, each stage requiring unique behaviors of the (future) or age earner; 4. mature vocational behavior may be assessed on a normative basis by determining what are the vocational developmental tasks in any life stage and by determining the variability among age group members in their striving for the vocational goals characteristic of a particular stage; 5. vocational adjustment may be predicted from vocational maturity; 6. several factors, mentioned above, are determinants of vocational behavior; 7. all acts practiced in an occupation need not be indicative of a vocational developmental task.

Many variables were found to be related to their Vocational Maturity Index. Among these were intelligence, parent occupation, curriculum, cultural stimulation, achievement - underachievement, independence, and vocational aspiration. Although correlations were significantly different from zero, no single variable accounted for more than .09 of the variation in the Vocational Maturity Index. Of importance was the finding that those boys who were developing plans for an occupation and who had knowledge of an occupation were better oriented to occupational choices. Specifically, concern with choice, acceptance of responsibility, and specificity of choices were interrelated. Vocational maturity of ninth grade boys, however, was in general found to exclude consideration of goal attainment and rational occupational preferences. It is difficult to reconcile these findings with most

existing theories of vocational behavior. Vocational behavior is far more elusive a characteristic to measure than might be assumed. One could ask whether formal instruction in vocational information might have altered their findings.

The term vocational realism requires explication. As used by many authors it connotes wisdom of vocational choices, an equilibrating of occupational interests with aptitudes and job opportunities. While this may be an ideal to pursue there is no formula available which would enable an individual to apply to himself. For that matter, vocational phychology has not developed to the point that a professional counselor could do more than make conjectures about the factors which will produce equilibrium for any client. Such an ideal may never be reached because what is real for one ninth grader may be fantasy or even non-existent for another. An external, objectivist point of view could yield valuable insights into the role which a course in vocations can play in changing vocational maturity. Because segments of such a course will set individual students moving in unique directions, in other words have highly personal meaning, it is equally important to examine the subjective, phenomenological impact of the course. For this analysis, the writer is greatly indebted to the works of Snygg and Combs.

It was especially important in the present study to study the ninth graders objectively as well as subjectively. The research performed by others was very persuasive on this point. In Hawaii, Dole (1961) studied the plans, goals, and values of students at different educational levels. In grade 9, 37 per cent of the boys and 51 per cent of the girls planned to go to college and 29 per cent of the boys and 25 per cent of the girls planned to go to technical school. In contrast to sixth graders, fewer students were planning college education and more students, technical education. Approximately 32 per cent of the ninth grade boys and 43 per cent of the ninth grade girls were striving for professional positions. Next highest in frequency for boys was skilled work (28 per cent) and for girls clerical work (25 per cent). These represent larger percentages of replies than those offered by sixth graders. Most sixth and ninth graders were very certain of their plans. Assuming the two grade samples are equally representative of their respective populations, it is clear that plans and occupational goals become increasingly differentiated by grade nine. The values contributing to educational choices in boys were primarily "satisfaction" and "advancement" in boys and "satisfaction" and "service to others" in girls. Parents, moreover, were mentioned as being important influences; teachers, slightly less important; and counselors, least important.

Plans and goals, however, were found by Stephenson (1957) to differ as a function of father's occupation. Ninety-one per cent of the subjects whose fathers were in the professions developed plans equal to their aspirations and 66 per cent of manager children and 68 per cent of clerk and sales children had such plans. More than half of the children of semiskilled and unskilled workers had plans lower than their aspirations. With respect to influences upon choices, Galler (1951) observed that children from the upper classes gave significantly more altruistic reasons for choosing their occupational goals. Perception of occupational goals and satisfactions could be expected to be linked with personal factors internal to the future worker as well as reactions of external observers to him. The intent of the IV course was to introduce him to these factors.

How consistent in vocational choices might the IV students be? Schmidt and Rothney (1955) found that most high school students alter their vocational preferences in a three year period. Could this be due to the fickleness of adolescents or might the future worker, in the absence of confirming information, about his self concept as a worker or in the absence of any encouragement from the environment try new fields. The intent of the IV course was to give him such information.

Realism of choices was another major concern. Well adjusted boys were found by Small (1952) to be more realistic in vocational choices than were poorly adjusted boys. Assuming the little knowledge available about interest-ability-opportunity were transmitted to students, might they then make more realistic choices? It was the intent of the IV course to promote this.

Few states have developed courses like the Introduction to Vocations. Courses in Occupational Information are given in several states. The emphasis has been primarily on teaching techniques of finding facts about self and selected vocations. The program in Hanover, New Jersey is presented here to demonstrate this approach.

OCCUPATIONS

I. OBJECTIVES

A. The primary objective is to help students make a better career choice.

1. This involves better self-understanding.
2. A knowledge of the wide variety of occupations available.
3. Information on how to study an occupation and match it with personal qualifications.

B. Another objective is to help students understand and appreciate the contribution that others make to our welfare.

C. Secondary objectives include:

1. Helping students learn how to find a job.
2. Helping students learn how to be successful on a job.
3. Providing some understanding of our economic system, including the place of labor unions.
4. Providing an understanding of the laws which influence our working life.

D. From the curriculum point of view, the objective of this course is to provide material for the non-college bound student, who finds it difficult to locate enough major courses.

II. COURSE CONTENT

A. Self Analysis (four - six weeks)

1. Interests
2. Aptitudes
3. Personality
4. Effect of family and community background on vocational choice.

B. General Survey of Occupations (six - eight weeks)

1. Material in textbook is used as basis for general survey.
   a. Variety of films were used.
2. Study of local industries, based on printed material, personal interviews with workers, and visits to companies.

C. Matching Job Requirements and Personal Characteristics (two - three weeks)

1. Each student selects one or two occupations based on previous units, and makes a report based mainly on library reading.

D. How to Get a Job (two weeks)

1. Where to apply
2. Letters of application
3. Application blanks
4. Job interviews

E. How to hold a Job (one week)

F. Labor Laws

1. Child Labor Laws
2. Workmen's Compensation
3. Social Security Laws
   a. Unemployment Compensation
   b. Old Age and Survivor's Insurance

III. ACTIVITIES

A. In addition to regular class presentation, frequent use will be made of:

1. Occupational movies
2. Field trips to industries
3. Speakers

IV. MATERIALS

A. Basic Text - Occupations and Careers, Greenleaf

B. Pamphlet - Choosing Your Career

C. Occupational material in library

D. Free and rental films

V. EVALUATION

A. Short quizzes

B. Written assignments

C. Class participation

D. Major report on chosen occupations

E. Final Examination

F. Final grade based on average of twice the grade for each marking period, plus final exam grade.

The original intent of the IV course was to correlate teaching about occupations with practice in job oriented tasks. Some participating school systems, moreover, correlated major courses like English, Mathematics, and Science with IV.

SUMMARY

Theories of vocational development suggest that ninth graders are at a period of tentative choice of their calling. Young adolescents, moreover, have been observed to alter their vocational choices. The vocational misfits and the waste of manpower necessitate determining whether more adequate self concepts as workers could be developed by giving students instruction in occupational requirements and opportunities as well as permitting them to analyze the relationships between their abilities, interests, and values and such requirements and opportunities. The questions to be answered by the research were to be what outcomes did the IV course realize.

HYPOTHESES

The Introduction to Vocations course, it was assumed, would influence many aspects of the students' lives. The objectives of the course, were understanding and appreciation of the world of work, self analysis of interests and aptitudes,

knowledge of the educational requirements of a job, and understanding of the factors promoting realistic occupational decisions. If the writer would be permitted an analogy, these objectives were to become the eyes of the students. The students would perceive relevance of every day activities, talking, reading, TV viewing, to the setting and realization of their vocational goals. Because students actively participated in discussions, readings, and evaluation of vocation related ideas it was assumed that this signified deeper involvement in vocational orientation. Now the questions may be raised, do vocationally oriented students change their aptitudes, interests, knowledge, or values significantly more than a control group receiving no formal training in vocations.

The specific hypotheses to be tested are:

1. IV students will make greater gains in aptitudes than the control group.

   The aptitude test scores to be examined are:

   1. Word meaning
   2. Paragraph meaning
   3. Arithmetic reasoning
   4. Arithmetic comprehension
   5. Applied science and mechanics
   6. Two dimensional spatial relations
   7. Three dimensional spatial relations

2. IV students will become more specific in vocational interests than the control group.

   The absolute changes in test scores to be examined are:

   1. Interpersonal interests
   2. Natural interests
   3. Mechanical interests
   4. Business interests
   5. Esthetic interests
   6. Scientific interests
   7. Verbal interests
   8. Quantitative interests
   9. Period of time for training interests

3. IV students will become more fact oriented and less fantasy oriented with respect to occupational information than the control group.

   The rankings of seven career categories for the following will be established. These are: a. earnings of the business, b. number of people in this business, c. future job openings, d. mental ability requirements, and, e. prestige of business. Rankings will be compared with objectively derived rankings for each of these five categories as well as with rankings of personal plans for entering each career.

4. In contrast to the control group, the IV group would become:
   a. More stable in their career choices
   b. More stable in alterative career choices
   c. Less concerned with tangential factors and more concerned with career inherent attributes in selecting a calling
   d. More specific in explaining factors associated with career selection
   e. More specific in stating educational requirements of preferred career
   f. More aware of dangers inherent in a career
   g. More active in seeking information about careers.
5. IV students will differ from the control group with respect to statements of:
   a. Traits present which are necessary for a career
   b. Traits not present which are necessary for a career
   c. Values resulting from work
   d. Dangers present in an occupation.
6. Team teaching approach results in greater learning than individual teacher approach. This outcome was hypothesized because several teachers with the same orientation would be more influencial than one teacher with a vocational orientation.

In addition to these hypotheses, explanations of the sought behavioral outcomes will be offered in terms of data available. Specifically, the roles to be attributed to initial interests and aptitudes in predicting course achievement will be determined. Also, the association of earnings, future job openings, mental ability requirements, and prestige with first and second career choices will be determined.

PROCEDURE

During the summer of 1963, superintendents of schools were contacted to determine their interest in participating in the Introduction Vocations (IV) program. Forty-five school systems were selected to participate. In 28 of these, the IV course was to be administered by one teacher responsible for the program; 20 IV programs in 17 districts were to be administered by a team of the English, Mathematics, Science, and IV teachers.

All teachers were selected by their superintendents. They attended orientation sessions on the campus of N. C. State of University of North Carolina at Raleigh. Invited lecturers addressed the group, field trips were taken, and phases of the

IV curriculum were discussed in small group sessions. Topics considered were the American economic system, employment opportunities, occupational requirements, and the meaning of test scores. Copies of Introduction to Vocational Education: A Suggested Course Outline (Beam, 1963) were distributed to all teachers. This booklet contained statements of the objectives for the several units of instruction as well as suggested activities for realizing them. These booklets were read by the teachers. During the academic year they based many of their teaching plans on Dr. Beam's suggestions.

After the course was completed, the superintendents of schools were requested to participate in the program for evaluating the IV course. To do so, they were to assign pupils to the experimental program and to select another group of pupils, not different from the first, as a control group. Two class days were set aside for the purpose of testing both groups: one day at the beginning of the academic year, another day toward the end.

During the month of September members of the research team administered the Multiple Aptitude Tests, the Picture Interest Inventory, Business Information Survey, and the My Career Inventory.

The Multiple Aptitude Tests (Segel and Raskin, 1959) is a standardized test which yields the following verbal comprehension scores: Word meaning and paragraph meaning; the following numerical reasoning scores: Arithmetic reasoning and arithmetic comprehension; as well as spatial visualization scores: Applied Science and Mechanics, two dimensional spatial relations, and three dimensional spatial relations.

The Picture Interest Inventory (Weingarten, 1958) is also a standardized test. It yields scores on the following interests: Interpersonal, natural, mechanical, business esthetic, and scientific. In addition, preferences for verbal oriented and number oriented occupations could be indicated. Finally, a testee could indicate his preferences for occupations varying in amount of time required for training.

The Business Information Survey (Appendix A) is a test constructed for this study. It requires a student to rank order seven career categories according to, 1. the student plan for entrance, 2. earnings of the business, 3. number of people in this business, 4. future job openings, 5. mental ability requirements and, 6. honor, prestige, and respect of business. The seven careers are clerk or salesman, farm owner, laborer, merchant, operator, professional, technician.

Rankings of items two through six were correlated respectively with objective information based on the research work of Palmer and Ratner and current population reports which appear in Baer and Roeber (1958), Stewart (1947), Murphy (1963), Miller (1955) and a synthesis of the National Opinion Research Center report (1947) with Warner (1949). Correlation of student rankings with the objective key yielded information about the student knowledge of research derived objective facts about careers. In addition to an objective key, each protocol was scored according to the order of careers which an individual respondent ranked in response to the item, "the business I plan to enter." This was the subjective key. Correlating the personal order of career preferences with his order for earnings of, number of people in, future openings of, mental ability requirements for, and prestige of business was assumed to yield information about the impact of subjective preferences upon perception of the above mentioned characteristics of careers. All ten scores, five objective and five subjective, were in rank order and since differences of a few points in correlation do not result in differences in meaning, to permit chi square tests of hypotheses the correlations were grouped into the following categories: +.75 to + 1.00, high agreement with the key; +.40 to +.74 moderate agreement, -.39 to -.39 no agreement; -.40 to -.74 moderate disagreement; -.75 to - 1.00 high disagreement. The rationale for the scoring system presented here is to be published elsewhere (Chansky, in press).

My Career (Appendix B) is an inventory of attitudes and beliefs about an individual's career choice. It was developed for this project. The questions and key are derived from the theoretical writings of Snygg and Combs (1949) and Murray (1938). My Career requires a testee to indicate the name of the career he plans to enter, the reasons for entrance, the educational requirements, the traits required which he has as well as those required which he does not have, the joys he anticipates, the dangers he anticipates, the inquiries made about this career, and finally the naming of an alternative career choice.

The questions on this inventory were developed so that one could learn about the career choice of a respondent, if he had one at all; next, what he considered in making his choice. If he stated as reasons past achievements and interests, wishes and beliefs, national needs, or family influences, these were judged "predisposing factors." If he considered a liking for objects, functions or services performed, or fringe benefits, these were judged "intrinsic factors." A third category of reasons was "consequences." It included inferences about values derived from work. One category of values was individual centered self enhancement.

Included under this category were search for security, status, general emotional pleasure, autonomy, order, sentience, achievement, exploration, simplicity, pain and escape. The other category of values was people oriented self enhancement. Included under this category was search for companionship, service to people, benefit to humanity, and finally, performance of duties in order to obtain favorable feedback from people. The degree of specificity of reason for choice was determined also. This, it was believed, would yield indications of horizontal vocational maturity. Reasons were judged: undifferentiated; vague, referrants not clear; differentiated -1: general attribute or correlated cited; and differentiated -2: Specific feature was cited. Next, the specificity and relevance of the educational requirements of the career was determined. Work habits, personality, work interests, character, ability, physical characteristics were the categories of trait requirements of the career. The scoring system for career joys anticipated is the same as for "reasons" for entry. The writer believed that vocational maturity not only involves beliefs about values to be gained in an occupation but also awareness of dangers in an occupation. Dangers were scored for the following factors: natural, inherent economic, inherent in function, inherent in self, inherent in social climate. The degree of specificity of awareness was studied, too. Dangers could be scored: a. undifferentiated, b. differentiated -1; and c. differentiated -2. An attempt was made to determine who, if anyone, was consulted in formulating plans; was it family, friend, teachers, counselors, someone in the career, or some other acquaintance? Also of interest was, what, if anything, has been done so far to obtain information about the career; did one read or study, talk with acquaintances, try the work, or observe someone in the career. Often, for one reason or another adolescents are unable to enter their chosen career. The writer, therefore, believed that a mature adolescent would have an alternative choice. The ninth graders, then, were asked to state a second career choice.

After initial testing, IV teachers were free to plan their programs. While some structure was imposed on them, namely, course objectives, there was wide latitude in selecting curricular activities for achieving them. During the academic year, most of the teachers were visited by the research staff. Teachers sent in diaries explaining their activities to the research director. Communication with the director was occasional. At no time, moreover, was there any attempt by him to influence instruction.

In April, the Multiple Aptitude Tests, the Picture Interest Inventory, the Business Information Survey, and My Career were readministered to both control and

experimental groups. In addition, the experimental group received the "Final Survey," an achievement test designed to measure understanding of the world of work. The experimental group was also invited to evaluate the course.

SUMMARY

All IV teachers were trained prior to assuming leadership in the course. Superintendents of schools were requested to select experimental and control groups. To test hypothesized outcomes of the course both groups received the Multiple Aptitude Test, Picture Interest Inventory, Business Information Survey, and My Career in September. These same tests were readministered to both groups in April. In addition, the experimental group were tested for mastery of information about the world of work. Finally, the IV students were asked to evaluate the course.

HYPOTHESES

The Introduction to Vocations course, it was assumed, would influence many aspects of the students' lives. The objectives of the course were, understanding and appreciation of the world of work, self analysis of interests and aptitudes, knowledge of the educational requirements of a job, and understanding of the factors promoting realistic occupational decisions. If the writer would be permitted an anology, these objectives were to become the eyes of the students. The students would perceive relevance of every day activities, talking, reading, TV viewing, to the setting and realization of their vocational goals. Because students actively participated in discussions, readings, and evaluation of vocation related ideas it was assumed that this signified deeper involvement in vocational orientation. Now the questions may be raised, do vocationally oriented students change their aptitudes, interests, knowledge, or values significantly more than a control group receiving no formal training in vocations.

The specific hypotheses to be tested are:

1. IV students will make greater gains in aptitudes than the control group.

   The aptitude test scores to be examined are:

   1. Word meaning
   2. Paragraph meaning
   3. Arithmetic reasoning
   4. Arithmetic comprehension
   5. Applied science and mechanics
   6. Two dimensional spatial relations
   7. Three dimensional spatial relations

2. IV students will become more specific in vocational interests than the control group.

The absolute changes in test scores to be examined are:

1. Interpersonal interests
2. Natural interests
3. Mechanical interests
4. Business interests
5. Esthetic interests
6. Scientific interests
7. Verbal interests
8. Quantitative interests
9. Period of time for training interests

THE STATEWIDE IV PROGRAM: EVIDENCE FROM DIARIES

The freedom that the teachers had to fashion their Introduction to Vocations course was frightening to some but challenging to most. The task of planning and executing a new course was arduous. More than this, the hardships endured in obtaining reading materials, films, filmstrips, and visiting speakers merely added the weighty burden that might have broken their spirit. Untrammeled, they worked feverishly to the very end. The satisfactions derived from teaching were great. The eagerness for corrective feedback for their seeming failures to influence their students each and every day is rarely observed among teachers.

The IV teachers were asked to keep daily logs of their activities and to submit them to the research director for study. These logs revealed, as would be expected, vast differences between the IV programs conducted throughout the State. To be sure each class studied economics and career requirements and opportunities. Not only did the time allocated for the study of each topic vary, but the very techniques used to bring light to the students differed.

The several IV teachers reported, almost in unison, that the problems encountered were primarily obtaining materials adjusted to the student's reading level. The reading skills of many students were inadequate to the demands placed on them by class reading and library research assignments. Not only was their vocabulary in economics too meager to grasp the elementary concepts taught, but the general vocabulary level was too low to read many of the assignments. Interest in the course, nevertheless, did not wane. To be sure, there were instances of disciplinary problems, but basically the teachers proved to the students that the IV course was about them.

In addition to deficient reading skills, the teachers reported that students practiced ineffective and even harmful study techniques. Where basic education was correlated with IV, science teachers occasionally taught the scientific method.

and English teachers lectured on how to study. The IV teachers judged these to have a salutary effect on the students. Despite assists from subject matter teachers and guidance personnel they were not completely satisfied with student performance.

In researching the impact of curriculum on students, it is important to recognize that the novelty of the change will not be the sole influence on the outcome of the course. Rather such factors as reading ability, study habits and attitudes affect the end product to a considerable degree. Hopefully, these factors exercised a random effect on the total sample and did not influence the central tendency of our results. Rather it made our groups more variable.

Following are selected highlights of aspects of the IV course detailed here to demonstrate differences in teacher approaches to the course.

System A. The class and/or teacher studied economics vocabulary prior to reading; selected careers they wanted to study; compared qualifications of different jobs; were shown film strip on budgeting; were introduced to the milk-dollar; percentage of cost and profit, e.g., local milk company; learned the advantages and disadvantages of manual and mechanical occupations; participated in ideas for occupational fair: displays, posters,charts; learned about small loans: laws, interest rates (Bank official, guest speaker).

System B. The class and/or teacher learned how to investigate occupations; studied occupational changes and trends in the State; interrelated the economic activities generated from a loaf of bread, from seed merchant to newspaper advertisement. Planned a personal budget of $50.00 @ month (buzz groups); discussed clerical, sales, service, occupations.

System C. The class and/or teacher invited a blind social case worker to discuss adjustments of the blind; correlated visit with "Shago" the story of the boy who is gradually going blind; solicited cooperation of guidance department to draw up graphs of aptitude and interest scores obtained during IV pretesting; discussed principles of flight; participated in Science Fair; considered establishing a "Candy Striper" program for the girls.

System D. The class and/or teacher went on field trip to automated dairy; reviewed observations; corrected misunderstandings; practiced scientific method: observation, possible explanations, eliminations, conclusions; considered establishing "Candy Striper" program; planned unit on stars to correlate measurement, map making, mythology, mathematics, and occupations.

System E. The class and/or teacher constructed electrical panel board; studied power industry: lineman, electrical equipment repair; studied automated devices: electronics computers; studied service careers; studied technician careers: medical technology and dietetics; discussed soil conservation.

System F. The class and/or teacher discussed incentive systems for workers; filled out sample checks; studied credit.

System G. The class and/or teacher discussed student ideas of success; discussed value of career planning; viewed film "Southern 500 stock car race" - listing of occupations connected with it from printing tickets to manufacture of tires followed; looked up classified advertisements; discussed dignity of people working in the several trades; listed all of the four year colleges in the State; read newspaper clipping about dropouts conducted mock interview: correlated with English; wrote business letter: correlated with English.

System H. The class and/or teacher discussed government services; studied money and credit; listed suggestions for job seekers; outlined career study: nature of work, mental ability requirements, restrictions, supply and demand, income, promotion, security.

System I. The class and/or teacher grouped students and designated each group an area in the State. Reports of economic conditions followed; discussed labor force and personal income; studied gross national product made, serviced or repaired some object; satisfaction in creating.

System J. The class and/or teacher discussed the meaning of success compared free enterprise with socialism; discussed rights to own property, to go into business, to retain part of one/s earnings; developed rating chart of success; imagined consequences of dropping out; determined cost of schooling; discussed its worth; discussed how to win respect; discussed how to be popular; compared white collar with blue collar; considered the personal goals being sought by students.

System K. The class and/or teacher cited rules for taking notes; lectured on relationship between dropouts and unemployment; reported on a successful person; interviewed working people; learned of their plans made prior to entry into career; produced skits comparing poor with good educational planning; traced the relationship between weather and economy, especially availability of jobs created by weather; discussed ways to motiviate students to improve their scholarship; lectured by visitor on intelligent use of credit; evaluated confidence of student speakers; discussed materials obtained from local Chamber of Commerce; discussed

weaknesses in expression of ideas; referred to workmen on school grounds in illustrating classification of jobs.

System L. The class and/or teacher administered self analysis tests; developed self rating charts; contrasted career plans today with those of a generation ago; defined satisfaction; developed gross national product and money flow charts; taught students how to write checks and how to make deposits; developed budget with $50.00 @ month allowance; wrote letters to several public and private organizations to obtain materials on modern methods of farming; were distributed kits of forestry materials; conferred with employment security, Chamber of Commerce, and representatives of business and service organizations; produced skit comparing right and wrong way for a receptionist to perform her duties; made display posters.

System M. Explained IV program; listed 20 factors limiting choice of an occupation; discussed incomes of people varying in amount of schooling; developed a budget for a family with two children; explored population of State, theme being, "There is a Future in North Carolina for me."

It is clear from the diaries, much of the content of which was not herein cited, that many systems did cover certain core topics, like career information and planning, by using such basic materials as, Career Opportunities (New York Life Insurance Company). The impression gathered from the study of the diaries was that the IV course was not taught exactly the same in any two school systems. In some the emphasis was heavily "guidance"; in others, "practical experience."

As already noted the IV course was administered in two different ways: Individual teacher approach and the team teacher approach. Examination of the diaries revealed that with respect to either course content or structure, there was no difference between the two approaches. Although IV materials could not always be correlated with science, mathematics and English, most team teachers preferred this method of administration to any type they have ever known. Group planning made them aware of the ideas held by their colleagues as well as the problems in teaching individual students. Hence, oriented to the plans of the other teachers, they could refer to the specific activities experienced by the students in other classes. With reference points established in the Science, English or Math courses, the IV teacher could in a meaningful way build upon the learnings of the students. For the student to recognize that he already knew something about a topic motivated him to learn more. For the teacher to recognize that he could provide the bricks and his teammates provide the mortar in one unified effort to build up student learnings was a major morale builder.

To get the flavor of the team approach, the reports of one team were selected. The intercorrelation among the courses should be noted, as well as its absence. The forthright teacher evaluations should be noted as well.

MATHEMATICS CORRELATION WITH INTRODUCTION TO VOCATIONS

November 22, 1963 to February 28, 1964.

Units Covered

In the last of November, a unit on percentage was introduced following directly the unit on fractions. The percentage formula was used and the difference between per cent and percentage emphasized. Rounding the results of a percentage followed by necessity. The problems on percentage were worked through the use of the percentage formula. The larger than 100 per cent study and smaller than one per cent or fractional rates lead to the changing of fractions to per cents. Problems on marked price, sale price, and net gave a practical application to the use of the percentage formula.

In January, with the posting of the examination schedule, we began review for examinations. Material covered from the first semester included units in integers, decimals, fractions and percentage.

Measure study was begun with a booklet publication from General Motors, "Precision." A brief history of measurement lead to our now standard units of measure and the metric system of linear measure. The detailed study included English and metric lengths, exact and approximate measures, changing of measurements within one system and from one system to another. With the beginning of linear measure, the perimeters of squares and rectangles were introduced and possible perimeter formulas for other plane figures discussed.

Surface area of squares and rectangles necessitated the memory of the table of square units in the English system. The surfaces of solid rectangles and squares were examined via wooden forms. The difference between the surface area and the volume of a rectangular solid has just been completed with the use of cubic measure. We are continuing the study of volume, area, and perimeter as applied to circles through circumferences and areas and will use cylinders to combine the study of both.

Methods Used

Because of the various academic levels of the students instructed, many different methods of presentation have been tried. Definite formulas for procedures were introduced wherever possible.

Methods of instructions have varied with the use of several mediums, one being the overhead projector for presenting new material. "The thing" was used as a chalk board but prepared negatives were more exact and therefore appeared to be more instructive. The diagrams of figures were constructed in unison, teacher at the board and pupils working individually, and were augmented by display of wooden models including rulers in English and metric measure. Oral drill by the entire class was followed by daily writing of tables of measure in form of a short test. Individual student explanation of applied problems at the chalk board gives students a rest from teacher performance.

A film strip, "Measurement" from the McGraw-Hill series was available and will be used at the conclusion of the unit as a summary.

The heuristic method of teaching was tried but seemed to be more stimulating toward diverting the subject than progressing. Daily testing as a means of instruction was requested by students.

Correlation with English outline was effective for review study. The study of the metric system in science helped make the teaching in mathematics easier. Measurement in manual and mechanical operations emphasized through problems assigned.

Results

"The progress with about 50 per cent of this group of students is very slow and seems almost impossible to speed up. More than one idea at a time is confusing and the work has to be developed very slowly and carefully. Simple mathematical vocabulary has to be taught from the standpoint of spelling and pronounciation before the use in basic fundamentals can be accomplished.

Assigned homework is of value to a few but most assignments must be partially prepared during class time with insistance from the teacher.

The following of instructions is improving but good study habits are difficult to instill. From previous experiences these students expect to be passed on poor performance and reason to themselves and the teacher that they manage to 'get by somehow.'

Teaching by use of the overhead projector seems to stimulate more exact learning but cannot be used too often as the attention span is very short requiring frequent shifts in mediums used."

ENGLISH CORRELATION TO INTRODUCTION TO VOCATIONS

"In teaching reading improvement to the entire class we have used mostly the lecture method in connection with the blackboard; this is especially true in the teaching of context reading, syllabication, and inference, while working with small groups who have the same difficulties in sound and word structure. We used the blackboard, discussion, question and answer method.

We worked on the Dolch list of basic words mostly by memorizing and context clue when context clue is possible. Since the Dolch list are basic sight words memorizing them is about the only way to learn them.

We used the lecture method with the use of the board to show examples and illustrate because attention is held better and the explaining of every detail is essential. The lecture method also causes the students to ask questions.

We used the board to illustrate the various kinds of letters which were discussed along with bringing to class examples of different kinds of business letters from local concerns.

We spent a great deal of time presenting and working on the letter of application because of the practicality of the letter. I worked individually with each student having the students repeat the letter until it was as near perfect as possible."

Books have been read on various occupations as well as those that relate to science and mathematics. Each student has completed at least four books that are correlated to the other subjects, one example is a biography of someone who has been successful in an occupation the student is interested in.

IVE SCIENCE

Since the last report the following units of study have been completed:

1. Petroleum
2. Heat and air conditioning
3. Weather and climate
4. The solar system

The petroleum study material was furnished by the American Petroleum Institute. The following activities were used in the study:

1. Class discussion
2. Teacher lecture
3. Demonstrations
4. Individual experiments
5. Individual and group reports

The individual and group reports were done to give the students a chance to show individual work and skill. The material was easily broken down for reports and the results seemed good. The students grew tired of the work before unit was completed, however.

In correlation, careers, manual and mechanical occupations, and economic aspects of the study were stressed for IVE. Also, I discussed the possibility of using science fair projects as a project for manual and mechanical occupations project. For mathematics, we worked together on percentages that were used in the petroleum material. Vocabulary words were given for English work. In total overview, the unit seemed to work well.

For the unit on Heat and Air Conditioning, I used lectures, class discussion, demonstrations, and individual experiments to teach the unit. Lectures, demonstrations, and experiments worked well I thought, and several very good class discussions proved their effectiveness.

Correlation for IVE classes was done through studies of Manual and Mechanical occupations in this field of study. For mathematics, we used several formulas which were taken up on math classes. Again, in English we had vocabulary words which were very important.

The unit on Weather and Climate was taught with some change. The following methods were used:

Lectures and class discussions
Demonstrations and experiments
Films
Booklet assignment
Daily weather study

These films were used:

"Unchained Goddess"
"Winds and Their Causes"
"The Geography of the Americas"

Each was used to explain the unit materials. The Geography film was used to show how various sections of the country differ because of differences in climate and weather.

The booklet assignment was made, so that the students could proceed at their own rate and level, and on their own particular interests. Most students did a good job on the booklets, I thought.

We also spent a week studying the daily weather conditions and observing the weather forecasts. This seemed to motivate many of the students and results were good.

In correlating, the economical aspects of the subject were stressed for IVE. In English, the booklet assignment made use of the library and general research procedures. For math, we again used formulas and general math procedures.

In the solar system unit, I used lectures, class discussions, demonstrations and experiments, films, and a booklet assignment to teach the unit.

The films used were:

"Energy from the Sun"
"Face of the Earth"
"Explorers of Outer Space"
"Our Mr. Sun"

These seemed to motivate the students as well as teach the material. Class lectures and demonstrations seemed to be very good, as students were interested in the subject.

Correlation was difficult, but for IVE we discussed several professional and technical occupations and the operation of calculators. Mathematics was used for general problem work, while English used vocabulary and research procedures again.

INTRODUCTION TO VOCATIONS

KINDS OF ACTIVITIES

I. Reading various materials in class. This was done to see that the students actually did the work, also to help the students with something that they might not understand.

This seemed to work very well some days but poorly on others. Sometimes it depended upon the material. Most all of the students seemed to like Understanding Our Economy: SRA; also they seemed to work well with Why Complete Your Education: Texas State Teachers College. They did not work well with North Carolina: An Economic Profile: Federal Reserve Bank of Richmond. Most of the boys did not like Careers in The Retail Automotive Business: General

Motors. These are some examples of reading material used. Other material will be mentioned later that was presented in this same manner. The reaction of the students varies with the material and with the students from time to time.

II. Group Discussion. The class was divided into small groups according to ability to discuss material previously read in class. The purpose of this activity was to enable the students to help each other and to relate personal experience to the subject discussed. This activity seemed to work very well. Some groups tried to "get off the subject" once in awhile, but this is to be expected with most any group.

III. Writing reports. Each group was expected to write and present a report of their work to the class. The purpose of this is to give a wide variety of activities (material) to the class. Students seem to work very well at this. Again, there are bad days for some unexplainable reason.

IV. Use of tape recorder. The purpose of this activity was to create interest and to let the student get an idea of how he speaks. The tape recorder seems to be an excellent tool to motivate the students. The main limitation is the time factor involved.

V. Library work. Several students were allowed to go to the library each period. The work in the library involved books concerning occupational information, and also books containing possible ideas of projects. All students liked library work.

VI. Films and Film Strips. Films were used to present basic information on occupational information, American Economic system, and some possible ideas for projects.

VII. Projects. The purpose of the projects was to give students something to do involving skill with their hands. It was also done to help them develop original thinking and ideas, and to develop self-confidence. They were asked to do an original project related to some manual and mechanical occupation. They were not allowed to spend a large sum of money. In some cases, two students were allowed to work together. Several of the girls have made dresses. Most boys seemed fascinated by the assembling of model cars. Several students were allowed to do projects of this type, but the idea seemed to "snowball," and there were possibly too many model cars. The original purpose of this (assembling of model cars) was to see how well the student can follow directions.

Almost 100 per cent of the students are very enthusiastic about the projects. No help was given by the teacher, only encouragement. More projects will be assigned in the future.

VIII. Use of speakers. Guidance Counsellor. Reaction very good. D. E. Co-ordinator. Most students very interested in taking D. E. in the future.

IX. Use of Chronicle Career File. This file was used by several students each day. The purpose of this activity was to allow the students to find specific information concerning a certain occupation. The students recorded various material from the file. The activity worked extremely well.

X. Lecture. This type of class was used very little; however, if a lecture was accompanied by the use of the overhead projector, the reaction was always very good. This method was used to present current events related to occupations, to introduce new material, such as an introduction to clerical, sales, and service occupations, and other material that is applicable. Most students took notes on the material presented for possible discussion later.

HOW FILMS WERE USED AND WHY

After the film was shown, students were required to write a brief resume' of the film. Students were then divided into groups for a short discussion of most films, and each group gave a short report to the class. Errors in reports were corrected by the teacher, and important points clarified. These discussion groups worked on some days, and sometimes they did not. These discussion groups were used in order to conduct the IV classes with a minimum of lecture. Also, it seems that students can learn from each other better than they can from a lecture method. The films were carefully chosen from various catalogs that are available and were previewed by the IV team in order to correlate if possible.

Listed below is each film, with an explanation for its use. They are not listed in the order that they were shown:

What Makes Us Tick. This film was used to help explain the American economic system. It is a cartoon, and is an excellent film.

Working Dollars. This film was also used to help explain the American economic system. It is also a cartoon and an excellent film.

High School: Your Challenge. With the realization that some ninth graders seem to resent being constantly told to "stay in school," this film was shown to stress the importance of getting a high school education. It is an excellent film, but the effectiveness cannot be measured.

How To Investigate Vocations. This film was shown with several things in mind: 1. To show the students a systematic way of investigating an occupation, 2. To create interest in the occupational literature available, 3. To serve as a medium to get students interested in the library.

The Truck Driver. Many of the boys are interested in driving a truck as a career. The film was used to, 1. Present some aspects of a truck driver's working day, 2. To illustrate a manual and mechanical type of occupation.

Do-It-Yourself Aluminum. Each student or a group of students were assigned a project that involved working with their hands. The film was used to illustrate several projects that could be made from aluminum. The film presented many good ideas, but the students seemed to think that the material was too expensive.

What Greater Challenge. This film was used to show some of the job opportunities associated with the newspaper industry.

Teamwork in Transit. A film concerning the transportation industry--illustrating several occupations in the transportation industry, but did not mention the occupation as such. The film was not suited for the purpose intended by the teacher.

The Big Question. An excellent film with Dr. Frank Baxter as narrator; it tells about the importance of choosing a career. The purpose of the film was to acquaint students with the fact that they can make inventors of themselves, and that each person is an individual. Also, the film was used to point out to the students that certain tests have great value in determining various strengths and weaknesses of an individual. It is an excellent film, and it served the intended purpose well.

Navy Frogman. Several of the boys had expressed interest in this type of occupation. The film was shown to, 1. Create more interest of the students in the course and, 2. To show some of the aspects of this type of occupation. The film served the purpose well for the boys, but seemed of little interest to the girls other than entertainment.

CORRELATION (With IVE)

Correlation of math, science, and English was tried whenever appropriate. If possible, the subjects are correlated on the same day. This was almost impossible to accomplish if any continuity takes place in the math, science, and English classes. Correlation seems to help create interest even if it occurs much later. Also, if a teacher just mentions what is taking place in another class, this seems to help the students do better in all classes.

Some specific examples are these:

1. Formulas in science, same in math
2. Population of N. C. & U. S. in IV, same in math
3. Vocabulary words from all subjects to English teacher periodically
4. Supplement a reading material to English teacher
5. Career booklets in IV (Oil), science classes using material concerning petroleum, percentage studied in math concerning crude oil yield, vocational words discussed in English.

Because a novel program has few external criteria which may be used to evaluate it accurately, teachers were frequently seeking feedback from the students and parents. Most of the techniques were informal. Few students, parents, and interested citizens were unimpressed with the program. The workers whom the students interviewed, the business executives who came to lecture, the school principals who had to locate funds for materials, and the students who were introduced to the serious problems of employment as well as to the confrontation of the gaps between their vocational interests, aptitudes and life goals were all deeply affected by the course. Nor was the course uncritically accepted either. Shortcomings were observed. Teachers, moreover, were quick to acknowledge them and to try new avenues of approach.

Some attempts to obtain feedback were more formal. Reproduced below is the evaluation which one student made of the course she was receiving. The approaching career realism is worthy of note. Here is in her own words, the student's perception of the IV course.

I have learned a lot about the world of work this year. First of all, I have learned what an employer looks for when he hires someone. I think that this is very important because now I will not be as naive when I apply for my first job.

Also, an important thing I think we have learned this year is about high school key studies. I am very glad that was included on the outline that we study jobs from. From this we can sort of plan our different subjects we take to match as many different fields as possible.

When we studied about dead end jobs, I think everyone benefitted from it. Now we won't plan our future around one job and then when the time comes to go into this field, after we have had all of our education, it won't be there anymore.

Another attempt at evaluation is presented below. The frequencies are based on responses of 40 students selected at random.

1. Strongly agree 2. Agree 3. Undecided or uncertain 4. Disagree
5. Strongly disagree

AN INVENTORY OF ATTITUDES OR OPINIONS ABOUT THE COURSE, IVE

Directions: After reading the item carefully, please indicate your response by encircling the number which most nearly represents your reaction to the topic in question.

Ratings 1, 2, 3, 4, 5	
16, 16, 5, 2, 1	The justification for a vocational education course at the early high school level is associated with the needs of this age group.
13, 17, 5, 4, 0	Youth at the early high school age lack first hand knowledge of the world of work.
12, 21, 5, 1, 1	Youth need opportunities to appraise their emerging potentials.
15, 11, 4, 8, 0	Ninth grade students lack confidence in making decisions about future education and occupations.
21, 8, 8, 3, 0	The decisions students make at the ninth grade level influence greatly their eventual vocational careers by limiting or increasing their future educational and thus vocational choices.

Ratings 1, 2, 3, 4, 5	
22, 12, 3, 0, 2	The course, Introduction to Vocational Education provides students with the opportunity to become better acquainted with themselves.
19, 13, 3, 2, 2,	The study of occupations is as important to me as any other subject matter.
23, 11, 1, 1, 3	In consideration of six months experience in IVE I would rather be in the IVE class than in a study.
14, 19, 6, 0, 0	Eighth grade students should elect IVE.
21, 11, 5, 1, 0	Every student should consider it an advantage and a privilege to take IVE.

In another system, students evaluated the course using a slightly different instrument. Below are their replies:

STUDENT EVALUATION

	Well	Fair	Poor
1. Do you feel that the primary objective, (the student to explore his interest and "World of Work") is being met?	60	22	2
2. Do you feel that you have been introduced to career opportunities which you had never before known or considered?	58	24	3
3. Taking into consideration that this is the first year--a testing program with no text--do you feel your instructor has had a well-planned program?	77	14	0
4. Were your speakers, who were called in on various topics, of value and interest?	60	28	3
5. Were field trips interesting and of educational value?	61	25	0
6. Do you feel that the student-business interviews helped you to become better acquainted with the "World of Work" and you have become more confident in meeting the public?	52	25	6
7. Has your instructor made an effort to supply you with adequate research materials?	86	6	0
8. Has she supplied sufficient mimeographed materials to supplement for the text?	84	4	0
9. Is she well acquainted with various occupational fields?	71	10	1
10. Do you feel that this course has been about as valuable to you as any other course that you are taking at this time?	66	12	5

The parents of students also evaluated the course. Students, it may be noted were more critical of the course. Both parents and students may be said to have endorsed the course.

PARENT EVALUATION

	Well	Fair	Poor
1. From what you have learned through your child and the teacher, do you feel that your child has benefitted by taking this course	41	15	0
2. Does your child seem enthusiastic about the course?	39	11	0
3. Do you feel that special speakers, field trips, research done by students, film, etc., are of educational value to your child?	51	3	0
4. Do you feel that the instructor has sufficient background, education, and training to teach this course?	49	4	0
5. Is the instructor interested in the individual student and willing to give extra time with him or her?	53	1	0
6. Is the teacher enthusiastic and interested in making the course worthwhile and interesting?	54	0	0
7. Does the teacher have a pleasant and understanding attitude?	51	3	0
8. Has the instructor made effort to obtain sufficient teaching aids and research materials (considering this is the first year with no text) to cover the objectives?	54	1	0
9. Do you feel that the work involved in this course and values obtained warrent One-Unit Credit, the same as other courses?	54	1	0
Answer quote from one paper: "I feel that this course will help the student choose the vocation which he is most talented and as a guide to help him train for the work that he is best qualified to do." M. H.			
10. Would you recommend Introduction to Vocations to remain in the curriculum for ninth grade students? Why?	YES		NO
	55		0
Answer by one parent: "This course guides the student in choosing the subjects he will need to prepare him for his work."			

SUMMARY

Teachers varied considerably in their approaches to the IV content. Time spent on vocational and economic topics varied also. Team teachers enjoyed group

planning. Few differences in IV programs could be observed, however, between team or individual teacher approach. The actual plans of one teacher is presented to demonstrate attempts at correlation. Many teachers made their own evaluatory studies. Examples are included.

THE IV PROGRAM: EVIDENCE FROM CLASSROOM OBSERVATION

The IV course is an innovation in education in North Carolina. Because of its uniqueness, criteria to evaluate it are not easy to construct. Culled from the research literature were several questions whose answers, though descriptive rather than evaluative, would give the research team some inkling of how people are responding to this innovation.

Twenty IV teachers were visited one or more times during the school year. In appendices C and D are the schedules used to study student and teacher response to the program.

Grouping for instruction was the first item of interest. No uniform practice in assigning students to the class could be observed. In some schools, students volunteered to take the course; in others, students were involuntarily assigned to the class. In one school system, the students were drawn from the upper half of the ability distribution. In other schools, only the low ability students took the course. A cross section of ability, in still other schools, was represented in the class.

The classroom atmosphere, it is widely held, contributes to learning, if only indirectly through motivation. In but three classes was there evidence of student displays. A particularly informative display was a map of the community designating streets, homes, and nature of employment of the head of the household. From this display emerged a second one in which a frequency distribution of the occupations of the (Caucasian) citizens of the town appeared.

Some classes had no displays at all. In the majority of classes, the displays were developed by the teacher. Regrettably, they were so colorless and so unorganized that students rarely looked at them. In striking contrast, was a poignant display entitled "Take a hard look at yourself." Two adolescents are looking into adjacent mirrors. They are asking themselves what kind of jobs are they seeking, what training will they need, what are their interests, what are their hobbies.

Many classes had some supplementary reading materials, but on the days visited they were not used. Reference files of occupational information were available in

most schools. Similar information on economic systems was lacking. Rarely was there information on personality data. Most schools had visual aids equipment available to them. Often, during the team's visits, the teachers were using the equipment in instructing the class.

Although some students were unenthusiastic about the class, judging by the number of questions students asked as well as by other forms of participation, the observers inferred that most students were motivated to learn. Rarely, however, were students encouraged to take notes. As a result, students quickly forgot what they had heard but a day before. This could be observed during review classes. At the other extreme were students who recorded every comment made by the teacher or reporting students. When the teacher asked questions about the lecture delivered, without skimming their notes, the students were unable to reply. The essence of the course is lost when the relevant ideas are not recorded or are recorded in language alien and, hence, meaningless to the students.

A few teachers encouraged students to synthesize, generalize and compare the information. These are important procedures in that they help "clinch" points and to prevent confusion between the highly similar types of information, especially with regard to requirements, employment needs, and attributes of those in the several types of careers, farming, sales, clerical, mechanics, professional and technical. The large majority of teachers had no summing up period. Equally important is the relating of acquired information to real life experience. Although most classes were quite bookish, a few teachers specified real life references about several kinds of career information. For example, the local pay rate and fringe benefits for clerical workers differed quite markedly from textbook figures. Also, teachers effectively exploited student backgrounds in, say agriculture or auto mechanics, to make certain points about training, work values, and future job openings.

Conferences with teachers yielded information unobtainable by any other technique. The enthusiasm of the teachers for the course was intense. This, despite the unending and frequently unrewarding search for materials. Hampering instruction was the lack of books and supplementary reading material as well as the lack of funds to purchase materials. Where the teacher correlated classroom lecture with shop experiences, the deficiency of equipment was a major deterrent to instruction.

Some teachers felt they were incompetent to correlate the verbal part of the program with the action part. Others felt that such a correlation was vital and

necessary but were not permitted by the industrial arts teacher to use the necessary equipment. A considerable motiviational advantage accrued to those students whose teacher provided them with a balanced program.

Attitudes about what a student should or should not study were observed, the curriculum in Negro schools included much Negro-centered materials; the curriculum in Caucasian schools included much Caucasion-centered materials. While the realism of this approach cannot be established, it is surmised by the writer that the members of the several racial groups are being denied information about the total economic picture especially with regard to employment. Attitudes toward sex related career opportunities were such as to give girls opportunities to study job markets for girls and to give boys opportunities to study job markets for boys. In some schools, girls learned little about carpentry and auto mechanics; boys, about nursing and clerical careers. Yet, if boys and girls are to comprehend vocations and how they are interrelated as well as how group beliefs about careers influence the labor market, wider coverage of all careers is to be given, irrespective of traditional attitudes about sex roles in employment. The labor market, moreover, is changing. Rapidly disappearing is the sharp difference between the kinds of careers males and females enter. The IV course, to reflect faithfully this employment trend, should concern itself with information and experiences without regard to sex. To place this information in perspective, however, the effects of racial, religious, and sexual attitudes on employment should not be neglected.

SUMMARY

The research team observed many classes actively engaged in learning. In some, students took no notes; in others students copied much irrelevant information. Displays were not always eye catching. Restricting information about racial and sexual factors associated with employment prevented grasp of concepts dealing with the total American economy.

THE IV PROGRAM: EVIDENCE FROM QUESTIONNAIRES

Armed with the tentative draft of the course outline developed by Dr. Beam, the IV teachers tackled the difficult assignment of fashioning a course with but a minimum of guidance. This task required considerable resourcefulness. Although the teachers, quite independent of one another, developed similar instructional plans, the IV programs throughout the State, it has already been established were generally not alike.

The cornerstone of any course, it is believed by many educators, is the textbook. It was here that the teachers were hampered. No textbook was available which covered the wide variety of course topics. Some literature dealt with occupations; others, with basic principles of economics; still others, with self appraisal. To relate awareness of self, especially interests, abilities, and goals, with job requirements and job opportunities was the enormous task which the teacher had to undertake without the aid of the basic textbook. While some books and pamphlets were available which covered certain topics, in but a few school systems were they available in the quantity necessary for distribution to the entire class.

The most frequently used materials were Occupational Outlook Handbook, U. S. Department of Labor, Bureau of Labor Statistics, G. P. O., Washington, D. C.; New York Life Insurance Company: Career Opportunities; North Carolina: An Economic Profile. To illustrate how differently each teacher handled the topics of economics, North Carolina: An Economic Profile in one class was discussed for one week; in another, for four weeks; in a third for six weeks. Other references were used by the teachers. In the selected references below, the starred items were reported by one or more IV teachers to have merit.

SELECTED REFERENCES

*Career Information Kit. Chicago, Ill.: Science Research Associates.

Choosing a Career in a Changing World, V. Westervelt, N. Y.: Putnam and Co., 1959.

Cues for Careers. J. V. Scott. Philadelphia: Macrae Smith Co., 1954.

Estimate of Worker Trait Requirements for 4000 Jobs. Washington, D. C., Government Printing Office, 1957.

General Motors, Let's Find out Series, Detroit 2, Mich.

Handbook of Job Facts. Chicago: Science Research Associates, 1959.

I Find My Vocation, H. D. Kitson, N. Y., McGraw-Hill, 1954.

*Job Guide for Young Workers. Washington: U. S. Dept. of Labor, Bureau of Employment Security.

My Education Plans. H. Munson. Chicago: Science Research Associates. 1959.

*Occupations and Careers, W. J. Greenleaf. McGraw-Hill, 1955.

Planning Your Future. G. Myers, G. Little, and S. Robinson, N. Y. McGraw-Hill, 1953.

School Subjects and Jobs. L. J. Schloerb. Chicago Science Research Associates, 1950.

Sextant Series for Exploring Your Future. Milwaukee: American Liberty Press.

*Understanding our Economy. G. E. McCloskey. Chicago: SRA.

Ways to Improve Your Personality, V. Bailard and R. Strang, N. Y. McGraw-Hill, 1951.

*When Will Your Husband Be Obsolete? J. Diebold, McCalls, July, 1963.

Your High School Days. M. and E. Detjen. N. Y. MCGraw-Hill.

Your High School Record. Does it Really Count. R. D. Falk. Pierre, S. D.: South Dakota Press, 1955.

Often, pictorial representation is far more effective in teaching than is the lecture or discussion methods. The student is able to journey to a variety of careers without leaving his seat in the classroom. Most of the teachers used films and supplemented them with discussion. Not only does effective use of films hinge upon frequent immediate reference to what has been viewed, but it also depends upon orienting the students to what they are expected to see. Reference weeks later to selected scenes of a film prevents the all too easy forgetting of the film.

The films judged effective by the teachers are listed below:

Film	Company	Topic
You are not alone	Association Films	Help is available
Distributive Education	Association Films	
The Big Question	Association Films	Aptitude test and Individual Differences
What makes us tick	N. Y. Stock Exchange	Basic Principles of Economics
Working Dollars	N. Y. Stock Exchange	Economics
Do it Yourself-Aluminum	Reynolds Metals, Box 2346 Richmond, Virginia	
Bay at the Moon	N. C. Wildlife Commission	State Resources
Sealed in Glass	Sterling	Manufacturing
Navy Frogman	Dept. of the Navy Charleston, S. C.	
World of a girl	Modern Talking Picture	Growing up
Perfect Secretary	Modern Talking Picture	Clerical occupations
Milk Story	Modern Talking Picture	Agriculture
Combating disease	Modern Talking Picture	Nursing
Social Worker	Modern Talking Picture	
Motor Mechanic	Modern Talking Picture	
Law Enforcement	Modern Talking Picture	
The Construction Worker	Modern Talking Picture	
Electronics Technician	Modern Talking Picture	
Metal worker	Modern Talking Picture	
Draftsman	Modern Talking Picture	
Electrical Worker	Modern Talking Picture	
Military Careers	Modern Talking Picture	

Film	Company	Topic
How to investigate vocations	Coronet	Systematic Study of Occupations
High School: Your challenge	Coronet	Motivation
Money talks	Coronet	
Finding the right job	Coronet	Self evaluation
Personal qualities for job success	Coronet	Self evaluation
A better way	Modern Film Library	Economics and business
The construction worker	Modern Film Library	
The world is yours	General Motors	Motivation
The return	V. A. Hospital	Physical Therapy
Science Series	Bell Telephone	

Books, as important as they are, only substitute for real life experience. The full impact of a career can be appreciated only when observed in action. IV teachers provided a wide variety of field trip experiences for their students. Among the places visited were food processing plants, industrial education centers, radio and TV stations, lumber yards, restaurants, food markets, public utilities, machinery distributors, dairies, textile mills, tobacco processing plants, banks, marine laboratories, fish hatchery, trade fairs, and such government operations as Employment Security and Social Security Administrations.

Some teachers took their students to several places exemplifying the same type of operations, e.g., marine laboratory, others utilized the field trips to demonstrate different types of operations. One teacher said that he would have taken his students on more trips had there not been an administrative prohibition against more than three trips per year.

Visiting speakers gave life and substance to the course. They stepped out of life to prove what the textbook was saying in many more words. Among the addresses given were those dealing with industrial education centers, manual and mechanical occupations, future employment picture, the effect of high school and college diplomas on job attainment, meaning of test scores, how business is operated, armed forces careers, wildlife careers, the building trades, and machinist trades.

In most instances, the speakers were dynamic and communicated with the students. Demonstrations and use of visual aids maintained student attention. Occasionally, speakers failed to win the students. In choosing a speaker, it should be determined whether a field trip, film, or book might as effectively teach the topic. The

merit of the speaker who carries on a demonstration is to animate the subject matter, especially for topics such as economics and testing where motivation and understanding are inadequate.

The teachers were asked to evaluate the several aspects of the program. There was little agreement among them. The table below is based on the replies of eight teachers. Students reports, films, field trips, speakers, job survey, and self study were considered to be the greatest aids in achieving the objectives of the course.

Table 1

Teacher Judgment of Aspects of the Course

Aspect	Very Little	Much	Immense
Lecture	4	4	0
Student reports	0	6	2
Films	0	6	1
Field trips	1	4	3
Speakers	1	6	1
Group projects	3	3	1
Shop work	4	0	3
Community survey	1	6	1
Job survey	0	7	1
Self study	1	3	2
Student diary	1	3	0
Correlation with subject matter	1	3	1

When asked which phases of the course should be deleted, there again was no unanymity. The most frequent reply was "no phase," one teacher recommended the omission of field trips, another of the shop phase. Although unrelated to the question, several teachers cited their need for reference materials.

Asked of the teachers also was what they thought should be taught in succeeding IV courses that was not already covered. Among the comments made were, "basic shop work to make simple projects related to an occupation," "greater emphasis on self study," "more guidance materials" "shop for boy; homemaking for girls" "a unit on speech" "visits from representatives of Employment Security." The teachers considered themselves ill prepared to explain test scores to students. Not only did they feel it their responsibility to tell them what the scores denoted, but students wished to know what scores connoted. Finally, the gains in self confidence resulting from interviewing and being interviewed were underscored by several teachers as areas requiring inclusion in the program.

Since the teachers knew their students very well they were asked what programs should be made available next year for this year's students. Many could not comment. The few teachers who did respond to the item believed the program should be diversified and students should be encouraged to pursue an area of vocational interest in the curriculum, e.g., building trades, machinists.

SUMMARY

Few books were available to all students in IV classes. Textbooks in this area are generally limited; others covering selected topics, though available commercially were not distributed to students. No two classes were shown the same films. Field trips permitted students to visit a wide variety of industries and to observe careers in action. Visiting speakers made the study of vocations interesting and real to the students. The teachers felt that each of these approaches enhanced the program.

RESULTS OF PROGRAM

Reliability

The observed or obtained score on any test is only an estimate of the true measurement of behavior. Minor changes in scores is to be expected due to chance. The size of the fluctuation of standardized test scores may be determined by multiplying the standard deviation by the square root of one minus the reliability coefficient. The resulting statistic, the standard error of measurement designates how much chance fluctuation to expect in 67 out of 100 retests.

In the technical report for the Multiple Aptitude Tests, the standard errors of measurement for ninth grade students in raw score units are 3.5 for word meaning; 3.4 for paragraph meaning; 2.2 for arithmetic reasoning; 2.5 for arithmetic computation; 3.7 for applied science and mechanics; 2.2 for spatial relations -2 dimensions; and 2.3 for spatial relations -3 dimensions.

The manual of the Picture Interest Inventory, indicates that for eighth graders, the standard errors of measurement for fields of interest are 2.1 for interpersonal service, 4.2 for natural, 2.5 for mechanical, 4.3 for business, 3.1 for esthetic, 2.8 for scientific and for the supplemental scales are 2.1 for verbal, 2.2 for computational and 1.6 for time perspective.

The consistency of the informal tests are presented here. For the Business Information Survey (BIS), interscorer agreement was 100 per cent; two scorers had independently scored 150 protocols with the objective key. The agreement covered all items; earnings, number of people now in careers, future job openings, mental ability requirements and prestige. A second indication of reliability was with regard to stability in responding. Ninety-two teachers enrolled in the Introduction to Vocations Training course were tested with the BIS twice within a period of eight days. Replies are in rank form. These ranks were compared with objective and subjective criteria also in rank form. The rank order correlations were converted into one of five categories, ranging from 1. high agreement to 5. high disagreement. The Pearson product moment correlation was not used to assess reliability here because it seriously underestimates the coefficient when the range of scores is limited. Instead the percentage of agreement over the period of a week was determined. In table 1 are these percentages. For many scores, test-retest changes were slight. To be sure there is fluctuation over a period of a week. To this extent interpretations are limited.

Table 1

Stability of Responses: Percentages

Scores/test-retest	Identical	Different by one category	Different by more than one category
Objective			
Earnings	71	29	0
Number employed	55	37	8
Openings	41	43	14
Ability requirements	59	30	11
Prestige	61	24	15
Subjective			
Earnings	63	29	8
Number employed	39	37	24
Openings	44	37	19
Ability requirements	60	27	13
Prestige	63	28	9

Additional statistics presented in Table 2 below not only confirms the already observed tendency toward stability but also the mean values indicate the degree of agreement with the keys. Most scores indicate that the teachers agreed with the objective key. Only for number employed was this not observed.

Table 2

Test-retest Means and Standard Deviations

	Test -1		Test -2	
	Mean	S. D.	Mean	S. D.
Objective				
Earnings	1.256	0.540	1.268	0.545
Number employed	2.829	0.699	2.780	0.770
Openings	1.866	0.899	1.707	0.793
Ability	1.280	0.672	1.524	0.707
Prestige	1.354	0.655	1.927	0.858
Subjective				
Earnings	1.549	0.891	1.329	0.610
Number employed	3.707	1.149	3.780	1.144
Openings	2.256	1.120	1.890	0.981
Ability	1.585	0.993	1.292	0.676
Prestige	1.415	0.736	1.341	0.613

Inter-scorer agreement on My Career was fair to substantial, depending on the item. Agreement among two scorers for 100 protocols selected at random was 88 per cent for classification of career, technician and operatives careers were juxtaposed most often; 88 per cent for degree of differentiation of reasons for selecting a career; 80 per cent for content of responses, scorers differed in scoring of "correlates"; 74 per cent for specificity of educational requirements; 90 per cent for relevance of requirements; 94 per cent for classification of traits; 66 per cent for joys anticipated; 91 per cent for dangers; 84 per cent for degree of differentiation of dangers; 100 per cent for plans discussions; 100 per cent for pre-vocational activities undertaken; and 92 per cent for scoring of alternative choices.

The split half reliability of the achievement test for 200 students selected at random was +.60, which when corrected becomes +.75. This suggests that the two halves are not identical, although they do bear strong similarities to one another.

In summary, no test was completely unreliable. Their reliabilities are sufficiently established to meet minimal reliability requirements for research. The fluctuations in scores due to chance factors and due to imperfections in all instruments used will limit interpretation of the findings.

Validity

For grade nine samples, the word meaning test of the MAT correlates +.75 for boys and +.85 for girls and the paragraph meaning test correlated +.82 for boys and +.80 for girls with the ACE Psychological examination - L Score. DAT - numerical ability correlates +.82 for boys and +.62 for girls, with MAT arithmetic reasoning and +.72 for boys and +.54 for girls with MAT arithmetic computation. For boys, the applied science and mechanics correlates +.51 with DAT abstract reasoning; for girls the correlation is +.63. For boys, spatial relations - two dimensions correlates +.59 with Guilford Zimmerman - Spatial Visualization; for girls, it is +.34. Finally, for boys spatial relations - three dimensions, DAT - abstract reasoning correlates +.43; for girls, it is +.46.

One set of validity coefficients for the Picture Interest Inventory was determined on the basis of 418 junior high school students who also took the Occupational Interest Inventory, Intermediate. Correlations are moderately high. Interpersonal vs personal social was +.56, natural vs natural, +.77; mechanical vs mechanical, +.69; business vs business, +.71; esthetic vs the arts, +.61; scientific vs the science, +.67; verbal vs verbal, +.70; and computational vs computational, +.59.

The content of the Business Information Survey and My Career appear to measure what they purport to measure. Because both instruments were used for the first time, no type of validity check could be made. The instruments are, therefore, limited.

Likewise, the achievement test had no prior validity. Its content was culled from the various curricular plans of IV teachers. An analysis of the difficulty of each item was made. Two hundred answer sheets were selected at random. Items which were answered correctly by 70 per cent or more students were considered easy; items which were of moderate difficulty were those to which 36 to 69 per cent responded correctly; very difficult items were those to which 35 per cent or fewer correctly responded. Thirty-one items were judged easy; 32, of moderate difficulty; and six, very difficult. Percentages for each item appear in Appendix F.

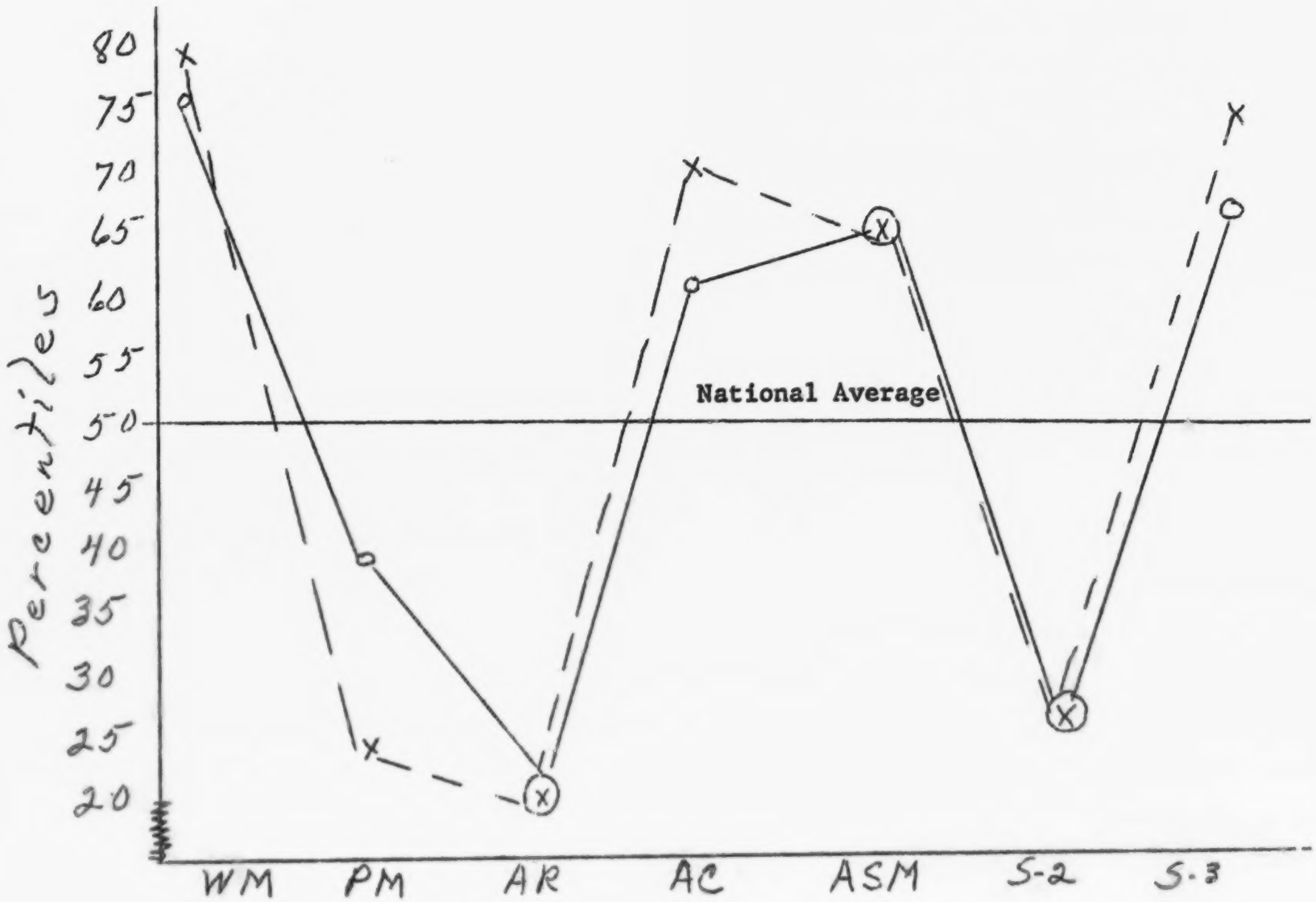
COMPOSITION OF CLASSES

At the very early stages of the experiment both experimental and control groups were given the Multiple Aptitude Test and the Picture Interest Inventory. Comparisons of subtest scores in Table 3 reveal that for most attributes considered, there were few differences between the groups which could not be explained as sampling variability. In contrast to the control group, the experimental group was initially higher in arithmetic computation, spatial relations - three dimensions, and in interest in occupations involving interpersonal relationships.

Sketches of the Pretest Percentiles for the MAT and PII are presented in Figures 1 and 2. The sketches reveal the marked similarity between the two groups. At the 50th percentile a reference line is drawn to permit comparisons with the national ninth grade standardization groups. The few statistically significant results were not considered sufficient to permit the conclusion that the experimental and control groups were different.

Figure 7

PRETRAINING PERCENTILE EQUIVALENTS FOR MULTIPLE APTITUDE TESTS



MAT TESTS

Legend

X - - Ex.

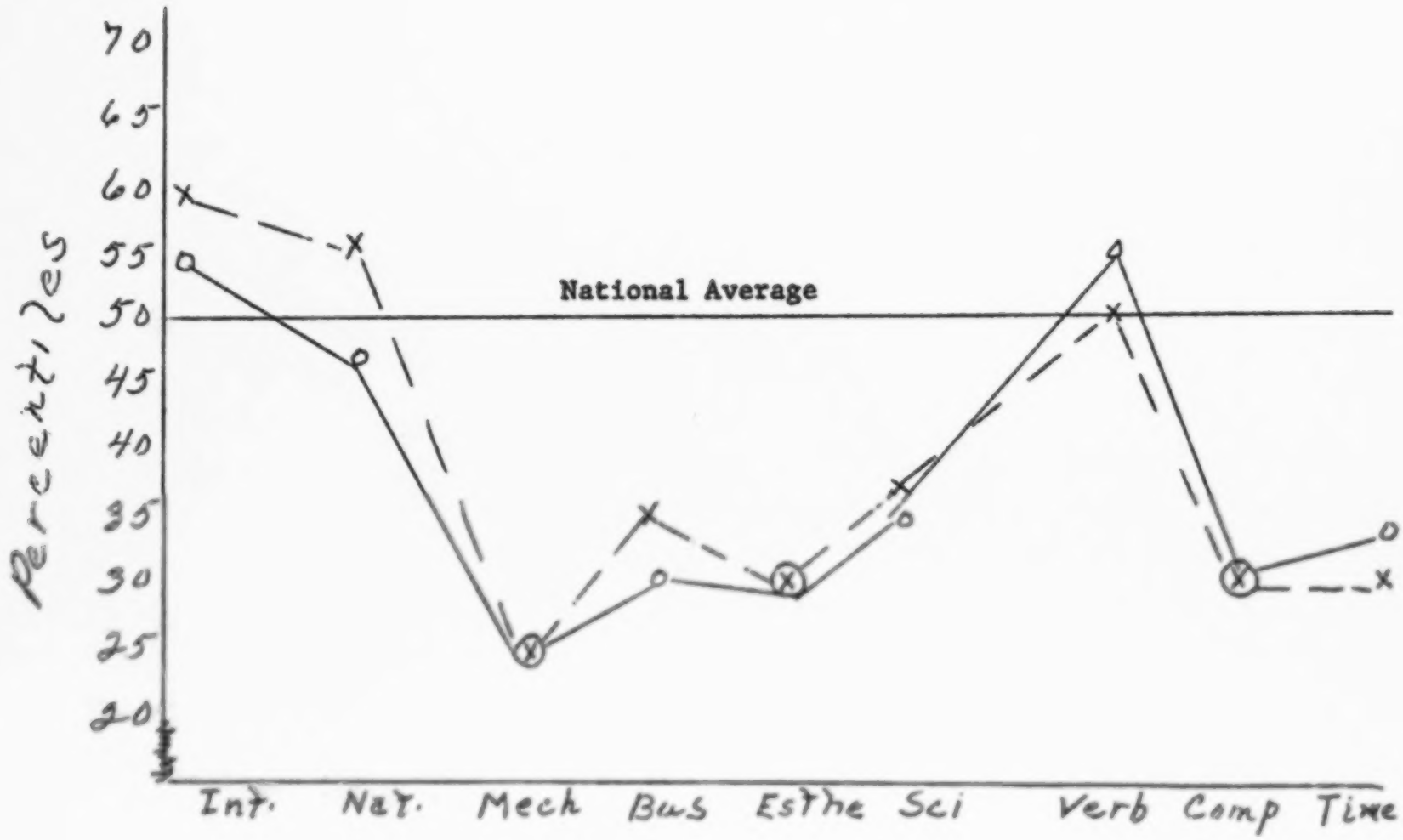
O — Cont.

Figure 2

PRETRAINING PERCENTILE EQUIVALENTS

OF

PICTURE INTEREST INVENTORY SCORES



PII TESTS

Legend

X — — Exp.

O —— Control

Table 3

Pretest t Scores of Experimental and Control Groups

	Experimental			Control			
	N	Mean	S. D.	N	Mean	S. D.	t
	454			274			
MAT							
Word meaning		57.96	10.84		56.80	10.86	1.40
Paragraph meaning		44.13	11.00		45.64	11.48	1.74
Arithmetic Reasoning		41.92	11.65		42.35	12.40	0.46
Arithmetic Computation		55.38	9.84		53.24	10.53	2.74**
Applied Science		54.20	10.37		53.07	10.31	1.44
Spatial rel-2D		44.21	10.60		44.19	11.02	0.02
Spatial rel-3D		56.20	12.05		54.10	12.31	2.26*
PII							
Occupational interest							
Interpersonal		52.43	9.87		50.89	10.39	2.00*
Natural		50.50	10.51		49.05	11.21	1.72
Mechanical		43.33	11.30		42.58	12.09	0.88
Business		45.63	10.14		44.89	11.09	0.90
Esthetic		43.96	12.40		44.19	12.49	0.24
Scientific		47.81	11.52		47.01	11.33	0.91
Supplemental							
Verbal		50.32	11.70		51.19	12.23	0.94
Computational		45.28	10.83		45.35	9.99	0.08
Time Perspective		45.20	9.74		45.65	9.96	0.60

*Significant at P.05 level

**Significant at P.01 level

After having participated in the IV course for seven months, both experimental and control groups were retested. In Table 4 are the retest scores. Statistical tests were made to determine if the changes in scores could have taken place by chance. The formula used was:

$$t = \frac{M_1 - M_2}{\sqrt{s_1^2 + s_2^2 - 2r_{12}s_1s_2}}$$

where M_1 is the pretest mean

M_2 is the posttest mean

s_1^2 is the pretest variance

s_2^2 is the posttest variance

r_{12} is the correlation between pre and posttest.

Although the t ratios are not presented here, it was observed that the changes in all aptitude and interest variables could be attributed to chance. Twenty-six of the 32 change scores reflected the regression toward the mean phenomenon, that is upon retest due to error of measurement high scores tend to go down and low scores, to go up. The hypotheses that aptitudes and interests become more intense as a result of the course were found untenable.

To determine the denominator of the t ratio, it is necessary to compute the test - retest reliability coefficients. Arising out of this procedure were several observations. In the first place, test - retest reliability coefficients were low. Low reliability coefficients could obscure differences that might have appeared as a function of the IV instruction. Of far greater significance is that reliability coefficients of the experimental and control groups differ significantly. Nine out of 16 tests of the differences between correlations were found to be significant. Eight of the nine revealed the scores of the control group to be considerably more reliable than those of the experimental group. What this indicates is that the control group change little but the students in the IV group change considerably over the experimental period. Note should be made of the correlations in Table 5. The differences in correlations between the experimental and control group are highly significant especially for the interest variables. Whereas, the test - retest coefficients for the control group are .77, .75, .65, .73, .59, .60, and .61 for mechanical, business, esthetic, scientific, verbal, computational, and time perspective respectively, for the experimental group they are .56, .55, .36, .60, .49, .23, and .34. It is clear from these data that as a group, interests or aptitudes change little beyond chance. Individual changes, on the other hand are considerable. Vocational interests of individual members of the experimental group were observed to change dramatically.

Table 4

Posttest t Scores of Experimental and Control Groups

	Experimental N = 454			Control N = 274			
	Mean	S. D.	r_{11}	Mean	S. D.	r_{11}	Z tests of differences of correlations
Aptitudes							
Word meaning	53.27	9.62	.50	53.08	8.76	.51	-
Paragraph meaning	47.22	11.03	.70	48.39	9.93	.71	-
Arith. reasoning	45.36	10.54	.69	45.42	10.15	.61	2.00*
Arith. comput.	51.08	9.66	.64	50.79	8.21	.61	-
Applied Science	50.41	10.30	.47	49.86	9.02	.57*	2.00*
Spatial rel-2D	45.89	10.16	.56	46.48	9.68	.59	-
Spatial rel-3D	50.62	10.88	.49	50.08	9.83	.52	-
Interests							
Interpersonal	49.48	10.56	.61	49.80	9.33	.59	-
Natural	46.41	10.56	.45	47.47	10.75	.48	-
Mechanical	45.31	13.60	.56	46.26	11.22	.77	7.00
Business	46.39	13.39	.55	47.89	11.79	.75	5.14
Esthetic	42.67	19.34	.36	47.95	13.57	.65	5.71
Scientific	49.13	14.65	.60	50.26	12.28	.73	3.42
Verbal	53.51	15.31	.49	55.90	11.54	.59	6.57
Computational	42.61	18.61	.23	47.75	11.99	.60	6.71
Time perspective	46.59	13.46	.34	47.70	10.66	.61	5.00

*Sig. dif. P.05

The end of Year Achievement Test

The split half reliability of the test has already been discussed. Some of the responses to the difficult items resulted in part from student misunderstanding of the question. For example, a person interested in using tools should probably become a forest ranger. Probably arguing backwards, the student thought that a Forest Ranger has tools, the students said "True." It must be conceded, however, that the main interests of Forest Rangers are not concerned with tools. Most students letting their consciences guide them unrealistically said "false" to the question, "A good worker will find nothing boring in his job." There is hardly a job in the labor market, the honest worker will have to admit, which does not have

some monotonous aspect. Time and wage concepts of apprenticeships were incorrect. Concepts of the duties of secretaries, moreover, were quite limited. House carpenter, moreover, was not differentiated from finish carpenter. Only 28 per cent of the students knew that Civil Service lists are determined on the basis of achievement on tests and appointment to a position was on the basis of merit and not by political influence. Productivity was confused with thoroughness by many. Finally, clerical ability could be differentiated from clerical interest by only 24 per cent of the sample.

The students knew much about developing job interests by performing manipulations akin to those done on the job, the relative instability of interests over the childhood to adulthood years, the role of hobbies in contributing to mental health, the role of work study programs in reducing dropouts, the role of aptitude and achievement in gaining admittance into college, government licensing procedures, the role of the Federal Government in teaching trades, and the large number of openings for operators, workman's compensation, and awareness of personnel departments worthy of note was that 74 per cent of the sample realized that during one's lifetime, retraining will be necessary several times. Additional percentages appear in Appendix F.

The average achievement test score was 43.93. The standard deviation was 6.26. To test the hypothesis that team teaching results in higher achievement than the individual plan, 280 students were selected at random from five randomly selected team and five randomly selected individual plan schools. The mean score for the team approach was 41.00, for the individual approach was 42.60. Since there were no differences between the means, the hypothesis that the team approach results in better achievement in the course was found untenable. The direction of the differences is opposite to that hypothesized.

It was observed that the schools in the sample varied in size. Some schools had fewer than 500 students; others had more than a thousand. The average score of 133 students from small schools was 42.23, from larger schools 41.38. The differences, here, too, were non-significant.

On the assumption that good students are good readers, it would be predicted that the good readers would make the highest scores. Since programming for the computer is no more difficult for determining correlation for two variables as it is for 16, not only was reading comprehension studied but all pretest scores were correlated with the achievement test. These data appear in Table 5.
Contrary to belief, reading ability was not related to achievement in IV. Nor were

any aptitude test scores. Rather some moderate, but significant correlations were observed between achievement and interests: mechanical, business, esthetic, scientific, verbal and time perspective. Interests in occupations are decidedly related to achievement in the course.

Table 5

Correlations of Pretest Scores with Achievement

MAT	
Word meaning	-.03
Paragraph meaning	.03
Arithmetic reasoning	.03
Arithmetic computation	-.04
Applied science	.03
Spatial-2D	.03
Spatial-3D	-.03
PII	
Interpersonal	-.09
Natural	.05
Mechanical	.39*
Business	.42*
Esthetic	.34*
Scientific	.39*
Verbal	.33*
Computational	.15
Time perspective	.30*

*Significantly different from zero beyond the one per cent level of probability with 286 df.

In addition to true-false items, students were allowed to choose one of two essay questions to answer. The first question was:

Assume you are applying for a job with the ACE Cleaning Company. Their ad reads like this. WANTED. Two sales clerks, one male and one female. Forty hour week, two week vacation with pay. Qualification: Skill in mental arithmetic. Write ACE CLEANING, c/o HJ 431, Anytown, N. C.

Write a letter of introduction to the company.

A random sample of 100 replies was examined. Fifty-five per cent of the students used the correct business letter format. This means that almost half of the students could not write business letters correctly. In the letter itself, contents varied considerably. Forty-three students listed previous schooling; 39, mathematics ability; 37, age; 36, sex; 23, votk experience; 23, meeting of requirements; 22, references; 10, height; 10, willingness to work; and 5, marital status. The remainder of the responses were made by one or two students. Requests for interviews, moreover, were made by 26 students. Although many students wrote acceptable replies to the advertisement, more training is needed. Reproduced below are examples of two extremes of letter writing, minor changes have been made to protect the writers.

1304 North Oakum Street
Homeville, North Carolina
May 7, 1964

ACE Cleaning
c/o HJ 431
Anytown, North Carolina

Dear Sirs:

I read your ad in the May 7, 1964, Dailey Advance. Which readed like this WANTED. Two sale clerks, one male and one female. 40 hr. week, two week vacation with pay.

Please consider me an applicant for this position.

I am 24 years of age. Weighs 120 pounds, hieght "5 '4. A high school grauduate of the D. F. Walker High School. I have had Business Education a course in I. V. E. and 4 years of college. Health excellent. A female.

For reference you may consult the D. F. Walker High School, North Oakum Street, Edenton N. C.

I maybe reached at the above address or call 480-6132. Any time between 6. am an 9:pm.

Thank you

(Miss.) Berta M.

Ace Cleaning Company
c/o HJ 431
Anytown, N. C.

Route 5 Box 1CS
Homeville, N. C.
May 7, 1964

Dear sir:

This morning I read abott your article in the paper, and I need a job. I am a High School graduate and I wish to get a job. I can do most of anything as long as it's work.

Your's turely

Douglas P

A second question dealt with the relationships of education, ability, and interests to professional preparation and income. Specifically, the question was: If you were a counselor in an employment agency. Someone wanted to leave school before graduation to enter the textile industry so that he might make enough money to finance his medical education. What would you tell him about the economic outlook for the dropout, the textile worker, the doctor? What would you want him to find out about his abilities and interests in order to guide him into the career most suitable for him?

A random sample of 100 responses was examined. Four aspects to the replies were noted. First, with regard to the dropout, he would be told by 37 that there would be poor job opportunities; by 21 that the economic outlook would be poor; by 13 that salaries would be very low, too low to finance a medical education. There were scattered single responses. Next, with regard to textile workers, 8 could tell him one needs a good education to get a good job; 6 would cite automation usurping jobs; 5 would mention little advancement. Next, with regard to the doctor, 9 cited he would have a bright future; 6, doctors are in demand; and 7, remuneration is good. Finally, the advice given the fictitious client was - stay in school - 63; analyze self through tests - 21; high school education should be completed before thinking about medical school - 23; get a job after high school diploma is received - 16. These replies reflect the growing awareness by students themselves of the need to know their own abilities as well as the importance of staying in school.

This may be seen in the following examples of replies by the students. The grasp of the problem by the first student is greater than of the second.

Number 1 -

If I were a counelor in an employment agency I would advise against droping out of school. I would tell him in the textile field of work you had to have a high education. If he really wanted to be a doctor I would advise him to take tests to test ability and interest of to see if he qualified to be a doctor. If he didn't qualify I would try to help to find a career that he had ability to do.

I would tell him to stay in school and tell him about the plan that government has set up for young when he or she dosen't have money to go to school so he could look into it and stay in high school.

Number 2 -

go back to High School and get a education. Because you do not have enough education to run the new job.

In summary, the achievement tests revealed areas in which the IV students were well prepared as well as areas needing improvement. Lack of differentiation between ability and interest should not go unnoticed. The fact that some IV students are growing in depth and maturity of outlook on the preparation for vocations is encouraging. There are remaining, however, a large percentage of students who also had the course who had only a superficial outlook on vocational education.

Some Characteristics of the Students

Questions about factors related to the career choices are in order. What are the aptitudes and interests of the students selecting certain careers. To answer these questions 236 experimental and 236 control students were selected at random. Analyses of variance of the pretest scores revealed that these groups did not differ significantly initially on any of the attributes but interest in science. Both experimental and control groups were combined. Analyses of variance of the scores on aptitudes and interests were made in order to study relationships with different career choices. In Table 6 it may be observed that students selecting the several types of careers differed in aptitude. The F ratio reveals the size of the departure from chance. The means reveal the central tendency of the scores.

A common belief is that brighter students tend to prepare for the professions. While there is research to confirm this observation, general intelligence is insufficient to explain plans for most vocational endeavors. Specific aptitudes, often, are better predictors. While paragraph meaning and spatial relations - two dimensions may be important in some careers, word meaning may be more important in others. The relevance of these observations to ninth graders who, through trial and error select a calling, is quite another matter. The vocabulary scores of

Table 6

Mean Multiple Aptitude T Scores and Career Choice

Career	N	Word Meaning	Paragraph Meaning	Arith. Reas.	Arith. Compu.	Appl. Science	Spatial 2D	Spatial 3D
Clerk	54	61.5	38.4	34.2	61.7	58.1	37.2	63.4
Farm owner	21	49.5	56.7	45.2	45.0	47.2	47.3	44.0
Laborer	28	57.6	48.6	43.6	53.0	49.7	38.9	53.4
Merchant	9	55.8	45.1	41.7	54.9	52.2	46.9	56.1
Operator	66	56.6	47.3	44.2	51.6	54.1	43.8	51.8
Professional	224	60.0	42.0	38.4	56.2	54.4	44.6	58.3
Technician	70	50.1	48.6	52.5	50.5	51.9	48.4	47.4
F ratio		13.6*	15.8*	21.6*	13.8*	5.0*	7.6*	18.3*

*Significant beyond the one per cent level of probability with 6df in numerator and 464 in denominator.

those students selecting professional and clerical careers were among the highest of all career types. Yet the career group receiving the highest reading comprehension scores was the "farm owner." "Clerk and "professional" received the lowest scores. The "technician" group received the highest arithmetic reasoning scores; again the "clerical" and "professional" groups received the lowest. With respect to arithmetic computation, the "clerical" and "professional" groups received the highest scores and the "farm owner" group the lowest. Applied science and mechanics scores were highest for the "clerical" group, next were "professional" and "operator" careers and lowest was the "farm owner." All career groups were below average on spatial relations - two dimensions. On this subtest, the highest scores were made by the "technician" and "farm owner" groups, the lowest by the "clerk" group. Finally, with regard to spatial relations in three dimensions, most groups were above average. The "clerk" group received the highest scores and the "farm owner," the lowest.

A T score of 50 is the fiftieth percentile. Scores higher than 50 would then be above average; lower, below average. Viewing the data in another way, those students choosing "clerk and sales" careers were above average in word meaning, arithmetic computation, applied science and mechanics and spatial relations - three dimensions but below average in paragraph meaning, arithmetic reasoning, and spatial relations - two dimensions. The farm owner group was below average on all aptitudes but paragraph meaning. The laborer group was above average for word meaning,

arithmetic computation, and spatial relations - three dimensions and below average on the other aptitudes. The merchant group contained but nine members, an interesting finding in and of itself. This group was above average in word meaning, arithmetic computation, applied science and mechanics and spatial relations - three dimensions. The operator group was above average in word meaning, arithmetic computation, applied science and spatial relationships - three dimensions. The professional group with somewhat higher scores than the operator group excelled in the same attributes observed for this group. Finally the technician group received scores very near the average on all attributes. Word meaning, arithmetic reasoning, arithmetic computation, and applied science were slightly above average.

It is clear that choices of careers are linked to aptitudes. These aptitudes are not the same as one would expect on the basis of popular stereotypes. One may well ask why the better readers choose farming, an occupation which does not rely, as heavily on reading as do "clerk" or "professional." Why does the "professional" receive lower scores on the arithmetic reasoning than the technician who is less involved in original problem solving. Why, moreover, does the clerk receive the highest scores in spatial relations - three dimensions when a technician like a plumber and carpenter receive low scores. One may dismiss these findings by saying that ninth graders do not know their own minds or the world of work for that matter. These are, however, too poignant a set of observations to dismiss so readily. What is important to recognize is that ninth graders with known aptitudes do not necessarily choose careers in which these aptitudes are of minor importance. More needs to be known on this topic. How do the ninth graders selecting careers compare in aptitudes with those in the careers? How permanent, moreover, are the career choices?

Next to be considered are the measured interests of the students selecting the different careers. In Table 7 it may be seen that the occupational interests of students with different career choices are not alike. Clerks were found to score highest in interpersonal service, next were merchant and professional groups, lowest was farm owner. Also significantly different from one another were interests of the career groups in biology related tasks. Again the clerk and professional groups scored highest. The scores on all career groups in mechanical interests were below average. Worthy of note were the slightly higher scores of the clerical and professional groups rather than the operator and technician groups under which the several mechanical related careers were subsumed. The merchant group did not have the greatest interest in business, although below average using national norms,

Table 7

Mean Picture Interest Inventory T Scores and Career Choice

Career	Interpersonal	Natural	Mechanical	Business	Esthetic	Scientific	Verbal	Computational	Time
Clerk	56.5	55.1	44.0	46.1	43.5	49.7	48.7	46.6	45.2
Farm owner	44.9	43.3	39.6	42.8	45.6	45.8	52.0	42.6	45.5
Laborer	50.1	49.0	37.8	41.9	38.8	43.9	49.2	40.6	42.6
Merchant	53.1	48.0	39.8	39.1	44.6	47.9	48.7	40.9	40.3
Operator	49.3	46.3	41.4	44.2	42.6	45.0	49.8	43.6	43.4
Professional	53.7	53.3	44.8	47.6	44.7	50.1	49.7	45.7	46.1
Technician	47.7	44.0	42.0	43.2	42.5	45.2	55.9	45.3	46.6
F ratio	7.7*	12.43*	2.61*	3.79*	-	4.4*	3.1*	-	-

*Significant beyond one per cent level with 6df in numerator and 464 in denominator.

the "professional" and "clerk" groups scored the highest here. No significant differences were found between the groups with respect to esthetic interests. The "professional" and "clerk" groups scored the highest with "laborer," the lowest. Interest in verbal oriented occupations was highest for the technician and farm owner group and lowest for the "clerk" and "merchant" groups. Interests in occupations involving numbers and in those requiring different amounts of time for training were not different between the groups.

Using a T score of 50 as average for the population, these data were viewed another way. What were the measured interests of the career groups? The "clerk" group was interested in interpersonal service and natural phenomena. They were not deeply interested in mechanical, business, esthetic or scientific phenomena. The "farmer" and "technician" groups were interested mostly in verbal tasks. The "laborer" and "operator" groups had no deep interests. The "merchant" group was interested mostly in interpersonal service. Finally, the "professional" group was interested in interpersonal service, natural, and scientific phenomena. A rather uneven and inconsistent picture of the interests of the ninth graders emerge. The absence of interest in mechanical, business, and esthetic tasks is noteworthy because the careers selected by many, it is believed, have interests in these areas as prerequisites. Of the 54 students in the "clerk" group 87 per cent were girls. Future studies should endeavor to investigate whether girls who choose to be typists and stenographers choose so because there are opportunities available

requiring little financial investment in training. The "clerk" group composed primarily of girls so closely resemble the "professional" groups in both interests and aptitudes, that further investigation is needed. The choice of clerical occupations by girls with high aptitude scores and with wide interests is not to be condemned. Yet if these girls give up on becoming professional career women because of cultural biases about jobs women may hold, their choices cannot be condoned, either.

An ethical question devolves upon us here. Should we guide a student away from his career choice when his propensities and interests are more nearly related to other careers. In other words, should a student with many and different attributes be shown how to fit them to his career choice or should he be led toward careers which seem to require his pattern of attributes. Some teachers and guidance counselors whom the IV students have called upon for advice have been unable to help the students principally because this ethical dilemma is unresolved. While the ultimate decision is the students, the ultimate responsibility is not wholly that of the student. At the ninth grade, moreover, no teacher could tell the student what occupational specialty field he will enter, but his responsibility is <u>orienting</u> the student to specialty fields requiring experience, training and abilities.

STUDENT PERCEPTION OF CAREERS

Now to discuss the specific features of the two samples determined from the My Career surveys. The first question here is what were the career choices of the ninth graders? Each student was asked to designate the career he would like to enter. His selection was then categorized. (See Appendix B).

Table 8

Categories of Occupational Interests

	I. V.				Control			
	Pretest	Rank	Post test	Rank	Pretest	Rank	Post test	Rank
None	2	-	0	-	3	-	0	-
Clerk	35	4	44	4	33	2	29	4
Farm owner	21	6	19	6	17	5	13	6
Service	33	5	36	5	11	6	14	5
Merchant	7	7	6	7	0	7	1	7
Operator	54	3	56	3	27	4	34	3
Professional	181	1	175	1	124	1	116	1
Technical	70	2	67	2	29	3	37	2

One may observe in Table 8 that by far the most frequently chosen careers were professional; next, technical; next operator; next, clerk; next, service; next, farm owner; and least, merchant. The positions which these several career types occupy relative to one another are essentially the same for pre and post tests for experimental and control groups. From these data one may see which types of careers are most important to young adolescents and which are of lesser importance.

A more important question, however, is what changes in career choice, if any, take place over the year. In Table 9 are the career choices of the I. V. and control groups. By reading across the diagonal we may observe the number of times a student selected a career in September and selected it once again in April. In the control group, 68 per cent of the career choices were the same, in the IV group 59 per cent were the same. A chi square test was made to determine whether the two groups truly differed. A chi square of 7.074 was obtained. This means that significantly more control subjects do not change their career choice during the year. This observation may occur by chance fewer than one time in a 100.

Table 9

Changes in Careers During the Year

Original/Retest	C.	F. O.	S.	M	O	P	T
I. V.							
Clerk	20	1	2	0	3	8	1
Farm-owner	1	12	1	0	3	1	3
Service	1	1	14	1	6	8	2
Merchant	3	0	0	1	0	3	0
Operator	6	0	5	0	31	5	7
Professional	13	2	10	2	8	126	20
Technician	0	3	4	2	4	23	34
Control							
Clerk	25	0	0	1	3	3	1
Farm owner	0	8	0	0	2	2	5
Service	0	2	4	0	2	2	1
Merchant	0	0	0	0	0	0	0
Operator	0	0	2	0	16	2	7
Professional	4	3	7	0	7	97	6
Technician	0	0	1	0	3	8	17

This is a second source of evidence, then, that the vocational interests of the IV students change more during the year, the other source was the lower test-retest reliability coefficients on the Picture Interest Inventory.

Also in Table 9, a note should be made of the shifts in interests. The largest shifts are toward the professions. Twenty-four per cent of the IV group shifted toward the professions; 16 per cent of the C group shifted toward the professions; 16 per cent of the control group did so. The differences are not significant. The group shifting the most is the technician group. Using this scoring of the careers, it was determined that the control group shift less. Using a second scoring system, to be presented later, shifts in field of interests and levels of responsibility were found to be different for the groups.

Table 10

Training Requirements of the Career

Specificity and Relevance	I. V.		Control	
	Pretest	Post test	Pretest	Post test
General-relevance	243	241	106	118
Specific-relevance	109	102	79	87
General-irrelevance	36	36	36	17
Specific-irrelevance	6	18	18	12

Examined next was the specific knowledge each student had about the training requirements for his chosen career. Table 10 reveals that there were few differences between the two groups before the training, and few when the training was terminated. Both groups have general notions about what training will be needed, but a smaller percentage have specific information about the training requirements. For example, a student planning to become a brickmason should know the length of apprenticeship training; a student wishing to become an engineer, should know he has to attend a college of engineering four or more years. This specific knowledge was lacking from both groups. But it was hypothesized that the IV group would know more about training requirements. No support for this hypothesis was obtained.

Next to be examined was the reasons for choosing a career. Two factors were considered here. The structure of the reason, that is its clarity (maturity) and the content. In Table 11 is the degree of differentiation of the reasons. The

Table 11

Maturity of Explanation of Choice of Career

	I. V.		Control	
Explanation	Pretest	Post test	Pretest	Post test
Vague	257	207	160	198
Clear	728	762	434	465
Very specific	68	88	29	18

total number of reasons increase for both groups. On post test a slight superiority of the IV group may be observed, they gave five per cent more very mature reasons than did the control group. Both groups gave relatively clear explanations for their choices, approximately 67 per cent of the total number of responses. A chi square test was made of the post test distributions. The ratio of 18.53 was observed, this means that in fewer than one case in a thousand could these observations have occurred by chance. Although only five per cent more students in the IV groups gave replies indicating great maturity, it was, nevertheless, sufficient to point out a major difference between the groups. To some extent, the hypothesis that the IV students become more mature in reasons for selecting a career is sustained.

Examine in Table 12 the relationships between pre and post test clarity of responses in each group. Whereas, the clear responses of the IV group became more specific, it is less so for the control group. To be sure the differences are not overwhelmingly in favor of the IV group.

Table 12

Clarity of Response: Relationships

	I. V.		- Post test -	Control		
Pretest	Vague	Clear	Very specific	Vague	Clear	Very specific
Vague	82	145	19	55	97	3
Clear	153	497	52	109	287	13
Very specific	17	41	10	5	21	2

The content of the responses was considered next. The most frequently cited reasons were that of the "wish" or "belief" types. Students said that they feel they may make a good pilot or beautician; next in importance, was designation of interest in the task they were to perform. For example, they might say they liked to tinker with cars or motors; next, was interest in the financial remuneration; next in frequency, was the good feeling they would have working with people. Some over-all changes between the groups should be noted, the IV group tended to give more reasons on the basis of past successes than did the control group. In addition, the percentage of "wish" reasons declined, whereas, the percentage of "wish" reasons for the control group increased. The IV group became less interested in the things of a job and more in the functions and roles displayed; the reverse was observed in the control group.

At the beginning of the study there were no differences between the groups with respect to categories of reasons. Examining the subtotals for predisposing factors, intrinsic factors and consequences, there were no differences between the groups (chi square, 5.41, 2df). On retest, however, there were differences between the groups (chi square = 6.60, 2 df). A much greater interest was displayed by the IV group in factors intrinsic to the job. Not only was the IV group more interested in functions and services, but they were also more interested in the physical surroundings of a job, i.e., whether it was indoors or outdoors.

Data from a table not to be presented here reveals that 20 per cent of the reasons given by the control group and 23 per cent of the reasons given by the IV group were unchanged during the year. From these data it is difficult to state whether the instrument is unreliable or whether reasons for entry into a career change because selection of a career itself changes.

Before turning to the next question, some other characteristics of the samples should be noted. A fair percentage of the responses indicated student reasons for

Table 13

Reasons for Choosing Career

	I. V.		Control	
Reasons	Pretest	Post test	Pretest	Post test
Predisposing				
Past achievement	37	61	45	24
Wishes	183	171	98	122
National needs	17	30	15	25
Parent models	11	6	9	9
Parent pressure	1	4	0	1
TOTAL	249	272	167	181
Intrinsic Factors				
Objects on job	96	84	43	63
Functions on job	161	191	98	89
Correlates of job	64	103	68	36
TOTAL	321	378	209	188
Consequences				
Security	13	17	5	4
Status	12	12	12	12
Emotional joy	70	24	44	18
Autonomy	7	10	4	6
Sentience	22	23	17	22
Financial gain	152	140	78	76
Discovery	27	38	10	30
Non-taxing work	21	25	9	15
Affiliation	74	101	23	57
Service to people	80	77	45	64
Benefit to humanity	3	18	4	9
TOTAL	479	485	251	313
GRAND TOTAL	1049	1135	627	683

their career choices were altruistic. They wished to perform services which might be of benefit to humanity. The interest of some students in simple work with plenty of leisure may merely reflect the attitude of maximum return for minimum effort. Reasons for choosing the same career, were, moreover, observed to be quite varied.

Closely related to reasons for entry into a career are the joys, values, and satisfactions anticipated. In scoring the student responses to this question, the replies given were similar in content to reasons for entry. Occasionally, students cited the very same reasons for entry into a career as they did for joys anticipated. In Table 14 are the listing of joys anticipated.

Table 14

My Career: Joys Anticipated

	I. V.		Control	
	Pretest	Post test	Pretest	Post test
Intrinsic				
1. Objects	0	2	0	4
2. Functions	8	77	6	27
3. Correlates	11	65	17	12
TOTALS	19	144	23	43
Self enhancement				
5. Status	20	14	5	9
6. Emotional	89	16	64	6
7. Autonomy	5	5	2	10
8. Sentience	15	9	12	18
9. Financial achievement	109	83	57	41
10. Discovery	31	55	19	41
11. Non-taxing work	24	27	13	9
12. Affiliation	127	137	58	84
13. Service to people	84	70	63	52
14. Benefit to humanity	7	15	4	13
15. Favorable response from people	0	20	0	14
TOTAL	511	451	297	297
GRAND TOTAL	530	595	320	340

Comparisons were made between intrinsic and self enhancement values for the pretest IV and control scores. The resulting chi square of 5.40 indicates that prior to instruction there were no significant differences between the groups. The leading satisfactions were those derived from being near people, earning money, non-specific joy, and service to people.

When the students were re-examined, however, there were highly significant differences between the groups. A chi square of 18.05 was obtained. The joys which appeared to be most important during the pretest were still important. Increasing in importance, however, were factors intrinsic to the career. The IV group more than the control anticipated joys derived from performance of functions on the job. One student put it this way, "I just want to drive trucks." The students were asked to evaluate the traits they had which they believed would be required in their career. Also they were invited to name the traits which would be required which they did not believe they had. In Table 15 are the student replies to these questions. Both groups considered personality, work interests, and ability assets which they believed were required on the job. The marked

Table 15

My Career: Traits Present and Absent

	I. V.				Control			
	Pretest		Post test		Pretest		Post test	
	Present	Absent	Present	Absent	Present	Absent	Present	Absent
No response	55	121	25	136	35	75	61	110
Work habits	50	16	64	18	28	9	40	9
Personality	147	75	233	118	96	58	100	58
Work interests	82	2	80	15	50	4	73	7
Character	5	0	45	2	6	0	24	3
Ability	79	34	62	22	47	13	34	21
Leadership	2	5	2	0	0	0	0	0
Communication	4	3	10	9	6	4	4	6
Manual dext.	12	2	31	6	7	2	12	8
Physical	21	7	56	22	15	6	26	7
Unrelated to Q.	35	55	[illegible]	15	24	20	5	8
Training	10	56	[illegible]	67	2	29	34	53
Knowledge	39	59	32	52	23	37	12	25
Don't know	10	20	10	18	3	10	2	2

change in noting personality traits in the IV group should be observed. Whereas, 27 per cent of the IV and 28 per cent of the control group pretest responses were personality traits, 35 per cent of the IV and 24 per cent of the control group post test responses were of personality traits. There was a fair percentage of responses unrelated to the question. Students cited, training, experience, and money as traits.

With respect to traits necessary but not present, by far the largest percentage of replies were left blank. Next in importance were personality, knowledge, and training. This could be observed for IV and control groups for pre and post test. Here personality looms as the most important deficit to the IV group on the retest.

It may be said, then, that the IV course makes the student more acutely aware of the personality adjustments he is going to make as a worker. The alertness to one's personality attributes is not at all unrealistic when employers are known to hire and fire less on the basis of work habits or competence and more on his adjustment to co-workers. In scoring the protocols, one observation was inescapable. Students listing some personality trait such as "understanding of others" as a characteristic which is necessary and which they have might list under traits not present, "I don't always understand others."

To be completely aware of all facets of career choice, a student should not only anticipate certain satisfactions, and know the traits necessary for vocational adjustment, but should also know what dangers to anticipate. In Table 16 it may be observed that from the very beginning, the greatest dangers to the IV and control groups were those concerned with performance of the job, such as crashes, electrocutions, becoming diseased. Forty-eight per cent of IV and 45 per cent of control

Table 16

My Career: Dangers: Content

	I. V.		Control	
Dangers	Pretest	Post test	Pretest	Post test
In job - extrinsic to service	45	29	13	8
In job - intrinsic to service	215	318	144	131
In self	144	123	77	122
In social climate	16	29	15	23
Natural	20	8	7	1
None	25	20	12	9

group replies were of this type. On retest, however, 60 per cent of IV replies dealt with dangers inherent in the job which are intrinsic to the service. Forty-two per cent of the control group replies were of this type. Far greater concern for mistakes which the worker might make was elicited from the control group than from the experimental group. Here, again, the knowledge acquired in the IV course directed the students' attention to important facets of a career, overlooked by the control group.

Also of interest was how mature are the students in judging dangers of the career. That is to say how vividly do they describe the anticipated dangers. Originally, the IV students were clearer in their understanding of the dangers of

Table 17

My Career: Dangers: Structure

	I. V.		Control	
Level	Pretest	Post test	Pretest	Post test
Vague	86	173	95	116
Clear	232	272	147	127
Vivid	122	64	65	32

their career. By the end of the year, they gained somewhat, and the control group tended to become less clear. Thirty-four per cent of the IV responses were scored "vague" but 42 per cent of the control group responses were so scored. The IV group did gain in maturity of judgment about dangers, the gains were not as great as may have been anticipated, but they were greater than those made by the control group.

The activities of the groups in developing a better understanding of the careers were studied next. In Table 18 are the categories of people with whom the student discussed his plans. By far the most frequently designated group of people

Table 18

My Career: Discussion of Plans

	I. V.		Control	
Planned with	Pretest	Post test	Pretest	Post test
No one	51	53	32	37
Family	291	271	178	184
Friends	69	81	53	54
Teachers	80	153	47	56
Counselors	9	37	7	10
Worker	40	47	29	38
TOTAL	540	642	346	379

with whom the students discussed career were "family members," primarily parents. This constituted slightly more than 50 per cent of the replies. The pretest percentage of replies for both IV and control group for teachers was 15 per cent.

The control group did not change during retest. The IV group did. Twenty-four per cent of its replies were "teacher." The IV course, then, affords the student an opportunity to discuss his plans with a professional person, who although not eminently qualified in the field of vocational guidance, will, nevertheless be cast in a position in which his professional advice is sought. What significance to attach to the very small percentage of "counselor" replies is not known. Some schools do not have a counselor. Even in schools employing counselors, students may either be reluctant to visit the counselor or the counselor may be too busy to help them.

In Table 19 are the replies to the question dealing with what the student has done so far to learn about his career. The most prominent prevocational activity

Table 19

My Career: Prevocational Activities

	I. V.				Control			
Activity	Pretest	Per Cent	Post test	Per Cent	Pretest	Per Cent	Post test	Per Cent
Read	223	49	315	59	135	48	167	54
Talked	47	10	74	14	41	15	39	13
Tried work	58	13	80	18	37	13	51	16
Observed	65	14	46	8	42	15	36	12
Nothing	58	13	19	4	27	10	18	6
TOTAL	451		534		282		311	

is "reading." Both groups read more about vocations during the year. More reading took place in the IV group. The IV group tended to discuss vocations more than the control group, but in most other respects the groups did not differ much.

In many respects, the control and IV groups differed only slightly at the end of the year. But there were many significant differences between the groups. It was noted that the IV group had a greater understanding and appreciation of the many factors inherent in a career. They seemed also to engage in more prevocational activities than the control group.

The data reported thus far indicate what general changes took place in both IV and control groups. The differences between the groups suggest what could be expected when ninth graders are exposed to self analyses of abilities and interests, occupational surveys, and ideas about the world of work. It may be well to examine

individual protocols of IV and control students to determine the likenesses and differences between the groups.

Five pre and post test My Careers were selected at random from both IV and control groups. It was believed that random selection of protocols would present a more balanced picture than would selection of the best and worst examples. The five IV students are represented by letters A, B, C, D, and E; the five control students by, F. G. H; and J. Notice Table 20, career choices and reasons for entry are presented. In the IV group, reasons in the post test were very similar to those in the pretest. Some reasons become clearer, moreover. "You learning will keep you from turning into a bum" "pleasure out of seeing your building plans go into the real thing" contain specificity absent in the pretest. The reasons given in the control group retest were very much like those given in the pretest. The sepcificity observed in the IV group is not as prominent in the control group, although it may be observed somewhat.

From Table 21 it may be observed that the control group do develop clear ideas about the training needed to realize their vocational aspirations. The IV group appears, however, to develop the clearer ideas. Notice student D. He became aware of the need for college training and an apprenticeship.

The tendency for students to list the same traits under both present and absent may be seen in Table 22. In addition, the listing of traits by the IV group is more precise than that of the control group. Note student C who on pretest cited "trying to begin a nursing course" for traits present; on retest she listed "honesty," "neatness," "manners." With regard to traits absent, on pretest she listed "in becoming a bad nurse and not cooperating," on retest, she listed "finger dexterity, enough education." It may be observed that many students were unfamiliar with the meaning of the word "trait." Some mentioned education, training, and money in answering this question.

Changes in values of career choice may be observed in Table 23. Changes over pretest in both groups are slight and toward greater specificity. It would appear that greater emphasis should be placed on the joys, values, dangers, and threats of each career.

Table 24 reveals that the IV students by far were more active in learning about careers. They spoke to more people, read more articles, and studied with greater intensity. This finding is not unexpected. It is reassuring nonetheless.

Finally, the alternative choices of the IV group seem to have greater substance than those of the control group. The choices of some students do not change at

all during the year. (Table 25).

By reading the corresponding letters on Tables 20 through 25, the picture of each of the careers of each of the ten students emerges. The roles of money, service, and affiliation in career choices may be observed for each student. Naivete in expecting certain outcomes from work may be observed as may maturity. The changes in some individuals were slight, in others like E they were dramatic. Even E's penmanship improved.

Table 20

Pre and Post My Career Responses: Career and Reasons

I. V.			
Pretest		Post test	
Career	Reasons	Career	Reasons
A. Architect	1. You earn enough to live well 2. You meet people 3. You add beauty to the world	Civil Engineer	1. Make good money 2. Pleasure out of seeing your building plans go into the real thing 3. Does not require unusual hours or work traits
B. Secretary	1. They make good money 2. I think I would like to be a secretary	Secretary	1. Of the money 2. I think I would like it
C. Nurse	1. I would help a lot of people and try to cure them 2. Learn parts of our body and help doctors in their operations 3. Help all people that need the kind of cure a doctor would give them	Secretary	1. It has many advantages of meeting people 2. It also has you learn more 3. You're learning will keep you from turning into a bum
D. Commercial Artist	1. There are opportunities 2. I am very interested in art 3. I think I have a reasonable amount of artistic talent which can be cultivated	Commercial Artist	1. I like to draw and paint 2. I like to work with people 3. I want to create

Table 20 (continued)

I. V.

Pretest		Post test	
Career	Reasons	Career	Reasons
E. Mechanic	1. I like to work on cars 2. It would be fun 3. I would like to have a shop of my own	Accountant	1. I like to work with numbers 2. You meet a lot of people 3. The work is done inside and in good working conditions

Control

Pretest		Post test	
Career	Reasons	Career	Reasons
F. Stewardess	1. Like to travel and see far away places 2. Meet new people	Stewardess	1. I love to travel 2. Get to know other people
G. Art teacher	1. I enjoy painting and drawing 2. I would like to help people further their talent	Art teacher	1. I like to paint and draw 2. I find it interesting 3. It isn't difficult
H. Fireman	None	Fireman	1. A good steady job
I. Lawyer	1. Near people I love 2. A chance to go into politics 3. Help people and myself	Orthodonist	1. Meet people 2. There is a need 3. You have a substantial income
J. Brickmason	1. Make a lot of money if good enough 2. Not to hard work	Constructor	1. I like to work outside 2. Like to see something accomplished 3. I like money

Table 21

Pre and Post My Career Responses: Schooling and Training

I. V.	
Pretest	Post test
A. Good at math and algebra Draw well	College, algebra, drafting
B. Typing, shorthand	Typing, shorthand, filling, bookeeping, high school and college
C. Nurse school and how much my salary would be; body test, be a good sport and try to get along with my teacher	Shorthand, English, math, bookeeping
D. Private art lessons, probably some amount of training in college	College training with courses in drawing, painting, design, advertising 2 year apprenticeship
E. A college education and a degree in mechanic	H. S. education, college education in math. and advanced math
Control	
F. High school education, nurse training, stewardess school	H. S. diploma, six weeks training school
G. Art lessons, further education	A few years in art school
H. No response	Six weeks training course
I. Four years of college, law school	Four year of college, 3 yrs. dentistry, one year orthodontic training
J. Trained to lay brick. High school diploma	H. S. education

Table 22

Pre and Post My Career: Traits Present and Absent

I. V.			
Pretest		Post test	
Present	Absent	Present	Absent
A. Good at math and algebra I can haveway draw I like to build things	I can't draw to good but good enough	Fairly smart, fair algebra, like drawing	More algebra and engineering Need more artistic ability
B. No response	No response	None	Typing, shorthand Booking
C. In trying to begin a nursing course	In becoming a bad nurse and not cooperating	Honesty, neatness, manners	Finger dexterity, enough education
D. Patience, a good mind and ability to see things as they really are	Lot of talent, experience, and skill	Originality, imagination, talent	Patience, more talent, training determination
E. Knowledge of parts of a car and skill	No response	The ability to work with numbers, the knowledge of the work and the requirements for this type of work	I don't have the college education or advanced math
Control			
F. Willingness to help others, a desire to communicate with other countries	Perfect vision	A desire to serve people; patience; right size	Fear of heights
G. Enjoy painting and drawing, talent	Patience	Patience, talent	Skill
H. No response	No response	Quick	Accuracy
I. Intelligence, understanding, ability to say what I believe	Patience	Patience; intelligence	Experience with people
J. No response	No response	Money to get started	Money

Table 23

Pre and Post My Career: Joys and Dangers

I. V.			
Pretest		Post test	
Joys	Dangers	Joys	Dangers
A. 1. Meeting new people 2. Helping them to live and work better	1. Things falling off of the buildings that I build 2. Defects in the buildings	1. Seeing my plans go into the buildings 2. Making homes for people	None
B. 1. To work for a good boss	No response	1. Being about to help someone	1. Being chased around the desk
C. 1. To meet people 2. Learn the skill I need	1. When some doctors are mean and don't have a success operation 2. Watch out for some of the patients	1. Meeting people 2. Have a good reputation 3. Advancement for higher commings	1. Make mistakes 2. Having things done on time
D. 1. Being able to express myself in my work 2. Being creative 3. Seeing true beauty around me	1. Change in personality 2. No work if I don't have enough talent	1. Meeting new people 2. Seeing my work help people	1. Eyestrain 2. Disappointment
E. 1. Have fun working with men and, 2. Working on cars	1. Hot motors 2. Sharp objects on motors	1. Meeting different people 2. Working with others 3. Seeing people every day	1. There are none
Control			
F. Meeting people	Crashes, air sickness, hitting air pocket while carrying tray	See the rest of the world; meet lots of people (male preferred)	Plane crases; passengers getting sick; getting married

Table 23 (continued)

Pretest	Post test		
	Control		
G. Helping others	Very little competition	Selling original paintings	Artists better than I
H. No response	No response	Polishing fire-trucks	Burning buildings
I. Helping the free world by promoting justious Money	Getting to close to clients as friends. Hard for a new lawyer to get started	Money; make people look and feel better Getting to know young people	Biting children nervous parents, people not paying bills
J. Meeting other people	Falling	To see things built	Work falling down before it is completed

Table 24

Pre and Post My Career: Discussion and Action

I. V.			
Pretest		Post Test	
With Whom Discussed	What Done	With Whom Discussed	What Done
A. A friend	Read books. A boy's father is is in this line of work	Mother, father, guidance counselor	Written to State College for information
B. No one	Nothing	Guidance counselor and secretary	Sent for in-information
C. Parents	Studied a book about nursing because my mother was a nurse	Parents, cousin who is becoming a secretary	Read about it; written reports
D. My parents, my former	Taken art lessons, read about the field	Counselor, parents, art teacher, school teacher	Taken art, did research paper
E. My mother, father and brothers	Read mechanics books, watched people work on cars	Parents and guidance counselor	Read about it and wrote a paper on it
Control			
F. Mother and father	No response	Parents	Read articles
G. Parents and teacher	Taken art lessons; read books; discussed career with teacher	Parents and teacher	Taken art lessons for four years
H. Mother and father	Talked with neighbor who is a fireman	Teacher and parents	Read books, talked to fireman
I. Teacher, parents, friends	Read books on civics, character, philosophy	Dentist	Talked to people
J. No response	No response	No one	Nothing

Table 25

Pre and Post My Career: Alternative Career

I. V.

Pre and Post My Career: Alternative Career

Pretest		Post test	
First Choice	Alternative	First Choice	Alternative
A. Architect	Something different	Civil Engineer	Engineer
B. Secretary	No response	Secretary	Armed Forces
C. Nurse	Something more interesting	Secretary	Home economist
D. Commercial artist	Writer or teacher	Commercial artist	Art teacher
E. Mechanic	Air Force	Accountant	Bookkeeping
Control			
A. Airline stewardess	Get married	Airline stewardess	Get married
B. Art teacher	First grade teacher	Artist	Nurse aid
C. Fireman	No response	Fireman	House carpenter
D. Lawyer	Engineer	Orthodonist	Lawyer
E. Brickmason	No response	Constructor	Truck driver

Due in part to the lack of complete scorer agreement on career classification, a second scoring system was used for certain portions of the data. It was based on the classification of occupations according to interests and levels of responsibility. This system was proposed by Roe (1956). In a random sample of 100 protocols were rescored according to Roe's classification, there was 95 per cent agreement between two scorers. Roe's system involves categorizing six levels of responsibility for eight occupational interest levels: service; business contact, organization - business detail, physical science - technology; outdoor - physical, biological science, general cultural, arts and entertainment. An example of personal social service at a high level of responsibility is a social worker; at a lesser level is a detective; lesser still, barber; lowest, watchman. Reanalyzing the alternative choices of the experimental and control groups, differences between them will be observed. The alternative choices were studied in the following manner: 112 students from the experimental group and 114 students from the control group representing five different schools were selected at random. The levels and fields of responsibility of the first and alternative choices were determined. Roe's tables served as guides. It was possible for the level of

responsibility of the alternative choice to be lower, higher or the same as the first choice, it was possible for the interest field of the second choice to be the same or different from the initial choice.

Examine Table 26 below. Whereas, the control group tended to select an alternative career which was lower in level of responsibility, the experimental group tended to select one which was of the same level of responsibility. The tendencies of the two groups are significantly different. Both groups tended to choose alternative careers from different fields of interests. The experimental group,

Table 26

Changes of Level of Responsibility and Fields of Interests

Level			
Alternative	Experimental	Control	Chi Square
Lower	32	43	9.37*
Same	60	34	
Higher	20	18	
Field			
Same	48	24	
Different	64	71	
None	0	19	26.62*

*Significant beyond the one per cent level of probability

though, more often remained with their original interest fields. Another difference was that 17 per cent of the control group gave no alternative choice at all. This was in sharp contrast to the experimental group who always cited a second field of interest. This suggests to the writer that the experimental group is better prepared for exigencies arising out of failure to achieve vocational aspirations.

An inquiry was next made into the contributions which earnings, future openings, mental ability, and prestige plays in career choices. On the Business Information Survey (BIS), the students were asked to rank in order of increasing importance, the seven career types. The rank position of the career of his choice was determined from My Career. If a student chose to be a school teacher and he ranked professional 6; earnings 7; openings 5; mental ability 4 and prestige 1; it indicated that at least one career, in his own estimation, made more money, two careers had greater employment opportunities, four had lesser mental ability requirements, all were of greater prestige. Table 27 reveals the median rank,

Table 27

Median Ranks of Career Choices on Business Information Survey

	I. V.				Control			
	Earnings	Openings	Mental Ability	Prestige	Earnings	Openings	Mental Ability	Prestige
Pretest								
Career								
Clerk	4	5	4	4	4	3	4	4
Farm owner	4	2	4	3	4	4	4	3
Service	2	2	2	1	1	1	3	2
Merchant	-	-	-	-	-	-	-	-
Operator	5	5	5	4	5	5	4	4
Professional	7	7	7	7	7	7	7	7
Technician	5	6	6	6	6	5	5	6
Post test								
Clerk	5	5	5	5	5	4	5	5
Farm owner	3	3	2	3	3	3	3	3
Service	1	2	1	1	1	1	1	1
Merchant	-	-	-	-	-	-	-	-
Operator	5	5	4	4	5	5	4	4
Professional	7	7	7	7	7	7	7	7
Technician	6	6	6	6	5	6	6	6

that is the rank designated by the person midway in each distribution. Viewing these findings in the context that 1 is lowest and 7 is highest, the following observations may be made: there are negligible differences between the groups at the beginning and at the end of the academic year. In addition there are few differences in the average rank given each attribute (earnings, openings, mental ability, and prestige) within each career category. Note "clerical" they ranked most attributes 4 or 5; "farm owners" 3 or 4 on pretest, 2 or 3 on retest; "service" 1 or 2 on pretest, primarily 1 on retest; too few students selected "merchant" so this category was not analyzed; "operators," 4 or 5; "professional" 7; and "technician" 5 or 6. There seems to be evidence for a common factor. At the present time it is not possible to determine what it is. Yet it may be noted that students going into service occupations, such as "police," "laborer" do not see their careers as offering them money, prestige, or employment opportunities. This may be noted also for farm owners. Those going into clerical and operatives, foresee

a better position in life; those going into the technicians, an even better position; and those going into the professions, the best.

These observations open new lines of inquiry. Might these rankings represent self concepts as future workers? Might they represent the current aspirational levels of the students. If so, is it possible to raise these levels through instruction? The meager differences between the IV and control groups on post tests indicate that this did not take place. The question of whether it could be done if instruction is zeroed in on better understanding of aspiration levels could be answered by future research. Finally, the student observations may merely reflect the esteem in which these careers are held by society in general.

Table 28

Median Ranks of Alternative Choice on Business Information Survey

	I. V.				Control			
	Earnings	Openings	Mental Ability	Prestige	Earnings	Openings	Mental Ability	Prestige
Pretest								
Careers								
Clerk	3	4	3	3	3	4	5	5
Service	1	3	1	1	1	2	1	1
Operators	5	5	5	5	5	6	5	4
Professional	7	7	7	7	7	7	7	7
Technician	6	6	6	6	5	6	6	6
Post test								
Clerk	4	5	5	5	4	4	5	4
Service	1	2	1	1	1	2	1	1
Operators	5	5	5	5	5	4	5	5
Professional	7	7	7	7	7	7	7	7
Technician	6	6	6	6	6	6	6	6

Making these aforementioned observations even more poignant are the average rankings of earnings, openings, mental ability and prestige for alternative choices. Table 28 reveals negligible differences between IV and control for pre and post test. The "farm owner" and "merchant" careers were omitted from this analysis because there were but a few votes for these careers as alternative choices. Comparison with Table 27 suggests strongly that the careers are being evaluated

with the same criteria irrespective of whether it is first or second choice. Earnings, openings, and prestige are still ranked low by those selecting the service careers, moderately by those selecting clerk and operatives, and high by those selecting technicians and highest by those selecting the professions.

Perspective of the World of Work

The world of work has several dimensions. The Business Information Survey measures five. Students were asked to arrange in order of importance the seven career categories for each of the dimensions. Rankings were compared with the keys. (See Appendix A). The method for scoring BIS was discussed in the procedure. Briefly, the score which one received depended upon the degree to which the student arrangement agreed with the key. The five possible scores were: 1. high, positive relationship, 2. moderate, positive relationship, 3. no relationship, 4. moderate, negative relationship, and 5. high, negative relationship. For instance, the key for "earnings" is F, L, O, C, T, M, P. Should a student arrange them L, O, C, F, P, M, T, the rank order correlation would be +.64. This signifies his rankings have a moderate, positive relationship with the key. In addition to objective scoring, BIS was scored subjectively. The degree to which a student's rankings for an item agreed with the arrangement of his responses to the item, "the business I plan to enter." Should the previously mentioned student answer this item L, T, C, M. O, F, P, he would be scored "no relationship" for the "earnings" item.

The first dimension to be studied was "earnings." In Table 29 are the pre and post test scores of the IV and control groups. Only three of the categories appear because so few students scored negative, moderate and negative, high. No differences appear between IV and control group for either objective or subjective scores for both pre and post tests. This may be due in part to the fact that at the very beginning both groups had a good grasp of the relative earnings of the several groups. It is clear from the significant chi squares obtained between the post test objective and subjective scores, that earnings concepts are more closely related to objective reality than to the student's plans for entering the career.

Next, perception of number employed in the careers was measures. (See Table 30). At the beginning of the study, there were no differences between IV and control groups. For either the objective or subjective keys. At the end of the study, significantly more IV students were considering the number employed in careers on the basis of their own plans for entry than control students (chi square, 13.57). Both groups tended to view number employed from their own point of view

Table 29

BIS: Earnings

	I. V.			Control			
	H+	M+	0	H+	M+	0	Chi Square
Pretest							
Objective	248	96	45	154	44	35	2.23
Subjective	203	83	103	121	54	58	.60
Post test							
Objective	247	98	37	141	56	25	4.98
Subjective	240	69	73	120	47	55	3.74
Chi Square	15.73*			13.76*			

*Significant at the one per cent level with 2df

Table 30

BIS: Number Employed

	I. V.				Control				
	H+	M+	0	M-	H+	M+	0	M-	Chi Square
Pretest									
Objective	42	106	191	63	34	66	111	33	4.62
Subjective	94	81	153	74	63	34	92	45	4.31
Post test									
Objective	27	137	181	43	17	66	128	34	5.45
Subjective	133	61	116	77	61	47	84	34	13.57*
Chi Square	103.54*				38.46*				

of objective facts. This finding was more prominent in the IV group. Generally, there was no relationship between student replies and the Objective Key; for the IV group there was considerable relationship between their plans for entry and their judgment of the number employed. This was not observed in the control group.

Job openings perspective was studied next. In Table 31 are the results of several analyses. Both before and after training the IV group did not differ from the control group on either the objective or subjective scoring keys. Any changes taking place in the IV group over the year were not attributed to the course.

Table 31

BIS: Job Openings

	I. V.			Control			
	H+	M-	0	H+	M-	0	Chi Square
Pretest							
Objective	118	117	114	55	65	75	2.41
Subjective	153	90	126	84	52	59	0.58
Post test							
Objective	152	118	86	76	73	60	2.88
Subjective	189	83	79	96	50	60	2.49
Chi Square	8.36*			5.36*			

The majority of the responses of both groups indicated that students were quite aware of the job openings for the several careers. Unlike in the control group, in the IV group, student rankings of the job openings were more closely related to their own plans for entry than to the objective facts.

The mental ability requirements of the careers were considered next. Differences between the IV and control groups for pre and post test scores are negligible. From the very beginning the majority of the students were quite aware of the spectrum of mental ability requirements of the several careers. It is clear from Table 32, moreover, that rankings of the careers on this attribute was more closely related to the objective facts than it was for the students preferences for entering the careers.

Finally, to be considered was the prestige of careers. In Table 33 it may be observed that the IV and control groups did not differ from one another on either pre or post tests. Student rankings of the careers are moderately related to the prestige and honor accorded these careers. In both groups, however, the extremely significant chi squares resulting from comparing the objective and subjective scores for students indicate that the prestige accorded a career is more nearly related to one's plans for entry than to the esteem in which the careers are held.

In general the IV and control group resembled one another in their grasp of the five dimensions measured in the BIS. Not only did they resemble one another before the study began, but they were not found to be too different from one another at the close of the study. They understood well the earnings, openings,

Table 32

BIS: Mental Ability Requirements

	I. V.			Control			
	H+	M+	0	H+	M+	0	Chi Square
Pretest							
Objective	203	94	66	119	63	38	3.79
Subjective	175	86	102	113	56	51	0.62
Post test							
Objective	252	87	33	145	53	13	0.54
Subjective	231	69	72	114	49	48	4.33
Chi Square	18.14*			20.62*			

Table 33

BIS: Prestige of Careers

	I. V.			Control			
	H+	M+	0	H+	M+	0	Chi Square
Pretest							
Objective	64	170	135	37	108	62	2.62
Subjective	168	96	105	112	52	43	3.67
Post test							
Objective	77	200	98	41	112	56	0.35
Subjective	226	84	65	113	51	55	5.50
Chi Square	122.35*			57.05*			

and mental ability requirements of careers. The grasp of prestige of careers was good. There was, however, little relationship between student concept of number employed and the rank order of the number employed in the several careers. Almost every comparison between the objective and subjective keys revealed that student replies to the questions were significantly different from his rankings of the careers he planned to enter.

Student Reactions to the Program

Tests of the hypotheses give information about one phase of the program and results of the achievement tests of another. It was important to learn, however

what attitudes were generated by the course. Four questions were raised to shed light on this objective. From 327 student replies selected at random the observations to follow were made.

To the question "what did you learn in IV that you would not have learned in other courses," 158 students cited types of occupational information; 35, educational requirements for careers; 34, jobs suitable to student interests and abilities; 31, job requirements; 25, procedure for filling out applications; 31, economic outlook for several careers; 19, job opportunities; 8, classification of jobs, and 7, world of work. There were a number of single responses like "control of emotions" "how to be success" "learned about myself" "learned to express myself" "dangers of the business world." It may be concluded that most students acquired information. Some, however, tried to apply the information to themselves. In this way they made the facts personally meaningful.

To the question, what advantages are there in IV? One hundred forty said they learned about jobs; 84, find out what they wanted to become; 22, learned how to seek and apply for a job; 21, field trips taken; 15, none; and 11, educational requirements of a job. There were several single responses such as "interviews" "job pay" and "world of work."

To the question, what did you dislike about the course? One hundred seventy-three said nothing; 21, no textbooks; 18, not enough field trips; 21, boring; 16, too much letter writing; 5, course geared toward boys; 5, too many notes to take; 5, everything; 3, giving oral reports. Again, there were single responses such as "work" "tests" and "not enough speakers."

The final question was would you recommend the course to other students, 324 said "yes," 25, "no."

From the student reactions to the course, it may be inferred that the students favorable attitude toward the course results from its relevance. It fills a void in their secondary school education. The fact that 93 per cent of the students would recommend the course to their friends is an overwhelming endorsement of the course.

RECOMMENDATIONS

When first conceived the bare essentials of the Introduction to Vocations were only imagined. The uniqueness of the course did not permit consulting similar courses for direction or organization. Most consultants to the project believed that giving the IV teachers a semblance of structure would be sufficient. Freeing them to explore, to create, to innovate and to reject their innovations would be the necessary atmosphere for them to learn how to teach the course most effectively. It was conceded that the absence of a controlled procedure would limit any results obtained about the course, but at the starting point it was more important to emerge with a reservoir of hypotheses and procedures than to come up with meager but accurate facts.

Now a wealth of hypotheses about vocational choice has emerged. Knowledge of the characteristics of the sample is such that success in the IV course may be somewhat predictable. This study informs us what are some of the prognostic signs. In addition, other relevant information is available. The low reading comprehension but adequate vocabulary of the ninth graders suggests that teaching of reading skills specific to economics, occupational information, and tests and measurements are in order. The relatively low vocational interest scores suggest that instruction should be not only geared toward narrowing interests to two or three fields but also toward intensifying these interests.

Perfunctory note taking of classroom discussions could not increase student awareness or understanding about the world of work. Memorizing the number of workers in an occupation or the average salary of secretaries is hardly functional. Both will change before the student completes the course. Rather what is important is to know the pay scale of certain careers relative to other callings in certain geographical areas. Contrasts between careers and between areas are necessary.

A major limitation of instruction is the absence of reference points which are alive for the student. A student may read about the training requirements for a teacher or a lawyer. If he were to talk with representatives of several careers about what preparation they had, the words in the book would make more sense.

Research material was not always available to the teacher of the students. The need for adequate funding of the program goes without saying. But where the materials were available, students were prone to copy verbation from the text. In class, they would recite their report which would contain expressions the

reporter himself would not understand. These expressions would, moreover, be copied by the class members. Hence, there was a proliferation of incomprehension. It should be more important for students to communicate with spontaneity the ideas, facts, and beliefs which they learned about than to recite verbalisms. This communication should contain words which are within the listening vocabulary of the students. The lessons of IV should not be an amassing of empty and barely relevant facts but rather the development of understandings.

Teachers reported that students do not know now to study. It might be well to teach them how. Accurate study habits teach students the value of work in general. Study could become a satisfying and enlightening experience if the student is required to survey the reading material first. A survey permits the development of general ideas about the material. Clues to general ideas may be found in chapter and section headings as well as in the summary. Next, he raises questions about what the survey indicated. He also reads the questions which most textbook authors place after the summary. The question serves as the motivation for learning. It is this knowledge thirst which drives him to learn. Now motivated, the student reads his text to find the answer. When he discovers the answer, he writes a summary <u>in his own words</u>. Frequent review of notes made of each section insures recall. Students should be encouraged to find ways to use the material.

Both students and teachers prepare oral reports. The purpose of these reports was to clearly inform students about new avenues of exploration which they had undertaken. For student audiences to jot down what reporters say will remind them at a later date about some unfamiliar ideas. Unfamiliar ideas, it must be acknowledged are easiest to forget. For students not to take notes actively during class signifies that the discussion will quickly evanesce. Proper work habits involve attention to all new incoming stimuli. The absence of note taking means that the student has no clues to "stamp in" learning or to explore ideas further.

Many teachers used a deductive approach to learning. Students were <u>given</u> a set of assumptions, beliefs, rules, and practises. Assignments were given which were to fill in the details of each. This approach has merit and should not be discarded. At the same time, it is well known that students have their own assumptions, their own beliefs, their own "facts." Their assumptions often conflict with that of the teacher. It must be remembered also that in his own vocational developmental level the teacher mainfests realism, but the student's vocational thinking is still fantasy and interest oriented. It is necessary in the educational

process for the conflict to be resolved. Too often, the conflict is not recognized or if recognized it is suppressed and the student has no option but to learn the teacher's point of view.

To prevent this situation, the method of self discovery is recommended. What this involves is the student coming to grips with his own problem. He defines it, he notices any changes in vocational attitudes with the passage of time. He may keep a weekly log for these notations. Scores on tests of aptitudes and interests will inform him where he stands on these attributes relative to other ninth graders. Tests of knowledge about the world of work will inform him about his knowledge deficits as well as the accuracy of his information. With these as starting points he could become more aware of himself and the accuracy of his judgments through reading, discussion, interviews, and trial explorations of several types of work. The focus would be on the student's beliefs. The ideas and facts which will stream in from reading, discussion and counseling will permit him to revise his perceptions. This approach differs from traditional approaches in several ways. The chief difference is that under self discovery, awareness is increased gradually and as a result of the student's own experimenting. The more traditional approach requires the teacher to speak as an authority and impose <u>his own</u> reality on the student. The first approach is more meaningful and hence could be expected to result in more permanent retention of knowledge, skills, and values. The second approach often is enforced by the threat of marks and is more closely related to acquiring knowledge than its retention.

Discipline in the self discovery method is present and well defined. It involves the student stating hypothetically his perceptions, beliefs, and knowledge, then gathering data about himself through such activities as reading research, participating in interviews, discussions, field trips, teacher and visitor lectures, and film viewing. The student next examines his behavior during these activities and relates them to his original hypotheses. As a result of the comparison, new hypotheses emerge which will subsequently be tested. The teacher's role in this process is as a guide. He helps the student wipe the mirror of self clean so he may see his behavior more clearly. Sometimes this guidance is indirect by exposure to new stimuli through reading, field trips, job analysis; sometimes it is direct by stating affirmatively what are the consequences of the student's behavior.

This proposed procedure depends on early and correct identification of the student's abilities and interests. This means testing. Standardized test results

have restricted meanings. All scores refer to some status in a specific population. As such evaluations such as "good" or "bad" scores are inappropriate. Rather the score designates the position in the standardization population. Some tests have inherent weaknesses which are pointed out in the test manuals. All test companies, moreover, publish the standard error of measurement, the figure which indicates the amount of test score fluctuation due to chance factors. Many teachers considered themselves incompetent to explain test scores to students. Others were reluctant to give low scoring students their results. Increasingly, standardized tests are being used in schools and industry. It is mandatory, then, that both teachers and students become more knowledgeable about tests their scores, and their meanings.

Another consideration in the self discovery method is the absence of teacher authoritatianism. Teachers can ill afford to state emphatically what are the several aspects of the world of work today because by nightfall it will change. The face of our economy, moreover, is constantly changing. Rather than give a detailed picture of today's economy with its receding hair line, furrows, and moles, the teacher should delineate the conditions which affect employment, prosperity, and vocational satisfactions. What is a fact today is largely irrelevant tomorrow. But the conditions which produced the fact are important to recognize and understand. Rather than learn that there are 28 per cent fewer farmers today than in 1920, it is essential that students learn factors associated with vertical and horizontal social and economic mobility, urbanization, and industrialization.

Thirty years ago women who held professional and clerical positions were largely unmarried, divorced, or widowed. Today, women are marrying young, raising families, and then entering the labor market in their thirties. This trend, unknown years ago, signifies a redefinition of the woman's role as a worker. Careers largely reserved for males are increasingly finding women in their ranks. Sex qualifications for many careers are changing. Women doctors, lawyers, business executives, welders and male nurses, elementary school teachers, secretaries are but a few examples. Increasingly the trend toward dedifferentiation of sex linked worker roles is taking place. Students are living in an exciting time. Traditional employment practises are being rejected and being replaced by new, untried practises. The IV course should not only reflect these changes, which it has done, but also prepare students for many and frequent ones.

Perhaps, accelerated by civil rights legislations, racial barriers to employment are disappearing, too. The impact of discrimination in employment on

national economic factors such as production and income as well as on personal psychological factors such as sense of adequacy has to be discussed in an atmosphere of detachment. Teachers of the two major racial groups in North Carolina have asserted that their students fear they will be unemployed largely because of the competition offered by members of the other race. Regrettably, some teachers have fed on their students fears. To be sure, there have been injustices in employment in the past, but what is incumbent on the IV teachers is to provide an atmosphere in which students may recognize these injustices, become aware of his own beliefs, and then learn that competence will be the basis of employer evaluations of worker behavior. Extolling the virtues of honesty, craftmanship, achievement, and merit in the IV course would render much ethnic prejudice inoperable.

The freedom teachers had, it was cited earlier, was necessary in order to discern the several paths to teaching IV. To facilitate future research and experimentation, greater control over content should be exercised. The topics covered should be the same from school system to school system. The amount of time spent on each topic should be standard. Certainly if one teacher spends one week on economics and another spends six, differences are expected to appear. Basic text materials should be given each student. Since there are many inadequate readers, adjustment of language to readers skills is vital. Although not basic to IV it would be well to program reading improvement to permit greater realization of self through reading. The value of invited speakers, field trips, and films have been demonstrated. The increased organization and control over the course will lend itself to more accurate researching. Increased structure would not destroy incentive to innovate. There can never be enough new teaching ideas. Rather what is needed is course structure and content which is comparable around the State.

Adjustment of content to different mental and reading ability is another consideration. The basic outcomes of the IV course are to be attained by all students. If the tools used to reach these goals are inadequate teaching methods should be found which may be used to reach all students. The unit method is such an operation. The objectives of the series of lessons known as the unit are known and adopted by all students. The teacher, then, provides suitable activities for students varying in abilities. Some may reach the goals through independent research, others through reading basic texts and supplementary materials, others by listening to class discussion, others by participating in class discussion,

and still others by going on field trips and/or viewing films. Measurement and evaluation should be of attainment of the course goals rather than of the means of attainment.

This is not to say that reading, writing, and speaking are unimportant. Greater facility with the communication arts is needed. The spelling, diction, reading comprehension errors need correction. Students will write business letters, they will be interviewed, and they will be expected to demonstrate reading skill. The point being made here is, rather, that an IV student should neither be penalized by low grades for inadequate communication nor rewarded by high marks for clear but irrelevant communication.

Teachers and students reported favorably on mock interviews. Whenever possible interviews should be tape recorded. In this way students would become more aware of their own speech patterns. It is easier to correct one's self when he hears his own sentence structure than when someone merely tells him he is wrong.

More practise writing business letters is recommended, too. Students should be encouraged to write letters to obtain business information on their own. Teachers have done most of the writing of requests. Not only will teachers be relieved of time consuming duties, but students can learn that they are responsible for their own learning. Greater investment of student time and energy in the course may very well be sufficient motivation to improve communication skills. Good models for writing business letters should be provided.

No course in vocations should undertake to study each and every aspect of all careers. Rather a representative sprinkling of the several career types would be a more realistic aspiration. Due to lack of materials, money, or time, students were not given sufficient opportunities to taste of the different careers. Opportunities should be provided to observe workers in action, including porters, waiters, secretaries, lawyers, doctors, engineers, and truck drivers. Whenever possible, opportunities to develop simple pre-entry skill for an occupation. The experience for many of the students may determine whether or not they will stay in school. Also, a student may select from available work study programs one in which he became actively involved as an IV student.

The study shows that IV students did search for a self concept as a worker. Many students had plans firmly crystallized during the course. Others, however, were unable to find themselves. For such students vocational counseling was not always possible. IV teachers did try to make suggestions to the student with

mixed feelings about his calling. Often, however, the IV teacher had no training as a counselor and was unable to give professional help to the student. Guidance counselor cooperation with IV teachers during this phase of the program was warmly received. How to identify such students and how to fit them into the counselor's already heavy load was most difficult. Yet the concern was great for students who could not establish direction to his vocational life. Simple solutions to his problems were unavailable.

Students should become more sharply aware of the values and dangers of their proposed callings in order to view them in proper perspective. The adult world of work will not come as such a shock when the young worker knows beforehand what joys and harms to anticipate.

The IV course is a novelty. Like all novelties if it is not regenerated it soon fades. Constant alteration of the course toward increased relevance for the student is recommended. Some materials could be programmed, more on the job experiences and improved methods of self evaluation are but a few ways to acquire new vigor.

Finally, frequent follow-up of both control and experimental group will determine the degree to which IV affected the destinies of young North Carolina ninth graders. Annual re-evaluation of the students will permit the charting of their vocational development.

SUMMARY

Introduction to Vocations (IV) is a new course instituted in the ninth grade curriculum in selected schools in North Carolina. The course familiarizes the student with the world of work, economic factors related to labor, current employment trands, and training requirement for the several careers. In addition, students were tested to determine aptitudes and vocational interests. Scores were explained, discussed, and correlated with information acquired about occupation. Low concepts of self as workers, occupational misfit, and constant revision of employment needs and trends within the economy of the United States were sufficient justification for offering the course.

IV teachers were selected by their superintendents to attend a summer training institute. Teachers were recruited largely from vocational agriculture, industrial arts, home economics and guidance fields. Supervisors of the project planned two approaches to the IV course. One was to be the individual teacher instructional plan and the other was to be a team approach involving the IV, English, mathematics, and science teachers. The summer training institute, therefore, included subject matter specialists, also.

The outline for the course was developed by H. E. Beam. Lesson plans and activities were contained in it. The teachers discussed and implemented the several ideas presented in the outline. During the academic year 1963-1964, the teachers could orient themselves to the several IV topics by using the outline. Wide latitude was provided the teacher, however, to elaborate upon the outline and to introduce new ideas.

Plans were made in August for evaluating the outcomes of the project. The questions one asks limits the kinds of information the research worker will be able to obtain. While there are many possible outcomes to evaluate, only a few were selected for study. As a result many knowledge and attitude changes were not studied at all.

Certain beliefs guided the phrasing of the research questions. It was believed that the IV course would make such an impact on the students that he will become more serious as a potential worker. Changes in aptitudes and vocational interests, therefore, were predicted. Vocational thoughts of the young adolescent are known to be a result of fantasy and wishing. It was predicted, therefore, that a fact oriented occupational information and self inventory course would develop more realistic thoughts about the world of work. The course, it was further

expected to become more concerned with the features inherent in their career choice than with irrelevant factors. Educational requirements of careers were to be more easily grasped. Greater awareness of the joys and dangers of careers was anticipated. A more active seeking of occupational information was expected. For that matter, vocations were to be the orienting foci of the students' lives. Achievement in the course, it was believed, could be explained on the basis of known characteristics of the students. Team teaching, it was hypothesized, would yield better achievement results than the individual approach. Because of the multidimensional nature of this project and because computer programming has advanced markedly, many interrelationships could be found even though they were not intentionally sought.

Growth in knowledge and changes in attitudes appear to take place as a function of time. It was impossible to determine whether the outcomes of the course were realized if a second group similar to the IV students received no training. The superintendents of schools offered in addition to IV students comparable students to serve as a control group. Statewide, it may be said that there were few initial differences in aptitudes and interests between the two groups.

The validities and reliabilities of the tests used were designated to point out the degree to which the findings presented may not be completely faithful or accurate. Chance factors, it is well known, operate in any testing situation. They cause the observed test scores to fluctuate around the true scores. The tests used in this study were the Multiple Aptitude Tests (MAT); The Picture Interest Inventory (PII), Standardized tests published by the California Test Bureau, the Business Information Survey (BIS), My Career, and the final survey, unstandardized tests developed by the writer especially for this project. The MAT measure specific aptitudes like verbal, spatial and numerical. PII yields scores on vocational interests in interpersonal relationships, mechanics, nature, business, words, and numbers. BIS yields two types of scores: Objective and Subjective. The Objective scores reveal the degree to which the students' ordinal arrangements of seven major career groups agree with their actual arrangements for employment opportunities, mental ability requirements, earnings, and prestige. The subjective scoring key reveals the degree of relationship of the students' arrangements of the careers with his own career plans. My Career reveals the kinds of careers students plan to enter, reason for entry, educational requirements, traits required, joys and dangersanticipated, and steps taken to learn about the career. The final survey was a series of true-false items about economics,

occupations, and other facets of the world of work. Items were taken from the content of the IV courses taught throughout the State.

Students were tested at the beginning of the academic year and again seven months later. The second set of scores were compared with the first. Changes in aptitudes and interests of both experimental and control groups were not different from chance. High group scores on pretests were lower on retests; low pretest scores were higher on retests. This is the familiar "regression toward the mean" phenomenon which takes place during retests merely due to the original statistical deviations or errors which cause scores to fluctuate. The hypotheses dealing with improvement in the IV group in aptitude and interests were not tenable. The individual members of the IV group did change considerably in their aptitudes and vocational interests. These changes for individuals far exceeded changes made by the individuals in the control group. Greatest changes were noted for the following characteristics: aptitudes for arithmetic reasoning, applied science and mechanics, and interests in mechanics, business, esthetics, science, words, numbers, period of career training.

These findings should be viewed in the context of the scores originally obtained on the two groups. In reference to the national average, the groups were above average for the following aptitudes: word meaning, arithmetic computation, applied science and mechanics, and spatial relations - three dimensions, but below average in paragraph meaning, arithmetic reasoning, and spatial relations - two dimensions. The vocational interests at or above average were interpersonal relationships, nature, words; below average were interests in mechanics, business, esthetics, science, numbers, and time perspective. The low reading comprehension scores, moreover, confirm the teachers judgment that students were inadequate. To explain achievement on the final survey, the several aptitude and interest scores were examined. Although all correlations were low or moderate, it was clear that intensity of interest in vocations explained achievement in the course to a far greater extent than did any of the aptitudes, including reading ability. While the data obtained could not be said to explain all achievement in IV, they nevertheless provide clues to the importance of initial vocational interests in attaining the goals of the course. Team teaching, contrary to the hypothesis, was not observed to influence the achievement test scores any more so than did the individual approach. Size of school, moreover, was also not found to be related to scores on the achievement test.

To study the subjective factors associated with vocational interests, the My Career inventory was administered to control and IV group in September and

again in April. Few differences appeared between the two groups and between administrations. The category most frequently chosen was professional; next, technical; next, operative; next, clerk; next, service; next, farm owner; least, merchant. Between administrations, the control group was found to be more consistent. That is more career choices changes in the IV group. The career group to which the IV students switch is the "professional." With respect to the training requirements for the career, there appeared to be few differences between the groups. Most students have general and relevant information about their choices. Next to be considered was the maturity of reasons for selecting a career, there was a slight, but statistically significant tendency for the IV group to give more mature reasons for selecting their careers. Although many of the reasons for both groups were similar, the IV group gave more reasons for entering a career that were related to inherent features of the job. The IV group cited "personality" as the most important trait necessary for their chosen career. "Personality" was also cited as the major trait necessary but absent. The IV group, in addition, was more aware of dangers inherent in the job. The maturity of explanations of dangers was found to be greater in the IV group. Career choices were discussed most often with members of the family. The IV group tended more to discuss their plans with teachers and counselors than did the control group. The IV group tended to do more reading about their vocational choices. Finally, the alternative choices were compared with original choices after all careers were rescored according to Roe's system of classification. The IV group was observed to select alternative choices of the same level of responsibility; whereas, the control group selected alternative choices of different levels of responsibility. In addition, more IV students selected the same field of interest. This was observed less often in the control group.

Some common factor was believed to account for the judgments of earnings, openings, mental ability requirements, and prestige of the careers. This was determined on the basis of rankings of these attributes on the Business Information Survey. Receiving the lowest rankings on these attributes were the service careers, moderate rankings were received by the clerk and operatives, higher by the technicians, and the highest by the professions.

It had been hypothesized that the IV group would become more realistic in the perception of the several attributes of the world of work. Five of these attributes were examined in the BIS. The differences between the IV and control group both at the beginning and end of the academic year were generally negligible, making such hypothesizing untenable. The career entry plans for the IV group was

more closely to the perception of job openings than those of the control group. Although the hypotheses concerning the added perspective of the IV were not substantiated, several observations were made which add to our understanding to the prevocational behavior of adolescents. The ninth graders understood fairly well what were the relative positions of the several careers with respect to earnings, job openings, and mental ability requirements for careers. Their grasp of the ordering of the careers according to prestige was fair. The number of people employed in the several careers was not known to them. The subjective element in judging the attributes of the several careers was quite apparent in both groups, although more obvious in the IV. The judgments about the number employed, job openings, and prestige were more closely related to personal plans for entering the careers than they were for the actual ordinal arrangements of the careers with respect to these attributes. Judgments of earnings and mental ability requirements were found to be more closely related to the correct ordinal arrangements of the careers. IV students, then, not only perceive the attributes of the world of work more in light of their own plans than of the objective reality, but they perceive them subjectively to a far greater degree than do the control students.

The IV students heartily endorsed the course. They recommended that all students be permitted to take it. When asked what they learned in the course which they could not learn elsewhere, they cited the several types of occupational information. To them the advantages of the course was the learning about jobs and finding out what were their vocational aspirations. Few activities were disliked by the students.

The writer recommends a sharpening of the instructional approaches, emphasizing student self discovery, teaching relevant note taking, taking more field trips and assigning basic texts. Greater financial support is necessary. As important as this is, though, of far greater urgency is for the teachers to know how their students perceive their own vocational choices, interests, and aptitudes. Relating these to the educational requirements and employment openings in these careers is the zenith of the course.

Although some hypotheses were found tenable, most could not be accepted on the basis of data obtained. Yet this research has spawned several suggestions for revising the approaches to the IV class. In addition, several new facets of the prevocational behavior of adolescents were uncovered.

REFERENCES

Abercrombie, J. L. J. The Anatomy of Judgment. N. Y.: Basic Books, 1960.

Baer, J. F., and Roeber, E. C. Occupational Information. Second edition. Chicago: Science Research Associates, Inc. Chicago, 1958.

Beam, H. E. Introduction to Vocational Education: A Suggested Course Outline. N. C. State of the University of North Carolina at Raleigh, School of Education, 1963. Unpublished.

Buehler, C. Der Menschliche Lebens Lauf Als Psychologisches Problem. Leipzig: Hirzel, 1933.

Chansky, N. M. A Suggestion for Measuring Idiopathic Behavior. Journal of Educational Research. In Press.

Dole, A. A. A Study of Values as Determinants of Educational-Vocational Choices in Hawaii. Coop. Res. Project, No. 757, Nov. 1961.

Eckert, R., and Marshall, T. O. When Youth Leave School. N. Y. McGraw-Hill, 1938.

French, W. Behavioral Goals of General Education in High School. N. Y. Russell Sage Foundation, 1954.

Galler, E. H. Influences of Social Class on Children's Choice of Occupations. Elementary School Journal, 1951, 439-445.

Ginzberg, E., Ginsburg, S. W., Axelrad, S., and Herma, J. L. Occupational Choice, N. Y. Columbia University Press, 1951.

McArthur, C. Long Term Vailidity of the Strong Test in Two Subcultures. Journal of Applied Psychology, 1954, 38, 346-353.

Miller, D. C. and Form, W. H. Industrial Sociology. N. Y. Harper, 1951.

Miller, H. P. Income of the American People, N. Y. Wiley, 1955.

Murphy, J. M. Handbook of Job Facts. Third edition. Chicago: Science Research Associates. 1963.

Murray, H. Explorations in Personality. N. Y. Oxford University Press, 1938.

National Opinion Research Center. Jobs and Occupations: A Popular Evaulation. Opinion News. 1947, 9, 3-13.

Parsons, F. Choosing a Vocation. Boston: Houghton Mifflin, 1909.

Roe, Anne. The Psychology of Occupations. N. Y. Wiley and Sons, 1952.

Schmidt, J. L., and Rothney, J. W. M. Variability of Vocational Choices of High School Students. Personnel and Guidance Journal, 1955, 34, 142-146.

Segel, D., and Raskin, E. Multiple Aptitude Tests. Monterey, Calif. California Test Bureau, 1959.

Small, L. E. A Theory of Vocational Choice. The Vocational Guidance Quarterly, 1952, 1, 29-31.

Snygg, D., and Combs, A. W. Individual Behavior. N. Y. Harper, 1949.

Stephenson, R. M. Mobility Orientation and Stratification of 1000 Ninth Graders. American Sociological Review. 1957, 204-211.

Stewart, Naomi. AGCT Scores of Army Personnel Grouped by Occupation. Occupations. 1947, 26, 5-41.

Stone, C. H. Are Vocational Orientation Courses Worth Their Salt. Educational and Psychological Measurement, 1948, 8, 161-181.

Super, D. E. Dimensions and Measurement of Vocational Maturity. Teachers College Record, 1955, 57, 151-163.

Super, D. E., Crites, J., Hummel, R., Moser, H., Overstreet, P., and Warnath, C. Vocational Development: A Framework for Research. N. Y. Teachers College. Bureau of Publications, 1957.

Super, D. E., and Overstreet, P. L. The Vocational Maturity of Ninth Grade Boys. N. Y. Teachers College, 1960.

Super, D. E., and Crites, J. Appraising Vocational Fitness. N. Y. Harper and Row, 1962.

Warner, W. L., Meeker, M., and Eels, K. Social Class in America. Chicago, Illinois. Science Research Associates, Inc. 1949.

Weingarten, K. D. Picture Interest Inventory. Monterey, Calif.: California Test Bureau, 1959.

APPENDICES

A. BUSINESS INFORMATION SURVEY

B. MY CAREER

C. CLASSROOM OBSERVATION SCHEDULE

D. TEACHER CONFERENCE SCHEDULE

E. QUESTIONNAIRE TO TEACHERS

F. ACHIEVEMENT TEST

OBJECTIVE KEY

BUSINESS INFORMATION SURVEY

Name _____ School _____

Directions: Below are seven major types of businesses found in the United States. We are trying to find out how much information students have about each. Notice that there is a code for each. In answering the questions write the code letters in the appropriate place below in order from least to most:

Code	Career	Examples
C	Clerk or salesman	Secretary, store clerk, salesman
F	Farm owner	Farm owner
L	Laborer, service	Farm worker, servant, soldier
M	Merchant	Owner of market, store, factory
O	Operator	Truck driver, welder, beautician
P	Professional	Doctor, dentist, lawyer, teacher, nurse
T	Technician	Plumber, painter, carpenter, baker

Sample:

The Business I plan to Enter:

1. Least 1 _____
2 _____
3 _____
4 _____
5 _____
6 _____
Most 7 _____

Earnings of Business:

2. Least 1 F
2 L
3 O
4 C
5 T
6 M
Most 7 P

3. Number People in Business:

Least 1 F
2 L
3 P
4 M
5 O
6 C
Most 7 T

4. Future Job Openings:

	M	F
Least 1	L	L
2	F	F
3	C	O
4	P	M
5	M	P
6	O	T
Most 7	T	C

5. Mental Ability Requirements of Business:

Least 1 L
2 F
3 O
4 T
5 C
6 M
Most 7 P

6. Businesses of Honor, Prestige, Respect:

Least 1 L
2 O
3 C
4 T
5 M
6 F
Most 7 P

MY CAREER

Name_____ School_____

DIRECTIONS: Below are questions about the kind of business you would like to have as an adult. Please answer the questions below.

1. I wish I could become a _____(Name the business)

   because:
   1.

   2.

   3.

2. The kind of schooling and training I would need is:

3. This business requires: (a) the following traits I have:

   as well as (b) the following traits I do not have:

4. Some of the joys I expect in this work are:

5. Some of the dangers I will have to watch out for in this work are:

6. So far I have discussed my choice of a career with the following people:

7. So far I have done the following to learn more about my career choice:

8. If for some reason I am unable to enter this business, I will:

IVE Project
N. M. Chansky
Research Director

SCORING KEY FOR MY CAREER

Line 1	Score	Classification of Careers: Question 1	Examples
	0	No response	
	1	Clerk or salesman	Secretary, store clerk, Salesman
	2	Farm owner	Farm owner; ranch owner
	3	Laborer, servant	Farm worker, handy man, servant, policeman, soldier, bricklayer
	4	Merchant	Owner of market, owner of furniture store, owner of factory
	5	Operator	Truck driver, welder, concrete mixer operator, machine operator, beautician, pilot
	6	Professional	Doctor, dentist, lawyer, teacher, engineer, nurse
	7	Technician	Plumber, painter, carpenter, electrician, baker.
	8	I don't know	

Lines 2-5 Ranking by student of this career group on B. I. S.

" in 2 Earnings of business

" in 3 Future job openings

" in 4 Mental ability requirements

" in 5 Prestige

Lines 6, 10, 14 Reason - Structure

0 None

1. Undifferentiated: vague, generalized, referrants not clear

   a. I like it

   b. I enjoy it

   c. I want to do it

   d. I will feel satisfied

   e. It is challenging

   f. It is fun

   g. It is not boring

   h. It is not hard

   i. It is exciting

2. Differentiated: General attribute or correlate cited.
    a. I like being outdoors (or indoors)
    b. It pays well
    c. My father does this
    d. I like to work for others
    e. I like sports
    f. I like to travel
    g. I like to help sick people
    h. I like to play with chemicals
    i. I like to tinker
    j. I like to sew
    k. I like to work with people
    l. I like to plant seeds

3. Differentiated. Specific feature cited
    a. I like to race horses
    b. I like to invent new circuits
    c. I like to pass information on to others
    d. I like to work with motors
    e. I like to combine chemicals
    f. I like to raise cereals, geraniums, tulips

Lines 7-9
11-13
14-16

Content - Reasons

0 None

Predisposing factors

110. Past achievements, abilities, interests
    a. My ability to command
    b. I do it well
    c. I am good with my hands
    d. Does not require college

120. Wishes, beliefs
    a. I believe I will like it
    b. What I want to be
    c. I hope I will be successful
    d. I will see if I will like it

130. National needs: Social or economic
    a. I have a service obligation
    b. War in Vietnam
    c. Someone has to farm
    d. There are few good teachers

Influence

141. Models

a. My father does this

b. My brother is in the Navy

142. Direct: Pressure, coercion

a. My parents are making me

b. My family expects me to

Intrinsic Factors

210. Objects

a. I like animals

b. I like machines

c. I like children

220. Functions and Services: Observable behaviors

a. I like to pass knowledge on to others

b. I like to play music

c. I like to fix peoples hair

230. Correlates

a. I like to be out of doors (indoors)

b. I like to be around books

c. I like to work 12 months of the year

Consequences:

Self enhancement: Individual

311. Security:

312. Status: position in community, power, leadership, fame

313. General emotional: aesthetic

a. Work is enjoyable, exciting

b. Work is satisfying, permits self expression

c. Work is fun, challenging, not boring

314. Autonomy: I like to do things my own way

315. Order: I like to plan my own day

316. Sentience: I like to learn a lot, study, do research

317. Achievement

a. The pay is good

b. Thrill of making things

318. Excitement of discovery: see new places

319. Satisfaction with simple work - nontaxing, avoidance of responsibility, citation of abundant leisure.

Self enhancement: Social

321. Affiliation

a. I like to work with children

b. I like to be with people

322. Service, mediation

a. I like to help children learn

b. I like to help sick people

c. Relief of pain in patients

d. Watching my students succeed

323. Benefit to humanity: conquer disease, invention

Kind of Schooling

General:

Line 17 — 1 Seven years of college

2. Specific: Four years of liberal arts; 3 years of dentistry

Line 18 — 1. Relevant

a. Lawyer - 3-4 years of law school

b. Pharmacist - 4-5 years of pharmacy school

2. Irrelevant

a. Electrician - none

b. Plumber - four years of college

Lines 19 and 20 — Traits - present

10 Work habits

a. Dependability, persistence

b. Productivity, planning

20 Personality

a. Adaptability, tact, cooperativeness

b. Self control, confidence

c. Understanding of others

30 Work interests and satisfactions

a. Love of money

b. Like to travel

c. Like to be with children

d. Enjoy experimentation

40 Character

a. Sincerity

b. Honesty

50 Ability: General

51 Leadership

52 Communication: writing, speaking

53 Manual, mechanical

54 Organization

60 Physical

a. Vision

b. Hearing

70 Objectively unrelated to question

71 Training

72 Knowledge or experience

73 Sex

74 Race

75 Age

80 I don't know

90 No response

Lines 21, 22 Traits not present

Scoring system the same as for those present

Lines 23-25 Joys

Score the same as for consequences under reasons

Line 26 <u>Dangers</u>

0 No response

1. Natural

a. Flood

b. High winds

2. Inherent in job - not directly related to service

a. Competition - economic

b. Automation

c. Short contract

d. Low salary

3. Inherent in job performance

a. Handling insecticides

b. Handling bare wires

c. Writer's cramp

4. Inherent in Self: Inadequacy

a. Poor example

b. Impatience

c. Misleading others

Line 27 Score dangers for structure

5. Inherent in social climate
   a. Fear of failure
   b. Poor impression
   c. Rejection because of race, sex, age, religion
6. I don't know
7. No danger

Line 28 Discussed plans with

1 Family
2 Friends
3 Teachers
4 Guidance Counselor
5 Someone in career
6 Name of unclassified acquaintance
7 No one
8 Irrelevant

Line 29 What done

1 Read or studied
2 Talked with friends
3 Tried the work
4 Observed people in career
5 Nothing
6 Irrelevant

Line 30

Score	Career	Examples
0	No response or nothing	
1	Clerk or salesman	Secretary, store clerk, salesman
2	Farm owner	Farm owner
3	Laborer, servant	Farm worker, handy man, servant, policeman, soldier
4	Merchant	Owner of market, owner of furniture store, owner of factory
5	Operator	Truck driver, welder, concrete mixer operator, machine operator, beautician
6	Professional	Doctor, dentist, lawyer, teacher, engineer, nurse

	7	Technician	Plumber, painter, carpenter, electrician, baker
	8	Choose some related field	
	9	Choose something easy to do	
Lines 31-34	Ranking by student of this career group on B. I. S.		
	"	in 31	Earnings of business
	"	in 32	Future job openings
	"	in 33	Mental ability requirements
	"	in 34	Prestige
Line 35	Ranking on B. I. S. of chosen profession in my career		
Line 36	Ranking on B. I. S. sample of alternative profession in my career.		

IVE PROJECT

CONFERENCE QUESTIONS

Teacher _____ School _____ Date _____

1. How many students do you have in your class? _____

2. Do you find the size of your class to be feasible for teaching a course of this nature?
   a. Advantages of size
   b. Disadvantages of size

3. How were the students selected for this course?

4. How many field trips have you taken? _____
   a. What was the nature of it?
   b. Outcome:
      1. *Stimulate questions or research?*
      2. Any follow-up? Describe
      3. As you look back, can you think of anything that might have made the trip more effective?

5. What percentage of your classroom time is spent with:
   a. Textbook _____
   b. Lecture _____
   c. Projects Research _____
   d. Field trips _____
   e. Reports _____
   f. Visual aids _____
   g. Supplementary reading material _____

6. How do you feel about the adequacy of your instructional material?

7. What are some of the major problems you have encountered or anticipate?

8. What recommendations could you make?

9. How would you evaluate the response to this program?

	Favorable	Unfavorable
a. Administration	( )	( )
b. Parents	( )	( )
c. Teachers	( )	( )
d. Students (elaborate)	( )	( )

IVE PROJECT

CLASSROOM OBSERVATION

Teacher _____ School _____

No. in class _____ Date _____

I. Grouping used	Circle
1. Voluntary	1
2. Aptitude (specific)	2
3. Interests	3
4. Level of demonstrated general ability	4
5. Level of demonstrated general achievement	5
6. Required course	6
7. Other _____	7

II. Instructional Material

A. Room Atmosphere	Present	Used
1. Student display	1	1
<u>Underline</u> the words that best describe it		
(a) Original, interesting, stimulating, informative, read by many	1	1
(b) Drab, uninteresting, unrelated, unorganized, ignored by many	2	2
2. Display by teacher	2	2
(a) Original, interesting, stimulating, informative, read by many	1	1
(b) Drab, uninteresting, unrelated, unorganized, ignored by many	2	2
3. Supplementary reading material	3	3
4. Reference Files	4	4
(a) Occupational information	1	1
(b) Information on economic systems	2	2
(c) Personality data	3	3
5. Visual aids equipment	5	5

B. Impact of instruction on students (two 10-minute samples)

1. Number questions asked by teacher _____
2. Number questions asked by students _____
3. Number people asking questions _____
4. Number times students offer information _____
5. Number of manifestations of disrespect _____

III. Method of Teaching

1. Lesson objective stated at beginning of class	1
2. Question and answer	2
3. Lecture	3
4. Grouped instruction	4
5. Reports of committees	5
6. Research	6
7. Visual aids	7

IV. Use of Information

	Yes	No
A. Teacher encourages		
1. Synthesis of information	1	1
2. Generalization of information	2	2
3. Comparison of information	3	3
B. Teacher relates information to experience	1	1
C. Students relate information to experience	1	1

Describe _____

_____

_____

_____

_____

V. Projects are:

1. Chosen by students	1
2. Asked for by students	2
3. Assigned by teachers	3

Questionnaire - I.V. Teachers

The I.V. course is about ten months old. You are now in a position to give us some information which will help us plan next year's program. Prompt return of this questionnaire will be appreciated. Thank you. Use additional sheets if necessary.

1. Name the texts you used, tell if they were distributed to students, and state how many weeks you used them.

Text	Given to Students	Length of Use
1.		
2.		
3.		
4.		
5.		

2. What were the best films you used?

Film	Company	Purpose
1.		
2.		
3.		
4.		
5.		

3. What field trips did you take?

1.

2.

3.

4.

5.

4. What topics did visiting speakers cover?

1.

2.

3.

4.

5.

5. How much did the following help achieve course goals?

Activity	Very Little	Much	Immense
Teacher lecture			
Student reports			
Films			
Field Trips			
Visiting Speakers			
Group Projects			
Shop Work			
Community Survey			
Job Survey			
Self Study			
Student Diary			
Correlation with Subject Matter			

6. What phases of the course would you delete next year?

7. What is not being taught that should be included next year?

8. What program should be provided next year for this year's I.V. students?

FINAL SURVEY - I.V. STUDENTS 1963-1964

PART I

DIRECTIONS: Below are 69 questions which may be answered TRUE or FALSE. Make no marks on the paper other than an X in either T or F columns.

T	F		
(90)	(30)	1.	A worker is more apt to be fired because he is hard to get along with than because he is unskilled.
(26)	(74)	2.	Most employers are more interested in an applicant's appearance than in his school record.
(89)	(11)	3.	It is easier to develop an interest in typewriting by typing yourself than it is by reading a story about typists.
(62)	(38)	4.	A good worker will find nothing boring in his job.
(53)	(47)	5.	Although there are no right and wrong answers to ability tests there are right answers for interest tests.
(19)	(81)	6.	An adult's vocational interests change very little from those he held as a third grader.
(91)	(9)	7.	A person interested in using tools should probably become a forest ranger.
(84)	(16)	8.	A hobby, like sewing or working on cars, helps release one from everyday worries and tensions.
(58)	(42)	9.	If someone receives occupational therapy in a hospital, this means he is given an opportunity to get better by drawing, painting, weaving, or making things.
(62)	(38)	10.	A hobby such as chemistry might prepare you for a job in professional or mechanical work but not in the general clerical field.
(54)	(46)	11.	Although homemaking is a career for many women it is not listed in the Dictionary of Occupational Titles.

(57) (43) 12. Women working in the same occupations as men tend to be paid the same wages.

(44) (56) 13. Today, very few assembly line workers have a single task which they routinely perform on the job.

(36) (64) 14. Today, most workers can be trained for an occupation and never need any retraining.

(74) (26) 15. Throughout the United States, more people are graduating from high school than ever before.

(93) (7) 16. Schools are beginning to adopt supervised work experience programs to keep possible dropouts in school.

(79) (21) 17. For information about public vocational schools it is better to write the Director of Vocational Education at the Department of Public Instruction in North Carolina than to write the Superintendent of Public Instruction.

(81) (19) 18. Technical schools have been developed in answer to the need of industry for nonprofessional workers with training beyond high school.

(81) (19) 19. Factors most often considered in accepting a student for college are aptitude scores and achievement in high school.

(67) (33) 20. Apprentices for most crafts require about 52 weeks of training.

(60) (40) 21. An apprentice averages close to 75 per cent of the skilled worker's pay during the period of his apprenticeship.

(69) (31) 22. For every three months of on the job training, an apprentice spends one week in class.

(60) (40) 23. The first job held by a high school graduate is more apt to have been obtained through Employment Security than through friends and relatives.

(77) (23) 24. A student will accept a job only if he can make $50 per 40-hour week. He is offered $1.25 per hour. Will he accept it?

(18) (82) 25. The profession with the largest number of workers is dentistry.

(44) (56) 26. There is a much greater demand for elementary school teachers than for high school teachers.

(92) (8) 27. There are jobs available for lawyers in private practice, government, and business corporations.

(80) (20) 28. A Certified Public Accountant must demonstrate competence to a State examining official before he may use the title.

(11) (89) 29. A draftsman should be able to draw but does not have to know much about math or science.

(60) (40) 30. The tree surgeon does not have to climb trees but should know how to graft.

(65) (35) 31. About one in three grocery stores fail each year.

(92) (8) 32. To operate businesses, the managers are generally required to obtain licenses or permits.

(60) (40) 33. Most, but not all slaughtered meats are inspected by a Federal agent who stamps his acceptance on the meat.

(50) (50) 34. Filing clerks need little direct training but they should be accurate readers.

(57) (43) 35. The duties of most secretaries are limited to typing and dictation.

(88) (12) 36. Today there are machines which translate little holes on an IBM card into words, including the balance due on accounts.

(83) (17) 37. One reason why fewer homes employ maids today is that appliances can do their jobs with utmost speed.

(26) (74) 38. Practical nurses no special training.

(88) (12) 39. The United States Government has undertaken to teach members of the armed forces a trade as well as the skills of war.

(48) (52) 40. A city boy studying biology is more apt to become a farmer than a boy whose father farms.

(36) (64) 41. To be known as a dairy farmer, no wheat, cotton, or tobacco may be grown.

(57) (43) 42. Sons of fishermen are more likely to become fishermen than any other youngsters.

(38) (62) 43. There are more mechanics and repairmen than there are carpenters, electricians, and plumbers combined.

(57) (43) 44. There are almost as many men in the crafts as there are women.

(66) (34) 45. A tool and die maker could develop the dies for forging automobile fenders.

(47) (53) 46. In the building trades there are more carpenters employed than electricians, plumbers, and brickmasons combined.

(60) (40) 47. A finish carpenter builds wooden structures, erects scaffolds, and lays sub-floors.

(30) (70) 48. In most cities, it is not necessary for a plumber to have a license.

(77) (23) 49. Operators may be found in cigarette, paper, metal, leather and textile industries.

(80) (20) 50. Labor organizations were formed to improve worker conditions and wages by bargaining with management.

(54) (46) 51. A strike is the laborer's way of getting even with the bosses when they treat him badly.

(49) (51) 52. A closed shop refers to the fact that only non-union members are allowed to work there.

(87) (13) 53. If a worker is injured on the job, whether it is due to his own carelessness or the negligence of his boss, he is entitled to money benefits.

(92) (8) 54. If a worker who has been paying Social Security should die, monthly checks are sent to his widow and children.

(70) (30) 55. The Taft-Hartley Act prohibited the closed shop and required unions to file financial statements.

(72) (28) 56. Civil Service operates in this way. Someone wants to work for the government. He meets whatever requirements are set up for the job. His name is then placed on Civil Service list. Finally, he is recommended by his local congressmen.

(37) (63) 57. The Federal Bureau of Investigation is the only police force operated by the Federal Government.

(55) (45) 58. A rural postal delivery man who has a six mile route in which to deliver his mailwill receive a lower pay check than one who has a fifty mile route.

(76) (24) 59. A person may become a part owner of a business corporation by buying stock. Such a person, however, is not responsible for selling any products.

(82) (18) 60. A personnel department will, on the basis of tests and interviews, choose applicants for positions in a company.

(64) (36) 61. Mass production refers to the fact that each worker performs the same one job in turning out a product.

(29) (71) 62. Employers in the textile industry have no preference for younger workers.

(74) (26) 63. Economic conditions today are such that if one is trained for a trade, there is a good chance he will be retrained for that or some other job several times in his life.

(42) (52) 64. A supervisor rating a worker on dexterity and manipulation is probably rating his physical strength.

(70) (30) 65. Should you be rated on industry, you are being rated on how well you apply yourself.

(57) (43) 66. You will be rated on productivity. This means how thorough you are.

(76) (24) 67. If you prefer filing letters to repairing motors this is known as clerical ability.

(77) (23) 68. If you file letters two times as fast as your neighbor, we would say you have greater clerical skill.

(49) (51) 69. More people are employed as operatives than in any other type of work.

VT 003 556
Scannell, Edward E.
Off-Campus Responsibilities of Distributive Teacher-Educators. Professional Bulletin Series Number 4.

Council for Distributive Teacher Education Services
Iowa State Coll., Cedar Falls. Distributive Education Services
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 63 33p.

*DISTRIBUTIVE EDUCATION; *TEACHER ROLE; *TEACHER EDUCATORS; CONSULTATION SERVICES; *TEACHER RESPONSIBILITY; INSERVICE TEACHING; NATIONAL SURVEYS; QUESTIONNAIRES; DISTRIBUTIVE EDUCATION TEACHERS

Off-campus services typically offered by distributive education teacher-educators are described. Questionnaires were returned by 32 of the 34 distributive education teacher-educators contacted in 26 states. Replies of the 23 respondents from 16 states engaged primarily in a teacher-educator function were used for the report. The results included: (1) The median allocation of work load was 42.3 percent for teacher education, 27 percent for off-campus activities, 18.2 percent for on-campus administrtion duties, and 12.5 percent for other activities, (2) The average teacher-educator taught 8 credit hours per week, (3) Over 80 percent of the teacher-educators had reduced campus loads to offset off-campus activities, (4) Over half 52.2 percent, offered professional courses for credit off the main campus, mostly as needs in the area arose, (5) Over 90 percent scheduled individual visits with their coordinators, (6) 91.3 percent had a planned program of inservice education, (7) 95.6 percent visited local schools for consultation about starting distributive education programs, (8) 73.9 percent had responsibility for campus student teachers, (9) 69.5 percent assisted in checking state high school program effectiveness, and (10) 95.6 percent were involved in planning their state coordinator conference. Comments of the respondents, the questionnaire with summary data, and a list of participants are included. (MM)

VT 003 556

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COUNCIL FOR DISTRIBUTIVE TEACHER EDUCATION

PROFESSIONAL BULLETIN SERIES

NUMBER 4

Off-Campus Responsibilities of Distributive Teacher-Educators

Edward E. Scannell
State College of Iowa
Cedar Falls, Iowa

This bulletin was produced and distributed by:

Iowa Distributive Education Services
Department of Business Education
State College of Iowa
Cedar Falls, Iowa
1963

VT003556

OFF-CAMPUS RESPONSIBILITIES OF DISTRIBUTIVE TEACHER-EDUCATORS.

CDTE Study Number 4

Edward E. Scannell
Distributive Education Services
Cedar Falls, Iowa

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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FOREWORD

The Council for Distributive Teacher Education was organized in 1961. Membership in the organization consists of teacher-educators and other distributive education personnel with an interest in advancing distributive teacher education. CDTE has as one of its primary interests research and publication. Hence, the emphasis upon this the fourth CDTE research report.

Mr. Scannell was chosen to direct this study because of his particular professional interest and competence in adult education and field services. He has done a thorough, careful piece of work and deserves the gratitude of all members of CDTE.

This report was edited by the president of the organization and published through the courtesy of the State College of Iowa. Requests for copies from non-members should be addressed to Mr. Scannell.

Peter G. Haines
President, CDTE

September, 1963

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INTRODUCTION

In Distributive Education, the two words "Teacher-Educator" carry special significance. His position is both unique and challenging: unique in the sense that the influence of his teaching knows no geographic boundaries; challenging in the sense that his professional responsibilities extend throughout his state to every local distributive education program. While other instructors on his campus may feel that with graduation, their work with former students is finished, the distributive teacher-educator realizes that is actually only the beginning. The "teacher-student" relationship on the campus transforms into a "teacher-teacher" relationship and close harmony and communication with his coordinators and other distributive education personnel in the field is the result.

Obviously, this professional liason assumes a close personal contact with recent graduates as well as seasoned coordinators. This in turn, necessitates the teacher-educators leaving the campus frequently in providing a continuous program of in-service education for his state's distributive education coordinators.

While the size and scope of these off-campus responsibilities may vary with the particular institution involved, there is enough similarity in purpose to note some commonly undertaken duties and to determine the types of off-campus services typically offered.

To define and describe these activities is precisely the purpose of this paper.

THE PROBLEM

While it is recognized that distributive teacher-educators must spend some time away from the campus, little information is available to show just how much time this typically involves nor the actual kinds of activities carried out. Questions occasionally arise about the sphere of operations off-campus that surround the work of a teacher-educator. These questions may concern the teacher-educator himself, or the administration of his college who must budget time and staff. Further, these items are also of concern for the state supervisory staff.

Some of these inquiries might include:

1. How should a college or university considering the addition of a teacher-educator for distributive education apportion his teaching schedule to allow for the off-campus work so vital for an effective program?

2. What types of professional credit classes should be offered away from the campus?

3. What shall be offered in terms of in-service education?

4. How often do present teacher-educators meet with their coordinators?

5. What kinds of consultation services do teacher-educators perform?

While the material presented herein reflects primarily the existing situation across the land, it should prove useful in answering the above questions as well as any others incidental to the off-campus activities of teacher-educators.

THE PROCEDURE

The proposed questionnaire which was to have been used in the study was pre-tested by a group of teacher-educators attending a sub-regional North Central Distributive Education Conference held at the State College of Iowa in the fall of 1962. The group was asked to comment critically on the questionnaire and to suggest revisions as to its improvement. An informal meeting was also held at that time with Dr. Peter G. Haines, President of the Council for Distributive Teacher Education and Professor Fairchild Carter of Indiana University. The

meeting was for the purpose of coordinating this study with one undertaken by Professor Carter concerning the teacher-educator's role in Adult Distributive Education. It was decided then, by mutual agreement, to delete some items from the writer's questionnaire in order to avoid duplication of effort between the two CDTE studies and to alleviate any possibility of repetitious questions on the two projects. Finally, the suggestions coming from the pretest were incorporated in the finalized questionnaire used in this report.

The questionnaire along with a cover letter was sent to all active members of the Council for Distributive Teacher Education. To ensure the inclusion of all teacher-educators, this list was checked against the Directory of Teacher-Educators of Distributive Education distributed by the Distributive Education Branch, United States Office of Education. As a final check, the CDTE list of associate members was consulted and any others shown with the title "Teacher-Educator" were included in the study.

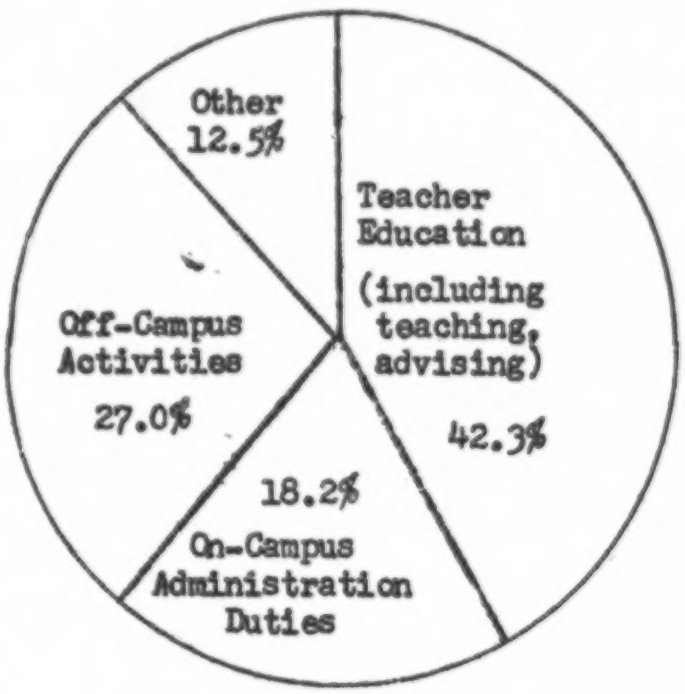
Thirty-four questionnaires were mailed out to teacher-educators in twenty-six states. Thirty-two or 94.12% were returned. Several of the returned sheets were accompanied with a note from the sender commenting that the questionnaire was not applicable to their position. A few more were deemed non-usable after an analysis of the information on the return indicated that the respondent was not engaged primarily in a teacher-education function, or that the particular duties shown would not have been representative of the group. This was done in three cases, but only after a check with the teacher-educator at the State College of Iowa for concurrance. Twenty-three replies from sixteen different states were used for the report. (See appendix for list of respondents)

FINDINGS, PART I: GENERAL

The results of the study are presented in this manner: the numerical and alphabetical symbols used in this section correspond to the ones used in the actual questionnaire. For quick reference, the statistical ratings are again indicated on the questionnaire itself. (See appendix) After each question, the writer has summarized the data and made a few comments which are then followed by comments from the respondents. In most cases, these notations of the teacher-educators should prove very beneficial to the reader since they illustrate the variety of ways the several states handle off-campus work.

A. ALLOCATION OF WORK LOAD

In order to arrive at a composite picture of the group's work load, the teacher-educators were asked to show how their time is allocated in the areas of on-campus administration, campus teaching, off-campus activities, and any other duties not covered in these three divisions. The chart below shows the average time spent proportionately by the group.



RELATIVE TIME ALLOCATIONS OF DISTRIBUTIVE TEACHER-EDUCATORS

As the chart illustrates, more than 40% of the "average" respondent's time, or about two days a week, is spent in teaching and other teacher-education activities. Surprising to some might be the fact that over a quarter of his time is devoted to off-campus activities. To lend a sympathetic ear to the often-heard statement of administrative detail, the results show almost 20% of the week's time is spent on administrative matters. An average week would allow this educator a little more than 10% of that period--roughly a half-day's time--for other duties. Typically, this comprises time for research, professional writing, and in a few cases, professional organizations. The duties actually assigned the group of teacher-educators include sponsorship of the State Distributive Education Clubs of America, preparation of promotional and other Distributive Education materials, directing the work of field instructors, guidance, placement, and recruitment. Still others mentioned they have responsibility for the organization and supervision of the campus work-experience program for business education students.

The time expended for on-campus teacher-education ranged from 15% to the high of 100% with 40% the median but 25% the mode. For off-campus activities, another broad range was shown with replies starting at 0% and continuing on up to 80%. The 20% figure was most often cited, and this percentile was also the median.

The on-campus administration division witnessed the same type of variety. With a low of 0%, the respondents ran as high as 75%. The median time was 15%, but an equal number (22.7%) indicated either the 10% or 25% figures.

Of the respondents who gave time to "other" activities, their figures stretched from 5% to 50% with time for research most often mentioned.

The time breakdowns above were interpreted to be on the basis of a regular work week. Admittedly, any assumption by the writer that a

distributive-educator, whether it be on the high school, post high school, college, or adult level, works only an "8 to 5" day is obviously erroneous. Therefore, the time allocations may be subject to a slight measure of inaccuracy since there is no way of knowing how many hours the respondents consider to be a "normal" day!

B. CREDIT HOURS TAUGHT

To get an idea of how many campus classes are conducted by teacher-educators, they were requested to enumerate the number of credit hours taught weekly. Again, a rather wide range was in evidence; one respondent taught an average of three credit hours while others were charged with as many as fourteen. The average distributive teacher-educator, however, teaches a little less than eight credit hours per week. Certainly the amount of time available for off-campus work will be greatly affected by the teaching load on the campus. Although this question might appear inappropriate at first glance, it was used in order to see what provisions are being made in terms of lighter loads so that field activities, etc. might be cared for.

COMMENTS REGARDING TEACHING SCHEDULES:

"Teaching load varies with committee and other assignments."

"Load reduced when assigned to other duties."

"Unofficially, provision is made for off-campus activities, research, and various professional activities."

"The teaching load varies with the amount of off-campus activity required."

"We calculate loads in this order: a standard load is twelve quarter hours. All major activities are calculated on this basis; for example:

Instructor A - 12 hours (4 actual courses)
Instructor B - 12 hours (2 courses plus equal)
Instructor C - 12 hours (no courses but an assignment equivalent for research)"

C. VARIATION OF LOADS BY SEMESTERS

Because of the difference in size of the various teacher-education programs across the land, some instructors may tend to concentrate certain classes in a particular period; thus one quarter (semester) might appear to be lighter than another. In an attempt to offset any such situation showing up in Question B regarding teaching load, the respondents were asked to comment if the teaching schedule did vary to any extent from period to period. A few educators stated that the spring quarter was usually the least heavy, but two others reported that fall is their lightest period. Apparently, the only conclusion to be drawn for those on the quarter system is that winter is not typically recommended for travel!

Of the almost half (47.9%) who indicated any marked difference from semester to semester, there were some significant points explaining the reasons for so doing.

COMMENTS REGARDING SEMESTER CHANGES:

"Spring quarter is light since most graduate courses are offered fall and winter."

"During fall and winter quarters I teach 10-12 quarter hours, but only 6 in the spring."

"All of my off-campus activity duties are carried out during the fall quarter, so I have no teaching load then."

"For fall quarter, the emphasis is on supervision and in-service teacher training--usually no formal campus classes."

D. FACULTY CREDIT-HOUR LOADS

The object of asking the respondents to state the average faculty credit-hour load for their campus was to determine what ratios exist between other faculty members and distributive teacher-educators. It

follows, of course, that to provide for a well-balanced off-campus program, the distributive teacher-educator should be given a reduced campus load. Happily, in over 80% of the colleges and universities, this is the actual case. The ratios range as high as 4:1 for one teacher-educator to 1:1 for three others. When individually compared to other faculty members, exactly half of the teacher-educator group teach a half-load or less.

The average, however, for all teacher-educators shows 7.66 hours of teaching fortho D. E. faculty as compared to 13.00 for other faculty members.

FINDINGS, PART II: PROFESSIONAL OFF-CAMPUS ACTIVITIES

A. TIME ALLOWED FOR OFF-CAMPUS DUTIES

Turning now to the time devoted for all off-campus duties, the group reported the approximate number of days they try and set aside weekly for these activities. The largest single group (43.5%) try to schedule one day a week; 13.1% usually spend two days a week in the field; and 21.7% allow three days a week for off-campus functions. The remainder have no definite times set aside for field work, and vary considerably in the actual number of days in any given week.

Because the respondents spending the three days weekly off-campus tended to have fewer campus classes than the majority of the respondents, their comments are presented separately.

COMMENTS REGARDING NUMBER OF DAYS ALLOWED FOR OFF-CAMPUS DUTIES:

1. Respondents spending three days off-campus.

"I also serve as area coordinator."

"I supervise 23 high school D. E. programs; also some adult classes at night."

"Due to in-service teacher-training and teaching adult D. E. extension classes."

"Responsible for supervision and promotion of Coop Program."

2. Respondents spending none, one, or two days off-campus.

"Varies depending on time of year, but overall average would be about two days a week. When seniors are away from classes, I do much off-campus work."

"This (one day) is an average. When I go to the southern part of the state, it's a week at a time."

"This time varies, due to need, from no days per week to six days."

"Take time as necessary, but it averages one and one-half days per week including professional conferences and association meetings."

"I don't "allow" any. I take it as it comes with no planned schedule."

"No definite schedule."

"One day weekly to teach an extramural class."

"No specific off-campus duties assigned. However, I participate occasionally in the following off-campus activities: Supervision of student teaching, consultation with coordinators and administrators, talks to various groups, teach adult evening courses, etc. I cooperate with the state supervisor in numerous activities upon request."

"Tends to run more than one day a week; however, if professional meetings were included time would be two days a week."

"We handle most off-campus duties while the seniors are off-campus, six weeks in fall, six weeks in winter."

B. CREDIT CLASSES

Just over half (52.2%) of the respondents offer professional courses for credit in areas away from the main campus. There appears to be little consistency, however, in the frequency of offering the off-campus classes. Only two schools teach these each semester while two others offer them each year. Half of the institutions offering off-campus classes do so as the need arises. Certainly this would vary greatly from state to state depending on the professional educational status of coordinators, state plan requirements, and perhaps proximity of the present D. E. or other Vocational Education Programs.

COMMENTS:

"We offer one course, usually second semester."

"During the past seven years, we have had an off-campus course every year."

"This (off-campus class work) hasn't been done for several years. When distributive teacher-education was new, we conducted extension classes. Now, our local personnel are completely certified and it is not economically justifiable. Nearly 100% of our new teachers have completed the undergraduate D. E. major. About 75% then return for Master Degree work in the summer."

"We have a regular schedule around the state in our extension centers, but also schedule extra courses when a group requests them."

1. Institutions offering off-campus classes were asked to identify the classes taught in the past two years and to state the approximate enrollment and distance away from the campus. The courses named and number of times offered are:

Organization and Administration of Distributive Education	4
Coordination Methods	3
Principles of Vocational Education	2
Salesmanship Methods	1
Directed Study Reading	1
Renewal of Occupational Experience	1
Methods in Distributive Subjects	1
Seminars in Distributive Education	1
Problems in Cooperative Business Education	1
Human Relations and Supervisory Training	1

One teacher-educator offered three classes--each was taught about 100 miles from his campus. Another carried his teaching chores 130 miles from "home base." In terms of class enrollment, numbers ranged from 18-40. A few of the teacher-educators mentioned that these off-campus classes include other business education teachers as well as any other vocational education teacher. One respondent wrote, "If only D. E. people enrolled, the class would be too small to offer."

2. Of the teacher-educators who teach extension classes, one-third are paid extra for their efforts. Most, however, commented that this was part of their regular duties.

3. Only three institutions of the twelve offering professional extension courses charge the students a higher tuition fee. Eight colleges and universities keep their fees constant while one attaches a smaller fee for extension classes.

COMMENTS:

"I can work off-duty hours and teach business subjects."

"Could be, (paid additionally) if not designated as a part of base load."

"Rate (extra compensation) is lower than regular appointment rate. Travel is reimbursed."

"Although some of our staff members are paid extra, mine has always been part of my load."

"This (off-campus teaching) is considered part of teacher-educator's regular duties."

"One three-credit course per year is paid on an overload basis if the professor has a full load on campus. Otherwise, the extension course is counted as part of his load."

C. VISITATION TO COORDINATORS:

Over 90% of the respondents schedule individual visitations to their coordinators. Since the time involved with these visits would vary, of

course, with the number of programs in a state, it is highly encouraging to see such importance stressed to maintaining this close relationship. Two-thirds of the teacher-educators visit their new coordinators at least once during the academic year. Over a fourth (28.8%) visit all coordinators each year and over half make visitations when requested by the schools. One respondent mentioned he schedules visits only to his own former students unless so requested by the others.

COMMENTS

"I visit new grads in the metropolitan area. Also visit schools where I have student teachers."

"During first school semester, new coordinators are visited weekly; second semester at least once a month plus on-campus office conferences. Programs having experienced and good coordinators are visited every 6-8 weeks. (Respondent spends 65% of time off-campus.)"

"Classroom visitations are shared with an assistant state supervisor."

"I visit coordinators also when requested by state supervisors for evaluation purposes."

"I try to visit each new coordinator and observe their DE class early in the fall. Several schools request this service as do some of our "older" programs."

"I sometimes visit first year teaching, but this function is the sole responsibility of the state supervisor of our state."

"I'll also visit them when I wish to learn something myself, such as seeing a new lab."

"Although I don't schedule individual conferences, I do go occasionally on request or because of my own curiosity."

D. IN-SERVICE EDUCATION

When asked about a planned program of in-service education, the group again presented an extremely good case with 91.3% of the returns answering in the affirmative. The group or area meeting seems to be the most commonly used approach by the teacher-educator. Not quite half (42.1%) conduct these meetings once a year. Two of the nineteen educators hold

them semi-annually while two others meet with their coordinators on a regular monthly basis. Six (31.9%) hold these meetings as the need becomes apparent, and one meets on request of his group.

A close second rating for popularity goes to the workshop on campus. Seventeen of the twenty-one affirmative responses stated they offer these workshops;eleven (64.7%) offer them every year while the other six provide for them as the need arises.

In-service training through individual consultations with coordinators are planned by 64.7% of the respondents. All but two of these are held as need arises.

COMMENTS REGARDING IN-SERVICE WORK

"Group meetings are held in cooperation with state supervisor."

"I checked "Yes," but it depends on meaning of "planned." We have no set number of visits, meetings, etc. However, we do plan extension courses to cover each area of the state. We also have independent study courses for coordination on the job."

"For the past several years workshops have been held on campus under the supervision of the Bureau of Business and Distributive Education, State Education Department. I have always served as a consultant at these workshops at the request of the State Supervisor and Chief of the Bureau of Business and Distributive Education."

"The coordinators usually meet as a group about three times a year. Since DECA is 100% in my state, all coordinators are together for the Delegate Assembly and the State Leadership Conference, so there is ample time for meetings. We have a formal coordinators workshop each fall too."

"We meet annually in connection with the State Vocational Association convention."

"We also have an annual conference."

"We usually have two or three visiting consultants in the technical and professional content areas. These may be business personnel or from the field of business. Coordinators contribute suggestions to a workshop planning committee."

E. SCHOOL CONSULTATIVE SERVICES

An overwhelming majority (95.6%) of the respondents visit local schools for consultation about starting D. E. programs. Twenty-two of the twenty-three teacher-educators assist the schools in this manner. The twenty-third actually may make an occasional visit but stated that this is usually the area supervisor's job. Several made the comment that the consultation service is usually rendered by the state supervisor, but they have done it at the supervisor's request.

F. SUPERVISION OF STUDENT TEACHING

About three-fourths (73.9%) have responsibility for off-campus student-teachers in distributive education. These duties range from a one-time observation to complete responsibility for placement and for preparation of supervisory coordinators. While six respondents said they have no direct responsibility, they do maintain contact by an occasional visit or request written report.

COMMENTS REGARDING STUDENT-TEACHING INVOLVEMENT:

"We take care of placement and pay two supervisory visits."

"The D. E. majors are my advisees and I recommend these locations for student teaching. I have responsibility for supervising the experience."

"Visit local schools for observation of teaching; conferences with supervisory coordinators, grading, etc."

"I am their major advisor. I visit them six times during the quarter and meet with them in seminars."

"(My duties are) making arrangements for placement, to prepare supervisory coordinators, to visit during period of practice teaching and to evaluate performance."

"To observe at least twice; other meetings with critic teacher."

"Visit practice-teacher three times a semester."

"I visit each one twice and more often if necessary. Methods class and student teaching are coordinated."

"I assist the Education Department with supervising students."

"This (supervision) is under a separate department, but I will also visit and supervise them."

"This (supervision) is the function of our resident student-teaching coordinator in each center."

G. EVALUATION ACTIVITIES

Sixteen (69.5%) of the respondents do assist in checking the effectiveness of their state high school programs. Predominantly, this is done only at the request of the school and/or the state supervisor. While it is commonly accepted that evaluation is primarily a supervisory function of the state staff, it is encouraging to note the high degree of cooperation between the state supervisor and his teacher-educator. Obviously, this teamwork is essential and these results strengthen that belief.

COMMENTS:

"Request may initiate with the state supervisor, but we must have an invitation from the school."

"Constant evaluation is the purpose of supervisory visit."

"I checked "no" since we make no formal evaluation. Of course, some requests come in to help us look at (some phase of program such as instructional materials)."

"We are maintaining a system of planned professional evaluations of one or two programs each year."

"All schools are evaluated once a year."

"Evaluation is not really a function. The staff reports items of note to the D. E. Supervisor."

"Because of the heavy student load, I have not been requested to render this service, but our department would accept the assignment if requested to do so."

"The State Supervisor and I work this out together. My evaluation is largely concerned with classroom instruction and the "educational soundness" of the total experience of the D. E. Student. The State Supervisor deals more with administrative problems, coordination problems, etc. We both are alert to-and aware of-the total program evaluation in our visits and are quick to alert the other if we see a weakness in any part of the total program."

H. PLANNED STATEWIDE EVALUATION

The respondents were almost evenly split in regard to planned periodic evaluation, twelve (52.1%) replied affirmatively while eleven (47.9%) don't have actual scheduled evaluations as such. Though a state may not have a rigid formalized plan, most all use many of the evaluative tools at their disposal with a good deal of frequency.

COMMENTS:

"School visitations are out of the State Board Office."

"This is our State Supervisor's responsibility. Regular visits and annual reports are required from the schools."

"We cooperate with the State Supervisor on this."

"Our State Supervisor does this annually."

"Each new program is evaluated at the end of the first year--after that every two years by the State Supervisor."

"Evaluations are not periodic, but held as needed."

"Not planned, but we have self-evaluations, and others if requested by the school or State Supervisor."

I. COORDINATORS CONFERENCE

Finally then, the respondents were asked to indicate their duties included with their state's coordinators conference. Again, almost an unanimous answer in the affirmative resounded with 95.6% checking "yes." The largest area of involvement is in the planning stages with twenty of the twenty-two replies indicating this function. Consultation duties ranked second with 81.8% mentioning this item, while 59.1% were frequently called upon as a resource person or guest speaker. Other areas involved general cooperation with state staff in all phases of the conference and other administration assistance.

COMMENTS

"Other duties may involve hospitality to special guests, preparation of materials, and training of those involved phases of the program."

"Duties differ each year, but always involved in planning."

"The supervisor directs--we perform staff functions."

"I cooperate with the state staff and our coordinators association in numerous ways."

"The teacher-trainers always assist in planning, but the final decisions are made by a committee of coordinators."

"This conference is held on campus every other year."

"I have full responsibility working with a committee composed of coordinators, state supervisor, and area supervisor."

"We have a two and one-half day statewide meeting in August and a one day area meeting in the spring. The state supervisor, teacher-educator, and every committee of the coordination association plan these meetings jointly."

CONCLUSION

The preceding pages confirm the fact that, on the whole, the nation's distributive teacher-educators are doing well in the needed and vital aspect of field services. Some of the figures look impressive and might even lead one to believe that little more could be done in this area. Complacency, however, is unwarranted. Although this study presents a healthy overview of the many off-campus activities performed, the critical reader will be quick to point out that there is still much to be done.

Some of the more apparent observations might well center around these items:

1. A few institutions must still be convinced that teacher-educators have a good case for reduced teaching loads. The many responsibilities that are all considered as "part of the job" attest to that.

2. As the number of teacher-coordinators increase annually, there might be need for more credit classes offered away from the main campus. Any such need, of course, can best be perceived by the teacher-educator.

3. The problem of communication is always a pressing one. The field activities of state supervisor and teacher-educator might be better coordinated. The reciprocal exchange of monthly reports to show planned visitations has much to recommend its use.

4. The further development of a meaningful in-service education program bears study. New coordinators especially need the constant help and guidance of a teacher-education staff.

5. Finally, the matter of program evaluation warrants comment. It would seem the responsibility for this should be shared by the teacher-educator and state supervisor. Joint visitations to each school would allow this evaluation team to appraise the respective parts of the program. This would be in addition to regular visitations even though evaluation is always essentially a part of these visits.

The enumeration of these few points by no means limits the items of concern. But no matter how long the list, mutual effort and mutual planning that is characteristic of most programs can easily overcome any minor problems. It is this type of cooperation that has enabled distributive education to enjoy the status it now holds.

SUMMARY

The importance of off-campus activities in teacher education work is well recognized. In their "Proposal of Minimum Standards for the Approval of Teacher Preparing Institutions," the National Association of State Directors of Teacher Education and Certification listed "Field Services" as an essential ingredient for an effective program.

The emphasis placed on off-campus activities by distributive teacher-educators is brought out in this study. In addition to instructional chores on campus, three-fourths of the group surveyed plan at least one day weekly in the field for several varied, yet related duties. In-service training either through regular extension classes, or through individual and group meetings, is offered by most institutions. Two-thirds of the nation's distributive teacher-educators visit new coordinators in their state every year. Several states provide individual visitations for experienced coordinators as well.

Other field services made available by teacher-educators include consultative and evaluative assistance for high schools and post high schools. The cooperation between the state supervisor and teacher-educator so necessary for the efficient operation of a statewide program is manifested in the close unity of purpose shared by this team.

To be sure, the high school coordinator is rightfully called the key to a strong distributive education program. It would seem to follow then, that the teacher-educator is the locksmith, for in his hands lies the responsibility for molding and holding good coordinators. These two, working together, can open any door to the ever-growing opportunities in the total program of distributive education.

APPENDIX

STATE COLLEGE OF IOWA
CEDAR FALLS

EXTENSION SERVICE

BUSINESS AND DISTRIBUTIVE EDUCATION

October 30, 1962

Appendix #1: Sample Letter

Dr. William B. Logan
Director of Distributive Education
Ohio State University
1988 College Road
Columbus 10, Ohio

Dear Dr. Logan:

During the Council for Distributive Teacher Education meetings at the last AVA convention, several ideas were presented for the group's study and research. No doubt you are familiar with the first two of these research projects undertaken by Reno Knouse and Eugene Door published as CDTE Professional Bulletin Series Numbers 1 and 2.

Another area suggested for study concerns the off-campus activities of Distributive Teacher-Educators. It is here that we need your help. May we ask for a few minutes of your time in completing the enclosed questionnaire?

While the basic purpose of this study is of a fact-finding nature, it is quite likely that the end results would be of help to any state desiring to increase or improve their field activities. Therefore, we would especially appreciate your detailed comments and experiences on the items asked; specific case illustrations, of course, are most helpful. A stamped, self-addressed envelope is enclosed for your convenience.

Thanks very much for your assistance. We hope to have the preliminary reports of this study ready for the AVA meeting in December; we will be looking forward to meeting with you at that time.

Very truly yours,

Edward E. Scannell

Edward E. Scannell
Distributive Education Services

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Enclosures

Appendix #2: Questionnaire with summary data

CDTE Study of Off-Campus Activities
of D. E. Teacher-Educators

Please answer the following questionnaire as completely as you can. Your opinions and comments are most valuable to us and not only welcomed but heartily solicited.

I. General

A. How would you apportion your overall duties?

(18.18)% on-campus administration

(42.27)% on-campus teacher-education

(27.05)% off-campus activities

(12.50)% (other)_____

100%

B. How many class credit hours do you teach per week? _____

C. Does this number vary appreciably from semester to semester (excluding summer session)?_____If yes, please explain

_____

D. What is the average faculty credit-hour load for your department?_____

E. Comments _____

_____

II. Professional Off-campus activities

A. How much time do you typically allow for off-campus duties?

(43.5%) one day a week (21.7%) three days a week

(13.1%) two days a week

(21.7%) (other) _____

Comments: _____

_____

_____

B. Do you offer Professional D. E. Credit Courses off-campus?
(52.2%) Yes (47.8%) No (If No, Skip to Question C)

How often?

(8.3%) seldom (16.7%) every year

(8.3%) occasionally (50.0%) as need arises

(16.7%) each semester

Comments _____

_____

_____

_____

1. What credit courses have you offered off-campus in the past two years? Please list title, credit hours, approximate enrollment and one way distance from your campus.

Course Title	Cr.H.	Enroll.	Distance

2. Are you ever paid additionally for extension classes taught off-campus? (33.3%) Yes (66.7%) No

Please explain _____

3. Do students pay a higher tuition fee for off-campus classes? (25%) Yes (66.7%) No (8.3%) less

C. Do you schedule individual visits to coordinators during the year? (91.3%) Yes (8.7%) No

(66.7%) visit new coordinators each year

(28.8%) visit every coordinator each year

(57.1%) as requested by local schools

(38.1%) (other) _____

Comments: _____

D. Are you providing a planned program of in-service education for coordinators? (91.3%) Yes (8.7%) No. How? (Check items that apply)

(64.7%) Individual consultation with coordinators. How often?
(6.6%) Semi-annually, ___ Annually, (86.7%) as need arises
(6.6%) (other) _____

(90.5%) Group and area meetings. How often?
(10.5%) Semi-annually, (42.7%) Annually, (35.3%) as need arises
(15.5%) (other) _____

(80.9%) Workshop on-campus. How often?
___ Semi-annually, (64.7%) Annually, (35.3%) as need arises
___ (other) _____

___ (Other) _____

Comments: _____

E. Do you visit school districts that are considering the inauguration of a high school D. E. Program? (95.6%) Yes (4.4%) No

(82.6%) when requested by schools

(78.2%) when requested by state supervisor

_____ (other) _____

Comments: _____

F. Are you responsible for off-campus supervision of student D. E. teachers? (73.9%) Yes (26.1%) No
Please indicate your duties in this area _____

G. Do you visit D. E. high schools for purposes of program evaluation?

(69.5%) Yes (30.5%) No

(42.7%) only at request of the school concerned

(50.0%) at request of state supervisor

(6.3%) at schools of new coordinators

(12.5%) schools with new program

(12.5%) (other) _____

Comments: _____

H. Does your state have planned periodic evaluations of high school D. E. programs by yourself or state supervisor? (52.1%) Yes (47.9%) No If yes, please explain _____

I. Are you involved with your state coordinators conference?

(95.6%) Yes (4.4%) No

(90.9%) planning (81.8%) consultation

(59.1%) guest speaker

Comments: _____

III. General Comments: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

____ Check here if you would like to receive a report of preliminary findings based on these questionnaires.

Your Name _____

Position _____

School Address _____

City and State _____

Please return this questionnaire to Iowa Distributive Education Services, Department of Business Education, State College of Iowa, Cedar Falls, Iowa.

THANK YOU

Appendix #3: Project Participants

TEACHER-EDUCATORS FOR DISTRIBUTIVE EDUCATION
WHO PARTICIPATED IN THIS STUDY

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Minnesota	Warren G. Meyer, University of Minnesota, Minneapolis, Minnesota
Montana	Harry A. Larson, Montana State College, Bozeman, Montana
New York	Reno S. Knouse, State University of New York, Albany, New York
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Utah	Calvin D. Lowe, Utah State University, Logan, Utah
Virginia	Kay B. Brown, Richmond Professional Institute, Richmond, Virginia
	Lucy C. Crawford, Virginia Polytechnic Institute, Blacksburg, Virginia
	Edward T. Ferguson, Jr., Virginia Polytechnic Institute, Blacksburg, Virginia

VT 003 557
Vocational Education in Diversified Cooperative Training.

Ohio State Dept. of Education, Columbus. Trade and Industrial Education Service
MF AVAILABLE IN VT-ERIC SET.
Ohio Trade and Industrial Education Service, Instructional Materials Laboratory, The Ohio State University, 1885 Neil Avenue, Columbus, Ohio 43210 ($.50).
Pub Date - 65 26p.

*TRADE AND INDUSTRIAL EDUCATION; *COOPERATIVE EDUCATION; *ADMINISTRATOR GUIDES; *PROGRAM DESCRIPTIONS; *PROGRAM GUIDES
OHIO

The purpose of this booklet is to describe the objectives, standards, and operating policies of trade and industrial education which are applied in diversified cooperative training programs in Ohio. The text includes an explanation of the program, student eligibility, regulations, suggested fields, hints on organizing a program, advantages for the student, school and employers, school-employer relations, methods of instruction, community relations, advisory committess, community surveys, student relations, selection of the teacher-coordinators, teacher-coordinator qualifications, student placement, school facilities, scheduling, and other operating details. The appendix contains a sample student application and a suggested classroom floor plan. (EM)

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Vocational Education

in

Diversified

Cooperative

Training

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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VT003557

TRADE AND INDUSTRIAL EDUCATION
SERVICE

State of Ohio

Trade and Industrial Education Service

STATE OF OHIO

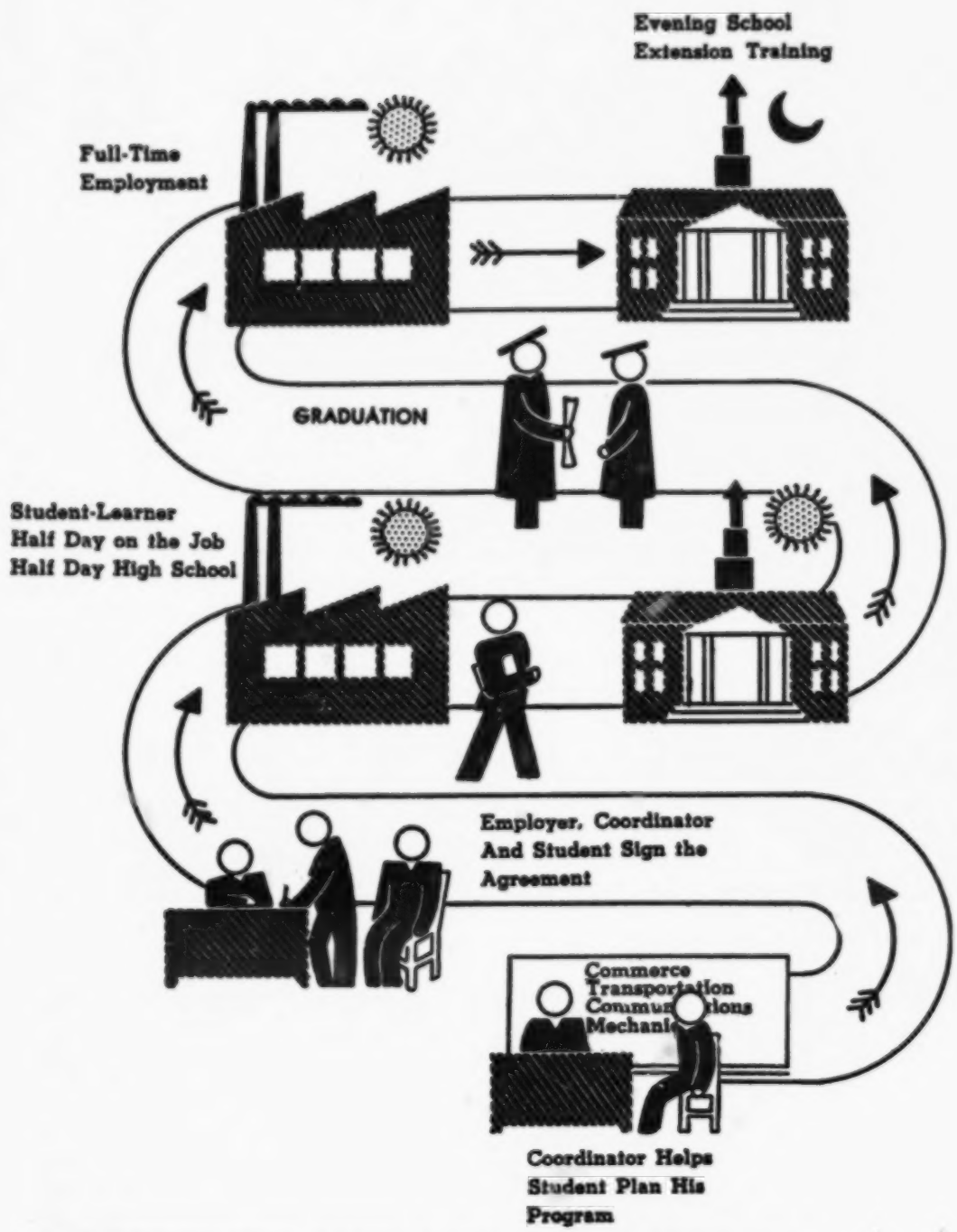
VOCATIONAL EDUCATION IN DIVERSIFIED COOPERATIVE TRAINING.

(A description of the objectives, standards, and operating policies of a Trade and Industrial Education Program planned to meet the needs of the small community).

DIVISION OF VOCATIONAL EDUCATION
STATE DEPARTMENT OF EDUCATION
Columbus 15, Ohio

Edited and reproduced by the Vocational Trade and Industrial Instructional Materials Laboratory, The Ohio State University, College of Education, Columbus 10, Ohio. Additional copies are available from the Supervisor Trade and Industrial Education Service, 220 South Parsons Ave., Columbus 15, Ohio.

1951
Reprint - 1957
Reprint - 1960
Reprint - 1962
Reprint - 1963
Reprint - 1965



THE DIVERSIFIED OCCUPATIONS PROGRAM OPENS THE PATHWAY TO ONE'S LIFE WORK

From: C. E. Rakestraw, *Training High School Youth for Employment*. p. xii

PREFACE

Part-time cooperative training is not new in vocational education; its beginnings in the United States antedates the Smith-Hughes Act by approximately twenty years. Cooperative training was contemplated by those who framed the Act and this type of training procedure has been carried on in many localities since 1917. Not until 1933, however, was the plan applied extensively to miscellaneous occupations in communities ranging from 5,000 to 25,000 in population.

Many states have had diversified cooperative programs in operation over a period of years and have given Ohio valuable help and suggestions for setting up its own program in Diversified Cooperative Training. Grateful acknowledgement is made to the State Departments of Vocational Education in Georgia, Indiana, Kentucky, Missouri, Oklahoma, South Carolina, Tennessee, and Texas for their help and cooperation.

Special acknowledgement is made to Philip R. Anderson, Assistant State Supervisor of Trade and Industrial Education for Southern Ohio, who undertook the original research necessary for the development of this manual, and promotion of the diversified cooperative program in Ohio during the past seven years.

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Industrial Vocational Program In Diversified Cooperative Training

PROGRAM DEFINED: A program in **Diversified** Cooperative Training is designed to provide vocational training on a part-time basis for high school boys and girls, usually during their senior year. For one-half of the day, establishments of employers are used for training students in actual occupational activities. The other half day is divided between academic subjects and study related to work being done on-the-job. While several occupations may be included in the program, the individual student receives training in only one; thus, the term "diversified" applies to the program as a whole and not to the experiences of the student. The acquisition of occupational training in this manner does not interfere with graduation from the regular high school or subsequent enrollment in most colleges or universities.

The larger cities establish Trade and Industrial shops or vocational high schools to prepare students for entrance in trade and industrial occupations, but because of the equipment and facilities required, occupational training in smaller communities has usually been considered too costly. The Diversified Cooperative Training Program, however, enables the smaller community to offer occupational training to its youth. This type of program requires the school to furnish classroom facilities, reference materials, teaching aids, and the services of a teacher-coordinator. Local business and manufacturing establishments provide the skill or manipulative experiences for the students, while they work as employees of the establishments.

WHO IS ELIGIBLE: Any student sixteen years of age or older, who is employable and who has successfully completed a minimum of two years of high school, is eligible to enter the program. The student must have obtained approved employment, with the help and advice of the teacher-coordinator, in a satisfactory training situation. The occupations in which students are to be trained must require at least two thousand clock hours of training, including time spent in the study of related occupational information. All federal and state employment regulations must be followed in operating the program. The following is a partial list of possible fields of training:

Suggested Fields of Training

Auto Mechanics	Meat Cutting
Auto Body Painting	Metal Working Trades
Baking	Nursing Aids
Bricklaying	Painting
Carpentry	Patternmaking
Commercial Art	Photography
Cabinet Making	Plumbing
Drafting	Printing
Dress Making	Radio and Television Service
Dry Cleaning	Refrigeration Service
Electrical	Sheet Metal
Electrical Appliance	Shoe Repairing
Farm Machinery Repair	Tailoring
Furniture Repair	Upholstering
Laboratory Technician	Welding

Miscellaneous Other Trades

HOW TO ORGANIZE A DIVERSIFIED COOPERATIVE TRAINING PROGRAM

Acquainting the School Faculty with the Program. The success of the program depends a great deal on the cooperation of the entire school faculty. This cooperation is impossible unless both the school administration and faculty recognize the merits of the program and know why it has been added to the curriculum. The local superintendent of schools should call a conference of the school faculty in order to bring to its attention the needs of youth for some form of occupational training and to explain how the program will benefit both the school and the students. School faculties are generally willing to cooperate if they know the purposes and objectives of the program. Their help and guidance are essential to the teacher-coordinator in selecting and placing students in suitable training stations. A study of the employment classifications in Ohio shows that 58% of the employed people are in trade and industrial occupations. It certainly follows that a large number of graduates must find jobs within this large occupational area.

Too often teachers and administrators have regarded the Diversified Cooperative Training Program as a dumping ground for problem students who have been, to some extent, failures in other programs of study. It is, therefore, necessary to state that unless qualified students enter the program, it will fail. The business world has no place for a loafer or for one who is unfit. Every person enrolled must be able to benefit from the training. All factors must be considered in selecting students for the program. The fact that a student has constituted a problem may indicate that the school was not meeting the needs of that student.

The Diversified Cooperative Program can provide students and the school with many advantages, some of which are:

ADVANTAGES FOR STUDENTS

1. It gives them an opportunity to develop their aptitudes and interests.
2. They graduate from high school with enough fundamental training in an occupation to make them employable.
3. It gives the student who is dissatisfied with the ordinary academic or general curriculum the desire to remain in school and earn a high school diploma.
4. It assists the student who is in financial need to complete his school education.
5. Should a student decide to go to college, his occupational training may be an asset to him in earning his expenses. Furthermore, his experience as a wage earner will have helped him develop the proper attitude toward work, the ability to get along with people, and a deeper appreciation and understanding of the community in which he lives.
6. It helps the student to make adjustments to working conditions in industry while still under the supervision of the school.
7. The student is trained in the skills of his occupation under actual, rather than pseudo, working conditions.

ADVANTAGES FOR THE SCHOOL

1. It does not have to buy expensive shop equipment since the manipulative skills are acquired in the employer's establishment.
2. The program provides a means of projecting the school into the community.

3. It keeps a greater number of youth in school for a longer period of time.
4. It provides a direct avenue for meeting the community's needs for trained workers.
5. It provides a means of keeping the school abreast of business and industrial needs.

School-Employer Relations. Since this trade and industrial vocational program is a cooperative endeavor wherein the school assists business and industrial employers in training beginning employees, it is essential that both employers and employees be completely informed regarding the training program and their wholehearted support and cooperation secured. Too often an employer enters the program just to assist the school, without being aware of the real merits of the program. Training of new employees has always been a serious problem with employers, especially in establishments where the number of new employees does not justify the operation of regular training programs. The Diversified Cooperative Training Program enables an employer to benefit from systematic training for beginning employees. Many employers, never having gone through a regular training period themselves, will not be familiar with the advantages to be derived from organized training. Therefore, it will be necessary to discuss with these employers the benefits that are to be gained from such a program. They must understand that in most occupations a fully trained worker cannot be developed in a one or two year cooperative training program. Usually more time is necessary for a worker to acquire the skills and understandings essential to successful employment in a trade or occupation.

Methods of Instruction: Individual study of the trade technology pertaining to the occupation in which each student is receiving training is an essential feature of the Diversified Cooperative Training Program. Carefully planned, written assignment sheets are used in conjunction with appropriate reference materials. These lesson sheets are adopted from courses of study that have been prepared by competent persons in the various occupations. In preparing a training schedule for each beginner, the employer and the teacher-coordinator analyze the training requirements of each occupation and set up a schedule of work experiences. This schedule permits systematic and efficient training of the employee and assures the employer of an all-around trained person rather than a single skill worker.

Meeting of Selected Labor, Business and Industrial Leaders: To establish and conduct this type of educational program, the local school authorities should arrange a meeting of a selected group of business and industrial leaders, including representatives of any organized worker groups. At this meeting the need for providing vocational education opportunities for the youth of the community should be discussed, together with various ways and means of meeting such a need. The purposes and objectives of the Diversified Cooperative Training Program should be explained fully. Special effort should be made to develop within the group appreciation and understanding of the fact that it is their responsibility to aid the school in providing vocational training opportunities for the young people of the community. It should be pointed out that the majority of the youth of the community cannot, or do not, go to college; that they have to work for someone—if not in their own community, then somewhere else. Their training and ability will reflect upon the home community.

One of the most helpful means of explaining the program is the showing of the film entitled "Diversified Cooperative Training" which is available through the Trade and Industrial Education Service of the State Department of Education.

Advantages for Employers: The advantages of the Diversified Cooperative Training Program for the employer should be pointed out of this group:

1. It assists the employer in selecting qualified learners or beginners.
2. It provides his employees with a directed study of technical information essential to his occupation.
3. It provides his employees with a direct study of related information, such as job ethics, safety and first aid, and personal hygiene.
4. It insures organized training of his employees while on the job.
5. It correlates the actual work experiences of his employees with study of the necessay related technical information.
6. It allows the employer to supervise and help plan the training of his future employees.
7. It provides a full-time teacher-coordinator to assist the employer with his training problems.

8. It saves money for the employer, since an organized training program shortens the training period of new employees.

9. It gives the employer an opportunity to serve his community through the public schools.

Advisory Committee: This same meeting should pave the way for the organization of a representative advisory committee. Such a committee should be composed of representatives from the ranks of both employers and employees, and should not number more than six members. The advice and counsel of a representative advisory committee are needed many times in connection with certain problems which arise such as counseling and guidance of students, content of courses, selection of a qualified teacher-coordinator, proper and adequate equipment, and to acquaint the school authorities with the standard practices used in the trade, occupation, or business for which instruction is offered.

Survey of Community: The next step in setting up a cooperative program is to make a survey of the community in order to determine the occupational possibilities and training opportunities. Careful consideration must be given to the selection of training facilities. Working conditions in stores and plants, along with other factors, must be considered. Boys and girls should not be placed in any establishment where working conditions or environment are not conducive to their best welfare and progress in the type of training selected by them. Likewise, careful consideration must be given to the selection of students for the program. Unreliable students, those who are not interested, or who do not show sincerity of purpose will reflect upon the school and possibly make it difficult to place other students with employers.

Evaluation of Training Qualifications of Employer: The following criteria should be used in evaluating the training qualifications of the cooperating employer:

1. Opportunity for employment after training.
2. Stability of the establishment.
3. Opportunity for advancement.
4. Social value.
5. Length of training period.

6. Training carry-over.
7. Regularity of employment.
8. Pay.
9. Training facilities.
10. Hazards.

Acquainting Students with the Program: The next step is to explain the program to students who are eligible to enroll. Students who are interested should fill out an application form for admission to the program. An example of a satisfactory form will be found in the Appendix. The teacher-coordinator should have a personal interview with each student and with his parents so that the program is thoroughly understood by the parents as well as the student. In the initial interview with the student and his parents, it should be explained that the school does not make the final selection of the students for the program, but that the employer selects the student or students he wishes to employ. The student must have secured approved employment prior to being admitted to the program.

Selection of the Teacher-coordinator: After it has been determined that there is need in the community for a Diversified Cooperative Training Program, that there are sufficient number of satisfactory training situations, and that there are students wanting to enter the program, the next step is to secure a teacher-coordinator. Much depends on the teacher-coordinator; the success or failure of the program is in his hands. The qualifications of a good teacher-coordinator are difficult to outline; he is an administrator, supervisor, teacher, public relations man, and counselor all in one, especially in the small community where the Diversified Cooperative Program may be the only available type of vocational education program. He must be an individual with the ability to meet and deal with business, industrial, and labor leaders of the community. To secure and maintain their cooperation, he must be familiar with business and industrial practices. Many successful teacher-coordinators have had technical training, which is a distinct asset in the supervised and directed study phase of the program. Above all, the teacher-coordinator must like people and believe in youth.

Qualifications of the Teacher-Coordinator: To meet the certification requirements of the Certification Division of the State Department of Education, the teacher-coordinator should have the following qualifications:

1. Education — Graduation from a college or university with a major in a technical field or completion of requirements for a four-year provisional vocational trade and industrial certificate.
2. Teaching Experience — One year of teaching experience in the field of trade or industrial education or other acceptable program, or the completion of a minimum of eight semester hours of college credit including the following courses:
   a. Principles and Practices of Vocational Education or Survey of Education
   b. Educational and Industrial Coordination
   c. Developing Content of Shop and Related Courses
   d. Organizing and Operating a Diversified Cooperative Training Program
3. Occupational Experience — Two years of industrial experience. Note: Industrial experience should be interpreted as those trades listed in the **Ohio Plan of Trade and Industrial Education.**

Student Placement: After the survey of the community has been made and the students have made the necessary applications, arrangements should be made to send the student, with an introductory memorandum, to the employers for their interviews. The employers should be notifed that certain students are to be interviewed, and a definite appointment made for each interview. The employer should notify the teacher-coordinator when he has tentatively employed a student. The minimum number of students enrolled in the program should not be less than fifteen nor the maximum more than twentyfive. After the designated number of students have been accepted, the teacher-coordinator completes the steps necessary for employing the student. These steps follow:

1. Complete the Diversified Training Program Agreement (see Appendix) and have it signed by the employer, student, parent, and the superintendent of schools or the teacher-coordinator.
2. Obtain part-time working certificate for the student. Ohio: Form A-1 front, A-2 back.
3. Have employer fill out pledge card. Ohio: Form A-3.
4. Physical examination. Ohio: Form A-4 front, A-5 back.
5. Obtain age and schooling certificate for student. Ohio: Form B. Two copies signed by the superintendent of schools, one for the employer, the other to be retained by the superintendent of schools.

6. Have student secure Social Security Number.
7. Prepare in cooperation with each employer an organized Training Plan for the on-the-job phase of the training program.
8. Order the necessary study guides and reference books for each student. The Instructional Materials Laboratory, 200 Communications Building, Ohio State University, Columbus 10, Ohio, can be very helpful in advising the teacher-coordinator in the selection, source and use of instructional materials and can provide copies of occupational outlines for use in preparing training plans in a large number of occupations.
9. Present teaching certificate to the "on-the-job" instructor. Certificates may be obtained from the Instructional Materials Laboratory, 200 Communications Building, The Ohio State University, Columbus 10, Ohio. The purpose of the certificate is to encourage and emphasize training instead of part-time work in the training agency. A copy of this certificate may be found in the appendix of this monograph.

Facilities to be Furnished by the School: The school is expected to furnish adequate classroom facilities for the related technology class. See the Appendix for a floor plan of such facilities. The classroom should contain study tables, and chairs, blackboards, bulletin boards, filing cabinets, and a desk for the teacher-coordinator. A small conference space should be provided in a corner of the classroom. An adequate supply of reference materials—composed of textbooks, workbooks, manuals, bulletins, charts, correspondence course materials, etc.—for each occupation in which training is being offered, must be furnished by the school. The minimum essential equipment for such a classroom is as follows:

CLASSROOM EQUIPMENT

1. Two four-drawer, letter-size file cabinets.
2. One cabinet for student notebooks and complete assignments.
3. One bookcase for reference books.
4. One cabinet for instructional material.
5. One flat-top teachers desk.
6. One large blackboard.

7. Two cork bulletin boards.
8. One case for bulletins and trade literature.
9. A telephone for the teacher-coordinator's use.
10. Movie projector.

Scheduling and Other Operating Details: The students should be scheduled for two consecutive periods in the related technology class. There should be one period when the whole group is together so that the common problems (socio-economic) can be discussed by the entire group. For example, a student should be scheduled for related technology either the first and second or third periods so that the second period would be the group period. Where sixteen units of credit are required for graduation a minimum of three should be given for the Diversified Cooperative Training Program. In situations where seventeen or eighteen units are required, three and one half units of credit are given. One grade is issued for the program in preference to a separate grade for related technology and another for the work experience.

Limitations In Area of Occupation Chosen: Since the Diversified Cooperative Training Program is intended to be a trade and industrial nature and will be operating under the auspices of the Trade and Industrial Education Service, no occupations other than trade or industrial may be included in the program.

Precautions: This program, like any other newly organized project or program, should be begun on a conservative basis. The program, actually, may cover only one-half or even less of the community's potential employment possibilities the first year; for, during the organizational period, the teacher-coordinator must spend a large amount of his time in promoting the program and in perfecting its organization. Throughout the year new fields of training should be explored, and the program diversified over as wide a range as feasible. Likewise, students should be counseled and assisted in selecting desirable occupations, so that the superior students will be available for placement the second year. The general tendency may be that of over placement in certain occupations at first, but if a careful analysis is made of the occupational situation and adjustments made accordingly, a reasonable absorption of trainees can be obtained. There will always be a number of isolated specialty fields in which an occasional student can be placed, but there is no justification for training a student for an occupation in which there are no employment possibilities

within a reasonable distance of his home community. Handled in a proper manner, with training distributed according to the actual absorption ability of the various occupations, the program will become a permanent part of the regular school curriculum. As time goes by, the local employers will depend more and more on the program as a means of obtaining new employees, and will continue to have faith that their local public school is rendering a valuable service to a part of the student body that intends to end their formal schooling with high school graduation.

How to Secure Further Assistance: For further information relating to the organizing or the financing of the Diversified Co-operative Training Program, write or call Supervisor, Trade and Industrial Education Service, 220 S. Parsons Avenue, Columbus 15, Ohio.

Appendix

(SAMPLE STUDENT APPLICATION BLANK)

.....Public Schools

....., Ohio

STUDENT APPLICATION FOR ADMITTANCE TO THE DIVERSIFIED COOPERATIVE TRAINING PROGRAM

Name of student..... Date.....19....

Age (last birthday)..... Date of birth..... Height..... Wt.....

Explain: .....

Father's or guardian's name..... Occupation.....

Occupation or type of employment desired.....

Reason for your preference.....

What physical disabilities do you have?.....

.....

.....

Have you ever been employed?..... When?..... Where?.....

.....

Nature of work .....

Number of high school credits you now have: English.....Math.....

Science..... History..... Foreign Language..... Social Science.....

Commercial..... Ind. Arts..... Others.....

What required subjects do you need for graduation?.....

If accepted for the program, do you agree to complete the training period?.....

List three teachers with whom you have had classes for at least one school year:

1. .....
2. .....
3. .....

List one other person who knows you well.....

What are your hobbies?.....

Signed..... Approved by.....

Student — Parent or guardian

DIVERSIFIED COOPERATIVE TRAINING AGREEMENT

Date.....

1. ..... will be permitted to enter training at ..... for the purpose of gaining knowledge and experience in..... ..... (job objective)

2. The cooperative course of training is designed to extend over a (one or two) year period with a minimum of 15 hours per week, exclusive of Saturday work and a maximum of.....hours including Saturday, required for the work experience and (one or two) periods in each school day for related technical study and occupational adjustment information.

3. The coordinator shall, with the assistance of the employer, prepare an outline of the operations to be learned on the job and the related study units for the related classroom work. This outline or training plan is to be prepared before signatures are affixed to the agreement.

4. The wages to be paid the student are....., in accordance with the recommendations of the local advisory committee and are in conformance with the Wage and Hour provisions of the Fair Labor Standards Act of 1938 as amended.

5. The student will receive a variety of experiences in the training station and will not remain at any one operation, job, or phase of the occupation longer than is necessary for him to become reasonably proficient.

6. The student, while in the process of training, will have the status of student learner, neither displacing a regular worker now employed nor substituting for a worker that would be ordinarily needed by the training station.

7. All complaints shall be made to and adjusted by the coordinator.

8. The parent or guardian shall be responsible for the personal conduct of the student while in training.

9. The student will be working with or closely supervised by.... .....who will be the training instructor.

10. The employer-teacher will make a rating of the student's work each six weeks.

11. The coordinator will visit each student on the job regularly and will be acquainted with the training station personnel with whom the student works.

12. The coordinator may withdraw or transfer the student when it is mutually agreeable to all parties concerned.

13. The employment and training of the student shall be in accordance with federal, state, and local laws and regulations.

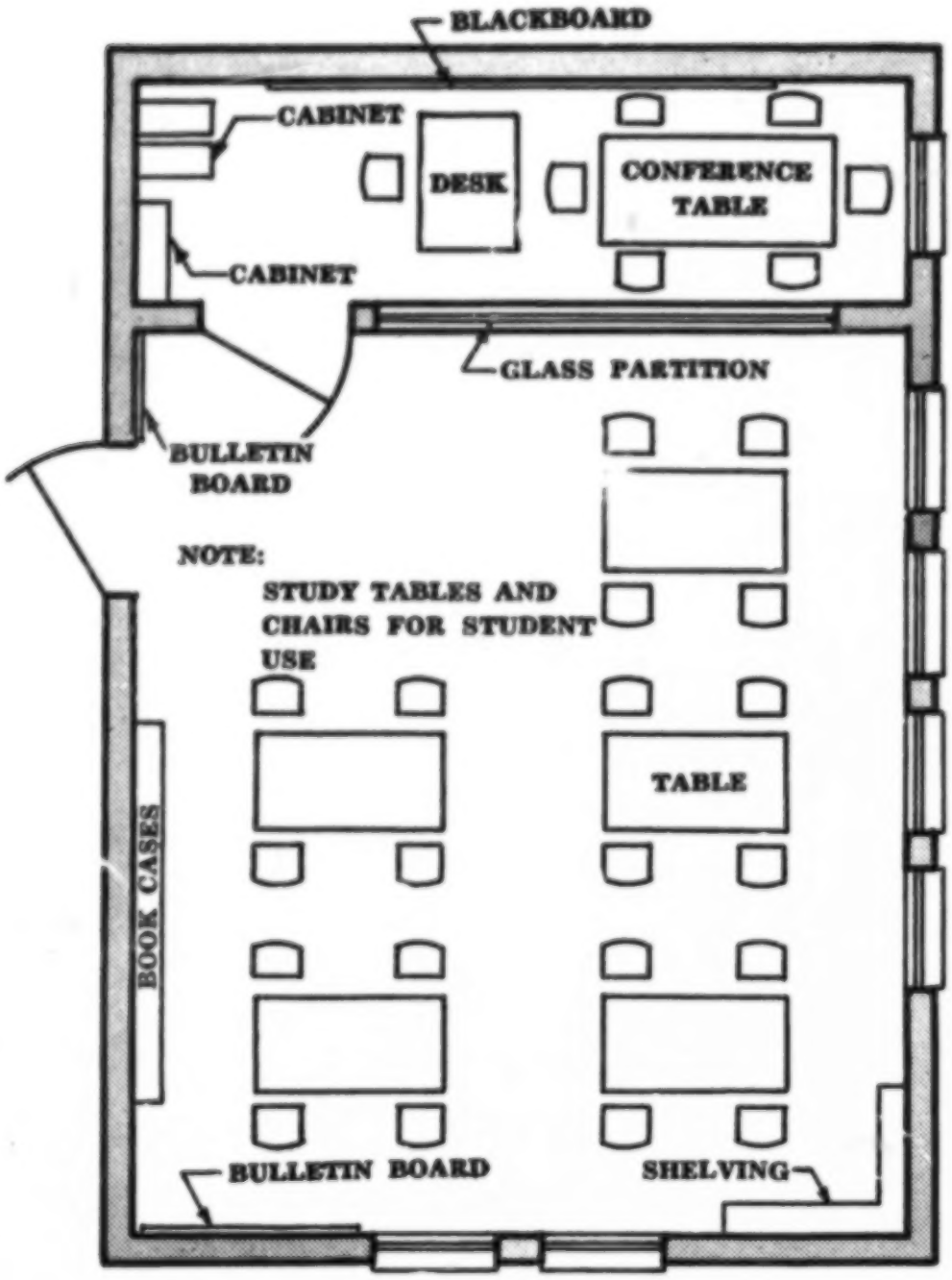
14. The student will not be employed in another part-time job which involves work beyond his Diversified Cooperative Training schedule.

.....

(Coordinator) (Employer)

.....

(Parent or Guardian) (Student)



Suggested Floor Plan for a Related Technology Classroom In a Diversified Cooperative Training Program

VT 003 568
Anderson, Ober Jay
Competencies in Farm Credit Needed by Farmers.

Iowa Agriculture and Home Economics Experiment Station, Ames
Iowa State Univ. of Science and Technology, Ames. Dept. of Education
Iowa State Dept. of Public Instruction, Des Moines. Vocational Agriculture Section
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Aug65 8p.

AGRICULTURAL EDUCATION; BUSINESS SKILLS; CREDIT (FINANCE); *JOB SKILLS; *EDUCATIONAL NEEDS; *FARMERS; OCCUPATIONAL SURVEYS
IOWA

The purpose of the study was to determine (1) competencies in farm credit needed by farmers, (2) factors associated with competencies needed and possessed, (3) sources of training, and (4) information for educational program planning. A questionnaire including 26 understandings and 17 abilities selected by a panel of 16 specialists was returned by 117 of a random sample of 177 farmer-members of the Central Iowa Farm Business Association and from 94 of 305 farmers from 14 counties served by the Association. In all cases respondents indicated that they possessed a lower degree of competence than was needed for successful use of farm credit. Association members ranked the importance of the understandings, credit rating, net farm income, and repayment capacity highest in degree of competence needed. The greatest needs in abilities were record keeping, record analysis, management returns computation, lender confidence attainment, and need indentification. Association members possessed the least competence in the understanding of crop insurance as a means to reduce risk, sales contracts for different products, credit life insurance, and availability of government emergency loans. Comparisons showed that the wider differences between total over-all mean scores for competence needed and scores for comptenence possessed were among association members, larger operators, renters, less-educated farmers, and farmers with medium gross income. The competency rating in tabular form is included. This is an abstract of an M.S. thesis submitted to Iowa State University of Science and Technology. (JM)

VT 003 568

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COMPETENCIES IN FARM CREDIT NEEDED BY FARMERS

Ober Jay Anderson

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Department of Education

and

Iowa Agriculture and Home Economics Experiment Station
Iowa State University of Science and Technology
Ames, Iowa

in cooperation with

Vocational Agriculture Section
Division of Vocational Education
State Department of Public Instruction
Des Moines, Iowa

VT003568

This is an abstract of a thesis submitted in August of 1965 to Iowa State University of Science and Technology by Ober Jay Anderson in partial fulfillment of the requirements for the degree Master of Science.

The study is one of a series conducted by the Department of Education of Iowa State University of Science and Technology with assistance of graduate students in agricultural education in cooperation with the Iowa Agriculture and Home Economics Experiment Station and the Vocational Agriculture Section, Division of Vocational Education, State Department of Public Instruction, Des Moines, Iowa.

This abstract was prepared by Ober Jay Anderson with assistance of Alan Kohler, research assistant for the Iowa Agriculture and Home Economics Experiment Station Project 1253, under the direction of Professor C. E. Bundy.

COMPETENCIES IN FARM CREDIT NEEDED BY FARMERS

by

Ober Jay Anderson

Purpose of the Study

The purposes of the study were: (1) to determine the competencies in farm credit needed by farmers and the degree of each competency needed for successful use of farm credit; (2) to determine the factors which have relationship to competencies needed and possessed; (3) to determine sources of training for these competencies; and (4) to provide information needed in planning an educational program that will enable farmers to use farm credit efficiently.

Method of Procedure

Sixteen farm credit specialists served as a panel to select the competencies that were included in this study. Of the competencies which were selected, 26 were classified as understandings and 17 as abilities. They are listed on Table 1.

A questionnaire was developed which included directions for evaluating each competency with respect to the degree to which it is needed in order to enable the respondent to use farm credit successfully and the degree to which each is presently possessed. The questionnaire was submitted to a random sample of 177 members of the Central Iowa Farm Business Association and a random sample of 305 farmers from the 14 counties served by the Association. Usable questionnaires were received from 117 association members and from 94 farmers in the random sample of other farmers. The degree of competency needed and the degree presently possessed by respondents were indicated for each of the understandings and abilities by check marks on a scale of 1 through 5. A check in column 1 meant no competence needed or possessed and in column 5 meant very much competence needed or possessed. The responses were analyzed by the use of mean scores.

Findings

Mean scores for degree of competency needed and possessed in each of the 26 understandings and the 17 abilities are presented in Table 1. In all cases respondents indicated that they possessed a lower degree of competence than was needed for successful use of farm credit. The difference between overall mean scores for competence needed and possessed was .6 for the association members and .5 for the random sample farmers.

In 19 of the 43 understandings and abilities the mean scores of both association members and other farmers were 4.0 (much competence needed) or above for degree of competence needed in each item. The mean scores for the degree of competence needed by association members were 4.3 or higher (more than much competence needed) for the understandings: of importance of a good credit rating, of net farm income, and of repayment capacity; and for the abilities: to keep complete and accurate farm records, to analyze and interpret farm records and results, to compute management returns, to gain confidence of lenders, and to distinguish between actual needs and mere desires.

The mean scores for the degree of competence possessed by association members were highest for the competencies: of understanding the importance of a good credit rating (4.3), of keeping complete and accurate farm records (3.9), of methods of charging interest (3.8), of understanding repayment capacity (3.8), and of computing true annual interest rate (3.8).

The competencies rated lowest by the association members on the basis of need were understandings of availability of government emergency loans, of crop insurance, and of credit life insurance. The scores were from 3.1 to 3.3, just above some competence needed. Farmers in the random sample rated the same three competencies and in addition an understanding of the relationship between farm and home credit as the lowest from the standpoint of need among the 43 understandings and abilities included in the questionnaire.

The association members indicated that they possessed the least competence in the understanding of crop insurance as a means to reduce risk (2.9); of sales contracts for soybeans, beef, etc. (2.7); of credit life insurance (2.9); and of availability of government emergency loans (2.3).

Comparisons among various groups disclosed the following differences between total over-all mean scores for competence needed and possessed. (1) Association members had slightly wider differences than random sample farmers. (2) Farmers with fewer years of experience had nearly the same scores as those with more experience. (3) Operators of larger acreages had wider differences than those with smaller acreages. (4) Renters had wider differences than owners, owner-renters and members of a partnership. (5) Farmers with less education had wider differences than those with more education. (6) Farmers with medium gross farm incomes had wider differences than farmers with low or high gross farm incomes.

The product moment coefficient of correlation was used to analyze the relationship of selected controls and competency scores for the two groups. Significant correlations were found between years of farming experience and educational attainment (-), farm size and gross farm income (+), and amount of credit used and gross farm income (+) for both association and random sample farmers.

Table 1. Degree that farm credit competencies were needed and possessed by Central Iowa Farm Bureau Association (CIFBA) members and by farmers in the random sample.

Rank[a]	Competencies--Understandings needed (26 items)	Overall rank[b] (43 items)	Mean Scores--Understandings: Needed[c] (CIFBA N=117)	Possessed[c] (CIFBA N=117)	Needed[c] (Random sample N=94)	Possessed[c] (Random sample N=94)
1	Importance of a good credit rating	1	4.6	4.3	4.4	4.2
2.5	Net farm income	6	4.3	3.7	4.1	3.7
2.5	Your repayment capacity	6	4.3	3.8	4.0	3.6
4.5	Importance of adequate operating reserves	13	4.2	3.4	4.0	3.5
4.5	Priority of claims on income	13	4.2	3.4	3.8	3.2
8	Capital and its relationship to other farming resources	22	4.1	3.3	4.0	3.3
8	Your own attitude towards "being in debt"	22	4.1	3.6	4.0	3.8
8	Risk and uncertainty of using credit	22	4.1	3.6	4.0	3.6
8	Methods of charging interest	22	4.1	3.8	4.0	3.6
8	Ratio of assets to liabilities	22	4.1	3.4	3.8	3.2
8	Relation of net cash income to liabilities	22	4.1	3.4	3.8	3.2
12.5	Procedures used in obtaining farm loans	28	4.0	3.5	3.9	3.5
12.5	Repayment terms and options	28	4.0	3.4	3.9	3.2
15.5	Need for consolidation of all loans	32.5	3.9	3.6	3.6	3.4
15.5	Loan security requirements	32.5	3.9	3.6	3.9	3.4
15.5	Legal terms used in notes, mortgages, etc.	32.5	3.9	3.0	3.6	2.9
15.5	Ratio of gross incomes to liabilities	32.5	3.9	3.2	3.6	3.2
15.5	A cash flow statement	32.5	3.9	3.0	3.5	2.6
20	Family living expenses	37	3.8	3.3	3.7	3.5
20	Purchase contracts for land, implements, etc.	37	3.8	3.1	3.7	3.2
20	Sales contracts for soybeans, beef, etc.	37	3.8	2.7	3.4	2.8
20	Rental and leasing arrangements	37	3.8	3.2	3.6	3.2
23	Relationship between farm and home credit	40	3.6	3.2	3.3	3.1
24	Credit life insurance	41	3.3	2.9	3.2	2.7
25.5	Availability of government emergency loans	42.5	3.1	2.3	3.0	2.4
25.5	Crop insurance as a means to reduce risk	42.5	3.1	2.9	3.2	2.9

Overall mean score for understandings

[a] Rank of understandings needed by association members (CIFBA)
[b] Overall rank of understandings and abilities needed by association members (CIFBA)
[c] 5 = very much, 4 = much, 3 = some, 2 = little, 1 = no.

Table 1. (continued)

Rank[a]	Competencies--Abilities needed (17 items)	Overall rank[b] (43 items)	Mean scores--abilities: Needed[c] (CIFBA N=117)	Possessed[c] (CIFBA N=117)	Needed[c] (Random sample N=94)	Possessed[c] (Random sample N=94)
1.5	Keep complete and accurate farm records	2.5	4.5	3.9	4.2	3.6
1.5	Analyze and interpret farm records and results	2.5	4.5	3.5	4.2	3.4
3	Distinquish between actual needs and mere desires	4	4.4	3.5	4.2	3.7
4.5	Compute management returns	6	4.3	3.3	4.0	3.2
4.5	Gain confidence of lenders	6	4.3	3.7	4.1	3.6
9	Determine own credit strengths and weaknesses	13	4.2	3.4	4.0	3.4
9	Compute true interest rate	13	4.2	3.8	4.0	3.5
9	Budget anticipated costs and returns	13	4.2	3.3	3.9	3.3
9	Prepare and interpret a new worth statement	13	4.2	3.5	4.0	3.4
9	Prepare an income (profit and loss) statement from current years operations	13	4.2	3.3	3.9	3.3
9	Plan repayment schedules to fit expected income	13	4.2	3.5	4.0	3.6
9	Effectively communicate with credit representatives	13	4.2	3.6	4.1	3.4
9	Determine total "least cost" credit sources for financing your farm business	13	4.2	3.5	3.9	3.3
14.5	Plan credit needs on an annual basis	22	4.1	3.3	3.9	3.2
14.5	Relate present credit plans to long term plans	22	4.1	3.2	3.9	3.2
16.5	Differenciate between short, intermediate and long term credit	28	4.0	3.6	3.8	3.5
16.5	Evaluate available credit sources	28	4.0	3.3	4.0	3.1
	Overall mean score for abilities		4.2	3.5	4.0	3.4
	Total overall mean scores for understandings and abilities		4.0	3.4	3.8	3.3

[a] Rank of abilities needed by association members (CIFBA)
[b] Overall rank of understandings and abilities needed by association members (CIFBA)
[c] 5 = very much, 4 = much, 3 = some, 2 = little, 1 = no.

VT 003 576
Carlson, Keith Ransom
Competencies Needed by Farm Credit Agency Employees.

Iowa State Univ. of Science and Technology, Ames. Dept. of Education
Iowa Agriculture and Home Economics Experiment Station, Ames
Iowa State Dept. of Public Instruction, Des Moines. Vocational Agriculture Section
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Oct65 11p.

AGRICULTURAL EDUCATION; AGRICULTURAL SKILLS; BUSINESS SKILLS; CREDIT (FINANCE); OCCUPATIONAL SURVEYS; *JOB SKILLS; *OFF FARM AGRICULTURAL OCCUPATIONS; *EDUCATIONAL NEEDS

A study was conducted to determine competencies needed by farm credit agency employees, determine the relation of certain factors to competence needed and possessed, and plan for educational needs. A panel of nine credit agency representatives listed 33 competencies, 13 agricultural and 20 of a general credit nature, which were rated as to degree needed and possessed by 100 credit agency employees. The degree of competency needed was higher than the degree possessed for 31 of the 33 competencies. The largest differences were for (1) guidelines used for loan analysis, (2) maximizing credit return, (3) cash flow and credit needs, (4) payment types and forebearance plans, and (5) business law. Those ranked highest in need included cognizing poor and good financial management, conversing with farmers, and determining repayment ability and desire. Those ranked highest as possessed included conversing with farmers, figuring net worth, and working basic arithmetic. Men with farm backgrounds possessed higher agricultural competence and those without a farm background possessed higher nonagricultural competence. Men who had attended an agricultural college possessed higher competence in both categories. Annual salaries ranged from less than $6,000 to over $15,000. Those who had vocational agriculture, had a farm background, and were older earned higher salaries. This is an abstract of an M.S. thesis submitted to Iowa State University of Science and Technology. (JM)

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COMPETENCIES NEEDED BY FARM CREDIT AGENCY EMPLOYEES

Keith Ransom Carlson

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Department of Education

and

Iowa Agriculture and Home Economics Experiment Station
Iowa State University of Science and Technology
Ames, Iowa

in cooperation with

Vocational Agriculture Section
Division of Vocational Education
State Department of Public Instruction
Des Moines, Iowa

VT003576

This is an abstract of a thesis submitted in October of 1965 to Iowa State University of Science and Technology by Keith Ransom Carlson in partial fulfillment of the requirements for the degree of Master of Science.

The study is one of a series conducted by the Department of Education of Iowa State University of Science and Technology with assistance of graduate students in agricultural education in cooperation with the Iowa Agriculture and Home Economics Experiment Station and the Vocational Agriculture Section, Division of Vocational Education, State Department of Public Instruction, Des Moines, Iowa.

This abstract was prepared by Keith Ransom Carlson with the assistance of John B. McClelland of the Department of Education under the direction of Professor C. E. Bundy.

COMPETENCIES NEEDED BY FARM CREDIT AGENCY EMPLOYEES

by

Keith Ransom Carlson

Purpose of the Study

The purposes of the study were: (1) to determine the competencies needed by men engaged by farm credit agencies, (2) to determine the relation of salary, experience, number of clients, years of vocational agriculture, age, farm background, type of agency, college attendance and miles traveled to the evaluation of the degree of competence needed and possessed by farm credit employees in Iowa, and (3) to plan for educational needs of future replacement farm credit employees.

Method of Procedure

For this study the major sources of non-governmental credit were used. The basic competencies used were suggested by nine selected men employed by production credit associations, federal land bank associations and outside farm representatives of Iowa banks. The list of competencies was incorporated into questionnaires and mailed to all banks that employed outside farm representatives, all production credit association managers, and managers of the federal land bank associations in Iowa. These men were asked to determine the degree they felt the competencies were needed and to indicate the degree they possessed these competencies.

Findings

Of the 33 competencies used 13 were of a definite agricultural origin, while the remaining 20 were of a general credit nature. The farm credit agency employees evaluated the degree needed higher than the degree possessed for 31 of the 33 competencies used. The two competencies that had a higher degree possessed than degree needed rating were the understanding of different varieties of crops and the ability to figure depreciation.

The largest differences in mean needed and possessed scores were between: understanding of basic credit guidelines used for loan analysis, mean needed score 8.06 and mean possessed score 6.92; ability to use credit for maximum returns, mean needed score 7.39 and mean possessed score 6.30; ability to determine cash flow and credit needs, mean needed score 7.50 and mean possessed score 6.43; understanding of types of payments and forbearance plans mean needed score 7.53 and mean possessed score 6.46; and understanding of business law, mean needed score 5.93 and mean possessed score or 4.83.

Table 1. Relationship of ranked mean credit competency scores needed and possessed by farm credit employees

Competency	Mean needed score[a]	Rank	Mean possessed score[b]	Rank	Mean score difference
Recognize poor and good financial management	8.28	1	7.41	4	.87
Converse easily with farmers	8.26	2	7.87	1	.39
Determine repayment ability and desire	8.20	3	7.24	6	.96
Recognize ability to handle credit	8.12	4	7.19	7	.93
Set up loans so they fit the individual farms	8.10	5	7.33	5	.77
Basic credit guidelines used for loan analysis	8.06	6	6.92	12	1.14
Evaluate character	7.98	7	7.13	8-9	.85
Work basic arithmetic	7.92	8-9	7.58	3	.34
Loan security (chattel and real estate)	7.92	8-9	7.13	8-9	.79

[a]Degree competency needed: 0-1--None, 2-3--Little, 4-5--Some, 6-7--Much, 8-9--Very much

[b]Degree competency possessed: 0-1--None, 2-3--Little, 4-5--Some, 6-7--Much, 8-9--Very much

Table 1. (Continued)

Competency	Mean needed score[a]	Rank	Mean possessed score[b]	Rank	Mean score difference
Advise farmers how to use credit	7.88	10	7.11	10	.77
Figure net worth	7.84	11	7.59	2	.25
Judge a farmer's drive and character	7.78	12	6.95	11	.83
Draw effective loan documents	7.63	13	6.79	15	.84
Type of payments and forbearance plans	7.53	14	6.46	19	1.07
Determine cash flow and credit needs	7.50	15	6.43	20-21	1.07
Use credit for maximum returns	7.39	16	6.30	22	1.09
Analyze a farmer's ability to select and handle farm enterprises	7.34	17	6.43	20-21	.91
Figure livestock income and expenses	7.29	18	6.82	13	.47
Compute net income	7.12	19	6.81	14	.31
Budget expected income and expenses	7.10	20	6.70	16	.40
Figure livestock income over feed costs	7.01	21	6.68	17	.33
Reasonable production costs for crops	6.92	22	6.52	18	.40

Table 1. (Continued

Competency	Mean needed score[a]	Rank	Mean possessed score[b]	Rank	Mean score difference
Compute management returns	6.70	23-24	6.04	25	.66
Assess health and family factors	6.70	23-24	5.90	28	.80
Family living expenses	6.44	25	6.08	24	.36
Economic principles	6.43	26	5.77	30-31	.66
Short range outlook	6.40	27-28	5.91	27	.49
Bookkeeping principles	6.40	27-28	5.77	30-31	.63
Reasonable machinery investment-rotated acre	6.39	29	5.94	26	.45
Figure depreciation	6.01	30	6.10	23	-.09
Business law	5.93	31	4.83	33	1.1
Proper use of fertilizer and insecticides	5.89	32	5.84	29	.04
Different varieties of crops	5.70	33	5.73	32	-.03

The 10 competencies that ranked the highest in need were: (1) recognize poor and good financial management, (2) converse easily with farmers, (3) determine repayment ability and desire, (4) recognize ability to handle credit, (5) set up loans so that they fit the individual farm, (6) set basic credit guidelines used for loan analysis, (7) evaluate character, (8-9) work basic arithmetic, (8-9) understand loan security (chattel and real estate) and (10) advise farmers how to use credit.

The 10 competencies that had the highest ranking mean possessed scores were: (1) converse easily with farmers, (2) figure net worth, (3) work basic arithmetic, (4) recognize poor and good financial management, (5) set up loans so they fit the individual farm, (6) determine repayment ability and desire, (7) recognize ability to handle credit, (8-9) understand loan security (chattel and real estate), (8-9) evaluate character, and (10) advise farmers how to use credit.

The farm credit employees indicated the lowest need for the following competencies: compute management returns, assess health and family factors, family living expenses, economic principles, bookkeeping principles, short range outlook, reasonable machinery investment per rotated acre, figure depreciation, business law, proper use of fertilizer and insecticides, and different varieties of crops.

The competencies with the lowest mean possessed scores were: figure depreciation, family living expenses, compute management returns, reasonably machinery investment/rotated acre, short range outlook, assess health and family factors, proper use of fertilizer and insecticides, bookkeeping principles, economic principles, different varieties of crops, and business law.

Men with a farm background possessed a higher degree of competence for agricultural competencies than those men without a farm background. Men not raised on a farm, did, however, possess more competence in non-agricultural competencies. Men who attended an agricultural school possessed a higher degree of competence in both categories when compared with men who did not attend an agricultural school.

The difference between needed and possessed means was the largest for non-agricultural competencies. The smallest difference between needed and possessed means was for non-agricultural competencies by men who were not raised on a farm or by those who attended an agricultural college.

The salary varied widely for the 100 men employed by credit agencies. Five men earned less than $6000 while two men were earning in excess of $15,000 per year. One-half of the men earned between $7001 and $9000 per year. The years of experience had an effect on the salaries received by the men. The modal salary for the men who had worked from 6-10 years was $7001-$8000. Men with 11-15 years of experience had modal salaries of $9001-$10,000. After 15 years of experience it became less obvious that the years of experience affected the salary received.

Vocational agriculture in high school appeared to have had an influence on salaries. The modal range of the group which did not take vocational agriculture in high school was $7001-$8000. The modal range for those with either three or four years of vocational agriculture was $9001-$10,000.

The outside farm representatives had the most variation in salary from a low of $5000 to over $15,000. Production credit association manager's salaries ranged from $7001-$10,000, while the managers of federal land bank associations earned $6001-$10,000 per year.

Salaries were higher for those who were raised on a farm than those who were not raised on a farm. The modal group for those raised on a farm was $9001-$10,000, while the modal group for those not raised on a farm had salaries between $7001-$8000 per year.

There was a high correlation between salary and age. The modal salaries for the respective ages were as follows: 26-30 years of age, $6000-$7000; 31-35 years of age, $7001-$8000; and 36-45 years of age, $8001-$9000. After 45 years of age the age appeared to have less influence on salary, however, the two men with salaries over $15,000 were in the 46-51 years of age group.

There were several differences between the men hired for particular agencies. Most of production credit association managers and outside farm representatives were raised on a farm, 91 and 89 percent respectively. Seventy-five percent of the federal land bank association managers were raised on farms.

None of the production credit association managers traveled over 13,000 miles each year. Considering all types of credit agencies, twenty-one percent of the men traveled over 12,000 miles per year. The federal land bank association managers, however, did the most traveling each year.

Seventy-five percent of the production credit association managers had not taken vocational agriculture in high school. This compared with 56 and 55 percent for the federal land bank associations and outside farm representatives respectively.

Outside farm representatives and federal land bank association managers were closely related as to age with men from 26 to over 66 years of age. The production credit association managers ranged from 31 to 60.

Eighty-five percent of the credit employees attended college as part of their preparation for their jobs. The production credit agency men had the lowest percent attending college, as only 67 percent attended.

Of the 58 men with no high school vocational agriculture, 84 percent had attended college. Of the men with three or four years of vocational agriculture, however, 96 percent had attended college. This indicated that vocational agriculture did not interfere with college preparation and probably encouraged attendance.

Implications

The need and opportunities in the farm credit field should be shown to the high school students. The value of a farm background and training in vocational agriculture should be stressed. The encouragement to attend college and the higher salaries for those students who enrolled in vocational agriculture should not be overlooked during guidance activities of the vocational agriculture instructor. Training in the 33 competencies should begin in the high school with as much practical experience as possible. Additional training by the agricultural colleges or the banks themselves would also appear in order for the farm credit employees.

VT 003 578
Hoyt, Lindley John
Competencies in Livestock Marketing Needed by Farmers.

Iowa State Univ. of Science and Technology, Ames. Dept. of Education
Iowa Agriculture and Home Economics Experiment Station, Ames
Iowa State Dept. of Public Instruction, Des Moines. Vocational Agriculture Section
MF AVAILABLE IN VT-ERIC SET.
Pub Date Aug65 14p.

AGRICULTURAL SKILLS; AGRICULTURAL EDUCATION; OCCUPATIONAL SURVEYS; *MARKETING; *LIVESTOCK; *FARMERS; *EDUCATIONAL NEEDS; *JOB SKILLS
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The purposes of this study were to determine the marketing competencies needed by livestock producers, and the relation of personal and training background factors to the producer's evaluation of the need and possession of each competency, and to plan for the educational needs of producers. A list of 74 competencies developed by a panel of 12 livestock specialists and refined by livestock association secretaries, was evaluated as to the degree each was needed and possessed by 80 beef, 81 swine, and 79 sheep producers in Iowa. The relative need, relative possession, and difference between need and possession were computed for each competency. Beef producers needed the abilities to estimate grade and yield of cattle, to estimate cost of grain to select a market, and figure returns above costs. Sheep producers needed the abilities to determine when to sell lambs for best meat carcass, grade sheep and lambs, figure feed conversion, and determine costs and marketing methods. Swine producers needed the abilities to figure feed cost and conversion, to select profit producing practices and to have adequate loading facilities. Understandings needed by the three groups included market cycles and trends and price affecting factors. The greatest differences between competencies needed and possessed were found among younger producers, less experienced producers, more educated sheep producers, less educated beef producers, smaller operators, those with less vocational agriculture, and adult livestock production training, and those not in purebred or cross bred production. Correlations were found among control factors, between control factors and competencies, and between need and possession of competencies. This is an abstract of an M.S. thesis submitted to Iowa State University of Science and Technology. (JM)

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COMPETENCIES IN LIVESTOCK MARKETING NEEDED BY FARMERS

Lindley John Hoyt

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Aug-65

Department of Education

and

Iowa Agriculture and Home Economics Experiment Station
Iowa State University of Science and Technology
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VT003578

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This abstract was prepared by Lindley John Hoyt with the assistance of Alan Kahler, research assistant for the Iowa Agriculture and Home Economics Experiment Station Project 1253, under the direction of Professor C. E. Bundy.

COMPETENCIES IN LIVESTOCK MARKETING NEEDED BY FARMERS

by

Lindley John Hoyt

Purpose of the Study

The purposes of this study were: (1) to determine the competencies needed by beef, sheep, and swine producers in order to be successful in livestock marketing, (2) to determine the relation of certain personal factors in the background and training of a selected sample of beef, sheep, and swine producers in Iowa to their evaluation of the degree of competence needed and the degree possessed in each of the competencies, (3) to plan for educational needs of future replacement of beef, sheep, and swine producers.

Method of Procedure

The panel responsible for developing the list of competencies used in this study consisted of 12 men, who are specialists in beef, sheep, and swine production and marketing.

The competencies selected by the specialists were carefully scrutinized by the state secretaries of beef, sheep, and swine associations before they were used in a questionnaire which was submitted to a select group of 100 beef, 100 sheep, and 100 swine producers in Iowa. Those livestock producers were asked to evaluate the degree of competency that they needed to succeed in marketing livestock efficiently, and the degree that they presently possessed. The rating of degree of competency was on a five-point scale (1 to 5). Certain personal information was requested for use in stratifying the respondents. Usable questionnaires were received from 80 beef, 81 swine, and 79 sheep producers.

Findings

The competencies needed in the various areas of livestock production which were selected by the panel of specialists are listed in the tables. Of the 74 competencies, 35 were classified as abilities and 39 as understandings.

The mean scores for the degree of the competencies which beef producers indicated that they needed and possessed are shown in Table. 1. The competencies were scored on a five-point scale, with 5 indicating very much competence needed, or possessed, and 1

Table 1. Degree that beef marketing competencies were needed and possessed by selected producers by major livestock enterprise

Competencies	Mean scores					
	N=80 Beef		N=50 Sheep		N=63 Swine	
	Needed[a]	Possessed[b]	Needed[a]	Possessed[b]	Needed[a]	Possessed[b]
Ability to:						
Estimate weight of beef cattle	3.8	3.3	2.4	2.1	3.1	2.6
Sell cattle when they are ready for their grade	3.0	3.7	2.9	2.1	3.3	2.6
Estimate grade and yield of cattle	4.1	3.4	2.6	2.0	3.0	2.3
Figure pencil shrink	3.8	3.5	2.6	2.0	3.0	2.3
Estimate cost of grain at different weights	4.0	3.6	2.7	2.2	3.1	2.7
Select market for kind of cattle produced	3.9	3.7	2.7	2.2	2.8	2.7
Prepare cattle for shipment	3.6	3.8	2.4	2.3	2.7	2.6
Feed properly when moving cattle to minimize shrink	3.7	3.6	2.4	2.3	2.7	2.6
Select trucker on livestock hauling reputation	3.5	3.8	2.6	2.6	2.4	2.9
Select commission firm	3.8	3.1	2.5	2.1	2.7	2.5
Select market (local-terminal)	4.0	3.8	2.7	2.3	2.8	2.8
Figure returns above costs	4.1	3.8	2.8	2.5	2.9	2.7
Overall mean scores for abilities	3.8	3.6	2.6	2.2	2.9	2.6
Understandings of:						
Beef marketing trends and cycles	4.1	3.0	2.8	2.2	3.1	2.2
Producing cattle which meet market demands during the year	4.1	3.4	2.7	2.0	3.0	2.2
Spreading marketing throughout the year	4.0	3.4	2.6	2.2	2.8	2.4
County, state and national beef promotional organizations	4.4	2.9	3.2	2.1	2.8	2.3
Beef futures market	3.9	2.5	2.7	1.7	2.9	1.9

[a]5--very much competence needed, 4--much competency needed, 3--some competence needed, 2--little competence needed, 1--no competence needed.

[b]5--very much competence possessed, 4--much competence possessed, 3--some competence possessed, 2--little competence possessed, 1--no competence needed.

Table 1 (continued)

Competencies	Mean scores					
	N=80 Beef		N=50 Sheep		N=63 Swine	
	Needed	Possessed	Needed	Possessed	Needed	Possessed
Understanding of:						
Effect of chain stores on price of cattle	4.0	3.2	2.6	1.9	2.9	2.2
Consumer demands for beef	4.2	3.3	3.2	2.5	2.5	3.4
Long-range effect of wage contracts giving cost-of-living wage increases	4.0	2.6	2.6	2.3	3.5	2.1
Meat substitutes and overall effect on beef cattle prices	4.0	2.8	3.0	1.9	3.1	2.1
Feed additives as related to carcass quality	4.0	3.2	3.2	2.4	3.8	2.6
Livestock loss and factors causing such loss	4.2	3.5	3.1	2.9	3.1	2.5
Carcass cut-out information	3.5	3.1	3.3	3.0	3.4	2.5
Effect of holding cattle over for another year's income	4.0	3.5	2.8	2.6	2.7	2.2
Overall mean scores for understandings	4.0	3.1	2.8	2.3	3.0	2.3

indicating no competence needed, or possessed. The mean scores were 4.0 (much competence needed) or higher for the abilities: to estimate grade and yield of cattle, to estimate cost of grain at different weights, to select a market, and to figure returns above costs.

The mean scores of beef producers for understandings needed were 4.0 or higher for the understandings: of beef marketing trends and cycles; of producing cattle which meet market demands during the year; of county, state and national beef promotional organizations; of effect of chain stores on prices of cattle; of consumer demands for beef; of long-range effect of wage contracts giving cost-of-living wage increases; of meat substitutes and overall effect on beef cattle prices; of feed additives as related to carcass quality; of livestock loss and factors causing such loss; and understanding of the effect of holding cattle over for another year's income.

As shown in Table 2, the mean scores of sheep producers for the degree of competence needed were 4.0 (much competence needed) or higher for the abilities: to determine when to sell lambs to produce a desirable meat carcass, to grade sheep ready for market, to sort lambs by weight and grade, to figure feed conversion, to figure returns above costs, and to determine the marketing method giving the greatest return.

The mean scores of sheep producers for understandings needed which were scored 4.0 or above were for the understandings: of sheep market trends and cycles, of grading wool and its effect on gross income from sheep, of factors influencing the price of wool, of wool pools and their long-range effect on your wool income, of government wool support program, of livestock loss and factors causing such loss, and of importance of meat-type rams in commercial lamb programs.

In Table 3 the mean scores are shown for the degree of competencies in swine marketing needed and possessed as indicated by the livestock producers. The mean scores were 4.0 (much competence needed) or higher for the abilities: to figure feed cost of a 200# hog, to figure feed conversion of pigs above 200#, to select the market which gives the best net return, to have adequate loading facilities for safe loading, to figure returns above costs, and the ability to evaluate methods of marketing and select the one giving the greatest return. These scores are revealed in Table 3.

Understandings needed with mean scores of 4.0 or higher for swine producers included understandings: of proper weight when selling hogs, of hog market trends and cycles, of ways of marketing hogs, of influence of heritability factors on market grade or dressing percentage, of influence of heritability factors on carcass quality and quantity in pork, of consumer demand for pork, of feed conversion as an animal goes above 210#, of livestock loss and the factors causing such loss, of meat substitutes and their overall effect on hog production, and of year end marketing effect on net profile.

Table 2. Degree that sheep marketing competencies were needed and possessed by selected producers by major livestock enterprise

Competencies	Mean scores					
	N=16 Beef		N=79 Sheep		N=28 Swine	
	Needed[a]	Possessed[b]	Needed[a]	Possessed[b]	Needed[a]	Possessed[b]
Ability to:						
Do a good job of buying lambs	3.9	2.4	4.5	3.9	4.0	2.2
Determine when to sell lambs to produce a desirable meat carcass	4.0	2.4	4.3	4.0	3.8	2.5
Select market giving best return	3.9	2.7	4.3	2.5	3.8	2.5
Grade sheep ready for market	4.0	2.4	4.3	3.9	4.0	2.3
Estimate weight of lambs	3.8	2.8	4.2	3.9	3.8	2.6
Estimate shrink to marker	3.8	2.3	3.9	2.6	3.8	2.1
Sort lambs by weight and grade	4.2	2.3	4.3	3.8	3.9	2.2
Figure feed conversion	4.2	4.2	4.1	2.5	4.0	2.3
Figure feed cost per pound of gain beyond 90#	3.8	2.6	3.9	3.4	3.9	2.5
Figure returns above costs	4.2	2.9	4.3	3.9	3.8	2.5
Feed to minimize shrink	3.5	2.4	4.2	3.4	3.7	2.1
Determine marketing method giving greatest return	4.1	2.7	4.3	3.7	3.7	2.6
Overall mean scores for abilities	3.8	2.7	4.3	3.6	3.9	2.2
Understandings of:						
Sheep market trends and cycles	4.1	2.2	4.2	3.6	3.6	2.4
Natural love for sheep	3.9	2.4	3.8	4.2	4.0	2.1
Grading of wool and its effect upon gross income from sheep	4.2	2.3	3.9	2.5	3.9	2.3
Factors influencing price of wool	4.1	2.3	4.2	3.4	3.7	2.2
Wool pools and their long-range effect on your wool income	4.1	2.2	4.0	2.9	3.9	2.1
Lamb and wool promotional programs and their effect on prices	3.4	2.1	4.1	3.5	3.9	2.4

[a]5--very much competence needed, 4--much competence needed, 3--some competence needed, 2--little competence needed, 1--no competence needed.

[b]5--very much competence possessed, 4--much competence possessed, 3--some competence possessed, 2--little competence possessed, 1--no competence possessed.

Table 2 (continued)

Competencies	Mean scores					
	N=16 Beef		N=79 Sheep		N=28 Swine	
	Needed	Possessed	Needed	Possessed	Needed	Possessed
Understandings of:						
Religious customs influence on lamb demand	3.8	2.1	3.8	3.2	3.7	2.1
Consumer demand for lamb	3.8	2.2	4.6	4.0	4.1	2.3
Government wool support programs	4.1	2.7	4.4	4.2	3.6	2.4
Feed additives as related to carcass quality	3.9	2.0	4.2	4.0	3.9	2.1
Livestock loss and factors effecting such loss	4.1	2.3	4.4	4.1	3.8	2.3
Carcass cut-out information	3.3	2.0	4.3	4.3	3.9	2.1
Importance of meat-type rams in commercial lamb programs	4.1	2.3	4.2	4.0	4.0	2.7
Overall mean scores for understandings	3.8	2.2	4.1	3.7	3.8	2.3

Table 3. Degree that swine marketing competencies were needed and possessed by selected producers by major livestock enterprise

Competencies	Mean scores					
	N=67 Beef		N=50 Sheep		N=81 Swine	
	Needed[a]	Possessed[b]	Needed[a]	Possessed[b]	Needed[a]	Possessed[b]
Ability to:						
Estimate market grade of a hog	3.9	3.4	2.9	1.4	4.0	1.6
Estimate backfat thickness of a market hog	3.9	2.8	4.0	2.8	3.8	3.1
Figure feed cost of a 200# hog	4.1	3.5	2.3	3.5	3.8	3.7
Figure feed conversion of pigs above 200#	4.0	3.3	4.1	3.6	4.3	3.5
Select market which gives best net return	4.1	3.7	4.5	4.0	4.1	3.8
Select a trucker for safe marketing	3.6	4.0	3.9	4.0	3.4	3.8
Have adequate loading facilities for safe loading	4.1	4.2	3.9	4.1	3.6	4.0
Prepare transporting vehicle for safe hauling of hogs	3.7	4.0	3.9	4.1	3.5	3.8
Load carefully to minimize shrink	3.8	4.0	4.0	4.2	3.6	3.8
Figure returns above costs	4.2	3.8	4.2	3.8	3.9	3.7
Evaluate methods of marketing and select one giving greatest return	4.1	3.6	4.2	3.7	4.2	3.7
Overall mean scores for abilities	3.8	3.9	3.8	3.6	3.8	3.5
Understandings of:						
Value of meatiness in a hog carcass	3.9	3.3	4.2	3.5	4.0	3.6
Proper weight when selling hogs	4.0	4.0	2.6	3.9	3.9	4.0
Hog market trends and cycles	4.0	3.1	4.2	2.6	3.9	3.4
Ways of marketing hogs (by weight, grade and yield and sort)	4.0	3.7	4.3	3.7	3.9	3.9
Carcass cut-out information	3.8	3.0	4.1	3.0	3.8	3.3

[a]5--very much competence needed, 4--much competence needed, 3--some competence needed, 2--little competence needed, 1--no competence needed.

[b]5--very much competence possessed, 4--much competence possessed, 3--some competence possessed, 2--little competence needed, 1--no competence needed.

Table 3. (continued)

Competencies	Mean scores					
	N=67 Beef		N=50 Sheep		N=81 Swine	
	Needed	Possessed	Needed	Possessed	Needed	Possessed
Understandings of:						
Influence of heritability factors on market grade or dressing percentage	4.0	2.9	3.9	3.1	4.1	3.4
Influence of heritability factors on carcass quality and quantity in pork	4.0	3.2	4.2	3.1	3.9	3.4
Consumer demands for pork	4.7	3.2	4.1	3.3	4.0	3.2
Feed conversion as an animal goes above 210#	4.1	3.3	4.1	3.4	4.0	3.5
Livestock loss and the factors causing such loss	4.1	3.5	4.2	3.6	4.0	3.5
Transportation and feeding to minimize shrink	3.6	3.6	4.0	3.6	3.6	3.2
Meat substitutes and their overall effect on hog production	4.2	2.9	4.0	3.1	3.9	2.8
Year end marketing effect on net profit	4.0	3.3	4.0	3.3	3.9	3.4
Overall mean scores for understandings	4.1	3.3	4.0	3.3	3.9	3.4

Beef producers indicated, as shown in Table 1, that they possessed more competency than needed in the abilities: to sell cattle when they are ready for their grade, to prepare cattle for shipment, and to select a trucker on livestock hauling reputation. The mean scores shown in Table 2 indicate that sheep producers did not feel that they possessed more competency than needed but did feel that they possessed as much ability as was needed to figure feed conversion. Information given in Table 3 indicates that swine producers felt that they possessed more ability than needed to select a trucker for safe marketing, to have adequate loading facilities for safe loading, to prepare transporting vehicle for safe hauling of hogs, and to load carefully to minimize shrink.

Differences between overall mean scores for abilities needed and possessed were .5 for the beef producers, 1.1 for the sheep producers, and .1 for swine producers. The differences that existed between the groups for understandings needed and possessed were .5 for the beef producers, 1.6 for the sheep producers, and .8 for the swine producers.

The differences between overall mean scores for competencies needed and possessed were .6 for the beef producers, 1.0 for the sheep producers, and .2 for the swine producers.

Comparisons among groups showed the following differences between the total overall mean scores for competency needed and possessed: (1) Younger livestock producers had wider differences than older livestock producers. (2) Livestock producers with fewer years of experience had wider differences than those with more experience. (3) Sheep producers with more formal education, had wider differences, whereas beef producers with less formal education, had wider differences. (4) Increased years of vocational agriculture tended to decrease the differences. (5) Men without training in livestock production in young farmer, adult evening class or veterans on-farm training had wider differences than those who had had such training. (6) Those with the smaller size of livestock enterprise tended to have the wider differences, except in the case of sheep producers where the reverse was true. (7) Producers who had grade and combination livestock tended to have wider differences than purebred and crossbred producers.

Correlations were found between age and years of farming experience (+) and age and years of vocational agriculture (-), years of farming experience and educational level attained (-). In beef marketing, both age and years of farming experience were correlated with scores for the degree of understanding needed of county, state, and national beef promotional organizations. One competency was found correlated with a control factor in sheep marketing; it was the age of the farmer with scores for understanding needed of livestock loss and factors effecting such loss (+). Four control factors were correlated with competencies needed in swine marketing. They were age of farmer and years of farming experience with scores for the ability needed to select the market which gives the best return.

When scores for the degree of competencies needed in 18 selected competencies were correlated with the scores for the competency possessed in the same 18 competencies, four were found to be significant at the 1 percent level and five were significant at the 5 percent level.

There seemed to be a high positive correlation between scores for the abilities needed to do a good job of buying and marketing lambs, to understand consumer demands for lambs, to evaluate the carcass of lambs, to estimate market of hogs, and to figure returns above costs with number of hogs marketed.

Implications

There were 23 competencies selected as being needed for success in beef marketing, 25 in sheep marketing and 19 in swine marketing. It is important that these 67 competencies be considered carefully in planning training programs for present and prospective beef, sheep and swine producers. They should form the basis for livestock marketing instruction in vocational agriculture classes for high school youth, for young farmers; and for adults; in the cooperative agriculture extension program; in area vocational schools; in junior colleges with post-high school programs in off-farm agricultural occupations; and in the College of Agriculture resident instructional programs.

These competencies should be emphasized in providing in-service training for present livestock producers. In-service training should be offered specifically in vocational agricultural departments, in the cooperative extension programs, in area vocational-technical schools, and in junior colleges offering training in off-farm agriculturally related occupations. This training would greatly improve the efficiency of livestock producers, improve their ability to market more efficiently, and produce the amount and quality of livestock products available to consumers.

VT 003 611
On-the-Job Training, The Story of OJT in Iowa.

Iowa State Manpower Development Council, Des Moines
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 66 20p.

*ON THE JOB TRAINING; *PROGRAM DESCRIPTIONS
IOWA

The Iowa State Manpower Development Council, started in July 1965, operated as an experimental and demonstration project of the United States Department of Labor. Its purpose was to coordinate a number of manpower programs and to strive for maximum development of human resources. Since December 1965, the Council has administered a statewide On-The-Job Training program (OJT). During the training period, from 8 to 26 weeks, the trainee was paid a regular salary for his position, and the employer was reimbursed up to $25 per week for teaching the new skills. In 1966, the OJT program served 600 trainees and 188 employers. Of these trainees, 411 completed training. Trainees included the young, the not-so-young, and the socially or physically handicapped from both rural and urban backgrounds. They were referred to the OJT program from public and private agencies. The 1967 OJT Program allocated $280,670 for 262 trainees. In addition, the Council, Employment Service and vocational education cooperated in initiating and planning classroom training programs for 384 of the trainees. Combining OJT and classroom programs should lower total manpower training costs and increase the quality of training and skill development. A summary of trainee characteristics and a sample training certificate are included. (EM)

VT 003 611

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OFFICE OF EDUCATION

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IOWA STATE MANPOWER DEVELOPMENT COUNCIL

ON-THE-JOB TRAINING

500 EAST LOCUST STREET DES MOINES, IOWA 50319 TELEPHONE 515 / 281-5965

VT003611

ON-THE-JOB-TRAINING

The Story of

Iowa

NEW SKILL TRAINING

Since December of 1965 the Iowa State Manpower Development Council has administered a statewide On-The-Job Training program. This is one of the easiest of all federal programs to explain. In OJT a person is placed on the job for training in a new skill. At the end of the training period—from 8 to 26 weeks—the trainees who successfully learn new skills are retained by the employer as a regular employee.

During the training period the trainee is paid a regular salary for his position, and the employer is reimbursed for teaching the new skills—up to a maximum of $25 per week.

The Iowa State Manpower Development Council is an experimental and demonstration project of the United States Department of Labor. It was started in July, 1965 and was to operate for 18 months. Because of the success of the Manpower Development Council, the U. S. Labor Department has continued its contract until December, 1967. As a state agency, it operates out of the Office of the Governor.

Purpose of the Council is to cordinate the vast number of manpower programs in Iowa and to strive for the maximum development of human resources in the state.

Very little of Iowa's allocation of OJT funds were being used prior to the establishment of the Manpower Development Council. Now, all allocated funds are being put to use.

Money for OJT and other programs under the Manpower Development and Training Act comes from the Bureau of Apprenticeship and Training—part of the Manpower Administration of the federal Department of Labor.

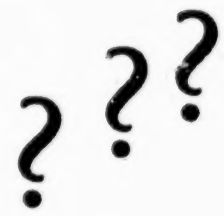
OJT is the least expensive of all federal training programs, and the cost per trainee in Iowa during 1966 was the lowest in this region.

When OJT first was introduced as a national program, large numbers of trainees were assigned to large manufacturing concerns. The program in Iowa has focused on the needs of the individual, and only a few trainees—sometimes only one—have been placed with any particular employer. The small businessman has benefited from this aspect of the program.

The Manpower Development Council was originally granted $100,908 to place 200 trainees in four areas of Iowa during 1966. The program moved faster than anticipated, and the grant was increased to $266,319 to provide training for 500 Iowans, and extended to the entire state.

The OJT program in 1966 served a total 600 trainees, and 188 employers. Of the total number of trainees, 411 completed training successfully and are now taxpaying members of the Iowa labor force.

Mrs. Helen Thomas is training under OJT as an auto mechanic at Langwith Motors in Davenport. "I enjoy the work and making my own way," says Mrs. Thomas. Kenneth Stringer, vice president of the auto firm says, "I think this is an excellent way of helping people to enter or re-enter the labor market."



WHO ARE THE TRAINEES?

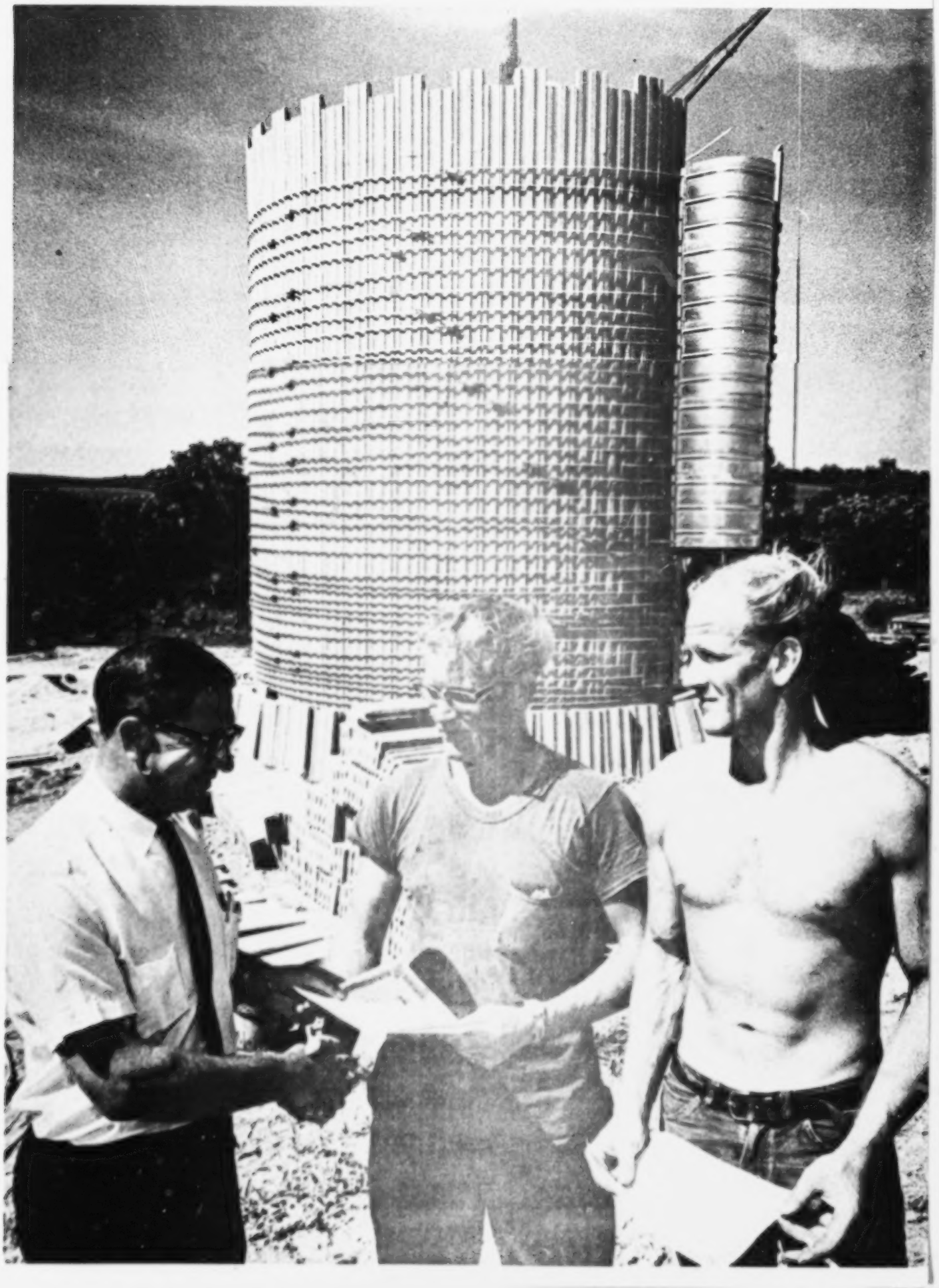
The trainees embrace a wide cross section of young men and women, and those not so young. Some are handicapped because of social barriers, some because of physical limitations. Some are from rural backgrounds. They have in common a record of unemployment or underemployment. All need new skills to enter the labor force, some need employment counseling.

Trainees are referred to the OJT project from many public and private agencies. They are referred from Employment Service, from various welfare agencies, from Vocational Rehabilitation, some have been automated out of their previous jobs.

An attempt is made to place each trainee in a position where he will do well, and one which he will like—and one which will be satisfactory to the employer.

An appendix at the end of this report shows some of the characteristics of the trainees.

These two young men received certificates of successful training completion from Don Dripps of the Vinton Concrete Crib and Silo Company. They were among the first placed on OJT in Iowa.



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LOOK TO THE FUTURE

The Manpower Development Council is now operating the OJT project under a new contract for 1967.

While there are some new aspects of the program, designed to get more training per dollar and to utilize other federal training programs, the emphasis is still the same: help the individual gain better marketable skills, and to help the employer meet job shortages.

> A State Manpower Coordinating Committee has been established to improve planning, coordination, and programming of all manpower programs in Iowa. Under this committee are 16 Area Manpower Coordinating Teams in 16 areas of the state. The local teams meet to make sure each trainee is given an opportunity to benefit from as many different programs as he needs to enter the labor force at his best level. A major function of the area teams and the state Committee is to avoid overlap and duplication of effort.

Team representatives include among others, men and women from Community Action Agencies, Neighborhood Youth Corps, Employment Service, Manpower Development Council, Vocational Rehabilitation, and Vocational Education and Welfare Agencies.

The 1967 OJT program allocates $280,670 for On-The-Job Training for 262 trainees. In addition, the Manpower Development Council will share with Employment Service and Vocational Education the responsibility for initiating and planning classroom training programs for 384 of the 662 allocated slots for trainees.

Classroom programs have been alloted $139,400 for instructional costs and equipment, and $86,480 for trainee allowances.

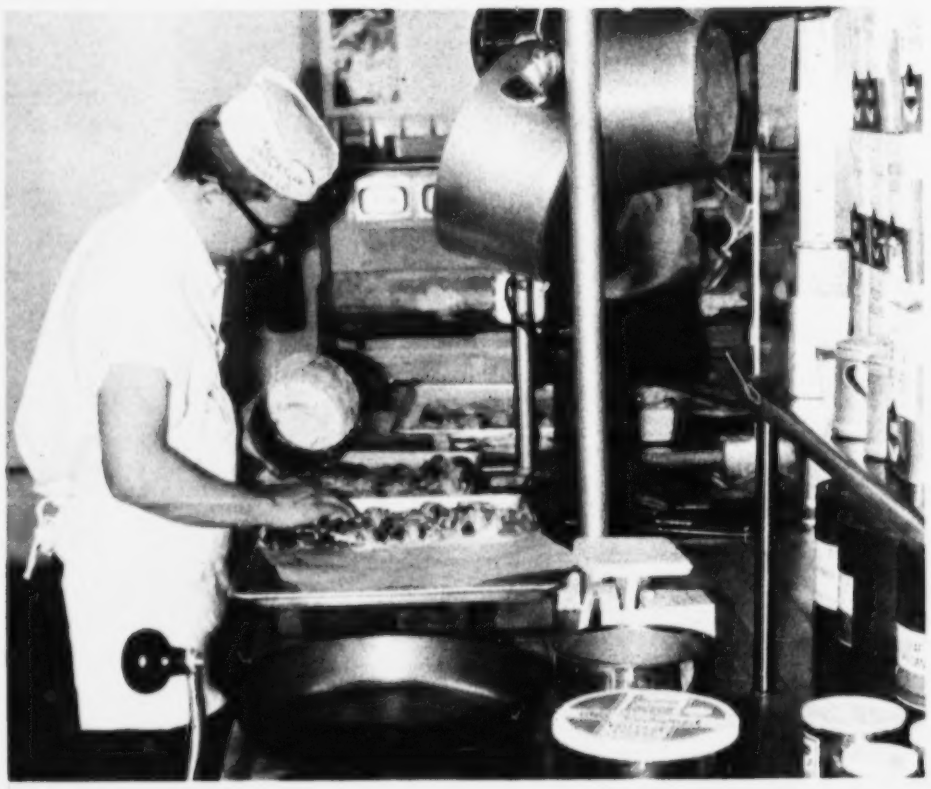
These coupled programs will enable a trainee to take some classroom work—to brush up—prior to being placed on the job for further skill development.

It has been the experience of those in manpower fields that straight classroom training costs are rather high (about $1,200 per trainee), in comparison with the average OJT cost of $504.

On the other hand, it has been also noted that some OJT trainees meet with frustration because of a lack of education and experience.

The solution, it seems, is to combine classroom and OJT programs—both to lower total manpower training costs and to increase the quality of training and skill development.

These students are supervised in classroom-type situations at the Manpower Development and Training Act facility in Des Moines. After completion of classroom and practical work, some of these students will be placed in new jobs, others will be placed in On-The-Job Training positions for further skill development before becoming regular employees. The coupled-program approach is new in Iowa.



Cities in which OJT Contracts have been Written

Albia
Algona
Ames
Anamosa
Ankeny

Bernard
Boone
Brighton

Carson
Cedar Rapids
Centerville
Central City
Clear Lake
Corydon
Council Bluffs

Davenport
Delhi
Des Moines

Eldora
Elgin
Emmetsburg
Fort Madison

Glenwood

Hartley
Holstein

Independence
Iowa City

Keota

Lake View
Laurens
LeMars

Malvern
Manchester
Manning
Marengo
Marshalltown
Mason City

Mediapolis
Milford
Monroe
Moravia

Nevada
New Sharon
Newton
Northwood

Oelwein
Onawa
Orange City
Oskaloosa
Ottumwa

Panora
Pella

Riceville
Rock Valley

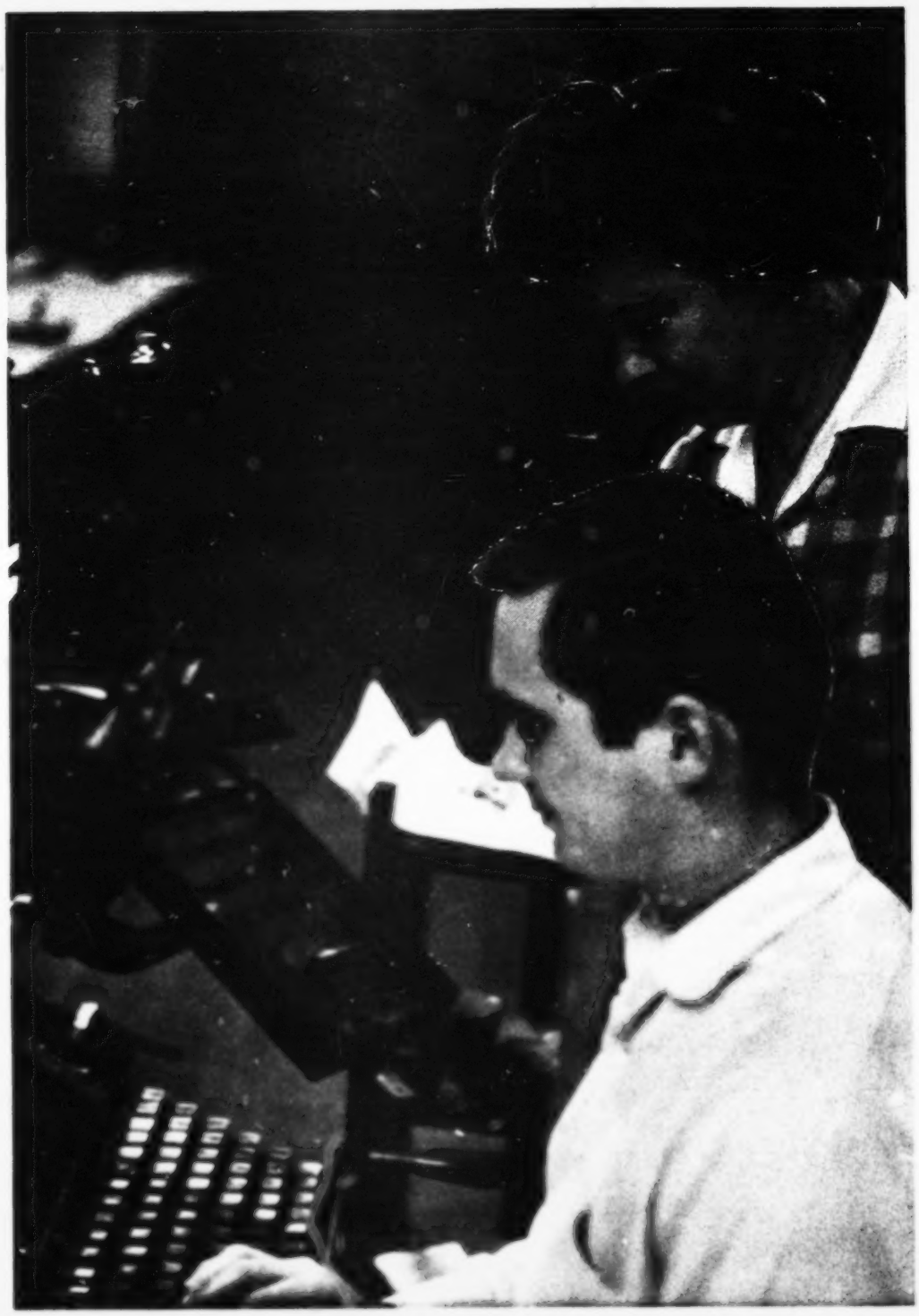
Sac City
Shenandoah
Sibley
Sidney
Sigourney
Sioux Center
Spencer
Spirit Lake
Storm Lake

Tipton
Tripoli

Underwood
Ute

Vinton

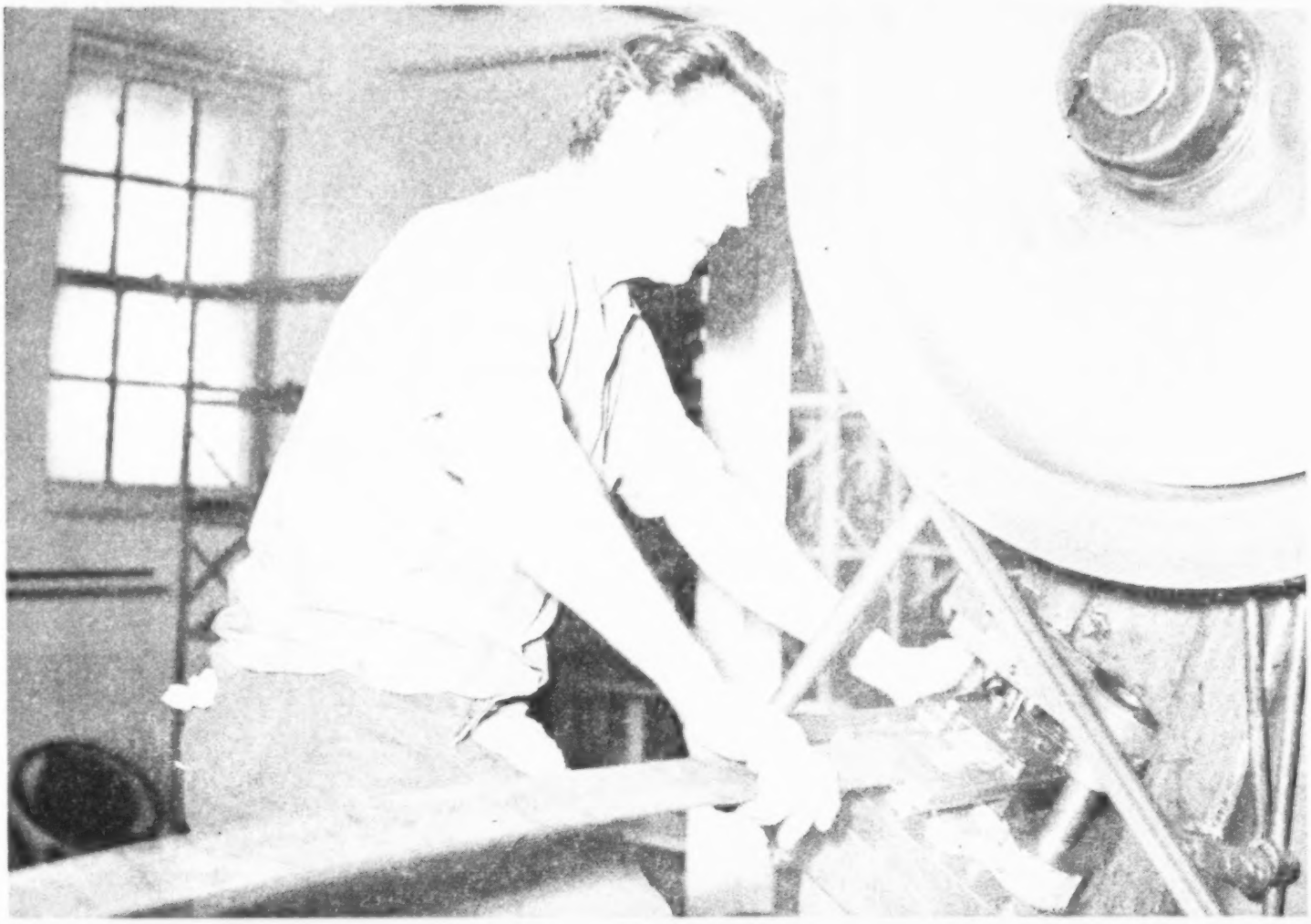
Washington
Webster City
West Liberty
West Union
Wilton Junction
Winfield
Woodbine



Larry Netten gets training from Mrs. Milo Miller in the operation of a Linotype machine at the Keota Eagle newspaper office in Keota. Larry is being trained as a printer's helper in a variety of tasks. Paper is published by R. F. "Bob" Beck.

Two OJT trainees are shown working in a ward of the Soldiers Home in Marshalltown. Both had sight problems which proved a barrier to employment. At right is Linda Watson. Turning crank on hospital bed is Arthur Hays. They are orderlies. They may be trained as practical nurses later.

Two more OJT trainees who have had successful training at the Soldiers Home in Marshalltown are Kathy Harper and Hank Grapes. Age and lack of experience can be handicaps to full employment without additional training. Besides training people for new work, OJT has helped fill critical jobs—like orderlies in hospitals.

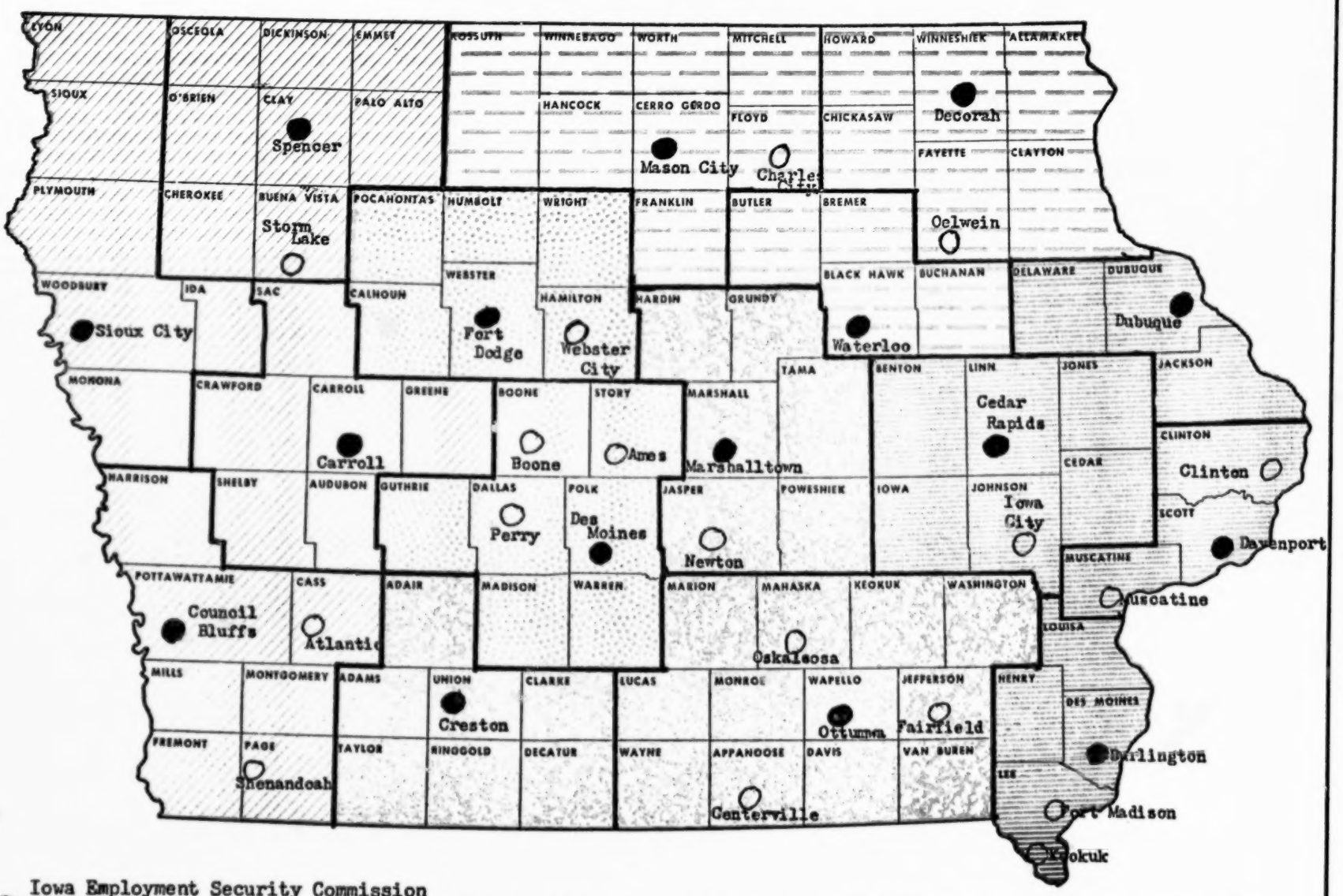


Charles Elsinger is receiving training as a Machine Operator at Mo Re C., Inc. Council Bluffs, Iowa. Mr. Elsinger is married and has five children. Lacking a saleable skill he had difficulty finding suitable employment before entering OJT.

Fred Romans of Council Bluffs is receiving training at Best O' Service in automotive repair. All OJT trainees are placed in "demand" occupations to insure future employment.

World Radio Laboratories, Inc. of Council Bluffs is training Virginia Fairchild in the growing field of electronics. Miss Fairchild is shown here explaining her work-related training to Mrs. Evelyn Villines, of The Iowa Commission for the Handicapped.

LOCAL COORDINATING COMMITTEE AREAS



Iowa Employment Security Commission

○ Circles indicate Employment Service office -- solid circles indicate coordinating teams ●

UNIQUE ASPECTS OF OJT IN IOWA

On the map on the preceding pages the shaded areas indicate the individual territories of OJT job developers and the large black circles point out the location of Area Manpower Coordinating Committee Centers.

Unlike most OJT programs throughout the Country which are confined to a particular metropolitan area, the Iowa Manpower Development Council's OJT contract covers the entire state of Iowa. Any public or private agency in Iowa concerned with the development of human resources can call on the Council to develop an OJT program for their clients who are in need of job training. The job developers can then negotiate a training sub-contract with qualified Iowa employers in any Iowa community.

In addition to their job development and training program evaluation activities, the Council's OJT staff has taken a leadership role in the development of the 16 Area Manpower Coordinating Committees. These 16 area committees, centered on the Area Vocational School, have the goals of assessing area manpower needs in order to develop coordinated planning at the state level, of informing each agency of the services available from individual agencies in the area, and of keeping all area agencies informed of future plans in order to prevent duplication of effort.

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TRAINEE CHARACTERISTICS

SEX	
Male	418
Female	182
AGE	
Under 20	112
20 - 25	213
26 - 35	141
36 - over	134
RACE	
White	556
Non White	44
HANDICAPPED	
Mental	27
Physical	50
Social	76

EDUCATION	
1 - 8	60
9 - 10	85
11 - 12	411
Post high school	44
NUMBER WEEKS UNEMPLOYED	
1 - 5	112
6 - 26	94
27 - 52	101
Underemployed	293
MARITAL	
Married	351
Single	222
Other	27

★ Figures as of December 1966

RECOGNITION

Trainees satisfactorily completing training deserve recognition. In fact, for many, the certificate awarded constitutes the first symbol of accomplishment they have ever received.

The certificate, shown on the back cover page, bears the signature of the Governor, the Director of the Manpower Council and the employer's training representative who recommends the trainee for "graduation."

State of Iowa

Manpower Development Council

On-the-Job Training

(Prime Contract No. 10-J-15)

This is to certify that SAMPLE ONLY
(NAME OF TRAINEE)

has satisfactorily completed _____ *weeks of instruction and on-the-job training in* _____. *Training was conducted by* _____ *through contractual arrangements with the Iowa Manpower Development Council.*

In attestment thereof:

_____
Representative of Training Facility

SAMPLE

_____
Director, Manpower Development Council

Harold E Hughes
Governor, State of Iowa

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VT 003 642
Manpower and Training Needs of the Food Service Industry.

Manpower Administration (DOL), Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 64 63p.; Report of a National Conference (Washington, D.C., April 22-24, 1964).

*FOOD SERVICE INDUSTRY; *MANPOWER NEEDS; CONFERENCE REPORTS; FOOD SERVICE OCCUPATIONS; TRADE AND INDUSTRIAL EDUCATION; DISTRIBUTIVE EDUCATION; *EDUCATIONAL NEEDS; ADULT VOCATIONAL EDUCATION; APPRENTICESHIPS; INDUSTRIAL TRAINING; *EDUCATIONAL PROGRAMS; *COOPERATIVE PLANNING
MDTA PROGRAMS; *MANPOWER DEVELOPMENT AND TRAINING ACT PROGRAMS

Approximately 140 representatives of education, management, unions, trade and professional associations, and government agencies explored new approaches to meeting manpower and training requirements of the food service industry. Speech summaries included are: (1) "An Overview of the Food Service Industry" by D. Greenway, (2) "Labor Looks at the Industry's Needs" by M.K. Wolfgang, (3) "Training--The Manpower Catalyst" by E.L. Rumple, (4) "Public Distributive Education Programs" by J. Beaumont, (5) "Public Vocational and Technical Education Programs" by M. Strong, (6) "Apprenticeship Training" by H.C. Murphy, (7) "Industry Training Programs" by E.J. Martin, (8) "Union Programs" by C. Paulson, (9) "Universities, Private Schools, Correspondence Programs" by H.B. Meek, (10) "Provisions, Responsibilities, Achievements, and Challenges of MDTA" by J.P. Walsh, (11) "Counseling, Testing, Allowances, Placement" by L. Levine, (12) "Institutional Training Programs" by R. Dagger, and (13) "On-the-Job Training Programs" by A. Cleary. Four work group discussions and their recommendations are outlined. Recommendations include: (1) establishing national advisory committees to develop and publish personnel training criteria, designating a federal agency to assemble and disseminate training and resource materials, and organizing institutes to produce qualified instructors for Manpower Development and Training Act and Area Redevelopment Act programs. Comments of 10 participants on "Next Steps to Cooperative Action" are included. (FP)

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MANPOWER AND TRAINING NEEDS OF THE FOOD SERVICE INDUSTRY

Report of a National Conference
Washington, D.C.
April 22–24, 1964

VT003642

U.S. DEPARTMENT OF LABOR
W. Willard Wirtz, Secretary
MANPOWER ADMINISTRATION

Office of Manpower, Automation and Training
Seymour L. Wolfbein, Director

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MANPOWER AND TRAINING NEEDS

OF THE

FOOD SERVICE INDUSTRY.

Report of a National Conference
Washington, D.C.
April 22–24, 1964

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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U.S. DEPARTMENT OF LABOR
W. WILLARD WIRTZ, SECRETARY
Manpower Administration

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INTRODUCTION

A number of significant factors led to the Department of Labor's decision to call the first conference ever held on the manpower and training needs of the food service industry. Labor, management, trade and professional associations, and several Government agencies have had a longtime concern about the continuing and increasing shortage of trained workers in the food service industry. Widespread interest was being expressed in the resources available for training food preparation and service workers under the Manpower Development and Training Act and the Area Redevelopment Act. Information was needed about the changing occupational structure and employment patterns of this industry and their implications for training. The development of sound programs to prepare and upgrade food service workers to meet the industry's changing manpower requirements called for direction and cooperative action.

The Department of Labor therefore invited representatives of education, management, unions, trade and professional associations, and Government agencies to a conference in Washington on April 22-24 to explore some new approaches to meeting present and future manpower and training requirements of the food service industry. Some 140 persons participated in the conference.

The planning committee for the conference was composed of representatives of the Office of Manpower, Automation and Training, the Bureau of Employment Security, and the Bureau of Apprenticeship and Training of the U.S. Department of Labor; the Division of Vocational and Technical Education, Office of Education, U.S. Department of Health, Education, and Welfare; the National Restaurant Association; and the Hotel and Restaurant Employees and Bartenders International Union.

This report contains highlights of conference presentations, work group discussions, and recommendations. It was prepared by Mary S. Resh, Special Assistant to the Director, Office of Manpower, Automation and Training, U.S. Department of Labor, who served as Conference Coordinator.

SESSION I

HIGHLIGHTS

OF

KEYNOTE ADDRESSES

SESSION I

Chairman: John P. Walsh, Deputy Director
Office of Manpower, Automation and Training
U.S. Department of Labor

ADDRESS OF WELCOME

The Honorable John F. Henning, Under Secretary of Labor, greeted the conferees and expressed the appreciation of the Department for their attendance at the conference. He said: "The food service industry is very important to our economy and is one with which we are greatly concerned in terms of manpower development. We are entering a period of manpower consciousness and manpower planning, and in our Manpower Report, which is an historic document of 2 years' experience with the Manpower Development and Training Act, President Johnson has called for an Active Manpower Policy that will (1) develop the talents and skills of the American people; (2) be concerned with the creation of jobs and development of employment opportunities; and (3) match workers with jobs.

"An Active Manpower Policy and the changing occupational structure of the food service industry have implications for training and employment in your critical industry.

"Under the Manpower Development and Training Act, over 130,000 unemployed and underemployed persons have enrolled for training to date. The success of the program can be measured by the extent to which it has moved unskilled persons into semiskilled and skilled jobs. More than 70 percent of those who have completed training have been placed in jobs. Training is not given for the mere sake of training but is related to the needs of the job market.

"In our history we can point to two singular acts designed to develop our manpower resources--the Vocational Education Act and the Apprenticeship Act. It is time that we give more attention to the direction of worker training so that management, labor, and the Nation might benefit by the merger of abilities of these three constituent groups. I hope we can move toward meeting the manpower needs of your industry and the training needs of those who would find employment in your industry."

"AN OVERVIEW OF THE FOOD SERVICE INDUSTRY"

Summary of Address by: Donald Greenaway
Executive Vice President, National Restaurant Association

Every political, labor, and business leader should look over the shoulders of the American people into the three panels of the good citizenship mirror. In one panel they would see the faces of 188 million American consumers. In another panel, they would find 71 million of these people who are earners in our society. These earners include management, proprietors, and 17 million members of labor unions. In the third panel, there would be reflected the 120 million Americans who are investors, including 16½ million adults who are direct stockholders in at least one corporation.

We are here to consider a problem which is essentially national and which requires the close cooperation of all American leadership, if solutions are to be found. The problem, like the mirror, also contains three panels. We are all concerned with the problem faced by the American people of increasing the total number of jobs during the balance of this decade and into the future. We are conscious of the problem of chronic unemployment, even at the level of peak prosperity in this country. We are also aware of dislocations, wherein some jobs are unfilled while pockets of unemployment continue to exist.

The food service industry, as we know it in 1964, is a vast, sprawling, beehive of businesses, private and municipal activities, and Governmental subdivisions. We in the National Restaurant Association know most about the public-for-profit restaurant segment. We know less about the non-public private food service activities which occur in private clubs, hospitals, schools, military establishments, and so on. We know least about food service in prisons, inmate establishments, publicly owned hospitals, rest homes, and a vast array of activities carried on through Government administration and ownership.

These three broad categories can provide employment for an additional 75,000 to 100,000 people who will be in new positions each year in this decade. In addition, perhaps 150,000 replacements to our industry's labor force will be needed each year, at least during the remainder of this decade. In substance, therefore, this means a minimum of 150,000 jobs and possibly a maximum of 350,00 jobs.

We can count on basically 50,000 new jobs per year in public-for-profit restaurants, provided the following circumstances prevail:

1. That the American consumer will continue to spend an additional $750 million every year for food and beverage eaten away from home.
2. That business investors can be found who will spend $2,500 for each new job created.
3. That the fine balance between wages paid and productivity are not altered disproportionately with price increases which are beyond those obtainable from the consumer.

Employment in the other two-thirds of our industry would indicate that there are about 300,000 food service employees in hotels, motels, and tourist courts. The Department of Agriculture reports that there are 70,000 school lunch programs in the United States with about 100,000 to 150,000 full-time employees and at least double the number of part-time workers. Hospitals are presently employing 250,000 to 300,000 food service workers. Schools, colleges, clubs, religious institutions, amusement installations, retail establishments, and other categories employ in excess of 150,000 full-time workers. We can therefore account for employment of some 3 million proprietors, owners, and paid workers in the food service field.

The nonpublic institutional side of the food service industry is also expanding. This segment of food service will need 25,000 to 50,000 additional workers each year if present trends continue in expansion of hospitals, colleges, private clubs, and other related areas.

Employment within restaurant units is tending to shift upward. Capital accumulation and higher volumes are necessary in order to assure success, and these trends will be a favorable factor in future employment in the industry. There is little indication that public favor will be given to restaurants which completely automate their services and eliminate personalized attention from waiters and waitresses. There is, however, a strong indication that dishwashing, work in the maintenance area, to some extent food preparation, and clerical and office functions, will be the first areas in which automation will be felt.

It is safe to predict increasing needs for highly trained business personnel and merchandising-oriented management. It is safe to predict that we will need more and better supervisors. Present and future developments in structured education will meet the demands for these people in the future.

The Labor Department has estimated that about 40 percent of the food service industry work force is made up of waiters and waitresses; 35 percent are cooks of various categories; the balance are miscellaneous workers, such as management, maintenance, and so on. Based on these figures, the big expansion in jobs will come in about the same proportion in the skilled categories. This would mean that of the 50,000 new jobs which will be created each year, we will need 20,000 to 25,000 waiters and waitresses each year and 15,000 to 20,000 cooks in various categories.

In the nonpublic segment of our industry the pattern of need is somewhat different. Here we will have a need for many more miscellaneous workers, fewer waiters and waitresses, and about the same number of cooks.

It has long been believed that our industry has extreme instability from the point of view of employee turnover. Exaggerated statements claim that anywhere from one-third to two-thirds of the total employees change jobs annually. This assumption is grossly inaccurate. About 10 percent of the

jobs in the public segment are developed because of seasonal expansion within year-round establishments. This means about 180,000 jobs cannot be supported except on a seasonal basis. Additionally, tens of thousands of jobs are less than year-round jobs because they are located in seasonal establishments. There are great numbers of students, housewives, and others who cannot work more than part time, and often only a few hours per week. If these figures are used in computing turnover, an exaggerated picture would emerge.

The service industries cannot expand and contract employment as retail and manufacturing businesses can. This is one of the reasons why productivity of restaurant employees remains relatively low. It is also one of the reasons why restaurant employers will probably demand higher levels of skill and customer orientation from their full-time employees.

Those who deal with placement for various industries often erroneously conclude that people who are unsuited for other jobs, such as in retailing and industry, can be used effectively in the service fields. Sometimes they can, but more often they cannot. A completely untrained, unindoctrinated restaurant employee accelerates into efficiency rather slowly. A waiter or waitress may take from 1 month to 1 year to train, depending on the type of service; a cook may take from 2 months to 2 years to train on the job.

A large segment of the restaurant industry is not of sufficient size to do good on-the-job training for completely new employees. Only the very large and multiunit companies have personnel and training programs. You may conclude that the Manpower Development and Training Act can assist by supplying off-the-job and on-the-job training for a large portion of the 75,000 new jobs that will be filled each year. However, future restrictions in employment opportunities for young people, female minors, and women in this industry bear examination when training programs for potential food service workers are organized.

The Manpower Development and Training Act has already demonstrated in small ways that it can serve the Nation's unemployed in a meaningful way. Likewise, with industry and labor cooperation, the Manpower Development and Training Act can serve our field of business. The job ahead is to establish many more programs in all sections of the country. We must join together to successfully accomplish this worthwhile objective.

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"LABOR LOOKS AT THE INDUSTRY'S NEEDS"

Summary of Address by: Myra K. Wolfgang
Vice President, Hotel and Restaurant Employees
and Bartenders International Union

The wide variety of requests made of Government agencies for training programs, and the even greater variety of needs, have created a multitude of problems. Should the industry seek new trainees, upgrade present employees, or both? Should the training be academic in nature, on-the-job training, recognized apprenticeship programs, or all three types? How do we recruit people into the industry? What does the future hold for both employer and employee? It will take an honest and frank appraisal of these problems, if the industry's manpower needs are to be met successfully.

There are nearly one-half million organized hotel and restaurant employees in this industry. There are nearly 400,000 hotels, motels, and restaurants in this Nation, employing nearly 2 3/4 million workers. Sales are over $18 billion a year. Food purchased by the industry in 1 year cost over $460 million.

The industry is big, it continues to grow, and accompanying this growth are dislocations caused by automation and by the ever-changing living and traveling habits of the American people. The decline of the hotel and the rise of the motel, the growing disappearance of the independent operator, the growth of the automat, the vending machine, the pre-packaged meal, have been greeted with cries of disaster. The inefficient, the visionless, the timid, the under-financed, wail about our industry being a sick industry, a marginal industry, a mom and pop industry, but like everything else in dynamic 1964, the industry is changing.

Sales in the country's restaurants have increased steadily since the $16½ billion mark in 1961. Profits have been high, and profits of the chain-operated segment the highest. A study of this industry made by the Department of Labor revealed that over 52 percent of the employed are working in enterprises with sales of $1 million a year or more, and the majority of them in chain operations. The same survey showed that the larger the enterprise, the greater the net profit. The average rate of profit in the industry is 2 percent, yet establishments which gross over $1 million a year average 4.8 percent; those with assets of between $5 million and $10 million a year average 6.6 percent.

Profits have been good, and the hotel and restaurant industry pays its supervisors and executives quite handsomely! Of 51 basic industries, according to Herbert K. Whitsky & Associates, hotels ranked 11th in salaried paid executives, but employees were in forty-sixth place.

Repeated requests for Federal funds to train people for this industry have been made. The Government has manifested a willingness to provide such aid but funds are not gigantic pork-barrels available for selfish exploitation but for training to serve the needs of our total economy. The general public is already subsidizing the industry with public welfare payments. Because of low wages, many full-time workers in the service industries are receiving direct relief, Aid to Dependent Children, and surplus commodities to augment their income. There is another subsidy called "tipping". To force some employees to hustle tips and curry favors to maintain a minimum standard of living is an indignity that disgraces those who impose it and discourages others from seeking employment in the industry. Employers do not add gratuities to earnings for social security purposes: only the base wage is used for determining benefits. The retirement income for those who receive a portion of their income from gratuities is dangerously near the minimum level. Thus, the tipped employee suffers a deprivation while gainfully employed, another when retired.

We believe in training, but we feel that it is time for the industry to raise the level of wages paid to the majority of their employees before asking the Federal Government to train people for them. There is no question about the serious shortage of skilled labor in this industry, but paying substandard wages will not ease this shortage. Training programs should be denied where there is organized opposition to the payment of a living wage.

The lack of status in the food service industry is an additional reason for our labor shortage. The public incorrectly pictures the waiter and the waitress as servants rather than as people giving service. We work when others in the community are off--through meal hours, on holidays, on Sundays--this makes us seem different, affects our social lives, and discourages many from remaining in the industry.

A national triparty committee composed of management, labor, and Government should be instituted for the purpose of improving the public image of people working in our industry. The entire promotional ladder should be opened up to all, regardless of race, religion, or national background. It must be made manifestly clear to the American people that the hotel and restaurant industry is open to the native born as well as the foreign born, the Negro American as well as the white American; the only factor that counts in gaining employment is the specific job requirement; the only thing that counts in promotion is ability and seniority. The public must be taught that the industry is a place where Americans can earn a good living, in dignity and with honor.

Immigration laws have stopped the flow of foreign-born people into the hotel and restaurant industry, but hundreds of thousands of high school graduates who have no desire for college education, as well as hundreds of thousands of high school dropouts, can be induced to come into the industry.

We must establish a national comprehensive training program for all categories within the hotel and restaurant industry, making available the latest information on technical skills necessary to do the job efficiently and effectively.

Our unions feel that the most desirable type of training program is upgrading the skills of those already employed in our industry. However, we do not, and will not, take the narrow view that only this type of training is acceptable. The average age of the unskilled kitchen worker in the Detroit area, for example, is 50 years. Can we seriously consider upgrading a 50-year-old man or woman to try to teach him or her new skills and expect to be successful? How can we consider a program for upgrading bus boys when we have no bus boys to upgrade? One city may find it more feasible to recruit new people into the industry, while another may find it advisable to upgrade currently employed people. The policy must vary from city to city, depending on employment conditions. Flexibility must prevail. Our International Union, the largest union of service workers in this country, recognizes the need for intelligent, well-oriented, well-conceived training programs, whether they be on the apprenticeship level, whether they seek to upgrade people, or whether they train new people for entry jobs in the industry.

The late Mayor LaGuardia once remarked: "When I come home at night my wife never asks me what important documents I signed that day, or what statue or bridge I dedicated, or to what distinguished visitor I presented the key to our great city. No, her first question is always 'What did you have for lunch?'" Unless something is done to train cooks, and train them properly, to train waiters and waitresses, then the future Mayor LaGuardias will either be eating from vending machines or bringing their lunches with them. This will be most unfortunate. Let us then formulate, plan, and develop programs to meet the challenge of our times.

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"TRAINING--THE MANPOWER CATALYST"

Summary of Address by: Edwin L. Rumpf
Assistant Director, Division of Vocational and Technical Education, U. S. Office of Education

"You won't get tomorrow's jobs with yesterday's skills." That is a hard truth faced by millions of Americans today. "Train now for tomorrow's jobs," is a timely warning and sound advice aimed at present and potential members of the labor force, but they are also highly significant words for educators.

Educators must act now to make up for past years of neglect, to help solve the manpower problems of today, and to prepare for the years ahead.

When you consider the vast forces of social, economic, and technological change at work in our society, you realize what a tremendous task we educators face.

The times have caught up with us. The cry everywhere is for training, now! Dedicated vocational educators throughout the Nation, handicapped over the years by little public support and inadequate facilities, stand ready to meet the demand for training. Through the years, our vocational education system has trained millions of workers to man the machines of industry. During times of national crisis--the depression years, World War II, and the Korean War--vocational educators stepped up their efforts, adding millions of men and women to the manpower force needed for recovery and victory. Despite handicaps and shortcomings, the record of vocational education in recent years is impressive. Intensive 2 year training programs have been turning out more than 12,000 new technicians annually in the past 3 years. In addition, about 400,000 workers in skilled trade and technical jobs have been enrolled in upgrading and refresher courses. Last year 2,009,088 students were enrolled in high school level vocational courses and 98,154 were in post-high school classes. In addition, 2,123,122 adults were participating in various kinds of vocational training courses. Under the Manpower Development and Training Act and the Area Redevelopment Act, 93,878 trainees have been enrolled in 1,684 projects to date.

Training is the catalyst that can release the potential of our human resources and speed the process of matching people to jobs. I see vocational educators as middlemen. On the one hand, they must help prepare job-seeking workers who lack the skills for economic survival in an increasingly competitive labor market. On the other hand, educators must respond to industry's continuing call for workers with higher levels of skill and training.

Of the millions of workers now in the labor force, a large percentage will need training to keep up with developments in their fields. Others will need retraining for related jobs or for new jobs. Retraining may be necessary as often as two or three times during a working lifetime. Industry needs workers who are flexible, workers who have a field of skills and basic education that will enable them to adapt rapidly to occupational changes. Workers who are adaptable make installation of new methods and equipment more economical for employers. Management needs workers ready to move into its jobs without long periods of preparation.

The capstone of our training structure is the Vocational Education Act of 1963, enacted by the Congress last December. It was hailed by President Johnson as". . . dramatic evidence of our commitment to education as the key to our social and economic and technological and moral progress . . ." The act opens a new era in vocational education, breaking down the rigid categories imposed by the earlier laws. It authorizes a direct attack upon unemployment by permitting the establishment of programs tailored to

need rather than programs geared to preset formulas which may become out of date. It enlists educators and citizens in support of a total effort to bring vocational training into harmony with economic reality. The law, in the first full year of operation, would triple the Federal financial commitment to vocational education and authorize even more support in the future. Most important to you here, it calls for cooperation on a scale never before realized. National, State, and community leaders from business, labor, and the professions, and representatives of Federal, State, and local governments are called upon to assess and plan programs to meet job needs.

We now have at our disposal the means to support vocational training anywhere and in virtually any occupation, short of the professional level, for which there is a need. In other words, we are ready to help you solve almost any of your manpower problems. But as President Johnson stated in his 1964 Manpower Report to Congress: "The Federal Government can provide leadership, information, and other assistance, but fundamentally it is action carried forward in each community that will decide how well we achieve national objectives. An Active Manpower Policy cannot be a responsibility of the Federal Government alone. Business, labor, and all private groups and institutions, along with State and local governments, have vital roles to play."

We in vocational education have the basic means to assure that the Nation's manpower training needs are fulfilled in this time of revolutionary change. But our tools and our determination to serve are nothing more than potential weapons unless you advise us of your needs, unless the request for action comes from you, and unless we have your full support.

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SESSION II

SUMMARY OF PRESENTATIONS

ON

TRAINING RESOURCES

SESSION II - TRAINING RESOURCES

Chairman: Earl M. Bowler
Chief, Professional Services Section, Manpower Development and Training Program, U.S. Office of Education

"PUBLIC DISTRIBUTIVE EDUCATION PROGRAMS"

Digest of Presentation by: John Beaumont
Director, Distributive Education Branch
U.S. Office of Education

Distributive education is a program of vocational instruction in merchandising and marketing. In the past, these programs have been limited by legislation to employed persons. The Vocational Education Act of 1963 changes this requirement and beginning in Fiscal 1965 will permit enrollment of persons who are preparing for distributive occupations. This report, however, relates to training of employed persons.

Distributive education programs are conducted by State boards of vocational education in the 50 States and 4 Territories through various educational institutions. There are programs in secondary schools, in junior and community colleges, and in all kinds of public institutions offering adult education.

In regard to distributive education courses for the food service industry, States reported in fiscal 1963 enrollments of 30,332 persons employed in eating places and 7,531 in hotels. Most of these enrollments were in adult education programs. There are very few distributive education enrollments in food service programs at the secondary level, but adult courses were conducted for waitresses and waiters, cashiers, hostesses, supervisors, and managers.

The States have developed curriculum materials for use in these courses. Some States, like Washington and Georgia, have developed very useful curriculum materials for a series of merchandising courses in the food service field. The U.S. Office of Education has published a bulletin entitled, Food Service Industry Training Programs and Facilities.

In addition to offering courses in the food service industry, many States have conducted courses in various aspects of tourist training. States with the largest enrollments in food service courses are usually most aggressive in promoting the tourist industry.

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"PUBLIC VOCATIONAL AND TECHNICAL EDUCATION PROGRAMS"

Digest of Presentation by: Merle Strong
Acting Director, Trade and Industrial Education
Branch, U.S. Office of Education

The National Vocational Education Acts provide funds to the States and territories on a matching basis for the promotion, development, and operation of programs of vocational education and training of less than college grade. Programs under trade and industrial education cover a wide variety of occupations, including hotel, restaurant, institutional, and related occupations. These programs are intended to fit an enrollee for employment and are sometimes referred to as "terminal" because they are designed for persons who do not expect to work toward a college degree.

Classes organized and conducted under the Vocational Acts are under public supervision and control and are operated by local school systems, area schools, junior colleges, four-year colleges, or State departments of education.

One of the older occupational groupings for which training has been provided in trade and industrial education is the food trades. While the numbers trained are not great enough to meet the demand, the program is sizeable, being offered in more than 35 States. It included, for the last year that complete figures are available, 93 preparatory courses for adults. This is in addition to upgrading or extension type courses.

ENROLLMENTS IN TRADE AND INDUSTRIAL FOOD TRAINING PROGRAMS, 1962

CLASSES	TOTAL	MALE	FEMALE
Preparatory	7,157	4,093	3,064
Evening Extension	13,057	4,522	8,535
Apprentice	1,094	1,057	37
Cooperative	2,208	1,652	556
TOTAL	23,516	11,324	12,192

A successful vocational education program has the following characteristics:

1. The program is directly related to employment opportunities which are determined by school officials in cooperation with occupationally-concerned and competent individuals and groups.
2. Course content is confirmed or changed by periodic analyses of the occupations for which the training is being given.
3. Courses for a specific occupation are set up and maintained with the advice and cooperation of the various occupational groups concerned.
4. Facilities and equipment used in instruction are comparable to those found in the particular occupation.

5. Conditions under which instruction is given duplicate as nearly as possible desirable conditions in the occupation itself and at the same time provide effective learning situations.
6. Length of training and the total hours of instruction are determined by the requirements of the occupation and the needs of the students.
7. Training is designed to develop marketable skills, abilities, understandings, attitudes, work habits, and appreciations to enable the trainee to get and hold a job in a particular occupation.
8. Day and evening classes are scheduled at hours and during seasons convenient to enrollees.
9. Instruction is offered only to persons who need, desire, and can profit from it occupationally.
10. Teachers are competent in the occupation for which they are giving instruction and possess adequate professional qualification for teaching.
11. Vocational guidance, including follow-up of students who finish or drop out of a course, is essential.
12. Continuous research is an integral part of the program.

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"APPRENTICESHIP TRAINING"

Digest of Presentation by: Hugh C. Murphy
Acting Administrator, Bureau of Apprenticeship and Training, U.S. Department of Labor

During the current decade, employment is growing faster in the service industries than in the production industries. Yours is an industry of service to the public. You are in an important position to strengthen our economy by expanding your services.

Your industry has a training problem in common with other industries. The food service industry in the United States is far behind Europe in training its chefs, cooks, waiters, meat cutters, and bakers. Apprenticeship has been the basic type of training in Europe for the various occupations in your industry, and it is equally applicable in this country.

Apprenticeship prepares youth for the skilled crafts or trades which require a wide and diverse range of skills and knowledge, as well as maturity and independence of judgment. The apprentice receives instruction and experience both on and off the job in all the practical and theoretical aspects of a skilled trade. As he progresses, he acquires new skills and masters the application of those already learned, and his wages advance at regular intervals.

The Bureau of Apprenticeship and Training promotes the establishment of apprenticeship and other on-the-job training programs and the improvement of existing programs. Its chief concern is with the employed worker who is learning a trade and who will, at the conclusion of this training, reach journeyman status. The Bureau does no actual training but serves as a stimulator and assists industry in establishing apprenticeship programs.

The 1960 census showed 108,000 bakers in this Nation; at that time there were 342 baker apprentices registered with the Bureau of Apprenticeship and Training. The number of registered apprentices had dropped to 273 in June 1962. As of June 1962, there were 1,622 butcher-meat cutter registered apprentices and only 48 cook registered apprentices. With the Hotel and Restaurant Employees and Bartenders International Union alone reporting 443,000 members, it is evident that a sufficient number of persons are not in training. The Executive Board of the International Union is to be commended for the policy on apprenticeship and training which it adopted in January 1963, but inquiry shows that few additional steps have been taken since then to implement that statement of policy to encourage training and skill upgrading opportunities.

There is a tremendous job ahead if the food service industry is to have an adequate supply of trained workers for its current needs and for future planning and expansion. It is not an impossible task if all of us--management, labor, and Government--recognize the problem and put forth our best efforts to meet it.

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"INDUSTRY TRAINING PROGRAMS"

Digest of Presentation by: Edwin J. Martin
Director of Sales, Fred Harvey Restaurants

The most important responsibility of any institution today is tomorrow! Our tomorrow in this industry will be a radically different one--changing, growing, increasingly competitive and, though automated, ever more dependent on people. Tomorrow's successful institutions will require the most effective utilization of our human resources.

Economists readily agree that the service industries will provide the greatest impetus to our economic growth during the 1960's and the brightest star by far in the service industry constellation is the business of commercial hospitality--currently a $20 billion market.

Total employment in this industry approaches 1½ million people. Nearly one-third of these are engaged in the area of culinary skill, traditionally a handicraft. Change is abroad in our centers of food preparation. Cooks

and bakers are required to make judgments on temperatures, time, measurements, taste, quality, and a myriad of other factors on the basis of intricate control instruments; materials technology in such fields as paper, plastics, metals, natural and synthetic fibres are being developed; equipment design and manufacture are embodying principles of thermodynamics, including radar and infra-red cookery; unique systems of product receipt and storage as well as new means of issuing and transporting materials, supplies, and raw, semifinished, and finished products are being developed; process and product innovations are refining flash freezing and freeze drying, dehydration, fabricated meat and related lines, mixes for soup, gravy, sauce bases, bakery goods, beverages, and other items--the Utopian age of "instant everything."

If automation looms in the not-too-distant future, what does it suggest for our people--employee relations--in the years ahead? The President's Advisory Committee on Labor-Management Policy in its recently released report on the problems and opportunities posed by automation, said that technological progress, through automation, is essential to the Nation's needs. This technological progress can and must be achieved without the sacrifice of human values. Achievement of technological progress without loss of human values requires both private and public action, consonant with the tenets of a free society.

No one would dispute that sacrifice of human values is too high a price to pay for material progress. Scientists and non-scientists alike must reconcile their needs and objectives. This blend of science with humanity is our insurance for the future. The specialist of tomorrow must be attuned not only to the technical requirements of our industry but also to the needs of those employed within it. As the liaison between the sciences and humanities, we must prepare ourselves to meet not only the demands of technical competence but also the even more crucial demands of managerial competence. Our adherence to the fundamental principles of human relations will foster a climate of teamwork and engender a spirit of pride and accomplishment.

Gains in productive and technical efficiency will, if we let them, extract a toll in human relations. Automation anticipates further refinement of job methods and breakdown of job duties and responsibilities as a means to improved individual proficiency. Personal job skills will necessarily be of a higher order. Tomorrow's dramatic improvements in lighting, ventilation, climate control, functionally-engineered equipment and facilities may prove to be a pyrrhic victory if we fail of progress in effective utilization of human resources. To compete and prosper, even to just survive, we must know how we must train. Training never ceases. It is as broad as all operations and procedures which can be improved through the behavior of people.

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"UNION PROGRAMS"

Digest of Presentation by: Charles Paulson
Director of Organization, Hotel and Restaurant
Employees and Bartenders International Union

Local unions have complete autonomy and approach the matter of training on the basis of labor supply and the employers concerned.

Unions have been involved in the development of apprentice training programs for cooks, usually in big cities; in on-the-job training programs for cooks; and in institutional or combination institutional and on-the-job training programs. Schools generally cooperate with unions in developing pre-employment training programs; however, some do not.

Unions favor apprentice training for cooks and are opposed to training programs for unskilled persons prior to employment except where there is a proven dire need.

Labor, management, education, and Government must have a close and cooperative working relationship in order to develop and maintain an adequate supply of skilled personnel in the industry.

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"UNIVERSITIES, PRIVATE SCHOOLS, CORRESPONDENCE PROGRAMS"

Digest of Presentation by: H. B. Meek
Executive Director, Council on Hotel,
Restaurant, and Institutional Education

The Council on Hotel, Restaurant, and Institutional Education is a non-profit organization composed of schools and colleges that give instruction in hotel, restaurant, and institutional work. Its objectives are to help improve the member insititutions, their facilities, their faculties, and their students. With the assistance of the Statler Foundation it publishes and distributes studies and reports on important aspects of education for the food service field. It publishes bibliographies and lists of visual aids. It publishes a directory of all schools and institutions, whether members or not, that give instruction in this field. It maintains for loan without charge packets on training the executive housekeeper, on high school and vocational school commercial food programs, and on junior college curriculums. Its most recent publication is a list of the scholarships available to students preparing for work in the field.

Colleges and universities have trained home economics students for institutional and commercial food work for many years, The first university-

level program designed to train men for management responsibility was established at Cornell in 1922. Michigan State followed shortly after in 1928. Now there are numerous college programs.

Among the junior colleges, San Francisco City College has won excellent support from West Coast hotel and restaurant men, and New York City Community College has achieved similar success in the East. The American Culinary Institute, established at the close of the war to give culinary training to returning veterans, has become a principal source of well-trained prospective chefs. Excellent instruction in commercial foods has been given for 20 years or more at the high school level by the Chadsey High School in Detroit; the Edison Technical High School in Seattle; and the Washburne Trade School in Chicago.

College programs are each probably turning out from 15 to 125 graduates each year. Graduations from other post-high school institutions are generally smaller. The average high school graduates from 20 to 40 each year. The total product of all schools annually is estimated to be from 3,000 to 7,000 graduates.

Because training in skills bulks so large in any program of commercial food education, correspondence instruction has thus far had only a limited development. The Educational Institute of the American Hotel and Motel Association gives two correspondence courses of interest to restaurant workers: "Food and Beverage Controls" and "Food and Beverage Purchasing." Pennsylvania State University offers a correspondence course in "Commercial Food Service Management."

Cornell and Michigan State have resident courses designed to upgrade employees in the field. A number of junior colleges and local high schools offer extensive "after work" training courses.

In a study of education for the restaurant industry which I have been making for the National Restaurant Association, 98 percent of the nearly 800 graduates of resident institutions who were surveyed, reported that they are happy in their work; 88 percent feel they are doing very well compared with their former grade school friends. Salaries for graduates of strong university programs are reported to average well above $15,000 after 10 years' experience. Other salary reports are also excellent. The survey shows that commercial food service offers an interesting, attractive, and economically rewarding career.

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"PROVISIONS, RESPONSIBILITIES, ACHIEVEMENTS, AND CHALLENGES OF MDTA"

Digest of Presentation by: John P. Walsh
Deputy Director, Office of Manpower, Automation and Training, U.S. Department of Labor

Provisions of MDTA

The MDTA of 1962 provides for the training and retraining of the unemployed and underemployed in order that they may move back into the mainstream of employment in jobs that are available.

Federal funds are provided to make determinations of manpower requirements and resources as well as to make determinations of job availability through skill surveys.

Funds are made available to recruit, counsel, test, and refer eligible individuals for training, to provide such individuals with training and with allowances, and to place them in jobs on completion of training. Eligibility for training allowances, which equal the average unemployment compensation payments for the State in which the individual resides, is limited to those who are unemployed heads of households with at least two years work force experience. Out-of-school unemployed youth between the ages of 17 and 21 may receive special youth allowances while in training.

Funds are made available to cover the costs of institutional or on-the-job training including instructional salaries, equipment, supplies, and the like, for programs up to 52 weeks in length, or even to 72 weeks if special basic educational development is involved.

A program of research in the automation and manpower arenas can be conducted through the Federal establishment as well as through contracts with public and private institutions and individuals.

Responsibilities

The Manpower Administration of the U.S. Department of Labor, representing the Secretary of Labor, is charged with the responsibility of carrying out the act. However, two great Departments of Government, the U.S. Department of Health, Education, and Welfare and the U.S. Department of Labor, coordinate their efforts in the conduct of the several programs under the act. Responsibility of the several Bureaus of the Manpower Administration is as follows:

The Office of Manpower, Automation and Training (OMAT) is charged with responsibilities for planning, research, and evaluation, and for the conduct of experimental and demonstration programs.

The Bureau of Employment Security (BES) is charged with operating responsibilities that deal with skill surveys and job determinations; counseling, testing, and referral of trainees; payment of training and subsistence allowances; and placement of trainees.

The Bureau of Apprenticeship and Training (BAT) has the responsibility for the promotion and development of on-the-job training under the act. Activities involving the operation of institutional training programs, including the development of course content, training equipment and materials, instructional staffing, and the like, are the responsibility of the U.S. Department of Health, Education, and Welfare and fall under the purview of the Division of Vocational and Technical Education of the Office of Education.

Both Departments receive the counsel and advice of the National Manpower Advisory Committee, representing labor, management, education, training, agriculture, and the public. Similar committees constituted at State, regional, and local levels provide guidance to program operators throughout the Nation.

Achievements

Programs under the MDTA have helped to underscore the fact that when people have the right training at the right place at the right time, they can get jobs. Of the thousands of unemployed individuals who have completed training programs, 70 percent have found immediate employment in the occupational area for which they were trained. While most of the training to date has been carried on as institutional training, we are now seeing the emergence of on-the-job training to a greater extent. Both institutional and OJT programs have been utilized in the preparation of workers for the food service industry.

One of the gratifying achievements under the MDTA has been the outcome of experimental and demonstration projects that have been established to try out innovating, threshold-crossing ideas both in terms of the counseling of disadvantaged, unemployed individuals, as well as in the training activity itself. The real success of the program is going to be made in dealing with the hard-core unemployed--in stimulating, motivating, and training the disadvantaged, the older worker, the migrant worker, and the like. This calls for a massive thrust in revising some of our practices, not only in the selection and referral process but in the training process. It means that we must take a comprehensive look at the training needs within industry groups--the specific purpose for which this meeting was called--in order to determine how we can best utilize the manpower resources we have at hand. It means that we must make a careful scrutiny of job requirements on a realistic basis so that we can match available people with available jobs.

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"COUNSELING, TESTING, ALLOWANCES, PLACEMENT"

Digest of Presentation by: Louis Levine
Director, Bureau of Employment Security
U.S. Department of Labor

Training is undertaken not as an end in itself but is concerned with the eventual matching of people with job opportunities. Most important of all is the utilization of qualified people. There is no justification for undertaking training where racial discrimination, substandard working conditions, and substandard wages are involved. When we undertake training, we have to do it within the realities of labor market conditions and they vary widely as to type of industry, occupational structure, and volume of unemployment.

Amendments to the Manpower Development and Training Act emphasize "employability" rather than reasonable expectation of employment. Therefore, many people may now be trained who formerly could not qualify for training. We may be training in occupations or fields in which the employment opportunities are not immediately available. Under the amended act, training will be more geared to disadvantaged youth, to the culturally deprived, to the educationally deficient. We can add basic literacy training to the training time and pay training allowances for such training.

Training does not take place in a vacuum but in a real situation, where people are living, where families live, where job opportunities may develop. In actuality, the local employment office, serving as a focal point of the job market concerned with supply, capabilities, or shortages of labor, can determine need for training and the potential of the area in terms of job opportunity.

Under the new amendments, the selection of trainees will become more difficult because not only will they be unemployed but they will require more counseling and more services. Tools and techniques not used in the past will be necessary. The Employment Service is planning to reach out to areas normally not touched. Youth guidance centers are being organized in major areas to reach disadvantaged, culturally deprived youth and to provide training for these individuals.

There is a wide variety of occupations and skill levels in the food service industry. Employers must be realistic in their hiring specifications and must think in terms of performance requirements. Some jobs require little skill, and training is therefore not a prerequisite, but perhaps literacy skills and basic education are needed. Unions, too, must be objective in working with employers because local employment offices will have to look to labor and management to determine the nature of requirements that will have to be met.

You have been discussing wage levels, turnover, and growth prospects. The answers to these questions do not lie with the Government, but are yours to find. We share your concern about these problems and Government is ready to cooperate in every way possible to find solutions to them.

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"INSTITUTIONAL TRAINING PROGRAMS"

Digest of Presentation by: Roy Dugger
Director, Manpower Development and Training
Program, U.S. Office of Education

During 1963, vocational educators taught more than 14,250 food trades workers in long term pre-employment courses. More than 1,200 persons were enrolled in hotel and restaurant management courses during this same period. Manpower Development and Training Act programs enrolled an additional 1,375 persons in training that ranged from 4 weeks for short order cooks to 50 weeks for cooks in the hotel and restaurant trades.

While there is a willingness on the part of the schools to fill the need for skilled cooks and bakers, there have been relatively few Manpower Development and Training Act programs organized to date. Of 50 programs that have operated from Los Angeles, California, to Swiftwater, Pennsylvania, 32 had but one section operating at any one time. An additional 15 programs scheduled two sections. In all programs there were fewer than 1,400 cook and baker enrollees.

Quality of the food service programs seems insured by the quality of institutions doing the training, such as: Los Angeles Trade-Technical College; Lindsey-Hopkins Education Center in Miami; Mergenthaler Vocational-Technical High School in Baltimore; Hadley Technical High School in St. Louis; Bok Technical High School in Philadelphia; and Miguel Such Metropolitan Vocational School in Puerto Rico.

These institutions have augmented their facilities with modern equipment to provide outstanding training programs. All of these schools have training staffs of unusual competence. Many of the programs feed school faculties and students, and in some instances the public, thus making the training situation comparable to conditions in the industry itself. The instructors in these schools have had teacher training, and course outlines and other suggested teaching materials and guides have been made available to them. Added effort along these lines will be forthcoming from our Professional Services Section in the immediate future. Trade associations, unions, and other groups have been most cooperative in working with us toward sound training programs to prepare workers for entry jobs in the food service industry.

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"ON-THE-JOB TRAINING PROGRAMS"

Digest of Presentation by: Ansel Cleary
Deputy Administrator, Bureau of Apprenticeship
and Training, U.S. Department of Labor

The Bureau of Apprenticeship and Training has been delegated responsibility for implementing the on-the-job phase of the Manpower Development and Training Act. On-the-job training is defined as training which uses instruction combined with work to qualify a trainee for a particular occupation. A prime feature of such training is its realism--its direct connection with the actual work situation. Training may be provided to develop new skills, to upgrade present skills, and to meet the needs of those displaced by automation, technological change, the geographical relocation of industry under certain conditions, or by changes in the labor market.

In your industry the occupations for which training can be given range from kitchen workers to waiters and waitresses and to the apprenticeable occupations of cook and baker. For the latter, MDTA resources can be used to stimulate apprenticeship programs where they do not exist or to assist an employer who wants to enlarge an existing program. Another possibility under MDTA is offered through pre-apprenticeship training--a brief course of instruction in a vocational school setting which precedes a regular apprenticeship program and provides basic knowledge of the trade. This technique helps meet industry's objections to hiring completely inexperienced employees.

The sponsor of an MDTA on-the-job training program may receive Federal funds to defray the cost of consumable materials, instructional supplies, clerical expenses, instructors' salaries, and other approvable expenses. The individual trainee may be eligible for training allowances, subsistence allowances, and transportation allowances. Allowable costs vary, depending on whether the training facility trains solely for its own needs or for its own and also the needs of the labor market.

Trainees in on-the-job training programs must be paid by the employer for all hours of training spent in the production of goods and services entering commerce. Remuneration is at the entry rate prevailing in the area for the occupation. Trainees may receive allowances from MDTA funds but wages, if called for in the program or if required according to law, are paid by the sponsor.

Training programs are not to conflict with or substitute for any on-going or customary training programs. Only in exceptional cases will a project be approved for less than 160 hours of training. Any unemployed or underemployed person who needs new or improved skills in order to obtain or to continue in suitable full-time employment is eligible for selection as a trainee.

To help meet the need for skilled chefs and cooks, a joint labor-management committee in a large city is sponsoring a culinary arts upgrading training project involving 90 employees and some 70 restaurants. MDTA funds are used to reimburse the sponsor for the salary and expenses of a full-time coordinator, for stenographic help, training materials and supplies. Under an MDTA cook apprenticeship program sponsored by an association of restaurants, 19 unemployed youth are receiving job entry training for 52 weeks. After 4 weeks in a vocational-technical school taking pre-job related instruction, they will be employed and trained in the kitchens of the various cooperating restaurants and will then continue in an apprenticeship program. Other food service industry on-the-job training programs under MDTA have been developed for such occupations as butcher, meat cutter, assistant cook, roundsman, short order cook, fish filleter, baker apprentice, and waitress. In the majority of programs, the trainees are paid wages by the employer.

Many employers have ready-made training sites that can be effectively used to meet their skilled labor needs. Employees who have the potential for more skilled work can be given tailored training that will upgrade them to higher level positions. This training creates, in many instances, job openings at the bottom of the job ladder for new hires.

Since the food service industry consists mainly of small establishments, several employers can band together, pool their facilities, and inaugurate needed training programs, or an employer and a labor union may jointly sponsor a program. Labor organizations, trade associations, industrial and community groups, public and private agencies, and State and local governments are also eligible as training program sponsors. To meet skilled manpower needs, to help workers realize their full potential, and to assist in relieving unemployment, employers and others are encouraged to take stock of their respective situations and consider the help available under MDTA.

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SESSION III

REPORTS

OF

WORK GROUP DISCUSSIONS

SESSION III

WORK GROUP SESSIONS

Conferees were divided into four work groups on the second day of the conference to explore some possible solutions to the various manpower and training needs of the food service industry and to develop recommendations for meeting these needs. In each work group were representatives of labor, management, education, trade associations, and Government, as well as selected resource persons.

REPORT OF WORK GROUP NO. 1

Discussion Leader: Merle Strong
Acting Director, Trade and Industrial
Education Branch, U. S. Office of Education

1. What research does the food service industry need?
   a. Job identification; what, where, and how many jobs are available; what are the job descriptions for these jobs.
   b. Recruitment; methods of attracting youth into the industry; how can the image of the industry be changed.
   c. Selection of workers; methods of testing.
   d. Instruction; methods of instruction; qualifications for instructors.
   e. How to motivate employees to greater productivity.
   f. Availability of training.
   g. Follow-up study of employees; job progression, tenure, mobility, etc.

2. For what jobs should pre-employment training be provided?
   a. The problems of different entry levels, different kinds of establishments, and different entry requirements must be considered in determining length of training.

Occupation	Suggested Length of Training
Chef	Not an entry job
Cook Baker Butcher	50 weeks plus
Salad and Sandwich Specialist Short Order Cook Stores Clerk	6-13 weeks
Blue Jackets	2 weeks

b. Pre-employment training is desirable for each job except that of chef which is not an entry occupation and which requires progressive experience in various job levels.

3. What kinds of upgrading programs are needed?
   a. Programs for all levels of employed persons are needed to move them up the ladder.
   b. Because of technological change in the industry, training is needed to keep persons up to date for their present jobs.
   c. Both institutional and on-the-job training have a place.
   d. Basic education should be provided in some cases as well as skill and technical training.
   e. Training in supervision is desirable; good supervision will facilitate growth in other employees.

4. How are Federal funds obtained for training?
   a. Vocational education funds are made available to State Boards of Education on a matching basis.
   b. Expanded funds under the Vocational Act of 1963 will be made available on a similar State allotment basis with the exception that 10 percent of the funds for each fiscal year which will be used for research, leadership training, and experimental, developmental, and pilot programs especially for disadvantaged youth.
   c. Under the Manpower Development and Training Act, funds are allocated to the appropriate State agencies, and the determination of training needs and the establishment of programs are functions carried out at the State and local levels with approval, only, being vested in Federal representatives.
   d. To establish an MDTA training program, contact the local employment service office or local vocational education agency.

5. How can employees be motivated to upgrade themselves?
   a. Provide promotional information.
   b. Give recognition to the individual.
   c. Make upgrading glamorous.
   d. Stimulate management to upgrade employees.
   e. Improve working conditions.
   f. Encourage membership in trade and professional organizations.
   g. Offer adequate income.
   h. Stimulate reading of professional and trade publications.
   i. Establish recognized standards for each job classification.

RECOMMENDATIONS

1. That a national advisory committee of representatives from the food service industry be established to advise on the training of personnel for the industry.

2. That an existing Federal agency be designated to assemble and disseminate information on all training programs for the food service industry and resources for such training.
3. That the Dictionary of Occupational Titles be published at the earliest possible date.

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REPORT OF WORK GROUP NO. 2

Discussion Leader: Earl Klein
Deputy Assistant Director for Manpower Development, Office of Manpower, Automation and Training, U. S. Department of Labor

1. What are the industry's pre-employment training needs?
   a. Cooks, waiters and waitresses, and counter employees are most in need of pre-employment training. The group lacked common agreement as to length of training for each occupational area and as to qualifications for various kinds of cooks. The need for generally accepted and applied definitions was emphasized.
   b. Conferees felt that vocational counselors do not understand the industry and job requirements; as a result they refer for training or employment only those who have difficulty with academic work. Parents do not have a favorable attitude toward the industry and do not encourage their children to prepare for it.
   c. Child labor laws and other restrictions serve as barriers to on-the-job training as well as employment for young people.
   d. Post-high school pre-employment programs are needed so that students can prepare for careers in food service fields.
   e. Training in ladder form would enable young people to enter the industry with pre-employment training and progress to skilled jobs or management jobs.
   f. Testing methods are not adequate for selection of students for pre-employment training.
   g. Participants deplored the lack of training guides and materials for pre-employment training and the difficulty in obtaining materials from institutions which are providing training.
   h. Licensing was suggested as a way to increase respect for employment in the food service industry.

2. What upgrading programs are needed?
   a. Adult evening school upgrading programs for cooks, other food service personnel, and restaurant managers should be inaugurated.

b. The American Dietetic Association's courses for food service supervisors which are conducted in junior colleges for employed persons recommended for upgrading training by their employers are good examples of upgrading training.
c. More mid-management programs, such as those conducted in Washington State in vocational and technical schools and junior colleges, are needed.
d. More college courses are needed like the Cornell courses for experienced chefs who wish to improve and upgrade their skills or to prepare for teaching and supervising.
e. Harvey Restaurants have adapted JIT training to train supervisors within the industry.
f. More local teacher training programs and more help in getting such personnel accredited for teaching for the industry are needed.
g. Upgrading programs are of special importance to restaurant managers, middle management personnel, trainers or supervisors, and cooks (for upgrading or improvement of skills for same job level).

3. <u>What are areas of needed research?</u>
a. Occupational mobility within the industry.
b. Labor market practices; recruitment methods; sources of workers; ways in which workers locate employment in the industry.
c. Skills, abilities, and knowledges required for key or selected jobs in the industry.
d. Nature and extent of technological change in the industry.
e. Methods and techniques in selecting new entrants to the industry and in identifying persons for upgrading.
f. Job descriptions and staffing patterns for the industry.
g. Attitudes toward employment in the industry and means of improving image.
h. MDTA research that would have implications for the industry.
i. Kinds of training methods and materials needed, especially for adults.

4. <u>Need for trained teachers for the industry.</u>
a. Shortage of teachers is accentuated by replacement needs.
b. Trained teachers are needed who meet accreditation standards; some States require academic standards which are very high; most chefs are unwilling to spend required time in taking professional courses.
c. Michigan and Cornell are conducting some experimental programmed instruction courses to assist in training personnel within the industry.
d. The American Vocational Association is starting a recruitment system for occupational teachers.

RECOMMENDATIONS

1. That conferences of this kind be conducted at regional, State, and local levels.
2. That guidelines be established on the effective use of advisory committees in developing and conducting training programs. Feed-back information is needed so that advisory personnel can be informed of problems and progress of training courses. Guidelines should be developed for use of ad hoc committees of representatives from labor and industry.

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REPORT OF WORK GROUP NO. 3

Discussion Leader: Donovan Armstrong
Program Specialist, Distributive Education Branch, U.S. Office of Education

1. What are the major manpower needs of the food service industry?
   a. First, second, and short order cooks.
   b. Pastry cooks.
   c. Butchers.
   d. Waiters and Waitresses.
   e. Chefs.
   f. Stewards.
   g. Storeroom workers.
   h. Bus boys.
   i. Cook-Managers (especially for nursing homes).
   j. Mid-management personnel and supervisory personnel.

2. What priorities should be given to developing pre-employment programs?
   a. Chefs and union representatives recommended on-the-job training as the best means of training cooks. Some pre-employment or orientation training might be useful for low-level entry jobs.
   b. Aptitude test battery available through local employment offices is helpful in selecting persons for pre-employment training as cooks, bakers, waitresses and waiters, school lunch program personnel, and counter workers.
   c. Union representatives stated that pre-employment training for minimal jobs is a waste of Federal money since these jobs are being eliminated by automation.
   d. Approximate length of pre-employment training for cooks should be 18 to 24 months in school, plus some practical application on the job.

3. <u>What upgrading programs are needed?</u>
   a. Supervisory and mid-management personnel; cooks; front office people (cashiers, auditors, checkers); waiters and waitresses; and kitchen personnel need upgrading training.
   b. Food service workers who have had some experience but are unemployed because of inadequate skills should be given retraining or refresher training to get them back in employment.
   c. To do an effective job of upgrading we must identify the real training needs; set up adequate standards in training and jobs; select competent teachers for in-service training; encourage workers to want to improve; upgrade employees in terms of changing job requirements; identify the educables; and motivate people to want to work and stay in the industry.

4. <u>What are the research needs in the food service industry?</u>
   a. Recruiting techniques.
   b. What happens to graduates of food service programs.
   c. The background of disadvantaged youth in different locales and their vocational potential.
   d. How can methods of teaching be improved.
   e. Why are experienced cooks unemployed.
   f. What are the factors of mobility among the unemployed.
   g. How can people and jobs be matched effectively.
   h. New trends in the food service industry; how will automation affect various job needs in this industry.
   i. Pilot or experimental programs to test our training for clusters of occupations. What commonalities are needed and can be given in a general program before specific skills are taught.
   j. What competencies should teachers have.
   k. How can good job and work attitudes be developed, especially for those with socio-economic handicaps.

5. <u>What can Federal agencies do in regard to curriculum materials?</u>
   a. The Office of Education can collect, collate, coordinate, and disseminate information on instructional materials and courses of study; use industry committees to validate materials; prepare curriculum guides.
   b. All Federal agencies can facilitate regional conferences to implement proposals of this conference.

6. <u>What are the available sources of curriculum and instructional materials?</u>
   a. Vocational and trade schools .
   b. Universities.
   c. Commercial publishers.
   d. Department of Agriculture, Small Business Administration, etc.
   e. Trade associations.
   f. Food producers associations.
   g. Armed Forces.

7. What use should be made of advisory committees?
   a. Local advisory committees should be used to advise on training programs, criteria for selection of students, placement, training stations, instructors, and the like.
   b. A National Advisory Committee could provide management, labor, and Government with valuable counsel and direction in meeting the manpower needs of the industry.

8. What teacher training resources are available?
   a. Teacher training should be set up immediately for instructors of MDTA and ARA programs. Four or five seminars of 4 to 8 weeks in various parts of the country would be helpful.
   b. Facilities of State Boards for Vocational Education should be tapped for pre-service and in-service teacher training.
   c. On-the-job instructors should be trained in methods of teaching. Only skilled craftsmen or chefs should be used as trainers.
   d. Management and supervisory personnel need training on how to supervise, how to train, human relations, how to conduct meetings, and other supervisory development courses.

RECOMMENDATIONS

1. That a National Advisory Committee of top leaders in labor, management, and Government be established, as well as sub-committees for special purposes or for regions.
2. That a central agency, such as the U.S. Office of Education, be designated to collect, collate, and disseminate information about courses and curriculums.
3. That teacher training institutes be organized to help meet the crucial need for qualified instructors in MDTA and ARA programs.

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REPORT OF WORK GROUP NO. 4

Discussion Leader: Henry Przelomski
Assistant Chief, Division of Program Development
Bureau of Apprenticeship and Training,
U.S. Department of Labor

1. What priorities should be given to developing pre-employment training?
   a. The need in each local area should determine if pre-employment training programs should be organized.
   b. Pre-employment training for cooks is desirable and should be organized as pre-apprentice training.

c. More pre-employment training for the industry should be offered on high school and post-high school technical levels.
d. Suitability of institutional or OJT programs for cooks should be determined on the local level.
e. Because of the great variance in institutional and OJT training programs, the industry, assisted by the Governmental agencies concerned, should develop guidelines and suggested training patterns for use of local groups.
f. Some conferees felt that priority should be given to upgrading those already in the industry; others felt that the overall needs of the area should determine priorities. Both groups agreed that upgrading training is needed.

2. How can curriculum guides and instructional materials be developed?
   a. A State or National Committee should be appointed to work in the area of curriculum for this industry.
   b. The U. S. Office of Education's curriculum guide, now out of print, should be reprinted.
   c. Some State and local agencies have been successful in recruiting retirees to work on curriculum.

3. In what areas should research be conducted?
   a. What the food service industry really wants and needs in the way of manpower development.
   b. Reasons why the food service industry is not attracting more desirable applicants, and methods by which the industry can.
   c. Worker traits conducive to success in food service occupations.
   d. Effect of racial discrimination on recruitment, and if this is local, regional, or national in scope.
   e. Validity of test procedures in predicting and detecting worker qualities desirable in the food service occupations.
   f. Possible effect of licensure on selection and recruitment.

RECOMMENDATIONS

1. That the Federal Government initiate, develop, and disseminate "Standard Procedure Sheets" for various operations in food preparation.
2. That the Federal Government continue to provide funds for food service training programs initiated and desired on local levels.
3. That the Federal Government prepare and make available several standard "skeleton" training program structures modeled on the "J" programs of World War II, with flexibility for adaptation to local conditions and techniques.
4. That a national steering committee, composed of representatives of labor, management, and Government, be organized for food service industry manpower matters, and if possible, a secretariat be established for the committee by the Manpower Administration.

SESSION IV

COMMENTS

ON

NEXT STEPS TO COOPERATIVE ACTION

SESSION IV

Chairman: John C. Donovan
Manpower Administrator
U. S. Department of Labor

"NEXT STEPS TO COOPERATIVE ACTION"

Comments by: Frederick B. Sweet
Managing Editor, "Catering Industry Employee",
Hotel & Restaurant Employees and Bartenders
International Union

Despite a popular image to the contrary, the labor movement shares a characteristic once ascribed to America by Walt Whitman when he said, "America is a multitude of individuals." This is also true of the labor movement. There is often a degree of unanimity in the trade union movement, but it is by no means a monolithic institution. It is an institution in which there is room for considerable variety of outlook, and this same quality is to be found in the public feeding and lodging industry in the United States. We have autonomy in our unions, which means there is a certain amount of freedom at the community level. In your industry, because of a great disparity in size of establishment and the nature of American enterprise, there is also a high degree of autonomy.

Our International Union is heavily committed to the primacy of upgrading, of skill improvement, and of on-the-job training of those already employed. While we do not rule out those cases in which classrooms, as well as kitchens and dining rooms, may be the scene of the training, we have a primary obligation to those in the shop now. In trying to solve the problems of manpower development and utilization, there are bound to be certain kinds of organizational rivalries. There are rivalries between those who favor on-the-job training and those who favor institutional training. There are rivalries between management and labor. There are rivalries in the Government between agencies competing for access to a given appropriation. There are rivalries between professional and trade associations. All of us must do our best to minimize the frictional consequences of these rivalries and bear in mind that we are earnestly engaged upon a most difficult, serious, and worthwhile task together. Labor accepts a joint responsibility with management, education, and Government in seeking viable and useful answers to our problems.

First, we have an obligation to identify the real training needs. Training programs should be organized only if there are jobs to be filled. In spite of the commonly held but erroneous view that unions are primarily interested in collecting dues, we feel our people deserve better treatment at the hand of planners than to be prepared for jobs that simply are not there.

There must be established, through appropriate machinery, adequate standards of training, as well as standards in new jobs. This is of utmost importance to the future of the industry. Every effort must be made toward standardization of job titles, job descriptions, etc., and adequate standards should be readily available, disseminated, and accepted as valid by knowledgeable people in the industry.

We must do everything we can to provide competent teaching. It is far better to find a good craftsman who is blessed with the potentialities of becoming a good teacher than it is to find a teacher and try to convert him into a craftsman. We must also work together on curriculums and teaching tools.

Management and labor share a heavy responsibility to those already employed in this industry to encourage them to seek improvement and advancement. Upgrading the worker will enrich the community, will be of material assistance to management, and will help us in our continuing efforts to raise the level of wages. Management and labor are often looked upon as implacable foes, and certainly we have our areas of disagreement. But the vitality of the industry, in which management has its investment and we have our jobs, is obviously one area where there can be common agreement.

The industry is going to see a considerable increase in the employment of Negroes, Puerto Ricans, and other minority groups. Fair employment practices under the Civil Rights Act place employers and unions alike under heavy legal injunction to see to it that the work place is as American as apple pie--a place in which each of us may stand on his own feet and be recognized as a human being, without concern for the color of his skin, the church his daddy went to, or the land he came from.

Management and labor should make music together on this business of job orientation and of motivation. We who represent the men and women in the kitchens and the dining rooms, and you who represent the management people, must work together to enchance the desirability of jobs in this industry. People must want to be cooks and waiters and waitresses. To get them to want these jobs requires a variety of techniques of motivation.

All of this reemphasizes the need for a tripartite body representing labor, management, and Government to provide leadership and guidance in meeting the manpower and training needs of the food service industry.

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Comments by: Kathryn Bruce
Educational Director
National Restaurant Association

The professional staff members of trade associations function under governing bodies or boards of directors. Some of our suggestions are within our functional authority; others may be subject to approval of our respective boards of directors.

Perhaps our most significant suggestion is for greater cooperation and coordination among trade associations in support of educational activities. This would benefit the Government agencies through improved communications, application of collective knowledge, and greater resources. Steps will be taken to have a meeting of the association groups to formulate an inventory of our training resources, needs, and suggestions.

Additional steps to cooperation are:

1. Effectively communicating to our members, boards of directors, and State and local associations, the methods and importance of cooperating in the development of training programs conducted under the auspices of the Department of Labor and the Office of Education.
2. Encouraging association members to be responsive to and cooperative with research programs by supplying information when requested.
3. Providing the results or findings of any surveys or statistical research conducted by the associations or allied groups to the appropriate Government agency.
4. Participating in the establishment of a central source of information pertaining to all phases of training programs for the industry.
5. Attempting to establish standards of performance for job classifications in the industry as a guide to training and worker evaluation.
6. Cooperating in strengthening and expanding testing procedures for employee or trainee selection.
7. Assisting in developing curriculum guides and instructional materials.
8. Assisting in establishing qualifications standards for instructors and in recruiting and developing instructors.
9. Encouraging and assisting in the formation of local industry advisory committees for the food service industry.
10. Encouraging and assisting in the expansion of on-the-job training programs under MDTA.
11. Identifying and suggesting research and experimental or pilot programs for the food service industry.
12. Continuing and increasing efforts to strengthen the upgrading training of employees and improving working conditions within the industry.
13. Assisting in providing channels for placement of individuals successfully completing training programs.

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Comments by: Richard S. Teranes
Personnel Relations Manager
The Prophet Company

The majority of management representatives in attendance at this conference are from national chain organizations--companies employing many thousands of persons. National chains have specialists in staff positions who continually attempt to keep current in this field of education.

I cannot presume to speak for all of management due to the nature of our many and varying types of restaurants. However, discussions with management representatives indicate a definite interest in the further development of the many programs discussed during the past few days. Serious consideration should be given to conducting surveys to determine what management's needs will be for the next 5 years. This is essential if future training is to keep pace with rapid advances taking place in the food packaging and processing industries. Some management representatives have expressed interest in continuing adult education programs for employees. The employee or new entry in the field should show a personal interest and display personal sacrifice in moving ahead as a worker and as a person.

The image of our industry can be furthered if we discontinue our "bickering" about low wages (a generally erroneous assumption) and poor working conditions (non-existent in the majority of cases).

The industry is investing $2500 for each new job and will continue to do so. This means that training will become more important and management will cooperate with all concerned, preferably at the local level, as this is where problems exist and differ by area. Local restaurant managers and owners should be informed about the various programs discussed at this conference, manpower requirements should be determined, and additional funds should be secured, if necessary, to conduct local programs.

Management is proud of its employees. Many come into the industry untrained, and after training by management have become important assets to our industry.

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Comments by: Philip W. Seagren
Director of Adult Vocational Education
Lindsey Hopkins Educational Center

The manpower problems of the food service industry are of immediate concern of all of us; my comments will be based on local observations of the problems. It seems ironical in a metropolitan area such as greater Miami which is very dependent upon the tourist trade that we had to close our high school program for cooks in 1947 because of lack of students. We

have the knowhow in teaching and the training facilities in Miami, so there must be other reasons for the lack of students. We took on new hope with the passage of the Manpower Development and Training Act, but when the Employment Service recommended training in seven occupations, we were unable to open classes in two of them--cooking and waiter-waitress training--because unemployed persons were not interested in training for these occupations.

This may be due to various factors. The restaurant people in our metropolitan area are not working as a nnit in the local greater Miami Restaurant Association. Meetings are poorly attended; about 70-80 percent of those in attendance are purveyors and the same handful of owners and operators; and it is difficult to inspire this group to assist us in training. Vocational education cannot be of help to this industry until the owners and the operators begin to realize the importance of pre-employment training and to motivate their present employees to take extension classes for upgrading, which is a common practice in all other industries in our areas. We stand ready to at any time to offer preparatory, extension, and on-the-job training.

To make food service training and employment more attractive to more people, the following suggestions might be helpful:

1. Vocational education in the past had a poor image in the minds of the public but in recent years has improved its status by striving for quality education, proper selection of trainees, and better service to industry. Many fine articles have been published nationally about the importance of vocational education to the Nation's welfare. Similar efforts should be made by the food service industry.
2. Local restaurant associations should invite junior and senior high school counselors to a dinner meeting, should outline the employment and pro motional opportunities for well-trained food service workers, and should give them a behind-the-scenes picture of the food service industry in hotels as well as in restaurants. Few are aware of the good salaries that can be earned by chefs and executive chefs, as well as other skilled employees. There are also lower-level job opportunities that need to be brought to the attention of guidance people.
3. The food service industry should place special emphasis on its security and fringe benefits. It needs to clarify job classifications so that new employees can see the range of promotional opportunities and be motivated to upgrade themselves.
4. The industry should also participate in management training for supervisors and department heads in order to develop better communications on an inter-departmental basis, improve public relations, and strengthen relationships within the organization. This, in turn, will result in better orientation, supervision, and retention of employees.

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Comments by: Henry O. Barbour
Director, School of Hotel, Restaurant and
Institutional Management, Michigan State University

There are three traditional roles of the college or university: (1) Orderly assembly of present knowledge; (2) teaching of that knowledge; (3) research--actual discovery and development of new knowledge.

Universities could be more active in assembling and collating reports, curriculums, books, slides, films, video-tapes, and other materials relating to food service training. Universities could disseminate this knowledge in cooperation with various agencies, both public and private.

Hotel and restaurant schools in colleges and universities have a primary function of educating managers and mid-management supervisors. This function should be continued and expanded, offering the opportunity of either 2 or 4 years of college work to more citizens interested in the food service field. In addition, universities should be developing teachers from among young people who are working toward their baccalaureate degrees, from those who are working toward advanced degrees, and from promising workers who have had seven or more years of successful experience in the industry. Not only should these people be offered the opportunity for pre-service education, but the university should develop an academic professionalism among them through workshops, particularly in the summer; through the development of new teaching techniques; through the updating of knowledge in the field of education applied to food service training and in the field of food service operations.

In teaching the knowledge we now have, universities can best carry out their leadership role by means of demonstration programs, such as those presently conducted by Florida State University and Michigan State University. There are two ways of teaching--one, through the spoken word in the classroom; the other, through the written word pursued in some other locale than the university itself. The production of knowledge in written form is an important function of faculties of colleges and universities.

Universities have been the stronghold of research--research in basic and applied knowledge and research in teaching techniques. This has been done by most universities in a highly successful fashion for other industries; similar attention to research for the food service industry is long overdue. With the support of industry and Government, it would be possible to conduct research in such areas as teaching techniques and the learning process, particularly as related to on-the-job training; job knowledge via job analysis, job descriptions, studies of working conditions, etc. Research is needed to evaluate demonstration and experimental programs of teaching and training. Moreover, a great amount of research is needed in technology relating to the science of food production and its subsequent service.

Colleges and universities of the United States which are the creatures of the citizens of this great land, have certain capabilities, experience, and facilities which would be of value to the food service industry. Certainly every university and college represented here today is awaiting for whatever activity is deemed necessary in this area.

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Comments by: Francis A. Gregory
Assistant Director, Office of Manpower, Automation and Training, U.S. Department of Labor

A keen interest has been expressed in establishing a central coordinating body responsible for the collection and dissemination of information vital to the training of qualified workers for this industry. While the development of training standards and curriculums is the responsibility of education, the Department of Labor can assist by providing a variety of services, such as determining employer needs and defining the occupational limits within which training may be provided.

We would like to see consideration given to conducting meetings, perhaps similar to this conference, on local, State, or regional levels. Out of these meetings would come specific programs to meet the needs of the particular area. The Office of Manpower, Automation and Training, through its network of regional offices, is in a position to help organize such meetings if the parties involved express the interest in and need for further investigation in their own areas. Our field directors can also help in setting up local or regional advisory committees for the purpose of assisting education, management, and labor in identifying the manpower problems of this industry and in instituting training projects to relieve such problems.

You have statistical information in your kit about the number and types of training programs already approved under MDTA and ARA. True, the number is minimal in terms of the total needs of the food service industry--funds appropriated under these acts can no more than perhaps indicate what can be accomplished through training, as well as what types of training content and methods will be most effective for various groups of occupations and workers.

In addition to basic research in various aspects of manpower development and utilization being conducted under title I of MDTA, a number of experimental and demonstration training projects and studies are being conducted under title II of the act to investigate problem areas relating to occupational training and employment. Funds have already been contracted by the Department of Labor to private and public groups and organizations, including

educational institutions, labor unions, and non-profit organizations, to carry out these special projects. Experimental and demonstration projects are designed primarily for hard-to-place persons who do not have a marketable skill and who need various supporting services in addition to job training. Programs frequently provide basic education, where needed, to complement the occupational training portion of the program. In other projects, training content and teaching techniques have been modified to meet the special needs of the group. Many of the experimental and demonstration projects have been supplemented with intensive counseling services to assist individuals in adjusting to the training program and later to the job situation. Lessons learned from the conduct of these projects will be interpreted, where appropriate, into policies and standards governing the conduct of training under MDTA.

Many problem areas in the training of qualified workers for the food service industry have been identified in your work group discussions. We invite interested persons and organizations knowledgeable in these problem areas to submit proposals for special projects to investigate these problems. The Office of Manpower, Automation and Training can provide technical assistance in the development and implementation of experimental and demonstration projects. Proposals may be sent to this Office, U.S. Department of Labor, Washington, D. C.

Because this is a growing as well as a changing industry, there is a continuing and increasingly urgent need to identify its problems in relation to manpower. During this conference you have isolated the problems and made specific recommendations. We need now to follow through on these recommendations. However, this can only be done with the fullest cooperation of all parties concerned--management, labor, education, and Government. We in OMAT will do all that we can to work with you in implementing the recommendations developed during the past few days.

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Comments by: Seymour Brandwein
Deputy Assistant Director of Research
Office of Manpower, Automation and Training
U.S. Department of Labor

A good deal of attention in your workshops has been focused on research, on the need for more information and understanding of some of the manpower needs of your industry. Many of your suggestions for research point up that MDTA training is itself a vital research tool. Although MDTA training programs are nowhere near sufficient in number to meet the training needs of this industry, they are a significant means of determining what can be accomplished through training and what training content and methods are most effective for different jobs and groups of workers.

But the Manpower Act goes beyond this type of research, this learning through doing. The act not only provides for training programs, but expressly provides for an expanded comprehensive research effort in the manpower field to develop the information and insight needed to meet our manpower requirements and put to full use our manpower resources. This is in addition to the existing research activities of the Department of Labor, such as the occupational outlook work done by the Bureau of Labor Statistics for guidance and counseling, and the area skill surveys of the Employment Service Offices of the Bureau of Employment Security.

Some of the funds provided under the Manpower Development and Training Act for broadened research activities are being used to contract with university experts and other qualified groups and individuals to conduct specific research in the manpower field. We would be glad to explore with responsible groups in your industry the possibility of jointly conducting some area of specific research in which you are interested. We would also like to learn more of what your industry has been doing in exploring your manpower needs, your changing structure, and your technological course. This conference has helped develop the acquaintanceships and groundwork for such follow-up.

The Secretary of Labor's recent report on Manpower Research and Training under MDTA describes the nature and range of the research being undertaken both under contract and by the Department's staff itself. Relatively little of our research is geared directly to the food service industry alone, nor could it be, for we are not established as the research arm for your industry. But the information developed on many subjects and in cross-industry research may offer rich returns for those who actively look beyond their own industry boundaries to determine how knowledge developed generally may have applicability in their own ranks. For example, information on worker attitudes toward training--what makes workers receptive or apathetic to training opportunities--is one area we are exploring in some of our research activity. Another significant area in which we are broadening our research efforts is on methods of developing more reliable projections of likely future need in various occupations, so as to encourage and enable more realistic planning ahead on manpower development. We are also stepping up our examination of technological developments in various industries and their implications for job content and manpower requirements.

You are urged to examine more closely what we have been doing in the research sphere and to give us your suggestions and assistance in developing additional research programs to help us all in resolving our manpower problems more knowledgeably and effectively.

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Comments by: John McCauley
Director, Training Operations
Bureau of Employment Security
U. S. Department of Labor

The manpower problems facing the food service industry are numerous and complex. Many of them cannot be solved solely by the industry, by organized labor, or by Government. Solutions must be worked out cooperatively.

During this conference a suggestion was made that similar conferences be set up on a regional basis and eventually on a State basis. A more effective approach would be to initiate action at the local level. Manpower needs which can be met through training programs may vary widely among local communities and among employers in those communities.

Greater cooperation on the part of the United States Employment Service and its affiliated State agencies is a goal we can help achieve. Local employment service offices can serve as the focal point in determining labor supply and demand locally; in identifying or confirming shortages in your industry; and in planning training curriculums to assure development of well trained workers in the food service occupations.

We can put more emphasis on your personnel needs in developing information on manpower requirements. We can determine, through contacts by local office representatives, where large numbers of vacancies exist in your industry, what your employment specifications are, and suggestions about the kind of training and basic education needed.

With the cooperation of the vocational education authorities, who actually plan and conduct the training, and the local employment service offices responsible for selection of trainees and payment of training allowances, we believe the workers you need can be obtained. If management and labor are realistic in discussing manpower requirements with the local employment service and local education authorities, the facilities of those agencies can be utilized most effectively.

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Comments by: Glenn Mitchell
Chief, Division of Construction and Manufacturing Industry, Bureau of Apprenticeship and Training
U. S. Department of Labor

The degree of skill possessed by the individual worker determines the quality of the job he is able to perform. When jobs require extensive trade knowledge and skill, training must be correspondingly complex.

Training for craftsmanship involves preparation, not for a simple skill, but for the many types of related practices that may be handled by a competent craftsman.

Apprenticeship and other on-the-job training programs have long been recognized as effective means of learning a skilled trade. Through its field staff, with offices in every State, the Bureau of Apprenticeship and Training works with local employers and employees in developing apprenticeship and industrial training programs to meet specific needs.

Since programs to retrain and upgrade present industry personnel is of utmost importance, employers interested in such programs should contact either the local BAT office of our national office here in Washington. Bureau representatives can assist in the development and operation of pre-apprenticeship or job entry, apprenticeship, and journeyman training programs.

We are very much interested in the formation of a National Advisory Committee for the Food Service Industry as an approach to meeting your manpower needs. I would also suggest that food service industry committees be established in local communities to investigate the type or types of training needed in the various areas of the country.

The Bureau of Apprenticeship and Training offers its cooperation and assistance in promoting sound training programs at all levels.

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Comments by: Earl M. Bowler
Chief, Professional Services Section
Manpower Development and Training Program
U. S. Office of Education

The next steps to cooperative action to be taken by the Division of Vocational and Technical Education will be the development of several curriculum guides in the food trades area.

Manpower Development and Training programs will be conducted in areas where job opportunities exist. The Professional Services Section plans to provide assistance in teacher training to further the effectiveness of all programs. In addition, research and leadership activity is expected to improve the quality of foods training as knowledge gained at this and similar conferences is applied to specific situations.

There have been some excellent comments and ideas brought out during the past few days which pinpoint vital challenges for vocational educators. We need to do a better job of communicating. It appears that our "sending"

equipment is pretty good. We publish news stories, issue bulletins, and, from time to time, we get on the radio and tell our story. Our weakness seems to be in the "receiving" apparatus. Seldom do we assemble groups such as are present here to discuss in depth their problems and their plans for future action. The kind of communications we have had at this conference is many times more effective than that of the "single shot" approach used too long in our field.

A second need that must be met if vocational educators are to reap the full benefit of this conference for the food service industry is to make sure the proceedings and findings of the conference are fed back to those who do the training in institutions across the land. The Division of Vocational and Technical Education welcomes the opportunity to make available to vocational educators in the 50 States a report of this conference. In turn, I would hope that other clinics, conferences, and institutes might be held to implement the findings brought to light through our conference discussions.

Vocational educators are strong believers in and supporters of apprenticeship. These educators are charged by the Congress with the responsibility of providing related instruction for apprentices. Each year thousands of apprentices receive their science, mathematics, drafting, and related instruction in vocational evening classes. Any apprenticeship program worth its salt has built into it a program of related instruction. Many vocational schools also provide apprentices with the opportunity to acquire skills and academic knowledge not likely to be available through on-the-job experience.

Encouragement has a place in our discussion because those who work with us need to be encouraged to help improve the quality of vocational education. We need to do a better job of public relations, but more importantly, we need "feed-back" such as we have heard in this conference. We need to know the real needs of the food service industry. We need to know who in the industry does or does not understand what is being done by the vocational schools throughout the country. We want to encourage honest appraisal.

There is a need to sell training and the developing of people. The most effective selling is that which leads to the involvement of key people. All of us are interested in quality programs, and the best way to insure quality is to actively involve management and labor in these programs. Representatives from both groups should be urged to serve on advisory committees, as school board members, as instructors

(day or evening), as student counselors, as members of lay citizens groups, and on city councils.

Finally, evaluation is an important need. Programs must be evaluated periodically, and adjustment and redirection must follow. Groups such as those represented here should be involved in program evaluation if vocational education is to be kept attuned to the requirements of the food service industry.

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APPENDIX

CONFERENCE PLANNING COMMITTEE

U.S. DEPARTMENT OF LABOR

Rita Dwyer, Bureau of Employment Security
Thomas Karter, Office of Manpower, Automation and Training
Lillian Laine, Office of Manpower, Automation and Training
Robert Malakoff, Office of Manpower, Automation and Training
Henry Przelomski, Bureau of Apprenticeship and Training
Mary Resh, Office of Manpower, Automation and Training (Chairman)

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Margaret Alexander, Home Economics Branch, Office of Education
Donovan Armstrong, Distributive Education Branch, Office of Education
William Berndt, Trade and Industrial Education Branch, Office of Education
Earl M. Bowler, Manpower Development and Training Program, Office of Education.

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Myra Wolfgang, International Vice President, Hotel and Restaurant Workers and Bartenders International Union

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U.S. DEPARTMENT OF LABOR

Office of Manpower, Automation and Training

An Explanation of the Manpower Development and Training Act
Manpower Report of the President, March 1964
Manpower Research and Training--A Report by the Secretary of Labor, March 1964
Training under the Manpower Development and Training Act and the Area Redevelopment Act for the Food Preparation and Service Occupations, March 1964
Mobility and Worker Adaptation to Economic Change, 1963
Manpower Problems and Local Action--The Role of Local Manpower Advisory Committees

Bureau of Employment Security

Job Descriptions of Selected Occupations in the Food Service Industry, April 1964
The Area Skill Survey Program of the U.S. Employment Service
Occupational Testing: The Scientific Approach to Personnel Selection

Bureau of Labor Statistics

Reprints from 1963-64 Occupational Outlook Handbook
- Employment Outlook in Baking Industry
- Employment Outlook in Hotel Occupations
- Employment Outlook in Restaurant Occupations

Bureau of Apprenticeship and Training

Standards of Apprenticeship for the Trade of Cook

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office of Education, Division of Vocational and Technical Education

Education and Training: Key to Development of Human Resources. Second Annual Report of Secretary of HEW on MDTA Training Activities
Food Service Industry--Training Programs and Facilities
Enrollments in Selected Trade and Industrial Education Classes for Bakers, Cooks, Waiters-Waitresses, Hotel Workers, etc., 1963
Enrollments in Selected Distributive Education Classes for the Food Service and Hotel Industries, 1963
Analysis of Training Programs for Food Trades under MDTA

GPO 884-678

VT 003 677
Project Feast (Foods Education and Services Training).

San Francisco State Coll., Calif. Center for Technological Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 1Feb67 20p.

*FOOD SERVICE OCCUPATIONS; *OCCUPATIONAL HOME ECONOMICS; HIGH SCHOOLS; PROGRAM DESCRIPTIONS; CURRICULUM
*PROJECT FEAST; SAN FRANCISCO; CALIFORNIA

Project FEAST appeals to and offers opportunity for all high school youth regardless of color, ability, or economic status, to explore or prepare for a career in the foods industry. A high percentage of FEAST students complete high school, and those with motivations and abilities for further schooling can proceed through the articulated continuum of California Community College and the 4-year college. Team teaching interrelates laboratory experiences and basic education, so that general education requirements become meaningful. Material covered is oriented so that motivation, skills, understanding, and attitudes can be tested in actual job situations. Ten schools participated in project FEAST. Teachers spent 4 weeks in general orientation and in actual experience in industrial quantity food preparation, and had conferences and visits with industrial representatives. They developed curriculum outlines for Grade 11. During the second summer teachers revised outlines and developed the 12th grade curriculum. Teams from all schools met during the semester to air problems, brainstorm and report on developments, and introduce new materials and ideas. The project director and advisors are continuously available to individual teams for consultation. (FP)

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San Francisco State Coll., Calif. Center for Technological Education

PROJECT FEAST

(FOODS EDUCATION AND SERVICES TRAINING)

Project FEAST is a high school program developed in the San Francisco Bay Area for training students in foods preparation and service. It was originally sponsored by the Hotel and Restaurant Foundation of the City College of San Francisco under a grant from The Ford Foundation. Initiative for the development of each individual program was taken by the staffs of the local high schools and their district offices. The support and encouragement received from the California State Department of Education, Bureau of Homemaking, Vocational Education Section, has contributed extensively to the spread of the idea and was invaluable in obtaining additional federal government funding under provision of the Vocational Education Act of 1963.

Founded in 1964 by:
Ford Foundation grant, administered by
Hotel and Restaurant Foundation of the
City College of San Francisco

Funded by:
Vocational Education Act of 1963 through
California State Department of Education
Vocational Education Section
Bureau of Homemaking
Local school districts
Ford Foundation

Sponsored since 1966 by:
San Francisco State College's
Center for Technological Education

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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VT003677

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PROGRAM OBJECTIVE

The purpose of the program is to afford interested and qualified students an opportunity first to explore and then to prepare for a career in the commercial foods industries.

The high school curriculums are so designed that occupational training is conducted on a continuing basis and students leaving school at any juncture after the first semester will have employable skills. Experience to date has demonstrated that a high percentage of the FEAST students complete high school.

Project FEAST was planned so that instruction in areas other than food service and preparation reinforces the occupational training. The FEAST faculty functions as an inter-disciplinary team, planning their instruction together. Materials in English and business at the eleventh grade are closely related to the content covered in the foods laboratory. As the student recognizes the application of these subjects to success in his chosen career, he applies himself to learning the basic skills of the regular curriculum. The cafeteria manager and a counselor are also members of the team to assure meaningful on-campus laboratory and work experience and to provide informed occupational guidance.

It is expected that teachers and employers will encourage the student who goes immediately from high school to work to further develop his potentials by taking advantage of on-the-job training and apprentice programs, local adult education programs, the American Hotel and Motel Association Educational Institute

Courses, National Restaurant Association short courses and/or other available opportunities, depending on his field of interest and abilities.

The student who demonstrates the abilities and motivation necessary for further schooling is advised to continue his education in one of the California Community Colleges' specialized programs for the foods service industries. Close cooperation is maintained with institutions offering such training and the City College of San Francisco, Laney College in Oakland and John O'Connell Technical Institute in San Francisco. A student with exceptional academic ability and interest will be encouraged to aim for a four-year college program in Hotel and Restaurant Administration.

It is expected that as experience with Project FEAST graduates increases, all related post high school programs will be altered to effect such articulation. These institutions should then be able to enrich their offerings and expand their programs to better prepare these young people for their chosen career. There then will be in fact a continuum from grade eleven through an apprentice or training program, or through grade fourteen in a junior college and, in the case of certain qualified students, through the baccalaureate. The actual school experience, whatever it may be, will produce a qualified employee working at a job commensurate with his academic abilities, occupational aptitudes, and personal characteristics.

The goal of Project FEAST is to provide a program that will make school more meaningful--challenging the student's interest and developing his full potential. The graduate will have basic knowledges and skills necessary for the beginning level of employment. He should have the added incentive to continue his educational and intellectual growth after employment. He becomes an asset to his community, a strong person within himself.

HISTORY OF THE PROGRAM

The first program that was developed to satisfy the basic objectives described in the preceding was the Pre-Engineering Technology Program (Richmond Plan) sponsored by a Ford Foundation grant. The success of this program caused administrators, teachers and industry to wonder about its adaptability to other occupational fields.

Among these were the members of the City College of San Francisco staff who were convinced that it would give new meaning and incentive to the high school education of many students; it would provide effective articulation with many semi-professional programs; and it would provide sorely needed trained personnel for many industries.

After conferring with Marvin J. Feldman, Program Associate of the Ford Foundation, the architect of the Richmond Plan and Dr. Louis F. Batmale of the City College of San Francisco, it was agreed that the next logical step was to test these principles by experimenting in one additional field.

The field selected was that of foods preparation and service. The reasons for this choice were:

1. The excellent reputation and wide acceptance of the City College of San Francisco Hotel and Restaurant Program;

2. The genuine interest of the local hospitality industry in education;

3. The availability of a highly qualified Project Director, Mrs. Hilda Watson Gifford;

4. The ability of the program to serve a broad range of student abilities; and

5. The great and growing variety of employment opportunities available in this field.

Jobs may be found in the hospitality industry for the entire range of abilities, from the lower level high school trained person to top management opportunities for the college trained graduate in Hotel Administration. Many years ago, Ernie Byfield wrote, "The hotel industry uses ten professions and forty trades." These numbers may well have increased with the recent great growth of industry and demands of the government and the public.

A proposal for a grant was submitted and approved. The contracting agency on behalf of the City College of San Francisco was the Hotel and Restaurant Foundation. This non-profit organization had been founded by members of the alumni, supporters from industry, and representatives of the staff for purposes of managing gifts and grants to this department of the College.

The grant was made for a two-year experiment in three schools: Pacific High School, San Leandro; Oakland Technical High School, Oakland; and Balboa High School, San Francisco. The program was implemented in the first two schools in 1964, and in the latter in 1965. These three schools covered San Francisco and the East Bay. Interest was such that it was deemed advisable to encourage and include schools in the second year from the third Bay Area community, the Peninsula. Capuchino from the San Mateo High School District and Ravenswood from the Sequoia High School District applied and joined in during the second year of the program.

The concept had taken such hold that the Ford Foundation established at San Francisco State College the Center for Technological Education. The Center has for its purpose a broad program of developmental studies to expand and strengthen the Pre-Technological programs. It was planned that this Center would provide a resource center for schools already committed to this approach to education, helping them with their problems and in the improvement of their respective programs. The Center now provides consultancy services, a counselor and teacher "task force" to assist teams, pre-service and in-service training for teachers, and guidance in evaluating student progress and the efficacy of the program. It is also expected that the Center will spread the principles applied to Pre-Engineering Technology and Project FEAST to districts other than those now served, and will eventually apply the concepts to other occupational fields, such as business or health service.

The Center provided funds to supplement the guidance and resources needed for Capuchino and Ravenswood in 1965-66. It subsequently assumed sponsorship of the program assuring the continuance of Project FEAST by underwriting the 1966 summer workshops in cooperation with the California State Department of Education. This brought five additional schools in the program and a total of ten by September 1966.

ADMINISTRATION

Leadership of the program from its origin has been provided by its director, Hilda Watson Gifford. She is a graduate of the Cornell University School of Hotel and Restaurant Administration and has had extensive experience in operations as well as in high school and junior college training programs. Her most recent activities were in trade association work as Educational Director of the American Hotel and Motel Association. She is an accepted leader of international reputation in this field.

She has been advised by Dr. Louis F. Batmale, Coordinator of Technical-Terminal Instruction, City College of San Francisco. Members of the staff of the Hotel and Restaurant Department at the City College have served as most valuable resource people. The facilities of the College have proved to be indispensable in the conduct of the teachers' workshop and development of the curriculum. The fine foods laboratories, the Alice Statler Library, and the immediate availability of highly qualified resource people account in great measure for the success of the project.

The Director has principal responsibility for:

1. Selection and recruitment of possible high schools;
2. Planning, organization, and administration of the workshop, field trips, and conferences for teachers;
3. Development of a continuing program of training for teachers and counselors providing necessary resource persons and materials.

The Director also assists participating schools in the following way:

1. Establishment of criteria for selection of students;
2. Recruitment of students through conferences and parents' meetings;
3. Supervision of teachers;
4. Establishing liaison with advisory groups from industry, local labor, and management organizations;
5. Establishing liaison with other industry foundations, institutes, and councils.

The sponsorship of the program in June of 1966 passed from the Hotel and Restaurant Foundation to the Center for Technological Education. However, a close liaison has continued with the City College of San Francisco. Dr. Batmale continues to advise, and his staff members act as resource people. The facilities of its Hotel and Restaurant Department will be used for the teachers' workshop as well as a resource for student orientation. The Alice Statler Library strengthens teacher training and curriculum development.

STUDENTS

The program has appealed to both boys and girls. The proportion of boys to girls has ranged from all-boy programs to others having about half of each. The ability range has been broad with a heavier representation from the lower ability groups. Early evidence indicates that this latter group is now staying in school, becoming better citizens, developing employable skills, and performing quite satisfactorily in the school and industry responsibilities assigned to date. A more formal evaluation is planned, and there is reason to be optimistic as to its favorable findings.

Among the schools selected, two have a preponderance of minority group students; one is mixed with a predominantly lower middle class population; one Caucasian lower middle class; and one essentially middle class. The program, it appears, appeals to and affords opportunity for youth from the whole student population regardless of color, ability, or economic status. The primary prerequisite from the students' point of view appears to be interest and motivation.

PROGRAM OF INSTRUCTION: CLASSES AND SCHEDULING

The program does not neglect strong basic education, but supplements it with practical experiences and training. Homemaking department classrooms are used to teach the basic principles of foods preparation and service along with the application of science, math, business, and English. These latter subjects are taught by members of a team; instruction reinforces laboratory experiences and vice-versa. The material covered therein is so oriented that the motivation, skills, understandings, and attitudes learned in the laboratory and cafeteria may be used to good advantage.

It was originally planned that quantity foods preparation and service training as well as purchasing, store, control, and care of supplies and equipment would take place in the school cafeteria. Administrators and team leaders have shown intelligent initiative in meeting these requirements. Some are using their school facilities, some are using those of other schools and one, which has no adequate facilities, has worked out an agreement with nearby Veterans' Hospitals.

All teachers have used the ideas developed in the Pre-Engineering Technology Program, especially its emphasis on practical rather than theoretical concepts, team teaching, and cutting across traditional departmental lines. Teachers have emphasized the relationship between subject matter and what is important to the student in terms of his getting and holding a job.

Considerable latitude has been given to each school in the scheduling of the various subjects. As a result, there is some variation among the schools. There is little variance, however, among the eleventh grade curriculum. In the twelfth grade, adjustments are made to accommodate the more specific needs of the students, the facilities and the community. However, the following allocation of time seems quite representative of the program:

11th Grade

Foods Laboratory and Cafeteria Work.....	2 hours
Foods English.....	1 hour
Foods Business.....	1 hour
Social Studies.....	1 hour
Physical Education.....	1 hour

12th Grade

Foods Laboratory (Cafeteria)..... (1st semester)	2 hours
Outside Work Experience..... (2nd semester)	2 - 4 hours
Foods English.....	1 hour
Elective.....	1 hour
Social Studies.....	1 hour
Physical Education.....	1 hour

The science requirement is met in the home economics class; this includes materials dealing with chemistry of foods, food sanitation, some physics including heat and light, properties of metals, refrigeration, use of electronics, radiation, and steam and quick freezing equipment.

The first semester laboratory work is offered in the home economics facilities and covers the basic principles of foods preparation and science. The following two semesters of the laboratory take place in the cafeteria kitchen, faculty

dining room, or other approved facilities. Adequate laboratory space for a minimum of fifteen students and service for preferably a minimum of 50 persons is recommended. Scheduling is developed around the luncheon hour requirements. The fourth semester is usually spent in a cooperative work experience in local industry.

Success in getting this portion of the program underway has varied from fair to excellent. Critical factors in launching this aspect of the program have been:

1. Administrative -- good working relationship with the Advisory Committee;

2. Adequate time allowance for team members responsible for student placement; and

3. Imagination and initiative of team leader.

Classes in social studies and physical education are taken with the general student body, thus completing the program. Evidence of Project FEAST's unity, team spirit, and high morale are frankly visible, yet the students are not isolated. They do participate in school activities and athletics.

TEACHER TRAINING

The first two weeks of the summer vacation are spent in workshop at the City College of San Francisco. The teachers are exposed to the two-year program in capsule form, getting acclimated to the industry point of view through actual experience in quantity foods preparation and service, through conferences with industry representatives, and through visits to hotels and restaurants. Two additional weeks are spent in the development of the overall outline of curriculum and, more specifically, the course content for grade eleven. The teachers second summer in the four-week workshop is spent revising their 11th grade course outlines and developing the 12th grade curriculum. Dr. Mildred B. Barnard heads this phase of the work. She is especially well qualified due to her industry involvements in the past as well as her research and curriculum development work.

Resource materials are made available to each teaching team for the development of the curriculum outline. All the resources of the Alice Statler Library and the training materials developed in high schools throughout the country are available, The Council on Hotel, Restaurant, and Institutional Education is studying and collecting all of these materials under a U. S. Office of Education grant. The product of this task should be available in the summer of 1967.

In addition, courses and teaching guides from the American Hotel and Motel Association, Educational Institute are

made available for background instructional material. Other tested instructional materials, such as the complete set of manuals used in the Erie County Technical Institute Commercial Foods courses, the City College of San Francisco Hotel and Restaurant Department manuals, the Chadsey High School's "Quantity Cooking" and others are used.

The Alice Statler Library is always open to participating faculty members. It provides the best reference library west of the Mississippi in the field of public housing and feeding.

The teams from all the schools are brought together for a Saturday meeting once each semester. Teams report on developments in their schools; instructors in each discipline meet and exchange ideas; new resource materials are introduced and made available; and problems are aired and brainstormed.

In addition to all this, the Director and the advisors at the City College of San Francisco are available to the individual teams on a continuing basis.

A PLAN OF INDUSTRY AND LABOR INVOLVEMENT

An advisory committee from industry has been developed for each of the schools. The school administrators meet with their advisory committee prior to starting a FEAST program. They serve as resource people for instructors and counselors; they assist in the workshops and conferences, and in the development of work experience and placement programs. A sampling of their activities are outlined below.

A. Working with Counselors

1. They make career material available and participate in "Career Days".

2. They align and make available the resources of:

a. Local associations and organizations;
b. National Council on Hotel, Restaurant, and Institutional Education;
c. American Hotel and Motel Association;
d. National Restaurant Association.

B. Working with the Director and school staffs

1. They act as resource people for teachers in curriculum matters.

2. They participate in meetings, P.T.A., Business Education.

3. They develop scholarship programs and help to make available:

a. Statler Foundation Award and Grant Programs;
b. Council on Hotel, Restaurant, and Institutional Education Listing of Scholarships.

4. They participate in evaluation of programs.

C. Working with students

1. They confer with and guide in career matters.

2. They provide field trip experiences.

3. They make available work experience, part-time and full-time work opportunities.

4. They make necessary evaluation of programs and of student performance.

VT 003 694

Suggested Guides for the Development of Area Vocational Technical Programs.

Rhode Island State Dept. of Education, Providence. Div. of Vocational Technical Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 63 48p.

*AREA VOCATIONAL SCHOOLS; *VOCATIONAL EDUCATION; *PROGRAM GUIDES; PROGRAM DEVELOPMENT; ADMINISTRATIVE POLICY; ADVISORY COMMITTEES; SURVEYS; HIGH SCHOOLS

The purpose of this collection of policy statements and guidelines is to inform and assist local school administrators and staff, vocational advisory committees, and others concerned with developing area vocational-technical programs in Rhode Island. Sections are (1) administrative plan for area vocational-technical program, which includes a plan for administration, procedures for approval, and application for program, (2) advisory committee by-laws, (3) list of services provided by vocational-technical advisory committee, (4) industry employment survey form, (5) pupil occupational interest survey form, (6) summary of numbers of business and industry employees in selected occupations form, (7) community and total employment figures in selected occupations form, and (8) employment outlook for selected occupations form. (MM)

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SUGGESTED GUIDES FOR THE DEVELOPMENT OF AREA VOCATIONAL TECHNICAL PROGRAMS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

1963 (est.)

VT003694

RHODE ISLAND DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL TECHNICAL EDUCATION

SUGGESTED GUIDES

FOR THE DEVELOPMENT OF

AREA VOCATIONAL-TECHNICAL PROGRAMS

STATE BOARD OF EDUCATION

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William P. Robinson, Jr.
Commissioner of Education

Arthur R. Pontarelli
Deputy Commissioner

Thomas H. Sandham, Jr.
Associate Commissioner
Vocational-Technical Education

I N T R O D U C T I O N

This brochure has been compiled by the Vocational-Technical Division to inform and assist local school administrators and staff, vocational advisory committees, and others concerned with the development of area vocational-technical programs in Rhode Island.

Since this publication is actually a collection of separate policy statements and guidelines, the pages have not been consecutively numbered.

Additions will be made from time to time to provide the latest information and guides as they are formulated.

C O N T E N T S

SECTION

I. Administrative Plan for Area Vocational-Technical Program

II. Advisory Committee By-Laws

III. List of Services Provided by Vocational-Technical Advisory Committee

IV. Industry Employment Survey Form

V. Pupil Occupational Interest Survey Form

VI. Summary of Numbers of Business and Industry Employees in Selected Occupations Form

VII. Community and Total Employment Figures in Selected Occupations Form

VIII. Employment Outlook for Selected Occupations Form

S E C T I O N I

ADMINISTRATIVE PLAN

FOR AREA

VOCATIONAL-TECHNICAL PROGRAM

TABLE OF CONTENTS

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Plan for the Administration of Vocational-Technical Education	1 through 5
Procedures for Approval of Vocational-Technical Education	1 and 2
Application for Area Vocational-Technical Educational Program	1 through 12

PLAN FOR THE ADMINISTRATION
OF
VOCATIONAL-TECHNICAL EDUCATION
AT THE
SECONDARY LEVEL
IN THE
STATE OF RHODE ISLAND

I. Policy

It is recommended that:

1.) Technical and vocational education at the secondary level in Rhode Island be established in selected regional comprehensive high schools in Grades 11 and 12. This recommendation is based on the philosophy that vocational education must be kept in the mainstream of education, that the kind of education provided in a comprehensive high school is the best preparation for the demands of living in today's society, and that industry is best served by workers whose vocational-technical training is supported by a strong and meaningful academic program. It is recognized that a proper balance must be maintained between the academic and vocational and that the objectives of the vocational-technical program must not be eroded. Controls are written into the plan to assure this. The recommendation is further based on factual information provided by the consultants, by visitations to schools by the consultants and staff and by conferences with local school administration.

2.) The Board authorizes the expenditure of funds for construction (additions to present facilities or new building) of occupational and vocational facilities at certain selected comprehensive high schools which shall be designated as area schools, for purchasing equipment, and, in certain instances (defined later in this plan) for staffing the program; such expenditure to be allowable in the vocational areas per se, or in the academic and related areas when additional space or services are required to support the vocational program.

II. Control

It is recommended that:

1.) A policy of local control be established for all area schools.

2.) The acceptance of the following State standards by both receiving and sending schools to be a prerequisite for participation and receipt of State and/or Federal subsidies.

a. Objective of Instruction

All students accepted in the receiving school will have an objective which is a matter of record. The objective may be a specific recognized occupation or a cluster of closely related occupations in an occupational field.

b. Offering of Vocational Instruction

In establishing, continuing or terminating a program of vocational-technical instruction, the interests, needs, and abilities of all persons in the State and/or area and the need and opportunity in the employment market will be considered.

c. Access to Vocational Instruction Offered

In areas that do not provide specific programs to meet individual needs, the individual may request acceptance at another area school provided facilities are reasonably available for additional enrollees in the program offered by the receiving area school.

d. Selection of Students

Individuals will be admitted for enrollment in classes and provided instruction for each type of occupation or occupational field on the basis of:

a) A standard of achievement met by students so as to meet the requirements for completing the previous grade satisfactorily.

b) A satisfactory citizenship and attendance record.

c) Consideration of aptitude, achievement and intelligence tests for acceptance and placement purposes by the coordinator of the receiving school.

d) Recommendation of the sending school.

e. Soundness and Quality of Instruction

The program of instruction will be based on a consideration of the skills and knowledge required in the occupation for which the instruction is being provided, and should include a planned course of study based upon a logical sequence of those essentials of experience and/or education deemed necessary for the individual to meet his objective.

f. Counsel and Advice

The program of instruction will be developed and conducted in consultation with the Associate Commissioner, area policy committee, the area

advisory committee, potential employers and other individuals or groups having skills and substantive knowledge of the occupation or occupational field representing the occupational objective.

g. Cooperative Work Experience

Cooperative work arrangements may be made for twelfth grade students to provide on-the-job experiences.

The program will provide for the following:

a) Employment of student-learners in conformity with Federal, State and local laws.

b) Employment in a manner which discourages and prevents exploitation of student-learners for private gain.

c) Supplemental instruction be provided by the area school.

h. Adequate Facilities, Equipment and Materials

Classrooms, libraries, shops, laboratories, and other facilities including instructional equipment, supplies, teaching aids and other materials will be adequate in supply and quality to meet the occupational objectives for which the education is intended.

i. Qualified Teachers and Supervisors

Instruction will be conducted and supervised by teachers and supervisors meeting state certification requirements. The State Board will make provision for a pre-service and in-service teacher training program to provide for a sufficient supply of qualified persons.

3) The Associate Commissioner of Vocational-Technical Education in the State Department of Education be designated as the person to determine compliance with the standards; to assist in establishing and conducting programs; to serve as liaison between the State Department of Education and the schools; and to work cooperatively with the area coordinator in all areas of the program.

4) An area liaison committee be established consisting of the superintendent and one member of the school committee, from each participating school system, such member to be appointed by the respective committee. This committee will act as the liaison agent between the sending and receiving school districts and will assist in the development of short term and long range plans for the improvement and expansion of the program.

5.) An area advisory committee be established consisting of representatives from business, industry and education in the participating communities to advise on program offerings in light of the needs of the area.

6.) An agreement be entered into between the State Board of Education and the school committee of the community where the school designated as the area school is located: both parties to agree to the designation of the area school, the school committee to agree to provide water, heat, light, janitorial services, adequate teaching staff, supplies, textbooks and any other services required to maintain standards; the State Board to agree to provide certain construction, renovating, equipment and administrative and guidance staffing. (Details of the Agreement to be worked out with legal counsel.) The school committee would also agree that the facilities be available for upgrading, retraining and similar programs approved by the State Board of Education.

When possible, workshops for persons who have socio-economic or other handicaps that prevent them from succeeding in the regular vocational programs should also be provided.

7.) The state maintain title to the building(s) constructed and the equipment purchased with State and/or Federal funds.

III. Administration

It is recommended that:

1.) The principal of the area school be directly responsible for the operation of the school, including the vocational program under the direction of the superintendent of schools.

2.) An area coordinator be appointed by the school committee of the area school with approval of the Commissioner of Education, to be responsible to the principal of the school; his salary to be set by the school committee with the approval of the Commissioner of Education and to be reimbursed 100% by the state.

3.) Vocational counselors be appointed by the school committee with the approval of the Commissioner of Education at the ratio of at least 1 to 200 vocational students; their salaries to be set by the school committee consistent with the local school pay plan and to be reimbursed 100% by the state.

4.) The area coordinator be employed as soon as possible and vocational counselors be employed at least six months prior to the opening of the school.

5.) All other teachers and school personnel be appointed by the school committee.

6. The program of studies be established by the school committee with the assistance of the Associate Commissioner, area policy committee, the area advisory committee, potential employers and other individuals or groups having skills and substantive knowledge of the occupation or occupational field representing the occupational objective.

7. Individual student scheduling be determined by the area school but with cooperative planning by the sending school.

8. Tuition be charged by the area school to the sending school in an amount not to exceed the per capita cost of operation, either in the entire school or in the vocational program, whichever is more equitable.

9. Transportation be the responsibility of the sending school committee.

10. Admission quotas for each community in the area be made on a percentage basis determined by the most recent October enrollment figures for the 10th grades in all schools; that applications for admission be screened by a committee consisting of the area coordinator and the vocational guidance counselor in conjunction with appropriate staff from the sending school; and that final responsibility for admission rest with the area coordinator.

PROCEDURES FOR APPROVAL OF VOCATIONAL-TECHNICAL EDUCATION AT THE SECONDARY LEVEL IN THE STATE OF RHODE ISLAND

Procedures for Approval
of
Vocational-Technical Program

Initiated by	Procedure
Associate Commissioner of Vocational-Technical Education	1. Meet with superintendent of school district where program will be established. (a) Explanation of administrative pattern. (b) Discussion of local conditions pertinent to development. (c) Initiation of immediate plans.
Local superintendent	2. Arrange meeting with school committee. (a) Establish willingness to become an area school. (b) Initiate proceeding of acquisition of land for State. (c) Authorize initial planning to continue.
Initiated by	Procedure
Local superintendent and/or Associate Commissioner for Vocational-Technical Education	3. Meet with all superintendents of area to be designated. (a) Review administrative pattern. (b) Discuss local problems.
Local superintendent and/or representative	4. Form a local advisory committee to consist of business, industry and other interested citizens from all communities within a designated area.
Local school representative amd Vocational-Technical Division	5. In conjunction with local advisory committee, survey designated area and initiate a proposal for a vocational program. (Includes curriculum, enrollment data, budget etc.)
Receiving School Committee	6. Review and approve preliminary proposal for the establishment of an area vocational program. (Includes recommendation for a local vocational coordinator.)

Local Superintendent	7. Submit preliminary proposal to Associate Commissioner of Vocational-Technical Education for review.
Associate Commissioner of Vocational-Technical Education	8. Review preliminary proposal and make recommendations to Commissioner.
Commissioner of Education	9. Review proposal and recommend approval by State Board of Education. (a) Approve a written agreement between local receiving school and State Board. (b) Approve local coordinator. (c) Appoint an architect. (d) Final approval and acquisition of site for school.
Area Coordinator and local school	10. Develop the educational program plan in cooperation with the professional liaison committee.
Area Coordinator	11. Review the preliminary draft of the educational program plan with the Associate Commissioner of Vocational-Technical Education.
Associate Commissioner of Vocational-Technical Education	12. Submit the educational program to the Commissioner of Education for acceptance.
Area Coordinator	13. Prepare building space allocations and submit to Associate Commissioner of Vocational-Technical Education.
Area Coordinator and Architect	14. Preliminary building plans submitted to the Associate Commissioner of Vocational-Technical Education.
Area Coordinator with assistance from advisory group	15. Submit detailed equipment layout for each shop and laboratory to Associate Commissioner of Vocational-Technical Education for review.
Area Coordinator and Architect	16. Submit final plans and specifications for building and equipment to Associate Commissioner of Vocational-Technical Education.
Associate Commissioner of Vocational-Technical Education	17. Submit final plans and specifications of building and equipment for approval to Commissioner of Education.

APPLICATION FOR

AREA VOCATIONAL-TECHNICAL EDUCATIONAL PROGRAM

AT THE

SECONDARY LEVEL

IN THE

STATE OF RHODE ISLAND

STATE OF RHODE ISLAND

DEPARTMENT OF EDUCATION

PROVIDENCE, R. I.

Application for Area Vocational Educational Program

at

_____ School

by

_____ Superintendent

_____ Date

Application for Area Vocational Educational Program

Date _____

School _____

Address _____

School Committee Approval

The _____ School Committee hereby signifies its desire to establish and operate a vocational-technical program described herein and desires approval by the State Board of Education.

This application was approved at a meeting of the _____ School Committee on the _____ day of _____, 19_____.

_____ Chairman of School Committee

_____ Date

Approval of Area Vocational Education Program

State Board of Education Approval

The Rhode Island State Board of Education hereby states its approval for the _____ School Committee to establish and operate a vocational-technical program described herein in conformance with the Rhode Island State Plan for Vocational Education.

This action was approved at a meeting of the Rhode Island State Board of Education on the _____ day of _____, 19 _____.

_____
Chairman of the R.I. State Board of Education

_____
Date

Receiving School Committee

AREA PROFESSIONAL COMMITTEE

Name	Title	City/Town

AREA ADVISORY COMMITTEE

Name of Person	Title	Organization Represented	City/Town Represented

BRIEF STATEMENT OF PROGRAM PHILOSOPHY:

BRIEF STATEMENT OF PROGRAM OBJECTIVES:

Proposed Curriculum, Space and Equipment Requirements

Course Title	Course Length in Years	Pupils Accommodated	Floor Space		Equipment Cost
			Existing	Required	

Classroom and Auxiliary Facility Requirements

Type of Space	Sq. Ft.

Renovation Requirements to Present Facilities

Proposed Budget

1. Movable Equipment....._____
2. Construction....._____
3. Renovation....._____

TOTAL.....

Anticipated Pupil Interest Survey.

Estimated pupil interest data from participating schools.

Survey Date _____

Participating High School	10-11 Grade Enrollment	Number Interested in participating in Program			
		Grade 10		Grade 11	
		B.	G.	B.	G.

Summary of Pupil Interest Survey

Course	First Choice	Second Choice

Justification of the Program

Summarize in brief statements, points to support justification for the program from such sources as:

1. Area employment statistics.
2. Pupil interest survey.
3. Views of labor, industry, business and education.
4. Recommendation of advisory committees.
5. Summary of studies or surveys of related organizations.

S E C T I O N II

ADVISORY COMMITTEE BY-LAWS

BY-LAWS FOR AREA VOCATIONAL-TECHNICAL ADVISORY COMMITTEE

ARTICLE I. NAME OF ORGANIZATION

The name of the organization shall be the "_____ Advisory Committee of Vocational-Technical Education."

ARTICLE II. FUNCTIONS OF ORGANIZATION

1. To advise local school officials concerning the development of the Vocational-Technical program at _____ Area School.

2. To provide closer cooperation and better understanding of trade and industrial education in industry, business, the home and the school.

3. To advise school officials on the relative emphasis or scope of training needed in various vocational-technical occupations.

4. To recommend facility and equipment innovations and changes to meet the occupational needs of the area.

ARTICLE III. MEMBERSHIP

1. All members shall be appointed by the superintendent of the Area school upon recommendation of the superintendents of the sending communities.

   One-third of the membership of the Committee shall serve for one year, one-third for a term of two years and one-third for a term of three years.

   As the term of each incumbent appointed is to expire, the new member shall be appointed for a term of three years by the superintendent.

2. Any person appointed to membership shall remain a member of the Committee until the person either resigns or fails to attend four consecutive scheduled meetings.

ARTICLE IV. OFFICERS

1. The officers of the Area Advisory Committee shall consist of a Chairman to be elected by the Committee for a period of one year and a Secretary who shall be the Coordinator of the _____ Area School.

2. The Chairman of the Advisory Committee shall preside over the regular and special meetings.

3. The Secretary shall keep minutes of all meetings, care for all correspondence and records of the Committee, and perform all necessary clerical duties.

ARTICLE V. MEETINGS

1. Meetings shall be called as required by the Chairman of the Advisory Committee.

2. The agenda for each meeting of the Committee shall be prepared by the Chairman and the local Coordinator.

3. All meetings of the Area Advisory Committee shall be held at a location designated by the Chairman.

4. The Superintendent shall appoint a temporary chairman for meetings the Chairman is unable to attend.

ARTICLE VI. VOTING

1. Voting privileges shall be extended to all active members of the Area Advisory Committee.

2. A majority of the Advisory Committee shall constitute a quorum.

ARTICLE VII. RULES OF ORDER

1. Parliamentary authority shall be Robert's Rules of Order.

S E C T I O N III

LIST OF SERVICES

PROVIDED BY

VOCATIONAL-TECHNICAL ADVISORY COMMITTEE

LIST OF SERVICES PROVIDED BY

VOCATIONAL-TECHNICAL ADVISORY COMMITTEES

1. Assist educators in making community surveys.

2. Review past accomplishments and forecast trends affecting training and employment.

3. Help determine and verify the need for training in various occupational areas.

4. Provide tangible evidence that industry and business is supporting or will support needed vocational-technical programs.

5. Help establish standards for shop and lab planning and assist in the planning of facilities.

6. Assist in planning course content and help determine the length, scope, and sequence of courses.

7. Establish standards for selecting equipment and instructional materials.

8. Secure donations of equipment and supplies.

9. Interpret the program to the community - management personnel, labor unions and the general public.

10. Provide financial, legislative and moral support for the vocational-technical program.

11. Assist in the evaluation of the program.

12. Assist guidance counselors and other school personnel in the orientation of students to the world of work.

13. Provide accurate up-to-date occupational information.

14. Find placement opportunities for vocational-technical students.

15. Assist in the development of work experience programs for students.

16. Recommend new technical developments which require changes in the curriculum.

S E C T I O N IV

INDUSTRY EMPLOYMENT SURVEY FORM

INDUSTRY EMPLOYMENT SURVEY

Date _____

N e of Concern _____ Industry _____

Address _____ Phone _____

Name of Person Reporting _____

Title of Person Reporting _____

_____

_____

1. Nature or type of industry or firm _____

2. Product _____

3. Maximum number employed M ____ F ____ Minimum number M____ F ____

4. Do you require a high school diploma of new employees? ____yes ____no

5. Which type of high school preparation do you prefer?

   _____ college course _____ vocational or technical course

   _____ business course _____ general _____ other

6. Will you give special consideration to the high school graduate who has had vocational or technical courses ____ yes ____ no

7. In what job categories could a vocational-technical high school serve you best? _____

   _____

   _____

8. What knowledge and/or skills are required of a beginner? _____

   _____

   _____

9. What type of workers have you had difficulty securing in the last six months? Please list their skills. _____

   _____

   _____

   _____

10. Do you have a training program? ____ yes ____ no

11. In what school subjects do you believe your new employees need more training?

_____ reading _____ speaking _____ mathematics

_____ writing _____ science _____ practical skills

_____ other

12. Would you be interested in participating in a cooperative work-study program by hiring selected high school students on a part-time basis?

_____ yes _____ no

13. Listed below are several different job categories. Using them in a very broad sense, please answer the following questions:

a) How many people do you now have in employ who would fall in the following categories?

b) How many openings do you project in the next 12 months in these categories?

c) How many openings do you project in the next 3 years in these categories?

JOB CATEGORY	PRESENT	NEXT 12 MONTHS	NEXT 3 YEARS
1. Automotive			
2. Carpentry			
3. Machine Shop			
4. Printing & Offset			
5. Electrical			
6. Electronics			
7. Drafting			
8. Food Service			
9. Metal Fabrication			
10. Health Occupations			
11. Fashion Design			
12. Air Conditioning & Heating			
13. Agriculture			
14. Data Processing			
15. Retail Sales			

S E C T I O N V

PUPIL OCCUPATIONAL INTEREST SURVEY FORM

(SAMPLE)

PUPIL OCCUPATIONAL INTEREST SURVEY

School_____ Grade 10_____ Grade 11_____

Girl _____ Boy _____

Plans are now being made to construct an area vocational-technical school at _____ High School. Students in the eleventh and twelfth grades in _____, _____, and _____ High Schools will be eligible to attend.

If you would be interested in attending such a school please place a check mark in the box. ☐

Below are listed courses that may be offered. Place a (1) beside the course that would be your first choice and a (2) beside your second choice.

1. Automotive
   _____Mechanics
   _____Body Repair
2. _____Horticulture
3. _____Carpentry
4. _____Cosmetology-Hair Dressing
5. _____Distributive Education
6. _____Food Service
7. _____Machine Shop
8. _____Welding
9. _____Air Conditioning and Heating
10. _____Metal Fabrication (Sheet Metal)
11. _____Commercial Art
12. _____Printing and Offset
13. _____Electrical
14. _____Medical and Dental Assistants
15. _____Fashion Design
16. Design
    ____Architectural
    ____Mechanical
17. _____Data Processing
18. _____Electronics
19. _____Technical Chemistry
20. _____Instrumentation
21. _____Other

    _____ _____

    _____ _____

    _____ _____

    _____ _____

    _____ _____

    _____ _____

    _____ _____

    _____ _____

S E C T I O N VI

SUMMARY OF NUMBERS OF

BUSINESS AND INDUSTRY EMPLOYEES IN

SELECTED OCCUPATIONS FORM

(SAMPLE)

SUMMARY OF NUMBERS OF BUSINESS AND INDUSTRY EMPLOYEES IN SELECTED OCCUPATIONS

Date _____

INDUSTRIAL FIRMS	No. of Firms	EMPLOYEES PER TRADE													
		Auto	Mach.	Print	Wood	Elect.	Paint	Agric.	Food	Metal Fabric.	Health	Business	Design	Instrumentation	
Auto Dealers															
Auto Parts															
Garages															
Auto Body															
Gas Station															
Machine Shop															
Printing and Offset															
Radio and TV															
Electrical															
Elec. Mfg.															
Paint Contractor															
Woodwork															
Constr. Contractor															
Horticulture															
Food Services															
Metal Fabrication															
Medical & Dental Assts.															
Business Machines															
Electronics															
Design (Mechanical)															
Instrumentation															
TOTALS															

S E C T I O N VII

COMMUNITY AND TOTAL EMPLOYMENT FIGURES

IN SELECTED OCCUPATIONS FORM

(SAMPLE)

COMMUNITY AND TOTAL EMPLOYMENT FIGURES IN SELECTED OCCUPATIONS DATE _____
(BASED ON DATA FROM RHODE ISLAND DEVELOPMENT COUNCIL)

OCCUPATIONS	COMMUNITY A		COMMUNITY B		COMMUNITY C		TOTALS	
	Year	Year	Year	Year	Year	Year	Year	Year
Printing								
Pri. Metals								
Fab. Metals								
Machinery								
Elec. Mach.								
Construction								
TOTALS								

S E C T I O N VIII

EMPLOYMENT OUTLOOK FOR

SELECTED OCCUPATIONS FORM

(SAMPLE)

EMPLOYMENT OUTLOOK FOR SELECTED OCCUPATIONAL CLASSIFICATIONS
FROM 1963 to 1968

(SELECTED DATA FROM RHODE ISLAND DEPARTMENT OF EMPLOYMENT
SECURITY RECORDS)

OCCUPATION	1963 SURVEY EMPLOYMENT	REPLACEMENT NEEDS FROM 1963 to 1968	EXPANSION NEEDS FROM 1963 to 1968	EXPECTED JOB OPPORTUNITIES to 1968
Auto Mech.				
Carpenters				
Machinists				
Toolmakers				
Painters				
Total				

VT 003 695
Agri-Business Competencies.

Wisconsin State Dept. of Public Instruction, Madison. Agri-Business Steering Committee
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 66 6p.

*VOCATIONAL AGRICULTURE; *DISTRIBUTIVE EDUCATION; ADVISORY COMMITTEES; *OFF FARM AGRICULTURAL OCCUPATIONS; *EDUCATIONAL NEEDS; *JOB SKILLS; AGRICULTURAL SKILLS; BUSINESS SKILLS
WISCONSIN

The Wisconsin State Agri-Distribution Advisory Committee determined the areas of competencies needed by present and future employees in agri-distribution occupations to be social, basic skills, marketing, agricultural technology, and economics. The Committee, all employers, expressed a growing need for trained persons in the distributive education and business education fields. It was felt that agriculture students would have more employment possibilities if they had the opportunity to have training in distributive education and business education. Some conclusions were: (1) There is a need for trained agri-business employees, (2) The agri-distributive businesses desire employees skilled in the competencies named, (3) Students preparing for employment need education in more than one discipline or vocational area to become more fully employable, and more likely to reach their potential, and (4) The State Department of Public Instruction will encourage several schools to instigate demonstration programs in agri-distribution using a team approach and on-the-job training. A list of agri-business steering committee members and their agriculture relationship is included. (WB)

VT 003 695

Agri - Business Competencies. (Title Supplied). 1966 (ed) 4p*

ED030001

The Wisconsin State Agri-Distribution Advisory Committee determined the following competencies needed by future and present employees in agri-distribution occupations in the order of importance:

1. Social competencies. Competencies in this category that were rated the highest were human relations, attitudes, ethics, and supervisor skills.

2. Basic skills. The competencies rated the highest in this category were reading and speech.

3. There were two categories tied for third place. These were marketing and agriculture technology.

   Marketing. The highest rated competencies needed were salesmanship and service, marketing, advertising, and market research.

   Technology of agriculture. Competencies with the highest ratings by the advisory committee were plant and soil science, farm vocabulary, animal nutrition.

4. Economics. Competencies in this category rating the highest were agriculture related economics, pure economics, and the free enterprise system.

The advisory committee felt that one man could not be competent enough in both distribution and agriculture education. An exception would be possible wherein a present ag-instructor may have enough experience in the occupational field of marketing and distribution to warrant his enrollment in college courses in distribution to be certifiable in the teaching field of marketing and distribution. The Department of Public Instruction would certainly encourage such persons to submit proposals through their school district to the Department for agri-distribution programs after a sufficient planning.

Without exception, all of the advisory committee, who were employers, indicated a need for trained people. In addition, Mr. Cibarich of the Wisconsin State Employment Service reported to the committee that between 1950 and 1960 there was a 14 percent increase in all types of sales occupations. He also said we have vastly improved our ability to produce. Now, the distributive function is becoming more important in our economy.

VT003695

From the recent survey of a sampling of the agriculture programs, 10 years or older, it was determined that 37 percent of vocational agricultural graduates go back to the farm. An additional twenty-two percent go into occupations with some relationship to agriculture. Mr. Dale Aebischer, Chief of Vocational Agriculture for the State Board of Vocational Education said, "We can see more employment possibilities for the ag boys if they have an opportunity to become involved in distributive education and business education. Between 15 and 20 percent of vocational agriculture boy graduates go on to college.

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CONCLUSIONS

A. There is a need for trained agri-distributive employees.

B. It is apparent that agri-distributive businesses would like to have employees skilled in human relations, basic skills, marketing and agriculture technology, as well as economics.

C. It is apparent that students who are preparing for the "world of work" need education in more than one discipline or vocational area in order to become more fully employable and more apt to reach their potential.

D. Marketing and Distribution Education should be expanded on the high school level for two reasons: (1) to provide an interdisciplinary approach to agri-distributive occupations, (2) to help the many students entering careers in marketing and distributive occupations to become more employable and successful.

In view of the above insights, the State Department of Public Instruction will encourage several schools to instigate demonstration programs in agri-distribution using a team approach. One school, Plymouth High School, is beginning in September 1966 with such a program. Students will receive one year of traditional ninth grade vocational agriculture, one year of farm mechanics and in the senior year will take cooperative distributive education wherein the students will be placed in agri-distributive occupations for on-the-job training.

AGRI - BUSINESS STEERING COMMITTEE

State Department of Public Instruction
Madison, Wisconsin

Members	Agriculture Relationship
Farm Bureau George R. Neibur, Manager F S Services, Inc. Wisconsin Farmco Service Cooperative Box 1150 801 West Badger Road Madison, Wisconsin 53701	Farm Bureau wholesale farm supplies
Ted Walton Route #4 Janesville, Wisconsin 53545	Seed corn distribution
J. A. Fitchen, President Wisco Hardware Company 15 South Brearly Street Madison, Wisconsin	Wholesale hardware to rural retailers
William Klein, Vice President Director of Marketing Services and Public Relations Allis-Chalmers Manufacturing Company Box 512 Milwaukee, Wisconsin 53201	Implement Marketing
Norman Sieber, Manager Denmark Cooperative Service Midland Cooperatives Denmark, Wisconsin	Petroleum, food, hardware and implement retailer
Glenn M. Anderson, General Manager Wisconsin Association of Cooperatives ~~167 West Main Street~~ 30 on the Square Madison, Wisconsin 53703	Cooperative marketing and retailing
Ralph Cooper, Executive Secretary Wisconsin Council of Agriculture Cooperatives 111 South Fairchild Street Madison, Wisconsin 53703	Cooperative marketing
Carroll T. Benson Information Supervisor Room 101B State Office Building Hill Farms Department of Agriculture Madison, Wisconsin 53702	
Dr. Robert P. Niedermeier, Chairman Department of Dairy Science University of Wisconsin Madison, Wisconsin 53706	Teacher - education

Members	Agriculture Relationship
Ed Parminter Room 101B State Office Building Hill Farms Department of Agriculture Madison, Wisconsin	
Harold Schuehel ~~c/o Mr. Thomas F. Ellerb~~ ~~Farmers Union Central Exchange~~ ~~P. O. Box G~~ ~~Saint Paul, Minnesota~~ Box 158 Baraboo, Wis. 53913	Cooperative Retailing
Dale Aeibscher, Chief Vocational Agriculture State Board for Vocational and Adult Education State Office Building 1 West Wilson Street Madison, Wisconsin	Vocational Agriculture
Mr. Richard Olsen, Administrator McFarland Public Schools McFarland, Wisconsin	

Chairman

Wayne J. Harrison, Jr.
Supervisor - Distributive Education
Department of Public Instruction
147 North State Capitol
Madison, Wisconsin
53702

VT 003 706
Highlights from the 1966 Manpower Report.

Department of Labor, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Manpower Administration, U.S. Department of Labor, 14th Street and Constitution Ave., N.W., Washington, D.C. 20210.
Pub Date - 66 46p.

*MANPOWER UTILIZATION; YOUTH EMPLOYMENT; LABOR FORCE; *UNEMPLOYMENT; *EMPLOYMENT TRENDS; AGRICULTURAL LABORERS; FEDERAL LAWS; *ADULT VOCATIONAL EDUCATION; *FEDERAL PROGRAMS; DISADVANTAGED GROUPS; YOUTH PROGRAMS; YOUTH EMPLOYMENT
MDTA PROGRAMS; *MANPOWER DEVELOPMENT AND TRAINING ACT PROGRAMS

The total number of people at work rose by 1.8 million, or 2.5 percent, during 1965. The unemployment rate dropped from an average 4.6 percent during 1965 to 3.7 by February 1966, the lowest level of joblessness in 13 years. Although pockets of unemployment remained a serious problem, personnel shortages were emerging in some occupations and geographic areas. Between 1965 and 1970, the labor force is expected to grow by over 1.5 million per year. Service-producing industries and clerical workers are expected to be the fastest growing occupational groups. Economic, human, and social costs of unemployment and underemployment are to be combated with several new and revolutionary manpower programs authorized by Congress since 1961 to help upgrade worker skills and prepare the disadvantaged for employment. Programs such as the Manpower Development and Training Act, the Neighborhood Youth Corps, the Job Corps, and Youth Opportunity Centers are training the increased youth labor force. Decreasing farm employment will require better education and training for nonfarm occupations, and economic development of rural areas to reduce the pressure on farm people to move to cities in search of work. However, job opportunities for domestic farm workers were improved by curtailing employment of foreign workers. Conclusions, recommendations, and policy implications are summarized at the end of each of six sections which correspond to those in the complete report. Ten graphs and one data table from the full-report are included. The complete report is available as VT 001 162. (ET)

VT 003 706

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HIGHLIGHTS FROM THE 1966 MANPOWER REPORT

A SUMMARY OF THE REPORT
TRANSMITTED TO THE CONGRESS

Preface

Each year, the President sends to the Congress a Manpower Report, as required by the Manpower Development and Training Act of 1962. The report is printed as one volume containing: (1) A message from the President and (2) a comprehensive report by the Secretary of Labor on the Nation's manpower requirements, resources, utilization, and training.

This booklet presents highlights of the *1966 Manpower Report.*

For information on how to obtain the complete report or reprints of the President's message and individual chapters, see inside of back cover.

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Excerpts from

MANPOWER REPORT OF THE PRESIDENT

I report on a year of progress and fulfillment.

I report on a year of challenge and change.

February 1966 marked the twentieth anniversary of this Nation's 1946 commitment to provide job opportunities for every person able, willing, and seeking to work.

February 1966 also brought the fifth anniversary of our longest and soundest period of peacetime prosperity. It marked the 60th consecutive month of visible proof that the 1946 commitment can be met.

Five years of sustained economic growth have effectively demonstrated that this Nation can:

1. Pursue an economic policy which creates millions of new jobs and reduces the burdens of unemployment and poverty.

2. Provide the necessary job opportunities to convert a flood of teenagers into a valuable national resource instead of an urgent social problem.

3. Set in motion manpower programs to transform the deprived, the disadvantaged, and the despairing into effective and self-respecting members of the Great Society.

* * * * *

With all that we have accomplished so far, with all that we are doing now, it is time to ask again: What of the future?

The future can be and ought to be a time of opportunity.

I see a future where the first two decades of people's lives are spent growing up, physically and mentally fit—training for citizenship and

effective participation in their country's affairs—attaining the education for service, for a craft, for a profession—getting ready for their roles as workers, consumers, producers, and contributors to a free society.

I see a future in which education and training will be a permanent bridge between learning, employment, and human development. Even as we develop new uses of technology, we recognize that people grow stale unless there is a continuous renewal of their knowledge, enrichment of their skills, and development of their talents.

I see a future in which those seeking a station in life—whether it be the young dropout, the first offender, the older man with an outdated skill, the military rejectee—will have an opportunity to fulfill their hopes and expectations.

A manpower policy must be based on belief in the value of the individual and in the promise of welcome change.

A manpower policy should lead us to a society in which every person has full opportunity to develop his—or her—earning powers, where no willing worker lacks a job, and where no useful talent lacks an opportunity.

Lyndon B. Johnson

LYNDON B. JOHNSON

HIGHLIGHTS OF THE 1966 MANPOWER REPORT OF THE DEPARTMENT OF LABOR

Full employment is a first-priority objective for our country, and one which we are much closer to attaining now, in early 1966, than at any time since the early 1950's. A remarkable 5-year gain in employment reduced the unemployment rate to 3.7 percent in February 1966 from about 7 percent in early 1961.

This expansion in employment and reduction in unemployment was brought about largely by unprecedented Government action involving both fiscal and monetary policy and training and other manpower programs. The progress we have made toward full employment is very heartening.

Nevertheless, the country faces two serious manpower problems. Unemployment is still much too high among young, nonwhite, unskilled, and otherwise disadvantaged workers. At the same time, shortages of trained workers are emerging in a good many occupations and geographic areas.

The challenge is to solve both these problems. We must give disadvantaged workers the training and other help they need to qualify for productive jobs. We must also enlarge our training programs in occupations with labor shortages and take steps to insure that workers with scarce skills are used as effectively as possible. This is essential in order to meet the country's manpower needs, and thus increase production and help to prevent inflation.

Review of Current Developments

The United States Enters Sixth Year of Continuous Economic Expansion

The current expansion in business and employment in the United States entered on its 6th year in 1966. This is the longest period of uninterrupted economic growth in more than half a century, with the single exception of the World War II period.

In the 5 years since the last recession, the Nation's annual output of goods and services has increased by 30 percent. Most of this gain was achieved through greater output per worker, brought about by new technological developments and other factors. However, there was also some increase in the number of workers—about 9 percent over the 5-year period.

Employment grew much faster in 1965 than in any of the 4 preceding years. The total number of people at work rose by 1.8 million, or 2½ percent, during 1965. Greater civilian demand for goods and services chiefly accounted for this employment expansion, although increased military demand also contributed to it toward the end of the year.

The large increases in output and employment provided a happy resolution to a problem that had been foreseen many years before—that the great number of postwar babies reaching working age in the midsixties might not find enough new jobs to provide employment for all. However, direct action by the Government to keep the economy growing at a rapid pace proved successful. An employment rise of 1.8 million in 1965 exceeded the growth in the labor force to the extent that 400,000 of the additional jobs were filled by the unemployed.

The result was a substantial drop in the unemployment rate—to an average of 4.6 percent during 1965 as a whole, compared to 5.2 percent during 1964. By February 1966, the rate had dropped to 3.7 percent, the lowest level of joblessness in 13 years.

Jobs Increased in Almost All Industries and Occupations in 1965

Almost all major nonfarm industries and occupations made gains in employment in 1965. The exceptions were mining, transportation, and the Federal Government. And agricultural employment continued to drop.

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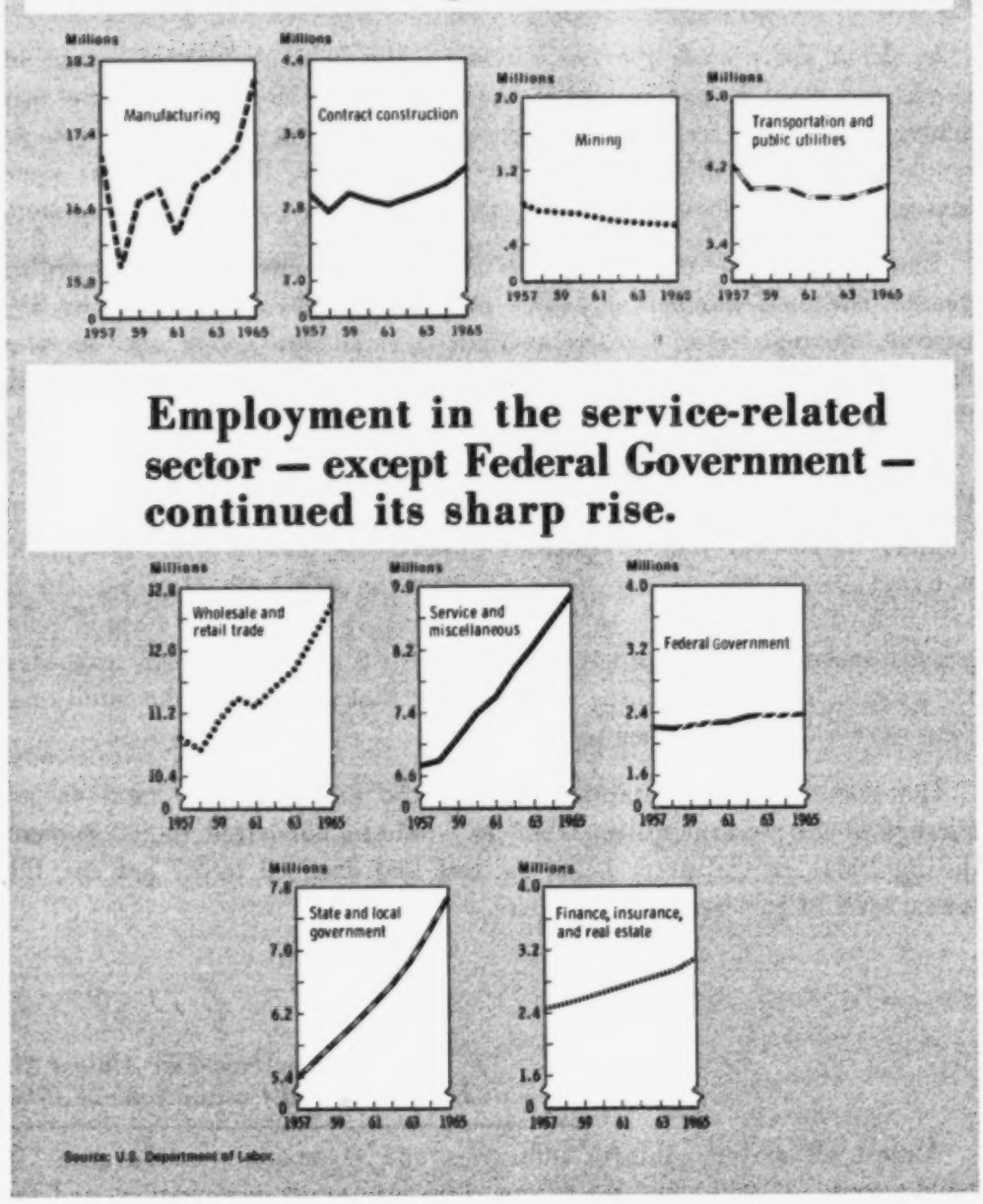
More than half the additional jobs were in service-producing industries. The employment gains were largest in trade, State and local governments, and business, professional, and personal services. (See chart 1.)

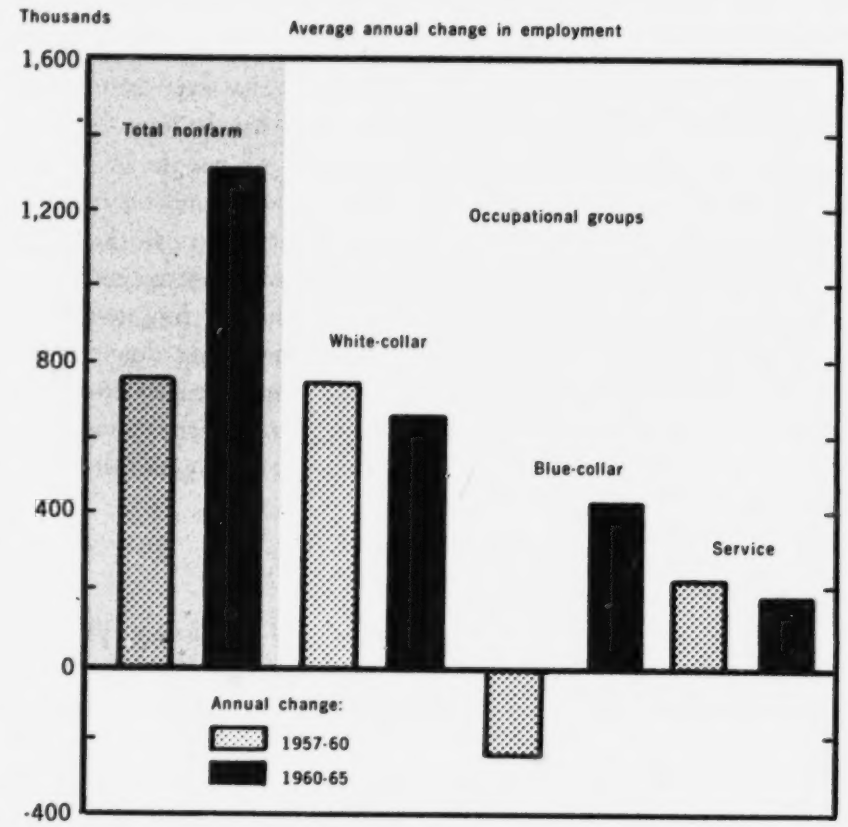
Chart 1 **Recent job growth has been spurred by the goods-producing and related industries, especially manufacturing and construction.**



Employment in the service-related sector — except Federal Government — continued its sharp rise.

Source: U.S. Department of Labor.

Chart 2 **Turnabout in trend of blue-collar employment has been feature of current expansion.**



Source: U.S. Department of Labor.

Employment rose also in the goods-producing industries, especially manufacturing and construction. This was a striking development because of the generally downward trend of employment in these industries during the postwar period; their upsurge provided an especially welcome relief for some of the knottiest unemployment problems. Manufacturing and construction accounted for two-fifths of the rise in the number of jobs during 1965, with total employment in manufacturing exceeding the peak reached during World War II for the first time. The gains in manufacturing employment reflected, in large part, strong consumer demand for durable goods, particularly automobiles.

Greater manufacturing employment meant more jobs for blue-collar workers. (See chart 2.) Semiskilled operative jobs rose by more than

460,000 last year, skilled craftsman and foreman jobs by 235,000. Employment of industrial laborers increased by 230,000 after remaining at about the same level for more than a decade.

The increase in operative and laborer jobs benefitted the less skilled and more disadvantaged groups of workers with high rates of unemployment, including many Negroes. More opportunities were also created for teenagers entering the labor force without experience or skill, although this age group continues to be particularly vulnerable to unemployment.

Employment in white-collar jobs continued to rise even more than blue-collar employment, though the difference was much less than in most previous postwar years. Altogether, the number of people in professional, managerial, clerical, and sales jobs rose by almost a million between 1964 and 1965. Among white-collar as among blue-collar workers, the less skilled groups—clerical and sales—showed the sharpest gains in the past year. Thus, as the current economic expansion has lengthened and accelerated and as the job market has tightened, the rising demand for labor has been especially reflected in expanding job opportunities for less skilled workers. This represents a marked change from earlier postwar years, when employment opportunities for these workers have generally been much less favorable.

Government Policy Had a Key Role in Stimulating and Sustaining Economic Growth

These gains in output and employment resulted from Government policies aimed at sustaining economic growth and using fully the Nation's manpower and other productive resources. Many of these policies have broken new ground.

Beginning in 1961, the Federal Government took action to stimulate recovery from the recession that had begun in early 1960. Social security benefits were increased, unemployment insurance benefits were extended, and Federal expenditures for highway construction and other programs were increased. However, it soon became clear that the economy was still not growing fast enough to generate jobs for the rapidly increasing labor force—much less to reduce the unemployment rate, then 5½ percent.

The Government accordingly undertook a number of related actions all designed to stimulate economic growth. The most important was the cut in individual and corporate taxes which became effective in 1964. The tax cut and other fiscal measures, including greater tax credit for investment, stimulated expenditures by consumers and businessmen. They were largely responsible for the continued expansion in production and employment of the past 2 years.

In addition to these broad monetary and fiscal measures, the Government moved in other ways to reduce the social and economic waste which results from unemployment and underemployment. New training and other manpower programs were undertaken to equip jobless workers with needed skills and otherwise aid in matching workers and jobs. Training of jobless workers became part of the program for redevelopment of depressed areas under the Area Redevelopment Act of 1961. A considerably larger system of training was launched under the Manpower Development and Training Act of 1962, and intensive research was undertaken to develop manpower programs aimed at achieving full employment. The War on Poverty inaugurated in 1964 has also involved a variety of programs aimed at improving the employability of the most disadvantaged groups.

These manpower programs have already helped to reduce unemployment, especially among young people, and they are expected to have even greater impact as time goes on. It is estimated that in December 1965 at least 90,000 young persons in on-the-job training under the MDTA and in War-on-Poverty programs would otherwise have been unemployed.

Pockets of Unemployment Remain a Serious Problem

Nevertheless, unemployment remains much too high among particular groups of workers and in particular parts of the country.

The rate of unemployment among teenagers is about three times the overall average rate. In 1965, it was 13 percent for boys and 14 percent for girls. For nonwhite teenagers, the rates were very much higher—23 percent for the boys and 30 percent for the girls. Negroes as a group have an unemployment rate about twice the general average. Also, although long-term unemployment has dropped notably, about 1 of every 5 unemployed workers has been jobless for 15 weeks or longer.

Seventeen of the 150 major labor areas in the country—1 out of every 8—have an unemployment rate of 6 percent or more. Most of these areas have been struggling with problems of chronic high unemployment for many years, as a result of declining industries or lack of economic development. In many rural areas surplus labor is a serious problem because of the long-continued drop in farm employment.

Eliminating these tragic and wasteful pockets of unemployment is one of the chief goals of our manpower programs and policies. In our democracy, the objective must be to insure that every citizen has opportunity to develop his abilities fully and to use them fully in his own and the Nation's interest.

Manpower Shortages Are Emerging in Some Areas and Occupations

Although there are still close to 3 million unemployed, personnel shortages are emerging in some occupations and areas. These shortages may become more acute as the economy continues to grow and the pool of unemployed becomes smaller. In a third of the 150 major labor areas no more than 3 percent of the workers are unemployed. Some areas even have an unemployment rate below 2½ percent—indicating generally full employment and allowing only for job changing. Professional and technical workers and craftsmen—particularly engineers, teachers, scientists, tool and die makers, machinists, other skilled metal workers, and repairmen of some types—are in short supply in a good many areas.

The increased military buildup may be a factor in further tightening of the manpower situation. Stepped-up American activity in Vietnam led to a 10-percent expansion in employment in major defense-related industries during 1965. Larger defense expenditures this year would certainly lead to further expansion in these industries and would also have an impact on the economy generally. At the same time the increase in the Armed Forces proposed by the President in January would considerably reduce the number of young men entering the civilian labor force this year.

Nevertheless, the country has large manpower resources which can be drawn on to meet its manpower needs. The largest of these resources is the expected increase in the labor force; the number of people added to the work force annually is expected to average 1½ million for the next few years. In addition, there are still some people among the unemployed who have skills needed by employers and many more who could be trained. A third resource consists of the great numbers of underemployed workers—those who are currently working only part time or who are in jobs not using their abilities fully.

The country also has a great many adult women who might be drawn into the work force if offered suitable jobs. Despite current labor shortages, many firms are not hiring women workers at all, or are relegating them to only a few traditional "women's jobs." The Negro work force is also greatly underutilized; in many areas Negroes are still barred from advancement in the skilled trades.

Labor shortages can be relieved also by more efficient use of the current supply of professional and skilled workers. By redesign of their jobs, these highly trained people can be relieved of tasks not demanding a high level of skill, and these tasks can be assigned instead to less skilled workers. The progress which can be made along this line is illustrated by developments in the health professions, where personnel shortages have been acute for a long time. In nursing, for example, many tasks have been taken over by nurse aides, orderlies, and other assistants, so that the professional nurses are free to devote their full time to the responsibilities only they can handle.

The likelihood of growing personnel shortages in some occupations and geographic areas as the country approaches full employment presents a challenge to manpower policy. Efforts must be made to foresee emerging shortages, to train workers to meet current and prospective occupational requirements, and to otherwise improve the matching of workers and jobs.

The training programs conducted under the Manpower Development and Training Act of 1962 are one means of helping to meet the economy's immediate need for trained workers, while enabling unemployed people to qualify for jobs. About 35 percent of the MDTA training in fiscal 1967 will be directed specifically toward meeting skill shortages. The rest of the training will be directed toward disadvantaged youth and adults, who generally need not only skill training but basic education and other services to become productive members of the work force.

The Federal-State employment service system has a central role in carrying out the country's manpower policies and programs. A strengthened Employment Service, separated from the unemployment compensation system and under a new legislative mandate, would do much to insure effective manpower programs. Legislation which would make possible the needed strengthening of the service has therefore been recommended to the Congress.

Another approach to meeting skill shortages is through the pilot programs now underway to encourage and assist the movement of unemployed workers to places where their skills are needed. Efforts are also being made to break down bias against hiring particular groups—older people, women, people of limited education, and members of minority groups—who may have needed skills.

The efforts of the Government in all these areas must be supplemented by private action to increase training and upgrading of workers and to overcome the discriminatory and other barriers which now prevent full use of the country's workers and potential workers.

The Manpower Outlook

Rapid Growth in the Labor Force Expected Through 1970

The United States will have about 86 million workers by 1970, almost a fifth more than in 1960. Between 1965 and 1970, the labor force is expected to grow by over 1½ million per year. This would be an average annual increase half again as large as occurred during the past 5 years and almost double the average increase in number of workers during the 1950's.

Teenage and young adult workers—born since World War II, when birth rates have been high—will increase especially fast. The number aged 14 to 24 will rise by almost 700,000 a year between 1965 and 1970—making up about 45 percent of the expected total increase in the labor force.

Women will continue to enter the labor force in growing numbers—partly because of the expanding employment opportunities expected in part-time jobs and in service and office occupations. Between 1965 and 1970, the number of women workers aged 25 and over may rise by 430,000 per year.

About 4 out of every 5 of these additional women workers will be 45 years of age or older. More and more women are entering or returning to work at this point in their lives, when they no longer have young children to care for.

The total number of men workers past 25 will also rise significantly, after remaining about the same for many years. There will be more men aged 25 to 34, and more aged 45 and over. On the other hand, men workers aged 35 to 44 will decrease by about 115,000 per year up to 1970, reflecting the low birth rates of the early 1930's. Men of this age normally fill many middle-management positions and other highly responsible and skilled jobs. So the reduction in their number could lead to shortages of key personnel, open new opportunities for the growing numbers of younger and older workers, and require major training efforts.

Sharp Economic and Employment Growth Required for Full Employment

Employment will have to rise to about 81 million by 1970 if we are to employ these additional workers, while reducing the unemployment rate further (to 3 percent). This total would represent a rise of about 2½ percent in civilian employment over the next 5 years.

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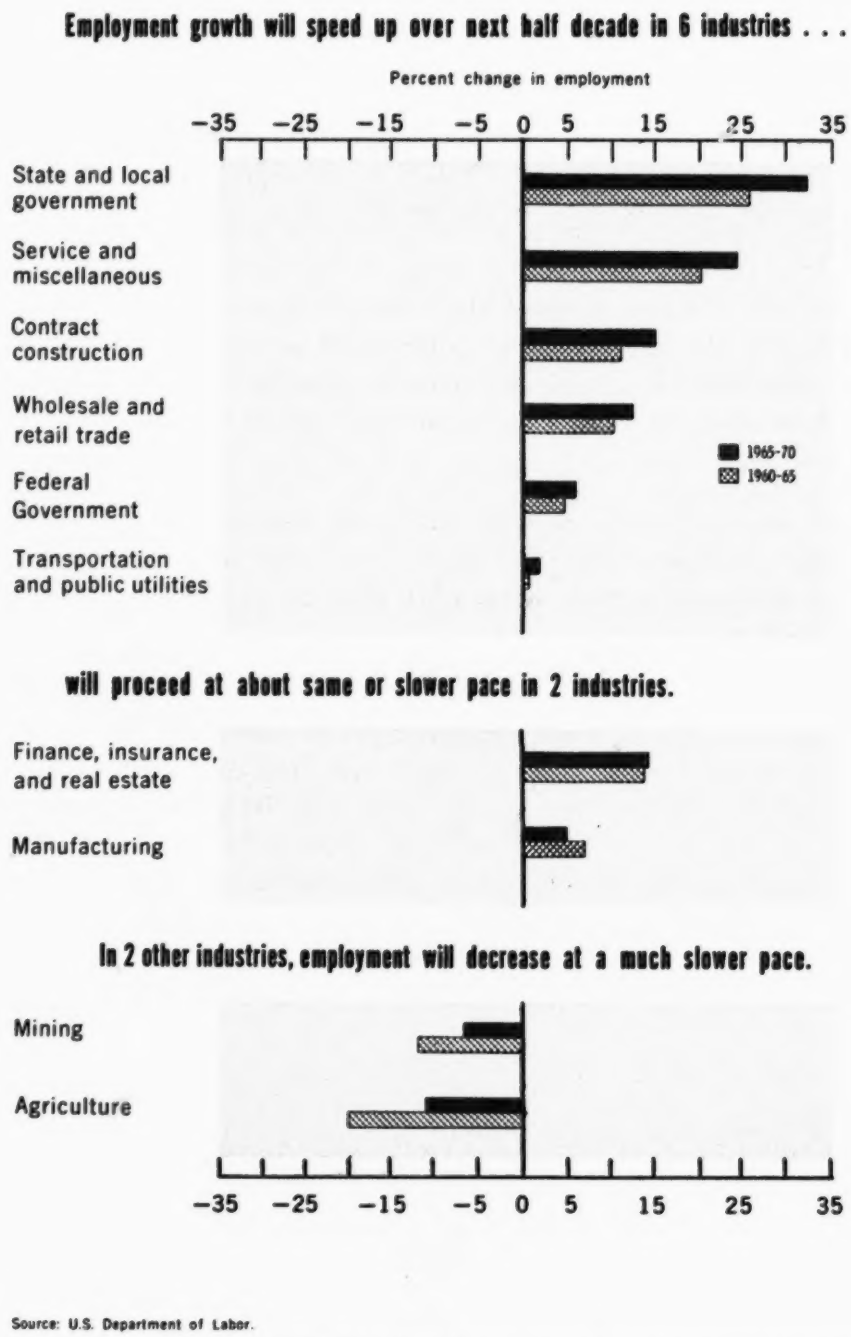
Chart 3

Percent change in employment, by industry, 1960-65, and projected 1965-70



Source: U.S. Department of Labor.

A rapid increase in real gross national product will go hand in hand with this increase in employment. GNP would have to grow at an average rate of 4½ percent over the next 5 years to meet our full employment goal.

This 4½-percent rate of GNP growth would be well above the average growth rate achieved during the post-World War II period as a whole (3¾ percent). On the other hand, it would be substantially less than the GNP growth rate in the last 2 years.

If a 4½-percent rate of GNP growth is attained during the next 5 years, the Nation's total output of goods and services will be one-fourth higher in 1970 than in 1965. This would make possible a further rise in our average standard of living, besides helping to meet the needs of national defense and the country's international commitments.

Employment Growth Expected to Speed Up in Most Industries and Occupations

Employment is expected to grow faster between now and 1970 than in the past 5 years in most major industries (assuming unemployment is reduced to 3 percent).[1] In manufacturing and in finance, insurance, and real estate, however, employment will probably increase at about the same or a slower rate than in the last several years. And in agriculture and mining, where employment has been dropping, the decrease is expected to continue at a slower pace. (See chart 3.)

In nonfarm industries generally, wage and salary employment is expected to rise to nearly 69 million by 1970 from 60.4 million in 1965, or by 14 percent.

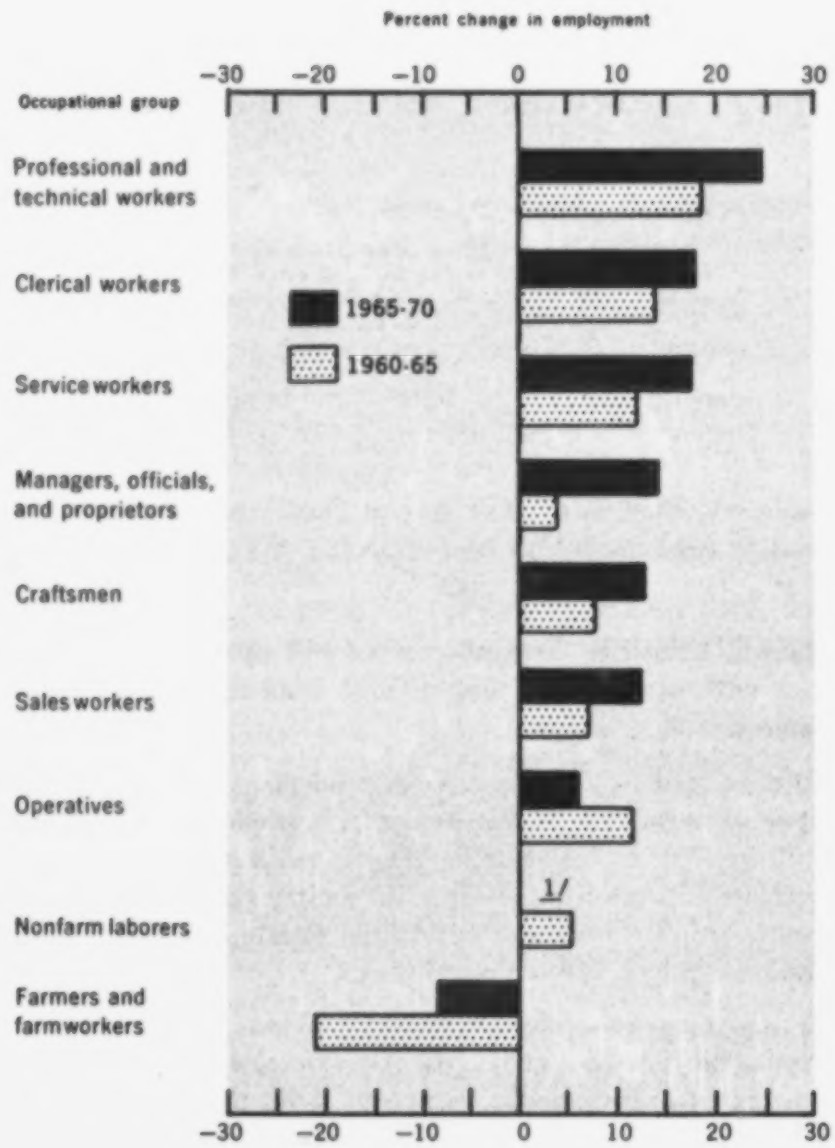
Construction is the only major goods-producing industry in which employment is likely to rise as fast as nonfarm employment as a whole. A gain of 15 percent in construction jobs is projected between 1965 and 1970—because of expected increases in construction by State and local governments, growing needs for residential housing, and expanding business investment in new and improved plants.

Service-producing industries offer the brightest prospects for employment growth. Between now and 1970, employment in these industries as a group is expected to increase by 18 percent, with the most rapid rise (33 percent) in State and local government employment.

[1] The following represent a few key findings from a new study of manpower requirements in major industries conducted cooperatively by the Department of Labor and several other Federal agencies. The figures are preliminary findings from this comprehensive study, which has utilized the input-output technique to derive industry employment estimates from patterns of final demand for goods and services. See *1966 Manpower Report*, p. 39.

Chart 4

Employment growth in most occupations will speed up over next half decade.



1/ 1965-70 employment of nonfarm laborers is projected at about the absolute level of the past decade.

Source: U.S. Department of Labor.

Employment growth will also speed up in most occupations over the next half decade. However, professional, technical, and kindred occupations will continue to be the most rapidly growing group. By 1970, about 11 million workers may be needed in these occupations—about one-fourth more than in 1965. (See chart 4.)

Clerical workers are expected to be the second fastest growing occupational group and to number 13 million in 1970. Service workers—who include people in such varied occupations as policeman, barber, waiter, and hospital orderly—will increase almost as fast as clerical workers. In 1970, there may be about 11 million service jobs, over a sixth more than in 1965.

Among manual workers, skilled craftsmen are expected to have the most rapid increases in employment over the next 5 years. Their number may rise from 9.2 million to 10.4 million between 1965 and 1970—with the fastest employment growth expected for mechanics and repairmen, building trades craftsmen, and foremen. In contrast, only modest employment increases are expected in semiskilled operative jobs, and no rise in the number of nonfarm laborers.

Farmworkers are the only major occupational group expected to decrease significantly over the next 5 years—pointing to the special need for retraining and other aid to farm people in preparing for and adjusting to nonfarm jobs.

Manpower Requirements to Achieve National Goals

Great improvements in the pattern of American life will be possible by 1975 if the country's manpower is fully employed. This is indicated by a study of the manpower requirements for achievement of an illustrative set of national goals now being conducted for the Department of Labor. The study suggests goals to which the country might aspire in 16 major areas, including agriculture, education, health, housing, national defense, space exploration, transportation, and urban development.

Full achievement of all the illustrative goals by 1975 would require a work force of more than 100 million—over 10 million above the number of workers expected 10 years hence with full employment. This means that our manpower resources will not be great enough for attainment of all the suggested aspiration goals within the next 10 years, though they will enable us to make great social progress. So long as goals such as these are seriously pursued as national objectives, the problem for our economy is likely to be an insufficiency rather than a surplus of manpower.

The Hidden Costs of Unemployment

Economic Costs Can Be Heavy

Though recent progress toward full employment is very encouraging, the continuing failure to fully attain this goal imposes heavy costs on workers, their families, and the country generally.

Part of the cost is economic: in the last quarter of 1965, when unemployment was down to 4.2 percent, the loss in gross national product from unemployment above 4 percent was still at an annual rate of $7 billion (according to estimates by the Council of Economic Advisers).

In early 1966, with unemployment well below 4 percent, we are still failing to use all our manpower.

Besides the nearly 3 million totally unemployed, close to 2 million workers are employed part time involuntarily. In addition, sizable numbers of men and women now outside the labor force would be available for jobs if they could be given the required incentives and skills.

Human and Social Costs May Be Even Greater

The human and social costs of unemployment remain largely unmeasured but may be even greater than these economic costs.

Prolonged or repeated unemployment has frequently forced families into poverty and dependency. It often means poor nutrition, poor health, and inadequate medical care.

Prolonged unemployment also has very destructive personal consequences. It destroys the fabric of a man's life. It may erode his skills and motivation to become self-supporting again, and is likely to lessen his civic participation and community ties. It may also contribute to family disintegration. As the Governor's Commission on the Los Angeles riots reported:

> ". . . A family whose breadwinner is chronically out of work is almost invariably a disintegrating family. Crime rates soar and welfare rolls increase, even faster than the population." [2]

Unemployment and family poverty have highly adverse effects on children's education. To quote the Governor's Commission again:

> "In examining the sickness in the center of our city, what has depressed and stunned us most is the dull, devastating spiral of

[2] *Violence in the City—An End or a Beginning?* (Los Angeles: Governor's Commission on the Los Angeles Riots, Dec. 2, 1965), p. 6.

failure that awaits the average disadvantaged child in the urban core. His home life all too often fails to give him the incentive and the elementary experience with words and ideas which prepares most children for school. Unprepared and unready, he may not learn to read or write at all. . . .

Frustrated and disillusioned, the child becomes a discipline problem. Often he leaves school, sometimes before the end of junior high school. . . . He slips into the ranks of the permanent jobless, illiterate and untrained, unemployed and unemployable. . . .

Reflecting this spiral of failure, unemployment in the disadvantaged areas runs two or three times the county average, and the employment available is too often intermittent." [3]

The situation is different, but no less desperate, for the rural poor. Thus, a Kentucky miner called to court by the truant officer said:

"Judge, I'm not the only man in this fix on the creek where I live. They's at least a dozen other men who ain't sent their children to school for the same reasons mine ain't a'goin'. They can't send 'em 'cause they can't get hold of any money to send 'em with. . . . If the county attorney or the truant officer will find me a job where I can work out something for my kids to wear, I'll be much obliged to 'em as long as I live." [4]

Some Implications

Altogether, the costs of unemployment and underemployment to our economy and to individual Americans are so high as to compel attention and action. In this time of emerging skill shortages and possible inflationary pressures, our economy can ill afford the waste involved in unused or underutilized human resources. And still less can our democracy tolerate the consequences of joblessness and poverty for individuals.

Further progress towards full employment may not be easy. Most workers who can find jobs readily are now at work (or unemployed for short periods while moving from one job to another). To achieve full employment of the hard-to-employ will require intensive efforts to overcome barriers and handicaps of many kinds—geographic mismatching of workers and jobs, lack of education and training, physical and mental handicaps, and discrimination in many forms.

Manpower programs are being designed to reduce these barriers. We have been learning how to make a full employment economy work. It is now possible to say with confidence that we can provide full employment for all Americans.

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[3] *Violence in the City*, op. cit., pp. 5-6.

[4] Harry M. Caudill, *Night Comes to the Cumberlands: A Biography of a Depressed Area* (Boston: Little, Brown and Co., 1963), pp. 360-361.

Unused Manpower Resources and Their Development

Several new and revolutionary manpower programs authorized by the Congress since 1961 are helping to upgrade workers' skills and prepare disadvantaged people for employment. These programs were made possible by the Area Redevelopment Act of 1961, the Manpower Development and Training Act of 1962 and its subsequent amendments, the Economic Opportunity Act of 1964, and other legislation.

A Variety of Programs Are Needed for Disadvantaged Groups

The new manpower programs had forerunners in the measures undertaken by the Federal Government years ago to aid groups with special handicaps. The program for disabled veterans was one of the earliest of these measures. It paved the way for rehabilitation services for physically and mentally handicapped civilians. Other programs begun long ago give reservation Indians education, training, and other help they need to become self-supporting.

The War on Poverty has extended our national concern for aiding disadvantaged people to all who live in poverty. However, the country's poor people include so many different groups that varied programs have had to be set up in order to help them effectively. Thus there are, for example, several War-on-Poverty programs for youth and also for farmworkers (discussed later in this booklet).

The Work-Experience Program is the part of the War on Poverty chiefly concerned with helping the adult poor. More than 100,000 unemployed persons on public assistance, as well as some other needy people, will get work experience and job training under this program during fiscal year 1966. Since each enrollee has, on the average, three dependents, several hundred thousand people will be helped this year.

A program like this one, which aims to equip welfare recipients for employment, can be an extremely good investment in strictly dollar terms. Nearly 12,000 enrollees in work-experience projects who had previously received public assistance became self-supporting between October 1963 and December 1964, either immediately after participating in one of these projects or after another period of federally-aided training. The public

assistance payments to these workers and their dependents (who numbered close to 60,000 altogether) had amounted to nearly $1.3 million per month.

Job Development and Training Programs Make Steady Progress

Besides programs for particular disadvantaged groups, a Nationwide Job Development Program has been conducted since early 1965 by the direction of the President. The major focus of the program has been on developing on-the-job and other training opportunities in service and related fields, through projects conducted under the Manpower Development and Training Act. By the end of 1965, training for about 112,000 individuals in service and related areas had been authorized.

The basic purpose of MDTA training programs is to equip unemployed workers with marketable skills—and thus help to meet the country's need for trained manpower as well as the workers' need for jobs. Altogether, training will be authorized for about 275,000 such workers in MDTA programs during fiscal 1966, as compared with 215,000 last year. These figures cover all fields of training, including technical, clerical, industrial, service, and agricultural occupations.

The Small Business Administration program of loans and management assistance to small businesses operated by people now below the poverty line is making steady progress. During the first 10 months of operation, loans were made to nearly 900 needy individuals, to help them set up or expand a small business. About 40 percent of those who have received loans are Negroes; a few are Indians living on reservations.

A Human Resources Development Program was also launched by the Department of Labor in late 1965, with the cooperation of the Department of Health, Education, and Welfare and the Office of Economic Opportunity. This community-based program will strive to reach jobless and disadvantaged workers and potential workers in localities with heavy unemployment, to analyze their individual problems and abilities, and to develop training projects and other services which will help them qualify for, obtain, and hold jobs. First begun in three Chicago slum areas in late 1965 as an experiment, this program is now being expanded to five more cities.

These programs add up to a pioneering national effort to help disadvantaged people become productive workers. They are still too small, however, to serve all those needing aid [illegible] preparing for and finding jobs. To meet these people's needs fully will [illegible] and enlarged and coordinated efforts by government at all levels and also by employers, unions, community agencies, and educational and training institutions.

Many improvements are needed also in services to particular disadvantaged groups. To cite a few examples:

- Physically and mentally handicapped people are still greatly underutilized, despite much progress already made in their rehabilitation. An expansion in the Federal-State vocational rehabilitation program has been authorized. It is important that this expansion take place as rapidly as possible, especially in those States now lagging behind the country generally in the extent of rehabilitation services provided for their people.

- Older workers need much more help. They should be among the groups given priority in work and training programs. More experimentation should be undertaken to place older workers in new kinds of jobs—for example, as aides in a Senior Health Corps.

- American Indians, the country's most disadvantaged minority group, also need expanded training, job development, and regional development programs to achieve economic self-sufficiency.

- Expanded training and job adjustment programs for prisoners and parolees are another urgent need. Steps which would be helpful include the establishment of more halfway houses for both young and adult prisoners scheduled for release, increases in counseling and placement staffs available for work with them, and further development of citizens' committees to promote community cooperation in opening job opportunities to former prisoners.

Young Workers

Employment Problems of Young Workers Require Continued National Attention

A record number of young workers aged 16 to 21 entered the labor force last year, but the expanding economy provided an even greater number of jobs. Both the number and proportion of youth who were unemployed actually fell, as pointed out in the Review of Current Developments. Nevertheless, the rate of unemployment for young workers is still almost three times the rate for all workers. Among nonwhite youth, 1 in every 5 is jobless.

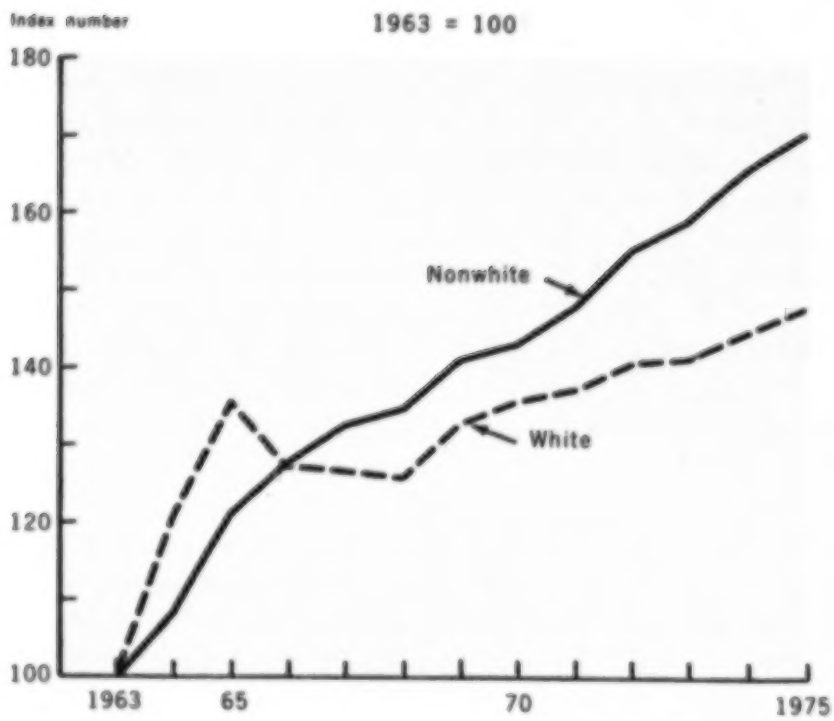
More and more young people will be working or seeking work in the years ahead, because the number of 18 year olds in the population will grow by at least 3½ million yearly during the rest of the decade. Many of these young workers will lack the education and training they need to compete successfully for available jobs. Although the proportion of boys and girls graduating from high school will probably continue to rise substantially, the increase in the youth population will mean an increase also in the total number of school dropouts. Furthermore, the number of young workers will grow most rapidly among nonwhites—especially among those whose parents are poorly educated—the groups most likely to drop out of school. (See chart 5.)

This projection of an increase in the number of school dropouts poses a challenge to our education system. In view of the mounting number of young workers and the rise in average levels of education, undereducated youth will be competing for jobs in future years with more and better educated young men and women. The handicap imposed by a poor education today is but a pale indication of what it will be in the future. We need, therefore, to develop more effective measures for motivating young people to stay in school.

Most Young Workers Are Not in School

The majority of young workers aged 16 to 21 have left school behind them; students predominate only among the 16- and 17-year-old workers. While students as well as other young people work primarily because they need money, jobs are most important for those who are out of school. Yet the unemployment rate is higher for out-of-school youth than for student workers (13 percent, compared with 10 percent in October 1964).

Chart 5 **Nonwhite population 18 years old—though smaller than the white—will grow at much faster rate in next decade.**



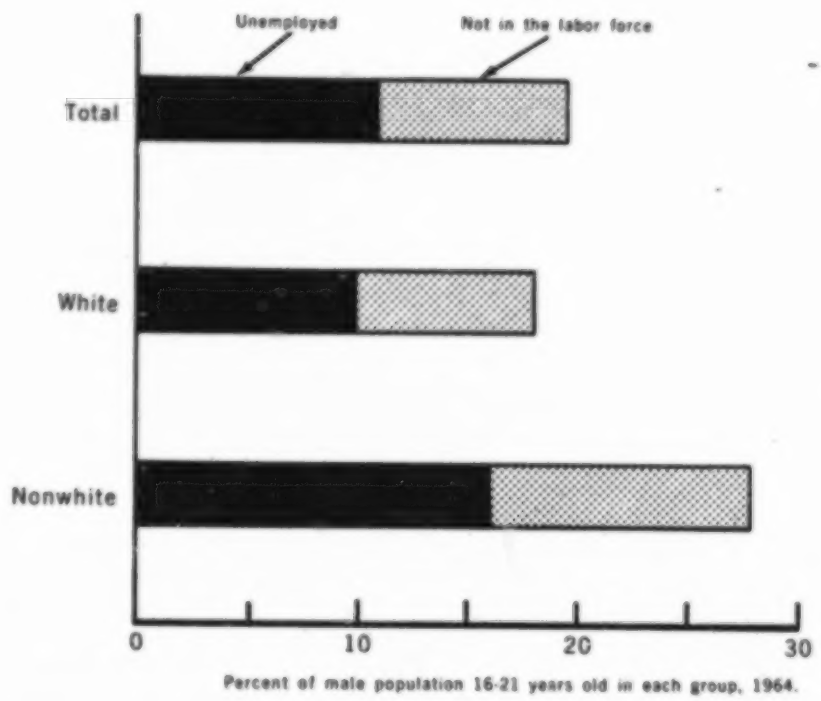
Source: U.S. Department of Labor, based on data from U.S. Department of Health, Education, and Welfare.

In addition to the unemployed, there are large numbers of young people who are out of school but not in the work force. (See chart 6.) In 1964, 1 out of every 12 young white men and 1 out of every 8 nonwhite men were in this situation. These young people were not seeking jobs for a variety of reasons. Some were ill, awaiting induction into the Armed Forces, or taking job training. But a considerable proportion were out of the work force because they did not think they could find jobs.

Dropouts Have Heavy Handicaps

Almost half the young workers who are out of school do not have a high school diploma. The ratio is even higher among nonwhite youth. More-

Chart 6 **Proportion of young men out of school and not working is especially high among nonwhites.**



Source: U.S. Department of Labor.

over, about a fourth of the dropouts have not even completed the eighth grade.

Those who have not graduated from high school are at a serious disadvantage in the job market. Their unemployment rate is double that of graduates; they have to look much longer to find a job; and they have to take less skilled, lower paid work. Their handicap tends to become more severe with time.

Financial pressures are an important factor in dropping out, but the educational level of the family is even more important. The dropout rate is much lower among poor families where the father had at least a high school education than among families with more adequate income where the

father had less than 8 years of schooling. The fact that education is so closely related to socioeconomic background implies that the generation-to-generation pattern of low educational levels can be broken only by programs aimed at their complex origins.

New Youth Programs Have Helped Mitigate Unemployment

In the past 4 years a number of Federal programs tailored to the varying needs of young people have helped to relieve unemployment among youth and increased their preparation for the job market. These programs include the training provided jobless youth under the Manpower Development and Training Act, the Neighborhood Youth Corps (NYC), the Job Corps, and the Youth Opportunity Centers (YOC) of the Federal-State employment service system.

Almost 50,000 youth—close to half of whom had quit school before high school graduation—were given occupational training under the MDTA during 1965. (See chart 7.) Many received basic education, intensive counseling, placement, and other supportive services in addition to job training and more than half of them received allowances while in training.

The job placement record for young people who have completed training is very good. As of mid-October 1965, the employment rate was about 80 percent for youth aged 16 to 21 who had completed institutional training projects. It was even higher—over 85 percent—for "graduates" of on-the-job training programs, most of whom have stayed on with the same employer who provided the training.

The Neighborhood Youth Corps provides paid work experience for disadvantaged youth from low-income families, so that they can afford to stay in school or college, or return to their schooling if they have dropped out. NYC projects are operated by State and local governments and private nonprofit agencies on contract with the Federal Government. They employ youth aged 16 to 21 in a wide variety of jobs where they will help to meet unmet public needs and will not displace present workers.

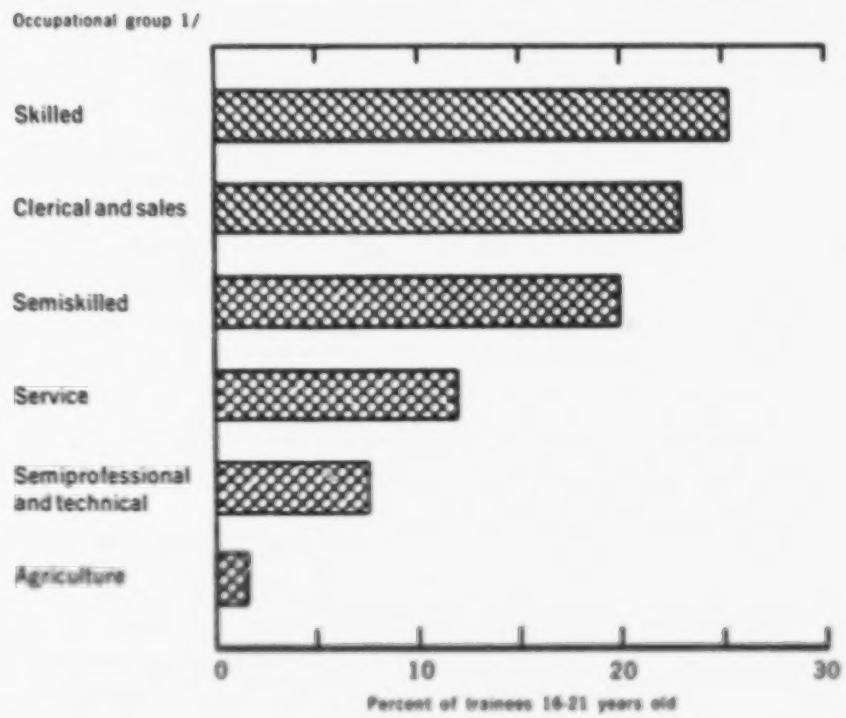
For boys and girls who are still in school but who might otherwise drop out, the NYC's in-school program provides part-time work which will give them financial aid and motivation to continue their education. The projects for out-of-school youth stress work experience which will help these youth develop the attitudes and behavior required for regular jobs.

In fiscal 1965, 278,000 jobs were made available under this program. In 1966, the number of jobs provided will rise to 356,000.

The Job Corps, a residential training program for jobless out-of-school youth, is aimed at young people who have little chance of becoming productive citizens without a complete change in environment. By mid-January 1966, the Job Corps had 17,500 enrollees. Plans call for an enrollment of 30,000 by the end of fiscal year 1966, and of 45,000 by the end of fiscal 1967.

Chart 7

MDTA courses are training young workers for a wide range of occupations.



1/ Excludes "other" occupations which account for about 11 percent of total.

Note: Data refer to trainees 16-21 years old enrolled in MDTA institutional courses during period August 1962-August 1965.

Source: U.S. Department of Labor.

Corpsmen in the conservation centers spend about half their time in needed conservation work; they have, for example, built trails, dug ditches, planted seedlings, and fought forest fires. Those in the urban centers receive training for various kinds of jobs—for example, in repair work, office work, selling, cooking, or health-service occupations. In both types of centers, corpsmen spend considerable time in basic education, physical training, health education, and recreation. They also receive intensive counseling.

The youth services of the Federal-State employment services have been greatly strengthened in the past 2 years. A major development has been the Youth Opportunity Centers, a source of services specifically designed for young jobseekers. At the end of 1965, 120 Youth Opportunity Centers

had been established in large metropolitan areas in 50 States. By July 1, 1966, 200 centers are expected to be in operation in 139 areas, where half the country's young people live.

The basic aim of the centers is to increase the employability of young people by counseling, testing, and job referral. When needed, the young applicant may be referred to vocational training, to work-training programs, or to other services. The centers make great efforts to reach disadvantaged young people by seeking them out in their neighborhoods and through their schools. From February through October 1965, 300,000 new job applicants were served by the centers and 73,000 were placed in jobs.

Education and Training Offer Long-Run Solution

The new youth programs aim to help disadvantaged young people overcome handicaps they acquired early in life, because they grew up in slums or poor rural communities and did not have adequate schooling. These are remedial programs, aimed at easing the potentially explosive problem of jobless youth. But stopgaps of this kind are not enough. We must seek also to prevent more children from growing up undereducated and underprivileged, and thus break the cycle of poverty now passed on, all too often, from one generation to the next.

TABLE I. MAJOR PROGRAMS SERVING DISADVANTAGED YOUTH, FISCAL YEARS 1965–67

[Enrollments or jobs]

Program	Out-of-school programs	In-school programs	Summer programs[1]
1965			
Total	126,741	117,000	114,000
Neighborhood Youth Corps	62,000	102,000	114,000
Job Corps	10,241	----------	----------
MDTA training	54,500	----------	----------
Vocational education work-study program	----------	15,000	----------
1966[2]			
Total	159,000	185,000	196,000
Neighborhood Youth Corps	60,000	100,000	[3] 196,000
Job Corps	30,000	----------	----------
MDTA training	69,000	----------	----------
Vocational education work-study program	----------	85,000	----------
1967[2]			
Total	172,000	160,000	165,000
Neighborhood Youth Corps	64,000	125,000	165,000
Job Corps	45,000	----------	----------
MDTA training	63,000	----------	----------
Vocational education work-study program	----------	35,000	----------

[1] Many summer program enrollees are also served by the in-school program.
[2] Estimated.
[3] Includes 31,000 jobs provided during the summer of 1965.

The best hope of progress toward a long-run solution of the interrelated problems of poverty, lack of education, and inability to qualify for current jobs lies in strengthening of education at all levels from preschool onward. In recognition of this fact, the Congress has enacted two dozen educational measures in the past 4 years. Only a few of the most important of these measures can be mentioned here.

The Elementary and Secondary Education Act of 1965 is landmark legislation in the promotion of educational opportunity. Among other purposes, it seeks to strengthen elementary and secondary school programs for educationally deprived children in low-income areas and makes funds available for services such as counseling, remedial instruction, and preschool training for disadvantaged children.

Passage of the Higher Education Act of 1965 also opened up a number of new pathways to educational opportunity. Funds were made available to help colleges and universities provide community services, to improve libraries, to strengthen young or weak colleges, to give financial assistance to students, to strengthen teaching and improve undergraduate instruction, and to aid construction of needed facilities.

A major overhaul of the country's vocational education system, to bring the training more into line with current needs, was made possible by the Vocational Education Act of 1963. The new area vocational-technical schools now being constructed with funds authorized by the act are one of the innovations which will be particularly helpful to underprivileged youth. Each of these schools will provide a broad vocational education program for a group of communities which could not by themselves have afforded such a program for their young people and adults in need of training. About 125 area schools in 41 States were authorized in fiscal year 1965. This number will have to be multiplied many times to meet the total need.

A number of States are also setting up or expanding vocational education programs tailored to the needs of special groups—for example, immigrants or young people from minority groups in slum areas of large cities and disadvantaged youth in isolated rural, mountain, or border areas.

Project Head Start, a major experiment in preparing young children for school, and thus preventing educational failure, was launched in the summer of 1965 as part of the War on Poverty. Under Project Head Start, more than half a million preschool children in every State attended classes for 6 to 8 weeks last summer. At least 85 percent of the children in the projects came from poor families. Small teaching groups, remedial medical care, and other related services were features of the program; substantial improvements were noted in the children's originally low performance levels. In 1966, the summer program will be repeated for another 500,000 children. In addition, about 100,000 children were enrolled in full-time Head Start projects during the 1965-66 school year.

The national goal in education must be to give all the American people—children, youth, and adults at all levels of ability and from all kinds of backgrounds—the opportunity to develop their abilities fully. Because of the great lag in the education of the underprivileged, special efforts are called for to speedily improve educational opportunities for the poor, especially nonwhites. In particular, the provisions for Federal aid to poor school districts under the Elementary and Secondary Education Act should be put into effect as rapidly and fully as possible.

Still greater opportunities for both preschool and post-high school education are much needed. Specifically:

- Project Head Start should be continued and broadened. Local school systems should also move ahead in establishing and strengthening nursery school and kindergarten programs.

- Free public education for 2 years past high school should be more widely available. This would prepare more young people for rapidly expanding technical occupations and, in so doing, would help to meet the economy's demand for trained workers. Full advantage should be taken of Federal financial aid to extend and improve the network of community colleges and other public post-high school institutions.

The new training, work-training, and other remedial programs for jobless youth need to be strengthened. These new youth programs have helped great numbers of young people (as shown in table 1). They still reach only a fraction of the total number needing their services, however. Roughly 3 million young people are estimated to be in need of special youth programs, more than five times the total number that will be served by all these programs during 1966. This 3 million includes 1.8 million out-of-school youth and 1.2 million who are still students.

Another need is more effective coordination of the new programs and strengthening of the counseling, health, and other supportive services provided. The programs should also be extended to small towns and rural areas, where special youth services are now almost entirely lacking.

Farmworkers

Simultaneous Abundance and Poverty Characterize American Agriculture

American agriculture has been the source of some of the Nation's greatest economic and social achievements. The country's farms not only supply most of the food and fiber needed by our rapidly expanding population but help to feed people in other countries as well.

Nevertheless, farm people face severe problems of underemployment and poverty. Though the average per capita income of farm residents has been rising, it is still less than two-thirds that of the nonfarm population. Farmers have a lower average income than any other occupational group except farm laborers (chart 8). The very abundance of farm production has tended to lower farm prices and incomes, requiring Government action to stabilize prices and production of some crops.

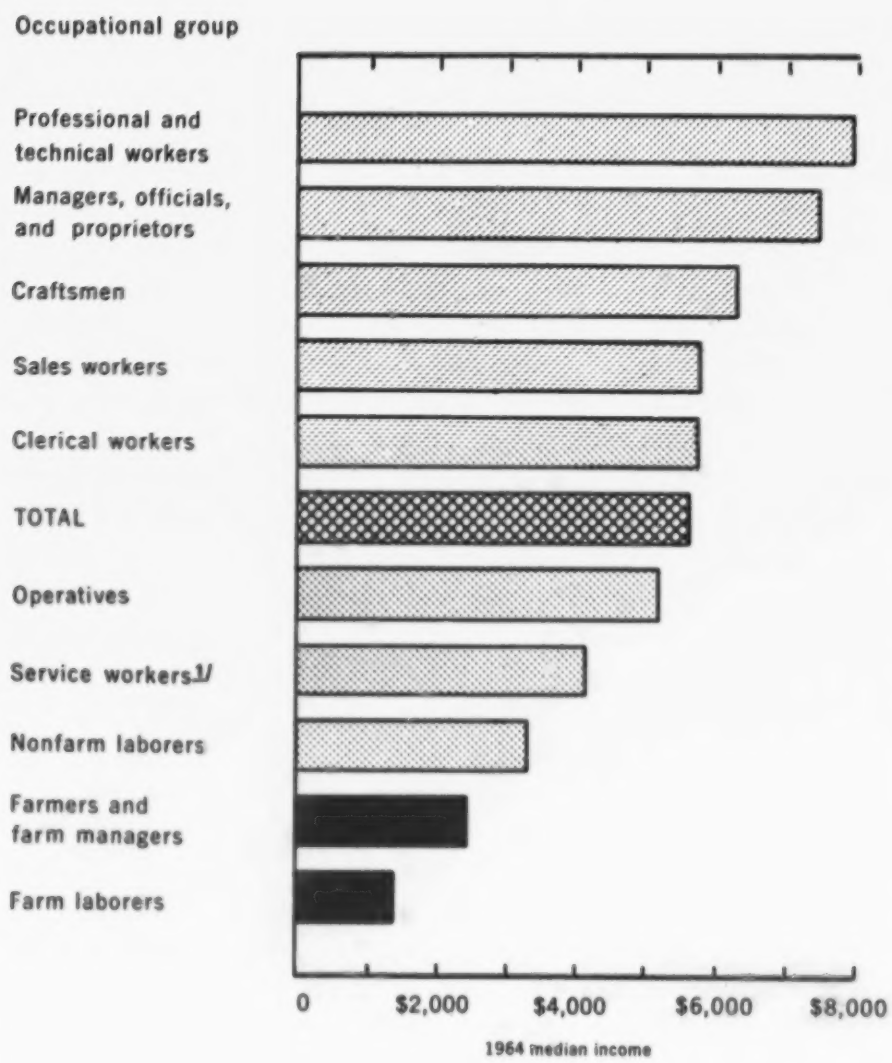
The working conditions of hired farmworkers are also much inferior to those of nonfarm workers. Farmworkers are usually excluded from the social insurance and labor standards legislation which help to protect the nonagricultural work force. Many farmworkers, able to get only temporary seasonal jobs, migrate from area to area in an effort to piece together enough work to earn a living. But even so, they are likely to have frequent periods of unemployment.

Farm Employment Is Declining

Farm manpower requirements have been declining for many years, even as farm output has risen. Annual average employment on farms—including farm operators, unpaid family workers, and hired workers—fell from 10 million in 1945 to 5.6 million in 1965, or by about 45 percent. (See chart 9.) The number of farm operators and unpaid family workers dropped by nearly 50 percent—from 7.9 million in 1945 to 4.1 million last year. Average employment of hired workers decreased more slowly—from 2.1 million to less than 1.5 million, or by 30 percent. But hired workers now have fewer days of work per year, on the average, than they did years ago. Most of them are seasonal workers; only about 300,000 have regular year-round jobs.

Chart 8

Farmers and farm laborers have lower average incomes than any other occupational group.

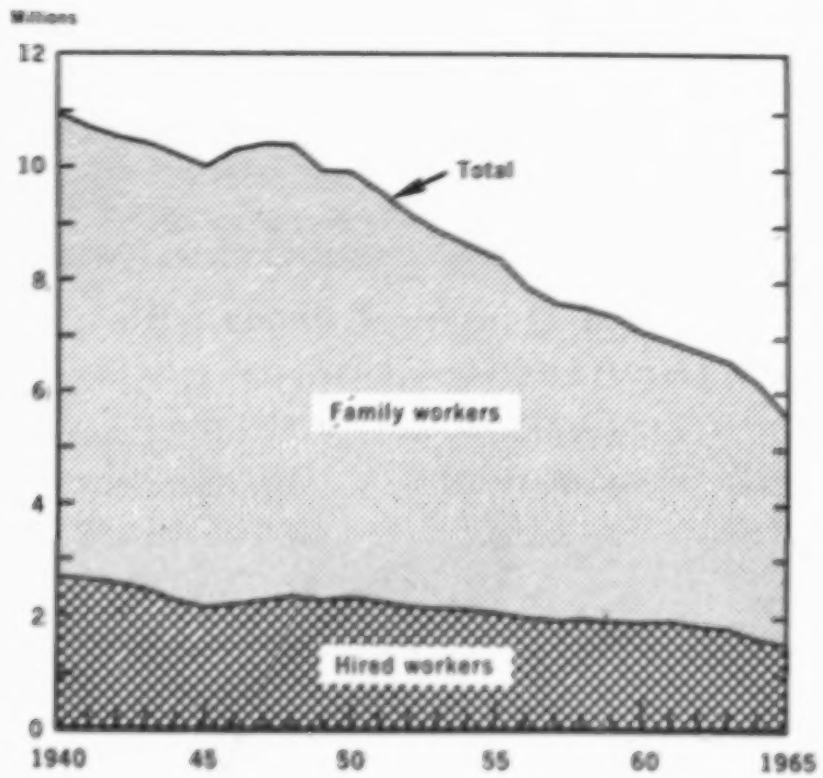


1/ Excludes workers in private households.

Note: Data refer to median income from employment, including self-employment, of men in civilian labor force in 1964.

Source: U.S. Department of Labor, based on data from U.S. Department of Commerce.

Chart 9 **Farm employment has shown steady decline, especially for family workers.**



Source: U.S. Department of Labor, based on data from U.S. Department of Agriculture.

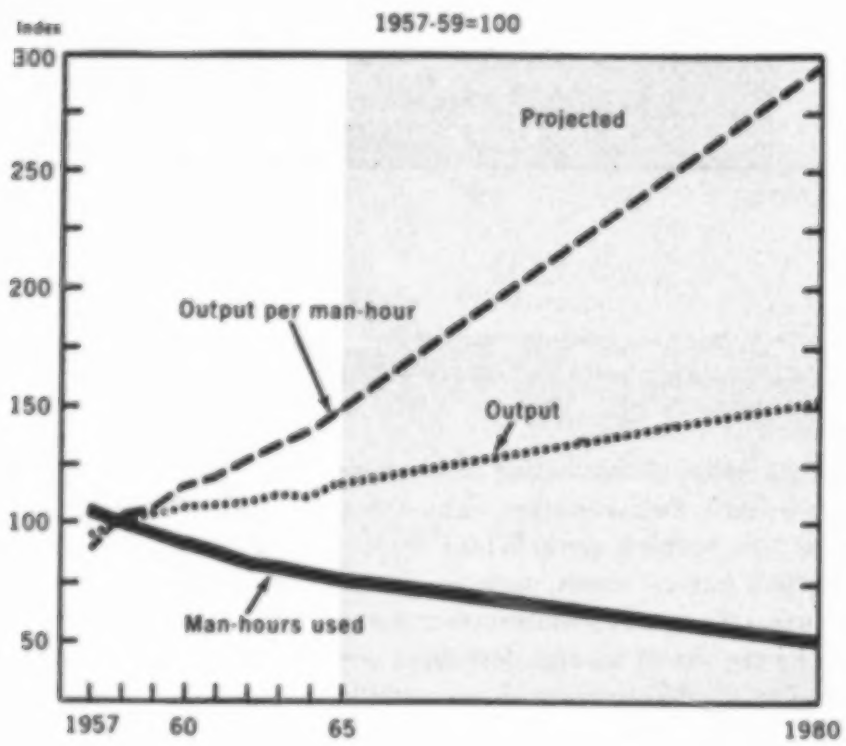
The main cause of the decline in farm employment has been new technology, particularly mechanization. The number of tractors and motor trucks on farms has doubled since World War II. Ingenious new machines to cultivate and harvest corps, such as the cotton harvester, have come into general use. Manpower requirements per unit of output have been further reduced by the use of modern fertilizers and of chemicals to kill weeds and pests, and by the development of new varieties of plants.

There has also been a trend toward combining farms into fewer and larger units, better able to afford the new, expensive machinery. This has been one of the chief reasons for the sharp decrease in farm operators during the past two decades.

Since continuing advances in farm technology are expected, farm manpower requirements will go on declining. According to projections by the Department of Agriculture, man-hours of farm labor in 1980 will be at least a third lower than in 1964. (See chart 10.)

This means that a continuing stream of farm people will have to move to nonfarm jobs and localities in search of a livelihood. There is therefore great need to give rural youth, the group most likely to move, better education and training for nonfarm occupations. Unless this is done, the movement of farmworkers into cities will have the same effect as it has often had in the past. It will intensify unemployment and other problems in slum areas overcrowded with uneducated, ill-prepared people attempting to adjust to city life and work.

Chart 10 **Farm manpower needs will continue to decline as productivity gains exceed rise in output.**



Source: U.S. Department of Labor, based on data from U.S. Department of Agriculture.

Employment of Foreign Workers on U.S. Farms Sharply Reduced

Job opportunities for domestic farmworkers were improved dramatically in 1965 by curtailing the employment of foreign workers on U.S. farms.

Workers from outside the United States—primarily from Mexico, Canada, and the West Indies—have been recruited in past years to meet labor shortages during the harvest and other peak seasons. However, use of these workers restricted job opportunities for domestic farmhands and reduced pressures on farmers to improve wages and working conditions in order to attract more American workers. For these reasons, Public Law 78 of the 82nd Congress, under which Mexican workers were brought into this country for temporary farm jobs on a contract basis, was permitted to expire at the end of 1964. Foreign farmworkers can still be admitted under the Immigration and Nationality Act. But regulations issued by the Secretary of Labor in December 1964 insure that foreigners will not be admitted when unemployed Americans are available for farm jobs, and that the wages paid will be high enough so as not to have an adverse effect on domestic wage levels.

Altogether, less than 36,000 foreign farmhands were admitted to the United States in 1965, as compared with 200,000 the previous year. Mexican "braceros," who worked in 17 States in 1964, were employed only in California last year.

Most employers who had formerly used foreign workers were able to adjust to the use of domestic manpower without undue difficulty, though there were some transitional problems. The Department of Labor and cooperating State Employment Service agencies intensified their efforts to help recruit an adequate domestic farm labor force. Several new programs aimed at increasing the employment of students in summer farm jobs were set up. Greater efforts were made also to recruit American Indians for farmwork and to expand the recruitment of Puerto Ricans.

As many as 100,000 U.S. workers took farm jobs in 1965 that were formerly held by foreign farmhands. And farm wage rates rose sharply in areas formerly using foreign workers. In the country as a whole, the average wage rate for farmworkers rose from $1.08 to $1.14 between 1964 and 1965—the largest year-to-year increase since the early 1950's. Even so, the gain was less than the gain in hourly earnings of nonfarm workers during the same period.

New Educational, Training, and Other Programs Aid Farm People

Real progress in improving educational and training opportunities in rural areas is being made under legislation enacted during the past 4 years.

This is very important because rural schools have, as a rule, been greatly inferior to urban ones.

The Elementary and Secondary Education Act of 1965 offers the chief hope of improving elementary and secondary schools for rural youth. The financial aid it provides for poor school districts and its other provisions for enriching educational services can do much to strengthen schools in rural areas as well as urban slums.

Much broader vocational training for rural youth has been made possible by the Vocational Education Act of 1963. The new area vocational-technical schools will be of particular help to rural people. They will give both youth and adults opportunities for training in a broad range of nonfarm occupations as well as vocational agriculture.

The training programs for unemployed workers conducted under the Manpower Development and Training Act are also aiding farmworkers to keep abreast of the changing skill demands of modern agriculture and providing retraining for those who need to prepare for nonfarm occupations. By the end of 1965, training had been authorized for an estimated 100,000 rural workers—about one-fourth of the total number of trainees authorized in MDTA programs.

Special recognition is given in the MDTA to the needs of small farm operators who have low incomes. Members of farm families with less than $1,200 annual income are considered unemployed under the act and are therefore eligible for training allowances (provided they meet other requirements applied to all unemployed workers).

Opening more employment opportunities in impoverished rural communities and other depressed areas has been the goal of another series of programs. The Area Redevelopment Act of 1961 (ARA) provided financial aid to "redevelopment areas" with high unemployment, to help them build up their sewer and water systems, transportation, and other physical facilities. Loans were also made under the ARA to aid new or expanding industries. The employment and income these new industries provided in rural areas were expected to cut down the rate of out-migration and help farm families escape from poverty.

A similar but much broader redevelopment program is now being conducted under the Public Works and Economic Development Act of 1965, which superseded the ARA. In addition, the Rural Areas Development program of the Department of Agriculture is helping to relieve rural manpower problems by stimulating new job opportunities and helping communities in other ways. The achievements under this program show that when rural people are given technical and financial assistance, they can do a great deal to solve their communities' economic and social problems.

The poverty of farmers and farmworkers is also being attacked through several War-on-Poverty programs. The Neighborhood Youth Corps, for example, has made particular efforts to include rural youth in its work-training programs for disadvantaged youth. During 1965, a fourth of all NYC enrollees were in rural projects.

Special War-on-Poverty projects provide better housing, sanitation, education, and child-care programs for migrants and other seasonal farmworkers. These projects are operated both in the home areas from which migrant farmworkers come and in the places where they do seasonal farmwork. By the end of 1965, an estimated 157,000 workers and their dependents had been served in 27 States.

Community Action Projects have served the poor in 650 rural counties. They give farmworkers and other rural people help in obtaining employment and training, health and vocational rehabilitation, remedial education, counseling, and other services.

Another War-on-Poverty program provides loans to poor rural families and rural cooperatives. These loans help farmers and other small businessmen now below the poverty line to improve their operations. Rural people have been helped also by the basic education program for adult illiterates and by the Work-Experience Program for public assistance recipients. This latter program can be of special help to the many seasonal farmworkers who are supported by public assistance part of the year.

Conclusions and Recommendations

Though much progress in helping rural people has been made under recent programs, a great deal remains to be done.

- Further improvement of educational and training opportunities in rural areas is a first essential, to give farm people the preparation they need to compete in the present-day economic world.

- More progress must be made in the economic development of rural areas. Additional nonfarm job opportunities in such areas would help to offset the continuing decline in farm employment and reduce the pressure on farm people to move to cities in search of work.

- Steadier employment of hired farmworkers is another pressing need. The Department of Labor's Annual Worker Plan, under which efforts are made to arrange successive jobs for migratory workers, should be greatly expanded. But new ways of stimulating and assisting the systematic transfer of workers among seasonal jobs also need to be worked out. And new efforts are needed to develop more nonfarm work in rural areas in the seasons of the year when there is little demand for farm labor.

- The dramatic success in cutting back employment of foreign workers on U.S. farms in 1965 should be followed up in 1966 and hereafter. Use of foreign workers should be limited to severe labor-shortage situations, where employers who offer adequate wages and working conditions and conduct intensive recruitment activities are nevertheless unable to attract enough domestic workers. The experience gained in domestic-worker recruitment programs in 1965 should also be utilized to improve recruitment efforts in coming seasons.

- Unemployment insurance should be extended to farm wage workers, beginning with those on large farms.

- Protection of farmworkers under State workmen's compensation laws should receive active consideration.

- Careful consideration should be given to the need for amending the Fair Labor Standards Act to provide minimum-wage protection for farmworkers and to prohibit the hiring of young children in agriculture outside of school hours.

- Consideration should also be given to legislation for protecting the rights of farmworkers to form and join unions and to bargain collectively with their employers.

- The public employment services available in rural areas should be greatly increased. The aim should be to give farmworkers who need to migrate information on job opportunities, housing, and other conditions in the places to which they may move, and also to help them make advance job arrangements.

U.S. GOVERNMENT PRINTING OFFICE : 1966 O—221-349

Copies of the full report, *Manpower Report of the President and A Report on Manpower Requirements, Resources, Utilization, and Training by the United States Department of Labor*, may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402—Price $1.50.

Copies of this publication, additional information on manpower programs and activities, or reprints of The Manpower Report of the President, Statistical Tables on Manpower, Farmworkers, and Young Workers from the *1966 Manpower Report* may be obtained from the U.S. Department of Labor's Manpower Administration in Washington, D. C. Publications on manpower are also available from the Department's Regional Information Offices at the addresses listed below.

18 Oliver Street, Boston, Massachusetts 02110
341 Ninth Avenue, New York, New York 10001
Wolf Avenue and Commerce Street, Chambersburg, Pennsylvania 17201
Ninth and Chestnut Streets, Philadelphia, Pennsylvania 19107
1371 Peachtree Street, NE., Atlanta, Georgia 30309
51 SW. First Avenue, Miami, Florida 33130
801 Broad Street, Nashville, Tennessee 37203
1365 Ontario Street, Cleveland, Ohio 44114
219 South Dearborn Street, Chicago, Illinois 60604
911 Walnut Street, Kansas City, Missouri 64106
411 North Akard Street, Dallas, Texas 75201
300 North Los Angeles Street, Los Angeles, California 90012
450 Golden Gate Avenue, San Francisco, California 94102
506 Second Avenue, Seattle, Washington 98104

VT 003 717
Johnson, Delmar, Comp.
Handbook for Organizing and Conducting Programs in Agriculture Mechanics.

Indiana State Dept. of Public Instruction, Indianapolis. Div. of Vocational Education
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 66 55p.

*PROGRAM GUIDES; *VOCATIONAL AGRICULTURE; *COOPERATIVE EDUCATION; *OFF FARM AGRICULTURAL OCCUPATIONS; *AGRICULTURAL ENGINEERING; PROGRAM DEVELOPMENT

The organization and operation of a cooperative education program in agriculture mechanics as an integral part of a vocational agriculture program are explained. The advantages of a cooperative education program to the student, school, cooperating employer and the community are cited and responsibilities of the school for organizing the program are detailed. An example is provided of policies regarding students, related instruction, training plans, and training center supervision. Legal activities which affect the program in Indiana are summarized and procedures are outlined for meeting the legal requirements. The purposes, advantages functions, qualification, size, organization, appointment, and operation of a consultant committee are outlined. Other major sections of the handbook presents information relating to trainee selection, training center selection, training plans, training agreements, trainee placement, related instruction, program coordination, program evaluation, trainee evaluation, records, reports, course of study, teaching aids, awards, Indiana child labor laws, U.S. Fair Labor Standards Act, and student followup. Included are examples of forms used in enrollment application, surveys, training agreements, visitations, student evaluation, awards, and followup. (JM)

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HANDBOOK

FOR

ORGANIZING & CONDUCTING

PROGRAMS

IN

AGRICULTURE MECHANICS

Vocational Education Division
Mearle R. Donica, State Director
600 Old Trails Building
309 West Washington Street
Indianapolis, Indiana

1966

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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VT003717

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Glossary

Section I

Description of The Agricultural Mechanics Occupations Program

The primary purpose of the program is to enable the young men to gain those competencies that are needed in the field of agricultural mechanics. The program is designed as a cooperative educational program between the secondary schools and local agricultural businesses.

Students should be able to receive instruction in specific areas of agriculture machinery occupations, that would enable them to become proficient as a set-up man; mechanics helper; mechanic; service department manager or a parts man, at the same time meeting the requirements for a high school diploma.

The student is to spend part of the day in the cooperating center under the direction of a supervisor selected from the firm or business in which the student is working. The remainder of the time is to be spent in the local school.

The agricultural mechanics course is not to be a separate entity but is to be an integral part of the total vocational agriculture program with the vocational agriculture teacher providing the related instruction and coordinating the program.

Section II

Advantages of The Agricultural Mechanics Occupations Program

To the student:

1. Develops the highest degree of competency possible in the understandings of basic functions of machines and machine parts.
2. Prepares the student for job-entry and advancement in agricultural mechanics while still attending school.
3. Provides supervised training on the job under actual job conditions.
4. Provides the student an opportunity to select a possible occupation for his future.
5. Gives encouragement to student to stay in school.
6. Develops work habits, attitudes and responsibilities.
7. Provides students with opportunity to cooperate with others.
8. Provides students with opportunity to see the need for further education.
9. Gives student opportunity to establish a desirable reputation on-the-job.
10. Establishes a self-sufficient attitude in student.

To the school:

1. Provides opportunity to meet more fully the educational needs of the community.
2. Provides a more complete program for the non-academic curriculum.
3. Increases community interest in school activities.
4. Promotes good public relations between school and community.
5. Broaden the total program of vocational agriculture in the school.
6. Improve attitudes of students towards school.

To the cooperator:

1. Opportunity to train employees while they are still in school.
2. Opportunity to develop a vocational program with the local schools.
3. Develop a strong community profile for the business.
4. Provide incentive for young men in the community.
5. Reduce training problems and expenses.
6. Increases efficiency of regular employees.
7. Receive more direct benefits from local school.

To the community:

1. Improve local economy.
2. Improve work habits and citizenship.
3. Increases available labor force.
4. Promotes closer cooperation between school and community.
5. Increase the desire of individuals to live in the community.

Section III

Procedure for Organizing An Agriculture Mechanics Occupations Program

RESPONSIBILITIES OF THE SCHOOL

"Agricultural Mechanics Program"

The following are suggested as responsibilities of the local school in developing an agricultural mechanics program.

1. The vocational agriculture instructor, school administrators, guidance personnel, superintendent, and the school board should discuss the program and agree that one or more of the following steps of the organizational procedure should be carried out.

2. A local survey should be made to determine the number and kinds of agricultural mechanics, businesses, or firms in the surrounding area.

3. The vocational agriculture instructor and the guidance personnel should make a preliminary survey of the high school student body to determine the number of prospective students.

4. The Vocational Agriculture Division of the State Board for Vocational Education should be contacted for any assistance they may be able to offer.

A member of the State Staff will meet with the local school officials to explain the state's reimbursement policies and standards and provide any other available services which the local school may desire.

5. The legal aspects of the Agricultural Mechanics program should be explored. (See legal activities sec.)

6. A consultant committee should be appointed.

7. The public relations program should be planned and implemented.

8. The school should develop and adopt a policy statement which will serve as an operational guide for the Administration of the program.

9. Arrangements for providing necessry school facilities and equipment should be made.

10. Trainees should be selected based upon the minimum qualifications specified by the school.

11. Training Centers should be selected.

12. The training plan should be developed.

13. The required forms and certificates should be completed.

14. The necessary reference and instructional materials should be purchased or secured.

15. Arrangements should be made with the school administration concerning class schedules, travel allowance, etc. so that an adequate job of coordination, evaluation, and follow-up can be accomplished.

16. Trainees should be placed in training centers.

17. The program should be evaluated.

SURVEY OF THE COMMUNITY

One of the first steps in initiating an agricultural mechanics occupations program is a survey of the community. The purpose of this preliminary survey is to determine the employment opportunity in agricultural businesses within the community. This survey will also identify possible training centers.

Most vocational agriculture instructors are familiar with the community in which they are located so they can list most of the agricultural businesses, However, in most communities it would be impossible to list all the agricultural businesses or firms without assistance. There are numerous ways to get assistance in locating all these businesses for firms. Most of them will be listed in the yellow pages of the telephone book. Other sources such as the consultant committee, local Chamber of Commerce, local labor office, civic clubs, and other professional organizations will also be a valuable help in making the list complete.

Section IV

An Example of Policies For
The Agricultural Mechanics
Occupations Program

Students

1. Age
The trainee must be 16 years of age or older to meet the requirements of labor laws. Trainees who will be 16 during the first 6 weeks after the beginning of school may be enrolled. They cannot, however, be employed under a student-learner certificate until they are 16 years of age.

2. Hours of Training
Trainees employed in occupations governed by the U.S. Fair Labor Standards Act may spend as many hours at the training center as approved, provided these hours, plus the hours spent in regular classes in school do not exceed 40 hours per week. Sufficient time in training on the job is needed for instruction, observation time in training on the job is needed for instruction, observation, and practice to learn the various phases of the job. Normally, the trainees will spend five hours per day in school and two or three hours per day at the training center. When school is not in session on any school day, the trainee may work more hours than the student-learner's certificate authorizes, provided, however, the total hours shall not exceed 8 hours per day. During the school term when school is not in session the entire week, the trainee may work additional hours, not to exceed 40 hours.

Trainees employed in occupations which do not fall under the jurisdiction of the U.S. Fair Labor Standards Act will be governed by the Indiana Child Labor Laws - See the appendix for a summary of the Indiana and U.S. Labor Laws.

3. Selection
Trainees should be selected who are interested in preparing for training in occupations which require knowledge and skills in agriculture. Trainees must be employable, therefore it is essential that selection be based on a carefully designed procedure which takes into consideration such things as aptitude, interest, personality, work habits, etc.

4. Wages
Trainees must be paid for the time spent on the job at the training center. The local consultant committee should recommend a standard beginning wage for trainees. Increases in wages will be determined by the trainees performance. See the appendix for more information concerning Student-Learners Certificates and minimum wage laws.

5. Length of Training Period
Trainees must be employed in a training center for at least six months and a minimum of 250 hours during any one year. Trainees should be employed no later than six weeks after the opening of school.

6. Travel
The trainee must be responsible for his own travel to and from the training center. Any approved training center should be within a reasonable distance from the school and the home of the trainee in order to reduce travel.

7. Individual Training Plan
An individual training plan must be developed for each trainee. Both a course of-study for his classroom related instruction and a training outline for his occupational on the job training at the training center is necessary.

8. F.F.A.
Trainees enrolled in the agricultural mechanics occupations program should receive additional experience through membership in the Future Farmers of America.

RELATED CLASS ROOM INSTRUCTION IN AGRICULTURAL OCCUPATIONS

1. Length of time
A minimum of one hour (55 minutes in the clear) per day for related classroo instruction is required.

2. Course of Study
Instruction applicable to all agricultural and occupations will be provided Such instruction will include such areas as:

(1) Applying for a job
(2) Human Relations
(3) Labor Laws
(4) Workmen's compensation laws
(5) Social Security
(6) Other

b. Instruction will also be provided which is applicable to the individual trainees occupation. This instruction will be primarily individual study under the teacher-coordinator.

3. Size of Classes
The maximum enrollment for one full-time teacher-coordinator shall not exceed 25 students.

4. Facilities and Instructional Material
a. The school must provide satisfactory classroom facilities for this prog In most cases, the vocational agriculture department will be adaptable to provide the necessary facilities.
b. The school must provide sufficient instructional materials for the stud

TRAINING PLAN

1. The Training Plan should be developed cooperatively by the person directly responsible for training the student (supervisor) and the teacher-coordinat

2. The Training Plan should contain the basic knowledge, manipulative skills, abilities that the trainee should learn on the job, in the classroom, and i the laboratory.

SUPERVISION OF TRAINEES AT THE TRAINING CENTER

1. By the Supervisor
   The cooperator, or a person designated by the cooperator, will be responsible for training the student at his place of business. He should assist in developing the training plan in order that no step, job, operation or procedure is omitted. He is to provide instruction at the center which will prepare the trainee for entry into that occupation.

2. By the Teacher-Coordinator
   The primary role of the teacher-coordinator will be to work closely with the cooperator and/or the supervisor. He will make periodic visits to the training center to check with the business personnel and observe the student in training. The local school district should provide ample time and travel allowances for the coordination of the program.

Section V

SUMMARY OF LEGAL ACTIVITIES AFFECTING ENROLLMENT IN RELATED OCCUPATIONS OF AGRICULTURE MECHANICS

Procedural Steps to be Followed:

1. File form No. 35-0, Application to organize and conduct a program. File form No. 30-0 for state approval before program is instituted.

2. File form No. A-1 (Intent to Employ) before student starts to work.

3. Students must show proof of age (Birth Certificate)

4. Students must apply for social security card.

5. Request for Inspection report must be filed with the Division of Labor.

6. File form V-80-0 by December 1.

Legal Guides To Agriculture Mechanics Program

A. Agricultural Mechanics programs should be restricted to students sixteen years of age or older.

B. Requirements regarding employment and age certificates
   1. Every employer must secure an employment certificate before he permits any boy or girl under 18 years of age, including high school graduates and married youth, to work for him at any time. This certificate must be kept on file as long as the youth is employed.

   2. At the termination of employment, the employer must mail the termination notice to the issuing office.

   3. Kinds of certificates are issued:

      a. General employmnnt certificates are required for youth 16 and 17 years of age.

b. Age certificates are issued upon request for minors 18 to 21 years of age. This certificate should be kept on file while the minor is employed and returned to the minor at termination of employment.

4. An employment certificates is not transferable from one job to another. An age certificate is transferable from one job to another or one employer to another.

5. An employment certificate is needed in addition to a social security card.

C. Where to obtain certificates.

1. Employment and age certificates may be obtained at the office of the City or County Superintendent of Schools.

D. How to obtain certificates.

1. The employer fills out completely and signs the Intention to Employ Form A-1. (No Intention to Employ is required for an age certificate.) Intention to Employ forms may be obtained from the office of the City or County Superintendent of Schools.

2. The youth presents the completed Intention to Employ form, together with a birth certificate, to the employment certification office.

3. As soon as all requirements are met the issuing officer mails the employment or age certificate to the employer. If for some reason the certificate cannot be issued, the employer is notified.

E. Posting requirement.

1. When boys under 16 or girls under 18 are employed, the employer must post and keep posted in a conspicuous place where minors are employed, a printed notice stating the maximum number of hours such minors are permitted to work.

F. Maximum hours of work for youth.

1. Boys 14 and 15 and girls 14 through 17 may not work more than:
   a. 8 hours a day.
   b. 48 hours a week when school is not in session (40 hours for boys and girls in interstate commerce).
   c. Six days a week.
2. During school term boys and girls in interstate commerce may not work more than:
   a. 3 hours on school days, 8 hours on Saturday.
   b. 18 hours a week.
   c. 6 days a week.

3. Night work:
   a. Boys and girls 14 and 15 may not work before 6 a.m. nor after 7 p.m.
   b. Girls 16 and 17 may not work before 6 a.m. nor after 9 p.m.
   c. Boys 16 and 17 may not work before 6 a.m. nor after 10 p.m. as a public messenger.

G. Legal minimum ages for employment.

16 years of age--during school hours and in manufacturing and in certain others jobs at any time.

18 years of age--in a number of hazardous occupations.

COOPERATIVE VOCATIONAL PROGRAMS --STANDARDS.--Sec. 4a. Any public school corporation may through its appropriate officials enter into cooperative programs with employers of labor wherein said employers agree to provide employment for students, enrolled in school-directed vocational education programs, to learn the manipulative skills or manual processes of an occupation and such employers are hereby authorized to employ such students in otherwise restricted occupations for the purpose of vocational education training under the following conditions:

(1) That training in the occupation is approved by an authorized school authority and is school supervised.

(2) That the training station of the occupation is jointly approved as to conditions of work, including safety factors, by the safety inspectors of the Indiana Division of Labor and the proper school authorities.

(3) That the student in training is assigned to competent adults delegated by the employer for instruction and supervision in the manual processes or manipulative skills of the occupation according to a written training schedule jointly developed by the employer and a representative of the school. (Acts of 1957, Chap. 269, Sec. 1, Burns 28-4904a.

Section VI

THE AGRICULTURAL MECHANICS OCCUPATIONS CONSULTANT COMMITTEE

A local consultant committee can be of valuable assistance in the development and operation of an Agricultural Mechanics Occupations Program. The committee provides a link between the school and community. The function of the consultant committee is to advise and counsel the school in improving the vocational program.

In every community the needs and objectives of the program will vary. It is the purpose of the consultant committee to assist in guiding the program so that it will meet the needs of the local community.

PURPOSES OF THE CONSULTANT COMMITTEE OF AGRICULTURAL MECHANICS PROGRAM.

1. To secure ideas and advice of representative key people in agricultural mechanics businesses in the area.
2. To study community situations and determine community needs of agriculture mechanics businesses.

3. To clarify the relationship of the vocational agriculture department and agricultural mechanics program with the community.

4. To explain the program to the public and aid in promoting public relations.
5. To assist the teacher by giving him encouragement and support, and aid in relating the instruction in agricultural mechanics to the particular needs of the community.

6. To help evaluate the agricultural mechanics program phase of the vocational agriculture department.

ADVANTAGES OF THE CONSULTANT COMMITTEE

1. Promotes the school, community and vocational program in agricultural mechanics.

2. Brings about a closer relationship between the school and the community.

3. Provides an opportunity to study the real training needs of the agricultural mechanics businesses.

4. Provides a sounding board for new ideas.

FUNCTIONS OF THE CONSULTANT COMMITTEE

1. Assist in the selection of training centers.

2. Render service in identifying employment opportunities.

3. Assist in setting standards for trainee selection.

4. Advise on the development of instructional material.

5. Provide guidance in establishing wages and hours of training.

6. Help publicize and promote the program.

7. Advise on the selection of references and other instructional aids.

8. Assist in setting local training standards.

9. Assist in conducting the community survey.

10. Assist in the selection of subjects, course content, and special emphasis that should be included in the training plan.

11. Assist in evaluating the program.

QUALIFICATIONS OF COMMITTEE MEMBERS

1. Members should express an interest in the problems of the school system.

2. They should indicate a specific interest in agricultural mechanics programs.

3. They are willing to devote the necessary time to committee work.

4. They should not be persons who will exploit the committee for their own personal benefit.

SIZE OF THE COMMITTEE

The size of the agricultural mechanics program and the geographic area served are factors that tend to affect the number of members of the consultant committee. The committee should be large enough to be representative of the community but small enough to permit active participation in the discussion of problems and the formulation of recommendations. It is recommended that representatives of the Implement Dealers, local school officals and a member of the over-all vocational agriculture committee should be members of this committee.

ORGANIZATION

1. The local board of education should authorize the superintendent of the school, the principal and the teacher-coordinator to organize the consultant committee.

2. The superintendent and principal should be ex-officio members of the committee.

3. The committee should select a chairman and a secretary from its membership. They are responsible for the work of the committee.

4. The teacher-coordinator should participate in all meetings.

5. A constitution and by-laws should be adopted by the committee.

HOW TO APPOINT

1. The superintendent, principal and teacher-coordinator should compile a list of persons to be considered for appointment.

2. Go over the list of prospects and make the selection of committee members.

3. The superintendent can then send out a letter of appointment and explain the purposes of the committee. He also can give the time and place of the first meeting.

4. Shortly after the letters have been received, it would be advisable to visit and briefly explain the purposes of the committee, and at the same time remind the members of the first meeting date. Many times it may be advisable to contact prospective members and determine if they are willing to serve before presenting their names to the school board for approval.

TERM OF APPOINTMENT

1. It is best to stagger the replacements so that there are always experienced members on the committee.

WORKING WITH THE CONSULTANT COMMITTEES

In working with consultant committees, you will find it practical to keep certain guiding principles and methods in mind.

1. The members serve on a voluntary basis; therefore, they should not be expected to carry out long, detailed work assignments.

2. School officials should acquaint committee members with the total vocational offerings of the school.

3. Informational material should be put into the hands of committee members. This material should include pertinent releases and publications of the local Board of Education, State Board for Vocational Education, and the U.S. Office of Education.

4. Meetings should be scheduled regulary. Policies should be established whereby special meetings may be called.

5. If possible, committee meetings should be conducted in the same building in which the training program is held.

6. All members should be advised on existing and pending vocational legislation.

7. Copies of minutes of meetings should be sent to all committee members. School officials should have a complete file of minutes of committee meetings.

8. An agenda should be prepared and distributed prior to each meeting.

EXAMPLE OF AN AGENDA OF THE FIRST MEETING OF THE CONSULTANT COMMITTEE

1. Introduction of all members.

2. Explanation of Agricultural Mechanics Program and the need for a consultant committee.

3. Functions of the consultant committee.

4. Responsibility of the consultant committee

5. Term of appointment

6. Election of a permanent chairman

7. Election of a secretary

8. Selection of time and place of meetings

91 Business

ITEMS ON THE AGENDA SHOULD MEET MOST, IF NOT ALL, OF THE FOLLOWING TEST:

1. Is this a real problem?

2. Is this a problem which the school earnestly desires to solve?

3. Will the school use the committees recommendations?

4. Is this a question in which the committee is interested or in which it can become interested?

5. Is the committee competent to discuss and make recommendations on this type of problem?

6. Do members have sufficient knowledge of facts and background information to make worthwhile suggestions.

PITFALLS TO AVOID IN WORKING WITH CONSULTANT COMMITTEES

The skill with which the organization and work of the consultant committee is managed by local school authorities will, in a large measure, determine the benefits that may be derived from their use. In this connection, it may be well to keep in mind possible pitfalls that may be encountered.

School Authorites Should not:

1. Permit the committee to become administrative in its function.

2. Conceal facts pertaining to the program.

3. Enter into labor-management controversies.

4. Fail to keep a copy of minutes of each meeting on file.

5. Take action within the realm of the committees advisory function without first consulting with the committee.

6. Fail to recognize the value of the consultant committee through news releases and other means.

SECTION VII

SELECTION OF TRAINEES

Much of the success of an agricultural occupations program depends upon the calibre of the students enrolled. Students of high calibre do not necessarily mean those in the upper quartile, but refer to those students who possess the aptitude and qualifications required for success in a given occupation. The training in many occupations requires students with desirable personal traits and above average aptitudes. The objectives of a program of this type can only be attained when the trainee enrolled is capable and desirous of receiving training.

The following steps are suggested as a guide to follow in selecting trainees:

1. Make a general announcement concerning the program to all eligible students at least two months before the pre-registration for the next school year.

2. Have all interested students fill out an "Application for Enrollment" form. See examples at the end of this section.

3. Make arrangements with the school counselor to obtain various test scores and other confidential information which will not be reported on the application form. Record this information plus the information taken from the "Application for Enrollment" form on the "Student Information Sheet." See examples at the end of this section.

4. Review the "Student Information Sheets" to determine those students who meet the minimum qualifications.

5. Before a final selection is made, each student should be interviewed personally. This will help obtain information that has not been listed on the student information sheet.

6. After completing the preceding steps, sufficient information should be available to make the final selection of trainees. The following criteria should be kept in mind when selecting trainees:

    a. Select students who have a definite occupational objective.

    b. Select students whose parents approve of their participation in the program.

    c. Select students who possess the ability and willingness to work.

d. Select students who will be at least 16 years of age when on-the-job training period begins.

e. Select students who will work to their fullest capabilities.

f. Select students who will maintain a good school attendance record.

g. Select students who will be able to work the minimum required hours per week.

h. Select students who will be able to get to and from their training stations.

i. Select students who are interested in occupations in which adequate training stations are available.

j. Select students who possess the physical ability to complete training and find gainful employment.

k. Select students who possess high moral character.

l. Select students who possess a basic knowledge and interest in agriculture.

APPLICATION FOR ENROLLMENT
IN VOCATIONAL AGRICULTURAL
MECHANICS OCCUPATIONS

For example purposes only

Name_____

Address_____Phone No._____

Age____Sex____Height____Weight____Social Security No._____

Location of home from school_____

Grade in school____Do you plan to go to college? Yes____No_____

List the high school credits you have earned in Math____English_____

Social Science____Science____Agriculture_____Commerical____Other____

Parent's or
Guardian's name _____

Parent's Occupations - Father_____Mother_____

What type of curriculum are you enrolled in? College Prep___General___

Vocational___

What hobbies do you enjoy_____

List the clubs and organizations to which you belong_____

_____

_____

Do you wear glasses? Yes__No__Do you have any physical handicaps? Yes___

No___If the answer is yes, please explain_____

List the names of employers and previous jobs you have held and the length of time spent on the job.

Name of employer	Job	No. of Months

In what occupations do you prefer to receive training? First Preference
_____ Second Preference_____

What type of work do you dislike?_____

Will you be available for work: After school?____on Saturdays_____

What transportation will you use to get to work?_____Amount of insurance coverage_____

What subjects do you need to graduate?_____

(Have your parents complete the following)

_____has my permission to participate in the agricultural mechanics occupations program.

Signed by Parent or Guardian_____

For example purposes only

APPLICATION FOR ENROLLMENT
IN AGRICULTURAL MECHANICS
OCCUPATIONS

Date_____

Name_____Address_____Age_____

Name of father_____Occupation_____

If occupation is farming, size of farm_____. Owner-Renter_____
(acres)

Years of vo-ag completed, including present semester_____

Present farming program in vocational agriculture_____

_____

List farm equipment you can operate_____

What are you interested in doing after you complete high school
(farming, attending college, working in agri-business, working in a city)?

_____

_____

I hereby apply for training in the Agricultural Mechanics Occupations Program during my last year in high school. It is my understanding that this program includes, in addition to the classroom work, work experience in an agricultural implement business.

Signed _____
(Student)

Parent Approval for Training

I approve of my son's receiving training in his last year of high school, in agricultural mechanics program. I understand that his training, in addition to his classroom work, will include placement for work experience in an agricultural implement business.

Signed_____
(Parent)

STUDENT INFORMATION FOR
AGRICULTURAL MECHANICS
OCCUPATIONS

(To be completed by teacher-coordinator and kept in permanent record file)

Date_____

Name_____ Grade in School_____

Address_____ Phone No._____

Age____ Sex____ Height____ Weight____ Social Security No._____

Parent's Name_____ Parent's Occupation: Father_____

_____ Mother_____

Location from school_____ Plan to go to college? Yes_____

No_____

Credits earned: Math___ English___ Social Science___ Science___ Agric._____

Commercial_____ Other_____

Type of program enrolled in - College prep_____ Vocational____ General_____

Hobbies_____ Grade Average_____

Days absent last year_____ Transportation to work? Yes_____ No_____

Clubs and organizations_____

Physical handicaps_____ Glasses?_____

Previous work experience and name of employer	Job	Months

Students Interests_____ Student's Dislikes_____

Vocational Objective_____

I.Q. Tests (list each)_____

Other Tests	Date	Results

Hours available for work after school_____ Saturdays_____

Miscellaneous information_____

Section VIII

SELECTION OF TRAINING CENTERS IN AGRICULTURE MECHANICS

The selection of adequate training stations is an important key to successful training. The following steps are listed as a quide in the selection of training centers.

1. Compile a list of all possible training centers.

2. Arrange for a personal interview in the firms which might serve as training centers.

3. Complete the information required on the form entitled "Occupational Survey of Job Opportunities and Training Possibilities". See example at the end of this section.

4. From the information obtained on the survey form and with the assistance of the consultant committee, use the following criteria in selecting training centers.

   a. The training center must be an approved agricultural business.

   b. The training center must offer opportunities for advancement within the establishment or should aid in developing the trainees potential ability to the point he would be occupationallly competent to make progress in other similar establishments.

   c. The job should require training -- not just routine work experience of a repetitive nature.

   d. The training center should provide a wide variety of experiences in the occupation.

   e. The training center should provide the trainee with adequate supervision.

   f. The working conditions should be satisfactory.

   g. The training center should have a good reputation and be accepted by the community as a reliable, respected business establishment.

   h. The morale climate of the training center should be high.

   i. The cooperator should have an interest in training the student.

   j. The personnel should understand and appreciate the importance of the training program.

   k. The training center personnel should be capable and willing to provide an adequate number of training hours.

   l. The training center should have adequate facilities, equipment and use up-to-date methods.

m. No regular employee should be laid off in order to train students.

n. The training center should be within a reasonable distance from school.

o. The training center should do a reasonable volume of business.

OCCUPATIONAL SURVEY OF JOB OPPORTUNITIES
AND TRAINING POSSIBILITIES

Interviewer_____ Date_____

School_____

1. Official name of establishment_____

2. Address_____ Phone No._____

3. Name and title of person interviewed_____

4. Estimated percent of gross income that is agriculturally oriented_____

5. In reference to company policy, can this firm hire high school age personnel?_____ Do you have a minimum wage?_____ if so, what?_____

6. Is there a labor union in the firm?_____

7. Would your firm cooperate as a training center for high school students?
Yes____ No____, If yes, what specific jobs?_____
_____

8. Main function (s) of this company:
Manufacturing_____ Specialized Agriculture_____
Processing_____ Recreational Activities_____
Sales_____ Professional Services_____
Service_____ Other_____

9. Total number of employees: Male_____ Female_____

10. Classification of employees:

Type of Job	Number Employed Now	Number Employed Next 5	Level*

11. Does company plan an expansion program within the next 5 years?
Yes____ No____. If yes, what new jobs will be created?_____
_____

12. Would you be willing to serve on a consultant committee for this program?__
_____

13. Would a student trainee be insured by your company?_____

14. What background experiences are needed by student trainees?_____
_____

15. Could this school offer classes to help your employees?_____
What classes specifically?_____

*Level 1. Professional, 2. Technical, 3. Agricultural Service, 4. Managerial, 5. Supervisory, 6. Sales, 7. Clerical, 8. Skilled, 9. Semi-skilled.

For Example Purposes Only

Survey of
Vocational Opportunities and Training
Needs

A. Firm name _____

Address _____

Name of persons contacted:

_____ Telephone _____

_____ Telephone _____

B. Position of person interviewed: _____

C. Main products or services _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

D. Function of company:

_____ Manufacturing	_____ Processing
_____ Purchasing	_____ Warehouse
_____ Service	_____ Wholesaling
_____ Constructing	_____ Contractor
_____ Retailing	_____ Other (Specify)

E. Person Employed - Number

Management	_____	Clerical	_____
Service	_____	_____	_____
Sales	_____	_____	_____

F. Persons Hired:

Males - No. hired last 2 years _____
No. expected to hire next 2 years _____

Females - No. hired last 2 years _____
No. expected to hire next 2 years _____

G. An agricultural background is:

_____ very necessary	_____ little necessary
_____ some necessary	_____ not necessary
_____ necessary	

H. Company willingness to participate in a cooperative occupational experience program for high school students: (check all that apply)

_____Not willing
_____Permit students to visit and observe operations
_____Employ interested students during vacation periods
_____Employ interested students on a part-time basis during school year.
_____Employ interested students on a seasonal basis.
_____Participate in a student work experience program a few hours during the school day on a nonpay basis.
_____Participate in a student work experience program a few hours during the school day on a nonpay basis and a pay basis on weekends.
_____Work with school personnel in outlining an educational program which would help prepare person for work in these occupations
_____Release key employees to assist teachers in providing instruction for high school students

I. What months of the year would be most beneficial to the cooperator:

_____

_____

J. Problems that might be encountered by the company in the employing (or participating in a cooperative occupational experience program) of high school students:

_____Liability insurance
_____Labor union regulations
_____Time involved in training employees of time element involved in work experience programs
_____Minimum wage laws
_____Other (Specify)_____

_____Additional comments_____

_____

_____

_____

K. Additional comments:_____

_____

_____

_____

Section IX

_____High School
Vocational Agriculture Department

TRAINING MEMORANDUM

Student Trainee_____Date of Birth_____

Soc. Sec. No._____Grade_____Available Work Hours_____

Occupational Objective_____Training Period_____mos. or weeks

Training Center_____Date_____

Address_____Telephone No._____

Department in which Employed_____Cooperator_____

Parent or Guardian_____Telephone No. Res._____
Bus._____

Address:_ Residence_____Business_____

1. THE STUDENT AGREES TO:

____Do an honest day's work, understand that the cooperator must profit from his labor in order to justify hiring him and providing him with cooperative training experience
____Do all jobs assigned to him to the best of his ability
____Be punctual, dependable and loyal
____Follow instructions, avoid unsafe acts, and be alert to unsafe conditions
____Be courteous and considerate of the cooperator, his family, customers and others.
____Keep the records of cooperative training program and make the reports the teacher and employer require.
____Be alert to perform unassigned tasks which promote the welfare of the business.
____Notify the employer and teacher-coordinator if he is unable to be on the job as scheduled.

---

2. THE PARENT AGREES TO:

___The cooperative training program in the place of business.
___Allow student to work in the store during hours and days shown in Sec. 5.
___Provide a method of getting to and from work according to the work schedule.
___Assist in promoting the value of the student's experience by cooperating with the cooperator and teacher when needed.
___Assume full responsibility for any action or happening pertaining to student trainee from the time he leaves school until he reports to his training station.

3. THE TEACHER-COORDINATOR IN BEHALF OF THE SCHOOL AGREES TO:

___Give systematic instruction at the school enabling the student to better understand and carry out his duties and responsibilities in the training station.
___Visit the student on the job for the purpose of supervising him to insure that he gets the most out of his cooperative training experience.
___Work with the cooperator, student, and parents to provide the best possible training for the student.
___Use discretion on the time and circumstances chosen for visits.

4. THE COOPERATOR AGREES TO:

___Provide the student with opportunities to learn how to do well in jobs in the occupation.
___Assign the student new responsibilities only when he is judged able to handle them.
___Train the student, when and where possible, in the ways which he has found desirable in doing his work.
___Assist the teacher in making an honest appraisal of the student's performance.
___Inform the student of safety procedures and avoid subjecting him to unnecessary hazards.
___Refuse employment to any trainee for at least 90 days if he drops out of school.

---

5. ALL PARTIES AGREE TO:

___A period of the cooperative training program which will
Start in_____
(month)
End in _____
(month)
___Working hours during the cooperative training program will include:

Days during week_____
Hours during week days_____to_____
Hours on weekend _____to_____

___Discuss misunderstanding on termination of employment before ending employment.
___A beginning wage of_____per hour.

We, the undersigned, indicate by the affixing of our signatures that we have read and understand the purpose and intent of this training agreement.

Student_____ Cooperator_____
(Signature) (Signature)

Parent _____ Teacher-Coordinator_____
(Signature) (Signature)

Section X

PLACEMENT OF TRAINEES IN TRAINING CENTERS

The placement of qualified trainees in suitable training centers is a rewarding climax to the efforts expended in making surveys of the community and school, canvassing employers, publicizing the program and selecting qualified students for training.

After the list of qualified trainees and suitable training centers has been completed, the teacher-coordinator has a big job in insuring that the proper trainee is placed in the right training center. However, the final selection of the trainee to work in a particular training center should be made by the cooperator.

Following is a list of activities that the coordinator can perform to help place the proper trainee in a desirable training center.

1. If possible, before a student applies for a job, give instruction on job classifications, human relations and methods in applying for a job.

2. From the list of eligible students select those that are most interested and qualified for each particular occupation.

3. Give the list to the proper cooperator and let him select the students he wants to interview.

4. If some jobs require an application form, guide the student in completing this form, but let the student gain the experience of actually completing such a form.

5. In some cases, the teacher-coordinator may wish to go with the student and introduce him to the cooperator. The teacher-coordinator from his knowledge of the student, should know whether to use this procedure or not.

6. After the cooperator has had an opportunity to interview the students, the teacher-coordinator should assist him in his selection by furnishing all the information available about each student. This can best be done by letting him review the "Student Information Sheet". The teacher-coordinator should refrain from giving his personal recommendations or arbitrarily assigning a trainee to a training center. Remember, the final selection of the final selection of the trainee should be made by the cooperator.

Section XI

TEACHING RELATED INSTRUCTION

Related instruction will be of two types: A core of common and specific related instructions.

The common related instruction will be presented to all students regardless of the occupation in which they are working. In the teaching of common related instruction, all the various methods and techniques of regular vocational agriculture may be used. Following is a list of possible topics to be included in the related instruction. In most instances additional topics will be needed.

1. Becoming familiar with the Agricultural Implement. Occupations Program.
2. Determining the importance of agriculture in the community.
3. Chosing a career.
4. Applying for a job.
5. Developing desirable personal traits.
6. Budgeting your income.
7. Saving and investing
8. Taxes
9. Labor Unions
10. Employer-employee relations
11. Your personality
12. Business forms and documents.
13. Social and business etiquette
14. Business ethics
15. Social Security, income tax, withholding, fringe benefits, etc.

The specific related instruction has to do with the information and knowledge needed for competency in a skilled occupation. The material which a trainee studies during the specific related instructional period will be determined from the training plan and should be correlated with his work experience. A trainee study guide should be developed for each occupation in which training is offered.

SECTION XII

COORDINATION OF THE PROGRAM

The objective of coordination in the agricultural mechanics occupations program is to correlate all the helpful agencies and factors that contribute to the successful training of students. Many people are confused concerning the actual duties of coordination. An adequate job at coordination involves many duties. Some of the duties associated with coordination are:

1. Placement of trainees in suitable training centers.
2. Follow-up of trainees after placement.
3. Contacts with cooperators to establish working relationships.
4. Assist in making analysis of various occupations.
5. Assist in developing training plans.
6. Conferences with students.
7. Contacts with consultant committees.
8. Evaluating student progress in relation to training plan.
9. Contacts with employers, labor groups, school administrators and vocational counselors regarding the functioning of the program.

COORDINATORS SCHEDULE OF CLASSES

The amount of time a teacher-coordinator should devote to the program during the regular school day would depend on many factors. Sufficient time should be allotted during regular school hours for coordination. At least one hour per day should be scheduled for the related instruction. Since the teacher-coordinator has a vital role in student guidance, at least one period per day should be scheduled for student conferences.

TEACHER SUPERVISION OF TRAINEE ON THE JOB

Periodic visits to the training centers are necessary for efficient program operation. They are valuable in correlating related classroom instruction with on-the-job training; in making comparisons between actual work accomplished with the training plan content; and in evaluating student progress on the job.

It is not practical to specify an exact number of visits to each training establishment. Each training situation differs. It is necessary to make more frequent visits in some situations than at others. On the average, however, the teacher-coordinator should visit each center once a week.

Following is a list of information to gather when a coordinator makes a supervisory visit.

1. Is the cooperator satisfied with the trainee?

2. What is the trainees attitude toward his job, employer and fellow workers?

3. Is the trainee progressing according to the training plan?

4. The trainees have friends who visit them while on the job.

5. The cooperator fails to provide adequate training.

6. The cooperator expects work from the trainee at irregular hours.

When supervising trainees, it is appropriate that the cooperator be made aware of the visit. It is a simple courtesy to clear the visit through the person in charge. If the cooperator wishes to discuss something personally about the trainee, it is best to hold the conference away from the trainee and his work area.

Following is a list of "Do's" and Dont's" to follow while visiting training centers.

DO

1. Be alert. Observe what is going on without appearing to "snoop".

2. Be friendly with everyone without fraternizing with them.

3. Show an interest in the work in progress. Be curious; ask questions if the opportunity presents itself.

4. Make notes (after leaving) on items which may be used for a conference with the trainee or for his study assignments.

5. Be quick to sense the cooperators desire to terminate a conference.

DON'T

1. Don't call attention to errors, bad practices, unsafe conditions, and the like while visiting the trainee. Do so in private conference.

2. Don't try to demonstrate to a trainee how to do a job to which he is assigned.

3. Don't pose as an expert or authority on any matter concerning the work going on.

4. Don't request a conference with the cooperator when he is obviously too busy.

5. Don't engage in so-called "friendly" arguments on controversial questions.

6. Don't interrupt or interfere with the trainee's work.

7. Don't permit a visit to degenerate into a "bull" session with the cooperator or employees.

8. Don't appear to be loafing or just "passing the time."

9. Don't handle tools, machines, or equipment unless invited to do so.

Some other general points in connection with supervision of the trainees at the training center are:

1. Plan a weekly schedule in advance so that the most benefit can be derived from the time available. This also enables persons to contact the teacher-coordinator when he is not at school.

2. Check out with the school office each day before leaving the school. Indicate when you will return to the office.

3. Keep a record of your observations on each visit to the training center. An example of a visitation form is found on the following page.

TEACHER-COORDINATOR'S VISITATION RECORD

TRAINING CENTER _____ OFFICIAL CONTACT _____

TRAINEE _____

DATE _____ TIME OF VISIT _____

Points to observe	Comments
1. Conditions surrounding the business	
2. Attitude of workers toward teacher-coordinator and trainee	
3. Specific operations in which trainee is engaged.	
4. Immediate related subject matter needed.	
5. Personal appearance of the trainee.	
6. Apparent interest of trainee in his work.	
7. Apparent interest of cooperator in the trainee.	
8. On-the-job instruction being given.	

Section XIII

Agricultural Occupations

Trainee_____ Date_____

Training Station_____

EVALUATION

EMPLOYER-TEACHER EVALUATION

Instructions: Please rate the trainee on each of the competencies (abilities) listed below. Rate by placing a check mark in the appropriate column to the right of each competency. Use the following as a basis for rating.

x -- No chance to observe
1 -- Below average
2 -- Average
3 -- Above average
4 -- Excellent
5 -- Superior

GENERAL COMPETENCIES (Abilities)	x	1	2	3	4	5
Accepts and carries out responsibilities						
Attitude toward work; use of work time						
Adaptability; ability to work under pressure						
Speed and accuracy of work						
Attentiveness to work being done						
Promptness in reporting for work						
Care of work space						
Care of materials and equipment						
Observing, imagination						
Attitude toward customers						
Attitude toward fellow worker, supervisors						
Personal appearance, grooming, fitness						
Initiative						
Enthusiasm						
Cheerfulness, friendliness						
Courtesy, tact, diplomacy, manners						
Helpfulness						
Honesty, fairness, loyalty						
Maturity, poise, self-confidence						
Patience, self-control						
Sense of humor						
Selling ability, personality for selling						
TOTAL						

JOB SKILLS	x	1	2	3	4	5
Knowledge of Job						
Mechanical ability						
Penmanship						
Speech, ability to convey ideas						
Care of tools, orderliness						
Use of good English						
Desire to serve farm people						
Like people, not a fear of people						
Complete job						
Check parts orders						
Determine sale price						
Use an adding machine						
Write up parts orders						
Write up service order						
Total						

Rating for liabilities:

x - No opportunity to observe
1 - Not noticeable
2 - Seldom noticed
3 - Frequently noticed
4 - Highly noticed
5 - Pronounced

LIABILITIES	x	1	2	3	4	5
Annoying mannerisms						
Familiarity						
Making excuses						
Tendency to argue						
Tendency to bluff or "know it all"						
Tendency to complain						
Total						

PLEASE FEEL FREE TO WRITE COMMENTS BELOW

Evaluated by _____

Position _____

SECTION XIV

_____ PUBLIC SCHOOLS
Vocational Agriculture Department

TRAINING MEMORANDUM FOR AGRICULTURAL MECHANICS OCCUPATIONS

This establishes an agreement between _____
(School)
and _____ regarding the employment of _____
(Training Center)
_____ in _____
(Trainee) (Occupation)

1. The on-the-job training will be supervised by _____ ,
(Teacher-Coordinator)
_____ for a period of _____ weeks.
(Cooperator)

2. The student will begin training on _____ at a beginning wage of
(date)
_____

3. The school will provide the student one hour per day for related classroom study and two hours per day for on-the-job training. The school will be responsible for providing technical and related instruction.

4. The trainee shall gain experience in all phases of the occupation listed in the Training Plan.

5. The schedule of compensation shall be fixed by the consultant committee.

6. The Vocational Agriculture Instructor will visit the training station at frequent intervals to observe the student on the job and to discuss and evaluate his progress with his employer.

7. The trainee agrees to perform his duties at the training center and in school diligently and faithfully.

8. The training relation may be dissolved by any of the parties directly involved, but should be preceded by consultation with the teacher-coordinator.

9. No regular employee shall be laid off to train students.

10. If the trainee drops out of school, he will not be employed by the training center for a period of at least 90 days.

We the undersigned are familiar with, and agree to the above provisions.

_____ (Trainee)	_____ (Cooperator)
_____ (Parent or Guardian)	_____ (Teacher-Coordinator)
_____ (School Administrator)	_____ (Chairman, Consultant

INDIANA DEPARTMENT OF PUBLIC INSTRUCTION
William E. Wilson, Superintendent
Division of Vocational Education
600 Old Trails Bldg., W. Washington St.
Indianapolis 4, Indiana

Send 4 copies to Department of Labor

_____ (County)

_____ (School Corporation)

_____ (Address)

_____ (Date)

_____ (Instructor)

VOCATIONAL AGRICULTURE
CO-OP TRAINING

AGRICULTURE OCCUPATIONS

REQUEST FOR INSPECTION OF THE VO-AG TRAINING CENTER

TO: Mrs. Mabel Striker, Director of Women's & Children's Division, Department of Labor

FROM: _____, Vocational Agriculture Instructor

SUBJECT: Joint Inspection of Training Station in Compliance with Senate Bill 225 (1957)

The _____ (Name of School), School Corporation of _____ (City) Indiana requests the services of a State Labor Safety Inspector to make a joint inspection with the Local Instructor of Vocational Agriculture. The Training Station is provided by _____ (cooperating firm) of _____ (location of firm) in which the student learner _____ (name) will be provided job experiences on a part-time employment basis in the occupation of _____ (occupation). The assigned inspector may make contact with the teacher at _____ (office number), _____ (building) to make arrangements to carry out the joint inspection.

_____ (Principal)

_____ (Vo-Ag Instructor)

_____ (City) (Phone No.)

REPORT OF INSPECTION

This training center has been jointly approved by the Safety Inspection and the Proper School Authority as to conditions of work including safety factors, in compliance with Senate Bill 225 _____ (Safety Inspector Div. of Labor)

_____ (Vo-Ag Instructor)

_____ Date:

Section XV

Instruction in Agricultural Mechanics Occupations Program

Specific agricultural skills, abilities, and understandings are needed by managers and employees in retail farm machinery distribution in order to carry out their functions efficiently. Educational programs should be developed at the high school level to provide training in these competencies.

It is suggested that the enclosed type of instructional program may be followed in a high school offering this type of training.

<u>Ninth Grade</u>

Production Agriculture
Development of S.F.P.
Encouragement in FFA
Farm Mechanics
1. Beginning Welding
2. Adjustment, Maintenance, and Repair of Small Gasoline Engines
3. Tool Identification

<u>Tenth Grade</u>

Production Agriculture
Farm Management (introduction)
FFA
Farm Mechanics
1. Advanced Welding
2. Metals
3. Electricity
4. Building Construction (small)

<u>Eleventh Grade</u> (two divisions)

<u>Agriculture Mechanics Oriented</u>
2 hrs/day

Agricultural Machinery Assembly
Mechanical Power Transfer systems
Hydraulic Power Transfer Systems
Electrical Power Systems
Adjustment, Maintenance, and Repair of Machinery (such as tillage and harvesting equipment)
Tractor tune-up and maintenance
Tractor Repair
FFA

<u>Production Agriculture</u>
1 hr/day

Production Agriculture
Farm Mechanics (in as many areas as possible)
Farm Management
FFA

Twelfth Grade (two divisions)

Agriculture Mechanics Oriented
3 hrs/day

1 hr. classroom instruction
2 hrs. on-job-training

Classroom Instruction in Non-technical subjects such as-

Human Relations in Agriculture Occupations
Agricultural Salesmanship
Agriculture Machinery Service Department Operating Procedures
FFA

Production Agriculture
1 hr/day

Production Agriculture
Farm Mechanics in Buildings
Soil Conservation, Fencing, Advanced Wiring, and Machinery Overhaul
FFA

XVI

Teaching Aids

Teachers of Agriculture Mechanics Occupations will find invaluable information in the list of available references and teaching aids.(1)

REFERENCES IN AGRICULTURAL MECHANICS

1. Farm & Power Equipment Retailers Handbook
   Edited by: Leonard L. Wilson
   National Farm & Power
   2340 Hampton Ave.
   St. Louis, Mo. 63139

2. I. & T. Manual for Farm Tractors
   Implement and Tractor Inc.
   Kansas City, Mo.

3. I. & T. Manual for Small Gasoline Engines
   Implement and Tractor Inc.
   Kansas City, Mo.

4. Small Engine Service Manual--8th Edition
   Technical Publications Inc.
   1014 Wyandotte St.
   Kansas City, Mo.

5. Chek Farm Tractor Chart Lubrication & Service Guide
   The Chek-Chart Corp.
   222 West Adams St.
   Chicago 6, Illinois

6. A Power Primer
   General Motors
   Detroit 2, Mich.

7. Agricultural Engineering, A Dictionary & Handbook
   Farrall & Albrecht
   Interstate Printers and Publishers
   19-27 N. Jackson St.
   Danville, Illinois

8. Farm Machinery and Equipment -- Smith
   McGraw-Hill Book Co.
   330 West 42nd Street
   New York, N.Y.

9. Farm Gas Engines & Tractors--Jones
   McGraw-Hill Book Co.
   330 West 42nd Street
   New York, N.Y.

10. I & T Shop Service Tractor Shop Manual
I & T Shop Service
St. Louis, Mo.

11. Farm Tractor Tune-up & Service Guide
SAAE and VA
University of Georgia
Atlanta, Georgia

12. Selecting & Storing Tractor Fuels & Lubricants
SAAE and VA
University of Georgia
Atlanta, Georgia

13. Tractor Operation & Daily Care
SAAE and VA
University of Georgia
Atlanta, Georgia

14. Tractor Maintenance Principles & Procedures
SAAE and VA
University of Georgia
Atlanta, Georgia

15. Farm Machinery & Equipment
McGraw-Hill Book Co.
330 W. 42nd Street
New York, N.Y.

16. Automotive Mechanics
McGraw-Hill Book Co.
330 42nd St.
New York, N.Y.

17. The Automobile Engine
Industrial Relations Office
Engine and Foundry Div.
Ford Motor Co.
Dearborn, Michigan

18. Farm Tractors
American Oil Co
910 South Michigan Ave.
Chicago 80, Illinois

19. Gulf Farm Tractor Guide
Gulf Oil Corp.
Gulf Bldg.
Pittsburgh 30, Pa.

20. Tractor Fuels and lubricants
Publications & Filmstrips
Barrow Hall
Athens, Georgia

21: Tractor Operation and Daily Care
Publications and Filmstrips
Barrow Hall
Athens, Georgia

22. Tractor Maintenance
Publications and Filmstrips
Barrow Hall
Athens, Georgia

23. An Introduction to Agricultural Business and Industry

24. An Introduction to Agricultural Business and Industry Teacher's Guide.

25. Education for Agricultural Occupations

26. A Study Guide for Placement-Employment Programs in Agricultural Business and Industry--complete

27. Agricultural Engineering: A Dictionary and Handbook

28. Demonstrations for Farm Mechanics

29. Farm Mechanics Text and Handbook

30. Hardware STudy and Identification Kit

31. Ideas for Farm Mechanics Projects and Activities

32. Self-Teacher in Farm Mechanics

33. Cooperative Occupational Education and Work Experience in the Curriculum

34. Methods in Distributive Education

The Interstate Printers and Publishers, Inc.
Danville, Illinois 61834

35. French-Bray Printing Co., Records of Supervised Occupational Experience and Training in Vocational Agriculture

36. There's a Future in Your Farm Background
630 Third Avenue
New York, N.Y.

37. The Center for Research and Leadership Development in Vocational and Technical Education
Ohio State University; - Modules for Agriculture Machinery and Service Occupations

38. Training aids (cut-away models etc.) from various implement companies

(1) Compiled and Edited by Dr. James Clouse, Agriculture Education Department, Purdue University

SECTION XVII

INDIANA ASSOCIATION OF FFA

Agriculture Occupations Awards Program

Purpose

To encourage good agriculture occupations programs and help develop programs where there is a need in the community.

Eligibility

1. The Agriculture Occupations activity is for students in FFA who are enrolled in state approved agriculture occupations programs, which includes students placed in agriculture businesses or farms.

2. To be eligible a member must, at the time of application, be regularly enrolled in all-day classes in vocational agriculture or have been out of school for not more than one year.

3. All applicants must be either juniors, seniors, or in their first year out of school to apply for this award.

General Instructions

1. All applications are due in the state FFA office by May 15.

2. Complete the application as of May 1 of the year in which the award is sought. Report no achievements or income after May 1.

Awards

The following awards are made available to the Indiana FFA Association by the National FFA Foundation.

1. Chapter level

   a. Award medals similar to the National Foundation medals will be made available to all chapters desiring to present a local chapter award in agriculture occupations.
   b. Estimated cost $75.

2. District level

   a. An awards plaque for the individual and one for his chapter will be presented at the district FFA contest meeting.
   b. Estimated cost $25 for each district.
   c. Total cost $300.

3. State level

   a. All district FFA winners will participate in the state contest to be held at the state convention.
   b. State awards:

First Place-	$100 to individual, a plaque for the chapter and the student, plus $25 for state fair display.
Second Place-	$25 plus $25 for a state fair exhibit
Third place-	$15 plus $25 for a state fair exhibit. (Display funds will be payable after the state fair).

APPLICATION FOR AGRICULTURAL OCCUPATION ACTIVITY

Eligibility Rules

1. This FFA activity sponsored by the National FFA Foundation is for students in FFA who are in State approved agricultural occupations programs which includes students placed in agricultural businesses or farms.

2. To be eligible, a member must, at the time of application, be regularly enrolled in all-day classes in vocational agriculture or have been out of high school for not more than one year.

3. All applicants must be either juniors, seniors, or in their first year out of school to apply for this award.

General Instructions

1. All applications are due in the state FFA office by May 15.

2. Complete the application as of May 1 of the year in which the award is sought. Report no achievements or income after May 1.

Personal data

Name _____

Address _____

Date of Birth _____ Years in FFA _____ Years in Vo-Ag _____

Grade in School _____ Date Entered High School _____

Date Graduated or Expected to Graduate _____

Name and address of school _____

Name of FFA Chapter _____ State _____

Chapter Advisor _____

Name of Parents or Guardian _____

Parents or Guardians Occupation _____

CERTIFICATION

The applicant is an active member in good standing of the _____ FFA chapter and holds the degree of _____.

We have examined this application and find the records true, complete, and accurate.

_____ (Applicant)

_____ (Vo-Ag Instructor-Chapter Advisor)

_____ (Parent or Guardian)

_____ (State Supervisor of Vo-Ag)

STATEMENT OF SUPERINTENDENT OR PRINCIPAL

_____ has had a satisfactory record in scholarship and
(Applicants Name)
school and community citizenship. The applicant has my recommendations for this award.

Comments _____

(SIGNED) _____
(Superintendent or Principal-Indicate which)

STATEMENT BY EMPLOYER

_____ has satisfactorily carried out the assigned responsibilities and has expressed interest in, and proper attitude towards the work and the business. The applicant has my recommendations for this award.

Comments _____

(SIGNED) _____
(Employer)

Comments by the Vocational Agriculture Instructor _____

VOCATIONAL OBJECTIVES

1. What are your career objectives in agriculture? _____

2. What are the requirements of this occupation (experience, education, capital required, other)_____

3. What have you done to achieve your career objectives?_____

4. In what ways have your occupations experience been valuable to you? Be specific and give examples_____

5. What do you plan to do in the future to more fully prepare yourself for your agricultural career objectives?_____

1. Summary of cash earned from work experience and hours worked.

Pay Period	Employer (s)	Earnings		Cash Earned before Deductions		Deductions				Take Home Pay	
		Rate Per Hour	Total Hours			Social Security		Income Tax			
		1		2		3		4		5	
				$	¢	$	¢	$	¢	$	¢

Work Experience

1. Type of Business _____
   a. List jobs or activities participated in:
      1. _____
      2. _____
      3. _____
      4. _____
      5. _____
      6. _____
      7. _____
      8. _____
      9. _____
      10. _____
      11. _____
      12. _____

2. Type of Business _____
   a. List jobs or activities participated in:
      1. _____
      2. _____
      3. _____
      4. _____
      5. _____
      6. _____
      7. _____
      8. _____
      9. _____
      10. _____
      11. _____
      12. _____

FFA, SCHOOL, AND COMMUNITY LEADERSHIP ACTIVITIES

A. Degrees and Offices Held in the FFA

Degree	Date Conferred
Greenhand	
Chapter Farmer	
Star Farmer	
American Farmer	

School Year	Office	Number Months Served			
		Local	District	Area	State

B. Other Participation

School Year	Participation in Leadership events such as public speaking, banquet committee chairman, judging, and honor society, (specify)	Indicate such as Local, District State and National				Status or Rank as superintendent, toastmaster, delegate, Chairman
		Local	Dist.	State	Nat'l	

FFA, SCHOOL AND COMMUNITY COOPERATIVE ACTIVITIES

Nature of activities (Cooperative buying and selling, pig chains, use of cooperative credit farm organizations, banquets, demonstrations, tours, fairs, and shows)	School Year	Responsibilities or Participation	Scope Number, Amount, Etc.

PHOTOGRAPHS

Submit from three to five pictures illustrating activities that apply to the specific award.

db

Tab 51

INDIANA ASSOCIATION OF FFA

Agriculture Occupations Awards Score Card

1. Vocational Objectives.....35
2. Supervised Occupation Record of Earnings.....10
3. Work Experience.....35
4. FFA, School and Community Leadership Activity.....15
5. Photographs.....5

Total 100

_____
(Contestants Name)

_____
(Name of Judge)

SECTION XVIII

SUMMARY OF INDIANA CHILD LABOR LAWS

Cooperative Vocational Programs-Standards

Any public school corporation may through its appropriate officials enter into cooperative programs with employers of labor wherein said employers agree to provide employment for students, enrolled in school-directed vocational education programs, to learn the manipulative skills or manual processes of an occupation and such employers are hereby authorized to employ such students in otherwise restricted occupations for the purpose of vocational education training under the following conditions:

(1) That training in the occupation is approved by an authorized school authority and is school supervised.

(2) That the training station of the occupation is jointly approved as to conditions of work, including safety factors, by the safety inspectors of the Indiana Division of Labor and the proper school authorities.

(3) That the student in training is assigned to competent adults delegated by the employer for instruction and supervision in the manual processes or manipulative skills of the occupation according to a written training schedule jointly developed by the employer and a representative of the school. (Acts of 1957, Chap. 269, Sec. 1; Burns 28-4904a.)

Workmen's Compensation and Occupational Diseases-Right of Recovery

A student participating in a vocational education program and employed under the conditions of Section 4a hereof shall be entitled to the rights of recovery of an adult worker under the Indiana Workmen's Compensation and Occupational Diseases laws and there shall be no right to recover any additional benefit otherwise payable as a result of his being a minor and he shall be deemed the employee of the employer while performing services for the employer under the provisions of and in accordance with Section 4a hereof. (Acts of 1957, Chap. 269, Sec. 2; Burns 28-4904b.)

Restricted Occupations-Exemption From

Employers and students while complying with the provisions of Section 4a hereof shall be exempt from the provisions of Sections 22 and 23 of Chapter 132, Acts of 1921. (Acts of 1957, Chap. 269, Sec. 3; Burns 28-4904c.)

Employment of Minors-Proof of Qualifications-Issuing Officer

It shall be unlawful for any person, firm or corporation to hire or employ or permit any minor between the ages of fourteen (14) and eighteen (18) years to work in any gainful occupation until such person firm or corporation shall have secured and placed on file in the office of such person, firm or corporation a certificate issued by the issuing officer of the school corporation in which said minor resides. The issuing officer in all cities and incorporated towns having boards of school trustees shall be the superintendent of the schools of such city or such incorporated town or some person designated by him in writing so to act, and in all other school corporations the issuing officer shall be the county superintendent of school or some person or persons designated by him in writing so to act: Provided, That no school superintendent shall designate an issuing officer without the approval of the state attendance officer. The issuing officer of such school corporation or the person authorized by him in writing so to act shall issue such certificate only to a minor whose employment is necessary and not prohibited by law, and only upon receipt of the following four documents herein referred to as proof of age, proof of physical fitness, proof of schooling, and proof of prospective employment.

SECTION XIX

U. S. FAIR LABOR STANDARDS ACT

The Fair Labor Standards Act applies to employees (including student-learners) engaged in interstate commerce or in the production of goods for interstate commerce, including any closely related process or occupation directly essential to such production, unless specifically exempt by some provision of the act. The act also applies to employees (including student-learners) who are not themselves engaged in or producing goods for commerce but who are employed in certain large enterprises engaged in commerce or in the production of goods for commerce. Popularly known as the Federal Wage and Hour Law, this act establishes minimum wage, child-labor, and maximum hours and overtime standards for employment subject to its provisions.

Some of the occupations which these students will pursue will be those occupations that come under the U. S. Fair Labor Standards Act. It should be determined without any doubt if any occupation chosen by the student is affected by this act. This should be done in order that no student, school or employer violates any of the provisions of this act, either willfully or unintentional. The following material deals with the provisions of the act as it relates to the employment of students in agricultural occupations.

1. Hours

The number of hours at work and in school shall not exceed 40 hours per week. When school is not in session on any school day, the student-learner may work a number of hours in addition to the weekly hours of employment training, provided the total hours worked shall not exceed 8 hours on any such day. A notation should be made in the employer's records to the effect that school not being in session was the reason additional hours were worked on such a day.

During the school term when school is not in session for the entire week, the student-learner may work at his employment training a number of hours in the week in addition to those authorized provided the total hours shall not exceed 40 hours in any such week.

2. Wages

Students may be paid at a lower rate than the minimum set by law. This can be done only by making application for a student-learner certificate and receiving approval. This certificate allows the employer to pay the student-learner at a wage rate per hour of 75 per cent of the minimum wage. It is suggested that a progressive wage schedule be proposed. If this is done the starting rate must not be less than 75 per cent of the minimum wage.

If the occupation in which the student is employed is not covered by the minimum wage law, the appropriate wage shall be determined by the employer and the advisory committee .

SECTION XX

FOLLOW-UP OF STUDENTS

Schools offering training in Agricultural Mechanics Occupations should provide some method of "following-up" or system of determining what has happened to the students that took the training. This should include such activities as helping students locate permanent positions, keeping a record of students employment, and other pertinent information on all former students.

One way of evaluating a program of this type would be to determine how many of the students became gainfully employed in the occupation for which they received training. The following form may be used as a means of getting the information needed for this evaluation. This form can become a part of the permanent record of each student.

_____ HIGH SCHOOL
VOCATIONAL AGRICULTURE DEPARTMENT
FOLLOW-UP REPORT*

Name _____
Last First Middle

Year (Entered Vo-Ag) _____ Date of Birth _____ Place of Birth _____

Address _____ Year (Graduated or Completed Course) _____

RECORD OF VOCATIONAL AGRICULTURE TRAINING

School Year	Subject	Total P.M.W.H.	Earnings From Supervised Farm Training	Earnings From Other Supervised Training	Total Earnings From Supervised Training	Leadership Activities	Responsibility or Participation

RECORD AFTER LEAVING HIGH SCHOOL

Year	Occupation	Type of Job	Continued Education			Responsibilities on the Job
			Adult or Young Farmer	College Field	Other	

*Adapted from the 1965 Workshop Report of the Agriculture Occupations Institute held at Oklahoma State University.

GLOSSARY

1. Consultant Committee - A group of persons usually outside the educational profession, selected for the purpose of offering advice and counsel to the school regarding the vocational program. Members are representatives of the people who are interested in the activities with which the vocational program is concerned.

2. Cooperator - The businessman who provides a training center for use by the school.

3. Evaluation - A term used in education indicating the procedure for determining the effectiveness of instruction.

4. On-the-job Training - Instruction in the performance of a job given to an employed worker by the employer during the usual working hours of the occupation. Usually the minimum or beginning wage is paid.

5. Related Instruction - Classroom and laboratory instruction designed to increase knowledge, understanding, and ability to solve technical and theoretical problems concerned with a particular occupation.

6. Service Occupations - Those occupations which have as their primary purpose the rendering of personal service to the customer or maintenance of existing equipment.

7. Student Learner Certificate - A certificate which will enable students enrolled in a training program to be exempt from certain provisions of the Fair Labor Standards Act.

8. Study Guide - The study guide should contain key questions, problems, and other assignments to enable the trainee to become familiar with the information which the training plan lists as being pertinent to the on-the-job training. The study guide should also list the reference and, in some cases, present basis information so that the trainee may comprehend the material by working on an individual basis.

9. Supervisor - The person directly responsible for training the student at the training center.

10. Teacher-Coordinator - A member of the school staff who teaches the related and technical subject matter involved in work experience programs and coordinates classroom instruction with on-the-job training.

11. Technical Agriculture - An inclusive term which embraces a cluster of agricultural occupations engaged in the science, mechanical, and technical phases of production, distribution, manufacturing, use, processing, and marketing of farm products.

12. Trainee - A member of a high school cooperative education program legally employed as a part-time worker and so classified by the Wage and Hour and Public Contracts Divisions of the U. S. Department of Labor for wage and hour regulation purposes.

13. Training Agreement - An outline of learning experience an employer agrees to provide for a student-learner enrolled in the various co-op education programs.

14. Training Plan - A listing of the activities in which the trainee will be engaged at the training center. In addition, it contains a listing of the information to be taught in the related instruction class.

15. Training Center - The agricultural business or firm in which the trainee will work while participating in the agricultural sales and service occupations program.

16. Work Experience Education - Employment undertaken as part of the requirements of a school course and designed to provide planned experience, in the chosen occupation, which are supervised by a teacher-coordinator and the employer.

VT 003 762

Administration of Vocational Education, Federal Allotments to States, Miscellaneous Amendments.

Office of Education (DHEW), Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Federal Register; June 29, 1965
Pub Date - 65 3p.; Reprint.

*VOCATIONAL EDUCATION; *ADMINISTRATION; *FEDERAL LAWS; *FEDERAL AID

Part 104 of Title 45 of the Code of Federal Regulations, dealing with programs of vocational education administered by State boards for vocational education under the Smith-Hughes, George-Barden, and supplementary acts as amended and under the Vocational Education Act of 1963, is amended by the provisions contained in the paragraphs listed. Paragraphs amended were (1) 104.13-Programs for vocational instruction, (2) 104.25 Requirements of work-study program, (3) 104.29-Date of allowable expenditures, (4) 104.30-Alottment availability, (5) 104.33-Determination of fiscal year's allotment to which expenditure is chargeable, and (6) 104.42-Matching purposes within specific allotments of Federal funds. These amendments were effective as of August 21, 1964, the date on which Part 104 was approved. (PS)

VT 003 762

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Reprinted from
FEDERAL REGISTER
June 29, 1965

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EDO 30001

Title 45—PUBLIC WELFARE

Chapter I—Office of Education, Department of Health, Education, and Welfare

PART 104—ADMINISTRATION OF VOCATIONAL EDUCATION; FEDERAL ALLOTMENTS TO STATES

Miscellaneous Amendments

Part 104 of Title 45 of the Code of Federal Regulations, dealing with programs of vocational education administered by State boards for vocational education under the Smith-Hughes, George-Barden, and supplementary Acts as amended and under the Vocational Educational Act of 1963, is amended by the provisions contained in the following paragraphs. These amendments are effective as of August 21, 1964, the date on which Part 104 was approved. State plan amendments in conformity with these amendments to the regulations may, at the option of the State, be made effective as of the effective date of the State plan, or any other date thereafter.

1. Subparagraph (1) of § 104.13(a) is amended to read as follows:

§ 104.13 Programs for vocational instruction.

* * * * *

(a) *Arrangements for instruction.*

(1) Such instruction will be provided either (i) with respect to funds provided under all the acts, by the State board or local educational agency in schools and classes conducted under public supervision and control meeting the criteria of subparagraph (2) of this paragraph, or (ii) with respect to funds provided under the 1963 Act, under contract with the State board or a local educational agency.

* * * * *

2. Paragraph (e) of § 104.25 is amended to read as follows:

§ 104.25 Requirements of work-study program.

The State plan shall provide that a work-study program meet the following requirements:

* * * * *

(e) *Maintenance of effort.* In each fiscal year during which a work-study program remains in effect, the local educational agency will expend for employment of its students an amount in State or local funds that is at least equal to the average annual expenditure for work-study programs of a similar nature during the 3 fiscal years preceding the fiscal year in which the work-study program of such local educational agency was approved.

* * * * *

3. Section 104.29 is amended to read as follows:

§ 104.29 Date of allowable expenditures.

Since the Federal Government participates only in amounts expended under the State plan, Federal financial participation shall be available only for expenditures which are made after the effective date of the State plan (as defined in § 104.2(a)), except as provided with respect to work-study programs in § 104.45(b).

4. Section 104.30 is revised to read as follows:

§ 104.30 Allotment availability.

Federal funds allotted or reallotted to a State under the acts shall be available only for expenditures for program activities or construction projects which are carried on under the plan and which are attributable to the fiscal year for which such allotments or reallotments are made. (See § 104.33.)

5. Section 104.33 is amended to read as follows:

§ 104.33 Determination of fiscal year's allotment to which expenditure is chargeable.

(a) Each allotment or reallotment to a State under the acts is made with respect to a fiscal year commencing on July 1 and ending the following June 30.

(b) For the purpose of earning the Federal allotments under the acts, State and local laws and regulations shall be followed by the State in determining to which Federal fiscal year an expenditure by the State board, local educational agency, or other participating agency or institution is chargeable, except as provided in paragraphs (c), (d), and the last sentence in this paragraph. Each State shall therefore use the accounting basis applicable to its State or local accounting. The State plan shall specify for State and local expenditures the particular accounting basis to be so used indicating precisely the acts or occurrences necessary to charge an expenditure to a particular time period for States or local purposes, and cite the authority under State law for such a basis. If the State or local educational agencies utilize a basis other than a cash accounting basis, the State plan shall indicate the time period or other factors governing the liquidation of obligations. In order for the State or local educational agencies to be on an obligation basis, an obligation shall mean only a bona fide commitment which is supported by a contract or other evidence of legal liability consistant with State purchasing procedures.

(c) For the purpose of the regulations of this part, an "expenditure" shall not include administrative approval of a program or project by the State board or local educational agency, or the advance or reimbursement by the State board of funds which are or will be expended by a local educational agency or other participating agency or institution under the State plan. None of such actions may be used as a basis for determining to which Federal fiscal year an expenditure by such board, agency, or institution is chargeable for the purpose of earning the Federal allotment, except as provided in paragraph (d) with respect to construction projects and paragraph (e) with respect to work-study programs.

(d) Notwithstanding the provisions of paragraphs (b) and (c) of this section, the State plan shall specify the basis for charging costs of construction to a Federal fiscal year which indicates precisely the acts or occurrences necessary to charge such costs to a particular time or time period and which is not in conflict with State and local laws, rules, regulations, and standards. (See § 104.31.) If such a basis results in charging the costs of construction to a date prior to that of entering into a construction contract, the State plan shall also indicate within what reasonable period of time after the date of charging the Federal allotment such construction contract must be entered into.

(e) Notwithstanding the provisions of paragraphs (b) and (c) of this section, expenditures for special summer work-study projects shall be charged to the allotment under section 13 of the Act for the fiscal year in which such projects have been approved for expenditure during the months of July and August immediately following such fiscal year.

6. Subparagraph (3) of § 104.42(c) is amended to read as follows:

§ 104.42 Matching purposes within specific allotments of Federal funds.

* * * * *

(c) *Allotments under Smith-Hughes and George-Barden Acts.* * * *

(3) Funds allocated by the States under the Smith-Hughes Act for salaries of teachers of home economics subjects pursuant to subparagraph (1)(i) of this paragraph, and funds allotted to the States under section 3(b) of the George-Barden Act for vocational education in home economics may be allocated by the States to each of the matching purposes specified in § 104.41(d) (2) and (3) and (e) (3) and (4), provided that in each fiscal year beginning after June 30, 1965, at least 10 percent of such allocations or allotments may be used only for home economics for gainful employment as specified in § 104.41(d) (2) and (e) (3).

Dated: June 17, 1965.

[SEAL] HENRY LOOMIS,
Acting U.S. Commissioner of Education.

Approved: June 23, 1965.

ANTHONY J. CELEBREZZE,
Secretary of Health, Education, and Welfare.

[F.R. Doc. 65-6789; Filed, June 28, 1965; 8:48 a.m.]

VT 03762

VT 003 799
A Handbook for Leaders.

National Committee on Household Employment, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 66 40p.

*SERVICE OCCUPATIONS; *HOMEMAKING SKILLS; HOME MANAGEMENT; MAIDS; WORKING WOMEN; OCCUPATIONAL HOME ECONOMICS; *ACTION PROGRAMS (COMMUNITY); *JOB DEVELOPMENT

Materials have been compiled to assist local leaders of Community Committees on Households Employment in gaining community support for job development and training programs designed for household services to meet community needs to upgrade the skills and status of household workers. Such a Committee program introduces a new concept whereby community groups sponsor training programs with the ultimate goal of forming non-profit organizations, business enterprises, or employer cooperatives to insure satisfactory employment conditions. Workers gain status, fringe benefits, and wage stability. Employers can expect trained employees, dependable service with replacements for illness, and the convenience of monthly billing. Training programs can be funded under the Manpower Development and Training Act of 1962. The materials are categorized under (1) How to Organize a Community Committee, (2) What Some Communities Are Doing-Specialized Services, (3) New Concepts in Training and Job Development, (4) Community Resources for Training, Placement, and Job Development, (5) Recruitment Techniques for Household Workers Training Programs, (6) Suggested Topics for Group Discussion and Study, (7) An Outline for Publicity Programs, and (8) Guidelines for a Survey to Determine Existing Working Conditions, Demand for Workers, and Employer-Employee Attitudes. Reference materials for leaders include historical highlights, charts giving household worker data, and recommended reading. (FP)

VT 003 799

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A Handbook For Leaders

VT003799

the national committee on
HOUSEHOLD EMPLOYMENT

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FOREWORD

The National Committee on Household Employment is a non-profit organization with headquarters in Washington, D. C., incorporated October, 1965 to provide leadership in promoting and establishing standards for private household work; to improve the economic and social status of household workers; to stimulate job development and training programs for household and related service workers; and to serve as the liaison with government, private and community agencies interested in this field.

Under a contract with the U. S. Labor Department, the National Committee is currently sponsoring a developmental demonstration project to promote, coordinate and evaluate six to eight pilot training programs for household and related service workers which will demonstrate innovative methods and techniques of recruiting, counseling, training and placing trainees.

To assure the success of these programs and to stimulate the development of similar projects throughout the United States, the NCHE has assumed a second responsibility to establish Community Committees on Household Employment. Such committees will be comprised of the local counterparts of the organizations represented on the NCHE, representatives of public and private employment agencies, vocational education agencies, service organizations, women's groups and interested individuals. They can be a powerful force in achieving the goals of the NCHE and are essential to the success of the program.

The materials which follow have been prepared to assist local leaders in marshaling community support to revitalize and bring a new image to the occupation of household services.

THE CHALLENGE

ACTION at the local level must begin with community committees. Only local residents know the household employment problems in their community. Are there mature women who are looking for satisfying jobs? Are there families in need of help who can afford to hire a trained person? Are there training opportunities for young people who want to stay in the community to earn money for further education? Is a large amount of entertaining done in the homes of the community? Are there skilled workers available to help with this entertaining? Are there many couples living in apartments who would be helped by a daily light cleaning service? Are there young children, or elderly persons in need of daily care in their homes? Are any of these problems in your community?

Leaders who are concerned with upgrading the skills and status of household workers and meeting the community needs for household services must find the answers to these questions and strive for solutions of the problems existing in their areas.

Perhaps the challenge is best stated in the words of Mrs. W. Willard Wirtz, wife of the Secretary of Labor, as she accepted the Honorary Chairmanship of the National Committee on Household Employment that "here is an opportunity to prove by deeds the sincerity of what we have all been saying about the importance of this group of services to our society."

GUIDELINES TO COMMUNITY ACTION

Leaders who are concerned with upgrading the skills and status of household workers and meeting community needs for household services, drawing upon many community resources, can take an active part in:

- Organizing a Community Committee on Household Employment;
- Conducting surveys to determine working conditions, demand for workers and employer-employee attitudes;
- Stimulating the development of training programs;
- Recruiting trainees;
- Recruiting employers to provide working experience opportunities and supervision for trainees;
- Encouraging new concepts in job development;
- Establishing standards for workers;
- Conducting discussion groups and alerting the community to problems and the need for action to relieve them.

This kit contains some specific suggestions for accomplishing a number of these tasks. The others are in areas where there has been little action. The NCHE is looking to your communities for innovative approaches to their solutions.

I. HOW TO ORGANIZE A COMMUNITY COMMITTEE

Contact other local units of the national organizations affiliated with the NCHE to enlist their cooperation.

Enlist representatives of other service organizations, professional associations, women's groups, public and private agencies and *The Governor's Commission on the Status of Women.

Invite household employers and employees to be members of the Committee.

Invite a local representative of your State Employment Service, Director of Vocational Education, Coordinator of Manpower Programs and *the Regional Representative of the Women's Bureau of the U. S. Department of Labor.

Plan a meeting to formulate an action plan.

ORGANIZATIONS REPRESENTED ON THE NCHE:

AFL-CIO, Community Services
Altrusa International, Inc.
American Association of Retired Persons
American Home Economics Association
American Nurses Association
American Public Welfare Association
American Woman's Association
Cleanliness Bureau of the Soap and Detergent Association
National Association of Colored Women's Clubs, Inc.
National Association of Extension Home Economists
National Board YWCA
National Consumers League
National Council of Catholic Women
National Council of Jewish Women
National Council of Negro Women
National Federation of Settlements and Neighborhood Centers
National Travelers Aid Society
United Church Women
Women's Division of the Board of Missions of the Methodist Church
Young Men's Christian Association
Zonta International

*Write to the National Committee on Household Employment for this information.

II. WHAT SOME COMMUNITIES ARE DOING – SPECIALIZED SERVICES

The following projects are examples of what can be accomplished by community cooperation. As in the development of most successful ideas, a creative person has seen a need and stimulated others to work on the solution. Frequently resources to fill a need are at hand but someone must take the lead in bringing these resources together. Although these projects answer different community needs, they have several factors in common. In each project . . .

. . . Training was structured to develop wage earning skills for which employers are willing to provide payment commensurate to the quality of work performed.

. . . Workers were helped to understand their roles in the working world and have an opportunity to develop personal characteristics and job attitudes as well as occupational skills.

. . . The staff and volunteers of a local organization or agency provided the leadership.

. . . All planning for the training was done by professionals, either volunteers or agency staff.

. . . Persons skilled in each particular area conducted the training.

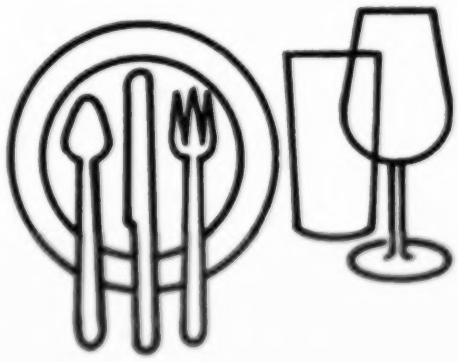
. . . Equipment and supplies of the quality and types used in the homes in which the workers would be employed were used in the training.

. . . The cooperation of the state employment service was enlisted in setting up procedures for placing graduates.

The Need: Temporary Help for Parties

The Answer: Cleveland, Ohio — PARTY AND DINNER AIDES

Six years ago a homemaker wanted to employ extra help for a family Christmas party and found no one available. Spurred on by other homemakers with similar problems, she went to the principal of a vocational high school. In response to her request, the public schools' Adult Education Program teamed up with the Vocational Guidance and Rehabilitation Services to offer a one semester 40-hour course for party and dinner aides. This program, still in operation, not only gives needed help to local party-givers, but also provides training for unskilled workers in evening classes. Although there is a fee for the course, a women's service club or the welfare department pays for those unable to do so. Each graduate is fitted with a uniform and two aprons. A placement service helps the graduates find a job at no cost to employee or employer. During training the students learn how to do the last minute jobs for a party such as preparing hors d'oeuvres, salads, gravy, coffee, and setting the table. They are trained in serving and in cleaning up the kitchen and dining area after the party. They learn how to handle fine table appointments and family treasures.



Graduates are given cards of introduction to inform the employer of expected wages, hours, and arrangements for transportation. There is a procedure for evaluating the work of the party aide. A memorandum to the employer from the sponsors of the class outlines exactly what the aide can and cannot do, and some of the suggestions for ways for the employer to make the job satisfactory for both the employer and employee.

In operation since 1960 this training program has many graduates who have more work than they can handle.

The Need: Jobs For High School Girls

The Answer: Sikeston, Missouri — OCCUPATIONAL HOME ECONOMICS

A Missouri high school home economics instructor used imagination in helping her students become wage earners. With full cooperation of the

high school guidance department, the administration, and of the community, an occupational home economics course was established in Sikeston High School. The full-year course trains high school seniors in all aspects of housekeeping, from meeting people in the home, through cleaning, laundry, meal planning, preparation and serving, care of equipment, household emergencies, care for the sick or for children and adults during absence of the homemaker. In addition to classroom instruction, each student works in a home under the supervision of a homemaker associated closely with the teacher.

Community cooperation was evidenced by the striped denim wrap-around uniforms given to the students by a Sikeston bank. Several of the graduates of the first class are presently employed either full or part time and one plans to earn her way through college with this type of part-time employment.

The Need: Part-time Work For Mature Women.

The Answer: California -- FAMILY AIDES

The California State Department of Employment became aware of the large number of mature workers who desired part-time or temporary employment in the Los Angeles metropolitan area. Joining local volunteer agencies the employment service sponsors a much-needed Family Aide Service utilizing the talents of these women with backgrounds in social work, teaching or various other fields. The graduates, trained in cooperation with the American Red Cross and the city or county health departments, are prepared to perform those functions which would make it possible for the old or infirm to remain in their own homes. The aides are not primarily household workers nor are they trained to perform medical duties. The training program includes nutrition, food management, psychology of the aging, environmental health and non-nursing skills related to their work. The twelve-hour training course is free. Typical duties of the Family Aides include grocery shopping, driving to medical appointments, reading aloud, writing letters and preparing lunch.

The Need: Emergency Help For Families

The Answer: Nevada Indian Reservations — HOME HEALTH AIDES

A chaotic family life for Indians has often resulted from the lack of competent help in time of emergencies. Inadequate nutrition, too, has been a perennial Indian problem. Recognizing these problems, the Nevada Cooperative Extension Service conducted home health aide training courses for women from three reservations in Nevada. The Bureau of Indian Affairs, Public Health Service, local health and welfare department personnel as well as the tribal council and the local area development committee cooperated in enrollment efforts. Students were trained for part-time work as household helpers and also learned skills to help them give their own families better care and nutrition. The extension home economists taught sessions on food, nutrition, and housekeeping and called on local resource people to conduct classes on working with people, prenatal care, understanding the elderly, home health care, first aid and emergency treatment. The Nevada Employment Service discussed employment possibilities and the use of the local employment service office. As an indication of the acceptance of this program, the tribal council on a neighboring reservation has requested a similar course for their people. Many of the graduates of the first courses are employed as home health aides, relieving Indian families in times of real need.

The Need: Care For The Elderly At Home

The Answer: Lorraine, Ohio — CERTIFIED HOUSEHOLD ASSISTANTS

"Almost every community today has a few elderly people who cannot quite manage by themselves, yet hesitate to enter a nursing home." So began an article in the JOURNAL, Lorraine, Ohio, October 10, 1962, to announce a demonstration program in Lorraine.

The YWCA had called on the city welfare department, the state employment service and local volunteer agencies to help plan a training program to equip women workers to care for these older people living at home. The program was designed to meet two community needs: provide trained workers to meet this demand, and provide an occupation for women who are seeking

employment. The YWCA coordinated the 40-hour course, which was given without cost to the trainees. Expenses of training were paid by the Lorraine Business and Professional Women's Club and the Red Cross. The employment service tested and screened applicants, the American Red Cross and YWCA staff and volunteers were the instructors. Graduates received a Certified Household Assistant certificate as well as a Red Cross Home Nursing Certificate.

These are examples of WHAT SOME COMMUNITIES ARE DOING . . . . .
to solve their particular household problem.
Each demonstrates one method of approaching a solution.
There are other ways.

Your community committee can find the best method of bringing living wages and a new stability and status to the occupation of household worker, and, at the same time, produce skilled persons to fill a pressing demand for labor.

III. NEW CONCEPTS IN TRAINING AND JOB DEVELOPMENT

As the work of the National Committee on Household Employment progresses, a new concept in training and placing household workers is emerging. Under this new concept, the sponsor assumes the multiple responsibilities of training, placement, and offering the graduate the opportunity to become a full-time employee of the sponsoring group.

The latter responsibility introduces an element never before present in such programs — that of giving the graduate a multitude of advantages not available in the present one-to-one relationship of household worker to household employer.

This new concept is being received with enthusiasm by those dedicated to raising the status of household employment as an occupation. These include community groups who wish to sponsor training programs with the ultimate goal of forming non-profit corporations, business enterprises or employee cooperatives as a means of insuring satisfactory conditions of employment. (See reprint following this section.)

As employees of these corporate bodies workers will enjoy the wages, fringe benefits and status offered by other occupations. They may look to their corporate employer for proper wages and working conditions, vacations, participation in low cost hospitalization, workmen's compensation, job titles, further training and advancement. Workers will also benefit through the protection of unemployment insurance, elimination of intermittent employment and increased credit standing. In addition, they can rely on the corporate employer to eliminate many of the frictions and misunderstandings which contribute to the irregularity of existing employment relationships between household workers and household employers.

This approach can also offer numerous benefits to those in need of household assistance. They will receive the services of a trained employee; will

have no responsibility for bookkeeping and tax withholding; will have the convenience of a monthly billing; will be assured of dependable service at times agreed upon as substitutes will be provided in cases of illness or emergencies; and will have an opportunity to work with a competent counselor of the agency.

The training programs now being developed are geared toward full-time employment and will give graduates a fully-rounded knowledge of basic principles of household cleaning, laundry, food preparation and service, safety, child care and care of the elderly. Much attention will be given to personal matters such as grooming, health and cleanliness. Many programs will offer post-graduate training for people wishing to become specialists.

The training itself will be a combination of professionally conducted classroom instruction and on-the-job experience under the supervision of competent household employers.

In addition to their own staff specialists, these groups will have the cooperation of vocational and adult education departments of public schools, Extension Service home economists, private agencies such as the Red Cross, the American Nursing Association and the state employment services.

Vital to the success of such programs is the assistance of advisory committees comprised of community leaders in recruiting trainees, seeking out understanding employers and developing public education programs.

Such training programs can be funded under the Manpower Development and Training Act of 1962 which, as amended, provides for training for the vital function of matching the shortage of trained personnel in many occupations with the urgent need for better job opportunities on the part of those suffering from unemployment or underemployment.

Interested parties can write to the National Committee on Household Employment to obtain guidelines for preparing proposals for such projects.

THE SUNDAY STAR
Washington, D. C., July 17, 1966

Housewives Start Small Business

By RUTH DEAN
Star Staff Writer

Ever wish when you got home from work at night that some genie had been there to wash the breakfast dishes and pick up the place?

Has the thought of an untidy apartment kept you from extending that spur-of-the-moment invite to drop in for a minute?

Or panicked you, if you're the other half of a working couple, when hubby called to say there'll be company for dinner?

Fortunately for some lucky area apartment dwellers this nightmare no longer threatens their pursuit of happiness. A genie has really come to their house to stay—five days a week.

This "genie" is a new kind of domestic help business called Maid-a-Day, which its owners label "daily apartment grooming service."

It was organized a year and a half ago by two local housewives, Mrs. Alice Ann Halverson, a former Kansas City secretary, and Mrs. Yvonne Hess, a former Washington Star reporter.

So far as both know, it is the only venture of its kind—not in the United States; there are a few others—but in the Washington area, and one that the Small Business Administration had faith enough in to grant them a loan when quick expansion all but threatened to swamp them before they'd gotten started.

Two To Start

They began with two maids—their own—and now have 17. The maids work in pairs, one pair each to an apartment house. Because they must have enough work to keep the maids busy eight hours a day, five days a week, the service is limited to apartment houses where Maid-a-Day has established itself.

A pair of maids can cover 15 or 16 apartments in a day, doing such light housekeeping as bed making, tidying up the kitchen, dusting and vacuuming. They do no heavy work.

The client pays a flat weekly fee, varying from $12 for an efficiency to $18 for a three-bedroom apartment. The fee eliminates a stack of worries for the client too, for it includes carfare, social security with Medicare and Federal withholding taxes, for which Maid-a-Day assumes full bookkeeping responsibility and payment. Each maid earns a weekly minimum of $55, paid by the service.

Jokingly identifying themselves, Alice Ann said "I'm the chief cook, bottle washer and bookkeeper and Yvonne the chief chauffeur." They both know the business so well, however, either can take over in an emergency.

They laughed when asked "what is a typical day?" For they run the business with one hand, and keep the home fires burning with the other. Alice has four children, Yvonne two, and both have understanding husbands who approve their venture.

They manage the business from home. This includes answering a phone that rings day and night. "We get them as early as 6 a.m.—both clients and maids," said Alice. "And as late as 11 p.m.," added Yvonne.

Home Training

They also do all the interviewing and training at home. Most of their new help is either a relative or friend of the original two. Often "the girls are more particular than we are," reveals Alice in speaking of a perfectionist or two they have in the ranks.

One candidate they were going to turn down "because she was so slow," said Yvonne, "so we paired her with a fast one. Now everytime we see her, she's running."

Maids who pass the Halverson-Hess training course are issued a portable vacuum, yellow uniform and work basket supplied by the service and are assigned to an apartment house and a working partner.

Most Maid-a-Day clients are bachelors, career women and working couples. Once though they got some clients who didn't quite measure up. Most of the maids expect to find things a little messier on Monday mornings, but weren't prepared for what they saw in an apartment shared by three traveling salesmen.

As Mrs. Hess recounted it: "They must have had a fight with a feather pillow. The feathers were all over the place. The TV set was broken in half, and it looked like they'd used chair arms for clubs."

Mrs. Halverson said her husband was so concerned on hearing this, he told her the maids should be escorted into the apartment, "but that he didn't want me escorting them, and couldn't take time from work to escort me."

Another time, in the early days of the business, the two partners got a nasty letter from a client charging the maids had watered her Scotch. "We knew this couldn't be true because as many apartments as the girls have to do they can't afford to get loopy," Mrs. Halverson said.

Selling the Service

"So we wrote her and said we would make a thorough investigation," Mrs. Hess added. "The next day she resumed the service and said it was her brother who'd done away with the Scotch."

The two housewives find that "selling" their maid service merits to new subscribers is the most difficult part of the job. "We have a hard time convincing people these aren't girls who'll come in and smoke cigarettes, watch TV and drink cokes," said Mrs. Halverson.

But the toughest question of all to answer, both agreed, is "the first question clients ask, 'Are you bonded?'"

The Maid-a-Day owners have to answer in the negative, not because they aren't insured (only for accident and property damage) but because no insurance against theft is available to them. "It's lost us several would-be customers," said Mrs. Hess.

So they hope that word of their maids' reputation for honesty will get around and be its own kind of insurance, such as the time a male client left a wallet containing $1,500 in cash lying on his bed. The maid found it and placed it neatly on the bureau. When he came home and found it intact, "he told us she was the most honest person who'd ever worked for him and gave her a substantial tip," said Mrs. Hess.

Sometimes the going gets rough if several of their employes are out sick or clients on vacation decimate the number of workable apartments, so the two women have to do some elaborate shifting of operations from building to building.

However, both reflect "just the experience itself has been worth all the headaches and 24-hour work days."

IV. COMMUNITY RESOURCES

FOR TRAINING, PLACEMENT AND JOB DEVELOPMENT

There are many professional persons in your community who can be enlisted as volunteers to assist with all phases of a household workers program.

TRAINING PROGRAMS:

Cleaning, laundry and home management — County Extension Home Economists, home economics teachers, home service departments of local utility companies, local members of Home Economists in Homemaking and Home Economists in Business sections of the American Home Economics Association.

Food preparation and service — Home economists listed above, school and hospital dieticians, nutritionists with health and welfare departments, headwaiter in outstanding restaurant, china or silver buyer in department store or specialty shop.

Child care and care of the elderly — Home economists listed above, Public Health Nurse, pediatrician or pediatric nurse, geriatric nurse or physician.

Home health care — Public Health Nurse, American Red Cross home nursing instructor, American Nurses Association.

First aid and emergencies — American Red Cross, county sheriff, Office of Civil Defense, local police and fire departments.

Simple repair of home equipment — High school industrial arts instructor, appliance repairman, or local handyman.

Gardening and yard care — County Agriculture Extension Agent, nurseryman, landscape architect.

Social development — Psychologist or psychiatrist, social worker.

Meeting the public — Representative of telephone company.

Grooming — Beautician, voice and dance instructors, department store fashion coordinator, charm school.

Personal money management — Credit union manager, reliable insurance agent, County Extension Home Economist, home economics and economics high school teachers.

PLACEMENT AND COUNSELING:

State Employment Service and qualified licensed private employment agencies, social workers, psychiatrists, psychologists, and clergymen.

V. RECRUITMENT TECHNIQUES FOR HOUSEHOLD WORKER TRAINING

- Referral from placement units of local employment service office.
- Television spot announcements using slides.
- Radio spot announcements.
- Personal appearances at women's clubs, service clubs, churches, social organizations, community associations.
- Information circulated in government agencies.
- Newspaper announcements — neighborhood and city-wide.
- Direct mailing of handbills to addresses in low-income neighborhoods and to names on file in State Employment Service office.
- Posters in coin-operated laundries, city buses, churches, grocery stores, beauty and barber shops, waiting rooms of clinics, stations and other places where people gather.
- Temporary employment offices set up in strategic locations, announced by posters and handbills.
- Referrals from training course graduates.

VI. SUGGESTED TOPICS FOR GROUP DISCUSSION AND STUDY

An important step in changing attitudes toward household employment as an occupation is discussion. Objective discussion can bring into the open feelings held by group members and the reasons for these feelings. This is one part of the Community Committee's responsibility — changing attitudes. With aggressive leadership, the members can come away more aware of the possibilities for raising the status and performance in household occupations and ready to help influence those with whom they come in contact outside their organizations. The following are some ideas for group discussion and study.

A. INTERVIEWING A PROSPECTIVE EMPLOYEE

Essential points for the Employer:

1. The preparation the employee has had for the work to be done.
2. References — what type of work was involved and length of service.
3. Health Certificate — who pays?
4. Attitude toward children, if there are children in the family, and previous experience with child care.
5. Salary and fringe benefits.
6. Personal cleaniness and grooming.
7. Worker's family responsibilities.

Points which the Worker will want to have clear:

1. Size of family and house.
2. Detailed information concerning duties and schedule of work.
3. Patterns of living — employment of family members, participation in community affairs, entertaining, vacations and religious observances to be considered.
4. Hours of work and pay.
5. Whether the job is temporary or permanent and the possibility of "lay offs" during employers' vacation.
6. Available transportation and how the cost is to be met.
7. Possibilities of salary increases.
8. Dates of wage payments.

B. A "DO-IT-YOURSELF" TIME STUDY OF HOUSEHOLD ACTIVITIES

The management of the home, as of any complex organization, is a highly scientific matter. Most of us treat the myriad household tasks as something to be done day in and out with little or no regard for the time consumed or possible ways of reducing this time. Dissatisfaction with the amount of work accomplished by a household employee, frequently expressed by employers, often stems from a misunderstanding of the requirements of the task both in time and energy.

What better way could there be to establish realistic work expectations than for an employer to conduct systematic time studies of each household task scheduled for the worker? Community organizations could set up among their members this "do-it-yourself" time study. All members could participate, if interested, or a committee could be selected to carry out the research and report their findings to the membership.

On the next page is a suggested work sheet for a time study. It includes some household tasks that a worker might be expected to do. Since each household has different requirements, the participants in the study should add those tasks peculiar to the household studied.

Once a realistic time is established for the completion of household tasks, the employer must decide how often these tasks need to be done and whether they are jobs that can be finished by the employee during her time at work. Perhaps members of the family need to take over some of the jobs. Or possibly the equipment or methods are not adequate to do the work in the shortest time. Once the employer begins to approach the management of her home in a scientific manner, she will find that many jobs can be eliminated or combined. Family behavior can even be modified to prevent some recurring tasks. What are these? Each individual who takes part in the time study will discover them for herself. When the experiences with the study are shared in a group meeting, the result should be household employers who are conscious of the real time demands of housework and thus are better able to obtain satisfactory performance from household employees.

WORK SHEET FOR TIME STUDY OF HOUSEHOLD ACTIVITIES

TASK, as required of household worker	Time Started	Time Completed	Total Time	Daily	Weekly	Once every 2 weeks	Once a month
General pick up of living area							
Emptying waste baskets							
Cleaning living room & dining room							
Cleaning bed room 1) 2) 3) 4)							
Changing a bed							
Cleaning bathroom 1) 2) 3)							
Cleaning kitchen sink & counters							
Cleaning surface units on range							
Cleaning oven							
Defrosting and/or cleaning refrigerator							
Loading dishwasher - unloading							
Hand washing and putting away dishes							
Other after-meal cleanup							
Washing venetian blinds							
Special polishing jobs 1) Silver 2) Copper 3) Brass 4) etc.							
Washing inside of windows 1) Living room 2) Dining room 3) Kitchen 4) etc.							
Ironing an average load							
Sorting and loading laundry for washer							
Sorting and folding clothes from dryer							
Child care							
Interruptions: Telephone calls Answering the door							
Other:							

WORK SHEET FOR TIME STUDY OF HOUSEHOLD ACTIVITIES

Tasks for Special Occasions (or when blocks of time are available.)	Time Started	Time Completed	Total time to Complete Task
Straightening and Cleaning:			
a kitchen drawer			
the linen closet			
a medicine cabinet			
a kitchen cupboard			
a dresser drawer			
a clothes closet			
a drawer of the buffet			
Washing and replacing a Venetian blind			
Dusting a shelf of books			
Removing from closets and Storing seasonal clothes			
Preparing and arranging a tray of canapes			
Baking and frosting a cake			
Preparing a casserole for the freezer			
Setting up a tray for coffee service			
Preparing a molded salad			
Other:			

C. USING MANAGEMENT TECHNIQUES IN HOME MAINTENANCE

The self-image of the average homemaker is not that of a manager. Although many homemakers are managing the family checkbook and doing that well, other forms of management so necessary to a business enterprise are rarely found in the home. We generally agree that the central purpose of the home is to provide maximum support and enrichment and to release the potential of all members of the family. Because the homemaker has the major responsibility for the operation of this important enterprise, there are areas of management even more basic than those thought of as "home management" which community groups could consider as discussion topics.

The following outline presents some areas of concern to members of community committees considering the management problems of household employment:

I. When Is Household Help Needed?

Each person in our society has a contribution to make. Where can each help to his fullest capacity?

A. The working woman needs help with home duties because she:
   1. Is sole support of a family.
   2. Is contributing to family income because of need.
   3. Has a skill in great demand in labor force.
   4. Is enjoying the opportunity for personal fulfillment.

B. The growing family needs help to:
   1. Release the homemaker to spend irreplaceable time with family members.
   2. Provide skilled care of home that homemaker is not able to accomplish.

C. Community service — Household help allows the homemaker to:
   1. Contribute her skills to the well-being of all families in the community.
   2. Express herself in creative activity for her growth and the ultimate betterment of her own family.

D. The later years — Help is needed because of:
   1. Reduced physical ability to care for home.
   2. Need for companionship or supervision.

E. Special problems of families — Help is needed for the:
   1. Elderly in the home.
   2. Handicapped in the home.

II. Economic Consideration of Employing Household Workers

A. Costs
   1. Is minimum wage adequate pay for worker's needs?
   2. Comparison with costs of services performed outside home:
      a. Laundry
      b. Food Service
      c. Day care

3. Willingness to pay for other personal service, such as beauty parlor, dry cleaning, clothing alterations.

B. Value of the time released
1. To family.
2. To community.
3. To employer — measured monetarily.

C. Improved maintenance of a major capitol investment — the home.

III. Personnel Practices of Employers for Maximum Productivity

A. View worker as in business enterprise with needs for:
1. Good working conditions, wages, hours & fringe benefits;
2. Adequate equipment and supplies with which to work;
3. Appreciation, comfort and attractive surroundings;
4. Time to complete tasks at own pace, within reason;
5. Adequate supervision;
6. Privacy and dignity. Employer-employee rather than Lady Bountiful-needy family relationship.

B. Determine worker's skills and interests.

C. Balance day's assignments to combine satisfying jobs with less attractive jobs.

IDEAS FOR DISCUSSION STARTERS:

Problem: "I can't finish the housekeeping jobs I'm assigned because of the time it takes to care for the children."

Possible Solution: With adequate day care facilities, working mothers can place children with others under trained, creative leaders in a situation that allows for the child's maximum growth and development. The household employee is able to complete those jobs she is especially trained to do well.

Does your community have adequate day care facilities? What other solutions can you think of?

Problem: "I like to do housework, but I hate to work by myself. I think I'll get a job in a hospital where there will be others around."

Possible Solution: Teams of household workers, each with particular skills, can be assigned to work together. The work is completed in shorter time, or two jobs such as cleaning and ironing can be done in one day.

What are your ideas for relieving the loneliness of household work?

Problem: "The job is tiresome, I do the same thing every week. I never feel that I've finished anything."

Possible Solution: Once the employer determines what jobs can be done in small blocks of time; those extra tasks of cleaning the linen closet or kitchen drawers can be sandwiched between regular jobs. This relieves monotony and allows the extras to be taken care of that never seem to get done.

What are your ideas for relieving the monotony of housework, and giving the employee the pleasure and satisfaction of having accomplished a job?

D. A CODE OF STANDARDS RECOMMENDED BY NCHE*

The importance and dignity of household employment will be raised to desirable levels when wages, hours, and working conditions as well as educational and training opportunities are in line with those in other fields of employment requiring skill and ability. Work toward adequate employment standards is a first essential.

1. WAGES

A. The minimum wage should be no less than $1.25 per hour.

B. Higher rates should be paid in line with the training and skill required for the job.

C. Specific day upon which wages are paid is agreed upon in advance.

D. Gifts or clothing are not considered as part of payment.

2. HOURS

Living-out workers:

A. For day workers the number of hours after which overtime is to be paid should be eight hours per day.

B. For full-time workers, i.e., workers employed on a full-time weekly basis by a single employer, the hours above eight hours a day and 40 hours per week should be paid at one and one-half the regular hourly rate. Hours worked in excess of 48 hours per week should be at double the regular hourly rate.

C. The minimum number of hours for which a part-time employee should be engaged should be four with the exception of shared services in the same neighborhood which require little or no travel time.

Living-in workers:

A. The hours on duty above 44 should be paid at one and one-half times the regular hourly rate. Hours on duty in any one week in excess of 52 should be paid for at double the regularly hourly rate.**

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* The following was adopted by the National Committee on Household Employment on November 10, 1966, as a basis for discussion by local committees and can be amended as needed to fit the prevailing needs of a community. The NCHE is anxious to have the comments and suggested revisions of local groups.

** A differentiation in total number of weekly hours for living-in and living-out workers has been made on the basis that the former spends no time in getting to and from the place of employment.

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Discussion and Study Topic

3. VACATIONS

Living-out workers:

A. For day workers there should be one day of paid leave for each six months period worked. This should be based on the number of days per week that she has worked for each of her employers.

B. For full-time workers two weeks paid vacation after one year's service.

Living-in workers:

A. Two weeks paid vacation after one year's service.

For longer service in all of the above categories, there should be escalation of leave time.

4. HOLIDAYS

Holidays should be discussed fully and agreed upon in advance.

Living-out workers:

A. For a day worker it is recommended that bonuses should be paid for any one of five designated national holidays on which she works.

B. For full-time workers the equivalent of five national holidays should be given with pay.

Living-in workers:

A. The equivalent of five national holidays should be given with pay.

5. SICK LEAVE

Living-out workers:

A. For day workers, provision for sick leave should be agreed upon at the time of employment.

B. For full-time workers, leave should be based on a minimum of five days a year after one year's service and cumulative for longer service.

Living-in workers:

A. Leave should be based on a minimum of five days a year after one year's service and cumulative for longer service.

6. SOCIAL SECURITY

Earnings should be reported and paid in accordance with the law for Social Security credit toward old age, survivors and disability insurance and records of payment furnished annually to the employee as required in the Social Security legislation.

7. INSURANCE

A. Liability insurance should be carried by employers to protect workers in case of accident.

B. Wherever state laws permit, employers should bring themselves under the jurisdiction of their state workmen's compensation and unemployment compensation laws. (Lists to be furnished by the Women's Bureau.)

8. CHANGES IN SCHEDULES FOR DAY WORKERS

A. If an employer does not require the services of a day worker for the agreed upon time or times, she should give a week's notice to the employee. In lieu of this, the employer should compensate the employee in full.

B. The employee has the responsibility to notify the employer of her inability to report for work.

C. Other changes in schedule for agreed upon working hours and days should be determined by mutual consent.

DUTIES AND WORKING RELATIONSHIPS

1. Duties of position should be clearly defined including specific tasks, frequency and desired standards.
2. Reasonable directions and explanations of duties or tasks should be provided by employer and discussed with the employee so that she can carry them out effectively.
3. Adequate provisions for maximum safety and health should be maintained at all times.
4. Efficient, safe and workable appliances and cleaning aids should be provided and used carefully.
5. Promptness, integrity and courtesy should be observed by both parties.
6. Constructive and helpful evaluation of work should be encouraged.
7. Rest periods, meal times, telephone privileges and time off for church should be agreed upon in advance of employment.
8. Adequate private living quarters should be provided for live-in employment.
9. Work and work relationships should be periodically discussed with the purpose of improving efficiency and understanding. Both parties should work toward competency and good working conditions.

E. SUGGESTED RESOLUTION

WHEREAS, the earnings of the 2.5 million women now employed in the field of household and related services are in most cases below the poverty level, and

WHEREAS, the sole legislative protection afforded them is Social Security coverage, and

WHEREAS, we recognize that they do not, in the main, receive paid vacations and holidays, sick leave, hospitalization, and other fringe benefits common to other occupations and

WHEREAS, these conditions have contributed to an acute shortage of employees in this occupation which is of vital importance to the American home

BE IT RESOLVED: That we, the _____ undertake a program of study and action to:

1. Stimulate the development of training programs to upgrade skills.
2. Work actively for the inclusion of household workers in minimum wage laws.
3. Endorse the Code of Standards recommended by the National Committee on Household Employment.
4. Develop employer orientation and education programs.
5. Enlist the support of other community agencies to further these resolutions.

F. LEGISLATION AFFECTING THE OCCUPATION

It is recommended that Community Committees study and become thoroughly familiar with existing legislation affecting household and related service workers.

Commercial and industrial interests, labor unions, ethnic and racial groups, professional organizations, citizens' groups, agencies of the Federal, state and local governments — all, from time to time, and some continually, attempt to contact Congress and state legislative bodies in order to initiate or to influence the outcome of legislation.

The most effective methods utilized today are basically the same as those used in the past. These include:

1. Carrying on "grass roots" information and educational campaigns designed to mold public opinion and to create a general climate of opinion in which favored legislation would have a chance of enactment.

2. Urging citizens to write their Federal and state legislative representatives in support of or opposition to a particular policy or bill.

3. Making direct contacts with legislative bodies through letters, testimony before Congressional and state committees and public statements of group position on legislation. These presentations to legislators, publicly or privately, verbally or in writing, and by officers of an organization or individuals can be of several types:

   (a) A group can simply state its position on an issue and explain why it wants a certain measure passed or defeated.

   (b) The group can present an elaborate, carefully researched factual analysis and argument.

   (c) The group can choose a personal friend or long-time associate to approach the legislator for purposes of influence.

VII. AN OUTLINE FOR PUBLICITY PROGRAMS

1. Object of publicity:

   To inform the public about household employment as an occupation and the need to improve working conditions and its importance and dignity.

2. Who is to be reached:

   a. Employees and Employers

   b. Groups:

      (1) Civic groups of all kinds

      (2) Churches

      (3) General public

3. Methods of publicity:

   a. Letters

   b. Telephone calls

   c. Posters in public gathering places

   d. Radio and TV public service announcements and special programs

   e. Feature articles in newspapers and magazines

   f. Speeches:

      (1) Know your subject
      (2) Meet issues squarely
      (3) Anticipate questions to be asked and arguments to be presented
      (4) Points to discuss:
          Existing conditions in the field of household employment,
          Better standards — better workers.

For a PUBLICITY HANDBOOK write, giving your name, address, and the name of your group, to:

The Sperry and Hutchinson Company
Consumer Information Service
4242 West 42nd Place
Chicago 32, Illinois

VIII. GUIDELINES FOR A SURVEY TO DETERMINE EXISTING WORKING CONDITIONS, DEMAND FOR WORKERS, EMPLOYEE ATTITUDES

A community survey of the household services occupation will bring forth information on: the requirements of employers, including conditions of work, wages, hours of work and fringe benefits; problems of workers, such as transportation and day care for their children; training needs; and many other factors which affect the attitudes of both employees and employers toward this occupation.

Suggested questionnaires and techniques have been developed after experience with a similar survey in 37 communities. However, any group that decides to set up a survey will undoubtedly wish to ask other questions and phrase them in other ways according to the specific local objectives and the customs of the communities. Interested persons may write to NCHE for sample questionnaires.

The following suggestions may be of help in planning for the survey:

1. Both employees and employers must be assured that they are in no way identified and that their responses are confidential.

2. People who are participating in the survey are generally more cooperative if they know that you are asking their help in raising the status of an occupation which will eventually result in a larger supply of skilled workers; they seem interested in knowing this is a national movement and that through them, their community is participating in it.

3. Most employers will not require help in filling out the form. However, in many cases better results came from having the employers complete them as a group during a regular club or study group meeting. This also gives an opportunity to present some of the reasons why this occupation must be reconstituted.

4. Many employees will need help in filling out the form. Individual interviews are the best way to get employee response. Very few are returned if workers take them home to do.

5. While it is desirable that the forms be filled in completely, it is anticipated that some workers may not wish to answer all the questions. They should be encouraged to answer as many questions as they wish and to skip those they do not want to answer.

HISTORICAL HIGHLIGHTS

"There is nothing new under the sun. That includes the servant problem and the old-as-the-hills truth that a housewife must do the best she can with what she has, even if she has only two arms and two hands instead of the necessary four." This was written in 1869 by Catherine and Harriet Beecher, but for all practical purposes it might as well be 1966.

Dating back to colonial times the problem of getting household workers in New England was always acute, but particularly so during the decades in the middle of the 19th century when the industrial revolution swept forward and women by the thousands left the restrictive life of domestic service to labor in a new freedom in factories.

The old system under which families interchanged sons and daughters "to help out" had broken down long before the Civil War. Few native New England farm girls were willing to hire out in domestic jobs. Housewives who had daughters were particularly handicapped. Virtually all girls who were willing to enter domestic service refused to work in homes where daughters of the family could humble them by "putting on airs."

The great exception to a historic shortage of domestic workers in the United States came at the turn of the century with mass immigration. In 1900 in Eastern Coastal cities, it was customary to find three or four columns of Situation Wanted ads in which girls were applying for jobs as domestics. Young, strong and eager to become a part of America, these girls were available at an average of $20.00 a month. They worked long hours with low wages with little or no objection and were apparently not the least bit bothered by the lack of status in their occupation.

Historical Highlights (Continued):

In 1930 the ebb in immigration had just about stopped the flow of foreign-born servants, and in spite of thousands of unemployed walking the streets during the Great Depression, many people who wanted household help found difficulty in getting it.

In the decade that followed the gap was filled to a limited extent by Negroes, particularly those who were migrating northwards in search of greater freedom and better educational opportunities.

With the coming of World War II and many new opportunities for employment for women, it became apparent that many of the women in household work remain in it only because they had no alternative. In 1940, almost 18 percent of all employed women were household workers; by 1950, the percentage had gone down to 8%.

In 1966 there are only slightly over 2 million women employed in this occupation with the figures constantly decreasing.

The leaflet following, "A Profile of Household Workers in the U.S.A." showing graphically the 1960 Census facts and figures of employees in this field, points up dramatically that this is indeed a disadvantaged occupation. Why should this be a disadvantaged occupation when an acute demand for such services exists in a booming economy such as our Nation enjoys today?

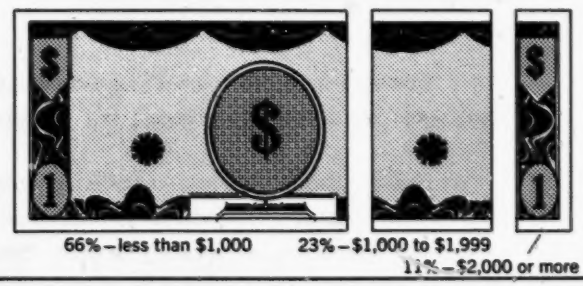
FACTS AND FIGURES ON THE PRIVATE HOUSEHOLD WORKERS OF THE U.S.A.[1]

The facts about this disadvantaged occupation show why it is a matter of priority importance to all concerned with the problems of working women.

ANNUAL WAGES[2]

TOTAL CASH INCOME—including wage and self-employment income as well as all forms of social insurance and public assistance—is very low.

TOTAL CASH INCOME



The low annual wages of all women private household workers reflect the intermittent character of their employment as well as their low rates of pay when employed.

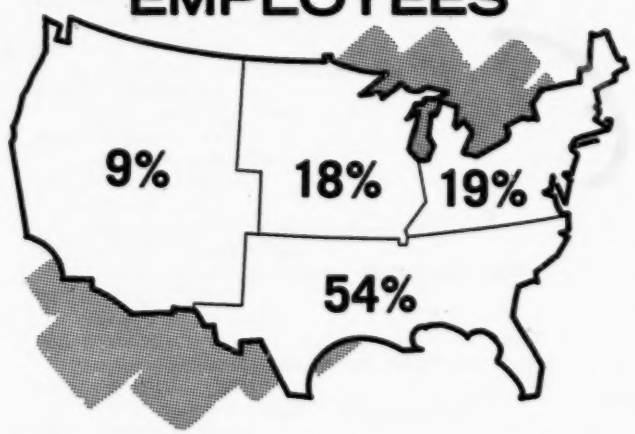
INTERMITTENCY OF THE OCCUPATION
Part Time/Full Time

PRIVATE HOUSEHOLD WORKERS WERE HEADS OF 250,000 FAMILIES

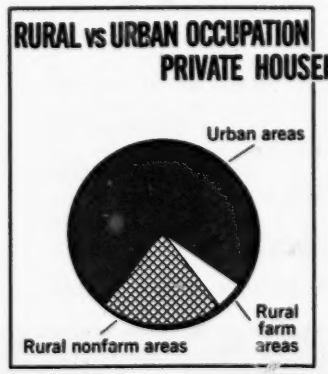
In Two-Thirds of these Families There Were Children Under 18

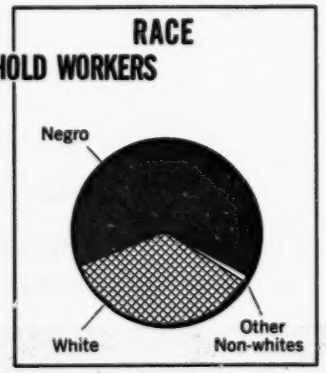
LEGISLATIVE STATUS—Workers in private household employment are not afforded the protection of the Federal minimum wage and hour law nor of the major forms of social insurance from which most other workers benefit.

DISTRIBUTION OF HOUSEHOLD EMPLOYEES



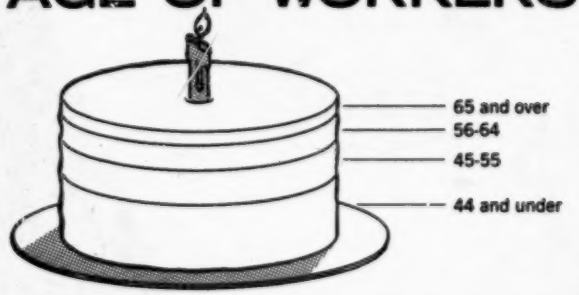
This is an urban occupation with a predominance of Negro workers.



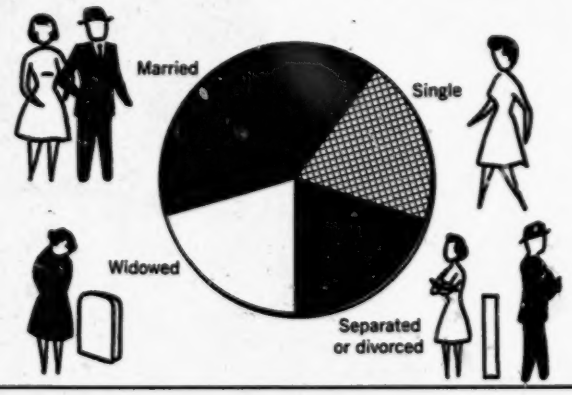


The average private household worker is about 6 years older than the typical woman in the labor force:

AGE OF WORKERS

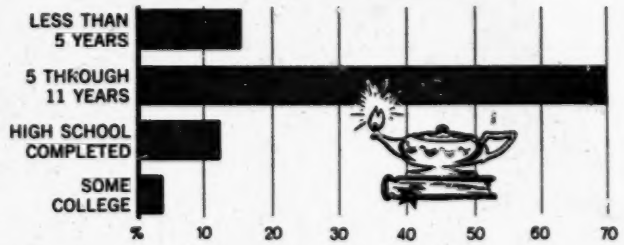


MARITAL STATUS OF PRIVATE HOUSEHOLD WORKERS



Educationally, the private household worker is disadvantaged:

EDUCATIONAL ATTAINMENT



[1] U. S. Department of Commerce, Bureau of the Census of Population, 1960
[2] Bureau of the Census, Current Population Report, 1964

WHAT YOU AND YOUR COMMUNITY CAN DO TO BRING LIVING WAGES, A NEW STABILITY AND STATUS TO THIS IMPORTANT OCCUPATION

NATIONAL COMMITTEE ON HOUSEHOLD EMPLOYMENT

HOW TO ORGANIZE A COMMUNITY COMMITTEE

- Contact local units of the national organizations affiliated with NCHE.
- Enlist representatives of other service organizztions, professional associations, women's groups, public and private agencies and the Governor's Commission on the Stau.s of Women.
- Invite household employers and employees to be members of the Committee.
- Invite a local representative of your State Employment Service, Director of Vocational Education, Coordinator of Manpower Programs and the Regional Representative of the Women's Bureau.
- Write to the National Committee on Household Employment for Program and Study Materials.

NATIONAL COMMITTEE ON HOUSEHOLD EMPLOYMENT

1346 CONNECTICUT AVE., N.W.

WASHINGTON, D. C. 20036

TELEPHONE: 223-5240

MRS. W. WILLARD WIRTZ, *Honorary Chairman*

MEMBERS

MR. WILLIS W. ATWELL
American Association of Retired Persons

MISS DOROTHY BARKO
American Woman's Association

MR. DONALD D. BREWER
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National Council of Catholic Women

MISS ETHLYN CHRISTENSEN
National Board YWCA

MISS WINIFRED COLTON
Young Men's Christian Association

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National Association of Extension Home Economists

MISS GLADYS DUPYSTADT
National Federation of Settlements and Neighborhood Centers

MISS ELEANOR FRENCH
United Church Women

MISS RUTH GOLDBERG
Cleanliness Bureau of the Soap and Detergent Association

MRS. WORTHER G. HAMILTON
National Association of Colored Women's Clubs, Inc.

MISS FLORA HATCHER

MISS DOROTHY HEIGHT
National Council of Negro Women

MISS CATHERINE C. HIATT
National Travelers Aid Society

MISS MAXIE HOWLETT
American Public Welfare Association

MRS. OLYA MARGOLIN
National Council of Jewish Women

MRS. MILDRED O. MESKILL
Zonta International

MISS FRIEDA MILLER

MRS. SARAH H. NEWMAN
National Consumers League

MISS EDNA POYNER
American Home Economics Association

MRS. MARY S. RESH
Altrusa International, Inc.

MISS THELMA STEVENS
Women's Division of the Board of Missions of the Methodist Church

MISS SARAH VAN BUSKIRK
American Nurses Association

MISS HELEN F. WINFIELD
American Woman's Association

MRS. LOIS M. HARPER
Executive Director

MRS. MARGARET M. MORRIS
Project Director

THESE ARE THE FACTS!

A PROFILE OF HOUSEHOLD WORKERS IN THE U.S.A.

NCHE

National Committee on Household Employment

RECOMMENDED READING

BOOKS:

Benjamin, Lois, So You Want to Be a Working Woman, New York City, McGraw-Hill, 1966.

Blackoff, Edward M., How to Solve Your Servant Problem, New York City: Stein and Day, 1963.

Cassara, Beverly, editor, American Women — The Changing Image. Boston: Beacon Press, 1962.

Hoffman, Lois W. and Nye, F. Ivan, The Employed Mother in America, Chicago: Rand McNally and Company, 1963.

Hunt, Morton, Her Infinite Variety, New York City: Harper and Row, 1962.

Sinclair, Andrew, The Better Half, New York City: Harper and Row, 1965.

BULLETINS AND PAMPHLETS:

American Women, Report of the President's Commission on the Status of Women, Government Printing Office. (Single copies available from the Women's Bureau, U. S. Department of Labor, Washington, D.C. 20210)

Good News for Household Workers, Social Security Administration, U. S. Department of Health, Education and Welfare, Washington, D. C., 1966. (Single copies free on request)

Handbook on Women Workers, Women's Bureau, United States Department of Labor, Bulletin 290, Washington, D. C. 20210, 1965. (Single copies free on request.)

Homemaking Education Programs for Adults, Office of Education, U. S. Department of Health, Education and Welfare, U. S. Government Printing Office, Washington, D. C. 20402, 1958. (Free on request)

Management Problems of Homemakers Employed Outside the Home, Office of Education, U. S. Department of Health, Education and Welfare, U. S. Government Printing Office, Washington, D. C. 20402, 1961. 65¢

Publications of the Women's Bureau, U. S. Department of Labor, Leaflet 10, Washington, D. C. 20210. (Free on request)

Report on the Committee on Home and Community, The President's Commission on the Status of Women, U. S. Government Printing Office, Washington, D. C., October 1963. (Single copies free from Women's Bureau, U. S. Department of Labor, Washington, D. C. 20210)

A Suggested Training Program — Companion to an Elderly Person, Office of Education, U. S. Department of Health, Education and Welfare, No. OE-87006, U. S. Government Printing Office, Washington, D. C. 20402, 1964, 20¢.

RECOMMENDED READING (Continued):

A Suggested Training Program — Family Dinner Service Specialist, Office of Education, U. S. Department of Health, Education and Welfare, No. OE-87007, U. S. Government Printing Office, Washington, D. C. 20402, 1964. 20¢

A Suggested Training Program — The Homemaker's Assistant, Office of Education, U. S. Department of Health, Education and Welfare, No. OE-87008, U. S. Government Printing Office, Washington, D. C. 20402, 1964. 20¢

Training Home Economics Program Assistants to Work with Low Income Families, United States Department of Agriculture, No. PA-681, U. S. Government Printing Office, Washington, D. C. 20402, 1965.

PERIODICALS:

Hunter, Starley M., "Homemakers Name Their Home Problems," Journal of Home Economics, Vol. 53, No. 6, June 1961. pp. 425-427.

Maloch, Francille, "Characteristics of Most and Least Liked Household Tasks," Journal of Home Economics, Vol. 55, No. 6, June 1963. pp. 413-416.

Whatley, Alice Elrod, "Working Mothers Report on Problems and Concerns," Journal of Home Economics, Vol. 55, No. 2, February 1963, pp. 119-120.

Discussion and Study Topic

WORKSHOP DISCUSSION GROUPS

A yearly program planning institute conducted by a national organization included a workshop on imaginative approaches to household and related service occupations. The leaders decided that small groups talking about real situations would be more effective in stimulating thought than a formal speech or a panel on the problems of household workers and their employers.

Each small group was given one of the discussion-starters listed below. After talking in small groups, all participants met for a general discussion of each problem. The resulting meeting was lively and provocative. This method was successful in bringing out many of the issues involved in raising the status and improving the working conditions of household workers.

Topics for discussion:

1. I overheard two women talking at the pool the other day. One said, "I guess I'll tell my cleaning woman not to come on Tuesday. The house is in pretty good order and I can use the ten dollars I usually pay her for the day.

   Question: What responsibility does the employer have for the weekly income of the worker?

2. Mrs. S. was telling me how lucky her day worker was to get a bedroom set cheaply. When I asker her what she meant, she replied, "I sold her my old one and just deducted a small amount from her paycheck each week. That won't be a hardship on her."

   Question: What thought has Mrs. S. given to what a few dollars less a week may mean to a person with a low income? What choice did the worker have to refuse the offer to buy the furniture?

3. The worker agreed to spend her afternoon off with the children because her employer wanted to go shopping. The employer promised to be back no later than 5:30 p.m. so that she could catch her bus and go home to her own family. The employer arrived an hour late and offered no apology nor payment for the extra time. It was a rare occasion when the worker could leave at a regular time any day. The worker was responsible for the support of her family of four.

   Question: What is wrong with this situation?

4. One of my neighbors complained, "We bought the dishwasher and an electric floor scrubber so that the cleaning woman would be able to do these jobs easily and have time for other jobs. But she says she doesn't mind doing the dishes by hand and mopping the floors. We think the dishes and floors would be cleaner but she won't try the new equipment."

   Question: What is the employee's responsibility for following directions? Why might she be unwilling to use new equipment?

WORKSHOP DISCUSSION GROUPS (Continued):

5. The employer had planned to deduct Social Security payments as required by law from the wages of her cleaning woman. The worker asked her not to, saying that she would rather have the money in her paycheck. The employer agreed. She didn't think it was fair to burden the worker with the deductions when she needed the money to live on.

   Question: What was the employer's responsibility? How could she have helped her employee to understand the value of Social Security to her?

6. Mrs. L. has worked for the Browns two days a week for 15 years. She also works for two other families. Her income is $50 a week for five days' work. Mrs. L. had an emergency operation and was in the hospital for ten days. She was unable to work for the next three weeks. Public welfare could not give her any financial assistance during this period. Her neighbors helped as much as they could with food and care.

   Question: Did her employers have any responsibility toward her when she was sick? Could this have been planned for in advance?

7. The woman who irons for Mrs. G. dampens the clothes so heavily that it takes her much longer to iron them than would be necessary. By doing this, she is using extra time and electricity.

   Question: What is the employee's responsibility for managing her time and the employer's resources? How could she be helped to understand her responsibility?

8. Mrs. M. discovered that her household worker was spending part of the day watching television and reading women's magazines. She decided to deduct part of the day's wages for this time spent without working.

   Question: Was this the best solution? What other ways are there to solve this problem?

9. A committee of the YWCA met to plan a training program to meet the shortage of household help in the area. When a minimum wage of $1.25 based on Fair Labor Standards was proposed, the reaction was "domestic help is not worth that much," or "you will price them out of jobs; none of us can pay that much."

   Question: What attitudes are being reflected? What new approaches could be made to meet the needs of households and assure incomes for workers in line with today's standards?

VT 003 809

National Trucking Industry Apprenticeship Standards for Truck Mechanics; (A Guide for the American Trucking Associations, Inc. and the International Association of Machinists, AFL-CIO).

Manpower Administration (DOL),Washington, D.C. Bureau of Apprenticeship and Training
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 65 45p.

*APPRENTICESHIPS; *MECHANICS (OCCUPATION); *NATIONAL PROGRAMS; *STANDARDS; QUALIFICATIONS; TRADE AND INDUSTRIAL EDUCATION; *PROGRAM ADMINISTRATION

The purpose of these national standards is to serve as a guide for establishing thorough and adequate apprenticeship programs to produce highly trained truck mechanics. It was developed by the Joint Committee of the International Association of Machinists and the American Trucking Associations, Inc. and the United States Department of Labor's Bureau of Apprenticeship and Training. In addition to itemizing the various provisions of the national standards, this booklet includes an explanation of the standards for the guidance of local employers and labor representatives. Among the provisions are those dealing with the selection of applicants for apprenticeship, the appointment of local apprenticeship committees to supervise the training of apprentices, and related instruction requirements of apprentices. Supplementing the provisions are (1) an example of an apprentice recordkeeping form, (2) a schedule of work processes for which to train apprentices, (3) apprenticeship qualifications, (4) an evaluation and rating form, and (5) an explanation of the responsibilities of the apprentices. A directory of regional and state Bureau of Apprenticeship and Training Agencies is included. (HC)

VT 003 809

ED0 30001

1965 Edition

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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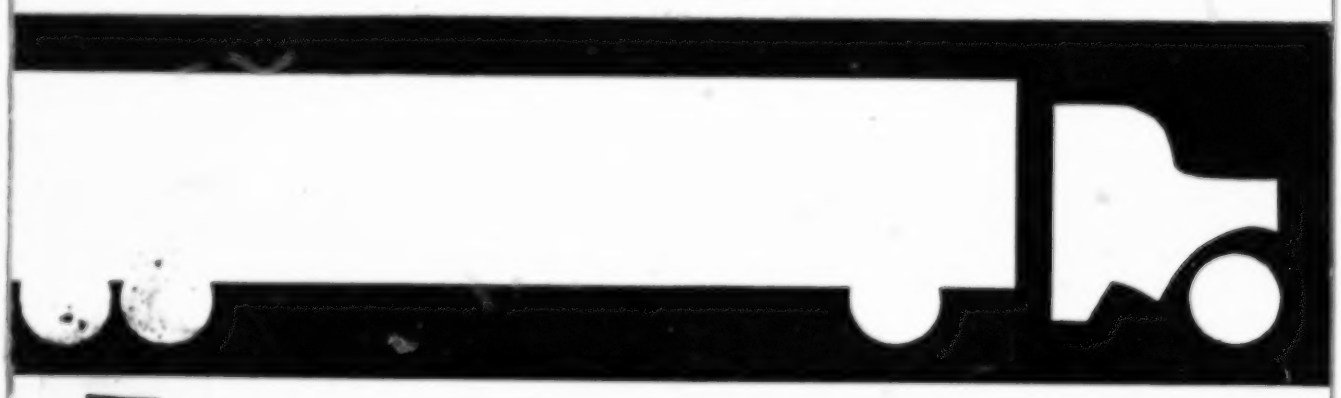
NATIONAL TRUCKING INDUSTRY APPRENTICESHIP STANDARDS

FOR TRUCK MECHANICS.



A GUIDE for the American Trucking Associations, Inc. and the International Association of Machinists, AFL-CIO

U.S. DEPARTMENT OF LABOR
W. Willard Wirtz, Secretary
MANPOWER ADMINISTRATION
Bureau of Apprenticeship and Training

Certificate of Registration

NATIONAL TRUCKING INDUSTRY JOINT APPRENTICESHIP AND TRAINING STANDARDS
(Jointly Established by the American Trucking Associations, Incorporated and the International Association of Machinists, AFL-CIO)

Washington, D. C.

for the trade classifications of TRUCK MECHANIC and TRUCK-and-TRAILER BODY MECHANIC

Issued in recognition of the above apprenticeship system, registered as part of the National Apprenticeship Program, in accordance with the standards recommended by the

FEDERAL COMMITTEE ON APPRENTICESHIP

Date August 3, 1964

Registry No. 83697

W. Willard Wirtz
Secretary of Labor

Hugh C. Murphy
Administrator, Bureau of Apprenticeship and Training

U.S. DEPARTMENT OF LABOR
BUREAU OF APPRENTICESHIP AND TRAINING
WASHINGTON, D.C. 20210

August 3, 1964

Joint Committee for the Trucking Industry

Gentlemen:

The International Association of Machinists and the American Trucking Associations are to be congratulated on their foresight in adopting standards of apprenticeship to assure adequate training of truck mechanics in the industry.

I feel confident that these standards will serve as an effective guide for the establishment and operation of local apprenticeship programs. Your continued cooperation and enthusiasm will, I am sure, encourage useful programs in the years ahead.

The Bureau of Apprenticeship and Training of the U. S. Department of Labor, which has registered your national standards, stands ready to help your industry at all levels.

Sincerely yours,

Hugh C. Murphy

Hugh C. Murphy
Administrator

AMERICAN TRUCKING

ASSOCIATIONS, INC.

1616 P STREET, N.W. WASHINGTON, D. C. 20036

DUPONT 7-3200

JOHN M. AKERS
President

September, 1964

To: Trucking Industry Executives

The past few decades have witnessed a vast expansion in the use of the motor truck to transport the Nation's goods. If this growth is to continue a concomitant increase of trained personnel is required. Accordingly, the American Trucking Associations jointly with the International Association of Machinists (AFL-CIO) have embarked on a program for training skilled truck mechanics.

That program is embodied in this national guide containing recommended standards for the apprentice training of truck mechanis. We of ATA believe this program will assure that our valuable motor truck equipment will continue to be maintained at a high peak of safety and efficiency.

I am pleased to note that the national labor-management committee, established to over-see this program, has accepted the vital responsibility of furthering our common goal -- the development of technically qualified journeymen truck mechanics.

I would urge truck operators who have labor agreements with the IAM to partake fully in this constructive labor-management effort. On behalf of the American Trucking Industry, I pledge our efforts to its success.

John M. Akers

John M. Akers, President

International Association of Machinists
1300 CONNECTICUT AVE. WASHINGTON, D. C. 20036
ADAMS 2-6309
Office of the
INTERNATIONAL PRESIDENT

September 1, 1964

I am pleased to inform you that the International Association of Machinists and the American Trucking Association, Inc., have negotiated A Guide for Apprenticeship Standards for the Trucking Industry. The United States Department of Labor, Bureau of Apprenticeship and Training, assisted in these negotiations.

Management and Labor share the responsibility for the development of Journeymen through sound apprenticeship. Methods and procedures of apprenticeship are those which are agreed upon jointly by Management and Labor through collective bargaining.

This Apprenticeship Manual has been prepared to serve as a guide for all officers and representatives of our Association in any area of our country where we may negotiate apprenticeship agreements with trucking company members of the A. T. A.

Fraternally yours,

A. J. Hayes
INTERNATIONAL PRESIDENT

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ADDENDA

1. Work Processes ..... Addendum No. 1
   (As referred to pages 9–22, same topic)
   a. Truck Mechanic
   b. Truck and Trailer Body Mechanic
   c. Truck Mechanic—Diesel
   d. Truck Mechanic—Painter
   e. Related Instruction
2. Records (samples) ..... Addendum No. 2
   (as outlined page 23)
3. Application Rating Form ..... Addendum No. 3
   (as outlined page 26, sample)
4. Certificate of Completion of Apprenticeship ..... Addendum No. 4
   (As outlined Page 27, sample)
5. Apprenticeship Agreement ..... Addendum No. 5
   (As outlined Page 28, same topic)
6. Regional Offices, Bureau of Apprenticeship and Training ..... Addendum No. 6
7. State Apprenticeship Agencies ..... Addendum No. 7

INTRODUCTION

The purpose of these National Standards is to serve as a guide for the establishment of thorough and adequate apprenticeship programs to produce highly trained truck mechanics to carry on the tradition of craftsmanship in the various branches of the trucking industry, an industry which is increasing in occupational complexity through its dymamic growth.

Management and labor share the responsibility for the development of journeymen through sound apprenticeship. The more effective methods and procedures of apprenticeship are those which are agreed upon jointly by management and labor.

To aid in developing effective programs of training, the American Trucking Associations, Inc., and the International Association of Machinists, AFL–CIO, do hereby recommend that these National Standards be utilized as a guide by management and labor locally to institute joint apprenticeship committees and to develop planned apprenticeship programs designed to meet the needs of the company or companies of the trucking industry.

The minimum requirements and basic procedures to be used in establishing local apprenticeship programs have been set forth.

Authority

The International Association of Machinists and the American Trucking Associations, Inc., have established a joint committee for the trucking industry. They have authorized this committee to act in behalf of the respective organizations on matters pertaining to apprenticeship and training for the industry, which can best be served through a national level approach.

Authority of actions by this committee shall remain within the province of the respective organizations, and shall be executed on the basis of voluntary participation in apprenticeship functions. Authority of the committee, however, shall be considered by all parties participating in formal apprenticeship for the trucking industry, as representative of the industry and as official when pertaining to basic policies.

All functions of the committee shall be on the basis of non-profit endeavor for the good and welfare of apprenticeship and training in the industry, and for the best interest of the apprentice, management, labor and the public.

General Policy

It shall be the policy of the joint committee to promote, develop, improve, and give effect to apprenticeship and training programs for the trucking industry.

The joint committee shall act as a service organization on matters of apprenticeship and training within the industry.

PROVISIONS OF STANDARDS GOVERNING THE EMPLOYMENT AND TRAINING OF APPRENTICES IN THE RESPECTIVE BRANCHES OF THE TRUCKING INDUSTRY[1]

A. Definitions

1. Employer—means any firm by which the apprentice is employed which has contractual relations with the union, either directly or through an association.
2. Association—means the American Trucking Associations, Inc., and affiliated members.
3. Union—means the recognized or certified bargaining agency whether local, district, or Grand Lodge of the International Association of Machinists.
4. Local Committee—means the joint apprenticeship committee representing the union and the employer(s), which shall develop and administer the local apprenticeship program.
5. Apprenticeship Program or Standards—means the document which embodies the procedure for the selection and training of apprentices, setting forth the terms and conditions associated therewith, including wages, hours, conditions of employment, training on the job, and related instruction. The duties and responsibilities, including administrative procedures of the local committee, shall also be set forth in the program or standards.
6. Apprentice—shall mean a person who has signed an apprenticeship agreement with the employer to learn the skill trade outlined in these standards.
7. Apprenticeship Agreement—means the written apprenticeship agreement executed by and between the apprentice and his employer or the employer's agent and approved by the local joint apprenticeship committee. It shall contain the terms and conditions of the apprenticeship. The use of the apprenticeship agreement is for conformance with certain State and Federal laws governing the employment of apprentices, and does not nullify or supersede the bargaining agreement.
8. Registration Agency—as used herein shall mean the Bureau of Apprenticeship and Training, U. S. Department of Labor, or a

[1] Local application of this National Guide in States having State apprenticeship agencies may require adaptation to meet the standards of apprenticeship in such States. The staffs of the Bureau of Apprenticeship and Training and State apprenticeship agencies are available to advise on such standards.

State apprenticeship agency recognized by, and conforming to, the standards established by the Bureau of Apprenticeship and Training.

Composition of Local Joint Apprenticeship Committees

It is recommended that a local joint apprenticeship committee be established, equally representative of management and labor (usually four to six members of equal representation of the union and the employer), and selected (or elected) by the groups they represent.

A joint apprenticeship committee may be established for an individual shop or plant, or on an area-wide basis encompassing the entire jurisdictional area of the local union.

Duties and Functions of Local Committees

The extent of the authority vested in the committee shall be limited to that authorized by the respective participating groups, i.e., the union and the employer.

The joint apprenticeship committee, to the extent authorized, is the administrative body for the local apprenticeship program, and as such shall establish such rules and regulations govering its procedures as may be required.

The committee shall adopt standards of apprenticeship which will enable the apprentice to master the manipulative skills required of the trade, receive related technical instruction, and provide for wages, hours, working conditions, ratios, or any other element that will assure a sound apprenticeship.

The committee shall elect a chairman and a secretary and determine time and place of regular meetings. When the chairman is a representative from the employer, then the secretary should be a representative from the union, and vice versa.

The chairman and secretary shall have authority to vote on all questions.

Among other duties that may arise, the committee shall:

1. Determine the need for apprentices in the shop and/or locality, and the adequacy of available facilities for providing the necessary job experiences;
2. Establish minimum entrance qualifications for apprentices (such as age, education, etc.);
3. Approve apprenticeship agreements;
4. Hear and adjust all differences pertaining to the local apprenticeship program as may be permitted in the standards or the bargaining agreement;
5. Determine the apprentice's progress in manipulative skills and technical knowledge through examination of the records and by oral or written tests which may on occasion be deemed advisable or necessary;

6. Make recommendations for the final determination of the abrogation of apprenticeship agreements;
7. Develop schedules of work experiences which apprentices will receive on the job;
8. Make the necessary arrangements for the apprentice to receive instructions in subjects related to his trade;
9. Be the sole authority to certify that an apprentice has successfully completed his apprenticeship, and recommend the issuance of a Certificate of Completion of Apprenticeship;
10. Maintain such records as they may determine necessary;
11. Be responsible for the successful operation of the apprenticeship program;
12. Provide for registration of the apprenticeship program and any subsequent amendments thereto;
13. Provide for the registration of apprentices with the appropriate registration agency; and
14. Provide for copies of all apprenticeship standards and subsequent amendments to be sent to the headquarters of the International Association of Machinists and the American Trucking Associations, Inc.

Qualifications and Selection for Apprenticeship

It is recommended that local joint apprenticeship committees establish proper standards and procedures under which the selection of apprentices shall be made from qualified applicants on the basis of qualifications alone, without regard to race, creed, color, sex, national origin or occupationally irrelevant physical handicaps, under objective standards which permit review after full and fair opportunity for application.

It is also recommended to the local joint apprenticeship committee that the program be operated on a completely non-discriminatory basis.

Applicants for apprenticeship must be at least 18 years of age and not over 30 years of age. Exceptions may be made for those who are or have been engaged in the trade, because of unusual circumstances, or unusual conditions as determined by the joint apprenticeship committee and for veterans.

It is recommended to the joint apprenticeship committees that they use application forms, aptitude tests, oral interviews, school grades, and previous work records as essential tools in the selection process. When properly used they provide some degree of assurance that the apprentices possess the qualities necessary to succeed in the trade. (See Addendum No. 3 for sample Rating Form)

Term of Apprenticeship

The term of apprenticeship shall be not less than the time defined in the schedule of work processes for the trade listed.

"Overtime" shall be credited on the term of apprenticeship on the basis of actual hours worked.

When the apprentice has had previous experience in the trade, the joint apprenticeship committee may evaluate such experience and recommend credit toward the completion of apprenticeship.

Probationary Period

All apprentices employed in accordance with these standards shall be subject to a probationary period for the first 500 hours of employment. The joint apprenticeship committee may extend this period for good and sufficient cause.

During the probationary period, the agreement may be cancelled at the request of either party by notifying the other. After completion of the probationary period, the agreement may be cancelled by either party for adequate cause. The registration agency shall be notified of all cancellations.

During the probationary period, the local joint apprenticeship committee shall determine the necessary hand tools that the apprentice needs and shall make appropriate arrangements on the manner in which these tools shall be purchased.

Apprenticeship Agreement [1]

The apprentice (and if a minor, his parent or guardian) and the employer or his agent shall sign an apprenticeship agreement, which shall also be approved by the committee. (See Addendum No. 5—sample)

The following shall receive a copy of the approved apprenticeship agreement:

The apprentice
The employer
The union

Ratio

The ratio of apprentices to journeymen shall be in accordance with the collective bargaining agreement.

Wages

It is recommended that during his term of apprenticeship, the apprentice receive a progressively increasing schedule of wages based on a percentage of the journeyman's wage:

Recommended Pattern Increases

1st 500 hours	45% of mechanic rate
2nd 500 hours	50% of mechanic rate
2nd 1000 hours	55% of mechanic rate

[1] Some State apprenticeship agencies require the use of their own apprenticeship agreement forms. In such instances, the agreement forms may be obtained from the staffs of either the State apprenticeship agency or from the Bureau of Apprenticeship and Training.

3rd 1000 hours	60% of mechanic rate
4th 1000 hours	65% of mechanic rate
5th 1000 hours	70% of mechanic rate
6th 1000 hours	75% of mechanic rate
7th 1000 hours	80% of mechanic rate
8th 1000 hours	90% of mechanic rate
After completion of apprenticeship	mechanic rate

Credit for Previous Experience

Apprentices who have been awarded credit for previous experience shall be paid, upon entrance, the wage rate for the period to which such credit advances them.

Hours of Work

The work day and work week for apprentices shall be the same as that of the journeyman.

Apprentices shall be under the direct supervision of a competent journeyman, or supervisor of apprentices at all times.

Related Instruction

A. In compliance with these standards of apprenticeship, each apprentice indentured under these standards shall enroll in and regularly attend approved classes of related instruction for at least 144 hours per year, each year of the apprenticeship. The time spent in such classes (not to exceed 600 hours) shall be credited to the apprenticeship, but such time shall not be considered as hours of work unless the apprentice is required to attend classes during his regular working hours, except as otherwise provided by State law.

B. In case of failure, without good cause, on the part of the apprentice to fulfill his obligations as to class attendance, the committee may suspend or revoke the agreement. The committee shall notify the registration agency of such suspension or revocation.

C. During the term of apprenticeship, the apprentice will receive instruction on the practices of safety.

D. In the event there are no class facilities available, the apprentices shall be required to enroll in a recognized correspondence course approved by the joint apprenticeship committee. In that event, appropriate credit toward completion of apprenticeship for courses completed through correspondence shall be determined by the local joint apprenticeship committee.

Work Processes

During his apprenticeship, the apprentice shall receive such instruction and experience in all branches of the trade as is necessary to develop a practical and versatile craftsman versed in the theory and practice of the chosen branch of the trade. He shall also perform such other duties in the shop and on the job as are commonly related to

such apprenticeship. (See Addendum No. 1 for sample work processes)

Examination of Apprentices

The committee shall examine the work and related instruction records of the apprentice at periodic intervals in order to determine his progress. In the event that any apprentice is not making satisfactory progress, the committee should ascertain the cause and endeavor to correct any deficiencies.

Should the committee believe that due to lack of aptitude and/or attitude the apprentice cannot satisfactorily complete his apprenticeship, then the agreement may be terminated.

Supervision of Apprentices

The employer shall designate a particular person in his shop as the "supervisor of apprentices." He shall be responsible for carrying out the training program as set up by these standards in his shop. Adequate records pertaining to the work experience and related instruction of the apprentice shall be kept by the supervisor of apprentices, and at regular intervals he shall submit reports to the committee. (See Addendum No. 2 for sample records)

Completion of Apprenticeship

Upon successful completion of the apprenticeship under these Standards, the committee shall recommend to the registration agency that the apprentice be issued a Certificate of Completion of Apprenticeship and shall attach its signature thereon. (Samples—Certificate of Completion of Apprenticeship—See Addendum No. 4)

Adjustment of Differences

In the event differences arise regarding the operation or interpretation of the apprenticeship standards, either party may appeal to the committee for the settlement of such differences.

Accident Prevention

Apprentices shall receive instruction in accident prevention and safe working habits during their entire term of apprenticeship. Such instruction shall be coordinated with the actual work being performed on the job and the tools and equipment being used.

Amendment to Standards

The joint apprenticeship committee may amend the apprenticeship standards at any time, subject to approval of the union and the employer(s). All amendments to the apprenticeship standards shall apply to all apprenticeship agreements currently in effect at the time of the adoption of such amendments unless due notice of exception is given in writing to the joint apprenticeship committee by apprentices so affected. Copies of all amendments shall be forwarded to head-

quarters of the International Association of Machinists, American Trucking Associations, Inc., and to the registration agency as defined herein.

Relationship of Apprenticeship Standards to Bargaining Agreement

Apprenticeship standards are a supplement to the bargaining agreement. No part of the apprenticeship standards shall conflict with or supersede the bargaining agreement.

Responsibilities of Apprentices

A. To perform diligently and faithfully the work of the trade and to perform such other pertinent duties as may be assigned by the employer in accordance with the provisions of the local standards.
B. To respect the property of the employer and abide by the working rules and regulations of the employer and the joint committee.
C. To attend regularly and complete satisfactorily the required hours of instruction in subjects related to the trade, as provided under the standards.
D. To develop safe working habits, and conduct himself in his work in such a manner as to assure his own safety and that of his fellow workers.
E. To conduct himself at all times in a creditable, ethical and moral manner, realizing that much time, money and effort will be spent in affording him an opportunity to become a skilled craftsman.

Registration Standards

Before becoming operative, these standards must have the official approval of the employer and union, and be registered with the appropriate registration agency.

OFFICIAL APPROVAL

THE AMERICAN TRUCKING ASSOCIATIONS, INC.

1616 P Street, N. W., Washington, D. C.

By: Jno. M. Akers

Title: President

Date: July 22, 1964

INTERNATIONAL ASSOCIATION OF MACHINISTS

1300 Connecticut Avenue, N. W., Washington 6, D. C.

By: W. J. Hayes

Title: International President

Date: July 22, 1964

REGISTERED AS INCORPORATING THE BASIC STANDARDS OF APPRENTICESHIP:

By: Hugh C. Murphy

Title: Administrator

Date: August 3 - 1964

Registration Number: 83697

TRUCK MECHANIC

Work Processes (Sample 1)	Approx. Hours
I. *Cleaning and Inspecting the Parts of all Types of Equipment*	500
II. *Cylinder Heads*	750

a. Checking and inspecting heads
b. Replacing valve guides
c. Removing and replacing valve seats
d. Reaming valve guides
e. Grinding valve seats with hand seat grinder
f. Lapping valves
g. Checking valves with dial indicator
h. Installing injector tubes or brass
i. Replacing welch plugs and water test head
j. Rebushing rocker arms and reaming bushings
k. Checking and replacing rocker arm rollers
l. Torquing cylinder head bolts
m. Use of compounds on head gaskets
n. Torquing injectors and adjustment

III. *Cylinder Blocks and Liners*	1,200

a. Removing and installing cylinder sleeves
b. Cleaning and checking water passages
c. Checking counter bores for sleeves
d. Recutting and straightening counter bores
e. Removing and cutting cylinder studs
f. Cleaning ring grooves, fitting piston and ring for clearances
g. Installing piston pin bushing and fitting piston pins
h. Checking rod alignment and rod bores
i. Honing and boring cylinders
j. Cleaning oil passages
k. Inspecting oil and oil lines
l. Checking, removing and installing timing gears
m. Checking main bearing saddles, crank shaft wear and cracks, and radius area
n. Reasons for magnafluxing
o. Installing main and rod bearings
p. Checking oil clearances
q. Torquing main and rod bearings
r. Installing cam shaft bushings and line reaming and bearings
s. Pressure test oil systems
t. Dial indicating run out on fly wheel and housings

	Approx. Hours
IV. *Fuel and Electrical Systems*	1,050
a. Adjusting valve clearances	
b. Installing and adjusting injectors	
c. Checking compression	
d. Checking and adjusting injection and carburetion systems	
e. Care and cleaning of air filters	
f. Timing injection and electrical systems	
g. Use of proper equipment to check electrical systems	
h. Repairing fuel pumps, carburetors, generators and starters	
i. Adjusting voltage regulators	
j. Checking and servicing fuel filtering systems	
k. Making up and installing wiring circuits	
V. *Water Cooling System*	500
a. Checking thermostats	
b. Cleaning water passages	
c. Installing new gaskets on radiator tanks	
d. Checking pressures on cooling systems	
e. Adjusting fan belts and friction driven fan drivers	
VI. *Clutch*	600
a. Checking and adjusting clutches	
b. Rebuilding pressure plates	
c. Relining clutch discs	
d. Removing and repairing clutches	
VII. *Transmission*	1,000
a. Removing and installing transmissions	
b. Testing converters	
c. Rebuilding transmissions and torque converters	
d. Adjusting steering clutches	
e. Rebuilding steering clutches	
f. Relining steering clutch bands	
g. Adjusting and installing ball bearings, Timken bearings, and oil seals	
VIII. *Differentials*	500
a. Adjusting, inspecting and replacing differential gears, bearings, and oil seals	
IX. *Final Drive*	300
a. Removing, replacing and adjusting final drives, axles, gears, bearings, and oil seals	
b. Adjusting tracks, wheel bearings, track rollers and brake lining	
c. Repairing, servicing and adjusting air com-	

	Approx. Hours
pressors, brake applicators, boosters, valves and regulators	
X. *Hydraulic Pumps*	300
a. Repairing and servicing of cylinders, valves and power control units	
XI. *Welding*	800
a. Acetylene—cutting, brazing and welding	
b. Electric—cutting and welding	
XII. *Repair and Maintenance of Self-Propelled and Stationary Equipment Exclusive of Engines*	500
a. Use of proper oils, greases, tools and shop equipment	
b. Maintenance and repair of the various types of equipment used by the industry	
Total	8,000

TRUCK MECHANIC

Work Processes (Sample 2)	Approx. Hours
A. Spring, Frames and Front Axles	500
B. Wheels, Tires and Steering Gears	500
C. Brakes, Rear Axles, and U-Joints	1,000
D. Clutches, Transmissions and Power Take-Offs	1,000
E. Cooling, Lubrication and Fuel Systems	750
F. Engines, including Gas, Diesel and L.P.G.	1,750
G. Electrical Systems	1,000
H. Tune-up and Testing Equipment	500
I. Machine Shop and Welding	500
J. Miscellaneous	500
Total	8,000

TRUCK MECHANIC

Work Processes (Sample 3)	Approx. Hours
A. *Lubrication*	200
Transmission and drive axle	
Replacement and cleaning of all filters and elements	
Final checking—battery and tires	
Steering assembly and connections	
Universal joints	
Clutch bearings	
Water pump and distributor	
Use of various oils and greases	
B. *Front End or Steering*	850
Turning radius and adjustment	

	Approx. Hours
Set toe-in	
Replace wheel oil seals	
Rebuild steer axle	
Check and repair shock absorbers when used	
Replace springs when used	
Replace or repair tie rod ends	
Rebuild or replace spider assemblies	
Rebuild or repair and adjust steering gear	
C. *Drive Axle*	700
Rebuild complete	
Adjust differential bearing	
Rebuild or replace universal joints	
Rebuild or replace axle adaptors	
Rebuild or repair planetaries	
D. *Brakes*	700
Minor adjustments	
Major adjustments	
Bleeding	
Relining brakes or replacing lining	
Replace or turn drums	
Rework or replace backing plate	
Check and repair all connections	
Heel and toe adjustment brake shoes	
Replace or rebuild wheel cylinders	
Replace or rebuild master cylinders	
Check and rebuild or repair power brake system	
Repair or reset or check automatic adjusters	
Repair or replace parking brake mechanism	
E. *Motor Repairs, Overhaul or Install*	1,650
Rebore and hone cylinders	
Repair timing gears and accessory drive gears	
Repair or rebuild hydraulic oil pump	
Grind valves	
Reseat head	
Replace piston rings and pins	
Adjust or replace bearings	
Set timing	
Repair or replace oil pump	
Align rods	
Fit new pistons	
Inspect crankshaft	
Adjust valve	
Engine tune-up	
Repair or replace oil lines	

	Approx. Hours
F. *Cooling System*	450
Knowledge of thorough external cleaning of radiator	
Check and clean transmission oil cooling section of radiator	
Repair water pumps	
Replace hose connections	
Install water pump	
Replace fan	
Minor repair to radiator	
Use of various antifreeze	
Reverse flush block	
G. *Carburetion*	600
Values of dry type air cleaner and oil bath air cleaner	
Correct cleaning methods of both	
Governor repair or rebuild and correct governor functions	
Overhaul	
Adjustment	
Cleaning	
Intake manifold	
Heat riser valve	
H. *Electrical Systems*	950
Test and adjust micro switches	
Correct spring tension in air gap on contactors	
Clean commutator and replace brush springs and brushes on all motors	
Check brush spring tension	
Primary and secondary circuit testing	
Use of instruments—ohmmeter, ammeter, and voltmeter	
Battery—test, charge, replace	
Generator—test, repair, replace	
Turn armature	
Regulators—test, adjust, replace	
Cutouts—test, adjust, replace	
Distributor—overhaul, replace, synchronize	
Starters— overhaul, test, replace	
Lights—switches	
Wiring tests	
Coils, condensers—test and replace	
I. *Engine Tune-Up and Trouble Shooting*	400
Set LPG with combustion efficiency analyzer	
Set LPG with vacuum gage and tachometer	
With analyzers—without	

	Approx. Hours
Distributor adjustment	
Set timing	
Adjust valves	
Test compression	
Test plugs, wires	
J. *Clutch and Transmission*	550
Adjust	
Repair	
Replace	
Inspection of gears, bearings	
Overhaul	
New case installation	
K. *Bench Work*	500
Hydraulic test equipment	
Rebuilding hydraulic cylinders, valves, and power steering accessories	
Operation of various machines	
Valve refacer	
Armature lathe	
Brake drum lathe	
Portable drills	
Boring bars	
Arbor press	
Break testers	
Grinders	
L. *Automatic Transmission*	450
Repair, rework or replace all types of automatic transmissions	
Analyze and test procedures for trouble shooting automatic transmissions	
Function and knowledge of torque converters	
Repair or rebuild industrial type torque converters	
Test and evaluate torque converter functions	
Total	8,000

TRUCK MECHANIC

Work Processes (Sample 4)	Approx. Hours
1. *Electrical*	1,000
Battery, generator, regulator, series-parallel switch, starter, wiring, head lights, body lights, cab and inside lights, turn signals, trailer connections, horn, and engine ignition (coil, condenser, harness, distributor, etc.)	

	Approx. Hours
2. *Fuel*	750
Tanks, lines, fuel pumps, strainers, injector pumps, injectors, and air intake system.	
3. *Cooling*	750
Radiators, hoses, thermostat, radiator shutters, fan and pulleys.	
4. *Lubrication*	500
Oil pump, lines, filters, and pressure fittings.	
5. *Engine*	1,500
Block, heads, crankshaft, rods, pistons, rings, sleeves, bearings, camshaft, valves, valve train, manifolds, pan, blower, turbocharger, exhaust system and muffler, tailpipe, mounts, and gaskets and seals.	
6. *Clutch*	400
Housing, plates, facing, bearings, and linkage.	
7. *Transmission*	500
Housing, gears, shafts, mounts, synchronizers, and control.	
8. *Drive Shaft and Universals*	250
Drive shafts, universal joints and bearings, and hangers.	
9. *Differential*	250
Ring and pinion gears, bearings, reduction gears, and shaft mechanism.	
10. *Rear Axle*	250
Housing, shafts, bearings, and seals.	
11. *Steering*	250
Axle, linkage, steering gear box, shaft and wheel, and power assist mechanism.	
12. *Brakes*	400
Shoes, linings, cylinders, diaphragms, lines, compressor, drums, parking brake shoes, linkage, reservoir, filter, bleeds, drains, controls, pressure switch, and breakaway valve.	
13. *Wheels and Rims*	400
Wheels, lugs, bearings, seals, and rims.	
14. *Accessories*	500
Mirrors, cab cooling and ventilating equipment, windshield wipers, recorder, radios, and heaters.	
15. *Miscellaneous*	300
Service calls, towing, miscellaneous small parts.	
Total	8,000

TRUCK MECHANIC

Work Processes (Sample 5)	Approx. Hours
1. *Lubrication*	200
a. Chassis lubrication	
b. Motor oil change, pack transmission and differential	
c. Pack and adjust wheels and bearings	
2. *Front End Work*	600
a. Repair and install steering parts	
b. Replace springs (coil or leaf)	
c. Replace front axles, king pins and bushings	
3. *Motor Tune-Up*	1,500
a. Install wiring in electrical systems; trouble-shooting	
b. Repair lights, horns, windshield wipers and other electrically operated accessories	
c. Replace generators, starters, voltage regulators and water pumps	
d. Replace fuel pumps, gas and oil gauges, heater gauges, air cleaners and speedometers	
e. Test, adjust and replace spark plugs	
f. Clean, adjust, set and replace distributor parts	
4. *Wheel and Brake Work*	1,000
a. Test brakes	
b. Adjust brakes and fill the lines	
c. Reline brakes	
d. Repair brake (fluid and mechanical) lines and emergency brakes	
5. *Engine Overhaul*	2,500
a. Grind and reface valves	
b. Install piston rings	
c. Replace main and connecting-rod bearings	
d. Replace crankshafts and camshafts	
e. Replace worn gaskets	
f. Replace cylinder block and completely rebuild new engines	
6. *Transmission*	1,000
a. Tear down broken transmission and install new gears, bearings, gaskets, etc.	
b. Build up new transmissions from parts	
7. *Clutch*	600
a. Install new pressure plate	
b. Install new drive member	
c. Install new pilot and throw out bearings	

	Approx. Hours
8. *Rear End Work*	600
a. Repair and replace universal joints	
b. Repair and replace differential	
c. Repair and replace propeller shafts	
d. Install new axle shafts	
e. Install new axle housings	
Total	8,000

TRUCK MECHANIC (HEAVY-DUTY-EQUIPMENT MECHANIC)

Work Processes (Sample 1)	**Approx. Hours**
I. *Engines*	1,500
A. *Gasoline Engine Repair*	
1. Pistons, rings, valves and bearings	
2. Fuel systems—carburetion and fuel pumps	
3. Ignition and starter systems	
4. Lubrication system and oil pumps	
5. Cooling system	
B. *Diesel Engine Repair*	2,500
1. Two-cycle engines	
2. Four-cycle engines	
3. Pistons, rings, valves and bearings	
4. Injection systems	
5. Scavenging systems	
6. Starting systems—electric and compressed air	
7. Cooling systems	
8. Lubricating systems	
C. *Drive Systems*	1,000
1. Clutches	
2. Transmissions and transfer cases and power take-off	
3. Final drives	
4. Rear wheels	
5. Tracks and track suspension systems	
D. *Steering Systems*	
E. *Brake Systems*	
F. *Chassis and Springs*	500
G. *Equipment Repair and Maintenance*	2,000
1. Winches and hoisting gear	
2. Hydraulic and pneumatic systems	
3. Air compressors	
4. Bulldozers, graders, and motor road patrols	

	Approx. Hours
5. Cranes, clamshells and drag-lines	
6. Ditchers and back-hoes	
II. *Lubrication and Lubrication Systems of All Equipment*	500
Total	8,000

TRUCK MECHANIC (HEAVY-DUTY-EQUIPMENT MECHANIC)

Work Processes (Sample 2)	**Approx. Hours**
1. Cleaning and Inspecting the Parts of all Types of Equipment	400
2. Basic Care and Lubrication	250
3. Brakes (all types)	200
4. Clutches	250
5. Transmissions	400
6. Final Drives	350
7. Steering Mechanisms	300
8. Power Control Units	250
9. Winches	100
10. Hydraulic Pumps	250
11. Track Assemblies	150
12. Electrical Systems	300
13. Gasoline Fuel Intake	100
14. Diesel Fuel Injection	250
15. Cooling System	100
16. Engine Maintenance	1,000
17. Engine Reconditioning	1,800
18. Welding	750
19. Field Maintenance, General	800
Total	8,000

TRUCK AND TRAILER BODY MECHANIC

Work Processes (Sample 1)	**Approx. Hours**
I. *Sectional Repairs*	500
a. Replacing square tubing	
b. Reinforcement of sides	
c. Replacement of rear corner posts and covers	
d. Replacement and repair of panels	
e. Replacement of moulding retainer and moulding	
II. *Insulation*	500
a. Knowledge of proper procedure for installing different types of thicknesses	

	Approx. Hour
b. Adapting doors for insulation and weather-stripping	
c. Knowledge of different methods of insulating floors, floor pans, drains, and duck boards	
d. Installation of refrigerator units	
III. *Painting*	1,200
a. Prepare body and fenders for painting	
b. Sanding and rubdown preparation	
c. Use of spray gun	
d. Mix paints	
e. Touch up with brush	
f. Color matching	
g. Air sanding	
h. Masking and taping	
IV. *Sheetmetal Work*	750
a. Bending, forming and applying of body metals	
V. *Woodwork*	1,200
a. General millwork	
b. Planing, joining, ripping	
c. Shiplapping	
d. Carpentry work in connection with body building	
VI. *Blacksmithing*	650
a. Forging	
b. Bending and forming iron	
VII. *Gas and Electric Welding*	700
a. Working with steel, cast iron, sheetmetal and brass	
VIII. *Truck-Body Assembly*	2,500
a. Layout and assembly of all types of truck bodies, as van, semi-van, rack produce, express, etc., and all special type bodies.	
b. Wiring	
c. Mounting bodies	
d. Reading of blueprints	
e. Windshield and glass replacement	
f. Door and door-lock replacement	
g. Canvas work	
Total	8,000

TRUCK AND TRAILER BODY MECHANIC

Work Processes (Sample 2)	Approx. Hours
I. *Body Reconstruction and Assembly*	3,000
Stripping wrecked trucks	

	Approx. Hours
Straightening miscellaneous parts	
Rebuild tail gates, doors, cabs, etc.	
Layout and fabrication	
Riveting	
Installation gas tanks, lines, etc.	
Welding—brazing	
II. *Frame Work*	2,500
Conversion work	
a. Lengthening or shortening frames and drive shafts	
b. Change axle assembly	
c. Install overload springs	
d. Install fifth wheel	
e. Chassis assembly	
f. Repair and straighten frames	
III. *Fabrication of Bodies*	2,000
a. Cabs, partitions, bodies	
IV. *Layout Table and Miscellaneous*	500
Total	8,000

TRUCK AND TRAILER BODY MECHANIC

Work Processes (Sample 3)	Approx. Hours
I. *Machine Work*	1,500
a. Planing—rip saw, band saw, jointer, shaper	
b. Drill press, grinder, nippler, punch press, shear	
II. *Metal Work*	1,500
a. Pitting, bending, lapping	
b. Layout	
c. Welding—electric and acetylene	
d. Soldering	
e. Forge work	
III. *Body Construction*	1,500
a. Layout and fitting	
b. Squaring off, setting and mitering	
c. Build tail-gate	
d. Build and hang doors	
e. Glass installation	
f. Hardware and fittings	
IV. *Chassis*	1,000
a. Layout and fabrication	
b. Riveting, hand and power	
c. Frame alignment	
d. Spring work, coil and elliptic	

	Approx. Hours
V. *Painting*	1,000
a. Priming, filing and sanding	
b. Finishing, exterior and interior	
VI. *Lighting System*	1,000
a. Wiring installation	
b. Head lights, tail lights, parking lights	
c. Spot light, interior lights	
VII. *Insulation*	500
Total	8,000

TRUCK MECHANIC–DIESEL

Work Processes (Sample 1)	**Approx. Hours**
Orientation	500
1. Learning all parts and accessories of diesel engines	
2. Assembling orders for parts	
3. Parts requisitioning and acquiring all knowledge about diesel parts to work hand in hand with diesel mechanic training	
Motor Overhaul	2,500
1. Reboring and honing cylinders	
2. Install crank shaft, pin bearing, camshaft and bushings	
3. Repair oil pump	
4. Adjust fuel racks	
5. Changing and adjusting main and connecting-rod bearings	
Fuel System	2,500
1. Unit injector repair	
2. American Bosch nozzle	
3. Part identification	
4. Calibration and testing	
5. Repairing and lapping pump injector parts	
6. Cleaning and installing fuel line	
7. Assembling and disassembling large fuel pump (A.P.E. Series)	
8. Cleaning and repairing all types of fuel injectors (AKB AKC AKE AKF AKK AKL AKN)	
9. Ordering pump and injector parts	
10. Maintain and operate shop	
Repair to Electrical System	1,250
1. Battery repair and service	
2. Testing, adjusting and installing voltage regulator	

	Approx. Hours
3. Inspect and install wiring	
4. Install and adjust lights	
5. Install electrical accessories	
Repair to Power Transmission	500
1. Clutches-repair and adjustment	
2. Transmission repair	
3. Drive shaft and universal joint	
Repairs to the Cooling System	750
1. Overhaul and install water pump	
2. Install hose, thermostat and fan belt	
3. Repair radiator	
Total	8,000

TRUCK MECHANIC PAINTER

Work Processes (Sample 1)	Approx. Hours
A. Preparing surfaces for painting, sanding, cleaning, papering windows, masking chrome	800
B. Knowledge of paints and thinners, paint and thinner ingredients, handling of paint and thinner inventories, knowledge of paint numbers and charts	600
C. Maintenance and use of painting equipment, brushes, spray guns, spray booths, etc. (including complete assembly and disassembly of spray guns and regulators)	600
D. Matching and mixing of colors for proper tone and quality	600
E. Development technique of painting under varying climatic conditions; surfacing of prime coat, various color coats; operation of spray gun for even distribution	1,200
F. Sanding and rubbing of various coats for completion; stripping of wheels and any other necessary stripping operations	800
G. Detailing of finished product; cleaning up process	800
H. Knowledge of estimating	600
Total	6,000

RELATED INSTRUCTION

Wiring and ignition diagrams with emphasis on schematics
Fundamental hydraulics and Ohm's law
Elementary blueprint reading
Fundamentals of mathematics

Precision measurements
Power transmission
Theory and science related to:
  Carburetion
  Frame and steering
  Rear axle and drive shaft
  Transmission and clutch
Business management
Industrial history and labor problems
Courses in safety
144 hours of related instruction are required for each apprentice for each year.

APPRENTICE RECORDKEEPING

To maintain a current record of the progress and ability of apprentices, an accurate recordkeeping system, covering the pertinent points, is essential. A number of different types of recordkeeping systems are in use in the different areas. Some systems include a variety of recordkeeping forms—daily, weekly, monthly, as well as a final master chart summarizing the pertinent data recorded during the entire term of apprenticeship.

Reproduced on the following pages are a simply designed recordkeeping form and a control report. They are presented as examples in establishing your own recordkeeping system. The recordkeeping form covers a one-month period and is accumulative.

It will be noted that the data recorded during each one-month period is carried forward to the next period. In this way, a current and complete record of the progress of each apprentice may be kept on this single form.

Samples of other recordkeeping systems may be obtained upon request through the field representatives of the Bureau of Apprenticeship and Training or State apprenticeship agencies.

APPRENTICE MECHANIC MONTHLY WORK REPORT

APPRENTICE MECH. _____ MONTH _____ 19____

	Fuel Pump Room	Engine Dynomometer	Engine Rebuild	Engine Teardown	Rear End Assy.	Front Ends Steering Assy.	Transmission & Diff.	Drive Lines	Machine Shop	Cylinder Heads	Oil Pumps & Rockers	Pistons & Sleeves	Magnaflux Mach.	Rewiring Tractors	Rebuild Elec. Assy.	Tractor Service Elec.	Tractor Overhaul	Paint Shop	Carpenter Shop	Brake Relining	Trailer Overhaul	Trailer Service	Stores Department	Tractor Service	Special		Total
HOURS																											
Carried Forward																											
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2																											
3																											
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29																											
30																											
31																											
TOTAL																											

APPRENTICE MECHANIC CONTROL REPORT

MONTH _____ 19____

	Dept. I 520 Hrs.			Dept. II 520 Hrs. 3 Months								Dept. III			Dept. IV 520 Hrs.					Dept. V		VI					
	Fuel Pump Room	Engine Dynamometer	Engine Rebuild	Engine Teardown	Rear End Assy.	Steering Assy. Front Ends	Transmission & Diff.	Drive Lines	Machine Shop	Cylinder Heads	Oil Pumps & Rockers	Pistons & Sleeves	Magnaflux Mach.	Rewiring Tractors	Rebuild Elec. Assy.	Tractor Service Elec.	Tractor Overhaul	Paint Shop	Carpenter Shop	Brake Relining	Trailer Overhaul	Trailer Service	Stores Department	Tractor Service	Special		TOTAL
NAME																											

SAMPLE

APPLICANT RATING FORM

Name_____Social Security No._____

City_____Street_____Phone_____

Instructions:

Evaluate qualified applicants on each of the characteristics listed, using the following point system:

Excellent	3 points
Above average	2 points
Average	1 point
Below average	0 points

A score of less than 12 points will disqualify the applicant:

	POINTS
A. Education:	
(1) High school shows interest and achievement pertinent to the trade	_____
(2) Successfully completed courses or instructions (other than high school) which will be helpful in the trade	_____
B. *Experience:*	
(1) Misc. part or full time jobs *not related* to the trade	_____
(2) Misc. part or full time jobs *related* to the trade	_____
C. Interview—Impressions of the following qualities:	
(1) Sincere *interest* in learning the trade	_____
(2) Attitude towards hard work and desire to learn	_____
(3) Attitude towards attending classes	_____
(4) Personal characteristics	_____

Certificates of Completion of Apprenticeship, awarded apprentices when they have completed their training, are issued by the State apprenticeship agency or the Bureau of Apprenticeship and Training in States in which no such agency is established.

ADDENDUM NO. 4

APPRENTICESHIP AGREEMENT

Between Apprentice and Employer

(Front View)

The employer and apprentice whose signatures appear below agree to these terms of apprenticeship:

The employer agrees to employ and train the apprentice in accordance with the terms and conditions of the ....., which are made a part of this
(Name of Apprenticeship Standards)
agreement; or, in accordance with the terms and conditions stated on the reverse side of this agreement.

The apprentice agrees to apply himself diligently and faithfully to learning the trade in accordance with this agreement.

Trade ..... Term of apprenticeship .....
(Hours or Years)

Credit for previous experience ..... Term remaining .....

Date the apprenticeship begins .....

This agreement may be terminated by either party notifying the other or in accordance with the named apprenticeship standards.

.....	.....
(Signature of Apprentice)	(Name of Employer—Company)
.....	.....
(Address)	(Address)
.....	.....
(Apprentice's Birth Date)	(Signature of Authorized Official)

Approved by ....., Joint Apprenticeship Committee.

Date ..... by .....
(Signature of Chairman or Secretary)

Registered by .....
(Name of Registration Agency)

Date ..... by .....
(Signature of Authorized Official)

Where a State requires the use of its own agreement form, such form may be obtained from the staff of the State apprenticeship agency or of the Bureau of Apprenticeship and Training.

ADDENDUM NO. 5

TERMS AND CONDITIONS

(Back View)

1. Term of apprenticeship and period of probation:
   (*a*) Total term: ..... calendar years, or ..... hours
   (*b*) Probationary period: ..... months, or ..... hours

2. Schedule of work processes in which the apprentice is to receive adequately supervised instruction and experience, of which a record will be kept and periodically evaluated:
   (*a*) List here: Major divisions of the trade and work tasks required under each:
   (*b*) List here: Approximate time, in hours, months, or percent of apprenticeship:

3. Wage rate to be paid the apprentice each period of apprenticeship: (Period may be expressed in hours, months, or years; rate may be expressed in money or percent of journeyman's wage)

Periods:	Rates:	Periods:	Rates:	Periods:	Rates:
1st.....	.....	5th.....	.....	9th.....	.....
2d.....	.....	6th.....	.....	10th.....	.....
3d.....	.....	7th.....	.....	11th.....	.....
4th.....	.....	8th.....	.....	12th.....	.....

Journeyman's rate as of..... is ..... {per hour / per week}

4. Number of hours per week or per day to be worked by the apprentice:
   (*a*) Hours per week.....
   (*b*) Hours per day.....

5. Number of hours of related instruction:
   (144 hours per year—4 hours per week during regular school year, is normally considered necessary. Where classes are not available through the local school, other organized trade, industrial, or correspondence course of equivalent value may be substituted)
   (*a*) ..... week ..... year
   (*b*) School or course.....
   (*c*) Apprentice ☐ will ☐ will not be compensated for hours spent in related instruction after regular working hours.

6. Other provisions:
   (*a*) There is reasonable certainty that the job for which the apprentice is being trained will be available to him upon completion of his apprenticeship.
   (*b*) Upon request by the Joint Apprenticeship Committee or employer, a Certificate of Completion will be granted the apprentice by the Registration Agency upon satisfactory completion of the apprenticeship, in accordance with standards covered herein.

APPRENTICESHIP AGREEMENT

Between Apprentice and Joint Apprenticeship Committee

(Front View)

THIS AGREEMENT, entered into this..... day of..... 196.. between the parties to .....
(Name of local apprenticeship standards)

represented by the Joint Apprenticeship Committee, hereinafter referred to as the COMMITTEE, and....., born.....
(Name of apprentice) (Month)

....., hereinafter referred to as the APPRENTICE, and (if a minor)
(Day) (Year)

....., hereinafter referred to as his GUARDIAN.
(Name of parent or guardian)

WITNESSETH THAT:

The Committee agrees to be responsible for the placement and training of said apprentice in the trade of ..... as work is available, and in consideration said apprentice agrees diligently and faithfully to perform the work incidental to the said trade during the period of apprenticeship, in accordance with the regulations of the Committee. The Apprenticeship Standards referred to herein are hereby incorporated in and made a part of this agreement.

Credit for previous experience at trade if any..... {Hours. / Years. Apprenticeship remaining..... {Hours. / Years.

Other conditions.....

In witness whereof the parties hereunto set their hands and seals:

..... [SEAL]
(Apprentice)

..... [SEAL]
(Representative of Joint Apprenticeship Committee)

.....
(Address)

.....
(Title)

..... [SEAL]
(Parent or guardian)

..... [SEAL]
(Representative of Joint Apprenticeship Committee)

.....
(Title)

Registered by the.....
(Name of registration agency)

By ..... Title ..... Date....., 196..

Available through Bureau of Apprenticeship and Training, U.S. Department of Labor, Washington, D.C.

Where a State requires the use of its own agreement form, such form may be obtained from the staff of the State apprenticeship agency or of the Bureau of Apprenticeship and Training.

APPRENTICESHIP AGREEMENT

Between Apprentice and Joint Apprenticeship Committee

(Back View)

The undersigned agrees to provide employment and training in accordance with standards named herein.

.....
(Employer)

.....
(Address)

.....
(Employer)

.....
(Address)

.....
(Employer)

.....
(Address)

.....
(Employer)

.....
(Address)

REGIONAL OFFICES

BUREAU OF APPRENTICESHIP AND TRAINING

REGION I

(Maine, N.H., Vt., Mass.. R.I., Conn.)
Room 501, 18 Oliver St.
Boston, Mass. 02110

REGION II

(N.Y., N.J.)
Room 906, 341 Ninth Ave.,
New York, N.Y. 10001

REGION III-IV

(Pa., Del., Va., Md., W.Va., N.C.)
Room 321,
Professional Arts Bldg.,
Chambersburg, Pa. 17201

REGION V

(S.C., Tenn., Ga., Miss., Fla., Ala.)
Room 525, 1371 Peachtree Bldg.,
17th and Peachtree St., NE.,
Atlanta, Ga. 30309

REGION VI

(Ohio, Mich., Ky.)
Room 948, Engineers' Bldg.,
1365 Ontario St.,
Cleveland, Ohio 44114

REGION VII

(Ill., Ind., Wis.)
Room 858, Federal Office Bldg.,
219 So. Dearborn St.,
Chicago, Ill. 60604

REGION VIII

(N. Dak., S. Dak., Minn., Mont.)
Room 106, Federal Bldg.,
110 S. 4th St.,
Minneapolis, Minn. 55401

REGION IX

(Mo., Kans., Nebr., Iowa)
Room 2811, Federal Office Bldg.,
911 Walnut St.,
Kansas City, Mo. 64106

REGION X

(La., Tex., Okla., Ark.)
Room 212, 1114 Commerce St.,
Dallas, Tex. 75202

REGION XI

(Utah, Wyo., Colo., N. Mex.)
Room 832, Equitable Bldg.,
730 17th St.,
Denver, Colo. 80202

REGION XII

(Ariz., Nev., Hawaii, Calif.)
Room 10451, 450 Golden Gate Ave.,
P.O. Box 36017,
San Francisco, Calif. 94102

REGION XIII

(Alaska, Idaho, Wash., Oreg.)
Room 1809, Smith Tower,
506 Second Ave.,
Seattle, Wash., 98104

STATE AND TERRITORIAL APPRENTICESHIP AGENCIES

Arizona Apprenticeship Council,
1623-B West Adams,
Phoenix, Ariz.*

Division of Apprenticeship Standards,
Department of Industrial Relations,
San Francisco, Calif.*

Colorado Apprenticeship Council
%Industrial Commission
748 State Capital Annex
Denver, Colo.*

Apprentice Training Division,
Department of Labor,
Wethersfield, Conn.*

Delaware State Apprenticeship and Training Council,
Department of Labor and Industry,
Wilmington, Del.*

District of Columbia Apprenticeship Council,
1145 19th St. N.W.
Washington, D.C.*

Department of Apprenticeship,
Florida Industrial Commission,
Tallahassee, Fla.*

Apprenticeship Division,
Department of Labor and Industrial Relations,
Honolulu, Hawaii*

Iowa Apprenticeship Council,
Bureau of Labor,
State House
Des Moines, Iowa

Kansas Apprenticeship Council,
Department of Labor,
Topeka, Kans.

Kentucky State Apprenticeship Council,
Department of Industrial Relations,
Frankfort, Ky.*

Apprenticeship Division,
Department of Labor,
Baton Rouge, La.*

Maine Apprenticeship Council,
Department of Labor and Industry,
State Office Bldg.,
Augusta, Maine*

Division of Apprenticeship Training,
Department of Labor and Industries,
Boston, Mass.*

Division of Voluntary Apprenticeship,
Department of Labor and Industry,
St. Paul, Minn.*

Montana State Apprentice Council,
Department of Labor and Industry,
Helena, Mont.*

Nevada Apprenticeship Council,
Department of Labor,
Carson City, Nev.*

New Hampshire Apprenticeship Council,
Department of Labor,
Concord, N.H.*

New Mexico Apprenticeship Council,
Labor and Industrial Commission,
Santa Fe, N. Mex.*

New York State Apprenticeship Council
Department of Labor,
Albany, N.Y.*

Division of Apprenticeship Training,
Department of Labor,
Raleigh, N.C.*

Ohio State Apprenticeship Council,
Department of Industrial Relations,
Columbus, Ohio*

Oregon Apprenticeship Council,
Bureau of Labor,
Portland, Oreg.*

*State apprenticeship law enacted.

ADDENDUM NO. 7

Pennsylvania Apprenticeship Council,
Department of Labor and Industry,
Harrisburg, Pa.

Apprenticeship Division,
Insular Department of Labor,
San Juan 8, P.R.*

Rhode Island Apprenticeship Council,
Providence Public Library,
Providence, R.I.

Utah Apprenticeship Council,
Industrial Commission,
Salt Lake City, Utah*

Vermont Apprenticeship Council,
Department of Industrial Relations,
Montpelier, Vt.*

Division of Apprenticeship Training,
Department of Labor and Industry,
Richmond, Va.*

Washington Apprenticeship Council,
Department of Labor and Industries,
Olympia, Wash.*

Apprenticeship Division,
Wisconsin Industrial Commission,
Madison, Wis.*

Virgin Islands Apprenticeship Council,
Department of Agriculture and Labor,
Christiansted, St. Croix, V.I.*

☆ U.S. GOVERNMENT PRINTING OFFICE: 1965 O—759-791

VT 003 869
Wendt, Donald Dean
Employment Opportunities and Training Needs for Selected Service Workers in the State of Missouri with Projections through 1970. University of Missouri Bulletin, Volume 63, Number 27. Education Series, Number 90.

Missouri Univ., Columbia, Dept. of Industrial Education
Missouri State Dept. of Education, Jefferson City
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 25Sep62 24p.

*SERVICE OCCUPATIONS; *EMPLOYMENT OPPORTUNITIES; EMPLOYMENT TRENDS; VOCATIONAL EDUCATION; MANPOWER UTILIZATION; EDUCATIONAL NEEDS; OCCUPATIONAL GUIDANCE; EMPLOYMENT STATISTICS; *EMPLOYMENT PROJECTIONS MISSOURI

The purpose of this study was to compare the possible supply of and demand for selected service workers in Missouri from 1960 through 1970, and to interpret the implications of these findings for the vocational education program of the State. The data were obtained from publications and unpublished documents of federal and state agencies and from previous research relating to the problem. Because there is expected to be a shortage of 83,873 service workers between 1960-1970, especially in food workers, cleaning personnel, and laundry and dry cleaning operations, it is apparent that training programs need to be established and expanded for these occupations. The vast differences between those expected to be trained for an occupation and those expected to enter it, on the basis of past experience, illustrates the need for better guidance and placement services. The vocational guidance and counseling services should be occupationally oriented for the purpose of matching the training of individuals with jobs which are expected to become available. Many unemployed, displaced, and poorly educated persons will have to seek employment in service occupations, and the schools must expand their offerings to adults to enable these people to become gainfully employed in service occupations. This is a summary of a D.Ed. dissertation which was submitted to the University of Missouri. (HC)

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22 p*

The
UNIVERSITY OF MISSOURI
Bulletin

Employment Opportunities and Training Needs for Selected Service Workers in the State of Missouri With Projections Through 1970

By

Donald Dean Wendt

UNIVERSITY OF MISSOURI
COLUMBIA, MISSOURI

VT003869

Employment Opportunities and Training Needs for Selected Service Workers in the State of Missouri With Projections Through 1970

By

Donald Dean Wendt

A summary report of a dissertation study by the same title submitted by the writer in partial fulfillment of the requirements for the degree of Doctor of Education in the Graduate School of the University of Missouri, 1962.

Issued by the
DEPARTMENT OF INDUSTRIAL EDUCATION
COLLEGE OF EDUCATION
In cooperation with the
MISSOURI STATE DEPARTMENT OF EDUCATION

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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VOLUME 63, NUMBER 27 **EDUCATION SERIES, NUMBER 90**

VIVIAN HERRICK JONES, *Editor*

Published three times monthly by the University of Missouri, Office of Publications, Columbia, Missouri. Second Class postage paid at Columbia, Missouri. 2,000. **September 25, 1962.**

PREFACE

One of the fastest growing segments of our labor force is the service occupations. Traditionally, neither vocational educators nor those in apprenticeship training have paid much attention to the educational needs of this group of workers. Thus neglected, service workers have been forced in the main to find jobs without the benefit of proper training and as a consequence have often given unsatisfactory service.

The Area Redevelopment Act and the Manpower Development and Training Act of 1962 are forcing attention of vocational educators and public employment office personnel upon the service worker. Undoubtedly, it is these occupations in which many of our slow-learning youth, high school drop-outs and displaced older persons will find employment. The work done in the service occupations is useful and honorable, and while the training for some service occupations may not be lengthy, it can nevertheless be of high quality and can lend to satisfactory placement and improved personnel and public service.

Recorded here in summary form are the findings of a doctoral study designed to inventory employment opportunities and training facilities and to estimate the employment opportunities and training needs in the service occupations for the decade of the Sixties. The study should be of interest to school counselors, vocational educators, school administrators, public employment office personnel and to employer and employee groups in their effort to select, train, and place youth and adult workers.

H. H. LONDON
Professor of
Industrial Education

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Purpose of the Study

It was the purpose of this study to compare the probable supply of, and demand for, selected service workers, enumerated below, in Missouri from 1960 through 1970, and to interpret the implications of these findings for the program of vocational education in the State.

The workers included in this study were selected from the following service occupations and/or occupational groups:

Bakers
Radio and Television Repairmen
Parking Lot Attendants
Shoemakers and Repairmen
Laundry and Dry Cleaning Operatives
Domestic Servants
Barbers and Cosmetologists
Charwomen, Janitors, and Porters
Cooks, except private household
Elevator Operators
Firemen
Guards and Watchmen
Policemen and Detectives
Waiters or Waitresses, Bartenders, and Counter Workers

More specifically the study attempted to answer the following questions:

1. What have been the trends of employment for service workers mentioned above in Missouri from 1940-1960?
2. What has been the age distribution of workers employed in the above mentioned occupations and occupational groups? Do the selected occupations employ predominately older or younger workers? What has been the distribution of all of the selected workers in this respect?
3. How many employment opportunities for service workers will become available in the above mentioned occupations and occupational groups in Missouri during the period from 1960 through 1970?
4. What have been the trends with respect to the number trained as service workers for the above mentioned occupations and occupational groups in Missouri from 1950-1960?
5. How many training opportunities for service workers will become available in the above mentioned occupations and occupational groups from 1960-1970?
6. How will the number of service workers expected to be trained in Missouri compare with the expected employment opportunities for the selected service workers during the decade?
7. What are the implications of these findings for vocational guidance and vocational education in Missouri?

Definition of Terms

The following terms are defined as they will be used in the study:

A "service worker" is one who performs a personal, public, repair, or maintenance service for consumers and/or their commodities.

A "training opportunity" means the opportunity for an individual to enter, and carry through to completion, a training program designed to prepare him to enter a service occupation.

The term "service occupation" is an occupation that requires the worker to perform a personal, public, repair, or maintenance service.

An "employment opportunity" means the opportunity for an individual, who has been trained as a service worker, to obtain employment in that service occupation.

"Labor force" refers to the total level of employment for persons ages 14 through 64, except those serving in the Armed Forces.

"Labor participation rate" is the ratio of the total population in a given age cohort to the total number employed in that cohort.

"Survival rate" refers to the proportion of persons surviving the census interval. The survival rate is the complement of the death rate and was used since it simplified computations.

Sources of Data

Data for the study were obtained from the following sources:

1. Publications of the United States Department of Commerce, Bureau of the Census.
2. Published and unpublished data from the United States Department of Labor, Bureau of Labor Statistics, and Bureau of Employment Security.
3. Published and unpublished data from the Missouri State Department of Employment Security.
4. Publications of the United States Department of Health, Education, and Welfare, Office of Edutation.
5. Published and unpublished data from the State Board for Vocational Education and the Vocational Division of the State Department of Education for Missouri.
6. Published and unpublished data from the Veterans' Education Section of the State Department of Education for Missouri.
7. Published and unpublished data from the Missouri State Board of Cosmetology.
8. Published and unpublished data from previous research.

Procedure for Projecting Employment Data

The projections of employment for service workers in Missouri in the various occupational groups involved the compilation of 1940-1960 employment data for these workers and the identification of trends on which to project the 1970 employment. The projections were computed by multiplying the 1960 employment figures by their ten year per cent change and adding the increase or subtracting the decrease from the 1960 base figure. The employment opportunities for each occupational group were computed as the net difference between

the expected number to be employed in 1970 and those employed in 1960 plus the separation of workers from the labor force.

Employment of Women Service Workers in Missouri, 1960-1970

Data on six occupational groups were collected and projected for women service workers. These groups were: laundry and dry cleaning operatives; domestic servants; barbers and cosmetologists; charwomen, janitors, and porters; cooks; and waitresses, bartenders, and counter workers.

The total employment of women service workers in 1960 was 84,652 and this is expected to increase to 105,437 by 1970, as indicated in Table 1.

The number of women who are to be employed as domestic servants is expected to decrease by about 5,000 during the decade. The anticipated employment for the other women's occupational groups included in the study is expected to increase about, or well over, one-third of the 1960 employment in the occupational groups.

Approximately 47,000 women, or nearly one-half of the expected total employment of women service workers, are expected to be employed as cooks, waitresses, bartenders, and counter workers.

Age Distribution of Women Service Workers, 1960

The age distribution of women service workers in 1960 was computed by multiplying the total number of women service workers in 1960, in the occupation, by the per cent that the age group cell was to the total employment in the occupation in 1950. This procedure, of course, based the 1960 age distribution of women service workers on the 1950 age distribution of these workers.

TABLE I-PROJECTED EMPLOYMENT OF WOMEN SERVICE WORKERS IN MISSOURI FOR 1970

Occupation	Number in 1960	Yearly mean per cent change	Number in 1970
Waitresses, bartenders, and counter workers	19,891	3.207	26,270
Domestic servants	29,778	-1.759	24,544
Cooks	11,869	7.586	20,872
Laundry and dry cleaning operatives	11,299	4.790	15,558
Barbers and cosmetologists	6,980	3.173	9,195
Charwomen, janitors, and porters	4,835	8.610	8,998
Total	84,652		105,437

The age distribution of women service workers shows that the largest number of these workers were in the 35-44 age group and most of the occupational groups had the highest employment in the 35-44 and/or the 45-54 age groups, as indicated in Table II. However, waitresses, bartenders, and counter workers appeared to be younger workers since over one-half of them were 34 and under.

TABLE II-AGE DISTRIBUTION OF WOMEN SERVICE WORKERS IN MISSOURI, 1960

Occupation	Number in Age Group									
	14-19	20-24	25-29	30-34	35-44	45-54	55-59	60-64	65 and over	Total
Domestic servants	2,492	1,751	2,055	2,445	6,289	6,646	2,969	2,537	2,594	29,778
Waitresses, bartenders, and counter workers	3,705	3,270	2,771	2,532	4,213	2,266	573	372	189	19,891
Cooks	178	392	667	917	3,055	3,451	1,532	1,082	595	11,869
Laundry and dry cleaning operatives	534	1,008	1,245	1,251	2,967	2,471	846	553	424	11,299
Barbers and cosmetologists	248	757	987	1,409	2,054	1,062	268	117	78	6,980
Charwomen, janitors, and porters	124	164	203	348	1,040	1,217	681	596	462	4,835
Total in Group	7,281	7,342	7,928	8,902	19,618	17,113	6,869	5,257	4,342	84,652

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Employment Opportunities for Women Service Workers in Missouri, 1960-1970

There are expected to be 62,389 employment opportunities for women service workers from 1960 through 1970, as indicated in Table III. The two occupational groups waitresses, bartenders, and counter workers; and cooks are expected to offer over one-third of the employment opportunities for women service workers during the decade.

TABLE III-EMPLOYMENT OPPORTUNITIES FOR WOMEN SERVICE WORKERS IN MISSOURI, 1960-1970

Occupation	Separations	Increase 1960-1970	Total Employment Opportunities
Waitresses, bartenders, and counter workers	10,373	6,379	16,752
Cooks	5,397	9,003	14,400
Domestic servants	15,138	-5,234	9,904
Laundry and dry cleaning operatives	5,303	4,259	9,562
Charwomen, janitors, and porters	2,421	4,163	6,584
Barbers and cosmetologists	2,972	2,215	5,187
Total	41,604	20,785	62,389

Although the number of women who are expected to be employed as domestic servants shows a decrease over the 1960 employment, this occupational group appears to need 9,904 replacement workers during the decade.

Employment of Men Service Workers in Missouri, 1960-1970

Data on fourteen occupational groups were collected and projected for men service workers. These groups were: bakers; radio and TV repairmen; shoemakers and repairmen; parking lot attendants; laundry and dry cleaning operatives; domestic servants; barbers and cosmetologists; charwomen, janitors, and porters; cooks; elevator operators; firemen; guards and watchmen; policemen; and waiters, bartenders, and counter workers.

A total of 74,212 men were employed in Missouri as service workers in 1960 and 88,468 are expected to be employed in 1970, as indicated in Table IV. The number of radio and TV repairmen is expected to increase from 3,877 employed in 1960 to 11,068 to be employed in 1970. The employment of male service workers in the other occupational groups is expected to experience growth patterns of less than five per cent per year, with the employment of male domestic servants, bakers, cooks, and elevator operators showing a decline.

TABLE IV-PROJECTED EMPLOYMENT OF MEN SERVICE WORKERS IN MISSOURI FOR 1970

Occupation	Number in 1960	Yearly mean per cent change	Number in 1970
Charwomen, janitors and porters	19,507	0.3002	20,093
Parking lot attendants	8,991	3.0380	11,722
Radio and TV repairmen	3,877	18.5490	11,068
Waiters, bartenders, and counter workers	7,612	0.5988	8,068
Laundry and dry cleaning operatives	4,903	4.7900	7,251
Guards and watchmen	6,552	0.6409	6,972
Barbers and cosmetologists	5,090	0.6950	5,444
Policemen and detectives	4,998	0.7175	5,357
Firemen	2,857	2.3604	3,531
Cooks	3,352	-1.0172	3,011
Shoemakers and repairmen	1,801	2.211	2,199
Bakers	2,426	-1.1952	2,136
Elevator operators	1,039	-1.6717	866
Domestic servants	1,207	-3.7862	750
Total	74,212		88,468

Age Distribution of Men Service Workers, 1960

The age distribution of men service workers in 1960 was computed by multiplying the total number of men service workers in 1960, in the occupation, by the per cent that the age group cell was to the total employment in the occupation in 1950. This procedure, of course, based the 1960 age distribution of men service workers on the 1950 age distribution of these workers.

The age distribution of men service workers shows that, in the main, the groups within the age limits of 30-54 appear to include the largest number of workers, as indicated in Table V. However, there are certain exceptions to this tendency. Over one-half of the parking lot attendants appeared to be under 30 and about one-fourth of the guards and watchmen appeared to be 65 and over.

Employment Opportunities for Men Service Workers in Missouri, 1960-1970

There are expected to be 34,011 employment opportunities for men service workers in Missouri during the 1960-1970 decade, as indicated in Table VI. The occupational group of radio and TV repairmen will apparently offer the greatest number of employment opportunities, 7,540, for men service workers during the decade. The occupational group of charwomen, janitors, and porters appear to be second high with 7,389 expected employment opportunities. Three occupational groups, for male service workers, should have employment opportunities exceeding 3,000; these are: parking lot attendants, laundry and dry cleaning operatives, and guards and watchmen.

TABLE V-AGE DISTRIBUTION OF MEN SERVICE WORKERS IN MISSOURI, 1960

Occupation	Number in Age Group									
	14-19	20-24	25-29	30-34	35-44	45-54	55-59	60-64	65 and over	Total
Charwomen, janitors, and porters	792	1,122	1,278	1,299	3,445	4,299	2,235	2,070	2,967	19,507
Parking lot attendants	1,637	2,051	1,466	996	1,422	754	280	178	207	8,991
Waiters, bartenders, and counter workers	848	770	843	822	1,752	1,337	479	414	347	7,612
Guards and watchmen	32	106	230	263	768	1,436	1,016	1,098	1,603	6,552
Barbers and cosmetologists	21	149	270	254	933	1,522	640	615	686	5,090
Policemen and detectives	3	158	517	625	1,405	1,122	454	334	380	4,998
Laundry and dry cleaning operatives	387	704	707	502	1,033	858	337	209	166	4,903
Radio and TV repairmen	151	560	896	731	1,031	368	88	26	26	3,877
Cooks	153	276	332	356	826	741	295	214	159	3,352
Firemen	10	277	442	384	694	568	238	146	98	2,857
Bakers	99	280	273	238	627	503	175	135	96	2,426
Shoemakers and repairmen	43	105	133	115	345	397	204	208	251	1,801
Domestic servants	75	81	74	90	250	264	119	105	149	1,207
Elevator operators	57	77	60	52	133	202	107	129	222	1,039
Total in group	4,308	6,716	7,521	6,727	14,664	14,371	6,667	5,881	7,357	74,212

TABLE VI-EMPLOYMENT OPPORTUNITIES FOR MEN SERVICE WORKERS IN MISSOURI, 1960-1970

Occupation	Separations	Increase 1960-1970	Total Employment Opportunities
Radio and TV repairmen	349	7,191	7,540
Charwomen, janitors, and porters	6,803	586	7,389
Parking lot attendants	940	2,731	3,671
Guards and watchmen	3,219	420	3,639
Laundry and dry cleaning operatives	821	2,348	3,169
Barbers and cosmetologists	1,838	354	2,192
Waiters, bartenders, and counter workers	1,412	456	1,868
Policemen and detectives	1,246	359	1,605
Firemen	537	674	1,211
Shoemakers and repairmen	617	398	1,015
Cooks	718	-341	377
Elevator operators	422	-173	249
Bakers	467	-290	177
Domestic servants	366	-457	-91
Total	19,755	14,256	34,011

Employment of Missouri Service Workers, by Sex and Occupation, 1940-1970

Many service occupations employ both men and women workers. However, certain of the occupations included in the study appear to employ predominately one sex or the other. In other occupations, the proportion of men or women workers has changed appreciably. For example, a review of the 1940 through 1960 employment data and the estimates of this study indicate that women were employed in substantial numbers in six of the fourteen occupations included in the study. The remaining eight occupations did not, and probably will not, employ enough women workers to have an appreciable effect on the employment in these occupations. However, with the exception of 1950, women service workers outnumbered men service workers.

In 1940 laundry and dry cleaning operatives were predominately women; by 1970 almost one-third of the workers to be employed in this occupation are expected to be men.

Domestic servants have been and are expected to continue to be predominately women. Both sexes have shown declining numbers, except for women in 1960, and are expected to continue their decline through 1970. Male domestic servants appear to be declining more rapidly than females.

Barbers and cosmetologists experienced a decline in numbers in 1950, as compared with 1940, but showed a rise in employment in 1960 and are expected to continue this trend through 1970. Women workers in these occupations appear to be increasing at a faster rate than men.

Increasing numbers of both sexes are expected to be employed as waitresses or waiters, bartenders, and counter workers, with men representing about one-third of the employment in this occupational group.

The relationships which existed and those that are expected to exist between the sex of service workers and the sex composition of total employment in Missouri are shown in Table VII.

Women service workers constituted 25.42 per cent of the total women employment in 1940 and are expected to constitute about 16 per cent in 1970. This decline, in the main, results from the rise in other employment opportunities for women and a decline in the number of women domestic servants.

In 1940 male service workers constituted 6.60 per cent of the total male employed in Missouri; by 1970 they are expected to constitute 7.30 per cent of the male employed.

TABLE VII-COMPARISON OF SERVICE WORKER EMPLOYMENT TO TOTAL EMPLOYMENT IN MISSOURI, 1940-1970*

Group	Year			
	1940	1950	1960	1970
Women service workers as a per cent of total female employment	25.42	15.59	16.33	16.34
Men service workers as a per cent of total male employment	6.60	6.14	7.04	7.30
Service workers as a per cent of total employment	10.28	8.86	10.10	10.38

*The 1940, 1950, and 1960 per cents are based on Census data, the 1970 per cents are based on the projections of the study.

In 1940, 10.28 per cent of the total workers in the State were service workers. By 1970 service workers are expected to make up 10.38 per cent of Missouri's labor force. However, if the number of service workers to be employed in 1970 are compared with the employment of these workers in 1940 there appears to be a 35 per cent increase in their numbers. When domestic servants are not included in the calculations the number of expected service workers in 1970 will have increased by about 84 per cent over the number employed in 1940.

Procedure for Projecting Training Data

The projection of training opportunities for service workers in Missouri involved the compilation of yearly enrollment figures, from 1950-1960, for students who had been preparing for entrance into service occupations. The projections were computed by multiplying the 1955-1960 base enrollment figures by their expected ten year per cent change.

The anticipated enrollment data were then adjusted to indicate the number of individuals expected to be enrolled, the number of students who may be expected to graduate, and the number of trainees who may be expected to enter the occupation for which they are to be trained.

Projected Enrollment Opportunities for Women Service Workers In Missouri, 1960-1970

The number of women who are expected to be enrolled in training programs for service workers from 1960 through 1970, is indicated in Table VIII. The ten year per cent changes would seem to indicate a substantial change in the number who are expected to be enrolled. However, the number of women who have been enrolled in training programs that trained service workers has not been large and a moderate increase in numbers can often result in a high per cent change for that group.

TABLE VIII-PROJECTED ENROLLMENT OPPORTUNITIES FOR WOMEN SERVICE WORKERS IN MISSOURI, 1960-1970

Training program	Number 1955-1960	10 year per cent change	Number 1960-1970
Cosmetologists (private schools)	8,874	136.66	21,000
Cosmetologists (public schools)	968	108.28	2,016
Food trades	508	76.08	894
Laundry and dry cleaning operatives	116	315.54	482
Domestic servants	14	---	
Charwomen, janitors, and porters	0	00.00	0
Total			24,392

Projected Enrollment Opportunities for Men Service Workers in Missouri, 1960-1970

The number of men who are expected to be enrolled in training programs for service workers from 1960 through 1970 is indicated in Table IX. The ten year per cent changes were based on past enrollments in the enumerated programs. Since the individual programs did not enroll large numbers of students a moderate increase in the number being trained can result in a high per cent change for that group.

Based on these data, male enrollees in training programs for laundry and dry cleaning operatives are expected to experience the greatest change, 334.34 per cent, for the decade. The largest projected increase, in terms of number enrolled, is anticipated in radio and TV repairmen training programs. There are expected to be fewer males enrolled in training programs for charwomen, janitors, and porters, than in any of the other training programs, 227.

Barbers have been, and are expected to continue to be, trained in private schools.

Service Workers Expected to be Trained in Missouri, by Sex and Occupation, 1960-1970

Training programs for service workers prepare both men and women to enter many service occupations. However, certain of the training programs included in the study appear to train predominately one sex or the other.

TABLE IX-PROJECTED ENROLLMENT OPPORTUNITIES FOR MEN SERVICE WORKERS IN MISSOURI, 1960-1970

Training program	Number 1955-1960	10 year per cent change	Number 1960-1970
Radio and TV repairmen	1,331	198.50	3,973
Barbers (private schools)	1,358	140.26	3,263
Food trades	876	189.34	2,535
Laundry and dry cleaning operatives	529	334.34	2,238
Shoe repairmen	403	166.36	1,073
Charwomen, janitors, and porters	99	130.00	227
Domestic servants	0	00.00	0
Elevator operators	0	00.00	0
Firemen	0	00.00	0
Guards and watchmen	0	00.00	0
Parking lot attendants	0	00.00	0
Policemen and detectives	0	00.00	0
Total			13,369

The number and sex of individuals who may be expected to enroll in each of the training programs for service workers is shown in Table X. Women are expected to be trained in four of the eight training programs included in the study.

Men, it appears, will be enrolled in each of the training programs except cosmetology.

Individuals enrolled in these programs do not all complete the training or graduate. The expected number of graduates from training programs for service workers is indicated in Table XI. Women constitute 59 per cent of the total number expected to graduate from these training programs during the decade.

The expected number to graduate from training programs for service workers constitute the potential number of trained personnel who could enter the various occupations. However, not all of the graduates of such training programs enter the occupation for which they were trained or a closely related occupation. Therefore, a correction to compensate for this factor was attempted which would give an estimate of the probable number of these persons who would subsequently enter the occupation for which they are expected to be trained.

The number of persons who may be expected to enter the occupation for which they are expected to be trained is shown in Table XII.

An estimate of the attrition of individuals from the training programs for service workers may be made by dividing the total number of individuals who are expected to seek training by the expected training completions and the expected trained occupational entries. This procedure indicates the per cent that the expected training completions and the expected trained occupational entries are to the total number of individuals who may be expected to seek training for service occupations during the decade.

TABLE X-EXPECTED ENROLLMENT OF INDIVIDUALS IN SERVICE WORKER TRAINING PROGRAMS, 1960-1970

Training program	Number 1960-1970		
	Men	Women	Total
Cosmetologists (private schools)	0	21,000	21,000
Barbers (private schools)	3,263	0	3,263
Food trades	2,370	794	3,164
Laundry and dry cleaning operatives	1,954	413	2,365
Radio and TV repairmen	2,304	0	2,304
Cosmetologists	0	1,189	1,189
Shoe repairmen	621	0	621
Janitors	215	0	215
Total	10,725	23,396	34,121

TABLE XI-EXPECTED NUMBER TO GRADUATE FROM TRAINING PROGRAMS FOR SERVICE WORKERS, 1960-1970

Training program	Number 1960-1970		
	Men	Women	Total
Cosmetologists (private schools)	0	9,240	9,240
Food trades	2,048	686	2,734
Laundry and dry cleaning operatives	1,686	357	2,043
Radio and TV repairmen	1,991	0	1,991
Barbers (private schools)	1,436	0	1,436
Cosmetologists	0	1,027	1,027
Shoe repairmen	536	0	536
Janitors	186	0	186
Total	7,883	11,310	19,193

TABLE XII-ANTICIPATED OCCUPATIONAL ENTRIES FROM STUDENTS EXPECTED TO GRADUATE FROM TRAINING PROGRAMS FOR SERVICE WORKERS, 1960-1970

Training program	Number 1960-1970		
	Men	Women	Total
Cosmetologists (private schools)	0	7,392	7,392
Barbers (private schools)	1,149	0	1,149
Radio and TV repairmen	1,067	0	1,067
Food trades	725	280	1,005
Laundry and dry cleaning operatives	647	154	801
Cosmetologists	0	760	760
Shoe repairmen	288	0	288
Janitors	65	0	65
Total	3,941	8,586	12,527

These data indicate that about 56 per cent of those who may be expected to seek training for service occupations will complete their training, as illustrated in Figure I.

This appears to be an appreciable reduction of the number who could be trained as service workers. Moreover, when the expected trained occupational entries are compared with the number who are expected to seek training the attrition becomes even greater. In this case, the expected trained occupational entries represent only about 37 per cent of those who are expected to seek training for service occupations during the decade.

It seems apparent that, if only 37 per cent of those who are expected to seek training ultimately become employed in the occupation for which they are to be trained, changes need to be made in the selection and placement practices for students in these programs.

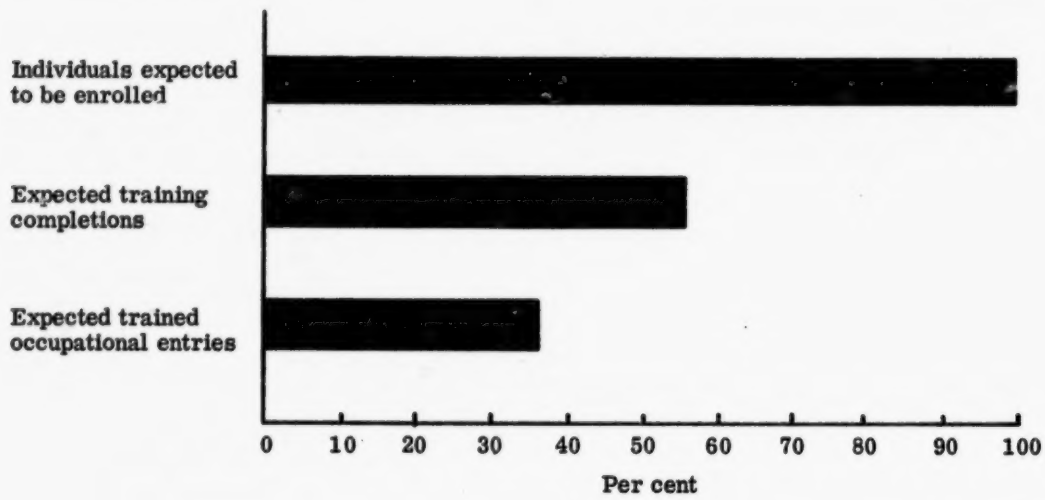

FIGURE I

COMPARISON OF INDIVIDUALS EXPECTED TO BE ENROLLED, EXPECTED TRAINING COMPLETIONS, AND EXPECTED TRAINED OCCUPATIONAL ENTRIES, EXPRESSED AS A PER CENT, FOR SERVICE OCCUPATIONAL TRAINING PROGRAMS IN MISSOURI, 1960-1970

The Imbalance

A comparison of the total number of employment opportunities for service workers with the total number of training opportunities for service workers indicates that there is a great imbalance between the two. There is expected to be a total of 96,400 employment opportunities for service workers in Missouri during the decade, as indicated in Table XIII. To supply this apparent demand there is expected to be a total of only 34,121 individuals seeking training for service occupations and 12,527 of these may be expected to complete their training and enter the occupation for which they are to be trained, leaving an expected shortage of 83,873.

The greatest imbalance between the number who should be trained for a service occupation and the number of employment opportunities, a shortage of 32,569 trained occupational entries, is expected for the food trades.

TABLE XIII-EXPECTED IMBALANCE BETWEEN EMPLOYMENT OPPORTUNITIES AND TRAINING OPPORTUNITIES FOR SERVICE WORKERS IN MISSOURI, 1960-1970

Occupational group	Employment Opportunities	Training Opportunities*	Apparent Imbalance**	Expected Trained Occupational Entries	Expected Imbalance***
Food trades	33,574	3,164	-30,410	1,005	-32,569
Charwomen, janitors, and porters	13,973	215	-13,758	65	-13,908
Laundry and dry cleaning operatives	12,731	2,365	-10,366	801	-11,930
Domestic servants	9,813	0	- 9,813	0	- 9,813
Radio and TV repairmen	7,540	2,304	- 5,236	1,067	- 6,473
Parking lot attendants	3,671	0	- 3,671	0	- 3,671
Guards and watchmen	3,639	0	- 3,639	0	- 3,639
Barbers	2,192	3,263	1,071	1,149	- 1,043
Policemen and detectives	1,605	0	- 1,605	0	- 1,605
Firemen	1,211	0	- 1,211	0	- 1,211
Shoemakers and repairmen	1,015	621	- 394	288	- 727
Elevator operators	249	0	- 249	0	- 249
Cosmetology	5,187	22,189	17,002	8,152	2,965
Total	96,400	34,121		12,527	

*Indicates the maximum number of individuals who could be trained with facilities existing at time of study.

**Represents the difference between training opportunities and employment opportunities. Negative figures denote an undersupply of training opportunities, positive an oversupply.

***Indicates the difference between expected occupational entries and employment opportunities. Negative figures denote an undersupply of trained workers, positive an oversupply.

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There is an expected shortage of over 10,000 needed trained additions to the labor force for two occupational groups: charwomen, janitors, and porters; and laundry and dry cleaning operatives. Two other occupational groups, barbers, and shoemakers and repairmen, are expected to have a shortage of about 1,000 needed trained additions to the labor force for each occupational group. There will be an apparent oversupply of 17,002 training opportunities in cosmetology and 2,965 of the graduates who could be expected to enter this occupation may not be able to find employment due to the apparent oversupply of trained workers for this occupation.

The number of women who may be expected to be trained for those service occupations which employ both sexes appears to be vastly out of line with the expected employment opportunities for women in these occupations. For example, the food trades are expected to offer a total of 33,574 employment opportunities; 31,152 of these are expected for women, but only 280 women who have been trained may be expected to enter these trades. There is expected to be a total of 13,973 employment opportunities for charwomen, janitors, and porters during the decade, 6,584 of these employment opportunities may be expected for women; however, no women are expected to seek training for this occupational group. There is expected to be a total of 12,731 employment opportunities for laundry and dry cleaning operatives and 9,562 of these may be expected for women; however, only 154 women who have been trained may be expected to enter this occupational group.

An estimate of the overall imbalance may be made by dividing the training opportunities by the employment opportunities. This procedure indicates the per cent that the training opportunities and the expected occupational entries are of the employment opportunities. If, in fact, all of those who were to enter the various training programs did complete their training and entered the occupation for which they are to be trained about 35 per cent of the demand for trained service workers would be satisfied, as illustrated in Figure II. However, when corrections are made for drop-outs and occupational non-entries only about 13 per cent of the demand for trained occupational entries for service occupations will be satisfied.

The overall imbalance may also be illustrated by dividing the total employment opportunities by the total training opportunities and, also, the total expected trained occupational entries. This procedure will give an indication of the number of employment opportunities for each training opportunity. If those students who are to seek training completed the training and entered the occupation for which they are to be trained there would be an estimated 2.80 employment opportunities for each training opportunity. However, when corrections are made for drop-outs and occupational non-entries the estimated total imbalance is 7.70 employment opportunities for each trained occupational entry.

While the overall imbalance does give an indication of the training job to be done in Missouri during the decade, it does not reveal the number of employment opportunities for each training opportunity and each expected trained occupational entry. An estimate of this imbalance may be made by dividing the employment opportunities for an occupational group by the training opportuni-

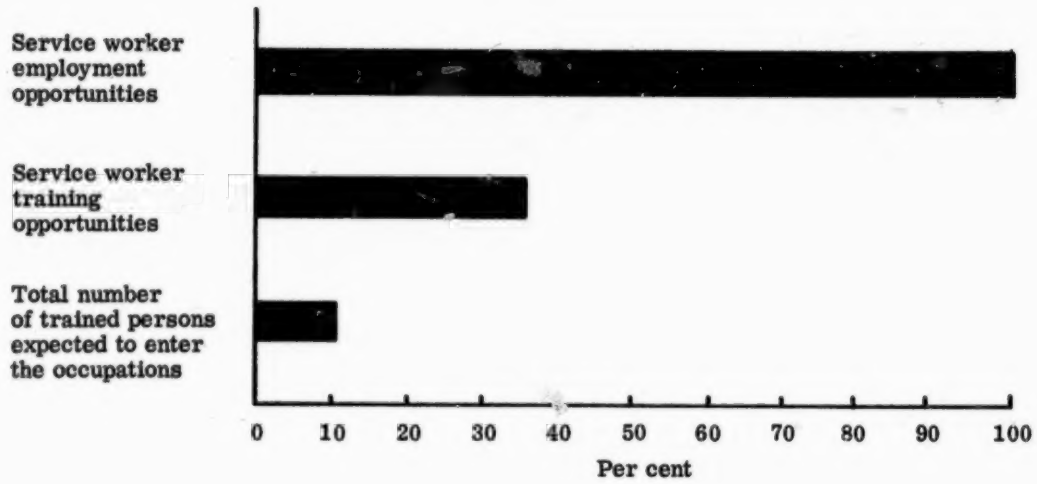

FIGURE II

COMPARISON OF EMPLOYMENT OPPORTUNITIES, TRAINING OPPORTUNITIES, AND EXPECTED TRAINED OCCUPATIONAL ENTRIES, EXPRESSED AS A PER CENT, FOR SERVICE WORKERS IN MISSOURI, 1960-1970

ties for that occupational group and, also, the trained occupational entries. Where there is a surplus of trainees the procedure can be reversed and the resultant figure referred to as a negative number of employment opportunities per training opportunity. The computed ratios are shown in Table XIV.

There are expected to be 65 employment opportunities for each training opportunity for charwomen, janitors, and porters. However, for each trained occupational entry there are expected to be 215 employment opportunities. The vast differences between those expected to be trained for an occupation and those

TABLE XIV-EXPECTED NUMBER OF SERVICE WORKER EMPLOYMENT OPPORTUNITIES FOR EACH EXPECTED TRAINING OPPORTUNITY AND TRAINED OCCUPATIONAL ENTRY IN MISSOURI, 1960-1970

Occupational group	Number of jobs per	
	Training Opportunity	Trained Occupational Entry
Charwomen, janitors, and porters	65.0	215.0
Food trades	10.6	33.4
Laundry and dry cleaning operatives	5.4	15.9
Radio and TV repairmen	3.3	7.1
Shoemakers and repairmen	1.6	3.5
Barbers	-1.5*	1.9
Domestic servants	---**	---
Elevator operators	---	---
Firemen	---	---
Guards and watchmen	---	---
Parking lot attendants	---	---
Policemen and detectives	---	---
Cosmetology	-4.3	-1.6

*Negative numbers indicate a surplus of trainees or trained occupational entries.
**Indicates no expected training opportunities.

expected to enter it, on the basis of past experience, illustrates the need for better guidance and placement services in connection with vocational training.

Conclusions

To the extent that the assumptions used in this study are valid and the data collected are reliable, the following conclusions seem warranted:

It is apparent that service workers can look forward to high levels of employment during the 1960-1970 decade.

In view of the fact that the employment in the service occupations is increasing at a relative rapid rate, it is apparent that consumers in Missouri are demanding an increasingly greater number of services.

Since the expected employment opportunities are much greater than the expected trained occupational entries for service occupations in Missouri during the 1960-1970 decade, it is apparent that here is an area of training for which the need is great and that training programs need to be established and expanded for these occupations.

Since it is almost certain that many unemployed, displaced, and poorly educated adults and youth who have marginal ability or who drop out of school will have to seek employment in service occupations, it follows that training for these occupations would provide such people with marketable skills which would be of benefit both to themselves and to society.

It is apparent that school administrators, vocational educators, and vocational counselors have not been aware of or greatly concerned with the training needs for service workers.

Better placement and guidance services are needed in connection with pre-employment training programs for service workers. The Employment Service, employers, school administrators, vocational educators, counselors—society, all of these must share in the responsibility for providing these services.

Recommendations

On the basis of the findings and conclusions of this study the following recommendations are made:

The findings of this study should be used as a basis in establishing and expanding training programs for service workers in Missouri during the 1960-1970 decade.

Vocational guidance and counseling services should be established in Missouri which are occupationally oriented for the purpose of matching the training of individuals with the jobs which are expected to become available. Since many of the service occupations will offer an increasing number of employment opportunities, measures should be taken to more nearly match the assets and liabilities of individuals with the job opportunities in these occupations.

In the future it is almost certain that many unemployed, displaced, and poorly educated persons will have to seek employment in service occupations. If the schools are to contribute substantially to the solution of the manpower problem in Missouri they must expand their offerings to adults and provide quality training, simple though it may be, which would enable these persons to become gainfully employed in service occupations and hence to serve society.

In view of the vast difference between those expected to be trained for an occupation and those expected to enter the occupation, schools should place considerably more emphasis on the placement of people in the occupation for which they have trained them.

The findings of this study should be made available to persons in Missouri who are concerned with the guidance, counseling, training, placement, and employment of persons whose assets and liabilities fit them for employment in service occupations.

VT 003 870

Prater, Robert L.
Employment Opportunities and Training Needs for Technicians in the State of Missouri with Projections through 1970. University of Missouri Bulletin, Volume 63, Number 25, Education Series, Number 88.

Missouri Univ., Columbia. Dept. of Industrial Education
Missouri State Dept. of Education, Jefferson City
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 5Sep62 25p.

*OCCUPATIONAL SURVEYS; *TECHNICAL OCCUPATIONS; *EMPLOYMENT OPPORTUNITIES; EMPLOYMENT TRENDS; EMPLOYMENT PROJECTIONS; EMPLOYMENT STATISTICS; VOCATIONAL EDUCATION; MANPOWER UTILIZATION; EDUCATIONAL NEEDS
MISSOURI

This study was made to compare the probable supply of, and demand for, technicians in Missouri from 1960 through 1970, and to interpret the implications of the findings for the vocational education program of the State. Data were obtained from federal and state agencies and from information forms sent to a sample of industrial firms within the State. Technician employment was expected to continue at a high level and at a faster rate than total employment. Preemployment training was not being provided in many of the technical occupations. Inservice technical training was needed in most industries, but employers expected some of their inservice training needs to be provided by the schools. The imbalance between preemployment technical training programs and the technical occupations was sufficient to warrant expansion of technical curriculums in the public schools. It was recommended that (1) junior colleges devote a considerable portion of their facilities to training industrial and health service technicians, (2) public school guidance, counseling, and placement services, as they relate to the technical occupations, be improved and expanded, and (3) teachers of technical occupations be trained, and (4) a higher percentage of students be enrolled in technical classes each year. This is a summary of a D.Ed. dissertation which was presented to the University of Missouri. (HC)

VT 003 870

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The
UNIVERSITY OF MISSOURI
Bulletin

Employment Opportunities and Training Needs for Technicians in the State of Missouri With Projections Through 1970

By
Robert L. Prater

UNIVERSITY OF MISSOURI
COLUMBIA, MISSOURI

VT003870

Employment Opportunities and Training Needs for Technicians in the State of Missouri With Projections Through 1970

By

Robert L. Prater

A summary report of a dissertation study by the same title submitted by the writer in partial fulfillment of the requirements for the degree of Doctor of Education in the Graduate School of the University of Missouri, 1962.

Issued by the
DEPARTMENT OF INDUSTRIAL EDUCATION
COLLEGE OF EDUCATION
In Cooperation with the
MISSOURI STATE DEPARTMENT OF EDUCATION

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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VOLUME 63, NUMBER 25 **EDUCATION SERIES, NUMBER 88**

VIVIAN HERRICK JONES, *Editor*

Published three times monthly by the University of Missouri, Office of Publications, Columbia, Missouri. Second Class postage paid at Columbia, Missouri. 2,000. **September 5, 1962**

PREFACE

Technology in America is expanding in all directions, and the need for trained technicians is growing at an even faster rate. In industry and in the health services particularly there is an acute shortage of qualified technicians. It is reported that great numbers of engineers are performing duties that could just as well be assigned to competent technicians, thus alleviating the shortage of professional engineers.

Up and down and across the country new public and private facilities for the training of technicians are being established, and in some places older trade training programs are being converted or upgraded to the technician level. Funds made available under Title VIII of the National Defense Education Act are stimulating the development of area-vocational-technical programs in public schools and junior colleges. As these developments go forward, the question of what technical occupations to prepare people for, and in what numbers, is a paramount one. Facts concerning current and future supply and demand are needed.

This report consists of a summary of the findings, conclusions and recommendations of a doctoral study designed to inventory current employment opportunities and training facilities for technicians in Missouri and to forecast employment opportunities and training needs for these workers up to 1970. It is believed that school administrators and vocational educators will find the report of value in establishing and operating technical training programs. Counselors should find the information helpful in advising with students relative to occupational choice and training. Employment Service personnel, employer and employee groups likewise should find in the report information of interest to them.

H. H. LONDON
Professor of
Industrial Education

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Purpose of the Study

The purpose of the study was to compare the probable supply of, and demand for, technicians in Missouri from 1960 through 1970, and to interpret the implications of these findings for the State's program of vocational-technical education. Specifically, the study attempted to answer the following questions:

1. How many employment opportunities for technicians will become available in the State of Missouri from 1960 through 1970?
2. What are the technical training needs in selected Missouri industries? What technical occupations are found in these industries? What conditions exist in these industries that might increase the demand for technical training during the decade?
3. How many training opportunities, training completions and trained occupational entries are expected during the decade? How will each of these compare with the expected employment opportunities for the 1960-1970 period?
4. How do the pre-employment technical training programs offered in the public schools of Missouri and the enrollments therein compare with the various technical occupations in Missouri?
5. What are the implications of these findings for the programs needed in vocational-technical education in the State? What are the implications for vocational guidance?

Definition of Terms

The definitions of the following terms indicate their meanings as used in this study.

A "technical occupation" is an occupation in which most of the worker's duties require the application of technical and scientific knowledge and technical understanding in contrast with manipulative skills. The nature of the occupation places it between that of the professional worker and the skilled worker. The occupation requires knowledge of physical, engineering, mathematical, biological or other natural sciences such as is acquired through programs approved by the Missouri State Board for Vocational Education and approved hospital schools in Missouri. It requires specialized training in the use of instruments, tools and special devices to operate, illustrate, design, maintain, fabricate and test objects, specimens, materials and equipment.

"Technician" refers to a person trained for or employed in a technical occupation.

The term "industrial technicians" refers to technicians employed in the manufacturing and nonmanufacturing industries and agencies included in the study.

The term "health service technicians" refers to technical workers in medical and dental health services.

"Title VIII of The National Defense Education Act of 1958" refers to that section of the act which provides for training of highly skilled technicians in recognized occupations requiring scientific knowledge in fields necessary for national defense.

An "Area vocational school" refers to a public school which serves a designated geographic area and offers several area vocational education programs.

"Vocational-technical education" refers to organized training designed to prepare an individual for entry into a technical occupation.

"Area vocational education program" refers to a public school program provided for under the provisions of Title VIII of the National Defense Education Act of 1958.

"Employment opportunity" means the opportunity for an individual, who is trained as a technician, to obtain employment in a technical occupation.

"Training opportunity" means the opportunity for an individual, to enter, and carry through to completion, a training program designed to prepare him to enter a technical occupation.

The term "maximum yearly completions" is used to designate the maximum number that could complete technical training each year if there were no dropouts.

The term "major industry groups," refers to the industrial groups as defined and classified in the Standard Industrial Classification Manual, 1957, Bureau of the Budget.

The term "registered X-ray technician" refers to employed technicians reported as being registered with the American Society of X-ray Technicians.

The term "registered medical technologists" refers to employed medical laboratory workers reported as being certified by the Registry of Medical Technologists of The American Society of Clinical Pathologists.

The term "nonregistered medical technicians" refers to medical laboratory workers who, because of the limited nature of their training do not qualify for complete certification by the Registry of Medical Technologists.

Source of Data

Data for the study were obtained from: The Missouri Division of Employment Security; National Science Foundation; Bureau of Census; Department of Labor; Missouri State Department of Education; American Medical Association; Missouri Hospital Association; and information forms sent to a sample of industrial firms in the State.

Employment opportunities for industrial technicians were estimated as a ratio of the number of scientists and engineers, which was, in turn, obtained by a percentage of total employment in the industries covered by the study. Employment opportunities for health service technicians, and training opportunities for technicians were ascertained by applying the per cent changes in employment and enrollments during the 1950-1960 period to the 1960-1970 period.

Industries, Agencies, and Services Included in the Study

The selected industries and agencies in which employment opportunities were projected were as follows:

Manufacturing Industries

1. Lumber and wood products

2. Furniture and fixtures
3. Stone, glass and clay products
4. Primary metal products
5. Fabricated metal products
6. Machinery, except electrical
7. Electrical machinery
8. Transportation equipment
9. Instruments and related products
10. Ordnance and miscellaneous manufacturing
11. Food and kindred products
12. Textile mill products
13. Paper and allied products
14. Chemical and allied products
15. Other non-durable goods

Nonmanufacturing industries, agencies, and services

1. Contract construction
2. Architectural and engineering services
3. Mining
4. Miscellaneous business services
5. Transportation, communications, and public utilities
6. State Government agencies
7. Medical and dental health services

Projected Level of Total Employment

On the basis of the 1950-1960 growth pattern in the manufacturing industries in the State of Missouri, employment in manufacturing is expected to be approximately 442,496 by 1970. Employment in the selected nonmanufacturing industries and agencies included in the study is estimated to be approximately 257,575 by 1970. The 1960 employment figure and the projected 1970 figures for the selected industries and agencies are shown in Table I. This represents an overall employment increase of approximately 15 per cent for the 1960-1970 period.

Employment of Scientists and Engineers: 1960 and 1970

Projected increases in employment of scientists and engineers in Missouri's industries were calculated because of their relationship to the employment of industrial technicians. Table II reveals estimates of the number of scientists and engineers employed in 1960 and the number expected by 1970.

The number of scientists and engineers employed in the industries and agencies covered by the study is expected to increase from 19,038 in 1960 to 32,323 by 1970, for an increase of approximately 70 per cent.

TABLE I-TOTAL EMPLOYMENT IN SELECTED INDUSTRIES IN 1960 AND PROJECTED TO 1970

Industry	1960 Employment*	1970 Employment**
Manufacturing	391,600	442,496
Durable Goods	196,400	248,449
Lumber and wood products	7,900	7,691
Furniture and fixtures	6,700	5,654
Stone, clay and glass products	14,700	14,050
Primary metal products	12,100	11,102
Fabricated metal products	23,500	24,550
Machinery, except electrical	25,500	28,858
Electrical Machinery	24,300	26,448
Transportation equipment	59,000	99,498
Instruments and related products	4,300	4,977
Ordnance and miscellaneous manufacturing	18,400	25,621
Non-Durable Goods	195,200	194,047
Food and kindred products	54,000	49,091
Textile mill products and apparel	36,800	30,689
Paper and allied products	12,700	16,938
Printing, publishing, etc.	26,300	29,752
Chemical and allied products	22,300	27,560
Leather and leather products	37,400	34,415
Other non-durable goods	5,700	5,602
Non-Manufacturing	231,730	257,575
Mining	8,000	7,212
Contract construction	65,100	80,696
Transportation, communication and public utilities	123,200	121,632
Engineering and architectural services	4,369	5,614
Miscellaneous business services	9,717	15,741
State government agencies***	21,344	26,680
Total	623,330	700,071

*Source: Missouri Division of Employment Security, Jefferson City, Missouri.
**Projected
***Source: National Science Foundation, Scientific and Technical Personnel in State Government Agencies (Washington: Government Printing Office, 1960), pp. 28-43.

TABLE II-SCIENTISTS AND ENGINEERS EMPLOYED IN SELECTED INDUSTRIES IN 1960 AND PROJECTED TO 1970

Industry	1960 Total Employment	1960 Per cent of total Employment	1960 Number of Scientists and Engineers	1970 Total Employment	1970 Per cent of total Employment	1970 Number of Scientists and Engineers
Manufacturing	327,900	3.6	11,907	378,329	5.3	22,422
Lumber and wood products	7,900	0.5	40	7,691	0.6	46
Furniture and fixtures	6,700	0.5	34	5,654	0.6	34
Stone, clay and glass products	14,700	1.8	265	14,050	2.4	337
Primary metal products	12,100	2.7	327	11,102	4.0	444
Fabricated metal products	23,500	3.2	752	24,550	5.7	1,399
Machinery, except electrical	25,500	4.3	1,096	28,858	5.6	1,616
Electrical machinery	24,300	8.1	1,968	26,448	10.2	2,698
Transportation equipment	59,000	6.7	3,953	99,498	10.2	10,149
Instruments and related products	4,300	7.1	305	4,977	9.3	463
Ordnance and miscellaneous manufacturing	18,400	1.8	331	25,621	3.1	794
Food and kindred products	54,000	0.7	378	49,091	0.9	442
Textile mill products and apparel	36,800	0.3	110	30,689	0.3	92
Paper and allied products	12,700	1.8	229	16,938	2.7	457
Chemical and allied products	22,300	9.4	2,096	27,560	12.4	3,417
Other non-durable goods	5,700	0.4	23	5,602	0.6	34
Non-Manufacturing	231,730		7,131	257,575		9,901
Mining	8,000	4.6	368	7,212	8.6	620
Contract construction	65,100	3.5	2,278	80,696	4.5	3,631
Transportation, communication and public utilities	123,200	1.6	1,971	121,623	1.9	2,311
Engineering and architectural services*	4,369	30.3	1,324	5,614	30.3	1,701
Miscellaneous business services	9,717	1.5	146	15,741	2.1	331
State government agencies**	21,344	4.9	1,044	26,680	4.9	1,307
Total	559,630		19,038	635,904		32,323

*Employment in Engineering and Architectural Services was estimated to be in the same proportion of the labor force of Missouri in 1960 and 1970 as it was for the Nation as a whole.

**Source: National Science Foundation, Scientific and Technical Personnel in State Government Agencies (Washington: Government Printing Office, 1960), pp. 28-43.

Employment of Industrial Technicians: 1960 and 1970

The number of technicians employed in the State of Missouri is expected to increase from 13,466 in 1960 to 22,129 by 1970, an increase of approximately 65 per cent. The transportation equipment group, having the largest employment of the manufacturing industries, showed the highest increase in the estimated number of technicians to be employed by 1970. As revealed in Table III, the number of technicians employed in this group is expected to increase from 2,451 in 1960 to 6,292 by 1970. Ordnance and miscellaneous manufacturing had 324 technicians in 1960; this figure is expected to increase to 778 by 1970. The number of technicians employed in miscellaneous business services is estimated to be 92. This group is expected to increase to 209 by 1970, an increase of 127 per cent.

Figure I graphically illustrates the relationships between the amount of growth expected in total employment, scientific and engineering employment, and technical employment. As indicated, the growth expected in technical employment is more than four times greater than the expected growth in total overall employment for the decade.

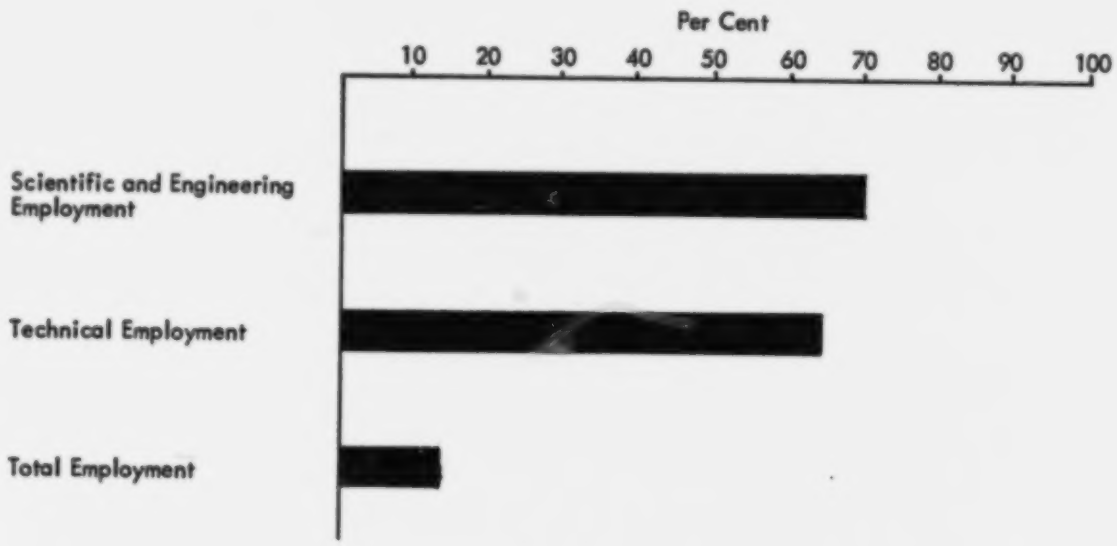

FIGURE 1

COMPARISON OF THE PER CENT INCREASE EXPECTED IN TOTAL EMPLOYMENT, SCIENTIFIC AND ENGINEERING EMPLOYMENT AND TECHNICAL EMPLOYMENT 1960 to 1970

Employment Opportunities for Industrial Technicians

Between 1960 and 1970 it is expected that there will be 10,315 employment opportunities for technicians in Missouri, as indicated in Table IV. Six manufacturing industries are expected to provide approximately 70 per cent of the employment opportunities for the decade. These industries and the estimated num-

TABLE III-INDUSTRIAL TECHNICIANS EMPLOYED IN MISSOURI IN 1960 AND PROJECTED TO 1970

Industry	1960 Total Scientists and Engineers	1960 Ratio of Technicians to Scientists and Engineers*	1960 Total Technicians	1970 Total Scientists and Engineers	1970 Ratio of Technicians to Scientists and Engineers*	1970 Total Technicians
Manufacturing	11,907		7,921	22,422		14,834
Lumber and wood products	40	.85	34	46	.85	39
Furniture and fixtures	34	.85	29	34	.85	29
Stone, clay and glass products	265	.49	130	337	.49	165
Primary metal products	327	.51	167	444	.51	226
Fabricated metal products	752	.98	737	1,399	.98	1,370
Machinery, except electrical	1,096	.97	1,063	1,616	.97	1,569
Electrical machinery	1,968	.73	1,437	2,698	.73	1,970
Transportation equipment	3,953	.62	2,451	10,149	.62	6,292
Instruments and related products	305	.83	253	463	.83	384
Ordnance and miscellaneous manufacturing	331	.98	324	794	.98	778
Food and kindred products	378	.51	192	442	.51	225
Textile mill products and apparel	110	.72	79	92	.72	66
Paper and allied products	229	.63	144	457	.63	287
Chemical and allied products	2,096	.41	859	3,417	.41	1,401
Other non-durable goods	23	.96	22	34	.96	33
Non-Manufacturing	7,131		5,545	9,901		7,295
Mining	368	.28	103	620	.28	174
Contract construction	2,278	.39	885	3,631	.39	1,416

TABLE III (Continued)

Industry	1960 Total Scientists and Engineers	1960 Ratio of Technicians to Scientists and Engineers*	1960 Total Technicians	1970 Total Scientists and Engineers	1970 Ratio of Technicians to Scientists and Engineers*	1970 Total Technicians
Transportation, communication and public utilities	1,971	.90	1,774	2,311	.90	2,079
Engineering and architectural services	1,324	1.11	1,469	1,701	1.11	1,888
Miscellaneous business services	146	.63	92	331	.63	209
State government agencies	1,044	1.17**	1,222	1,307	1.17	1,529
Total			13,466			22,129

*Source: National Science Foundation, The Long-Range Demand for Scientific and Technical Personnel: A Methodological Study (Washington: Government Printing Office, 1961), p. 47.

**Source: National Science Foundation, Employment of Scientific and Technical Personnel in State Government Agencies (Washington: Government Printing Office, 1960), pp. 28-43.

TABLE IV-EMPLOYMENT OPPORTUNITIES FOR INDUSTRIAL TECHNICIANS PROJECTED TO 1970

Industry	Increase or Decrease From 1960 to 1970*	Number Separated 1960 to 1970**	Employment Opportunities
Manufacturing			7,885
Durable goods			
Lumber and wood products	5	4	9
Furniture and fixtures	0	4	4
Stone, glass and clay products	35	16	51
Primary metal products	59	20	79
Fabricated metal products	633	90	723
Machinery, except electrical	506	130	636
Electrical machinery	533	176	709
Transportation equipment	3,841	301	4,142
Instruments and related products	131	31	162
Ordnance and miscellaneous manufacturing	454	40	494
Non-Durable Goods			
Food and kindred products	33	24	57
Textile mill products	- 13	10	- 3
Paper and allied products	143	18	161
Chemical and allied products	542	105	647
Other non-durable goods	11	3	14
Non-manufacturing			2,430
Mining	71	13	84
Contract construction	531	109	640
Transportation, communication and public utilities	305	217	522
Engineering and architectural services	419	180	599
Miscellaneous business services	117	11	128
State Government agencies	307	150	457
Total		1,652	10,315

*Computed from Table III

**Based on a separation rate of 122.6 per thousand employed in 1960.

ber of employment opportunities they are expected to provide are as follows: transportation equipment, 4,142; ordnance and miscellaneous manufacturing, 494; fabricated metal products, 723; electrical machinery, 709; chemical and allied products, 647; and machinery, except electrical, 636. The combined employment opportunities for the decade are expected to be only 135 in the following five industries; lumber and wood products, furniture and fixtures, stone, clay and glass products, food and kindred products and other nondurable goods.

The nonmanufacturing groups are expected to provide slightly less than 25 per cent of the total employment opportunities. The highest *per cent* increase in technician employment during the 1960-1970 period is expected in miscellaneous business services. The number of technicians employed in this group is expected to increase from 92 in 1960 to 209 by 1970, for an increase of 127 per cent.

Difficulty in Obtaining An Adequate Number of Trained Technicians

An indication of the training needs for industrial technicians was ascertained by asking employers if they had experienced any difficulty securing trained technicians for their industries. It was found that industrial employers had experienced some degree of difficulty obtaining trained technicians in 18 technical occupations, as indicated in Table V.

TABLE V-DIFFICULTY IN OBTAINING TRAINED TECHNICIANS

Technical Occupations	Number of Employers Having Difficulty In Finding Trained Technicians*
Drafting	35
Production	22
Sales	21
Inspection	16
Electronics	14
Maintenance	10
Instrumentation	10
Laboratory	10
Chemistry	5
Estimating	2
Tool designing	2
Agricultural	1
Engineering aid	1
Electrical	1
Photography	1
Ceramics	1
Research and development	1
Welding	1

*The figures in this column were not totaled because many employers had experienced some difficulty in finding trained persons in more than one technical occupation and would have been counted more than once.

Sources of Technicians for Missouri Industries

In an effort to gain some insight into the types of persons industry uses in its technical jobs, employers were asked to indicate the sources of supply for their technicians. As revealed in Table VI, the three avenues through which most employers get their technicians are as follows: (1) persons with some college training, trained on the job, (2) up-graded "top-notch" mechanics, and (3)

TABLE VI-SOURCES OF TECHNICIAN-LEVEL EMPLOYEES

Source	Number of Employers Obtaining Technicians from Each Source	Per Cent From Each Source (Range)	Average Per Cent From Each Source
Employ people with some college training and train them on the job	57	5-100	41
Upgrade "top-notch" Mechanics and train them on the job	55	5-100	47
Employ formally trained technicians, direct from junior colleges, area vocational schools, etc.	53	4-100	42
Attract them away from competitors	26	5-100	22
Use engineers and scientists as technicians	18	10-40	25
Use technicians trained in the armed services	12	5-40	15

formally trained technicians direct from junior colleges, technical high schools, technical institutes, and area vocational schools.

Immediate Need for Industrial Technicians

In order to provide some insight into the type of industrial technicians likely to be needed in the State of Missouri during the 1960-1970 decade, data were gathered relating to the immediate need for technicians, by specific job titles. An indication of the immediate need for industrial technicians and the type of technical workers needed is given in Table VII.

Employment Opportunities for Health Service Technicians

Employment opportunities for health service technicians were obtained by adding the 1960-1970 increase in employment of technicians to the estimated ten-year separation figure for each technician group.

As revealed in Table VIII, 4,482 employment opportunities are expected to become available for health service technicians by 1970. Approximately 65 per cent of the expected employment opportunities will become available as a result of normal employment and occupational growth. The other 35 per cent will become available as a result of separations from the labor force.

TABLE VII-TECHNICIANS NEEDED IMMEDIATELY BY MISSOURI INDUSTRIES

Job Title	Number of Industries Expressing Need	Number Technicians Needed Immediately
Draftsmen	17	66
Laboratory technicians	12	52
Inspectors	5	43
Chemical technicians	4	34
Engineer's aids	7	20
Tool designers	8	16
Unclassified*	1	14
Engineering technicians	10	13
Estimators	10	12
Production technicians	10	11
Agricultural technicians	1	5
Methods technicians	1	4
Electronic technicians	3	3
Maintenance technicians	2	3
Sales technicians	1	1
Styling technicians	1	1
Total	93	298

*The respondent failed to furnish the specific job titles for this group of technicians.

TABLE VIII-EMPLOYMENT OPPORTUNITIES FOR TECHNICIANS IN MEDICAL AND HEALTH SERVICES IN 1960 AND PROJECTED TO 1970

Technician Group	Increase From 1960 to 1970	Number Separated 1960 to 1970		Employment Opportunities
		Males*	Females**	
Medical Technologists	516	40	258	814
X-ray Technicians	718	35	226	979
Other Health Service Technicians	1,851	112	726	2,689
Total	3,085	187	1,210	4,482

*Based on the assumption that 39 per cent of the total technicians in 1960 were males and a separation rate of 128 per thousand.

**Based on the assumption that 61 per cent of the total technicians in 1960 were males and a separation rate of 128 per thousand.

Number of Trained Technicians Expected to Enter the Labor Force During the Decade

The number of technicians expected to enter the labor force during the decade were ascertained by computing the number of training opportunities and training completions and by applying placement rates to the number expected to complete technical training during the decade.

Table IX contains a summary of the number of training opportunities, the number expected to be trained and the number expected to enter technical occupations during the decade.

Training opportunities for industrial technicians in Missouri's public schools are based on the assumption that an average of five new day preparatory programs will be opened each year during the 1960-1970 period.

TABLE IX-TECHNICIANS ENTERING THE LABOR FORCE

Source of Training	Training Opportunities	Number Trained	Number Expected To Enter Technical Occupations*
Industrial Technicians	7,139	5,806	4,512
Public Schools			
Cooperative classes	482	420	140
Day preparatory classes	3,492	3,145	2,579
Private Schools	3,165	2,241	1,793
Medical and Health Service Technicians	4,120	3,948	3,340
Cooperative classes			
Dental Technicians	275	237	194
Medical Technicians	355	311	255
Hospital Schools			
X-ray Technicians	1,240	1,190	1,012
Medical Technologists	2,250	2,210	1,879
Total	11,259	9,754	7,852

*Computed by applying completion rates to the number trained by each agency.

The Imbalance

The imbalance between employment opportunities and the number of training opportunities, training completions, and expected trained occupational entries is indicated in Table X. It is estimated that there will be 3,176 more employment opportunities for industrial technicians than training opportunities. Employment opportunities are expected to exceed the number of trained occupational entries by 5,803 during the 1960-1970 period.

The number of employment opportunities for health service technicians is expected to exceed training opportunities by 362. Since all health service technicians are not expected to enter the occupations for which they are trained, it is estimated that the number of trained health service technicians entering the labor force during the 1960's will be 1,142 less than the expected employment opportunities.

The imbalances between the employment opportunities and the training opportunities for industrial technicians in Missouri is further illustrated in Figure 2. The imbalance between employment opportunities and the number expected

TABLE X-EXPECTED IMBALANCE BETWEEN EMPLOYMENT OPPORTUNITIES AND TRAINING OPPORTUNITIES DURING THE 1960 - 1970 DECADE

Technical Occupation	Employment Oppor-tunities*	Training Oppor-tunities*	Apparent Imbalance**	Expected Trained Occupational Entries***	Expected Imbalance****
Industrial Technicians	10,315	7,139	-3,176	4,512	-5,803
Health Service Technicians	4,482	4,120	- 362	3,340	-1,142
Medical Technologists	814	2,250	+1,436	1,879	+1,165
X-ray Technicians	979	1,240	+ 261	1,012	+ 33
Other Health Service Technicians	2,689	630	-2,059	449	-2,240

*Source: Tables IV and IX.

**Indicates difference between training opportunities and employment opportunities. Plus figures denote an over supply of training opportunities, minus figures an under supply.

***Source: Table IX.

****Indicates difference between expected trained occupational entries and employment opportunities. Plus figures denote an over supply of trained workers, minus figures an under supply.

-17-

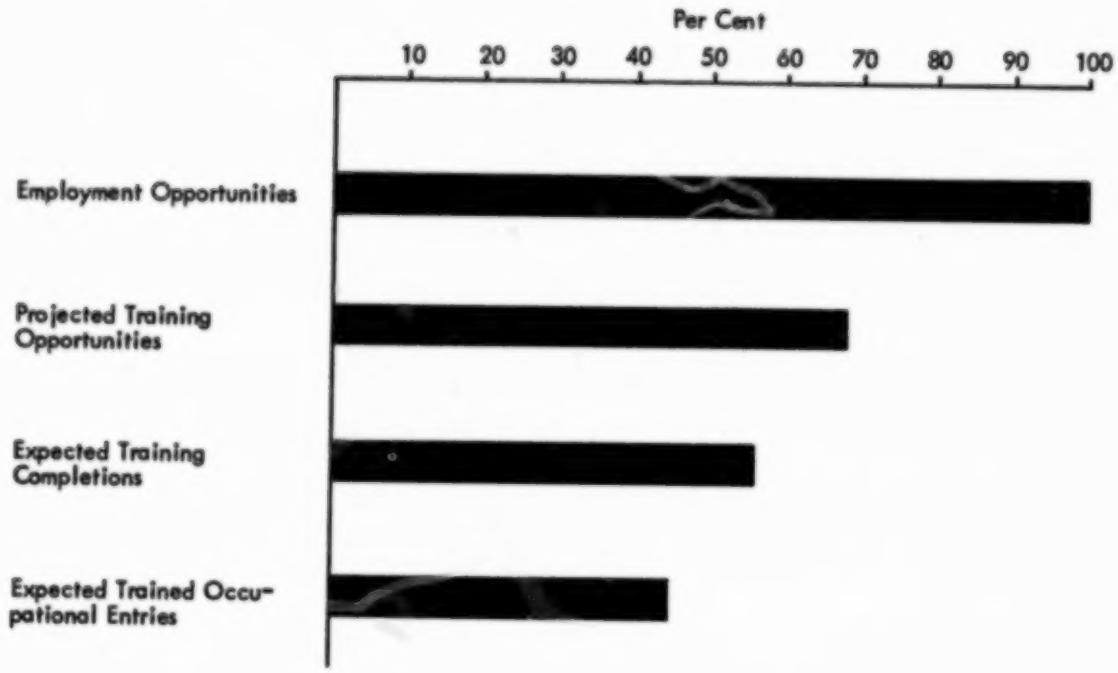

FIGURE 2

COMPARISON OF TOTAL EMPLOYMENT OPPORTUNITIES, TRAINING OPPORTUNITIES, TRAINING COMPLETIONS, AND EXPECTED TRAINED OCCUPATIONAL ENTRIES FOR INDUSTRIAL TECHNICIANS DURING THE 1960-1970 DECADE EXPRESSED AS A PER CENT

to enter the labor force is also illustrated. The three variables—training opportunities, training completions, and expected trained occupational entries—are expressed in terms of their relationship to total employment opportunities. It will be observed that the number of expected trained occupational entries is estimated to be less than one-half of the employment opportunities. The number of training opportunities is estimated to be approximately 31 per cent less than employment opportunities, and the number of expected training completions is estimated to be approximately 45 per cent less than the employment opportunities.

Figure 3 graphically illustrates the imbalances expected between employment opportunities and training opportunities for technicians in the health services. Projected training opportunities are approximately ten per cent less than the projected employment opportunities. The number of trained occupational entries is expected to be approximately 25 per cent less than the expected number of employment opportunities.

A reasonably large imbalance was also found to exist between the number of different technical occupations in the State and the number of pre-employment technical training programs in operation in the schools included in the study.

As indicated in Table XI, there were 32 technical occupations in the industries covered by the study. Training programs were being offered in only 12 of the 32 technical occupations.

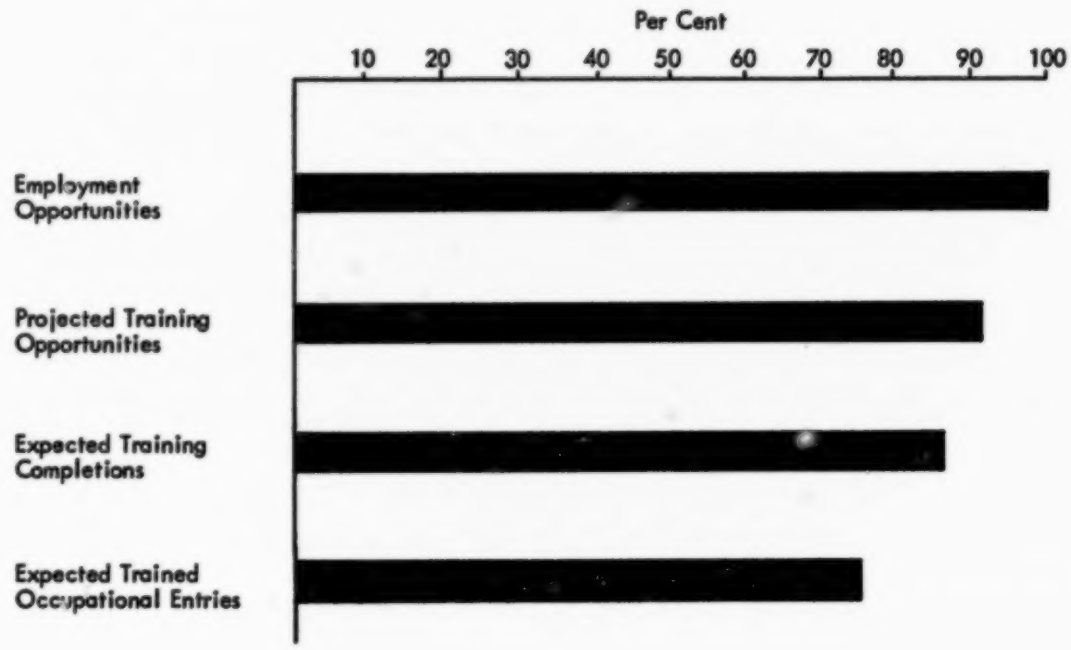

FIGURE 3

COMPARISON OF TOTAL EMPLOYMENT OPPORTUNITIES, TRAINING OPPORTUNITIES, AND EXPECTED TRAINED OCCUPATIONAL ENTRIES FOR HEALTH SERVICE TECHNICIANS DURING THE 1960-1970 DECADE EXPRESSED AS A PER CENT

Figure 4 illustrates the imbalance between the number of technical occupations and the number of technical training programs in the State.

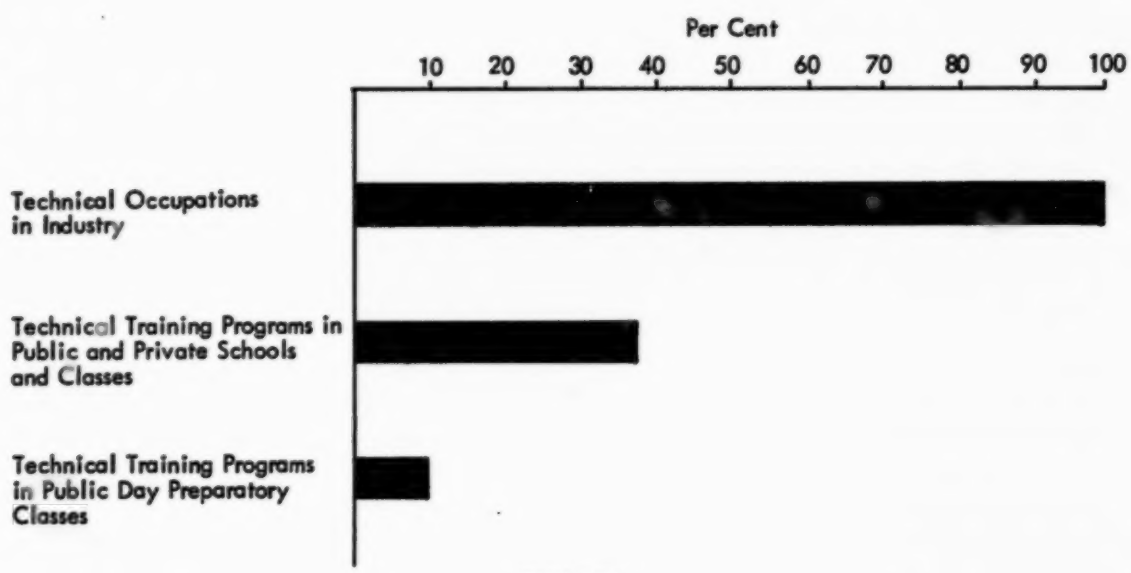

FIGURE 4

COMPARISON BETWEEN CURRENT TECHNICAL TRAINING PROGRAMS AND TECHNICAL OCCUPATIONS IN SELECTED INDUSTRIES AND AGENCIES EXPRESSED AS A PER CENT

The technical training programs in all schools studied represent less than one-half of the technical occupations in the selected industries studied. The number of public school day preparatory technical training programs represent less than one-tenth of the technical occupations in Missouri.

TABLE XI-IMBALANCE BETWEEN TECHNICAL OCCUPATIONS AND TECHNICAL TRAINING PROGRAMS OFFERED IN PUBLIC AND PRIVATE SCHOOLS IN MISSOURI, 1960-61

Types of Technical Workers in Selected Industries and Agencies*	Training Provided for Technicians in Public and Private Schools		
	Day Classes	Cooperative Classes	Private School**
Agricultural Technicians	No	No	No
Ceramics Technicians	No	No	No
Chemical Technicians	No	Yes	No
Construction Technicians	No	No	No
Communications	No	Yes	No
Computer Technicians	No	No	No
Detailers	No	No	No
Development Technicians	No	No	No
Draftsmen	Yes	Yes	No
Electronics Technicians	Yes	Yes	Yes
Electronics Test Equipment Designer	No	No	No
Engineering Technicians	No	Yes	No
Engineering Aid and Assistants	No	No	No
Estimators	No	Yes	No
Inspectors	No	No	No
Instrumentmen	No	No	No
Laboratory Technicians	No	Yes	No
Lead Technicians	No	No	No
Maintenance Technicians	No	No	No
Methods Technicians	No	Yes	No
Photogrammetrists	No	No	No
Photographic Technicians	No	No	No
Research and Development Technicians	No	No	No
Rodmen	No	No	No
Sales Technicians	No	No	No
Styling Technicians	No	No	No
Technical Analysts	No	No	No
Technical Illustrators	No	No	No
Technical Recorders	No	No	No
Technical Writers	No	No	No
Tool Designers	Yes	No	No
Welding Technicians	No	No	No

*Source: Table V and VII; data received on information forms and Missouri State Highway Commission, Jefferson City, Missouri.

**Source: State Department of Education, Jefferson City, Missouri.

Conclusions

Insofar as the assumptions on which the estimates are based are sound, and the data gathered from the survey are representative of the State as a whole, the following conclusions may be drawn relative to the projected employment opportunities and training needs for technicians in Missouri up to 1970:

Employment opportunities for technicians in Missouri may be expected to continue at a high level throughout the decade.

Since the increase in the employment of technicians is expected to continue at a faster rate than total employment, it is apparent that technicians are playing an increasingly important role in the economy of Missouri.

In-service technical training is needed in most of Missouri's industries. Employers in these industries expect some of their in-service training needs to be provided by vocational-technical schools, area vocational schools and junior colleges.

Pre-employment training is not being provided in many of the technical occupations found in Missouri industries. The imbalance between pre-employment technical training programs and the technical occupations found in the State is sufficient to warrant considerable expansion of the technical curriculums in the public schools of the State.

Since a sizeable percentage of the employers in the State employ formally trained technicians, it seems reasonable to conclude that graduates of technical programs will have little difficulty in finding jobs.

Scientists and engineers in the State devote a considerable portion of their time to the performance of functions which could be performed by technicians. In view of this fact, the number of employment opportunities for industrial technicians may be expected to exceed the number estimated in this study if industrial employers in the State discontinue using their professional personnel in a technician capacity.

Since the expected training opportunities for industrial technicians are based on the assumption that new programs will be started each year in the decade, there is a need to begin the training of teachers of technical occupations.

Industrial employers in the State employ a high percentage of their technical workers direct from technical schools. They also expect the schools to play a major role in retraining displaced workers for technical occupations. Therefore, vocational-technical educators and school administrators face a real challenge from industry to accept the responsibility of assuring an adequate supply of technically trained workers.

In view of the fact that there is expected to be a shortage of trained medical technicians, and since the training prescribed for many medical laboratory workers is of shorter duration than the four years required for registered medical technologists, it is apparent that the imbalance between training opportunities and employment opportunities could be corrected, in part, by establishing some of the prescribed short-term pre-employment training programs in the public schools.

Recommendations

In view of the findings and conclusions of this study, the following recommendations are made:

The junior colleges that are expected to be established in the State should devote a considerable portion of their facilities to the training of industrial and health service technicians.

In as much as the employment opportunities for industrial technicians are expected to be more numerous than the training opportunities, additional technical programs will need to be started each year during the decade and they will have to be started at a faster rate than during the past few years.

Since there is a shortage of trained technicians in the State and at the same time a fairly high rate of general unemployment, it is evident that counselors have not been aware of, or not concerned about, changes in the occupational structure in Missouri. This condition suggests that expansions and improvements should be made in vocational guidance, counseling, and placement services. It also means that those responsible for educational planning and expansion during the current decade should give more consideration to the demands of the labor market.

In view of the fact that a large portion of the projected training opportunities depend on the expansion of new technical programs, considerable effort should be made to train teachers of technical occupations.

Since training opportunities for industrial technicians are based on the opening of several new programs each year in the decade, a much higher percentage of the school population should be enrolled in technical classes each year. This also means that counselors and teachers should make special effort to acquaint the students with the new technical training programs.

In as much as a shortage of trained technicians can hamper the industrial growth and the welfare of the State, as well as jeopardize our national defense, all interested groups should cooperate in developing adequate vocational-technical education programs.

VT 003 871
Warner, James C.
Employment Opportunities and Training Needs for Skilled Workers in the State of Missouri with Projections through 1970. University of Missouri Bulletin, Volume 63, Number 26. Education Series, Number 89.

Missouri Univ., Columbia, Dept. of Industrial Education
Missouri State Dept. of Education, Jefferson City
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 5Sep62 27p.

*SKILLED OCCUPATIONS; *EMPLOYMENT OPPORTUNITIES; EMPLOYMENT TRENDS; VOCATIONAL EDUCATION; APPRENTICESHIPS; MANPOWER UTILIZATION; EDUCATIONAL NEEDS; EMPLOYMENT STATISTICS; STUDENT ENROLLMENT; *EDUCATIONAL OPPORTUNITIES; *EMPLOYMENT PROJECTIONS
MISSOURI

This study was made to compare the probable supply of and demand for skilled industrial workers in Missouri from 1961 through 1970, and to interpret the implications of the findings for the vocational education program of the State. The data were obtained from publications and unpublished documents of federal and state agencies and from previous research relating to the problem. Conclusions were that the employment of skilled workers is expected to increase in nearly all of the nonagricultural industries in the state during the coming decade. The employment outlook is good for the skilled trades of automobile mechanics, machinists, millwrights, tool and die makers, carpenters, plumbers and pipefitters, and electricians. However, the overtraining in the areas of printing crafts, tinsmithing, coppersmithing, sheet metal, painting, paperhangers, and glaziers might result in an over-supply of these workers. Educational implications were that (1) Closer cooperation should be established among all agencies responsible for the guidance and training of skilled workers, (2) The public schools need to examine the numbers of workers trained in relation to the demand, and (3) The guidance program should seek out those students who may best profit from training for skilled jobs. This is a summary of a D.Ed. dissertation which was submitted to the University of Missouri. (HC)

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The UNIVERSITY OF MISSOURI Bulletin

Employment Opportunities and Training Needs for Skilled Workers in the State of Missouri With Projections Through 1970

By

James C. Warner

UNIVERSITY OF MISSOURI
COLUMBIA, MISSOURI

VT003871

Employment Opportunities and Training Needs for Skilled Workers in the State of Missouri With Projections Through 1970

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James C. Warner

A summary report of a dissertation study by the same title submitted by the writer in partial fulfillment of the requirements for the degree of Doctor of Education in the Graduate School of the University of Missouri, 1962.

Issued by the
DEPARTMENT OF INDUSTRIAL EDUCATION
COLLEGE OF EDUCATION
In cooperation with the
MISSOURI STATE DEPARTMENT OF EDUCATION

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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VOLUME 63, NUMBER 26 **EDUCATION SERIES, NUMBEP 19**

VIVIAN HERRICK JONES, *Editor*

Published three times monthly by the University of Missouri, Office of Public
bia, Missouri. Second Class postage paid at Columbia, Missouri. 2,000. Ser

PREFACE

The skilled trades, the "royal occupations" in the world of labor, have been the major concern of vocational-industrial educators the world over from the very beginning of pedagogically organized vocational education. Although other types of industrial and service occupations are pressing for a place in public school training programs, the skilled trades are certain to hold an important place in the years ahead.

Lacking definite information on employment opportunities and training needs, school administrators and instructors of vocational education have no other choice except to make the best estimate they can in regard to the occupations for which the school should offer training and the number of persons to be trained in any given specialty. In other words, they must depend on "educated guesswork."

Reported here in summary form are the findings, conclusions, and recommendations of a doctoral study designed to inventory present employment opportunities and training facilities for the skilled trades in the State of Missouri and to forecast the employment opportunities and training needs in the State for the ensuing decade. The study should be of interest and assistance to school administrators, counselors and teachers in providing sound vocational guidance and training for youth and adults. Likewise, the Employment Service should find the study helpful in its work in counseling and placing workers. Finally, it is believed that the study should be of some interest to employer and employee groups.

H. H. LONDON
Professor of
Industrial Education

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Purpose of the Study

The purpose of this study was to compare the probable supply of, and demand for, skilled industrial workers in Missouri from 1961 through 1970, and to interpret the implications of these findings for the program of vocational education in the State. More specifically, this study sought to answer the following questions:

1. How many employment opportunities for skilled workers will become available in Missouri from 1961 through 1970?
2. Which skilled industrial occupations will provide the greatest number of employment opportunities during the decade? Which industries in the State will offer the largest demand for skilled workers in 1970?
3. How will the expected number of skilled industrial workers to be trained in Missouri compare with the expected employment opportunities for such workers during the decade?
4. How will the number of skilled industrial workers who may be expected to enter the occupation for which they are trained compare with the expected employment opportunities for the decade?
5. What are the implications of these findings for the programs needed in vocational education in Missouri?

Definition of Terms

A "skilled industrial worker" refers to an individual who possesses a high degree of manipulative skill and can perform practically all the operations of his job, is in command of the necessary scientific facts, can complete the necessary calculations essential to the performance of his work, and make judgments and decisions regarding given situations.

A "training opportunity" refers to the opportunity of an individual to enter, and carry through to completion, a training program designed to prepare him to enter a skilled occupation.

An "employment opportunity" refers to the opportunity of an individual, who has been trained as a skilled worker, to obtain employment in that skilled occupation.

A "skilled occupation" refers to an industrial occupation that requires a high degree of manipulative skill, application of technical knowledge, and completion of necessary calculations essential to the job. The occupation demands more manipulative skill than it does application of scientific knowledge. The nature of the work would lie between that of the semi-skilled machine operator and the technician.[1]

A "registered apprentice" refers to a worker who learns, according to a written agreement, a recognized trade requiring two or more years of work experience on the job through employment supplemented by appropriate related trade instruction.[2]

[1]United States Office of Education, *Vocational-Technical Education for American Industry,* Circular No. 530. Washington, D. C.: Government Printing Office, 1953, p. 2.
[2]United States Department of Labor, Bureau of Apprenticeship and Training, *The National Apprenticeship Program,* (Government Printing Office, Washington, D. C., 1953), p. 2.

A "non-registered apprentice" refers to a worker who learns a recognized trade requiring two or more years of work experience on the job through employment supplemented by appropriate related instruction. If a written agreement is made, it is not registered with the Bureau of Apprenticeship and Training.

Instruction is "less than college grade" when (a) it is terminal in nature rather than directed toward a baccalaureate degree, (b) the college catalog clearly states that the course is of less than college grade, and (c) the course is not designated or accepted by the college to apply toward a bachelor's degree.[3]

Sources of Data

Data for the study were obtained from the following sources:

1. Publications of the United States Department of Commerce, Bureau of the Census.
2. Published and unpublished data from the United States Department of Labor, Bureau of Labor Statistics, Bureau of Employment Security, and Bureau of Apprenticeship and Training.
3. Published and unpublished data from the Missouri State Department of Employment Security.
4. Publications of the United States Department of Health, Education, and Welfare, Office of Education.
5. Published and unpublished data from the State Board for Vocational Education and the State Department of Education for Missouri.
6. Published and unpublished data from previous research relating to the problem.

Total Non-Agricultural Employment

The parameter used to project employment opportunities for skilled workers was the total non-agricultural employment in the State. Non-agricultural employment is comprised of the total employment in durable and non-durable goods manufacturing plus the total employment in non-manufacturing industries.

There were 1,348,700 persons employed in all non-agricultural industries in Missouri in 1960 and this is expected to increase by 14.48 per cent to 1,533,619 in 1970, as shown in Table I.

Of the twelve manufacturing industries included in the study, eight were expected to increase in employment. The transportation equipment industry provided the largest employment of any manufacturing industry, 59,000, and is expected to increase to 99,498 in 1970. Substantial increases in employment are also expected in chemical and allied products, from 22,300 in 1960 to 27,039 in 1970 and in paper and allied products, from 12,700 in 1960 to 16,938 in 1970. The only non-manufacturing industry included in the study which is expected to increase in employment is contract construction, from 65,100 in 1960 to 80,698 in 1970.

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[3]U. S. Office of Education, *Administration of Vocational Education,* 1958, Bulletin No. 1. (Government Printing Office, Washington, D. C., 1958), p. 3, paragraph 102. 7.

TABLE I-TOTAL NON-AGRICULTURAL EMPLOYMENT IN MISSOURI IN 1960 AND PROJECTED THROUGH 1970

Industry	1960 Employment*	1970 Employment**
Total non-agricultural employment	1,348,700	1,533,619
Total manufacturing	391,600	441,169
Durable goods	196,400	247,429
Lumber and wood products	7,900	7,691
Furniture and fixtures	6,700	5,654
Stone, clay and glass products	14,700	14,050
Primary metal products	12,100	11,102
Fabricated metal products	23,500	24,550
Machinery, ex. electrical	25,500	28,858
Electrical machinery	24,300	26,448
Transportation equipment	59,000	99,498
Other durable goods	22,700	29,578
Non-durable goods	195,200	193,740
Paper and allied products	12,700	16,938
Printing, publishing and allied industries	26,300	29,752
Chemical and allied products	22,300	27,039
Leather and leather products	37,400	34,415
Other non-durable goods	96,500	85,596
Total non-manufacturing	957,100	1,112,450
Mining	8,000	7,212
Contract construction	65,100	80,698
Transportation, communication and other public utilities	123,200	121,623
Other non-manufacturing	760,800	902,917

*Source: Missouri Division of Employment Security
**Projected

Skilled Workers Employed in Non-Agricultural Industries

The changes expected to occur in skilled employment in relation to the total employment in the various industry groups between 1960 and 1970 are illustrated in Figure 1.

Fifteen industrial groups were included in the study. Of these, eight are expected to have an increased percentage of skilled workers in them. Ten of the fifteen are expected to have an annual percentage change of less than two per cent. Only three of the fifteen industries are expected to have an annual change of more than four per cent. The largest annual increase, 5.44 per cent, in the employment of skilled industrial workers is expected to be in the mining industry. This is represented by an increase from 11.72 per cent in 1940 to 43.09 per cent in 1970. The largest annual decrease, 4.6 per cent, is expected in the lumber and wood products industry. The percentage of skilled employment in the contract construction industry is expected to decline from 61.17 per cent in 1940 to 50.13

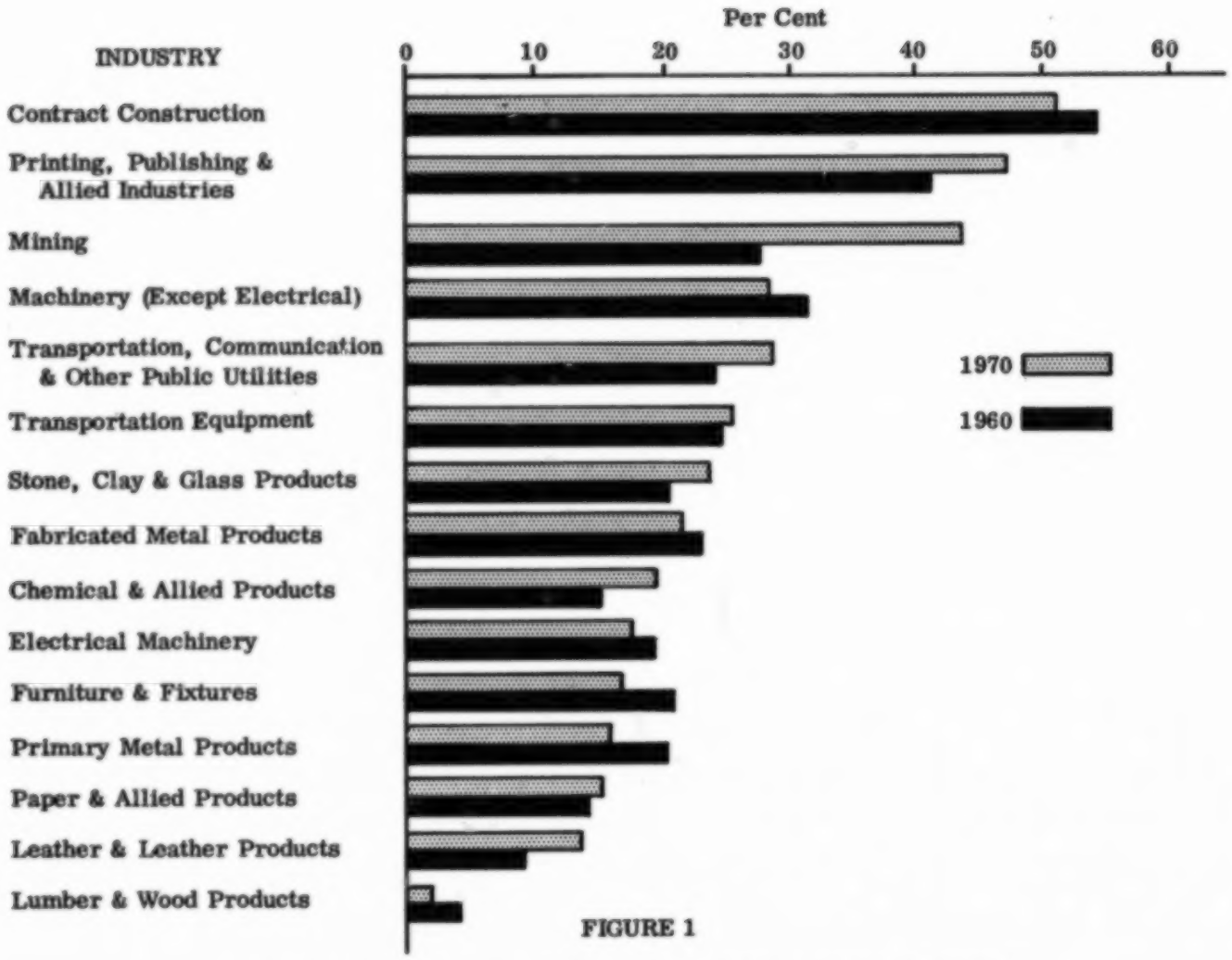

FIGURE 1

SKILLED WORKERS AS A PER CENT OF TOTAL EMPLOYMENT IN SELECTED INDUSTRIES OF MISSOURI 1960 AND 1970

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per cent in 1970. In spite of this expected decline, the ratio of skilled workers to the total contract construction employment remains the highest percentage of skilled employment in any single industry group.

As revealed in Table II, the total number of skilled workers employed in non-agricultural industries is expected to increase from 193,903 in 1960 to 239,124 in 1970. Nearly 42 per cent of the total number of skilled workers are expected to be employed in three industry groups: transportation equipment manufacturing, 24,964; transportation, communication and other public utilities, 34,383; and, contract construction, 40,454. Only two industry groups, furniture and fixtures and lumber and wood products, are expected to employ fewer than 1,000 skilled workers by 1970.

Employment in Skilled Industrial Occupations

In addition to the estimates of skilled workers employed in non-agricultural industries, an estimation was made of the employment in selected skilled occupations through 1970. Approximately 70 per cent of all skilled workers in the State are employed in these occupations.

As shown in Figure 2, most of the skilled occupational groups included in the study are expected to have between 1,000 and 9,000 employed in them. However, four occupational groups are expected to be substantially above 9,000 employed. These are: automobile mechanic and repairman, 41,201; carpenter, 30,130; machinist, millwright and tool and diemaker, 18,006; and, electrician, 11,024. Conversely, three occupational groups, blacksmith, forgeman and hammerman, boilermaker, and metal molder, are expected to employ fewer than 500 workers in each.

Employment Opportunities in Skilled Occupations

As revealed in Table III, the expected number of employment opportunities for skilled workers in the selected occupational groups between 1960 and 1970 is 79,938. This figure is reported as an adjusted total because of the negative employment opportunities reported in three occupational groups.

The range of employment opportunities in the various skilled occupational groups is expected to be extremely large, ranging from a minus 418 to 19,498. The automobile mechanic and repairman and carpenter occupations are expected to provide the greatest number of employment opportunities during the decade, 19,498 and 12,420, respectively. A surplus of skilled workers is expected in three occupational groups: stationary engineer, 418; blacksmith, forgeman and hammerman, 90; and, metal molder, 81. However, since some of these workers are likely to be in the upper age groups, and since the numbers are small, this surplus can hardly be regarded as a serious employment problem.

Employment Opportunities in Selected Non-Agricultural Industries

The employment opportunities for skilled workers in selected non-agricultural industries are indicated in Table IV.

TABLE II-SKILLED WORKERS EMPLOYED IN SELECTED NON-AGRICULTURAL INDUSTRIES IN 1960 AND PROJECTED THROUGH 1970

Industry	1960			1970		
	Total Employment	Per Cent of Total Employment	Number of Skilled Workers	Total Employment	Per Cent of Total Employment	Number of Skilled Workers
Lumber and wood products	7,900	4.26	336	7,691	2.30	177
Furniture and fixtures	6,700	21.57	1,445	5,654	17.26	976
Stone, clay and glass products	14,700	20.12	2,958	10,050	22.84	3,209
Primary metal products	12,100	20.37	2,465	11,102	16.67	1,851
Fabricated metal products	23,500	22.30	5,240	24,550	21.17	5,197
Machinery, ex. electrical	25,500	30.70	7,828	28,858	28.60	8,253
Electrical machinery	24,300	18.85	4,580	26,448	17.60	4,655
Transportation equipment	59,000	24.87	14,673	99,498	25.09	24,964
Other durable goods	22,700	16.71	3,793	29,578	16.99	5,025
Paper and allied products	12,700	13.78	1,750	16,938	15.10	2,558
Printing, publishing and allied industries	26,300	41.14	10,820	29,752	46.23	13,754
Chemical and allied products	22,300	15.19	3,387	27,039	18.78	5,078
Leather and leather products	37,400	9.18	3,433	34,415	13.08	4,501
Other non-durable goods	96,500	8.97	8,656	85,596	6.00	5,136
Mining	8,000	27.92	2,234	7,212	43.09	3,108
Contract construction	65,100	53.57	34,874	80,698	50.13	40,454
Transportation, communication and other public utilities	123,200	23.32	28,730	121,623	28.27	34,383
Other non-manufacturing	760,800	7.45	56,701	902,917	8.40	75,845
Total			193,903			239,124

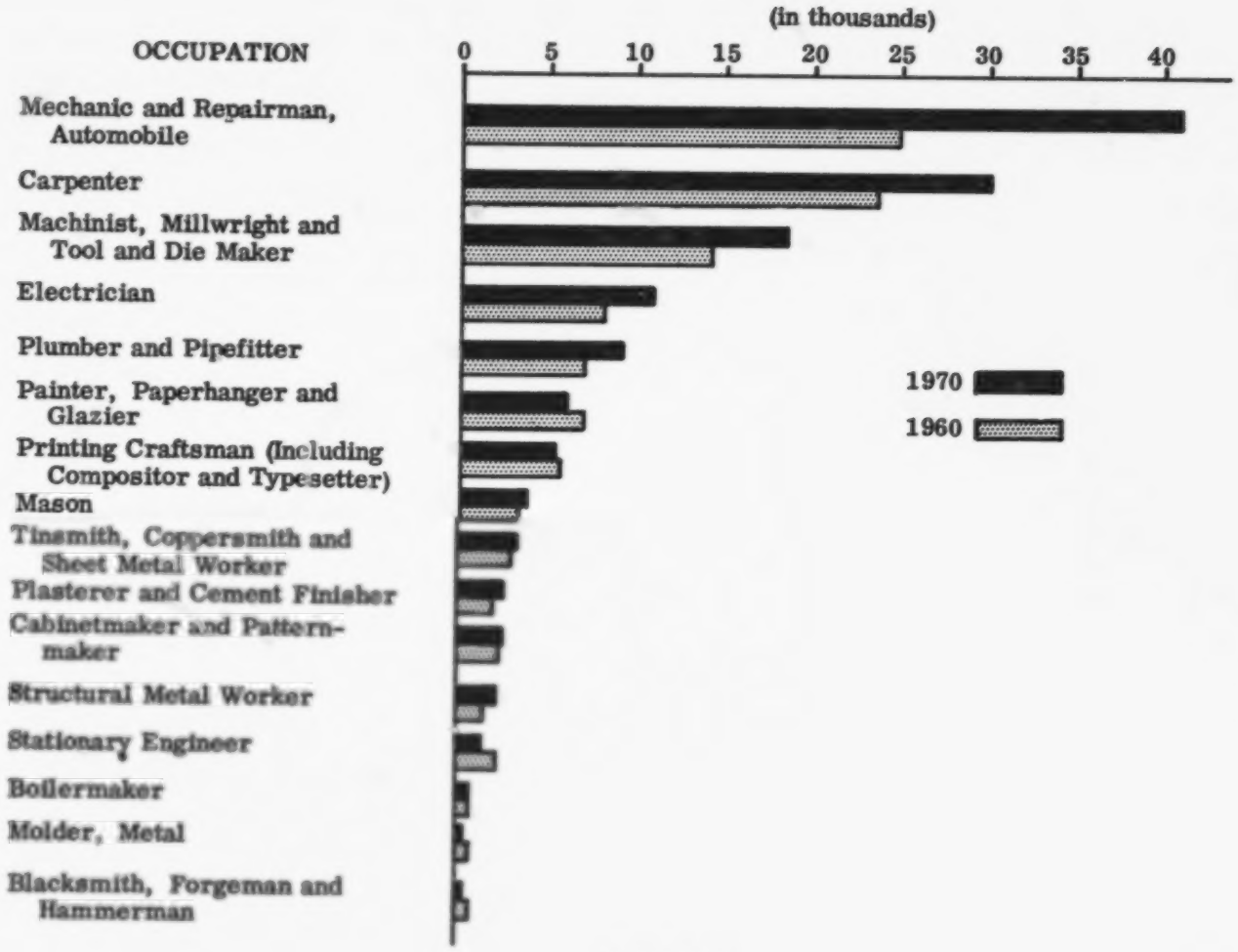

FIGURE 2

COMPARISON OF EMPLOYMENT IN SELECTED SKILLED INDUSTRIAL OCCUPATIONS IN MISSOURI: 1960-1970

TABLE III-EMPLOYMENT OPPORTUNITIES IN SELECTED SKILLED OCCUPATIONS IN 1960 AND 1970

Occupation	Total Selected Skilled Workers 1960	Separations 1960 to 1970	Employment Change from 1960 to 1970	Employment Opportunities
Mechanics and repairmen, automobiles	24,975	3,272	16,226	19,498
Carpenter	24,063	6,353	6,067	12,420
Other mechanics, repairmen and loomfixers	27,767	3,637	838	12,026
Machinist, millwright and tool and diemaker	14,659	2,580	3,347	5,927
Electrician	8,125	1,170	2,899	4,069
Plumber and pipefitter	7,136	1,406	2,596	4,002
Mason	3,451	804	375	1,179
Structural metal worker	1,338	226	623	849
Plasterers and cement finishers	2,152	441	407	848
Cabinetmaker and patternmaker	2,288	524	271	795
Printing craftsmen, including compositors and typesetters	5,585	927	- 276	651
Tinsmith, coppersmith and sheet metal worker	3,180	528	24	552
Painter, paperhanger and glazier	7,136	1,648	- 1,397	251
Boilermaker	523	113	- 45	68
Molders, metal	659	124	- 205	- 81
Blacksmith, forgemen, and hammermen	562	185	- 275	- 90
Stationary engineer	2,133	424	- 842	- 418
Other craftsmen, foremen, and kindred workers	58,171	10,354	7,038	17,392
Total		34,716		80,527
				(79,938)*

*Adjusted for negative employment opportunities.

TABLE IV-EMPLOYMENT OPPORTUNITIES FOR SKILLED WORKERS IN SELECTED NON-AGRICULTURAL INDUSTRIES IN 1960 AND 1970

Industry	Total Skilled Workers 1960	Total Separated 1960 to 1970	Employment Change from 1960 to 1970	Employment Opportunities
Transporation equipment	14,673	2,627	10,291	12,918
Contract construction	34,874	6,243	5,580	11,823
Transportation, communication and other public utilities	28,730	5,143	5,653	10,796
Printing, publishing and allied industries	10,820	1,937	2,934	4,871
Chemical and allied products	3,387	606	1,691	2,297
Other durable goods	3,793	679	1,232	1,911
Machinery, except electrical	7,828	1,401	425	1,826
Leather and leather products	3,433	615	1,068	1,683
Mining	2,234	400	874	1,274
Paper and allied products	1,750	313	808	1,121
Fabricated metal products	5,240	938	- 43	895
Electrical machinery	4,580	820	75	895
Stone, clay and glass products	2,958	530	251	781
Lumber and wood products	336	60	- 159	- 99
Primary metal products	2,465	441	- 614	- 173
Furniture and fixtures	1,445	259	- 469	- 210
Other non-durable goods	8,656	1,549	- 3,520	- 1,971
Other non-manufacturing	56,702	10,150	19,143	29,293
Total		34,711		82,364
				(79,931)*

Average separation rate: 179.0 per 1,000 employed.
*Adjusted for negative employment opportunities.

The transportation equipment manufacturing industry is expected to provide the largest number of employment opportunities for skilled workers during the decade, 12,906. Closely following, the second and third largest demand is expected to occur in the construction and transportation, communication and public utilities industries, 11,796 and 10,775, respectively. Three industry groups are expected to have a small surplus of workers: furniture and fixtures manufacturing, 211; primary metal products, 175; and, lumber and wood products, 99. The remaining industry groups are expected to provide a moderate number of employment opportunities during the decade, between 700 and 5,000.

Total Enrollments in Selected Day-Trade and Cooperative Classes

The total yearly enrollment in those day-trade and cooperative education classes included in the study was the parameter used to project the training opportunities for skilled workers in the secondary schools of the State.

As indicated in Table V, the total yearly enrollment in those day-trade and cooperative classes included in the study is expected to decline from 2,213 in 1960-61 to 2,060 in 1969-70. This represents an average annual decline of 2.83

TABLE V-TOTAL ENROLLMENTS IN SELECTED* DAY TRADE AND COOPERATIVE CLASSES PROJECTED THROUGH 1969-70

School Year	Number of Students**
1950-51***	2,558
1951-52	2,369
1952-53	2,402
1953-54	2,891
1954-55	2,581
1955-56	2,192
1956-57	2,520
1957-58	2,558
1958-59	2,561
1959-60	2,230
1960-61	2,213
1961-62	2,196
1962-63	2,179
1963-64	2,162
1964-65	2,145
1965-66	2,128
1966-67	2,111
1967-68	2,094
1968-69	2,077
1969-70	2,060

*Total enrollment in Missouri in fourteen skilled industrial occupation training programs.

**Source: Missouri Annual Descriptive Report, Trades and Industry, Form 22, Jefferson City.

***1950-51 to 1959-60 figures are reported enrollments, all others are projected.

per cent. The average yearly number of students enrolled in the selected classes is expected to be 2,136 for the decade.

Total Skilled Worker Training Opportunities in Day-Trade and Cooperative Programs During the 1960-1970 Decade

The potential number of training completions, used to estimate the number of trainees actually completing the training program, was based on the mean length of the training programs. The average length of training program was found to be 1.5 years for day-trade students and one year for cooperative education students who were enrolled in those classes included in the study.[4] These training program lengths were found through a survey of the enrollments in day-trade and cooperative classes in the following schools:

Hadley Technical High School, St. Louis
O'Fallon Technical High School, St. Louis
Manual High and Vocational School, Kansas City
Hillyard Vocational School, St. Joseph
Benton High School, St. Joseph
Central High School, St. Joseph
Springfield Vocational-Technical School, Springfield
Lead Belt Technical School, Bonne Terre
Joplin Senior High School, Joplin
Kirksville Senior High School, Kirksville
Poplar Bluff Senior High School, Poplar Bluff
William-Chrisman High School, Independence

Of the total training opportunities in day-trade and cooperative classes shown in Table VI, over 85 per cent may be expected to occur in five occupational groups. These are: automobile mechanic and repairman, machinist, millwright, and tool and diemaker, electrician, printing crafts, and, carpenter.

Six occupational groups, boilermaker, molder, painter, paperhanger and glazier, plasterer and cement finisher, plumber and pipefitter, and structural metal worker, are each expected to account for less than one per cent of the total training opportunities in the selected day-trade and cooperative education classes.

Number Entering Skilled Occupations From Day-Trade and Cooperative Classes

Unfortunately, not all those students who are enrolled in pre-employment vocational classes either complete their training or enter the job for which they were trained after completing the training program. The number of trainees who eventually enter the occupation for which they were trained is reduced from the

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[4]The training program lengths were computed by dividing the total number of years spent in the training programs by the total number of students enrolled in them. Data were taken from *Day-Trade Teacher's Daily Program, Form 16* and *Cooperative Teacher's Daily Program, Form 16A,* submitted to the Missouri State Department of Education by the above schools in the years 1960-61 and 1961-62.

TABLE VI-TOTAL ENROLLMENT AND TRAINING OPPORTUNITIES BY OCCUPATION, IN SELECTED DAY-TRADE AND COOPERATIVE CLASSES PROJECTED THROUGH 1970

Occupation	1960-1965		1965-1970	
	Total Enrollment	Training Opportunities	Total Enrollment	Training Opportunities
Mechanic and repairman, automobile	3,855	2,763	3,705	2,656
Machinist, millwright, and tool and diemaker	2,699	1,934	2,594	1,859
Electrician	1,007	721	968	693
Printing craftsman (including compositor and typesetter)	1,006	721	966	693
Carpenter	817	586	785	563
Tinsmith, coppersmith, and sheet metal worker	758	543	729	522
Cabinetmaker and patternmaker	434	311	417	299
Mason	146	105	140	100
Boilermaker	79	57	76	55
Painter, paperhanger and glazier	44	31	42	30
Plumber and pipefitter	37	26	36	25
Plasterer and cement finisher	8	5	7	5
Molder	3	2	3	2
Structural metal worker	2	2	2	2
Total	10,895	7,807	10,470	7,504

total enrollment chiefly by two factors, (1) either the student drops out of school before graduation and therefore does not complete the training program, or, (2) if training is completed, the trainees simply do not enter the occupation for which they are trained. As shown in Table VII, the total number of persons expected to enter the various skilled industrial occupations from day-trade and cooperative education classes is estimated to be 8,233 for the 1960-1970 decade. Of this number, over 60 per cent are expected to enter one of two occupational groups, automobile mechanic and repairman, 2,914; and machinist, millwright and tool and diemaker, 2,039. By contrast, six other occupational groups are expected to employ only 1.6 per cent of the total number entering skilled occupations from those day-trade and cooperative education classes included in the study.

Total Registered and Non-Registered Apprentices

The total number of registered apprentices in the State was the parameter used to project apprentice training opportunities. The annual number of registered apprentices is expected to increase from 3,147 in 1960 to 4,453 in 1970. This change represents a yearly average increase of 4.51 per cent.

The number of non-registered apprentices included in the study was assumed to be approximately equal to the number of registered apprentices in the State.

TABLE VII-NUMBERS EXPECTED TO COMPLETE TRAINING AND ENTER THE SELECTED SKILLED OCCUPATIONS DURING THE 1960-1970 DECADE

Occupation	Expected Training Completions	Expected Occupational Entries*
Mechanic and repairman, automobile	4,676	2,914
Machinist, millwright, and tool and diemaker	3,273	2,039
Electrician	1,221	761
Printing craftsmen (including compositor and typesetter)	1,220	759
Carpenter	991	617
Tinsmith, coppersmith, and sheet metal worker	919	564
Cabinetmaker and patternmaker	525	328
Mason	177	111
Boilermaker	97	60
Painter, paperhanger, and glazier	53	33
Plumber and pipefitter	45	28
Plasterer and cement finisher	10	6
Molder, metal	4	2
Structural metal worker	2	1
Total	13,213	8,233

*Computed as 62.3 per cent of the expected training completions.

This assumption was based on an estimate made by the United States Office of Education[5] and was used because no other indicator of the number of non-registered apprentices in the State was available.

Total Apprentice Training Opportunities

The total number of training opportunities for all apprentices in the State is expected to be 19,058 for the decade. The number of training opportunities for those apprentices included in the study is expected to be 16,261.

As shown in Table VIII, the occupational group expected to have the largest number of apprentice training opportunities during the decade is carpentry with 4,018. Substantially below this, the second and third largest number of apprentice training opportunities is expected in the plumber and pipefitter, and tinsmith, coppersmith and sheet metal worker occupational groups with 2,120 and 1,749, respectively.

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[5]U. S. Office of Education, *Vocational Education in the Next Decade,* (Government Printing Office, Washington, D. C., 1961), p. 63.

TABLE VIII-APPRENTICE TRAINING OPPORTUNITIES IN SELECTED SKILLED OCCUPATIONS DURING THE 1960-1970 DECADE

Occupation	Training Opportunities
Carpenter	4,018
Plumber and pipefitter	2,120
Tinsmith, coppersmith and sheet metal worker	1,749
Painter, paperhanger and glazier	1,558
Machinist, millwright and tool and diemaker	1,411
Electrician	1,393
Mechanic and repairman, automobile	1,116
Cabinetmaker and patternmaker	417
Plasterer and cement finisher	396
Mason	297
Molder, metal	117
All "other" apprentices	2,797
Total	19,058

Total Skilled Worker Training Opportunities

The total number of training opportunities for the skilled workers included in the study, during the 1960-1970 decade, is estimated to be 31,572, of which 16,261 or approximately 52 per cent, are expected to be in apprentice training programs and about 48 per cent in the day-trade and cooperative education classes.

A comparison of the expected training opportunities, training completions, and trained occupational entries during the coming decade is shown in Figure 3. This figure illustrates the erosion which occurs in the various skilled worker training programs. The unshaded section of the figure indicates the total number of training opportunities in day trade, cooperative education, and apprentice training programs included in the study which are expected to become available during the decade. The light shaded section indicates the number of trainees who are expected to complete their training but *do not* enter the occupation for which they were trained. The black section of the bar indicates the number of trainees who may be expected to seek employment in the occupation for which they are trained.

While the erosion in each of the occupational groups shown in the figure presents a serious problem for those in charge of the various vocational training programs throughout the State, the problem, unless corrected, will probably become especially serious in the automobile mechanic and repairman, machinist, millwright and tool and diemaker, and carpenter occupations in light of the critical shortage of trained workers already existing in these occupations as pointed out by the United States Department of Labor.

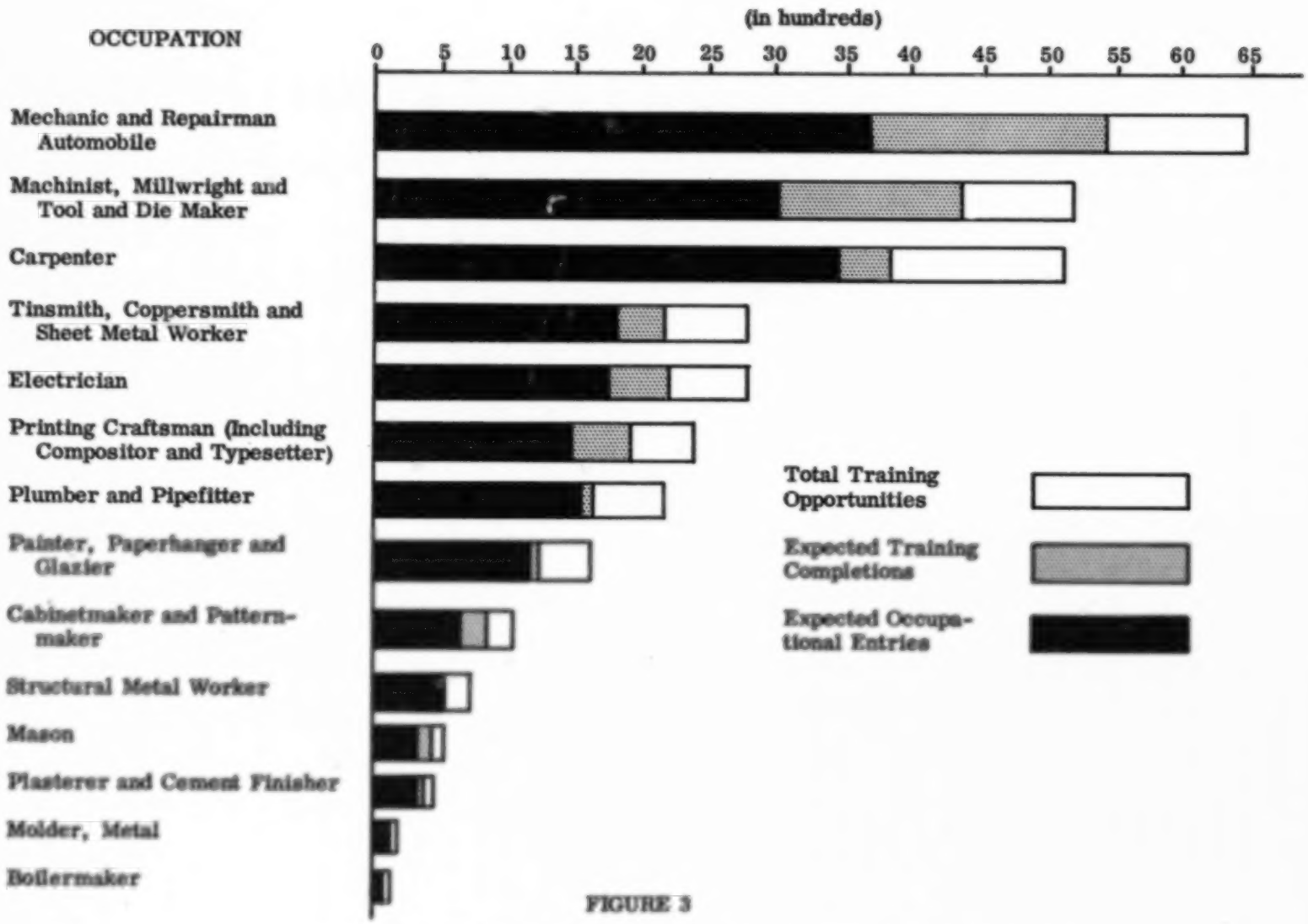

FIGURE 3

COMPARISON OF THE EXPECTED NUMBER OF TRAINING OPPORTUNITIES, TRAINING COMPLETIONS, AND OCCUPATIONAL ENTRIES DURING THE 1960-1970 DECADE

The Imbalance Between Employment And Training Opportunities

An estimate of the imbalance between employment and training opportunities may be made simply by subtracting one from the other. However, this would result in an under estimate of the imbalance, for not all those enrolled in training programs complete their training and many who complete the training do not enter the occupation for which they are trained. Therefore, the *expected* imbalance, indicated in Table IX, includes a correction for training program drop-outs and occupational non-entries. As revealed in the table, most occupational groups are expected to have too few training opportunities and occupational entries. By far the greatest shortage during the decade is expected to occur in the automobile mechanic and repairman category, 15,790. By comparison, the second largest shortage is expected to be carpenters, 8,945. On the other hand, six occupational groups are expected to have a surplus of new workers seeking employment if past training and employment trends continue.

The imbalance between employment and training opportunities may also be illustrated as a ratio. These are presented in Table X. The most serious shortage of trained workers is expected to be in the automobile mechanic and repairman occupations with 5.2 employment opportunities for each trained worker seeking employment. Conversely, the most serious over-supply of trained workers during the decade, if present training trends continue, may be expected in the painter, paperhanger and glazier occupations with about 3.5 trained workers for each employment opportunity in these occupations.

The Training Job To Be Done

An illustration of the overall training job to be done is presented in Figure 4. If all those who are expected to be enrolled in the various training programs should complete their training *and* enter the occupation for which they are trained, only about 62 per cent of the total demand would be met. However, when a correction is made for the number of trainees expected to drop out of the training programs and the number of training program graduates not expected to enter the occupation, it is estimated that only about 39 per cent of the available jobs will be filled by workers from day-trade, cooperative education, and apprentice training programs.

The changes required to bring the supply of trained workers closer into balance with the expected demand are shown in Table XI. The estimates presented in the table are based on the assumption that the percentage of trained workers not entering the occupation for which they are trained will remain at past levels. Of course, to the extent that efforts to increase the numbers of trainees entering skilled industrial occupations are successful, these estimates will be reduced.

The greatest increases needed in the training facilities throughout the State are in the automobile mechanic and repairman and carpenter occupational groups. On the other hand, the training facilities in four occupational groups may need to be reduced. In the tinsmith, coppersmith and sheet metal worker occupations

TABLE IX-EXPECTED IMBALANCE BETWEEN EMPLOYMENT OPPORTUNITIES AND TRAINING OPPORTUNITIES DURING THE 1960-1970 DECADE

Occupation	Employment Opportunities	Training Opportunities	Apparent Imbalance*	Expected Occupational Entries	Expected Imbalance**
Mechanic and repairman, automobile	19,498	6,535	-12,963	3,708	-15,790
Carpenter	12,420	5,167	- 7,253	3,475	- 8,945
Machinist, millwright and tool and diemaker	5,927	5,204	- 723	3,042	- 2,885
Plumber and pipefitter	4,002	2,171	- 1,831	1,535	- 2,467
Electrician	4,069	2,807	- 1,262	1,752	- 2,317
Mason	1,179	499	- 680	311	- 868
Plasterer and cement finisher	848	406	- 442	287	- 561
Structural metal worker	849	703	- 146	497	- 352
Cabinetmaker and patternmaker	795	1,027	+ 232	625	- 170
Boilermaker	68	112	+ 44	60	- 8
Blacksmith, forgeman, and hammerman	- 90	0	+ 90	0	+ 90
Molder, metal	- 81	121	+ 202	86	+ 167
Stationary engineer	- 418	0	+ 418	0	+ 418
Printing craftsmen (including compositor and typesetter)	651	2,387	+ 1,736	1,451	+ 800
Painter, paperhanger, and glazier	251	1,619	+ 1,368	1,140	+ 889
Tinsmith, coppersmith and sheet metal worker	552	2,814	+ 2,262	1,807	+ 1,255
Total	50,521	31,572		19,786	

*Indicates difference between training opportunities and employment opportunities. Plus figures denote an over-supply of training opportunities; minus, an under-supply.

**Indicates difference between expected occupational entries and employment opportunities. Negative figures denote an under-supply of trained workers. Positive figures indicate an expected over-supply.

TABLE X-RATIO OF EMPLOYMENT OPPORTUNITIES TO TRAINING OPPORTUNITIES AND EXPECTED OCCUPATIONAL ENTRIES

Occupation	Training Opportunities		Expected Entries	
	(1)* Under Supply	(2) Over Supply	(3) Under Supply	(4) Over Supply
Mechanic and repairman, automobile	2.9		5.2	
Mason	2.4		3.8	
Carpenter	2.4		3.6	
Plasterer and cement finisher	2.0		2.9	
Plumber and pipefitter	1.7		2.6	
Electrician	1.4		2.3	
Structural metal worker	1.2		1.7	
Machinist, millwright and tool and die maker	1.1		1.6	
Cabinetmaker and patternmaker		1.3	1.3	
Boilermaker		1.6	1.1	
Printing craftsman, including compositor and typesetter		3.6		2.2
Tinsmith, coppersmith and sheet metal worker		5.0		3.2
Painter, paperhanger and glazier		6.4		3.5
Blacksmith, forgeman and hammerman	No expected training and/or employment opportunities during the decade			
Molder, metal				
Stationary engineer				

*Column figures indicate:

(1) Number of employment opportunities for each training opportunity.
(2) Number of training opportunities for each employment opportunity.
(3) Number of employment opportunities for each trained worker seeking employment.
(4) Number of trained workers seeking employment for each employment opportunity.

an annual reduction of trained workers of about 7 per cent will probably be required to bring the supply into balance with the demand.

Conclusions

Within the limits of the accuracy of the estimates made in this study, the following conclusions may be drawn relative to the projected employment and training opportunities and the imbalances between the supply and demand for skilled industrial workers in Missouri.

Since the employment of skilled workers as a whole is expected to increase in nearly all of the non-agricultural industries in the State during the coming decade, skilled industrial workers can look forward to a continuing high level of

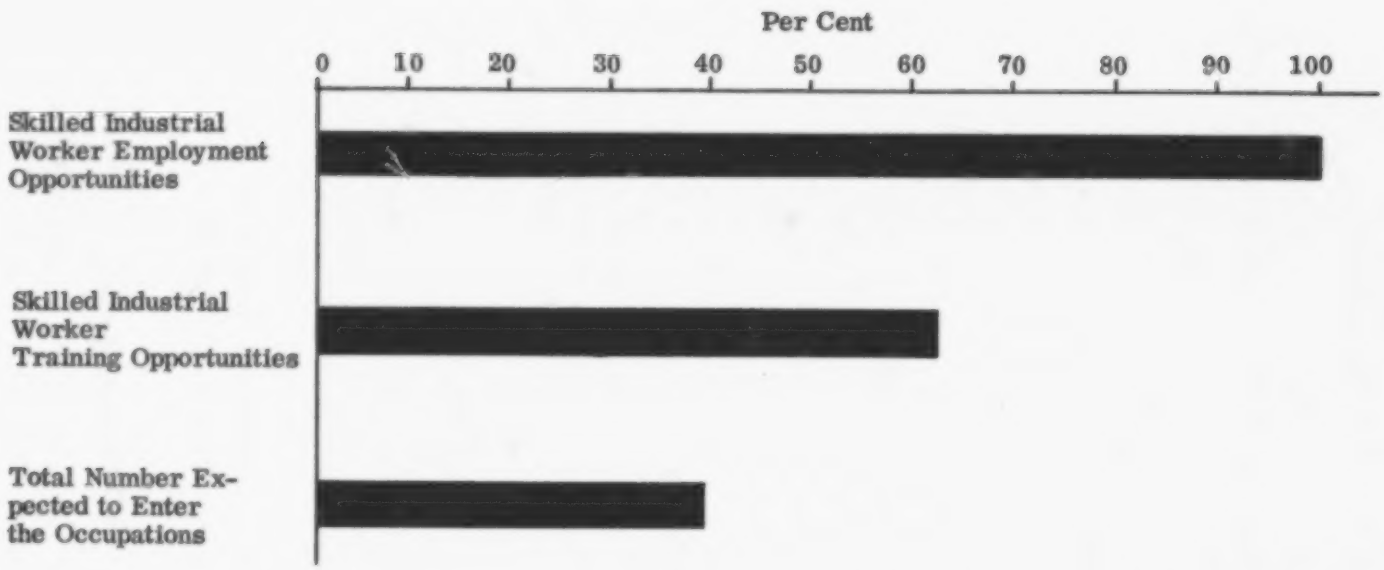

FIGURE 4

COMPARISON OF TOTAL EMPLOYMENT OPPORTUNITIES, TRAINING OPPORTUNITIES AND EXPECTED OCCUPATIONAL ENTRIES DURING THE 1960-1970 DECADE EXPRESSED AS A PER CENT

TABLE XI-CHANGES NEEDED IN SKILLED INDUSTRIAL WORKER TRAINING PROGRAMS IN MISSOURI DURING THE 1960-1970 DECADE

Occupation	Change in Number of Trainees Required		Annual Per Cent Change Required*	
	Increase	Decrease	Increase	Decrease
Mechanic and repairman, automobile	15,790		42.6	
Carpenter	8,945		25.7	
Machinist, millwright and tool and diemaker	2,885		9.5	
Plumber and pipefitter	2,467		16.0	
Electrician	2,317		13.2	
Mason	868		27.8	
Plasterer and cement finisher	561		19.5	
Structural metal worker	352		7.0	
Cabinetmaker and patternmaker	170		2.7	
Boilermaker	8		1.3	
Molder, metal		167		19.4
Printing craftsman, including compositor and typesetter		793		5.5
Painter, paperhanger and glazier		889		7.8
Tinsmith, coppersmith and sheet metal worker		1,255		6.9

*Computed by dividing the change in workers required by the number expected to enter the occupation.

employment. More specifically, the outlook appears to be especially good for automobile mechanics and repairmen, machinists, millwrights and tool and diemakers, carpenters, plumbers and pipefitters, and electricians, due to the relatively large employment opportunities expected during the decade.

On the other hand, unless serious attention is given to the demand for skilled workers by those in charge of training facilities throughout the State, an over-supply of trained workers may be expected in the printing crafts, tinsmith, coppersmith and sheet metal crafts, and in the painter, paperhanger and glazier occupational groups.

Despite a general increasing demand for skilled industrial workers in the State, if present trends continue, training facilities for such workers in secondary schools may be expected to increase at only about one-third the rate of new skilled employment demands. However, it should be noted that the recent passage of the "Manpower Development and Training Act," the "Area Redevelopment Act," and Title VIII of the "National Defense Education Act" on the national level, and the "Junior College Act of Missouri" on the State level may have a marked effect on these training trends.

In as much as the number of expected employment opportunities for skilled industrial workers is more than twice as great as the number of trained workers that may be expected to enter these occupations during the decade, it is apparent that many skilled worker training programs will need to be expanded or ad-

ditional ones established. This large imbalance, unless corrected, will probably result in a serious shortage of trained workers in the automobile mechanic and repairman, mason, carpenter, plasterer and cement finisher, plumber and pipefitter, electrician, structural metal worker and, machinist, millwright and tool and diemaker occupational groups.

Implications

In view of the findings and conclusions of this study, the following implications seem apparent:

Closer cooperation should be established between all agencies responsible for the guidance and training of skilled industrial workers, to the end that the supply of these workers may be brought into closer balance with the demand.

Because a surplus of trained workers may be expected in certain skilled industrial occupations, if present trends continue, the public secondary schools of the State should carefully examine the number of workers they are training in relation to the demand. Obviously, public secondary schools should not continue to provide vocational training in those occupations for which there is no demand or for which the demand is being met by other training agencies.

Although this study points out the possible over or under-supply of labor in certain skilled industrial occupations, expansion on contraction of any particular training facility must be based on a careful study of local and State-wide employment conditions. The findings of this study should be helpful to this end.

Administrators of skilled industrial worker training programs and vocational counselors should pay particular attention to the trends in skilled employment within the various industry groups. For example, the mining industry, while employing relatively few skilled workers at the present time, is increasing its proportion of skilled industrial workers very rapidly. This changing employment pattern, when viewed in light of the great potential growth of the iron mining industry in Missouri, takes on an added significance.

Finally, while the responsibility for vocational guidance in the past has been left largely to the secondary schools of the State, it seems obvious that unless a serious attempt is made to reduce the erosion which takes place in skilled industrial worker training programs, this responsibility may be lost by default. Therefore, school administrators, counselors, vocational educators, labor organizations and employers should recognize the importance of skilled workers to the economy of the State. If the problem is to be met, these groups must *systematically* seek out those students who may best profit from the training, encourage them, in appropriate numbers, to enroll in the training programs, complete their training and then enter the occupation for which they are trained. Some compromises may be necessary on the part of employers and labor unions in order to facilitate the employment of newly trained workers.

VT 003 998

Part-Time Industrial Cooperative Education in Illinois. Series B Bulletin 198.

Illinois State Board of Vocational Education and Rehabilitation, Springfield. Trade and Industrial Service
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jan66 160p.

*COOPERATIVE EDUCATION; *GUIDELINES; *COORDINATORS; *ADMINISTRATIVE PERSONNEL; HIGH SCHOOLS; PROGRAM PLANNING; *TRADE AND INDUSTRIAL EDUCATION; PROGRAM DEVELOPMENT; PROGRAM COORDINATION; STATE STANDARDS
ILLINOIS

Industrial cooperative training programs provide high school students with training in an industrial, trade, or service occupation. It requires one or two years of part-time, out-of-school, on-the-job employment training supplemented by in-school related instruction. This bulletin is intended to assist school administrators and teacher-coordinators in establishing and maintaining such programs. A large part of the responsibility for the success of a cooperative training program rests with the school administrator but the optimum effectiveness of the program is primarily dependent upon the coordinator. The various guidelines provide these individuals with material on their respective duties and responsibilities. Guidelines are also provided on the selection and placement of student-learners, the related instruction phase of the program, and the organization and function of advisory committees. The establishment, arrangement, operation, and functioning of program coordination is necessary to assume that the student-learner is acquiring a complete and well-rounded series of manipulative skills, is making normal progression, and is being supplemented by general and technical information needed for a competent and well-trained worker. Other aids for the coordinator include such items as grades and grading, wage-hour exemption, working permits, and the necessary report and record forms. (HC)

VT 003 998

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PART-TIME INDUSTRIAL COOPERATIVE EDUCATION IN ILLINOIS

a manual for administrators and coordinators

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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SERIES B BULLETIN 198
JANUARY, 1966

VT003998

STATE OF ILLINOIS
BOARD OF VOCATIONAL EDUCATION AND REHABILITATION
VOCATIONAL AND TECHNICAL EDUCATION DIVISION
TRADE AND INDUSTRIAL SERVICE
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PREFACE

Industrial Cooperative Education is a program of vocational education designed to provide more opportunities for youth to receive training in an occupation of his or her choice by cooperatively utilizing the resources of the community and school. This bulletin is intended to assist school administrators and teacher-coordinators in establishing and maintaining such programs. No attempt has been made to solve all problems or answer all questions which arise in the operation of the program.

In Illinois, industrial cooperative education has had a steady growth. It is apparent that this type of program has a place in both large and small communities in providing Vocational Education for youth in secondary schools.

The Trade and Industrial Education Service of the Vocational and Technical Education Division desires to assist, wherever possible, in the organization and development of Industrial Cooperative Education programs.

Eurus Stoltz, Chief
Trade and Industrial Education

FOREWORD

During the past several years, growth in Industrial Cooperative Education programs in the United States has attempted to keep pace with the Nation's employment requirements. Statistics indicate a vast number of job vacancies, while at the same time revealing the existence of a large number of unemployed persons lacking skills. The answer is obviously TRAINING. Industrial cooperative education has demonstrated its effectiveness in preparing high school youth for entry into the "World of Work."

Much of the material in this bulletin is not new. We have attempted to compile and report the basic philosophy, activities, methods and operational procedures involved in cooperative programs, which we and others, have found to be successful.

Harry A. Meinert, Supervisor
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Trade and Industrial Education

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CHAPTER I

THE PART-TIME INDUSTRIAL COOPERATIVE TRAINING PROGRAM

A. Description of an Industrial Cooperative Training Program

Industrial Cooperative Training is the name applied to a recently developed program of Trade and Industrial Education. It is the outgrowth of the Part-Time Continuation program established under provisions of the original Smith-Hughes Act of 1917. It is designed to use the resources of the community and the school to prepare boys and girls for employment on the basis of an organized program of vocational training. It is, in a sense, a revised version--based on sound and proven teaching principles--of the traditional form of vocational training known as "apprenticeship." In fact, it is often thought of as "pre-apprenticeship training."

Since its beginning in 1947, industrial cooperative education in Illinois has been limited to the two-year Trade and Industrial Education program, commonly known as Diversified Occupations or "D.O." With the implementation of the "Vocational Education Act of 1963," the State of Illinois has broadened its offerings in the area of industrial cooperative education. Guidelines have been determined for two such types of cooperative education. These are: (a) One and Two-Year D.O. programs, and (b) Supervised Job Training. Because both types pertain to cooperative education in the trade and industrial field, this manual will hereafter refer to them as "Industrial Cooperative Training."

Industrial Cooperative Training programs provide training for boys and girls in the industrial, trade or service occupation of their choice. It requires one or two years of part-time, out-of-school, on-the-job employment for which being trained, supplemented by in-school related instruction.

Students enrolled in the program are referred to as "student-learners." The student-learner is in training at a service establishment or industry one-half of each school day for a minimum of fifteen (15) hours per week. The student also attends school one half of each school day to take high school subjects required for graduation, including one or two periods per day for instruction related to the occupation being learned.

The program of instruction must have been developed and must be conducted in consultation with potential employers, employees, or groups of employers and employees having skills in and substantive knowledge of the job or occupational field represented by the course objective.

The program of instruction should combine and coordinate the in-school related instruction with field, shop, laboratory, cooperative work or other occupational experience which is

appropriate to the vocational objective of the students. It should be of sufficient duration to develop competencies necessary to fit him or her for employment in the job or occupational field for which training is given. The arrangement also provides for: (a) the employment of student-learners in conformity with Federal, State, and local laws and regulations, and in a manner not resulting in exploitation of such student-learners for private gain, (b) an organized program of training on the job, and (c) supplemental vocational instruction in school.

The program thus brings together the employer -- commonly known as the "training station" -- and the school, in an effort to train boys and girls to become skilled wage-earners upon completion of high school. The program is supervised, directed, or coordinated by a person qualified under the State Plan for vocational education. This person is known as the "teacher-coordinator."

While several different occupations may be included in a local industrial cooperative education program, each individual student-learner receives on-the-job experiences and in-school related instruction in only one. The variety and the number of different occupations represented by a given class will vary from year-to-year depending upon the occupational interests of the students and the availability of suitable training stations.

B. Types of Industrial Cooperative Training Programs

1. Two-Year Program

As indicated earlier, industrial cooperative training is organized, basically, as a two-year program. It incorporates manipulative and other skills which are taught on-the-job, supplemented by appropriate related instruction which, in combination, will produce competent and knowledgeable workers.

The two-year program is designed for those high school students who have attained the legal employment age (16 years) and who are classified as either juniors or seniors. It also serves those former dropouts who have reentered school to complete the requirements for a diploma and to acquire some basic saleable skills.

To provide for continuity of employment, as well as to increase the available time for instruction, more and more programs are being extended so as to operate during the summer months. Under this arrangement, those training stations which employ students during their junior year may continue training on-the-job without interruption. The related instruction in school likewise continues. Usually, the length of time

devoted to related instruction, as well as that spent on-the job, are increased during summer sessions because the student does not pursue any other high school courses.

In accordance with the State Plan, industrial cooperative classes must operate a minimum of nine (9) months, or thirty-six (36) weeks per year. The minimum weekly time requirements for cooperative classes composed of secondary and special students shall be as follows:

a. On-the-job training -- A minimum of fifteen (15) hours per week, not less than half of which must be during the regularly scheduled school day, or during added time when the teacher-coordinator is assigned the responsibility for supervision.

b. Related Instruction -- Two hundred (200) minutes per week of group instruction by the teacher-coordinator.

Federal regulations prescribe that student-learners may not exceed a total of forty (40) hours per week in school and on the job.

2. One-Year Program

The one-year program is designed for and especially adapted to the larger high school, and for those senior students who for some reason were unable to enroll in the conventional two-year program. In some instances, prospective students and their parents do not become aware of the excellent potentialities of the program until such students are about to enter their senior year. Others, who have previously pursued an academic program with a college objective, finally decide that their interests and talents do not lie in that direction. They, too, then look toward other high school courses having career objectives. Industrial cooperative training is one of these. The one-year program may also serve the needs of young adults who return to high school for evening courses offering credit toward a diploma.

Student-learners in this program must meet all of the minimum time requirements outlined for the two-year program and must, in addition, either have had previous experience in the occupational field, or previous class instruction related to the occupational field, or be enrolled for two hundred seventy-five (275) minutes per week of instruction in a concurrent class related to the occupation field, or be enrolled for four hundred (400) minutes per week of group

related instruction and taught by the teacher-coordinator.

It is possible for senior students who intend to enter the program for the first time in the fall to enroll in the preceding summer session. Student-learners, as outlined above under the two-year program, could thus begin both their on-the-job training and related instruction and thereby gain the equivalent of an additional semester's work. All training given must be through a logical step-by-step progression of job experiences and related instruction which will provide all-round experience in all phases of the occupation. Excessive participation or over-specialization in a single restricted phase of work is to be avoided.

C. Occupations For Which Training May Be Given

As mentioned earlier, training may be given for practically any trade, industrial, or service occupation in the skilled or semi-skilled category having a recognized learning period of one or more years of on-the-job training. As many different occupations may be represented within a group of student-learners as there are students in the class. No occupations are included in the program which do not provide good training and opportunity for continued employment without displacement of regular workers. A partial listing of occupations suitable for industrial cooperative training programs includes:

Automobile Body Repairman
Automobile Upholsterer

Baker
Beauty Operator
Bicycle Repairman
Blockmaker - Concrete
Boilermaker
Bookbinder
Brick Mason
Butcher

Cabinetmaker
Candymaker
Carpenter
Carpet Layer
Cement Finisher
Chef
Commercial Artist
Commercial Cook
Compositor
Coremaker
Custodian

Dairy Processor
Dental Assistant
Dietitian
Draftsman
Dress Designer
Dressmaker
Dry Cleaner

Electrical Appliance Repairman
Electrician - Auto
Electrician - General
Engraver

Floral Designer
Florist
Foundryman
Furniture Repairman

Glass Blower
Glazier
Greenhouse Worker

Heat Treater

Highway Engineering Assistant
Hotel-Motel Maintenance Man
Housekeeper - Institutional

Interior Decorator

Jewelry Repairman

Lab Assistant --
  BioChemistry
  Chemical
  Dairy
  Industrial
  Medical
Lens Grinder
Librarian Assistant
Linoleum Layer
Linotype Operator
Locksmith
Lumberyard Worker

Machinist - Automotive
Mattress Maker
Mechanic --
  Air Compressor
  Aircraft Engine
  Automatic Pin Spotter
  Automobile
  Cash Register
  Computer
  Diesel
  Farm Equipment
  Heating & Ventilating
  Instrument
  Marine
  Motorcycle
  Office Machines
  Tractor
  Typewriter
Meat Cutter
Medical Records Assistant
Medical Service Occupations
Meter Repairman
Millwright
Molder
Mold Maker
Mortician Assistant
Mosaic Tile Setter
Motion Picture Projectionist
Multigraph Operator

Needle Trades Worker
News Dispatcher
Newspaper Reporter

Nurseryman

Ornamental Iron Worker
Orthopedic Shoe Fitter

Painter and Decorator
Paperhanger
Patternmaker
Photo Engraver
Photographer --
  Portrait
  Surgical
Physical Therapist
Pipefitter
Plastics Worker
Plumber
Poultry Processor
Power Plant Operator
Printer --
  Compositor
  Letterpress
  Offset
Production Inspector
Proof Reader

Radio & TV Announcer

Sawmill Operator
Seamstress
Sheet Metal Worker
Shoe Repairman
Sign Painter
Stone Cutter
Structural Steel Layout Man
Surveyor
Switchman

Tailor
Taxidermist
Telephone Repairman
Tile Setter
Tire Rebuilder
Tool & Die Maker

Upholsterer

Warehouse Worker
Watch Repairman
Welder
Welldriller
Window Decorator

X-Ray Lab Assistant

This list is neither complete nor is it applicable to every community having a program. Many other occupations providing good training opportunities may be added. A community survey will indicate those occupations for which training is needed and should be given.

D. Supervised Job Training Program

Another more recently established type of industrial cooperative education has been designated as Supervised Job Training. The primary purpose of this program is to assist the schools in exploring one possible solution to the problem of:

(a) present and potential dropouts, and

(b) students in the regular high school program who are classified as low academic achievers.

Supervised Job Training is intended for those low academic achievers who are still in school and who have been identified as potential dropouts. It is also intended for those students who have already dropped out of school and who may be encouraged to return to prepare themselves for entry into the labor market.

Prior to establishing such a program the cooperating school shall prepare a proposal or plan of operation. The proposal shall be based upon and include reference to the minimum requirements outlined below. It shall be submitted for approval by the State Office.

Requirements:

1. Age: Student-learners shall be sixteen (16) years of age or over.

2. Academic pre-requisites: No grade level requirements.

3. On-the-job training: Student-learners shall be employed a minimum of fifteen (15) clock hours per week over a period of one (1) year.

4. Wages: While students are in training on-the-job they shall receive a wage comparable to that of other beginners in the occupation and conforming to any State or Federal regulations applying thereto.

5. School attendance: One-half of each day in school. All student-learners must receive a minimum of two hundred (200) minutes per week of group instruction in a class related to their employment. The remainder of the in-school time shall be devoted to the subjects which will upgrade their civic, social, and vocational intelligence. The total time in school and time on the job must not exceed forty (40) hours per week.

6. Subsequent credits: Credit allowed, if any, shall be at the discretion of the local school authorities.

7. Occupations: Training shall be in trade and industrial semi-skilled and service occupations.

8. Reimbursement: The prevailing reimbursement policies shall apply to the salaries paid coordinators. This will take into account the coordinator's schedule of related instruction and coordination.

9. Coordinator's qualifications: Shall be identical with those of an Industrial Cooperative Education (D.O.) Coordinator.

10. Schedule of Work and Related Instruction: A written schedule of the specific on-the job skills to be taught and the related instruction presented in the school shall be prepared prior to the approval of the program.

11. Local Advisory Committee: The local school's plan of operation must provide for the appointment and functioning of a local advisory committee who shall meet at intervals to advise school authorities regarding program development.

Occupations for Which Training May Be Given

The semi or single-skill occupations which follow are indicative of jobs which can be filled by students enrolled in the Supervised Job Training program. Additional suitable jobs may be added to this list.

Assembler
Bench Hand
Bus Boy
Car Hop
Car Washer and Polisher
Clothes Presser
Cook's Helper
Custodian
Delivery Man
Dietetic Aide
Feed Mill Worker
Florist's Helper
Fry Cook
Gardener
Gas Station Attendant
Hand and Machine Sewer
Home Maintenance Worker
Hospital or Nursing Home Aide
Hotel or Motel Maid
Housekeeper
Machine Operator
Meter Reader
Nursery Worker
Porter
Produce Man
Salad and Sandwich Girl
Solderer
Steam Table Attendant
Stock Boy
Tire and Battery Man
Tree Trimmer
Waitress
Warehouse Helper

Suggested Proposal for Supervised Job Training

The sample which follows is indicative of a satisfactory form of proposal from a local school district which intends to establish a Supervised Job Training program.

Proposal

for

Supervised Job Training Programs

Board of Education

City of _____

Statement

Development of a vocational program for the 16 year old underachiever and potential dropout to assist him in reaching satisfying personal and economic goals is an essential part of any adequate vocational program.

A request is hereby submitted for approval to participate in the Supervised Job Training Program in the following school: _____

_____

The program is intended for low academic-achievers who are 16 years of age or over and still in school. They have previously been identified as potential dropouts who lack needed skills for entry into the labor market.

The Supervised Job Training program is to be conducted cooperatively with the Illinois State Board of Vocational Education and Rehabilitation.

General Objectives

1. To provide the students through a cooperative work program with skills.

2. To provide the student with related theory based on a job analysis of the occupational area in which he is employed and provide courses to further strengthen his skills in communication.

3. To assist the student through additional work-related guidance and counseling to develop the ability, attitudes and knowledge for successful adjustment as a worker, as a citizen, and as a member of the family.

4. To provide and continue a follow-up study of students in the program after leaving school. This service is intended to strengthen the existing guidance service and to assist in evaluation of the effectiveness of the training provided.

The following items are included in this proposal:

1. Age: Students shall be 16 years of age or over and less than average academic-achievers.

2. Academic prerequisites: No grade level requirements.

3. On-the-job training: Limited to one half day for a minimum of fifteen (15) hours per week for nine (9) months.

4. Wages: Students who are in training on the job shall receive a wage which conforms to any State or Federal regulations and which is comparable to that paid other beginners in the occupation.

5. School attendance: One-half of each day in school. School time will be devoted to subjects which will upgrade the student's general educational background and in subjects related to the student's employment. The student will spend one period each day for related instruction by the coordinator of the program. Related instruction will be such as to strengthen the student's knowledge in his role as worker and citizen. This instruction will also provide him with the technical information required by the job for which he is training.

6. Subsequent credits: Credit allowed, if any, shall be at the discretion of the local school authorities.

7. Occupations: Training is in semi-skilled and service occupations.

8. Coordinator's qualifications: Shall be identical with those of an Industrial Cooperative Education (D.O.) Coordinator.

9. Written schedule of work and related instruction: A written schedule of the specific functions to be learned on the job and the related instruction involved shall be prepared prior to the placement of any student in the program.

10. Local Advisory Committee: The appointment and functioning of a local advisory committee to consult with local school authorities regarding program development shall be effected.

11. Certificate: Upon successful completion of the one-year Supervised Job Training program the student will be granted a certificate and be encouraged to continue his educational program in the evening school.

_____ _____

Date Superintendent

E. Industrial Cooperative Education vs. Work Experience

The chart which follows is intended to outline a comparison of the major objectives, essential characteristics and role of participants in two types of programs involving part-time employment for in-school youth.

Industrial Coop. Education	vs. Work Experience
Objectives: Training for employment Retention in school	Objectives: Job placement Rehabilitation
For Whom: Student-learner	For Whom: Student-worker
Where: A training station	Where: A job (often "blind alley")
By Whom: An employer-trainer	By Whom: A boss
Learning Opportunities: Preparation for an occupation	Learning Opportunities: Little or no occupational preparation
Employment Supervision: Provides for employment supervision in student-learner's training plan.	Job Supervision: Little or no on-the-job supervision
Training Personnel: Qualified teacher-coordinator	Training Personnel: Untrained person in charge No supervision from school
Related Instruction: Provision for related classroom instruction	Related Instruction: No related classroom instruction
Wages: Progressively increasing learners wages are paid. Wages and hours subject to Federal and State regulations.	Wages: Nominal or no wages paid may lead to exploitation of students

From the foregoing, it will be noted that the Industrial Cooperative Education (D.O.) and the Supervised Job Training programs involve specific job training. Work Experience programs on the other hand include little, if any, organized instruction.

To assure that good training results and that the student-learner is not exploited, certain basic standards have been established for cooperative programs. The following criteria entitled, "Credit for Vocational Experiences," are set forth in a publication of the Office of the State Superintendent of Public Instruction entitled, "Evaluation, Supervision and Recognition of Schools," Circular Series A - No. 160 (1964), pages 21-22.

"A high school may give one unit of credit per year, not to exceed two successive years for out-of-school work experience, provided such credit is given in combination with equivalent credit given for in-school instruction which is directly related to the out-of-school work experiences. The work program is governed by the following standards:

1. Objectives of the program shall be clearly set forth in written or printed form.
2. The teacher-coordinator of the program shall be qualified in the field in which he is teaching. His qualifications shall include technical training and practical experience in the field and professional training in the operation of programs involving the cooperation of the school and the community.
3. Only pupils of employable age are eligible to participate in the program.
4. Adequate classroom facilities, equipment and reference materials are to be available.
5. Each pupil is to be paid a monetary wage comparable to that paid other learners in the program.
6. Information about each pupil necessary for the teacher-coordinator to secure placement for the pupil in accordance with his abilities shall be available.
7. Criteria by which occupations are selected should be clearly set forth in written or printed form.
8. Definite agreement as to the responsibility of the school and the establishment employing the pupil is to be determined in advance of the training program. This agreement should be put in proper form and carry the signatures of the responsible official of the school and the employer.
9. The classroom teacher correlates classroom learning with experiences on the job.
10. Each pupil is given a written or printed outline of his job learning experiences.
11. The pupil's grades are determined by accomplishments in the classroom and on the job.

12. The classroom teacher supervises the job activities through organized visits to the pupil's place of employment and through consultation with the employer.
13. The program is conducted in compliance with all laws affecting the employment of minors.
14. It is recommended that a lay consultant committee be selected to advise with the school in various aspects of the program."

F. Advantages of Industrial Cooperative Training Programs

Numerous advantages characterize the two types of programs of industrial cooperative training. The more basic of these are:

1. The relatively small cost of equipment and supplies necessary.
2. The wide variety of occupations for which training is possible.
3. The ability to gear the number of student-learners in training in a given occupation and at a given time to the employment opportunities available in industry.
4. The acquisition by student-learners of manipulative skills as practiced in actual job situations.

In addition to the foregoing, there are advantages which accrue to the benefit of the student-learner, to the employer-trainer, to the school, to the community and to labor.

1. Advantages to the student-learner are:

a. Offers an opportunity to receive some specific occupational training while attending high school.
b. Offers an opportunity to complete high school and receive the regular diploma.
c. Offers training for boys and girls in their chosen occupation in the local community.
d. Offers an organized plan of training on-the-job under actual industrial conditions.
e. Offers an opportunity to secure training at a relatively low cost.
f. Establishes definite work habits and attitudes.
g. Makes possible a satisfactory adjustment of work and employment.
h. Allows for correlation of school work and employment.
i. Lends encouragement to stay in school until graduation.
j. Offers an opportunity for employment in the local community after completing high school and the training program.
k. Enables students, in many cases, to secure full-time employment with the training agency after completing their courses and graduating from high school.
l. Motivates interest in other school subjects.

m. Develops a feeling of responsibility.
n. Provides instruction in safety and instills good occupational habits.
o. Enables the student to stay in school due to his earnings.
p. Enables the student to make an intelligent choice of his life's work earlier.

2. Advantages to the employer-trainer are:

a. Gives a better acquaintance with the prospective employees of the community.
b. Provides a source of better trained and more intelligent employees.
c. Enables the employer to have a part in the school program.
d. Permits other employees to become aware of their need for additional training.
e. Enables the employer to receive more direct returns from his school tax dollar.

3. Advantages to the school are:

a. Broadens the curriculum.
b. Helps hold students in school longer.
c. Allows the school to offer preparatory training for those who are entering an occupation.
d. Enables the school to better meet the training needs of the community.
e. Allows training in a number of occupations at the same time and at a comparatively low per capita cost.
f. Provides closer cooperation with the community as a whole.
g. Provides closer correlation with the job and the world of work.
h. Necessitates a relatively small amount of equipment.
i. Enables other employees to note their needs for more training.
j. Helps the establishment of supplementary training classes.
k. Permits flexibility of instruction in a given occupation, as it may readily be discontinued when the training needs of that occupation are met.

4. Advantages to the community are:

a. Encourages young people to remain in their home community after completing high school.
b. Encourages young people to remain in school and in the community.
c. Allows training in a number of occupations at the same time and at a comparatively low per capita cost.

d. Tends to produce citizens who will feel their community responsibility at an earlier age.
e. Gives increased buying power to its citizens earlier in life.
f. Promotes a closer cooperation between the community and the school.
g. Provides a closer correlation between the school and employment.
h. Enables youth to make better and quicker occupational adjustments.

5. Advantages to labor are:

a. The assurance that the labor market will not be flooded.
b. Enables labor to help guide the program through representation on the advisory committee.

CHAPTER II

ESTABLISHING AN INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

A. Procedures to be Followed

1. Community Request

When a community arrives at the conclusion that an Industrial Cooperative Education program will meet a local training need, a representative of the State Board of Vocational Education and Rehabilitation should be contacted.

2. State Office Assistance

To arrive at a conclusion regarding the situation, the Trade and Industrial Education Service of the State Board needs certain definite information about the community and its schools. To this end, a representative of the Trade and Industrial Education Service will visit the school for a preliminary discussion. Occupational data from the last United States census and other available statistics are studied and local school authorities and community leaders are consulted. In other words, reasonable assurance that the program can succeed must be evident before it can be authorized.

During this visit or subsequently, a meeting of ten or twelve leading employer and employee representatives in the community is called. This provides an excellent opportunity to sample interest in the program. The representative of the State Board should be invited to explain the program to this group. The members of the group should also be encouraged to inform other employers and employees regarding the program.

3. Community Survey

The representative of the State Board of Vocational Education and Rehabilitation, when satisfied with the general situation, will propose a detailed survey. The survey is intended to explore the training possibilities within the community. Such information will be needed by the local teacher-coordinator to assist him in setting up the program. The survey is made by the local school authorities through contacts with employers in the community. The Industrial Cooperative Education program is explained to them. A definite statement concerning their willingness to cooperate by training student-learners from the high school on a part-time cooperative basis is obtained. Occupational and statistical information which is helpful in determining training needs is secured.

In all probability the person (interviewer) making the survey will be a prospective teacher-coordinator, a guidance counselor or an industrial education teacher from the school. To assure the most effective outcome from the survey, this person has the responsibility for certain specific activities. These may be stated as:

What the Interviewer Does

a. Prepare the questionnaire form
b. Secure the names of prospective employers (training stations)
c. Make the survey through personal visitations
d. Make a card file on prospective employers, including data for each
e. Tabulate the results
f. Write a report

What the Interviewer Needs to Know

a. Purposes of surveys
b. Types and techniques
c. Sources of information
d. How to summarize statistics
e. Interpretation of survey information
f. Filing

4. Objectives of the Survey

In conducting the survey, answers to several questions are sought. If the survey indicates that the community can successfully support an Industrial Cooperative Education program, it will show among other things:

a. That there is a sufficient turnover of labor to insure full-time jobs for all Industrial Cooperative Education student-learner graduates.
b. That there are a sufficient number of well-equipped prospective training establishments which will offer good training programs.
c. That there are enough prospective student-learners in the high school who meet the training specifications.

5. The Survey Instrument

Two different samples of a suggested survey instrument appear on the pages which follow. They are intended to provide school authorities with such information as will help to establish the need, if any, for an Industrial Cooperative Education program. The survey instruments will also indicate the occupations for which skilled workers are needed, as well as the numbers required.

Training Facility Survey

_____
Date

1. Name of firm _____

2. Official to be contacted _____

3. Address _____ Phone No. _____

4. City _____ State _____

5. Indicate occupations in your establishment which have need for skilled workers and have adequate facilities and personnel for training beginning workers.

Occupation	Number of Workers Needed
a.	
b.	
c.	
d.	
e.	

6. Are you willing to assist in a cooperative training program?

   Yes _____ No _____

7. May a representative of the local public schools call to present you with detailed information?

   Yes _____ No _____

8. Would you be willing to serve on a school advisory council representing your industry?

   Yes _____ No _____

9. Remarks _____

Signed _____

Title _____

Survey of Local Trade, Industrial and Service Establishments

_____
Date

1. Name of firm _____

2. Official contacted _____

3. Address _____ Phone No. _____

4. Number presently employed _____
Male Female Total

5. Percentage turnover per year _____ %

6. Do you employ part-time workers (1-30 hrs. per wk.)? If yes, list occupations _____

7. Are SPECIAL training facilities provided on the job, other than incidental training given a new employee?

Yes _____ No _____

8. Of the following traits, check those you consider most important

Accuracy	Dependability	Initiative
Cheerfulness	Emotional Stability	Neatness
Cooperativeness	Honesty	Physical Endurance
Courtesy	Industry	Punctuality

9. Does your company now cooperate with high schools in any type of school-industry programs?

Yes _____ No _____

10. Would the employment personnel of your company like to know more about the Industrial Cooperative Education program at the high school?

Yes _____ No _____

11. Remarks _____

_____

_____

B. Implementation of the Program

If the results of the survey indicate the possibility exists for an effective program being carried out, and if continuity is reasonably certain, the school authorities may take the required steps toward its implementation. Past experience indicates that about one year usually elapses from the time of the initial contact between the local school administration and the State Office for the actual start of the program at the local level. The various steps and the suggested time schedule enumerated below should serve as a guide to assure a successful beginning.

Fall Semester (September through January)

1. Hold an informational and fact-finding meeting
   (a) Superintendent invite 12 to 16 leaders in the community who represent employers, employees and community service organizations
   (b) Have a member of the State Staff present to explain the program
   (c) Secure opinion of the group regarding need and potential success
2. If the group opinion is favorable, make a survey of local establishments to determine interest and needs
3. Visit other programs to observe operation (Superintendent and School Board)
4. Secure approval from local Board of Education
5. Notify State Office that the school plans to start an Industrial Cooperative Education program next year as authorized by the local Board of Education

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The foregoing procedures should be completed by the end of the first semester. Second semester procedures follow.

Spring Semester (February through June)

1. Select coordinator
   (a) Local supervisor may initiate the program, or
   (b) local teacher may act as teacher-coordinator, or
   (c) the school may employ a new teacher-coordinator
2. The superintendent should appoint a General Advisory Committee (See Chapter IX)
3. Carry on publicity program --
   Newspapers, faculty, student body, service groups, etc.
4. Student enrollment for next fall
   (a) Study cumulative records, interview, test, and make preliminary selection from present sophomore and junior students
   (b) Enroll selected students not later than April 15

5. Coordinator is employed by July 1
   (a) Coordinator is approved by State Board of Vocational Education and Rehabilitation
   (b) Person employed must have taken Industrial Cooperative Education courses in college and/or attend beginning coordinators' workshop conducted by State Staff
   (c) Duties of coordinator preceding opening of school
      (1) Locate training stations and interview trainers (Use the survey as a basis)
      (2) Fit students into proper stations
      (3) Order workbooks and other instructional materials -- $15.00 per student (1st year), $8.00 per student thereafter
      (4) Adapt instructional material to needs of local community
      (5) Prepare additional instructional materials as needed.

CHAPTER III

THE HIGH SCHOOL ADMINISTRATOR'S RESPONSIBILITIES

A. The Importance of the Administrator

This guide could in no way be considered complete without a word regarding the high school administrator and his role in the implementation and operation of an Industrial Cooperative Education program. A large part of the responsibility for the success of the program rests upon his shoulders.

B. Points of Guidance for the Principal

If the principal views the program as a dumping ground for all his misfit pupils, he dooms it to failure before it is inaugurated. If the principal looks upon the program as an extra-curricular activity, or a class unconnected to the regular school program, he does it a gross injustice. If he regards the coordinator as an individual who simply comes and goes as he wills, or as a person unrelated to the regular faculty, he misinterprets the coordinator's status and jeopardizes his chances of success.

It is equally important that the program be recognized for what it is: a training program. If it is considered merely a work program, it loses its true identity and thus, most of its usefulness.

The principal must accept the program as a regular and important part of his total school curriculum. He must realize that the coordinator is a bona fide member of the school faculty, available for regular faculty duties insofar as they do not interfere with the operation of the program.

C. Principal's Importance in Selection of Student-Learners

The principal is in a position to lend valuable assistance to the coordinator in the selection of student-learners. He must be interested and sympathetic. He should not prohibit any boy or girl who wants to enroll in the program from doing so because that pupil happens to be a better than average student of English, history, Latin, mathematics, etc., or because he comes from a home of better than average opportunities.

D. Fitting the Industrial Cooperative Education Class into the Schedule

It is recognized that the program may create some hardship in the making of a school class schedule, yet in no case has this problem been too difficult to solve. It is equally true that a student entering the class a week or two after school

starts sometimes presents a problem in the rearrangement of his schedule, but few have been the case wherein the situation hasn't been ably handled by the principal. It is likewise a difficulty of slight nature when a student-learner returns to regular classes at the end of his probationary period. This type case is very rare, and if the principal gives his wholehearted assistance in aiding the coordinator to select prospective student-learners, this problem seldom appears.

E. How the Principal Can Be Helpful

From the foregoing it is evident that the principal does play a vital role in respect to Industrial Cooperative Education in his school, and he must feel a deep obligation for the distinct service it renders and aid the program in as many ways as are possible, among which are the following:

1. Make the schedule to accommodate the related class. (This includes putting English IV, history, and English III, in particular, where the Industrial Cooperative Education student-learners can schedule them.)
2. Two student class schedules or programs (one academic and one cooperative) should be prepared for those planning to enter the industrial cooperative education program. This will facilitate transferring the student out of the program and back to an academic schedule in the event he cannot be placed in a training station or if he is found unsuitable for the cooperative program.
3. Recognize the Industrial Cooperative Education program as a regular and necessary class in the high school curriculum.
4. Recognize the coordinator as a regular member of the faculty.
5. Give wholehearted cooperation to the coordinator in the selection of prospective student-learners and in making available school records.
6. Make provision for assembly programs, etc., which can be put on by the Industrial Cooperative Education class.
7. Visit the classroom and find out what the student-learners are doing and how they go about their class work from day to day.
8. Visit training agencies with or without the coordinator.
9. Facilitate in every possible way the procurement of related instructional materials.

F. The Place of Vocational Education in the High School

A few high school principals have been somewhat afraid for vocational education to come into their schools because they have the conception that the vocational educator and vocational education are unfriendly toward the academic phase of education. This is an unfortunate misconception because the opposite is true. It is a fundamental precept and basic philosophy of vocational education that standing alone it is not functional; that vocational education proposes to supplement and not supplant cultural, academic learning.

CHAPTER IV

THE TEACHER-COORDINATOR

Since the optimum effectiveness of any cooperative program is primarily dependent upon the coordinator, his success will be determined by many factors. Personal qualifications, background of experience, aggressiveness, initiative, personality, professional attitude, appearance, application, enthusiasm, and ability to get along with others are some of the traits which affect program development.

The State Office will continually appraise the coordinator's activities as he conducts the local program. Maturity of mind and actions will keynote the coordinator's behavior. The degree of his interest and ability will determine the success or failure of the program.

A. Training of the Teacher-Coordinator

The following requirements for approval as a coordinator of industrial cooperative education programs are set forth in the State Plan for vocational education:

1. Graduation from an accredited college or university with a B.S. degree, including professional courses in industrial or vocational education.

2. Eight (8) semester hours in approved trade and industrial subjects including the preparation of instructional materials and other courses, such as:

   a. Development, Organization and Principles of Industrial Education
   b. Principles of Vocational and Technical Education
   c. History and Basic Concepts of Vocational Education
   d. Administration and Supervision of Industrial Education
   e. Organization and Administration of Industrial Cooperative Programs

   These course requirements should be completed within three (3) years from the date of employment as a coordinator.

B. Employment Experience of the Teacher-Coordinator

Two (2) years experience as a wage earner in one or more trade and industrial occupations or skilled trades acquired after high school graduation. One year of this experience shall have been in a single occupation or trade. A candidate with a Master's degree and a major in Industrial

Education, or three (3) or more years of successful teaching in the secondary school system where the coordination is to be carried out may qualify with only one year of employment experience.

C. Teaching Experience of the Teacher-Coordinator

Nine (9) months (one school year) of satisfactory teaching experience in the secondary schools, all of which shall have been in industrial arts or in approved vocational education subjects.

The above qualifications will be required for teacher-coordinators of both types of Industrial Cooperative Education programs outlined earlier.

In addition to the foregoing requirements, all beginning coordinators are expected to participate in a five-day workshop sponsored by the Trade and Industrial Education Service. This is usually held in Springfield the first full week after July 1 of each year and is conducted by State T & I staff personnel.

D. Approval of the Teacher-Coordinator

To secure approval as a teacher-coordinator it will first be necessary for the candidate to submit through his or her school office to the Trade and Industrial Education Service, State Board of Vocational Education and Rehabilitation, 405 Centennial Building, Springfield, Illinois, three copies (original and two carbons) of Form T & I 14 (Vocational Teacher's Record Card). Completeness and accuracy are essential.

By referring to the item-by-item procedures and the sample teacher's record card on the following pages, the applicant will be able to complete the forms properly. Upon receipt in the State Office, the applicant's record, including school transcripts and employment information, is reviewed. An overall evaluation on the basis of State Plan requirements is made. If approved, the school and/or applicant, are notified by a letter of approval. The prospective teacher-coordinator is then eligible to assume his responsibilities subject to the completion of any required professional courses not taken previously.

REQUIRED PROFESSIONAL COURSES AND COURSE EQUIVALENTS IN MEETING VOCATIONAL CERTIFICATION FOR TRADE AND INDUSTRIAL EDUCATION PERSONNEL

U. of I.	S.I.U.	I.S.U.	N.I.U.	Teacher	Ind.-Coop. Coordinator*	Supervisor
383 or 488	495	302	447	X	X	X
	496	401	545 or 544	X	X	X
388	491-b	305	345 or 546	X		X
	494			X		X
381 or 481	485	402	343 or 541		X	X
489	505	400 or 405	576		X	X
382	506	393	417		X	

University of Illinois

381 . . . . Principles of Vocational and Technical Education
382 . . . . Organization and Administration of Industrial Cooperative Programs
383 . . . . Development, Organization and Principles of Industrial Education
388 . . . . Special Techniques of Teaching Vocational-Industrial Subjects
481 . . . . History and Basic Concepts of Vocational Education
488 . . . . Curriculum Problems and Trends in Industrial Education
489 . . . . Administration and Supervision of Industrial Education

Southern Illinois University

485 . . . . Principles and Philosophy of Industrial, Vocational and Technical Education
491-b . . . Principles of Trade Teaching
494 . . . . Organization and Administration of Industrial Education
495 . . . . Occupational Analysis
496 . . . . Selection and Organization of Subject Matter
505 . . . . Supervision of Industrial Education
506 . . . . Cooperative Programs

Illinois State University

302 . . . . Evaluation Techniques in Industrial Education
305 . . . . Improvement of Instruction in Industrial Education
393 . . . . Cooperative Education
400 . . . . Foundations in Industrial Education
401 . . . . Occupational and Job Analysis
402 . . . . Organization and Administration of Industrial Education
405 . . . . Philosophy of Practical Arts and Vocational Education

Northern Illinois University

447 . . . . Occupational Analysis
545 . . . . Curriculum Construction in Industrial Education
544 . . . . Content and Methods of Industrial Education
345 . . . . Teaching Problems in Industrial Education
546 . . . . Evaluation in Industrial Education
343 . . . . Philosophy of Vocational Education
541 . . . . History and Philosophy of Industrial Education
576 . . . . Administration and Supervision of Industrial Education
417 . . . . Industrial Cooperative Education

* In addition to the college courses all new coordinators of industrial cooperative education are required to attend a five-day training conference conducted by the Division of Vocational and Technical Education, State Board of Vocational Education and Rehabilitation.

Instructions for Completing Vocational Teacher's Record Card
(Type or Print)

Name: Last name - first name - middle name

Address: Number and street, city, state and zip code number

Photo: A small photo should be attached

Residence Phone: Your current residence phone number

Place and Date of Birth: City, state or country - month, day, year

Certificate Held: Indicate kind of certificate now held. If no certificate has been issued to you, write "none"

Subject: Coordinator - Industrial Cooperative Education

Schools Attended: List in sequence all schools attended, including elementary, high, trade, technical and college

Location of School: Show city and state for each school attended

Attendance: State beginning date (month and year) and ending date (month and year) at each school

Courses Completed: Eighth grade graduate, high school graduate, college degree, if any, with major field of study

Professional Training: List only those professional vocational education courses taken in preparation for teaching. Show the names of schools, their location, the number and title of the courses, the dates of attendance and the semester hours credit earned

Employment Record: Fill in the name of each firm or company by whom you have been employed. State address of each employer, list all periods of employment showing the dates from (month and year) to (month and year) and attach letters verifying employment

Teaching Experience: List your teaching experience. Give the names of schools, their location, employment dates, subjects and grade levels taught

Signature: Sign and date (Submit three (3) copies)

NOTE: Attach one (1) copy of the coordinator's college transcript of credits to the Vocational Teacher's Record Card.

STATE OF ILLINOIS
BOARD OF VOCATIONAL EDUCATION AND REHABILITATION
VOCATIONAL AND TECHNICAL EDUCATION DIVISION
TRADE AND INDUSTRIAL SERVICE
405 CENTENNIAL BUILDING
SPRINGFIELD, ILLINOIS

SAMPLE

CLIP SMALL PHOTOGRAPH HERE

VOCATIONAL TEACHER'S RECORD CARD

LAST NAME	FIRST	MIDDLE	NUMBER AND STREET	CITY AND STATE
Jones	William	Henry	8144 Crescent Avenue	Chicago, Illinois

RESIDENCE PHONE	PLACE AND DATE OF BIRTH	TRADE OR INDUSTRIAL SUBJECT TO BE TAUGHT
TW 3-4769	Cleveland, Ohio - 4/15/36	Coordinator-Industrial Cooperative Educatio

What type of certificate do you now hold? Limited High School

SCHOOLS ATTENDED (HIGH SCHOOL, TRADE, TECHNICAL, AND COLLEGE)		LENGTH OF ATTENDANCE		COURSES COMPLETED OR DEGREES EARNED
NAME OF SCHOOL	LOCATION OF SCHOOL	FROM	TO	
Washington Elementary	Cambridge, Indiana	Sept. 1942	June 1950	Eighth Grade Graduate
Lincoln High	St. Louis, Missouri	Sept. 1950	June 1954	High School Graduate
University of Illinois	Urbana, Illinois	Sept. 1954	June 1958	B.S. Major in Ind. Educatio

VOCATIONAL EDUCATION COURSES TAKEN IN PREPARATION FOR TEACHING			DATES OF ATTENDANCE		SEMESTER HOURS
NAME OF SCHOOL	LOCATION OF SCHOOL	NUMBER AND TITLE OF COURSE	FROM	TO	
University of Illinois	Urbana, Illinois	Votec 381 - Principles of Vocational & Technical Education	Sept. 1963	May 1964	2
			(By extension)		

Form T & I. 14 (904—5M—11-64)

Employment Record
(Other than teaching)

Name of Firm	Address of Firm	Dates of Employment From Mo.	From Yr.	To Mo.	To Yr.	Nature of Work (Be very specific as to nature and type of work. Furnish letters from firms listed, confirming date and type of employment.)
Acme Machine Company	Chicago, Illinois	July	1960	July	1962	Draftsman-Machine Parts and Accessories
Acme Machine Company	Chicago, Illinois	July	1962	Aug.	1963	Production and specialized mach. work Assistant Tool Designer
Country Tours, Inc.	Chicago, Illinois	June	1964	Sept.	1964	Tour Conductor
		(Summer employment)				

Teaching Experience

Name of School	Location of School	Dates of Teaching From	To	Subjects or Grades Taught
Simpson Jr. High School	Simpson, Illinois	Sept. 1958	June 1960	Industrial Arts (General Shop)
Arcadia High School	Arcadia, Illinois	Sept. 1963	June 1965	Industrial Arts (Mech. Drawing)

(Signed) William H. Jones
Signature of Teacher

State Supervisor of Trade and Industrial Division

June 18, 1965
Date Signed

Date Signed

E. Personal Traits of a Good Coordinator

1. Diplomatic

   a. He should always say the right thing at the right time.
   b. He should never intentionally antagonize anyone.
   c. He realizes that even though the other person may be wrong, it is better many times to leave that person in his ignorance.
   d. He does not tell the employers of student-learners how to run their business.
   e. He is considerate of the employer's time and is able to sense when an interview is finished.

2. Sense of Humor

   a. He can laugh with his student-learners.
   b. He can appreciate a joke on himself.

3. Control of Temper

   He does not lose his temper under vexing situations.

4. Responsibilities

   He fulfills his responsibilities to:

   a. The student-learner
   b. The training agency
   c. The school
   d. The State Board of Vocational Education.

5. Sympathetic

   a. He appreciates his student-learners school problems.
   b. He appreciates his student-learners employment problems.

6. Disappointment

   He is able to take the disappointment when certain situations do not work out to the satisfaction of the students, their parents, the trainer or the school.

CHAPTER V

THE COORDINATOR BEGINS HIS WORK

A. Training for the Job

The coordinator, like anyone else starting a new endeavor, should have training in the methods found to be most effective for the job he has to do. Although he may have had experience as a teacher in the secondary schools, he will find that the job of coordinating an Industrial Cooperative Education program involves new experiences which he has never before encountered.

B. School and Community Contacts

The coordinator should be ready to go to work in setting up the program following completion of the workshop for beginning coordinators. It will take from four to six weeks prior to the opening of school in the fall to have everything ready for the students to enter training on the first day of school. The first contact should be made with the administrators of the school to discuss the plans to be followed, to look over the facilities for the related classroom and to determine the method of ordering the reference materials needed.

Immediately following his conference with the superintendent and/or principal, the coordinator can very well spend one or two days simply presenting himself to the businessmen of the community, telling them why he is there and what he plans to do. If the superintendent or principal can accompany him on this "tour," so much the better. It is highly advisable that the coordinator, while in this get-acquainted campaign, be sure to see the employers who were contacted in the preliminary survey.

Early in the planning of the program, the coordinator should get acquainted with the counselors to find out what preliminary work was done with students toward informing them of the program. He may have a list of students who have indicated an interest in the training. He will undoubtedly have available files which will help in selecting students. If he is not personally acquainted with a student, he can direct you to someone who is.

C. Organizing a Consultant Committee

If the coordinator is strange to the community, he could easily make serious mistakes by proceeding along "unknown ground" without guidance. It might be possible that an employer would assign a student-learner to a trainer who would not have a good moral influence. It is possible that a training situation could be misrepresented and the em-

ployer might exploit the student-learner rather than provide all-round training. Again, the coordinator might place a student-learner in a training agency that is unpopular for one reason or another.

The way to insure proceeding along safe and sure lines is to have a committee of local persons upon whom the coordinator can depend for advice and guidance. The superintendent should suggest the names of three or four men who he knows have lived in the community a long time and who are accepted as responsible, reliable leaders.

The purpose of this committee is to give guidance to the coordinator in getting the program started. Before approaching an employer to secure his cooperation in training a student, the coordinator should seek the advice of the committee. The organization and functioning of consultant committees is detailed in Chapter IX.

D. Presenting the Plan to the Community

In the event that a representative of the State Office did not speak to the local civic clubs at an earlier time, it is highly advisable that the superintendent arrange for the coordinator to talk to each club. At the time the coordinator meets the civic clubs, he should deliver a carefully prepared talk of about twenty minutes duration in which the entire Industrial Cooperative Education program is explained. At the end of the talk, give the men an opportunity to ask questions which should be answered clearly and concisely.

The superintendent should also see to it that a reporter from each local newspaper is present. The coordinator should be permitted to review any write-ups before publication.

At proper intervals the coordinator should supply information to the newspapers in the form of well-written articles which explain Industrial Cooperative Education to the public, tell of its place in the local high school and progressively keep the community informed as to the progress of the program.

In the process of presenting the plan to the community by means of talks, interviews, conferences and newspaper publicity, the coordinator will find valuable assistance in the following tables:

MATERIALS TO USE	AVAILABLE SOURCE
1. Bulletins	1. Federal, State and local bulletins
2. Literature	2. Magazine articles

MATERIALS TO USE	AVAILABLE SOURCE
3. Charts, graphs, slides, pictures, examples of schedule of processes and student notebooks	3. a. Federal, State and local bulletins b. Workshop reports c. Statistics compiled in State Office d. Workbooks e. Surveys (1) Local information (2) Census reports (3) School records f. Other programs
4. Employment possibilities	4. a. Employment Service b. Local surveys
5. Accomplishments and possibilities	5. a. Federal, State and local bulletins b. Results from other programs
6. Facts about other programs	6. Yearly summary reports from local programs
7. Comparative facts of programs	7. a. Federal, State and local bulletins b. Comparative results of different types of school programs c. Actual cost of different types of training programs
8. Employment records of former students	8. Follow-up study conducted annually
9. Training needs as indicated by students	9. Survey of student body applications
10. Employment information a. Labor turnover b. Average age of those employed in occupation c. Method of entrance d. Number of trained workers and learners in each occupation e. Length of training period f. Physical requirements of employees g. Hazards of the occupations h. Possibilities of promotions	10. a. Statements of individual employer b. Labor department statistics c. Census reports d. Apprenticeship, laws, rulings and policies e. Insurance charts and data f. Industrial history and economics

MATERIALS TO USE	AVAILABLE SOURCE
11. Scale of wages, rates of pay	11. a. Statements of employers b. Statistics
12. Steadiness of employment (seasonal)	12. Labor department statistics
13. Employer's policies	13. Statement of employers
14. Channels of authority	14. Study of labor and company policies
15. Economic statistics of the occupations	15. a. Census report b. Industrial economics c. Labor department statistics
16. Opinions of employers	16. Statement of employers
17. Opinions of labor	17. Statement of labor leaders
18. Actual cost of different types of training programs	18. Listing of data available

E. Avoiding Difficulties

"An ounce of prevention is worth a pound of cure" is an old adage which can apply in coordinating an Industrial Cooperative Education program. It is well that the coordinator study the difficulties he is likely to encounter and do everything within his power to avoid criticism. In the event difficulties are encountered he may be able to overcome them by employing some of the methods suggested in the following chart:

DIFFICULTIES LIKELY TO BE ENCOUNTERED	HOW TO OVERCOME THESE DIFFICULTIES
1. Possible criticism as to relative per capita cost of the program	1. Cite advantages to school due to: a. Comparatively low equipment and supply cost b. Value of created interest in school and work (holding power of school is increased) c. Broadening school curriculum to better meet occupational needs of community d. Permitting boys and girls to secure their training without leaving their home community

DIFFICULTIES LIKELY TO BE ENCOUNTERED	HOW TO OVERCOME THESE DIFFICULTIES
	1.
	e. Furnishing occupational preparation plus academic training
	f. Adjusting pupils to the responsibilities of citizenship earlier in life
	g. Reimbursement from state and federal funds decreases the net cost of the program to the community
2. Possible objections to program by labor	2. Assure representatives of labor that:
	a. Program is not designed to flood market with learners in any one craft
	b. Program will be to provide replacements as approximately 5% leave trade each year (endeavor to secure local statistics)
	c. The training is for developing workers for the future
	d. The training is available for their children -- an opportunity their parents did not have
	e. The student-learners are not replacing anyone who is now employed
	f. The program is not to turn out journeymen workers (pre-apprentice training)
	g. The program is guided by a representative advisory committee in which labor has a voice
	h. It provides an organized plan of training in the occupation of the student's choice and in which he is interested
3. Possible charge that youth is being exploited	3. Explain that:
	a. Students are workers and are paid while on the job in an organized training program
	b. The wage is a comparable one

DIFFICULTIES LIKELY TO BE ENCOUNTERED	HOW TO OVERCOME THESE DIFFICULTIES
	3. c. The working conditions are checked by the coordinator d. A progressive schedule of processes to be learned is an essential feature
4. Possible charge that vocational teachers (coordinators) feel they are separate from and do not have to take part in school programs	4. The coordinator is a member of the high school faculty and must make himself a part of the school program in every possible way without neglecting his specified duties.
5. Possible criticism that the work program disturbs school schedule	5. a. Cooperate with principal and faculty in arranging schedules b. Show that this is a minor difficulty c. Explain how schedules are arranged in other high schools having the Industrial Cooperative Education program
6. Possible fears that a satisfactory schedule for compensation cannot be arranged	6. a. Explain that pay will be approved by advisory committees b. Point out what is being done elsewhere
7. Possible objections to hazardous work in some occupations	7. Explain that: a. Safety precautions will be practiced and stressed b. Student will be protected by insurance just as any other employee c. Student will not be placed in any training where he cannot work legally d. Student will not be placed at work without the consent of his parents

F. Coordination Time

The teacher-coordinator devotes a part of his time to counseling with prospective students, correlating work experiences on the job with school instruction, organizing necessary instructional materials, and in supervising and directing the student-learner's study of related and technical information as it

applies to the occupations in which they are engaged. Coordination time shall depend upon enrollment. In addition to the related subjects class, not less than one (1) clock hour per day, five (5) days per week for each ten (10) students or fraction thereof is required.

G. Selection and Equipment of Classroom

At some point during the preliminary "ground work," the coordinator and administrator should select a well-lighted classroom and begin equipping it with the necessary furniture. Due to the type of instruction carried on in an Industrial Cooperative Education related class, it is preferable to equip the room with tables and chairs, rather than the conventional type school room seats or desks.

The tables should be arranged in a "U" shape with the chairs on the outside of the U. The coordinator's desk should be between the tips of the U and slightly outside the enclosed space. The tables and chairs should be so placed that, if possible, no student-learner receives a glare of light entering through windows. Consult the suggested classroom arrangement which follows:

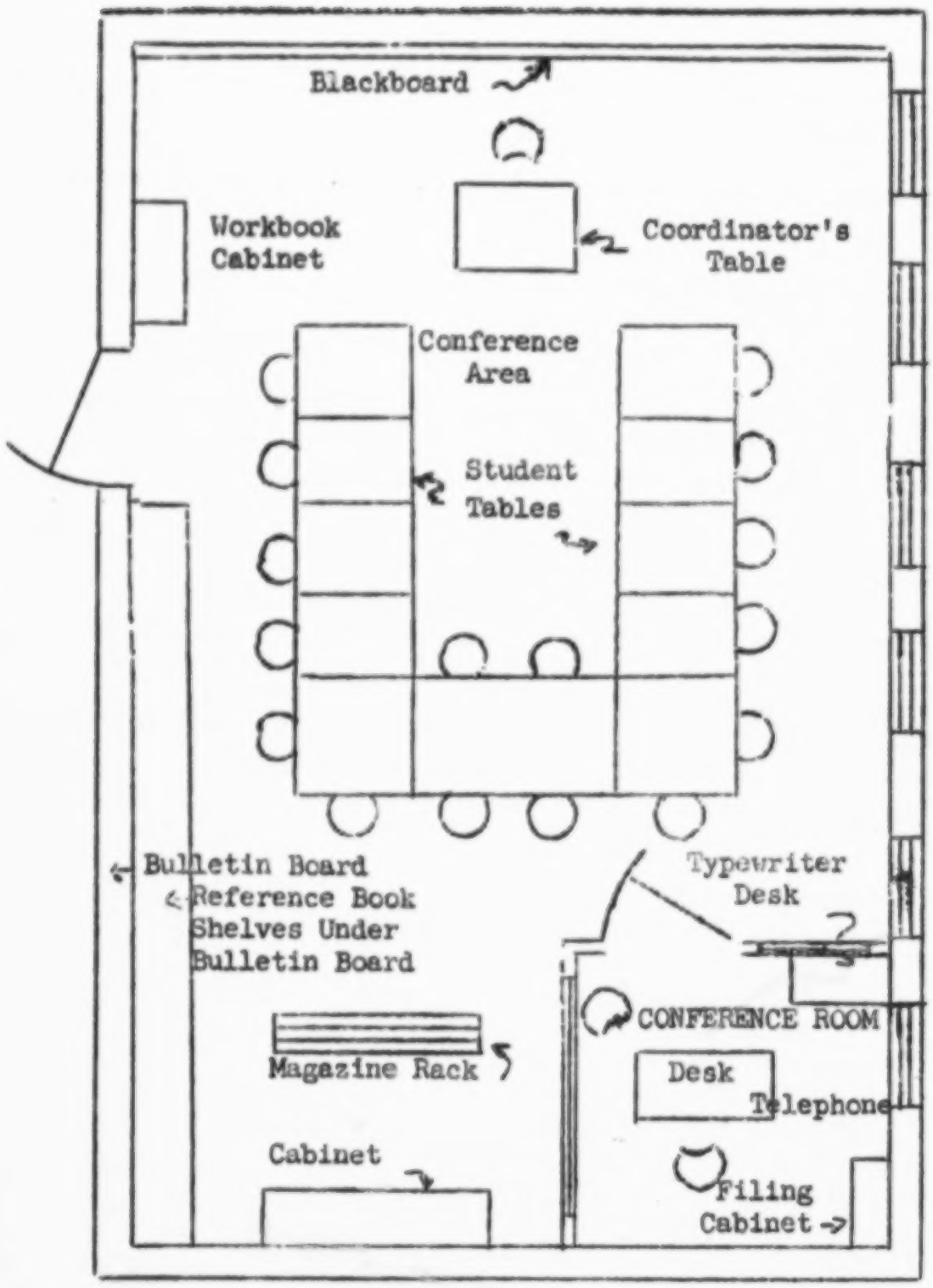
The classroom, library, and other facilities, including instructional equipment, supplies, teaching aids, and other materials should be adequate in quantity and quality so that they will enable those who are to be trained to meet their occupational objective. The necessary facilities, equipment, and supplies for the related subjects classroom, according to the general requirements of the State Plan, are:

a. ordinary classroom
b. tables and chairs
c. blackboards, 8 to 12 feet
d. bulletin board space
e. chalk and erasers
f. adequate lighting facilities
g. typewriter, table and chair
h. access to mimeographer or duplicator
i. teacher's desk and chair
j. bookcase
k. magazine rack
l. four-drawer letter file
m. two-drawer, 3 x 5 card file
n. workbook cabinet
o. reference material shelving
p. stationery
q. stamps
r. mimeograph supplies
s. paper, second sheets, carbon
t. file cards and indices
u. file folders and indices

H. Instructional Materials

The community must also agree to provide adequate funds to secure necessary instructional materials, including reference books, texts, bulletins, pamphlets, trade journals, correspondence courses, charts, magazines, etc. A well-equipped related subjects library is needed to insure that pertinent, practical and current occupational practices may be taught.

SUGGESTED ARRANGEMENT FOR THE
INDUSTRIAL COOPERATIVE EDUCATION CLASSROOM



The funds which are provided by the local school authorities shall not be less than $15.00 per student-learner during the first year that the program is in operation. The second year $8.00 per student-learner is to be provided, and thereafter such amount as will adequately provide necessary instructional materials. These amounts should be spent at the discretion of the coordinator.

I. Duties of the Coordinator

The following are among the more important duites of the coordinator. No attempt has been made to list them in any order of importance.

1. Survey training needs and opportunities of the community
2. Secure community cooperation
3. Secure employer cooperation
4. Secure school cooperation
5. Secure student cooperation
6. Make or secure occupational and trade analyses as needed
7. Work with advisory committees
8. Work with employers to develop a schedule of processes and related subject topics
9. Select training stations and place student-learners
10. Encourage employers to adopt fair schedule of wages
11. Organize, develop, correlate, and teach related subjects
12. Correlate related study with on-the-job training
13. Supervise teaching done by the training station
14. Establish a clear understanding of the program on the part of the school, the employers, the students, the parents and the public
15. Make talks explaining the training program before various groups to establish good working relations
16. Keep systematic records and reports
    a. State report (on time)
    b. Progress reports
    c. File or mail
    d. General data (permanent record)
    e. Training memorandum
    f. Training data
    g. Training plans
    h. Contacts made and results accomplished
    i. Visitation reports
    j. Student applications
    k. Employer's rating (periodic)
    l. Student rating sheets
    m. Regular school records, etc.
17. Arrange students' school and work schedules
18. Prepare bibliography of related materials and keep library records
19. Work with school faculty for student improvement
20. Confer with students on personal achievement, job achievement, and social achievement

21. Confer with prospective Industrial Cooperative Education students and parents
22. Follow-up former students after placement in permanent jobs
23. Visit parents in the homes of student-learners

J. Professional Growth and Development

Continued professional growth and personal development are essential characteristics of the successful coordinator. These may be summarized as follows:

What the Coordinator Does	What the Coordinator Needs to Know
Keeps up to date by working part-time in industry or business	Job analysis
Develops ability in dealing with others	How to talk with different groups of people
Keeps up to date professionally	How groups react
Attends workshops	How individuals react
Reads current literature on his specific field	Sources of materials
Takes further college work	How to work with and in groups
Attends and participates in meetings of education groups such as: AVA, IVA, IIEA, NEA, PTA, Round Table and faculty meetings	The nature and purpose of professional organizations
Develops an ability to get things done	The psychology of securing cooperation
Asks for constructive criticism of himself and the program by those in position to judge	Know how to appeal to specific groups
Develops the ability to speak effectively to specific groups	How to accept and evaluate criticism
Improve his personal grooming and manners	Public speaking
	How to set an example for others
	Everyday courtesy
	Know clothes and how to wear them

Professional Relationships

Works with students and faculty on overall school program	How to work with students and faculty
Explains the program to the faculty	Details of the program
Talks at faculty meetings	Points of the program that appeal to teachers
Discusses the program with new members of faculty	How the program fits into the total school program
Uses audio-visual aids	Scheduling problems and procedures

Talk with counselors, teachers and office staff about student problems Observe school rules, policies and customs in ethical manner	School rules, policies, customs and traditions

K. Administrative Relationships of the Teacher-Coordinator

Among the many and varied activities which are inherent in the work of the teacher-coordinator, we include those which relate to his relationships with the school administration as indicated below:

What the Coordinator Does	What the Coordinator Needs to Know
Explains needs and progress of program clearly to the administration Sees that all students meet over-all requirements for school graduation, including college entrance requirements Works for integration of co-operative eduction into the school program Presents the program budget Makes an annual written report to the principal and superintendent Procures administration participation in the following activities concerned with cooperative students: Employer-Employee Banquet Advisory Committee meetings Visits to students and employers on the job Visits to students' social and business meetings Shares other school responsibilities Clears all newspaper releases and special programs	How to follow proper lines of authority Basic philosophy of Vocational Education Specific objectives of cooperative education Legal background of Vocational Education Requirements for cooperative education Local school and state policies on graduation and college entrance requirements Year-by-year curriculum requirements of students Basic school policy Classroom and library needs Current costs on items needed New materials and methods Fundamentals of general school budget

CHAPTER VI

SELECTION AND PLACEMENT OF STUDENT-LEARNERS

A. Importance of Careful Student-Learner Selection

It is imperative that the coordinator recognize the fact that the student-learner is the most important element in the program. The success of the program, therefore, is going to depend to a great extent upon the selection of student-learners.

B. Criteria for Selection

"The purpose of any vocational education program is to prepare individuals for employment, or to give additional training to those already employed, and to place them in occupations in which they can be happy, successful and useful. One's occupation is an important, if not the dominant factor in his life, and its selection should involve careful study and guidance. It is unwise, therefore, to select students for a vocational education program on the basis of first come-first served.

"In all cases, the coordinator should make sure that the individual has an interest in the occupation, that he has the size, ambition, intelligence, personality, etc. necessary for success in employment.

"It will be found that some students cannot remain in school without the aid of part-time employment. Wherever possible, such students should be included in the program and encouraged to remain in school...

"There is another group of youth who should be served through the program. They are those who have dropped out of school and are working either part-time or full-time in industry. These boys and girls should be encouraged to return to school full-time and complete their high school courses through the program. In some communities a young adult Industrial Co-operative Education program may be available."*

C. Student-Learners' Eligibility for the Program

Students selected for training in this program shall be from those who are at least sixteen (16) years of age. They must be eligible for enrollment in the last two years of the regular high school program, unless individually recommended in

*Selvidge, R. W. and London, H. H., Essentials of Effective Teaching in Diversified Occupations, Unpublished paper. Industrial Education Department, University of Missouri, Columbia, Missouri, 1939

writing to the teacher-coordinator by the local advisory committee, guidance counselor or principal. This would also include those students who may have previously dropped out and who have reentered school with junior or senior standing.

D. Sources of Information about Prospective Student-Learners

When the coordinator receives an application for entrance into the program, he should begin studying the prospective student-learner from all angles. Individual conferences should be held with the student; his school record should be examined; previous teachers should be consulted; his home should be visited and acquaintanceship with his parents established. Through these media, the rating scale which follows may be completed and an evaluation thus made of the prospective student's potentialities.

RATING SCALE

Name of Student _____ Date _____

In the proper spaces provided below, check student on the items listed, and write in the ( ) points on each item, then total.

TRAITS	DESCRIPTION	POINTS
1. Ability to learn	Quick (4) Fair (2) Slow (0)	_____
2. Capacity for work	Unusual (4) Industrious (3) Average (1) Poor (0)	_____
3. Judgment	Uncanny (4) Sound (3) Average (1) Poor (0)	_____
4. Initiative	Exceptional (4) High (3) Fair (2) None (0)	_____
5. Appearance	Very neat (4) Neat (3) Careless (2) Sloven (0)	_____
6. Leadership quality	Outstanding (4) Noticeable (2) Low (0)	_____
7. Desire to make good	Pronounced (3) High (2) Average (1) Low (0)	_____
8. Ability to take orders	Outstanding (3) High (2) Average (1) Low (0)	_____
9. Reliable	Very (3) Ordinarily (1) Unreliable (0)	_____
10. Perseverance	Unlimited (3) Ample (2) Moderate (1) Weak (0)	_____
11. General conduct	Courteous (3) Discourteous (2) Rude (0)	_____
12. Accepts criticism	Readily (3) Indifferently (2) Reluctantly (1) Rejects (0)	_____
13. State of health	Excellent (2) Sound (1) Poor (0)	_____
14. Ability to mix	Natural (2) Fairly good (1) Doubtful (0)	_____

Perfect score: 46 SCORE _____

Remarks: _____

Rated by _____
Signed

The following columnar arrangement of what the coordinator "does" and should "know" will more clearly illustrate his role in the selection and placement of students:

What the Coordinator Does	What the Coordinator Needs to Know
1. Selection	
Explain cooperative program to students	Objectives, operation and policies of program
Make a survey of prospective students	When and how to survey students
Secure applications from students	What is needed in application form
Interview students	Type of student desired
Discuss applicants with counselor, principal or teachers	How to conduct interview
Give or arrange for tests	Questions to be asked
	How to interpret answers
	How to work with counselor and others
	Understanding of counseling program
	How to administer and interpret tests
2. Placement	
Get recommendations and evaluation of possible training stations from advisory committee	Requirements for a training station
Make survey of training stations	How to work with advisory committee
Explain program	When and how to make survey
Determine type of student desired	Business terms and principles
Select students to apply for job	Correct approach and how to explain program
Analyze all information about students	How to fit the student to the job
Explain job situation to students	Procedures of applying for a job
Help student apply for job	Wage and hour and child labor laws
Prepare for interview	Jobs normally performed in this occupation
Prepare training plan	Job analysis
Help set wages and hours	Sources of information for job descriptions
Help list jobs to be learned and explain rotation	Graduation requirements
Ask for suggestions on related instruction and instructional materials	Understanding of schedule problems
Explain general operation of program to manager and trainer	
Get approval of parent and student	
Arrange student's schedule	

Prior to the initial contact between the student and coordinator, it is advisable that the student fill out an application form. The completed application will provide information relative to the student's interests, abilities and adaptability to the chosen occupation.

STUDENT'S APPLICATION FORM

School _____ Date _____

Name _____ Date of Birth _____ Age _____
Last First Middle

Address _____ Phone _____ Sex _____

Weight _____ Height: Ft. _____ In. _____ General Health _____

Physical Handicaps _____ Sight _____ Hearing _____

Parent or Guardian _____ Father Living _____ Mother _____

Father's Occupation _____ Home Address _____

Name of Employer _____ Type of Business _____

What do you plan to do after graduation? _____

If you plan to go to college, what will you major in? _____

List of High School Subjects Completed

Freshman Year		Sophomore Year		Junior Year		Senior Year	
Subject	Grade	Subject	Grade	Subject	Grade	Subject	Grade

In what occupation do you desire training while attending high school?

1st choice _____
2nd choice _____
3rd choice _____

What are your hobbies? _____

List any previous employment _____

_____
Student's Signature

The following are suggestions for Interviewing, Testing, Evaluating and Reviewing the potential of the prospective Industrial Cooperative Education student.

1. Interviewing

   a. First contact. The coordinator will find out the following things:
      (1) Name
      (2) Age
      (3) Class in school
      (4) Reason for wanting to enter the program
      (5) Occupational interest of the student

      The coordinator might at this time provide the student with information about cooperative training and about various trades covered. Some coordinators have the students complete the application form before the first interview. Others have the form completed during or immediately after the first interview.

   b. Second contact. The coordinator and applicant might:
      (1) Review the information on the application form
      (2) Discuss parents opinion of student's choice
      (3) Discuss possible training stations
      (4) Make arrangements for testing if necessary

2. Testing

   It is suggested that the coordinator might:

   a. Analyze the occupation for aptitudes and skills required

   b. Check to see if tests have been administered that would evaluate the student's aptitudes and interests

   c. If test scores are not available, arrange for student to take tests. Types of tests and inventories that could be used are:
      (1) Vocational Preference or Interest Inventories (Kuder)
      (2) Mechanical aptitude tests (Science Research Assoc.)
      (3) Mechanical reasoning (Differential Aptitude Tests)
      (4) Intelligence tests that include tests of abstract reasoning
      (5) Contact the nearest office of the Illinois Employment Service and arrange for aptitude testing

3. Evaluation and Reviewing. The coordinator will finally accept or reject the student on such things as the following:

   a. Scholastic qualifications
   b. Aptitude for the occupation
   c. Interest in learning a trade
   d. Physical qualifications
   e. Attitude of parents toward Industrial Cooperative Education
   f. School records on attendance and discipline and teacher's and counselor's comments.

E. Selection of Student-Learners - Factors to Consider

THE STUDENT

1. Motive: Sincere desire to learn a trade or occupation
2. Adaptability
   a. Scholarship and I.Q.
   b. Type literature read
   c. Extra-curricular activities
3. Attitude toward:
   a. A particular job and work in general
   b. Authority--superiors at school
   c. Employers
   d. The faculty and school
   e. Training in general
   f. Parents
   g. Church and general principles of morality
   h. Success and how it is attained
4. Personal traits
   a. Honesty
   b. Reliability
   c. Punctuality
   d. Cooperation
   e. Personal appearance
   f. Self-control
   g. Confidence
   h. Courtesy
   i. Initiative
   j. Industry
   k. Accuracy
   l. Interest
5. Aptitudes evidenced by:
   a. Jobs previously held
   b. Extra-curricular activities (student offices)
   c. Hobbies - achievement
   d. Tests - ISES
6. Age: 16 years minimum
   18 years in some trades
7. School achievement: At least 8 units of high school credit
8. Is now working part-time
   a. His job fits into the objectives of the cooperative program
   b. He is receiving an all-round training
   c. He has to work
9. School program: His required courses can be adapted to Industrial Cooperative Education

THE PARENTS

1. Understanding of and sympathetic attitude toward program
2. Willingness to cooperate in having student-learner do his part
3. Attitude toward suggested training agencies and their personnel
4. Attitude toward coordinator
5. Occupations and social standing of parents
6. Willingness for student to work
7. Ambitions for child
8. Attitude toward civic affairs
9. Character, reputation, and dependability
10. Church preference
11. Home environment
12. Educational background
13. Financial standing

F. Interviewing the Prospective Student-Learner

As soon as possible, the coordinator should begin interviewing the prospective student-learners. If the principal or guidance director has a survey of these students before school was out during the spring term, the coordinator will have this list for use. A telephone call and/or a postal card to each student can notify him that the coordinator is on the job and that he will contact him for a personal interview at a specified date and time of day.

If no preliminary survey has been made of the student body, it then becomes necessary to depend upon newspaper publicity to inform the students. No doubt the principal, guidance director, and teachers can given the coordinator names of prospective student-learners.

Using the completed application as a basis for thought, the coordinator talks to the student and draws out as much pertinent information as is possible or that is necessary. From this point, the coordinator proceeds with the routine check-up to match the individual student with the analysis "Selection of Student-Learners - Factors to Consider" appearing on the preceding page.

G. Factors to Consider in Selecting an Occupation for Training

In discussing with the student the occupation for which he wishes to train, the coordinator must keep in mind that the occupation shall be one for which the preparation requires organized related instruction in school and progressive employment experiences on the job. No occupations will be included in the program which do not provide an opportunity for continued employment without displacement of other workers.

The coordinator and the prospective student-learner should examine the occupation in which the student-learner is interested and measure its desirability along the following lines:

1. Opportunity for employment after training
   This factor is essential because if the occupation is already overcrowded, it would be difficult for those who complete the training to secure employment. Is there a considerable turnover in employment in this occupation? Is there a scarcity of learners or apprentices?

2. Stability of employment
   This factor is worthy of consideration from the standpoint of the permanency of an occupation. Is it an occupation which is changing or which may be eliminated through specialization or technological changes? Is this occupation likely to remain in the community?

3. Opportunity for advancement
Under this factor the student and the coordinator should consider the possibilities for advancement in the occupation. Is it a calling in which, with diligent application and study, a student could reasonably expect to advance to a higher position?

4. Social value
It should be studied with a view of determining the value of the occupation to society as a whole. For example, is the machinist's trade necessary to the welfare of society as a whole? Does the electrical worker render a necessary service?

5. Length of training period
In choosing an occupation, the coordinator and student should give some study to the length of time necessary to become proficient in its practices. A student-learner should never be placed in training on a cooperative basis in an occupation which can be mastered in six weeks to six months. If the learning period for an occupation is more than two years, perhaps some arrangements could be made to credit the student with the time spent in the Industrial Cooperative Education Program.

6. Training carry-over
Consider this factor from the standpoint of the knowledge and skill gained carrying over into some other occupation. Will the training enable a person to more easily fit into employment in some other allied occupation?

7. Regularity of employment
In considering this factor, determine whether employment will be seasonal or whether it is an occupation in which a worker can reasonably expect to be employed throughout the year. Is employment in this occupation subject to rapid fluctuations?

8. Pay
This factor is included because a coordinator in counseling with students and parents must be able to give information as to the compensation which trained workers receive in the vocation being considered.

9. Training facilities
This is an important factor to study. Does the training agency in which a student is to be placed have adequate equipment to afford all-round training? Will someone have sufficient interest and time and ability to train the student-learner?

10. Safety conditions
The coordinator in selecting occupations in which to place students in training should by all means give thorough consideration to the dangers and hazards to which the workers are exposed.

The preceding points are shown in the chart which follows. This chart is a sample of the rating given auto mechanics in a certain community. Obviously, certain items are uniform for the occupation anywhere, while others will show variation, dependent upon conditions in the particular community at that particular time. Such a chart is convenient for the coordinator and students to use in rating or measuring an occupation for its training value.

RATING CHART FOR MEASURING AN OCCUPATION

Occupation AUTO MECHANICS City

	Very Poor	Poor	Fair	Good	Very Good
1. Opportunities for employment after training					X
2. Stability of employment					X
3. Opportunity for advancement			X		
4. Social value					X
5. Length of training period				X	
6. Training carry-over					X
7. Regularity of employment					X
8. Pay			X		
9. Training facilities				X	
10. Safety conditions		X			

After the coordinator and students have rated the occupation, the student should be made fully aware of all factors which may not appear to be favorable. This may avoid having a student-learner disappointed in his occupational choice later.

H. Factors to be Considered in Selection of Training Agencies

Now that the student has been checked and his chosen occupation evaluated a training agency should be selected and evaluated. In this selection, it must be kept in mind that no student-learner may be placed in a training agency wherein he will displace another employee. The prospective employer must be considered on the basis of the following:

1. Employer's attitude toward:

   a. Employees
   b. Training (is employer willing to permit training in various phases of the occupation)
   c. The public
   d. Moral standards
   e. The high school
   f. Working conditions
   g. Wages and hours
   h. The coordinator

2. Training environment

3. Facilities for training

4. Training personnel

5. Wages of regular employees

6. Willingness to employ student-learners full-time after completion of training

I. Selecting a Training Agency

After the student-learners have been selected, their occupations chosen and the possible training agencies approved, the coordinator approaches the employers and thoroughly explains the program. He then is ready to present them with a definite proposition. The proposition is: "Will you cooperate with the schools in training a young man or woman in his or her life's work?" At this point, it is imperative that every employer clearly understand:

1. That he will pay the student-learner a monetary wage comparable to that paid other beginners in the occupation.

2. That the student-learner will be transferred from one job process to another upon reaching the proficiency level required for satisfactory performance in the occupation. This is called "job progression" or "rotation."

3. The the Fair Labor Standards Act of 1938 as amended prescribes minimum rates of pay for workers engaged in interstate commerce. Care should be taken that the operators of such businesses realize that the student-learner is a regular employee and must receive the minimum wage prescribed by law, unless a special wage exemption certificate has been issued. (A sample form of the certificate follows. A supply of the blank forms may be obtained from the U.S. Department of Labor (Wage and Hour and Public Contracts Division), 219 South Dearborn Street, Chicago, Illinois.)

Budget Bureau No. 44-R396.10
Approval Expires June 30, 1968

U. S. DEPARTMENT OF LABOR
Wage and Hour and Public Contracts Divisions

APPLICATION FOR A CERTIFICATE TO EMPLOY A STUDENT-LEARNER

The certification of the appropriate school official on the reverse side of this application shall constitute a temporary authorization for the employment of the named student-learner at less than the statutory minimum wage applicable under Section 6 of the Fair Labor Standards Act of 1938, as amended, or at wages below the applicable Walsh-Healey Public Contracts Act minimum wage determination, effective from the date this application is forwarded to the Divisions until a student-learner certificate is issued or denied by the Administrator or his authorized representative, *provided* the conditions specified in Section 520.6(c)(2) of the Student-learner Regulation (29 CFR 520) are satisfied.

PLEASE READ CAREFULLY THE INSTRUCTIONS FOR COMPLETING THIS FORM
PRINT OR TYPE ALL ANSWERS

1. Name and address of establishment making application:	3. Name and address of student-learner: Date of Birth:
2. Type of business and products manufactured, sold, or services rendered:	4. Name and address of school in which student-learner is enrolled:

Information on school instruction:

5. Number of weeks in school year		11. Are Smith-Hughes Act or George-Barden Act funds being used for this program? (Yes or No)	
6. Total hours of school instruction per week		12. Was this program authorized by the State board for vocational education?	
7. Number of such hours *directly* related to employment training		13. If the answer to item 12 is "No" give the name of the recognized local educational body which has approved this vocational training program:	
8. Proposed beginning date of employment			
9. Proposed ending date of employment			
10. Proposed graduation date of student-learner			

14. Outline the school instruction *directly* related to the employment training. (List courses, etc.)

Form WH-205 (10/63)

ATTACH SEPARATE PAGES IF NECESSARY

Information on employment training at special minimum wages:

15. How is employment training scheduled (weekly, alternate weeks, etc.)?	19. Title of Student-learner occupation:
16. Number of weeks of employment training at special minimum wage	20. Number of employees in this establishment
17. Number of hours of employment training a week	21. Number of experienced employees in student-learner's occupation shown in question 19
18. Special minimum wage(s) to be paid student-learner (if a progressive wage scale is proposed, enter each rate and specify the period during which it will be paid):	22. Minimum hourly wage rate of experienced workers in 21
	23. Is an age or employment certificate on file in this establishment for this student-learner? (If not, see instructions)
	24. Is it anticipated that the student-learner will be employed in the performance of a Government contract subject to the Walsh-Healey Public Contracts Act?

25. Outline training on-the-job (describe briefly the work process in which the student-learner will be trained and list the types of any machines used).

26. Signature of student-learner:

I have read the statements made above and ask that the requested certificate, authorizing my employment training at special minimum wages and under the conditions stated, be granted by the Administrator or his authorized representative.

(Signature of Student) *(Date)*

27. Certification by school official:	28. Certification by employer or authorized representative:
I certify that the student named herein will be receiving instruction in an accredited school and will be employed pursuant to a bona fide vocational training program, as defined in section 520.2 of Student-Learner Regulations.	I certify, in applying for this special certificate, that all of the foregoing statements are, to the best of my knowledge and belief, true and correct.
(Signature of School Official) *(Date)*	*(Signature of employer or representative)* *(Date)*
Title	*Title*

ATTACH SEPARATE SHEETS IF NECESSARY

4. That if the employer has three employees on at least one day of each of twenty or more calendar weeks in a calendar year and takes on a student-learner in addition, this student-learner will count as the fourth employee and the employer automatically becomes liable for the Federal Unemployment tax feature of the Social Security Legislation.

   That if the employer has two employees and takes on a student-learner in addition, this student will not count as the third employee if the student-learner is a minor (males under 21, females under 18) when principal occupation is as a student actually in attendance at a public or private school, unless taxes with respect to such services are voluntarily paid under the Federal Unemployment Tax Act.

5. That the student-learner must secure a Social Security number and that the employer and student-learner will pay the taxes appertaining thereto.

6. That the student-learner will work at least three hours per day each school day, thus working a minimum of 15 hours per week.

7. That the student-learner will receive a minimum of one period per day of general and specific related training in the school.

J. Criteria For Determining Trade and Industrial Occupations

1. It should be trade and industrial in character.

   a. Occupations which are unquestionably trade and industrial:

      (1) Any occupation in which a major portion of the work involves the manufacture, processing, repairing, servicing or installation of a product.
      (2) Any occupation listed as technical, skilled or semi-skilled in Dictionary of Occupational Titles.

   b. Occupations which are usually trade and industrial:

      Public or personal service occupations where service is rendered to or performed on or for the general public.

   c. Occupations which are not trade and industrial:

      (1) Occupations which require a college degree.

(2) Occupations which are definitely in the fields of Agriculture, Homemaking, or Business Education

d. In case of doubt, send pertinent information to the State Office for evaluation before enrolling the student.

2. It should require one or more years of "on-the-job" training.

3. It should be valuable for the welfare of society.

4. It should offer reasonable possibilities for employment and advancement in the trade.

5. In no case should a placement be made in an occupation for which Day Trade training is offered in the same school without an understanding between the instructors involved.

K. The Employer-Student Interview

After the employer thoroughly understands the working of the program and he agrees to train one or more student-learners, the next step is to send students to him for interviews. If possible, more than one student should be sent for the employer's consideration. This emphasizes the fact that the final selection of all student-learners is left to the employer.

It is true that poor job placements will probably be made, but these should be as few as possible. If at any time the work of the student-learner is not satisfactory, he may be removed and another student selected. It may be that he can be shifted to another type of work for which he is better suited, or even placed with another employer.

L. Training for the Employer Interview

By the time a coordinator interviews several student-learner applicants, he will become increasingly aware of the fact that the average high school student knows absolutely nothing about the techniques involved in making a successful contact and interview with an employer. This throws an additional duty upon the coordinator; the student must be coached in the fine art of being interviewed.

For that purpose, before sending any students to a prospective employer, assemble as many student applicants as have applied at that time and teach them to approach an employer, announce the purpose of the visit and carry to a successful end the entire interview.

M. What All Parties Concerned Should Know Before Student-Learner Goes on the Job

As a result of the interview the student will be either hired or rejected. This brings the coordinator to the point where he should review the entire situation in order to be sure that employers, student-learners and parents thoroughly understand all phases of the program. These include:

1. That the student-learner will take two regular high school subjects in school each day.

2. That the student-learner will spend at least one period in a related subjects class each day.

3. That the student-learner will work in his training agency at least fifteen hours per week learning the manipulative skills of the occupation.

4. That at the end of a trial period established by the school if the student-learner has not shown proficiency or a tendency to learn or demonstrates a poor attitude, then he may be dropped from the program. The purpose of the trial period is to provide a try-out period for both the student-learner and the employer.

   The student-learner should understand in the beginning that he is not going to be able to get off the job every time the school dismisses for any reason. His holidays for the job time should be those of the training agency and at the will of the employer.

5. That the parents are in no way relieved of any responsibility with regard to the personal conduct of the student-learner while in training.

6. That the student-learner can earn two units of high school credit each year in the program.

7. That the student-learner cannot spend more time in school than he does in employment.

8. That all the Child-Labor provisions under the Fair Labor Standards Act, where applicable, will be met.

N. Unusual Types of Placement

There are two other type placements which should be considered before leaving this chapter. First, in some cases a student may already be working in an establishment that can be considered a satisfactory training agency. In this case, if the student applies for admission to the program, the student can be transferred from the status of part-time worker to that of student-learner in a part-time, cooperative trade training

program. The coordinator must make it clear to the training agency that the student-learner is on a training program when he is enrolled in the Industrial Cooperative Education program.

The other type placement needs handling with extreme care. That is when an employer tells the coordinator that he wants to cooperate with the school and expresses his desire to train a student, and furthermore names the particular student he wants. That is very fine when the training agency is acceptable and the student satisfactory, but when either one or both are not desirable according to accepted standards, then the coordinator must summon all his tact and diplomacy and handle the situation so that no one will feel discriminated against, so that the program does not suffer, and so that everyone involved may remain friendly. How to do this: There is no set procedure other than to first see your advisory committee and proceed from that point with all caution.

Despite the importance attached to the placement of student-learners, the coordinator must recognize that placement is not his major responsibility, but that the most important phase of the program and his biggest job is related instruction.

O. Pre-Employment Information

If just before the student-learners go on the job, the coordinator will again assemble them for some pre-employment information, he will be curing some of his headaches before they occur. Pre-employment training consists of common sense discussions of "what to do" and "how to do it" in respect to contacts with the public; relations with fellow employees; learning and obeying shop rules, regulations and policies; proper dress and personal grooming for different types of jobs; together with similar items and anticipated problems.

In the conduct of an Industrial Cooperative Education program, every problem which can be anticipated and solved before it occurs is another big victory won on behalf of and by the student-learners, employers and the coordinator.

P. Employment Schedule

The coordinator may experience a little difficulty in working out the trainee's schedule on the job as some training agencies will prefer to have the students in the morning, others in the afternoon, and still others on Saturday or Sunday. Each individual trainee's schedule must of necessity be handled as nearly independently of all others or from any set procedure as is possible.

In certain cases, the employer will want to use the student-learner on Friday afternoon and sometimes all day Saturday. In such instances, the fact must not be overlooked that at these times everyone will be busy and the opportunity for training will be limited. Since the training is the principal objective of the program, provisions for training should be worked out whenever the student is working on the training program.

Q. School Schedule

There are a variety of plans, any one of which would be equally effective in the arrangement of the school schedule, and these will vary in each high school, dependent upon the length of each period, time of opening school and scheduled time for regular high school subjects. The principal point to be observed is that those student-learners in the course with junior standing should be assigned not less than two-hundred minutes per week of related subjects instruction, while those who enter the program as seniors must be enrolled for four-hundred minutes per week of related instruction, or be able to meet the requirements for one year programs which are prescribed in Chapter I - B. 2.

R. Schedule of Processes

For each individual student-learner, there must be prepared a schedule of processes to be learned on the job which will have to be worked out by the coordinator in cooperation with the employer. This schedule will be in the form of a job analysis of the phases of the occupation outlining the tasks, duties and responsibilities which the student-learner is expected to learn.

Training will be given in many occupations with which the coordinator is not familiar, and about which he will have to seek information. In practically all instances, he should endeavor to have a craft committee help him. This committee may consist of the employer or foreman and an employee in the establishment, or may consist of people engaged in the occupation other than within the training agency. In most cases, the employer should be encouraged to have a hand in working out the schedule of processes.

This schedule of processes may be in any one of a number of forms; but the three-column analysis will probably be found the most usable and convenient. The first or left-hand column contains a listing by units of the manipulative skills to be learned on the job. The related information which correlates with these job units appears in the second column. In the third column are references to specific books, magazines, etc., which indicate exactly where the desired related information can be found.

When the schedule of processes is completed, it becomes a part of the training plan.

S. The Training Plan

The training plan, or training agreement as it is sometimes called, is a vital and necessary part of the training program. It is through this training plan that the essential functions are outlined and agreed to for each person concerned. It includes the following:

1. Type of training to be undertaken.
2. Extent of the period of training and of the tryout period.
3. Provision for termination of student-learner.
4. Employment schedule for the week.
5. Schedule of compensation. This should be a graduated schedule.
6. Special provisions, if any.
7. Schedule of processes showing job training and outline of approved related instruction.
8. Provision for high school credit.
9. Type and degree of responsibilities of all parties concerned.
10. Signatures of employer, parent, student-learner and representative of the school.

On the following page there appears a sample training plan which has been found satisfactory. To this should be attached a schedule of processes which describes the specific on-the-job training to be given.

T. Approval of the Training Plan

Since the general advisory committee is a body representing the school and looking after the welfare of the program, it should approve each training plan after which it is signed by the coordinator as the representative of the school. The minutes of the committee meeting will show the committee's action on this matter.

The schedule of processes and the training plan should be worked up as soon as the employer agrees to train the student. There should be three copies of the training plan and schedule of processes for each placement -- one for the coordinator, one for the student-learner and one for the employer.

_____ High School

MEMORANDUM-OF-TRAINING PLAN

Date _____ 19___

I. The _____ will permit _____
(Student-Learner)
to enter their establishment for the purpose of gaining knowledge and experience as _____.
(Occupation)

II. The course of training is designed to run for a two-year period with a minimum of _____ hours per week required for the work experiences and at least one period in each school day required for the supervised and directed study of technical and related subjects.

III. The coordinators shall, with the assistance of the employer or someone delegated by him, prepare a schedule of processes to be learned on the job and an outline of related subjects to be taught in the school. These items to be made a part of this memorandum.

IV. The schedule of compensation to be paid the trainee shall be fixed by the training agency and the coordinator and shall become part of this memorandum, and a record noted on the back of this sheet. Such wages shall be comparable to wages paid apprentices and other beginners in the occupation in which the student-learner is engaged. They shall conform to the Fair Labor Standards Act of 1938, amended, if applicable.

V. The student-learner will not be permitted, in the process of gaining occupational experience, to remain in any one operation, job, or phase of the occupation beyond the period of time that is necessary

VI. The student, while in the process of training, will have the status of student-learner and will not displace a regular worker now employed.

VII. All complaints shall be made to and adjusted by the coordinator.

VIII. The parent or guardian shall be responsible for the personal conduct of the student-learner while in training.

IX. The employment of the student-learner shall conform to all federal, state, and local laws and regulations.

X. The employer agrees to instruct the student-learner in safety procedures and safe work practices in on-the-job training.

_____	_____
Coordinator	Student
_____	_____
Employer	Parent or Guardian

SAMPLE FORM

U. Insurance Coverage for Student-Learners

The brief statements which follow are intended to answer the often asked question of insurance for student-learners.

1. The student-learner is a bona fide employee, and therefore, must be covered by insurance.

2. The student-learner must be at least sixteen years of age to be enrolled in an Industrial Cooperative Education program.

3. Private insurance companies are not required to insure all persons sixteen years of age or over.

4. Any employer desiring insurance on an employee, but who cannot be accepted by a private insurance company, may receive such coverage by applying to the Workmen's Compensation Assigned Risk Plan which is administered by the State Industrial Commission, 160 North LaSalle Street, Chicago, Illinois 60601.

CHAPTER VII

RELATED INSTRUCTION

A. Importance of the Related Instruction Phase of the Program

An important and necessary facet of any program of Industrial Cooperative Training is the close and vital relationship which must exist between training on-the-job and education in school. The successful practice of hand or machine skills necessitates the acquisition of related basic concepts, technical information, theoretical knowledge and mathematical processes. These necessary adjuncts to the "doing" of the job are not readily conveyed to the student-learner by the trainer who generally lacks teaching skills. The productive time element involved coupled with the deficiencies in theoretical knowledge possessed by some trainers, precludes effective related instruction on-the-job.

The logical person to impart the various phases of related instruction is the teacher-coordinator.

The first thing that a coordinator must learn and establish in his thinking is that the program is not complete, nor can it be successfully operated without a properly functioning, vital program of teaching the related information applicable to the trade or occupation of each student-learner. This is the coordinator's major function.

For this purpose, the local board of education purchases and makes available for students the necessary technical information materials. The coordinator organizes these materials. The student-learners meet daily for one or more periods for the express purpose of assimilating the information. It is at this point that the coordinator assumes the task of guiding and directing the individualized study of each student-learner.

B. Methods of Presenting Related Material

The methods of presenting related materials are innumerable, and the coordinator should use the method best suited to put over the problem at hand. Assignments in textbooks, trade journals, etc., to be followed by written summaries, or oral reports is an effective method.

C. Specific Technical and General Related Information

The teaching and study of related information can be divided into two parts; namely, specific, technical related and general related.

Specific technical related instruction and study refers to the use of materials which are directly and specifically related to the job on which the student-learner is training. Through the use of textbooks, bulletins, plans, blueprints, workbooks and study guides the student-learner may be guided in his study of the specific technical related information applicable to his occupation. In the event involved technical questions or problems are encountered, solutions and answers may be sought from the respective employer-trainer. This work must of necessity be conducted on an individual basis, and should consume approximately 4/5 of the time spent in the related classroom each week.

General related instruction and study refers to the use of materials which deal with the abstract conditions and relationships of business and work in general. All student-learners can participate as a group in general related study. This phase may require about 1/5 of the time devoted to related instruction.

D. Outside Speakers

At intervals it is an excellent idea for the coordinator or a committee from the class to invite well-informed individuals in the community to come to the school and talk to the student-learners on particular subjects which are of interest and value to all. Such topics could be "The Value of Possessing a Good Credit Rating." Naturally, the secretary or manager of the local credit association is the logical individual for this talk.

A talk on the "value of money, how it works, and how to save it," would be an ideal subject for a banker. Another subject for a banker is "how to use the bank."

In like manner, trips could be made to industrial plants and commercial establishments where through observation and questioning much information of value to all may be obtained.

E. The Conference Method of Presenting Related Information

One of the very finest methods of presenting general related information is through the conference method. A topic or case study can figuratively be tossed among the student-learners and they can discuss it from every angle that comes to their minds. During the process of discussion, the coordinator should list on the blackboard each point as it is brought out by the group. When the points are exhausted, the group should study what is on the blackboard, eliminating the irrelevant ideas and consolidating the pertinent. In this manner, the group arrives at a definite conclusion concerning the problem which was discussed. On the next page is a listing of suggested conference topics together with box-head analysis headings.

TOPIC	BLACKBOARD HEADINGS
1. Competition (Employment, products, etc.)	Advantages-Disadvantages-How to meet
2. Orders	Why they go wrong - Remedies
3. Morale	Contributing Factors
4. Reports	Value - Whose Responsibility - Recommendation
5. Care of equipment	Items - Why Necessary - Who's Responsible - Cost
6. Wasted Materials or Damaged Goods	Who's Responsible - What Can Be Done
7. Promptness	Why Necessary - Suggestions
8. Sanitation	Value to Company - To men
9. Planning of work	Why Necessary - Suggestions
10. Loyalty	When Needed - How It Should Be Promoted
11. Health	Effect on Work - What Can Be Done
12. Personal Appearance	What Contributes - How It Affects Business
13. Good Speech	Why Necessary - Frequent Errors - Suggestions
14. Initiative	When Needed - Value
15. Effect of Slow Work of One Department on Another	Instances - Reasons - Improvements
16. Courtesy and Service	Case - What Driver Did - Result
17. Working Conditions Loading Conditions Parking Conditions	What - Effect - Suggestions
18. How To Increase Business	Case Discussion - Methods Used
19. Personality	Factors - What Can Be Done to Improve
20. Horseplay	
21. Labor Laws	Question, Discussion - Instruction
22. Handling Material	Errors - Causes - Remedy
23. Economy	What Economies Necessary - How to Get List
24. Duties and Responsibilities	
25. Customer Goodwill	How to Build and How to Hold
26. Advertising	Methods Company Uses - How Route Men Can Use
27. Fatigue	Effects - Suggestions to Avoid or Overcome
28. Rating Men	Why Worthwhile - How
29. Qualifications of a Foreman	List
30. Production or Plant Difficulties	Difficulty - Cause - New Plan

*Cushman, Frank. Foremanship and Supervision, Chapter XI. New York, New York. John Wiley and Sons. 1938.

Additional topics suitable for the general related phase of class instruction could include the following:

The Industrial Cooperative Education Program and its Relation to Vocational Education
The Journey of Life
Keeping Out of Trouble
Steps to Success
Getting a Job and Growing Into It
Effective Study Habits
Working with Others
Employer-Employee Relations
Budgeting of Income
Saving and Investing
Credit and Money Management
Contracts
Legal Problems in Buying and Services
Paying Government Services Through Taxes
Social Security
Legal Relations for Young Workers
Labor Unions
Planning Your Career
Changing Jobs
Job Safety
Workmen's Compensation
Wage and Hour Laws
Fair Labor Standards
Unemployment Compensation
Income Tax Problems
Understanding Ourselves
Understanding Others
Leisure and Its Uses
Getting and Keeping a Job
Fringe Benefits
Insurance
Unions and Apprenticeship
Vocational Education
Industry in Our Economic System
Background of Organized Labor
Laws Governing Vocational Education
Character Building
The Consumer and Society
Labor and Our Economic System
Withholding Taxes
The Interview and the Personnel Director
How to Keep a Job
Union Organization and Management
What Makes a Good Trainee
Keeping Your Wage and Hour Records
Industrial Cooperative Education Clubs
Schools Rules and Regulations
Responsibilities of the Industrial Cooperative Education Student to School, Job and Employer
Roberts' Rules of Order
Making a Speech

F. Content and Plan for General Related Material

It is a very desirable practice for the coordinator to decide well in advance of each semester what items of general related material he plans for the group to study. The content of the instructional materials is to be selected on the basis of the objectives of the program and is the joint responsibility of the local board of education, the high school administrator and the teacher-coordinator. The separate accomplishments of the individual student-learners are to be recorded on a progress chart. As each task is completed, it can be so indicated by placing a grade or marking symbol opposite the student-learner's name and under the listing of the task or assignment.

G. Methods of Setting Up the Related Class

Another problem which must be worked out is provision for the related subjects class period in the high school schedule of classes. There are three possible methods for accomplishing

this. However, it behooves the coordinator and the high school principal to set up the period in the schedule which best fits their own inclinations, requirements and demands.

These are:

1. Have one related class period during which all student-learners meet at the same time, usually one of the lunch periods, thus providing for both the morning and afternoon student-learners.

2. Have two related class periods, dividing the group evenly by numbers, and providing for those students employed either morning or afternoon.

3. Have two related class periods, one composed of juniors and one of seniors. This method is recommended if the number of student-learners totals over twenty-four, and if the number of juniors and seniors are approximately equal.

Separate related subjects classes are required in those schools where Industrial Cooperative Education (D.O.) and Supervised Job Training programs are both operated under the direction of one coordinator.

H. Ordering Related Materials

When the coordinator is informed by the employer that he will train a student-learner, he should immediately work out with that employer the anticipated related technical needs of the student-learner, and from reliable sources purchase the necessary books, trade journals or other materials. It is recommended, however, that some money be reserved for the purchase of current trade information throughout the training period.

The coordinator will find it an excellent practice to order all related materials on approval. This is due to the fact that so many technical books, even though they are fine in every respect, are written on the college level, and thus, are not as useful as they might be otherwise. Without ordering on approval, the coordinator stands to waste a considerable amount of money.

I. Importance of Individualized Instruction

"The requirements of the various trades and occupations in the Diversified Occupations program are different. Likewise, the student-learners will differ considerably both in the rate and extent of learning ability. Furthermore, learning in the final analysis is an individual process and an individual achievement. In view of these facts, it is simply

futile to attempt to teach a class of student-learners in a dozen or more occupations at the same time by the group method. To be effective, instruction in Diversified Occupations must be individualized and the responsibility for learning placed squarely on the student-learner himself."*

The following outline indicates those activities and skills through which the coordinator will contribute to the effectiveness of the individual instruction:

Individual Instruction

What the Coordinator Does	What the Coordinator Needs to Know
1. Plan the Course of Study	
Make analysis Select units Prepare or select assignment sheets or study guides Secure materials Plan visual aids	Knowledge of trade and job analysis Knowledge of the basic information of trade How to organize materials Know how and where to secure materials How to prepare objectives Basic knowledge of distribution and merchandise
2. Make or Assist with the Selection of Assignments	
Check with employer Check with student Check work experience reports Make assignment clear Provide motivation	Public speaking Chart talks Knowledge of effective teaching procedures Psychology Knowledge of methods of selection of assignments Principles of learning
3. Assist Students with Problems	
Explain study procedures Help find material and information Check progress Keep students working Locate and define problems	Basic knowledge of distribution or industry Individual differences Study procedures
4. Set Up Grading System	
Evaluate completed assignments Determine grades Prepare and administer tests Prepare reports Keep progress record	Methods of measurements and testing Understanding short-comings of tests Understanding grading systems Understanding of ways to justify grades Techniques of evaluating work.

*Selvidge, R. W., and London, H. H., Essentials of Effective Teaching in Diversified Occupations. Unpublished Paper. Industrial Education Department, University of Missouri, Columbia, Missouri. 1939.

"This means that the coordinator must have in his classroom an adequate supply of well-selected instructional materials on each occupation represented in the program and have them so organized and arranged as to enable him actually to relate the work of the school with that done by each student-learner on the job. Although a difficult task, this must be done if the program is to fulfill the purpose for which it is designed. Many good instructional materials may be secured for the asking from the manufacturers and distributors of tools, machines, materials and other products. Some of this material may be "loaded" with advertisements, but most of it can be used to advantage for instructional purposes.

"Occasionally, the coordinator will find it advisable to have group discussion, or to give group instruction, concerning things of common interest to all the students in his class. These should be well planned and to the point for otherwise they will consume an unwarranted amount of time and accomplish very little. A good plan is to have individuals or groups investigate problems or topics of common interest and then present their findings to the class for further discussion. This places the responsibility upon the student and provides training in self-expression which is important. It also has a unifying and socializing influence on the group."*

Successful group instruction involves the following activities and "know how" on the part of the coordinator:

Group Instruction

What the Coordinator Does	What the Coordinator Needs to Know
1. Determine Group Needs	
Pupil-teacher planning Get recommendations of advisory committee Check analysis of all jobs Talk with individual employers Confer with other coordinators	Principle of learning based on needs and readiness Individual and group conference techniques
2. Preparation	
Secure material File instructional materials Make lesson plans	Sources of material Criteria for selection of material Principles of learning Methods of teaching
3. Instructional Procedures	
Orient students Secure speakers Conduct group conferences Lecture Use audio visual aids	Steps in teaching Laws of learning Teaching methods Speech

*Selvidge, R. W., and London, H. H., Essentials of Effective Teaching in Diversified Occupations. Unpublished Paper. Industrial Education Department, University of Missouri, Columbia, Missouri. 1939.

Direct committee and individual reports	Knowledge of merchandising subjects and business problems
Plan and direct role playing	
Give demonstrations	

4. Testing

Prepare tests	Types of tests
Administer tests	Grading systems
Evaluate daily work	Evaluation techniques
Prepare grades	
Record grades	
Evaluate instruction	
Follow-up instruction	

"Both industry and the school, as well as the home, must be concerned with the development of personal social traits for those are powerful "success factors" in both civic and occupational life. It is not enough to have a list of such traits: they must be made "objects of thought" or "conscious objectives" from day to day in the classroom and on the job. The coordinator must be ever on the alert to discover and correct any undesirable habits and acquired traits of his students. This calls for skillful and sympathetic counsel."*

J. Daily Class Procedure

It is imperative that each coordinator have a well-outlined method of daily procedure for his student-learners. A copy of this procedure should be in each student-learner's file for daily reference. The usual day-by-day conduct of the related subjects class follows somewhat along the following general line:

1. The student-learner goes to the filing cabinet and secures the active file or notebook. (The active file is for the purpose of keeping together all current assignments and work. If this creates congestion at the filing cabinet, the coordinator or some student-learner can place the folders on the table prior to the beginning of the period.)

2. Wage and hour reports are completed once each week. This should be done on Friday, if possible.

3. Check in the progress record all work done by the student-learner during the previous work period.

4. He then continues work and study on an assignment started previously or begins work on a new assignment on the basis of his needs as expressed by the report of work done on the job.

*Selvidge, R. W., and London, H. H., Essentials of Effective Teaching in Diversified Occupations. Unpublished Paper. Industrial Education Department, University of Missouri, Columbia, Missouri. 1939.

5. When a student-learner completes an assignment, he usually will have written work which must be checked by the coordinator. This completed work should be properly identified with job title, date and page number of the study guide. It should then be filled in the front of the student's notebook where it will be convenient for the coordinator to locate and check it.

6. After the coordinator has checked written work, it should be refiled in the student's notebook in the order found in the index of the study guide.

K. Training After Graduation

Throughout the school year the coordinator must constantly keep before the student-learner the fact that the worker who stops learning stops growing and ceases to be able to rise in his occupation.

This should be impressed upon the student-learner to the extent that for years after school days are over they will continue to learn. This process of learning on the part of the adult can be carried on by constantly reading trade journals and other trade literature which keeps the worker up-to-date in the trends of his occupation; by being eager to learn new processes and new methods of work in his occupation; by keeping in mind at all times that the worker who refuses to learn faces the probability of being replaced by a younger person whom the management finds it can train more cheaply and efficiently than it can retrain the old worker himself.

This topic can be summarized as follows: The journeyman who refuses to learn while on the job places himself in a position of finally being unable to learn and consequently faces replacement by a green hand who will and can learn.

It is assumed that each coordinator before going on the job will have taken a course in "Teaching Related Trade Subjects," so it is not necessary to further develop the problem of related teaching techniques in this guide.

CHAPTER VIII

COORDINATION, REPORTS AND RECORDS

A. Coordination

The dictionary defines "coordination" as a "combination in suitable relation so as to give harmonious results; functioning of parts in cooperation and normal sequence." In a program of industrial cooperative education, the role of the coordinator may be said to closely parallel this definition. The establishment, arrangement, operation and functioning of the various aspects of the coordinator's job are definitely intended to produce a suitable relationship or to give harmonious results. While certain functions of the coordinator's job involve activities within the school and classroom, it must be recognized that the activities conducted outside the school are of the utmost importance. In order that the coordinator may do the best job and achieve optimum results with each of his students, he must be constantly aware of the student-learner's successes and failures in his on-the-job activities. The coordinator must see to it that normal progression takes place; the acquisition of a complete and well-rounded series of manipulative skills must be assured; and these must be supplemented by general and technical information which will make the student-learner a competent and well-rounded worker. The instruction in school should be as closely related to the on-the-job experience as possible.

It is during the half-day employment period that the coordinator carries out his necessary out-of-school activities. He visits the training agencies, observes the student-learners at work, and confers with the employers and the individuals who have been assigned the responsibility of training the student-learners. The frequency of these coordination visits depends upon the particular situation. One or two visits per month should suffice except in those instances where the nature of the job, the abilities of the student-learner, and the operational problems encountered necessitate more frequent visitations.

1. Need for Coordination

Coordination as a function closely related to the operation of a program of industrial cooperative education is necessary to assure that certain essential objectives are attained. These may be stated as:

a. To prevent any possible exploitation of student-learners.

b. To determine progress of student-learners on the job.
c. To help solve immediate student-learner's problems which arise on the job.
d. To enable the coordinator to broaden his knowledge of job requirements and accepted standard practices.
e. To increase coordinator's ability to think from the employer's viewpoint rather than from an academic viewpoint.
f. To check on student-learner's work habits and attitudes.
g. To determine employer's and employee's reactions.
h. To promote cooperation of employees and employers with the school.
i. To secure stimuli for meeting related subject needs.
j. To establish and fix definite relationships of all agencies interested in the program.
k. To make school instruction functional in the daily life of the student-learner.
l. To create a friendly and sympathetic attitude.

2. What To Look For On A Coordination Visit

When making a coordination visit, the coordinator should note the student-learner's general bearing on the job, his dress, his grooming and his general appearance. If possible to do so, notice should be taken of the student-learner's attitudes and interests.

During the visit the coordinator should confer with the employer or trainer, and bring up for discussion one or all of the following items:

a. Meritorious achievements of student-learners on the job.
b. Student-learner's punctuality (check time card) and regularity of attendance.
c. Determine if student-learner is giving employer the quality and quantity of work which is deemed normal.
d. Student-learner's attitude toward his job, employer, co-workers, etc.
e. How the student-learner reacts toward criticism.
f. Find out what the student should be studying in the related class.
g. Student-learner's work habits -- does he follow directions; does he know how to care for tools and equipment.
h. Any physical problem the employer may have in routing the student-learner through the different job processes.
i. Determine what the employer and coordinator can do to prepare the student-learner for the next job change or advancement.

The tabulation which follows indicates the character and scope of the coordinator's job as he seeks to tie together the on-the-job experiences and the in-school instruction.

Coordination of Job Training

What the Coordinator Does	What the Coordinator Needs to Know
1. Evaluation of Student Progress	
Check with employer	Evaluation techniques
Check with supervisors and other employees	Grading systems
Secure student progress reports	Reasons for variation from normal systems
Secure reports on work habits and attitudes	Factors for determining job training grade
Check employer's and employees reactions	What employers expect of employees
Determine grade for job training	Knowledge of business language and jobs
Observe students at work	
Check with customers	
2. Correlation of Related Instruction and Job Training	
Check area of work student is doing	Principle of learning as information is needed
Obtain suggestions for information directly applicable	How to determine what is needed
Secure related information materials	Knowledge of business
Keep records of student's work	
3. Adjustments	
Secure all-around training	Wage and hour laws
Secure reasonable pay	Employer-employee relations and viewpoints
Counsel with students and employers on problems arising on the job and in school	School policies
Check working conditions	Counseling techniques
Help adjust all complaints regarding training program	Company policies
Visit parents	
Transfer or drop students	
Work out special holiday work schedules for students	
Promote cooperation between business and school	
Keep record of all visits	

3. Plan the Visit

The above list by no means covers the entire field of coordination. In fact it is next to impossible for the coordinator to make out a list of exactly what is to be discussed during a coordination visit. The best plan is to draw out the employer's thinking and work from that point. The coordinator should not misinterpret the above statement. Even though he does not know the exact direction the discussion will take, he must never enter a training agency without first having planned the visit. When a problem arises which could have been prevented by sufficient and proper coordination, the coordinator places himself in a position for censure.

B. Reports

1. The Semi-Annual Report or Organization Form

Since the salary of the coordinator of an approved program is partially reimbursed from State and Federal funds, it is necessary that reports be submitted to the State Office as evidence that the program is in operation and is being conducted according to the State Plan. The form T & I 25 which follows, constitutes the required semi-annual organization form. It will be noted that this sample form has been completely filled in so as to indicate how a satisfactory form should appear. Those schools operating a program of cooperative industrial education during the summer months will be required to complete a similar form to report the summer class and the students enrolled therein.

2. Code Numbers

For the purpose of properly reporting each occupation and the number of student-learners training therein, each occupation has been identified with a specific code number. It is suggested that coordinator consult the reference given at the bottom of form T & I 25, page 67c, or the condensed list of occupations which appears on the succeeding page.

3. Employer's Report on Student-Learner's Progress

It has often been said that a worker's value on any job consists of five elements: (a) manipulative skill, (b) mastery of related knowledge (general and technical), (c) ability to actually use the general and technical knowledge while performing the job, (d) ability to get along with people, and (e) job judgement and safety. These necessary elements should be natural outcomes of the program of instruction. To arrive at an evaluation of the degree to which the student-learner is attaining these essential on-the-job qualities, the assistance of the employer or trainer is obtained.

TRADE AND INDUSTRIAL EDUCATION
Semi-Annual Organization Report
for an
Industrial Cooperative Education Program
Listing Students and Occupations

Please return TWO copies to:
Board of Vocational Education and Rehabilitation
Vocational and Technical Education Division
405 Centennial Building
Springfield, Illinois 62706

X FIRST SEMESTER; ___ SECOND SEMESTER; ___ SUMMER

Date October 1 19 65

Name of School Arcadia High School District No. 673

Address of School Arcadia, Illinois

Name of Principal Dr. John Jones

1. Related Class Information:

Value of related class reference books purchased during the past year $ 95.00

Number of different trades and occupations represented in this year's program 11

2. Course Information:

Indicate type of program: X Diversified Occupations ___ Supervised Job Training

Minutes per week related class is in session 275

The regular school year is 38 weeks in length.

3. Entrance requirements Sixteen years of age; junior standing; aptitude for the job.

4. Total number enrolled by grades in the industrial cooperative program:

	Below 9	Soph.	Junior	Senior	TOTAL
Male			7	5	12
Female			3	4	7
TOTAL			10	9	19

5. Program Standards:

The career objectives of all students enrolled must be a matter of school record.

Students must be employed for an average of not less than 15 hours per week.

The major portion of the students' time on the job must be during the hours of the regular school day. Any exceptions must be justified by the local school authorities.

Age certificates must be on file for all students placed in training on jobs classified as hazardous by the Child Labor Provisions of the Fair Labor Standards Act 1938, as amended.

A step-by-step training plan must be prepared for each student-learner.

A listing of students and enrollment data must accompany this form.

INDIVIDUAL TEACHER-COORDINATOR'S DAILY SCHEDULE
For an Industrial Cooperative Education Program

Name of Teacher Henry Parker

Indicate with a "V" under day of week, any free period devoted to class preparation, conferences, or supervision of vocational students.

(1)	(2)		(3)	(4)			(5)					
Period No.	Clock Time		Subject Taught or Activity Assigned	Enrollment			Place an "X" in the proper spaces					
				On-the-job		Classroom						
	Start	Close		AM	PM		Mon	Tue	Wed	Thurs	Fri	Sat
1	8:00	8:55	Industrial Arts			18	x	x	x	x	x	
2	9:00	9:55	Industrial Arts			20	x	x	x	x	x	
3	10:00	10:55	D.O. Related	10		10	x	x	x	x	x	
4	11:00	11:55	D.O. Related	9		9	x	x	x	x	x	
5	12:00	12:55	Lunch									
6	1:00	1:55	Coordination				x	V	x	V	x	
7	2:00	2:55	Coordination		19		x	x	x	x	x	
8	3:00	3:55	Coordination				x	x	x	x	x	

1. Years teaching, including present year 6 In present position 5
2. Total salary for this year's teaching service as indicated in above schedule $7,500.00
3. Percent of time devoted to the Industrial Cooperative Education Program as indicated in above teacher-coordinator's daily schedule 72 %
4. My school day ends at 4:15 o'clock.

* * * * *

Name of Teacher

Indicate with a "V" under day of week, any free period devoted to class preparation, conferences, or supervison of vocational students.

(1)	(2)		(3)	(4)			(5)					
Period No.	Clock Time		Subject Taught or Activity Assigned	Enrollment			Place an "X" in the proper spaces					
				On-the-job		Classroom						
	Start	Close		AM	PM		Mon	Tue	Wed	Thurs	Fri	Sat

1. Years teaching, including present year _____ In present position _____
2. Total salary for this year's teaching service as indicated in above schedule $_____
3. Percent of time devoted to the Industrial Cooperative Education Program as indicated in above teacher-coordinator's daily schedule _____%
4. My school day ends at _____ o'clock.

John Jones
~~T & I Supervisor, Coordinator or~~ Principal

Date October 1 19 65

T&T 25

REPORT OF INDUSTRIAL COOPERATIVE PART-TIME STUDENTS

(1) NAME OF STUDENT (List Alphabetically Last Name First)	(2) M or F	(3) Year in School (Jr-Sr)	(4) Year in Program (1-2)	(5) OCCUPATIONAL TITLE	(6) D.O.T. CODE. NO.: *	(7) NAME OF TRAINING ESTABLISHMENT	(8) HOURS PER WEEK IN SCHOOL	(8) HOURS PER WEEK ON JOB	(9) WEEKLY SALARY
Alexander, Jane	F.	Jr.	1	Dietitian	0-39.93	Jackson Hosp.	20	20	18.00
Adams, William	M.	Jr.	1	Machine Tender	6-78	Brand Products	20	20	19.50
Bailey, Susan	F.	Sr.	2	Lab. Assistant	0-50.01	Godfrey Hosp.	20	20	28.00
Berkley, David	M.	Sr.	2	Auto Mechanic	5-81.010	Jack's Garage	20	20	26.00
Carter, Steven	M.	Jr.	1	Bookbinder	4-49.010	Hopkins Bindery	20	18	21.00
Chrela, Daniel	M.	Jr.	1	Cook	2-26	Bell Home	20	20	18.75
Engel, Ruth	F.	Sr.	2	Cosmetologist	2-32.15	Tops Beauty Shop	20	20	25.00
Ganier, Ronald	M.	Sr.	2	Machinist	4-75	H.L. Heinman's	20	20	29.00
Johnson, Donna	F.	Jr.	1	Dietitian	0-39.93	Burns Hospital	20	20	20.00
Kush, John	M.	Sr.	2	Appliance Repairman	5-83.621	Soars Company	20	20	28.00
Miller, Joseph	M.	Jr.	1	Machinist	4-75	Timmons & Co.	20	20	19.25
Molik, James	M.	Sr.	2	Photographer	0-56	Garbo Studio	20	20	30.00
Peterson, Mary	F.	Jr.	1	Cosmetologist	2-32.15	Henrietta's	20	20	23.00
Rosenberg, Richard	M.	Sr.	2	Machine Tender	6-78	Brand Products	20	18	17.75
Ringle, Robert	M.	Jr.	1	Photographer	0-56	King Photos	20	20	19.00
Smith, Kelly	F.	Sr.	2	Lab. Assistant	0-50.01	Community Hosp.	20	20	28.50
Tuttle, George	M.	Jr.	1	Machinist	4-75	H.L. Heinman's	20	20	20.00
White, Jean	F.	Sr.	2	Cosmetologist	2-32.15	Roberts Salon	20	20	26.00
Young, Kris	M.	Jr.	1	Bookbinder	4-49.010	Jones Bindery	20	20	18.00

* Sample D.O.T. Code Numbers can be found on the next page and in Bulletin OE-84029, "Coded Occupational Titles in Trade and Industrial Education", U.S. Department of Health, Education and Welfare; obtainable from U.S. Government Printing Office, Washington, D.C., 15 cents.

CODED OCCUPATIONAL TITLES IN
TRADE AND INDUSTRIAL EDUCATION

4-85.030	Acetylene Welders
5-83.941	Air Conditioning & Refrigeration Mechanics
5-80	Aircraft Mechanics & Repairmen
4-85.020	Arc Welders
0-44	Artists, Commercial
5-81.510	Auto Body & Fender Mechanics
5-81.010	Automobile Mechanics
4-01	Bakers
2-32.15	Beauty Operator (Cosmetologist)
5-24	Brick Masons, Stone Masons, Tile Setters
4-32	Cabinet Makers
5-25	Carpenters
5-26	Cement & Concrete Finishers
4-85.040	Combination Welders
0-44	Commercial Artists
2-26	Commercial Cooks
0-56	Commercial Photographers
4-44	Compositors & Typesetters
5-26	Concrete & Cement Finishers
7-32	Construction Occupations, N.E.C.
2-26	Cooks, Commercial
4-80	Coppersmiths, Tinsmiths, Sheet metal workers
2-32.15	Cosmetologist (Beauty Operator
1-32.10	Dentist's Assistants
4-76	Die Sinkers & Setters & Toolmakers
5-83.931	Diesel-Mechanics & Repairmen
0-48	Draftsmen
4-25	Dressmakers & Seamstresses
5-83.433	Electric Motor Repairmen
5-53	Electrician, Lineman
4-97.420	Electricians, Maintenance & Repair
4-97	Electricians, N.E.C.
4-97.010	Electricians, Wiremen
4-98	Electronic Manufacturing Occupations (Radios, Phonographs, etc.)
3-35	Farm Machinery Mechanics
5-99	Foremen & Supervisors
6-82	Foundry Occupations, N.E.C.
3-38	Landscapers & Nurserymen
6-78	Machine Operators (Machine Shop
4-75	Machinist
4-97.420	Maintenance & Repair Electricians
5-58	Meat Cutters (except in slaughtering & packing-houses)
5-83.941	Mechanic-Refrigeration & Air Conditioning
5-85.510	Mechanics-Auto Body & Fender
5-81.010	Mechanics-Automobile
4-23	Milliners
5-78	Millwrights
5-83.433	Motor Repairmen-Electric
5-83.111	Office Machines-Mechanics & Servicemen
4-84	Ornamental & Structural Metal Workers (Iron Workers)
5-27	Painters, Construction & Maintenance
0-56	Photographer (Commercial)
5-29	Plasterers
5-30	Plumbers, Gas Fitters, & Steam Fitters
2-38	Practical Nurses
4-44	Printing-Compositors & Typesetters
5-83.411	Radio & T.V. Servicemen
5-83.941	Refrigeration & Air Conditioning Mechanics
4-25	Seamstresses & Dressmakers
4-80	Sheet Metal Workers-Coppersmiths & Tinsmiths
4-84	Structural & Ornamental Metal Workers
4-26	Tailors, Garment Trade Workers
4-35.710	Upholsterers-Furniture
4-85.030	Welders, Acetylene
4-85.020	Welders, Arc
4-85.040	Welders, Combination

One report for which the coordinator is responsible, but which he does not make out is the employer's report on the progress of student-learners. These reports should be secured once during each grading period. Probably the best method of getting an accurate record of the employer's estimate of his student-learner is to present the report in person and talk with the employer about each item before it is checked.

Another method is to have the student-learner take the report to the employer and return it to the coordinator.

A third method that assures a fairly high percentage of return is to mail the report blank to the employer enclosing a stamped, addressed envelope for return, or pick up the report on a visit subsequent to mailing out.

Sample forms for the employer's report on a student-learner may be found on the pages which follow.

Reports relative to the student-learner's total training program are to be maintained by the school and are to be made available for purposes of program audit.

4. Special Reports

From time to time during the year special reports will probably be requested by the State Office. Whenever reports are made, a duplicate or summary should be filed with the administrator in charge of the school, and the coordinator must keep a copy for his own files.

C. Records

1. Training Plan and Schedule of Processes

Such records as the training plan and the schedule of processes for each student-learner are kept for recording the student-learner's progress in school and on the job, and a summary filed for a permanent record after the student-learner's graduation.

2. Attendance

The coordinator keeps a daily record of the student-learner's attendance at school and in employment. This can be recorded on the regular teacher's register used by the school.

SAMPLE

TRAINER'S EVALUATION OF STUDENT

THE INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

Date _____ 19___

_____ Student

_____ Trainer

_____ Training Station

_____ Dates Covered

NOTE TO TRAINER: Please evaluate the student on all items that apply to your particular situation. Omit those that you feel do not apply. Put a check after each item in the column that indicates your evaluation of the student.

CHARACTERISTIC	Excellent	Above Average	Average	Below Average	Failing
Dependability					
Promptness					
Follows Instructions					
Takes Care of Equipment					
Practices Safety					
Accepts Responsibility					
Ability to Learn New Work					
Personal Appearance					
Initiative					
Ability to Work Independently					
Courtesy					
Interest in Job					
Making Satisfactory Progress					
Accepts Criticism					
Cooperates with Fellow Employees					
Effort					

Number of days student was absent from work during this period _____

Comments: _____

Date _____ Signature _____

SAMPLE

RATING CHART FOR
INDUSTRIAL COOPERATIVE STUDENT-LEARNERS

Employer's Report of Student-Learner (On-the-Job)

A. Manipulative Skills
   1. Quantity of work done
   2. Quality of work done
   3. Job Know-how

B. Specific and Related Trade Information or Technology
   1. Trade Knowledge - Understands and applies subject matter

C. Personal and Social Qualities
   1. Reliable and dependable
   2. Attendance
   3. Thoroughness - has initiative and perseverance
   4. Cooperative
   *5. Ability to get along with others
   *6. Reaction to advice and constructive criticism
   *7. Personal appearance
   *8. Promptness
   *9. Accepts responsibility
   *10. Learns new work easily

D. Work Qualities and Habits
   1. Job judgment
   2. Use and care of tools and equipment
   3. Selection, use and care of supplies and materials
   4. Safe work habits
   *5. Follows instructions
   6. Has job confidence
   7. Making satisfactory progress

Additional Remarks

Coordinator's Evaluation of Student-Learner

1. Preparation of lesson assignments
2. Participation in class discussion
*3. Cooperativeness
4. Orderliness
*5. Thoroughness
6. Outside interests
7. Self-control
8. Leadership qualities and ability
*9. Making satisfactory progress
10. Effort put forth
11. Ambitions
*12. Ability to learn
*13. Ability to get along and mix with others
14. General attitude and conduct

*This identifies traits that are checked by both the employer and coordinator.

SAMPLE

_____ High School _____ Illinois

Name of Student-Learner _____ Date _____

EMPLOYER'S RATING SHEET FOR STUDENT-LEARNER

1. Does the student show a willingness and desire to learn?
2. Is the student neat in personal appearance and work habits?
3. Is the student punctual?
4. Does the student apply himself to the job?
5. Does the student adapt to new situations easily?
6. Does the student work under pressure without becoming nervous?
7. Does the student have confidence in his or her abilities?
8. Does the student seem to be emotionally stable?
9. Does the student indicate initiative and ability to work alone?
10. Can the student be relied upon to do a satisfactory job?
11. Does the student have the friendship and respect of fellow workers?
12. Is the student willing to follow directions willingly?
13. Is the student willing to accept constructive criticism?
14. Is the student able to understand and carry out instructions?
15. Can the student work without constant supervision?
16. Does the student ask questions about things not understood?
17. Is the student a pleasant person to work with?
18. What do you consider are the weakest points of the student?
19. What do you consider are the strongest points of the student?

Please rate by a check mark in one of the spaces below, the STUDENT-LEARNER'S progress in job skills from beginning of the training period to the present time.

ABOVE_____, AVERAGE_____, BELOW AVERAGE_____,

UNSATISFACTORY_____.

SAMPLE

INDUSTRIAL COOPERATIVE EDUCATION

_____ High School _____ Illinois

EMPLOYER'S REPORT ON STUDENT-LEARNER

Please fill out the following and return it at your convenience.

Name of Student-Learner _____ Date _____

Instructions: Check with an X in proper column.

	Excellent	Poor	Fair	Good
DEPENDABLE				
PROMPT				
FOLLOWS INSTRUCTIONS				
KEEPS BUSY				
TAKES CARE OF EQUIPMENT				
PRACTICES SAFETY				
ACCEPTS RESPONSIBILITY				
WORKS WITH OTHERS				
ACCEPTS CRITICISM				
HAS JOB CONFIDENCE				
LEARNS NEW WORK EASILY				
PERSONAL APPEARANCE				
AMBITIOUS				
MAKING SATISFACTORY PROGRESS				
ADDITIONAL REMARKS				

Rated by _____

3. Hours Worked and Wages Earned

Each student-learner keeps a weekly record of hours worked and wages earned. These records are compiled by the coordinator at the end of each calendar month and the information on these is incorporated in the semester reports. A sample form follows on the succeeding page.

4. Grades and Achievements

The coordinator keeps a record of the grades and achievements earned by the student-learners from day to day, so that he will have a basis for assigning grades at the end of the school's regular grade report periods. The coordinator should also keep a complete record of the student-learner's grades earned in academic classes. Often the coordinator finds himself in a position to aid a student-learner whose grades are slumping. Some coordinators even contact the other teachers for the purpose of finding out how his student-learners are getting along in their class work and offering to do anything he can to aid those teachers in any problem they might have with an Industrial Cooperative student-learner.

5. Follow-up Survey

Each year the coordinator must make a follow-up survey of all the program's graduates to determine where they are, what they are doing, and how much they are earning. The coordinator should have a system of records to keep the follow-up of students for at least five (5) years. A form for reporting is mailed to the coordinator each year. A sample form follows on the succeeding page.

Briefly stated, the items which follow indicate how the coordinator secures this information and summarizes and interprets the data:

What the Coordinator Does	What the Coordinator Needs to Know
Prepare and mail questionnaires	Type of information needed
Interview graduates and former students	Methods of making follow-up studies
Set up permanent records and record data	Purposes of follow-up
Summarize data and prepare report	Principles of summarizing and interpreting
Revise course of study	
Assist graduates with problems such as placement, additional instruction	
Interpret report to public	

SAMPLE

_____ HIGH SCHOOL

INDUSTRIAL COOPERATIVE EDUCATION PROGRAM
STUDENT-LEARNER'S DAILY WAGE & HOUR RECORD

Name _____ Trade _____

Training Agency _____

Month _____, 19___

Day of Month	Hours Worked						Total hours for week	Rate per hour	Weekly earnings	Total earnings
	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.				
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26		4	No. Hours at Work							
27		X	Absent From Work							
28			X Absent From School							
29										
30										
31										
						TOTALS				

Total hours worked school days to date . . . . . _____

Total hours worked other days to date . . . . . _____

Wages received school days to date . . . . . _____

Wages received other days to date . . . . . _____

State Board of Vocational
Education and Rehabilitation
405 Centennial Building
Springfield, Illinois

EMPLOYMENT FOLLOW-UP RECORD
FOR INDUSTRIAL COOPERATIVE EDUCATION GRADUATES

Name of Coordinator _____ Person Reporting _____

School _____ City _____

A. VOCATIONAL ADVISORY COUNCIL

	Name	Organization	Official Title
Employers:			
1.			
2.			
3.			
Employees:			
1.			
2.			
3.			

How many times did you meet with this committee last year? _____

INSTRUCTIONS

1. Fill out the Follow-up Record forms and return one copy to the State Board of Vocational Education and Rehabilitation.
2. Keep one copy for your files. You will need this record for future follow-up studies.
3. Under "A", list the names of your present Vocational Advisory Council.
4. In the first column of "B," list the names of students who graduated this past June. In the second column, list the occupation for which the student was trained. Following each name, list the specific job title for which the graduate was engaged in as of October 1.
5. Please return no later than December 15, 19 __ __

(SEE PART "B" - OVER)

EMPLOYMENT FOLLOW-UP RECORD
for
INDUSTRIAL COOPERATIVE EDUCATION GRADUATES

B. EMPLOYMENT RECORD

Graduate's Name	Occupation for Which Trained	Employment as of October 1, 19__ __ (Specific Job Title)

6. Coordination Visits

A record which the coordinator must make and keep is that of his coordination visits. A very simple form for a daily recording of these visits follows:

Record of Coordination Visits for _____, Student-Learner

Employed at _____ as a _____

Date	Person Contacted	Results of contact

7. Student's Record File

Good record keeping is a necessary part of every program. Careful, legible and comprehensive records, regarding every student enrolled, require that the coordinator regularly apply himself to this task. A letter-size manila folder for each student-learner, bearing his or her name, will permit keeping together all of the individual student's records, and readily accessible. Each folder should include the following records and forms pertaining to the student:

a. Application and personal data
b. Rating scale
c. Interview memos
d. Training plan
e. Job analysis
f. Student-learner wage certificate
g. Weekly progress charts
   (1) On-the-job processes completed or skills acquired
   (2) General and specific technical related information completed.
h. On-the-job processes completed
i. Technical related topics completed
j. General related topics completed
k. Hours worked
l. Wages received
m. Coordination visits
n. Grades on the job and in school
o. Follow-up information

Much of the above information will be needed for periodic reports to the advisory committee, to the administration and to the State Office.

8. Monthly Report of Coordinator's Activities

This report is intended to convey to those persons and agencies concerned a summary of the coordinator's activities during each calendar month. It should be submitted by the fifteenth (15th) day following the end of each month.

a. Purpose of Report

   (1) To present the scheduled activities of the coordinator
   (2) To keep school administrators informed of the coordinator's activities
   (3) To keep the State Office informed

b. Content of Report

   (1) Where you make calls (T.S.V.)
   (2) Who you contacted on calls
   (3) Objectives for the calls
   (4) What you accomplished

The report should be as brief as possible, yet give all the information that is necessary.

The various items which appear in the report are classified into eleven different categories, each indicated by a code number. These are as follows:

(1) Coordination - Any call not covered by the other ten items.
(2) Instructional Materials - Grading lesson sheets, gathering new materials, library work, working on study guides and general related information. Contacting guest speakers for the general related class work.
(3) Promotional - Any activity that is used by the coordinator to secure training stations or to promote student interest in the program.
(4) Public Relations - Any activity or device which has for its purpose to create a favorable impression of the Industrial Cooperative Education Program.
(5) Guidance - Any activity which has as its purpose the personal adjustment of the individual in social, economic and vocational understanding.
(6) Administrative Contacts - Any contact with the local school administration relative to the Industrial Cooperative Education Program.
(7) Advisory Committee Activities - Contacts with advisory committee, group or individually.
(8) Club Activities - Any club activity that involves the Industrial Cooperative Education Program.
(9) Labor-Management - Purposeful contacts with organized labor-management that concern the Industrial Cooperative Education Program.
(10) Home Visitations - Any contact with the parents, preferably with one or both at the home.
(11) Other - Self-explanatory.

Whenever the activity justifies, two or more code numbers may be used to properly identify an activity. Example - (3-4-9). However, such combination coding should be held to a minimum.

Place a check in the square after Industrial Cooperative and directly below initial "D.O." for Diversified Occupations or "S.J.T." for Supervised Job Training.

If yours is an Interrelated Program, include the word "Industrial" above Interrelated and check the Interrelated square.

One copy of the report should be given to the local school administrator and one copy should be sent to the State T & I Supervisor. Retain one copy for the coordinator's file.

Send two copies of the report for the Inter-related classes to the Board of Vocational Education and Rehabilitation.

Use one line per trainee - List the date and code number which refers to the eleven activities described at the bottom of the form. In the third vertical column, please list only the trainee's name and occupation. Do not list employers, trainers or advisory committee members.

You will also note there is a place at the bottom of the form for your mileage. Please indicate number of miles traveled during the period of this report.

Since the coordinator is not working entirely within the school, a written report serves as a protection if anyone should challenge the work that has been done.

A sample filled-in report follows.

MONTHLY REPORT OF COOPERATIVE TEACHER-COORDINATOR'S ACTIVITIES

INDUSTRIAL COOPERATIVE ☒ D.O. INTERRELATED ☐ HOME ECONOMICS ☐ AGRICULTURE ☐

NAME OF SCHOOL Arcadia High School MONTH November 19 65

Date	Code	Student's Name and Occupation	Comments Describing Activities and Accomplishments
11-1	1 (T.V.S.)	John Benton (Auto Mechanic)	Discussed job progression of student-learner with Mr. Walsh, trainer. Student is exposed to a variety of jobs. He is accepted by other employees and shows much interest and enthusiasm.
	5	Harvey Drifus (Draftsman)	Harvey's previous school drafting room experiences are helping him. Both employer and I are directing his occupational goals toward designing.
11-2	2	----------	Worked on related materials including visual aids in area of Plastics.
	3	----------	Visited Baxter T.V. Service re: Training station next fall. Interested.
	10	William Harper (Meat Cutter)	To establish contact with parents and inform them of Bill's progress an evening visit was made. Parents pleased with Bill's changed attitude.
11-3	6	----------	Conference with Mr. Harkins, Principal, to report on program status and outlook for next semester.
	4	----------	Sent article and photos of students on-the-job to Daily Chronicle.
	1 (T.V.S.)	Emory Reeves (Tool & Die Work)	Emory has completed prescribed time on drill press and lathe. Next phase (shaper) discussed with trainer, Mr. Boyd. He will begin shaper work next week
11-4	8	----------	Weekly meeting of I.C.E. club. Much student enthusiasm regarding participation in forthcoming State Convention.
	1,2 (T.V.S.)	Bernard Johnson (T.V.-Radio)	Bernie's progress is good at Acme Radio and T.V. Service. Mr. Phelps, trainer assisted me in securing specific related materials which we will use in class.
11-7	7	----------	Advisory committee meeting well attended. Members indicated possible future work stations to be contacted. They will attempt to secure related materials for two occupations for which sources are limited or unknown to me.
	11	----------	
11-8	9	----------	Discussed pre-vocational training and role of industrial cooperative education with Mr. Dunlop, Business Representative of Sheet Metal Workers' Union.
	1 (T.V.S.)	Joann Perkins (Dental Assistant)	Dr. Walters pleased with Joann's progress. She will receive prescribed wage increase shortly. She is careful, neat and willing worker.

COORDINATOR John Doe MILEAGE FOR MONTH 127

CODE:

1. Coordination 2. Instructional Materials 3. Promotional 4. Public Relations 5. Guidance 6. Administrative Contacts
7. Advisory Committee Activities 8. Club Activities 9. Labor-Management 10. Home Visitations 11. Other

VE-34

FORM NO. G324—11-63

CHAPTER IX

ADVISORY COMMITTEES: THEIR ORGANIZATION AND FUNCTION

A. Need for Advisory Committees

Each industrial cooperative education class shall have an advisory committee functioning in the best interests of the program. The program of instruction should be developed and be conducted in consultation with potential employers and other individuals, or groups of individuals, having skills in and substantive knowledge of the occupation or occupational field representing the occupational objective.

B. Kinds of Advisory Committees

A carefully selected representative advisory committee is necessary in an Industrial Cooperative Education Program and must be used by all coordinators. The advisory committee, if carefully selected and the meetings well-planned, can be of unlimited assistance to the coordinator in that it will give him a group of interested employers and employees to whom he can go for counsel and advice in the operation of the program. Each coordinator will want a general advisory committee which will function throughout the year to guide the entire program. In addition, he should organize a number of occupational (trade or technical) advisory committees to aid in the organization of instructional material for their specific occupations.

The superintendent should designate the advisory committee upon the recommendation of the coordinator. If possible, the committee should be named at least two weeks before school opens. Much depends on the coordinator. He must go out into the community to make the necessary contacts and make himself known. This can be done during the month of August. Before contacts in the community are made, the coordinator should discuss his plans with the superintendent, explaining in detail his total approach to the problem.

C. Purpose and Duties of General Advisory Committee

1. To advise and guide the coordinator in setting up, carrying on and improving the program.

2. To help determine various occupations in which there is a definite need for training.

3. To assist in job placement - selection of firms or employers.

4. To assist in selling the program and in keeping it sold.

5. To approve content material for courses.

6. To assist in the selection, placement and follow-up of trainees.

7. To determine objectives of each course in view of program policies.

8. To assist in obtaining the cooperation of labor, the employers and the school.

9. To recommend necessary facilities, materials and supplies.

10. To recommend personnel for occupational advisory committees.

11. To assist in maintaining high standards.

D. Personnel of General Advisory Committee

1. Should contain an equal number of representatives of employers and employees, service groups and lay people.

2. Should be a person from all groups in town with a minimum of four persons, and also should have authority to act for the group he represents; be selected from the group and not handpicked by coordinator.

3. Suggested numbers and occupational fields:

   a. Employers: Two to four, each of whom is preferably from a different occupational field, such as manufacturing, contracting and banking.
   b. Employees: Two to four (in any case the same number as "a" each of whom is preferably from an employee group, being sure to include organized labor, if such exists.

   The representatives of labor may be:

   (1) Business Agents of Local and District Lodges
   (2) Presidents of local lodges
   (3) Elected members of a local lodge
   (4) Joint apprenticeship committee members.

4. Method of appointment

   By the superintendent of schools after consultation with the local director of vocational education and/or coordinator.

5. Basis for selection

   a. Leadership in some occupational group, such as Trades and Labor Council, Association of Manufacturers.
   b. Designated representative of some occupational group, such as Chairman, Educational Committee; Chairman, Apprentice Training Committee.
   c. Representative of some civic groups interested in vocational training (who is also an employer), such as Chairman, Kiwanis Guidance Committee; Chairman Rotary Youth Service Committee; etc.
   d. Civic leader (usually employer) who has been active in supporting the educational system, vocational training, service to under-privileged groups and similar movements.
   e. Civic leader, man or woman, who has evidenced a special interest in the program and has volunteered to use influence in every way to support the movement.

6. Term of Office

   a. May be appointed for one year.
   b. May be reappointed annually, or new appointments made as officials change in various groups from which representatives have been secured.

7. Organization within the committee

   a. Chairman selected by vote of the committee
   b. Secretary, Coordinator of Industrial Cooperative Program (ex officio) or City Director of Vocational Education (if such exists in system).

8. Meetings

   a. Time: At periodic intervals, preferably one a month.
   b. Place: Convenient to majority.
   c. Notification: By secretary by mail with probably phone reminder.

E. <u>Purpose and Duties of Occupational Advisory Committees</u>

1. To advise and guide the coordinator in setting up, carrying on and improving the training program in some specific occupation, trade or craft, or in a group of closely allied occupations.

2. To assist in making and checking schedules of processes to be followed by the student-learner

3. To approve entrance requirements and assist in selecting student-learners for specific occupations.

4. To assist in preparing and selecting related instructional material for specific occupations.

5. To recommend necessary reference materials and supplies.

6. To assist the coordinator in securing apprentice recognition for student-learners in specific trades.

7. To advise the coordinator as to numbers needed and opportunities for employment.

8. To explain and defend the operation of the program as it affects a particular trade or craft.

9. To assist the coordinator in establishing and maintaining fair and equitable wage scales for student-learners.

10. To assist in maintaining high standards in all essential phases of the program.

F. Personnel of Occupational Committees

1. Should contain at least an employer and employee from a single occupation, trade or craft.

2. Method of appointment:

   No official appointment to be made. The coordinator secures cooperation of the employer and employee-trainer or others in the occupation that may be helpful.

3. Basis for selection

   a. Knowledge of the particular field of work in which training is contemplated.
   b. Influence with employees and employers in the field.
   c. Willingness to devote time to assisting coordinator in developing and checking schedule of training, job analysis, assignments for related study and listings of related technical information.

4. Term of office:

   As long as needed.

5. Organization within the committee

   The coordinator will serve both as chairman and secretary, unless the committee is a large one, in which case a chairman should be selected by the committee.

6. Meetings

a. Time: At time most convenient to members as ascertained by the coordinator.
b. Place: Convenient to majority.
c. Notification: By personal contact or by telephone.

G. Points for Success in Committee Meetings

1. Help the chairman to conduct meetings in a businesslike way.

2. Be prepared for problems which may arise (have agenda prepared).

3. Don't waste time. (Remember these are busy men who are giving you their time.)

4. Encourage short, snappy meetings.

5. Know your committee -- get acquainted with them individually.

6. Present every question or issue as clear-cut as possible.

7. Have outlines, suggestions, etc., duplicated and distributed for each committeeman's study and consideration.

8. Take notes and write minutes for later distribution.

9. Promote a feeling of ease, see that each member meets every other member and is informed as to what group he represents.

10. Endeavor to meet them on the level of cooperative enterprise.

11. Ask for suggestions, comments, and criticisms about the program, work of the department, outlines, etc. Adverse criticism often does us all good.

12. Be prompt, be on hand and start at appointed time.

13. Explain clearly and definitely what you are trying to do.

14. Extend equal courtesy to members of all occupational groups.

15. Refrain from any comments which might offend a sensitive person.

16. Meetings held at a time when a meal can be served tend to make the group more congenial and frequently make a better attendance possible. However, when this is considered, the item of cost or paying for the meal must be faced, which will be handled differently in different communities.

H. Dangers and Difficulties

1. Committeemen may not be in complete accord with work.

2. Committeemen may get to exchanging remarks about things other than for which the meeting was called.

3. The discussion wanders.

4. Members are not made to feel at home or free to discuss the current problem. (Hold meetings where the committeemen can smoke if they desire.)

5. The committee is out of balance.

6. Some one or two members try to dominate all the discussion.

7. The meeting drags out over an unnecessarily long period.

8. The meeting is held just before meal time.

9. The members are not made to feel that they are contributing something for the betterment of the program.

I. First General Advisory Committee Meeting

It is vitally important the first meeting of the General Advisory Committee should be directly to the point without any loss of time. It should be well-planned by the coordinator, who should have an agenda at hand and follow it carefully.

J. Preparation for An Advisory Committee Meeting

1. Before Meetings

a. Prepare an agenda for each meeting, outlining the topics to be discussed.
b. Notify members at least one week in advance.
c. Agenda should be in their hands at least two days in advance of meeting.
d. Phone members of committee during afternoon of meeting to remind them. These people are busy and could forget.
e. Length of meeting should be limited to two hours, if possible.

2. At Meeting

The coordinator assumes the temporary chairmanship (until the committee itself elects its chairman) and explains the program and the purposes of an advisory committee. The committee should be organized before the close of the first meeting. The coordinator brings up as many of the following items of business as there is time to discuss, reserving the leftovers for the next meeting:

a. Give a list of the training agencies. (These should be typed off and a copy handed each member.)
b. Ask for additional training agencies. (Probable)
c. Discuss problem of transportation, if any exists.
d. Explain trade journals, manufacturers' leaflets, catalogues, check sheets, monthly services, handbooks, current magazines, and other related materials.
e. Ask them to save for you any materials that they may have; get a listing of materials that they may furnish and when you get it, ask that they request such materials from others.
f. Explain the high school schedule. (Hand out prearranged copies to each member.)
g. Explain difference between general and technical related materials.
h. Tell what a coordinator will look for on a visit, as:
   (1) Look for good things pupils achieve on job.
   (2) Student's punctuality - check time card.
   (3) See if student is giving employer a full half-day's work.
   (4) Check on student's attitude toward his job, employer, co-workers, and the public or patrons.
   (5) How does the student react toward criticism.
   (6) Attitude toward help and instruction.
   (7) Student's attitude when praised.
   (8) Get report from employer about student's work habits -- does he follow directions; does he know how to keep busy; does he know how to care for tools, equipment, etc.
   (9) Find out what you or the employer may do to prepare the student-learner for the next job advance.
   (10) Any physical problem that employer may have in routing the student through the different processes.
   (11) Ask the committee for additional things for which you should look.
i. If the question of paying less than minimum wages is brought up, show and explain an exemption certificate, recounting the problem involved in obtaining one.
j. Explain about the training plan and the schedule of processes.
k. Try to get them in sympathy with the young worker.
l. Explain to the committee that it is the coordinator's duty to help trainers in methods of teaching.
m. Discuss the importance of safety on the job, importance of employer's discipline and eternal diligence on the part of the student-learner.

K. <u>Subsequent Meetings of Advisory Committee</u>

1. Call to order by chairman.

2. Secretary read minutes of last meeting. (Do not have to be approved.)

3. Report of coordinator on activities since last meeting.

4. Comments from superintendent.

5. Comments from members of Advisory Committee

6. Report of progress of students at each training station.

7. Old business from last meeting.

8. New business and plan of action.

9. Adjournment.

L. Minutes of the Meeting

After the meeting, return to the school and write up the minutes of the meeting, and within the next few days send a copy to each member of the general advisory committee.

Meetings should be held whenever needed with a minimum of two a year. The Coordinator or Local Director of Vocational Education is secretary. This group has no legal authority, just advisory. All results of meetings should be kept confidential to the group. It is better to postpone a meeting rather than not have organized agenda.

Summary of Coordinator's Responsibilities For An Advisory Committee

What the Coordinator Does	What the Coordinator Needs to Know
1. Organization	
Select names to submit for appointment on committee Submit names to superintendent and principal for selection and appointment by school board Act as chairman until chairman is elected Explain cooperative program to committee	Types of advisory committees Characteristics necessary for committee members Membership of committee Procedure for selecting members How to conduct a meeting Why have an advisory committee
2. Operation of Committee	
May serve as secretary to group Bring to attention of members matters pertinent to program Keep progress report for committee Help chairman plan meetings	Duties of secretary of committee Understanding of part-time program Understanding of duties of advisory committee How to prepare agenda

CHAPTER X

PROGRAM EVALUATION IN INDUSTRIAL COOPERATIVE EDUCATION

Evaluation of the program of instruction will be made periodically at the state level, and continuously on the local level, with the results being used for necessary change or improvement through experimentation, curriculum improvement, teacher training and other means.

Following you will find a series of statements. Each statement indicates a condition or provision essential (or at least desirable) for a functioning program.

The criteria which follows is intended for use in a self-evaluation of your program. Please fill in each blank with your rating. Also at left of each blank check the items that would help you if discussed at a workshop.

Evaluation each statement on the basis of personal judgement and also all other available evidence, using a five-point rating scale as follows:

5. Provision or condition is present and functioning almost perfectly.
4. Provision or condition is present and functioning very well.
3. Provision or condition is present and functioning fairly well.
2. Provision or condition is present and in an inadequate amount, or if present, is functioning poorly.
1. Provision or condition is very poorly met or not present at all.

I. TRAINING PLAN

_____1. Are properly signed and filled out by the required persons.

_____2. Are dated.

_____3. Are properly understood by all parties concerned.

_____4. Are up-to-date in their requirements.

_____5. Have a schedule of processes included or attached.

_____6. Provide for one period of related study daily.

_____7. Include approved wage schedule.

_____8. Are provided for all involved parties.

_____9. Clearly state work hour requirements (conform with State Plan of Vocational Education).

_____10. Include provisions for termination.

_____11. Conform with local, state and federal labor and employment laws.

_____12. Clearly state occupation or trade to be learned.

_____13. Specify that high school credit will be granted.

_____14. Provide for on-the-job supervision of the student-learner.

_____15. Have an outlined course for related instruction included or attached.

_____16. Clearly state the status of the student-learner.

II. SCHEDULE OF PROCESSES

_____1. Are based on the analysis of the occupation.

_____2. Have been developed and approved by an occupational or craft advisory committee.

_____3. Have adequate provision for keeping progress records.

_____4. Provide proper type of work experience and are designed to cover training period.

_____5. Provide an explanation to the effect that the training period does not encompass full training in those occupations requiring a training period in excess of 2,000 hours.

III. OCCUPATIONS INCLUDED IN THE PROGRAM

_____1. Are clearly defined and stated according to dictionary of occupational titles.

_____2. Require a minimum of one year of training.

_____3. Provide opportunity for employment after training.

_____4. Are socially desirable.

_____5. Meet the ethical and social standards of the community.

_____6. Are trade or industrial.

IV. TRAINING AGENCIES

_____1. Have adequate equipment and facilities to afford an all-round training.

_____2. Including employees, understand the objectives of the program.

_____3. Are within a reasonable distance from the high school or adequate transportation is provided.

_____4. Designate a particular qualified person to train the student.

_____5. Have satisfactory business and ethical standing.

_____6. Comply with all safety and health regulations.

_____7. Anticipate retaining the students after graduation.

_____8. Do a sufficient volume of work to enable students to receive reasonably continuous training.

V. RELATED INSTRUCTION

_____1. Material and equipment is organized to permit efficient pupil use.

_____2. Schedule has been developed with the aid of a craft committee and is based upon the schedule of processes.

_____3. Is kept up-to-date.

_____4. Material is sufficient.

_____5. Is organized on the student-learner level and is in keeping with the training period.

_____6. Is correlated with work experience.

_____7. Includes general related subjects which are applicable and satisfactorily taught.

_____8. Schedules are planned to produce best "pupil efforts."

VI. STUDENT SELECTION

_____1. Made out on the basis of the following:

a. Entrance age requirements
b. Job requirements
c. Pupil interest and known abilities
d. School record to date

_____2. Program provides adequate advice and counsel concerning the occupation.

_____3. Made after counseling with parents.

_____4. Program provides that the coordinator shall check the prospective pupil for "sincerity of purpose."

_____5. Program is well-planned and organized.

VII. COORDINATOR

_____1. Visits training agencies on basis of needs.

_____2. Visits training agencies frequently enough to maintain good relationship.

_____3. Possesses training experience and personal qualifications to enable him to perform his duties effectively and efficiently.

_____4. Maintains contact with the parents.

_____5. Maintains acceptable civic and social relationships in the community.

_____6. Has two or more meetings with the advisory committee.

_____7. Conducts the program as an integral part of the school system.

_____8. Maintains cooperative relationship with the school faculty.

_____9. Keeps accurate check on student job progression.

_____10. Has sufficient knowledge of labor and employment laws.

_____11. Maintains an adequate follow-up and permanent record system.

VIII. PUBLIC'S ATTITUDE

_____1. Organized labor in the community approves the program or is kept well informed.

_____2. Civic organizations are in sympathy with the program.

_____3. School officials, principals, and teachers endorse the program.

_____4. Industry as a whole cooperates with the program.

_____5. Newspapers are disposed to give favorable publicity.

_____6. School patrons understand clearly the objectives of the program.

IX. ADVISORY COMMITTEE

_____1. Participate in the operation of the program to a satisfactory degree.

_____2. Is proportionately representative (employer, labor).

X. MISCELLANEOUS

_____1. Provison has been made to permit graduation from high school in the usual period.

_____2. School administration provides adequate funds to purchase the necessary equipment and instructional material.

SUM TOTAL OF ALL RATINGS

Scores 280 and above indicate Superior program.
Scores between 215 and 279 indicate Average program.
Scores below 215 indicate Below Average program.

During periodic visits to the program the State Supervisor shall make a similar evaluation using the outline form which follows:

INVENTORY OF INDUSTRIAL COOPERATIVE PROGRAM

OF _____ HIGH SCHOOL

Date _____ Coordinator _____ copies for: Superintendent, Principal, Local Supervisor, Coordinator. Was there a conference concerning this inventory _____ with _____.

It is the intent of this work sheet to commend excellence and also indicate a need for improvement. It is also the purpose of this program review to point out the needs for providing the best possible training for the youth participating in the Industrial Cooperative program.

These evaluations are based upon my judgment and make no reference to persons or personalities involved. The following are accepted criteria for the maintenance of a satisfactory Industrial Cooperative Program.

Some suggestions regarding conditions that were apparent at the time of my visit: _____ State Supervisor.

Section A.

1. Classroom facilities _____

_____

_____

2. Class and Program Recordkeeping - Trainee - Coordinator _____

_____

_____

3. Classroom library facilities _____

_____

4. Related class instruction, _____ General, _____ Technical, _____

_____

_____

5. Community civic projects _____

_____

6. School and faculty relations _____

_____

_____

7. Individual guidance activities _____

_____

_____

8. Trainee junior-senior ratio _____

_____

_____

The following are coordinator activities which are reported monthly and were discussed with the coordinator at the time of the visit.

Section B.

1. Training station visits (T.S.V.) _____

_____

2. Instructional materials developed and used _____

_____

3. Promotional activities for: trainees: the program: training station: _____

_____

4. Public relations projects _____

_____

5. Counselor guidance activities _____

_____

6. Administration contacts _____

_____

7. Advisory committee activities _____

_____

8. Club activities _____

_____

9. Labor management _____

_____

10. Home visitations _____

_____

_____

Section C.

1. Training station evaluation _____

_____

2. Interstate commerce trainees, number _____

_____

3. Number of owner-trainers _____

_____

4. Father-Son training situations _____

_____

Section D.

1. Chapter activities _____

_____

2. Planned program for 6 weeks, semester, or year _____

_____

3. Cooperative Banquet _____

_____

4. State affiliated _____

_____

Section E.

1. Suggestions for coordinators' workshop _____

_____

_____

CHAPTER XI

AIDS FOR THE COORDINATOR

While carrying out his responsibilities, the coordinator encounters a wide variety of questions, problems and situations for which he may not have ready solutions. It appears worthwhile, therefore, to incorporate in this chapter information which may be helpful in such instances. What follows is not meant to be an integrated discussion along the lines of a single subject. It is placed here with the hope that each new coordinator can turn to it for help on the job, and that experienced coordinators will use it to stimulate their thinking when dealing with a problem.

A. Organization of Related Materials

All books should be stamped with an identifying mark and placed in book cases or shelves in the classroom according to trade content. It is a very good practice to secure the aid of the school librarian in making and ordering selections, cataloguing, card indexing, and in arranging books on the shelves.

All magazines, pamphlets, bulletins, catalogues, newsletters, etc., should be filed in some manner. An excellent and highly facile system is to put each piece of this related materials in a heavy manila envelope and place them on shelves. The coordinator will find that about four sizes of envelopes will accommodate all such material. When an envelope is placed on file, it should be marked with an index number of symbol and a 3 x 5 card prepared on which is written what information is in the envelope and also having on it the index number which corresponds to that on the envelope. These 3 x 5 cards should be filed under occupational heads. The student-learners can easily make filing envelopes from a roll of 60 lb. kraft paper.

Magazines and trade journals, while current, should be displayed on magazine racks.

The coordinator must set up some method for filing the great amount of paper work that is done in the related class, together with training plans, schedules of work processes, employers' reports, monthly reports, etc.

This should be worked out to suit the individual case, but nothing in the way of records, reports or correspondence should go out without a copy for filing.

B. Study of Unrelated Subjects

An undesirable thing which can creep into the related subjects class is the preparation of regular school assignments. This comes about mainly from the lack of anything to do and the burden lies with the coordinator in supplying sufficient assignments and related material to keep the student-learners busy at all times.

C. Grades and Grading

Coordinators should guard against permitting student-learners attaining high grades too easily. A great amount of superior work in the related classroom should be produced, together with a most excellent rating from the employer, before a student-learner should be graded A.

The coordinator must demand a large quantity of high quality work and keep a complete record of each grade or symbol earned. He must also secure ratings from the employers to aid in assigning grades.

D. Prospective Student-Learners Unplaced When School Begins

In a few cases, there will be a few prospective student-learners of superior quality who have not been placed in training agencies when school begins in the fall. Do not permit these students to carry only two regular subjects and meet the related class pending placement. Have each unplaced prospective student-learner register for and begin meeting four regular-type classes. If, in a few days or a week, he can be placed, remove him from two of his regular classes and shift him to the related class. Much less damage is done by this than to permit him to miss two weeks or so of regular classes, and sending him to other teachers when realizing the inability to place him. The same procedure may be used if the student-learners sixteenth birthday falls between the third and fourth week of school.

E. Letters

All correspondence should be on stationery with a letterhead which definitely identifies the high school. The coordinator may be requested to prepare letters for the signature of other school officials.

F. Bulletin Boards

The related classroom bulletin board is an important teaching device and should not be overlooked by the coordinator. A very effective method of using the bulletin board is to divide the class into committees of three members each, assigning each committee a definite week to be responsible for the bulletin board. If the membership of the individual committees should be composed of student-learners in the same or related trades, the bulletin board would probably present a very interesting point for competition in its preparation.

Never permit an item of information to go on the bulletin board unless it is explained to the group by the committee or individual placing it there. Also, the posted materials should be neatly arranged, presenting a planned, orderly appearance.

Above all things, change the bulletin board at least once each two weeks. There is nothing to be found more bleak and drab than a bulletin board with material posted on it four years old.

A fine project for the class is to secure space on the bulletin board in the main corridor of the school. Let committees keep this space current and containing materials both informative and entertaining. No better device for selling the program and keeping it before the school has been devised than the well-kept corridor bulletin board.

G. Student-Learner Appearance

Every coordinator must take it upon himself to see that his student-learners come to school in the very neatest and cleanest of clothes. It costs little to be neat and clean, and the class can quickly gain for itself favorable notice and reputation.

If a full-length mirror can be placed by the door, so that every student-learner will see himself as he leaves the classroom, the effect will be good. A neatly lettered sign over the mirror, "This is how I appear to others," will be helpful.

It is the coordinator's duty to do what he can to dignify labor. If the school's only working group is the nicest looking in school, much has been done toward that end. It costs little and pays dividends for a boy to wear a tie to school, for a girl to do just a little extra to appear a little neater.

H. Student-Learner Absences

If at any time it becomes necessary for a student-learner to be absent from his job, he must contact his employer as well as the coordinator and secure permission to be absent. If it is a case of illness, both should be notified as early as possible.

I. Wage-Hour Exemption

1. An employer engaged in interstate commerce or in the production of goods for interstate commerce operating under the provisions of the Fair Labor Standards Act of 1938 as amended, may train a student-learner and pay him an average of seventy-five percent of the statutory minimum wage.

2. Application for a special student-learner certificate can be secured from the U.S. Department of Labor, Wage and Hour and Public Contracts Division, 219 South Dearborn Street, Chicago, Illinois 60604. Applications should be ordered early in August as employers are to file an application 15 to 30 days in advance of the student-learner's beginning date of employment. The application is relatively east to fill out. Just be sure to fill in every blank.

The original and one copy of the completed application on official form 520-1 must be filed with the Regional Office of the Wage and Hour and Public Contract Divisions. A copy of the application must be retained by the employer for his file.

3. Minors under 16 years of age are not eligible for student-learner certificates. Furthermore, in occupations declared to be hazardous by the Secretary of Labor, the student-learner must be at least 18 years of age.

   The employer should obtain and keep a file on an employment or age certificate showing the student-learner to be at least the minimum age for the occupation for which he is employed.

   The coordinator and employer should keep in mind that any work done by the student-learner in training must be paid for at the minimum rate until the certificate is received.

J. Calls at the Student-Learners Homes

Each coordinator must visit the student-learner and his parents in their home. Much valuable information can be gained by this and a fine spirit of cooperation can be established between the parents and the school and the coordinator.

K. Difficulties of General Nature Which May Arise

Difficulties of one type or another will be coming up from time to time. The following chart lists certain difficulties and suggested remedies.

POSSIBLE DIFFICULTIES	SUGGESTED REMEDIES
1. Poor selection of trainees	1. a. Set a high standard in the future b. Consult advisory committee c. Confer with principal and former teachers d. Do a better job of explaining to students and parents
2. Poor selection of training agency	2. Same as above: a., b.
3. Improper supervision of student on the job	3. a. Carefully outline the objectives to training agency b. Secure a thorough knowledge of requirements on part or employer

	c. Suggest different types of training d. Suggest methods of supervised training e. Assist in better planning of work
4. Lack of cooperation with faculty	4. a. Demonstrate desire to work with others b. Explain program and promote good will
5. Coordinator has not kept awake to needs	5. Be alert at all times for suggestions
6. Lack of advisory committee members' interest	6. a. Counsel with individual members b. Be prepared to give information c. Anticipate situations in advance and secure advice
7. Improper publicity.	7. a. Hand in material in writing b. Seek cooperation of papers c. Help editors and reporters to get better knowledge of program. Send in corrections about misstatements.
8. Lack of proper consideration of other persons.	8. Try to see other person's point of view
9. Failure to follow proper lines of authority	9. Know proper line of authority and follow it
10. Inadequate coordination	10. Contact and counsel regularly with students, parents, employers and school officials
11. Lack of clear understanding	11. Have a complete and clear knowledge of program and be able to explain it
12. Lack of correlation of related instruction with the work on the job	12. Know what the student is doing on the job and plan the related materials accordingly
13. Failure to build and maintain student interest	13. Counsel with students at frequent intervals and discover real cause of lack of interest

14. Lack of community cooperation	14. Call on general advisory committee for help
15. Inadequate instructional materials	15. Add materials to library, consult with other coordinators
16. Student-learner interest in pay only	16. Impress student with educational value of job experience
17. Too many outside interests	17. Do your job first
18. Inadequate records by coordinator	18. a. Keep records from day to day b. Have definite file for records c. Have regular time to work on them
19. Improper community interest and activities	19. Watch your step - remember, you are an example to many

L. The Supervisor's Visits

No coordinator need ever be fearful of the State Supervisor of Trade and Industrial Education or any member of the staff who may call on him. The sole purpose of supervision is to strengthen the program and assist in handling knotty details which may arise. Any supervisor who enters the classroom or visits the coordinator in the conduct of his duties, does so as a friend and advisor initially interested in the success of the program. The supervisor is one in whom the coordinator can confide.

Each coordinator from time to time will think of many problems he wishes to discuss with the supervisor or questions he wishes to ask. Whenever one of these problems or questions come to mind, the coordinator should jot it down in his notebook. Otherwise, when the supervisor visits, the coordinator will fail to mention some topic he was especially desirous of discussing.

M. Record of Contacts

The coordinator should keep a small notebook in his pocket at all times. From the very first day he goes on the job, he should keep a record of every contact he makes, transferring the temporary recording from the notebook to a permanent record for his files. This includes, of course, coordination visits.

N. Spring Registration

About two months before schools close in the spring, the coordinator begins laying out plans for the next year's program and carefully surveys the sophomore class for prospective student-learners.

It is considered good practice for the coordinator to administer interest inventories and aptitude tests to the sophomore class during March of each year to assist in determining the general field of interest of potential industrial cooperative students. This should be followed by individual counseling.

O. Failures

Some student-learners fail to earn credit for their participation in the program. If a student-learner cannot hold a job, he should be transferred to other classes. If the student-learner will not fulfill his classroom and on-the-job assignments, he should be denied credit. Fortunately, the failures are few, but when they occur they should be dealt with firmly.

P. Examinations

Examinations should be given at regular intervals and at the end of the semester. These examinations should be highly individualized and cover work done in the related classroom. Also, the coordinator should secure from the employer a grade on the manipulative skills of the occupation.

Q. Working Permits

Each student-learner who is under 18 years of age may secure an Employment and Age Certificate. These certificates may be obtained from the City or County Superintendent of Schools. They can also be ordered from the Department of Labor, Springfield, Illinois.

This certificate is only needed in case proof of age is required by the employer. It is the city or county superintendent's responsibility to issue these permits. They are issued in triplicate, one copy for the superintendent's office, one for the employer, and one to be mailed to the Division of Women's and Children's Employment, Illinois Department of Labor, 160 North LaSalle Street, Chicago, Illinois 60601. Although it is the superintendent's responsibility to issue the permits, it is the coordinator's responsibility to see that his student-learners secure them.

R. Student-Learner Responsibility

It is evident that each employer is most interested in his student-learners making a good record at school. This means that the coordinator should impress upon the student-learner at all times the importance of strict adherence to all school rules, an excellent quality of work in all classes, and active participation in any extra curricular activity for which he has time. From this the student-learner perceives that an attitude of "just so I do a good job for the employer" is entirely wrong. No employer wants a student who fails to take advantage of all the opportunities of the school.

S. Civic Club Membership

If it is possible for the coordinator to do so, he will find it highly beneficial to the program if he associates himself with one of the local civic clubs. Many things must be considered before doing this, among which are the coordinator's time schedule, the hour the club meets, dues, etc.

T. Beauty Culture

All students in beauty culture programs are required to register with the Department of Registration and Education, Springfield, Illinois. An apprentice license will then be issued which must be kept in good standing until the required period of apprenticeship is fulfilled. Minimum age for issuing a license is 16 years.

Licensed Industrial Cooperative beauty culture apprentices receiving training in a registered beauty shop must establish that they have completed not less than a total of 2625 hours during the entire period of their apprenticeship before they are eligible to register for examination.

CHAPTER XII

ILLINOIS STANDARDS FOR AN INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

A. Need for Standards

As the Industrial Cooperative Education Training Program has passed through its successive stages of development, many devices and standards have been set up and used. Some have been weighed in the balance of experience and found wanting. In order to assure adherence to the highest possible standards and also meet the requirements of applicable legislation, the Illinois State Board for Vocational Education has approved a State Plan, which states the standards which must be met by all who are involved in the program. Examination of other State Plans will show a marked likeness, indicating that throughout the Nation programs are operating on a very high plane.

At any time that a coordinator may be in doubt about what standards or requirements must be met and maintained, he can turn to the material presented below which is composed of abstracts and policies of the State Board of Vocational Education.

B. Standards for Conducting the Industrial Cooperative Education Program

1. Student-Learner Enrollment

Student learners shall be enrolled in this program with the approval of the coordinator on the basis of their ability to profit from the training. This selection is made after proper guidance and counsel by the coordinator.

2. Field of Training

Any trade, industrial or service occupation eligible for inclusion in the program for student-learners, shall be one for which the preparation consists of organized in-school related instruction supplementing clearly defined work experiences on the job as determined by an occupational committee. No occupations will be included in the program which do not provide an opportunity for continued employment without displacement of other workers.

3. The Agreement

A written training plan shall be required for each student and shall include a schedule of processes to be learned on the job, related instruction given in school, wages and length of training period, type and degree of responsibilities of parties concerned, provision of school credit, hours of work and related instruction, provision for job

progression, probationary period, termination of agreement and other items the local advisory committee deems necessary to include.

4. Rates of Pay

   a. Provision shall be made for a graduated scale of earned wages on an hourly basis. This is to be approved by the advisory committee.
   b. No reimbursement will be granted for a program, the students of which are not being paid a monetary wage at a rate comparable to wages paid to other employees for their time spent in employment.
   c. The Fair Labor Standards Act of 1938 and amendments thereto, prescribe minimum rates of pay for workers engaged in interstate commerce, or in the production of goods for interstate commerce. Care should be taken that student-learners in such occupations receive at least the minimum wage fixed by Federal Law.
   d. Social Security Legislation
      (1) If an employer has three employees and takes on a student-learner in addition, this person will count as the fourth employee and the employer will then be subject to the Federal tax feature of the unemployment compensation provision.
      (2) That if the employer has two employees and takes on an Industrial Cooperative student-learner in addition, this student will not count as the third employee if the student-learner is a minor (males under 21, females under 18) whose principal occupation is as a student actually in attendance at a public or private school unless taxes with respect to such services are voluntarily paid under the Federal Unemployment Tax Act.
      (3) However, if such a minor is employed during regular vacation periods, he is to be counted in employment the same as any other covered worker and the employer is liable for the State tax features of the unemployment compensation provisions of the Social Security Legislation.

5. The Representative Advisory Committees

   a. General advisory committee

      The program of training shall be conducted under the general guidance of a representative of a local advisory committee, such a committee to consist of equal representation from employers and labor.

   b. Craft or occupational committee

      Craft or occupational committees shall be formed for the purpose of assisting the coordinators in developing

the schedules of processes, approving outlines of related instruction and assisting in organizing the individual student's training plan for a particular occupation. Such a committee may be composed of one or more members of each craft or occupation for which training is given.

6. Hours of Work and Study

All student-learners shall be required to spend one-half of the regular school day, which shall be not less than 15 clock hours per week (preferably three consecutive clock hours per day) in organized work experiences on the job under the joint supervision of the school and the employer. In addition to the required time spent in acquiring job experience, each student-learner shall devote one of the regular school periods each day to the study of technical and related subject matter on a correlated basis under a qualified teacher-coordinator.

7. Schedule of Processes

The schedule of process to be learned on the job and the related subject content to be taught each student-learner in the school shall be outlined and approved by the representative occupational or craft committee.

8. High School Credit

Provison has been made to enable the student-learners to receive two units of high school credit per year for the satisfactory completion of the schedule of organized work experience (one unit of on-the-job training) and related instruction (one unit as an in-school elective) making high school graduation possible.

9. Ratio of Student-Learners

Due consideration will be given to the ratio of student-learners to regularly employed workers in any occupational field and shall be determined by the Local advisory committee.

10. Job Progression

Provision will be made for the student-learner to be transferred from one job process to another upon reaching the proficiency level required for satisfactory performance in the occupation.

11. Placement and Follow-up

Consideration will be given to final placement and follow-up and in cases of occupations requiring more time for

training th n can be given during the period the student is enrolled in high school, arrangements for the completion of training through apprenticeship or evening classes will be worked out.

12. Reports

Organization reports, etc. must be forwarded to the State Office immediately after the first week of each semester. Special reports may be asked for from time to time.

13. Plant Training

The State Board of Vocational Education will not participate in a plant training program designed for the initial "breaking-in" of operators in newly located industries. It is immaterial whether or not the demand for training the new workers arises from plant migration or relocation, labor turnover or replacements.

14. Reimbursement of Salary and Travel Expenses

The coordinator's salary is set by the local board of education and is paid from local funds. For approved programs meeting the standards and employing qualified personnel to instruct, the instructor's salary may be reimbursed from State and Federal vocational education funds. Such reimbursement of approved programs will be made annually upon receipt from the local superintendent sworn statements of expenditures. Reimbursement is based upon the total time devoted by the coordinator to the Industrial Cooperative Education Program (hours in-school related instruction, plus hours of on-the-job coordination). Reimbursement is calculated as a percentage of the salary paid to the coordinator and is found by dividing the time (hours) per week, which he devotes to the program, by the total time (hours) in his weekly program. The forms which follow, T&I 35-3, T&I 35-3a, T&I 38 and VE 3-T&I, are used to claim reimbursement from salaries and approved travel for which payment is made by the local board of education to the person having responsibility for coordination and supervision. Included in approved travel is attendance at conferences, workshops, or other meetings called by the State Board of Vocational Education. The actual cost of lodging, not exceeding the maximum of the approved State rate per night, is reimbursable while in attendance at a conference or workshop. Meal costs are not reimbursed.

15. Summer Employment

It is recommended that the coordinator be employed for at least one month longer than the regular school term. He needs at least one month's time in which to select the student-learners, secure training agencies, prepare schedules of processes and make other necessary arrangements

ANNUAL REPORT FOR REIMBURSEMENT
To the State Board of Vocational Education and Rehabilitation
Vocational and Technical Education Division
405 Centennial Bldg., Springfield, Illinois 62706
For the School Year Ending June 30, 1966

CITY Arcadia, Illinois
SCHOOL Arcadia High School
DISTRICT #763
COUNTY Baxter

INDUSTRIAL COOPERATIVE PART-TIME CLASSES

CUMULATIVE COOP. REGISTRATION FOR YEAR:
Male 21
Female 14
Total 35

COOP. ENROLLMENT AT END OF YEAR:
Male 17
Female 12
Total 29

(1) TYPE PROGRAM (Diversified Occupations or Supervised Job Training)	(2) NAME OF TEACHER	(3) Yearly Teaching Salary	(4) % TIME TO THIS WORK		(5) Salary paid for this work	(6) LEAVE VACANT	
			1 Sem.	2 Sem.		% Reimbursement	Reimbursement
Diversified Occupations	Jones, William H.	9,000	75%	75%	6,750		
INDUSTRIAL COOPERATIVE SUMMER SCHOOL AND SUMMER EMPLOYMENT							
Diversified Occupations	Jones, William H.	900	100%		900		

I hereby certify the foregoing report is true in all respects and that the amounts specified for teachers' salaries on which State and Federal aid is asked have been paid to the persons indicated.

Vernon Crawford
Superintendent [redacted]

Form T & I 35—3

State of Illinois
Board of Vocational Education and Rehabilitation
405 Centennial Building
Springfield, Illinois 62706

TRADE AND INDUSTRIAL EDUCATION
ENROLLMENT REPORT FOR INDUSTRIAL COOPERATIVE PART-TIME CLASSES

[x] Diversified Occupations (Check only one) [ ] Supervised Job Training

Use A Separate Form For Each Program At Each Attendance Center

City Arcadia Attendance Center Arcadia High School

(1) NAME OF PUPIL	(2) Age	(3) Sex	(4) Year In School Jr.-Sr.	(5) Year in Program 1-2	(6) Specific Job Objective	(7) Name of Training Establishment	(8) Hours per Week	
							In School	On the Job
1 Allison, John	18	M	Sr.	2	Auto Mechanic	Acme Motors	4	4
2 Berman, Helen	17	F	Jr.	1	Dental Ass't.	Dr. J. W. Franks	4	4
3 etc.								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								

Date May 29, 1966

I certify as to the correctness of this report.

Vernon Crawford
Official Reporting

(Place additional names on reverse side)

Form T & I 35-3a

ANNUAL REPORT FOR REIMBURSEMENT
To the State Board of Vocational Education and Rehabilitation
Vocational and Technical Education Division
405 Centennial Bldg., Springfield, Illinois 62706
For the School Year Ending June 30, 19.....

CITY Arcadia
SCHOOL Arcadia High School
DISTRICT #763
COUNTY Baxter

TRADE AND INDUSTRIAL EDUCATION
TRAVEL EXPENSES PAID BY THE LOCAL BOARD OF EDUCATION

Insert check mark (√) to indicate position of traveler

SECONDARY PROGRAM:
- ☐ Preparatory Teacher
- ☒ Industrial Cooperative Teacher-Coordinator

POST-SECONDARY PROGRAM:
- ☐ Preparatory Teacher

ADULT PROGRAM:
- ☐ Preparatory Teacher
- ☐ Apprentice and Supplementary Teacher

SUPERVISION:
- ☐ Supervisor
- ☐ Industrial Coordinator

TOTAL TRAVEL AND LODGING EXPENSES:

Months	MILES TRAVELED PER ACTIVITY				Total Miles For Month	
	Supervision and Coordination	Workshops (name)	I.V.A. Convention	Special (name)		
July		Beginning-125			125	
August	100	Exp. -120			220	
September	250				250	
October	225				225	
November	210				210	
December	175				175	
January	200				200	
February	215				215	
March	230		150		380	
April	240			Area-75	315	
May	250				250	
June	150				150	
Total Miles Traveled For Year At 8 Cents Per Mile					2715	$217.20

(Actual rate paid but not to exceed 8c per mile)

TRAIN OR BUS FARE, TAX EXEMPT:

Workshops called by Trade and Industrial Education Service ..... $_____
I.V.A. Convention ..... $_____
Special Meeting (Name) ..... $_____

LODGING: (Actual cost but not to exceed $8. per night)

Meetings	No. Nights	Rate	
Workshops	2	8.24	$ 16.48
I.V.A. Convention	2	7.21	$ 14.42
Special (Name)			$

TOTAL TRAVEL EXPENSES NOT INCLUDED IN SALARY $248.10
REIMBURSEMENT (Leave Vacant) ..... @ _____% ..... $_____

Note: Out-of-state Travel Expense Not Reimbursable.

I hereby certify that the Board of Education paid the cost of travel listed above and that evidence of these payments are on file.

/s/ William H. Jones
SIGNATURE OF TRAVELER

/s/ Vernon Crawford
Superintendent or T & I Supervisor

Form T & I 38

ANNUAL APPLICATION FOR REIMBURSEMENT
TRADE AND INDUSTRIAL EDUCATION

State of Illinois
Board of Vocational Education and Rehabilitation
405 Centennial Building
Springfield, 62706

Arcadia, Illinois
May 29, 19 66

To the Board of Vocational Education and Rehabilitation
State of Illinois:

A program of Trade and Industrial Education has been conducted in District No. 763 in Baxter County, according to plans approved by the State Board. We hereby certify that the costs listed below have been paid for the program conducted during the fiscal year ending June 30, 19____, and make application for reimbursement thereon.

TYPE	LOCAL ENTRY	FOR STATE OFFICE ENTRY ONLY	
TRADE AND INDUSTRIAL ONLY	TOTAL EXPENDITURES FOR TRADE AND INDUSTRIAL EDUCATION	APPROVED EXPENDITURE	CODE
Preparatory Classes for Secondary Students			07-1-108 07-4-108
Industrial Cooperative Classes (D.O. and S.J.T. Students)	7,650.00		07-1-104
General Continuation Classes			07-4-115
Preparatory Classes for Post-Secondary Students			07-2-108
Preparatory Classes for Adults			07-3-108
Supplementary Classes for Adults			07-3-111
Apprentice Part-Time Classes			07-3-114
Supervision, Secondary, Post-Secondary and Adult Classes			07-6-301
Travel, Industrial Cooperative Coordinators	248.10		07-1-218
Travel, Teachers of Secondary and Post-Secondary Classes			07-1-218 07-2-218
Travel, Teachers of Adult Classes			07-3-218
Travel, Supervisors			07-6-217
Durable Teaching Aids and Equipment			07-1-401 07-2-401
			07-3-401 07-4-401
Grand Total	7,898.10		

AFFIDAVIT

We, the undersigned, hereby certify that the foregoing report is true and accurate to the best of our knowledge and belief; that the district has complied with the requirements of the law as set forth in Section 27-10 of the School Code in regard to teaching the nature of alcoholic drinks and other narcotics and their effects on the human system; and as set forth in Sections 10-22.5 and 22-11 of the School Code with regard to the non-segregation of pupils on account of color, race or nationality; that each school operated by the school board has complied with the requirements of Sections 27-3, 27-4 and 27-21 in regard to patriotism, American history and constitutional principles; and that to the best of my knowledge and belief the employing personnel of this district has not discriminated in the employment of teachers on the basis of color, creed, race or nationality; nor has color, race, nationality, religion or religious affiliation been considered in assigning any person to an office or position or to any school in the school system.

Subscribed and sworn to before me this 1st day of June A.D., 19 66

/s/ Vernon Crawford
Principal or Superintendent

/s/ Leland Ames
Secretary, Board of Education.

/s/ John R. Harper
Notary Public

(SEAL)

Form VE 3-T&I

before the opening of school in September. A new coordinator should be employed beginning with July 1 preceding the inauguration of the program.

16. Distribution of Student-Learners

The number of student-learners employed in the various occupational fields should be watched very carefully. The following should serve as a guide:

a. All of those enrolled should be employed in strictly trade and industrial occupations unless otherwise specifically approved by the State Supervisor of Trade and Industrial Education.
b. The ratio of girls to boys in the program should be approximately that of men to women in the various occupations as shown in the U.S. census of employment.

17. Definition of a Contact

Since it is desirable that all coordinators place the same interpretation upon the term "contact" when making out the monthly report for the State Office, the word needs to be defined. For this purpose, the term contact may be considered to mean:

a. A personal call or visit that has been planned by the coordinator for a definite purpose, and one in which he was successful in actually talking with the individual or individuals personally, or
b. A call made at the request of one of the parties signing the training plan or his agent, or
c. A personal interview where the coordinator actually discussed the program with an individual who was thought to be able to assist in promoting the program.

In order to facilitate a record of contacts made, it may be assumed that there are two general phases of coordination which may be classified as scheduled routing contacts and promotional contacts. These are defined below:

a. A scheduled routing contact is a planned personal interview between the coordinator and one or more of the parties signing the training plan or his agent for the purpose of correlating the related instruction given by the school with the work experiences provided by the training agency, or for the purpose of discussing the general progress and problems of the students.

b. A promotional contact is an interview between the coordinator and such parties as may be deemed influential in creating interest in or in furthering the development of the program.

On the other hand, a contact is not to be reported under the following situations or conditions:

a. When the call is made by telephone, letter, or any other means except as stated above.
b. When the coordinator meets the student during the time the coordinator is scheduled to be at school.
c. When the coordinator makes a call but fails to get an interview with the person he intended to see.
d. When the coordinator makes a talk to a group or assembly. Promotional contacts may result from talks, but the talk itself is not a contact.

18. Criteria for Determining Number of Routine Contacts

a. When only the employer is seen on a coordination visits, one contact shall be reported.
b. When a student-learner and employer are contacted on the same coordination visit, one contact shall be reported for the employer and one contact for the student-learner.
c. When one or more student-learners in the same department are contacted on a single visit, one contact shall be reported for each student-learner interviewed.
d. When one or more persons representing a training agency, such as the owner, shop foreman, superintendent, or department head are contacted on one trip, only one contact shall be reported except as provided for in the situation as covered in paragraph "e" below.
e. When a training agency has student-learners in more than one department, the number of department heads actually contacted shall determine the number of contacts reported.

CHAPTER XIII

YOUTH ORGANIZATIONS

Each cooperative class as an educational activity shall have as a unit in related instruction a club program for the purpose of instructing in parliamentary procedures and other democratic activities.

The importance of youth organizations as a phase of all programs of vocational education is given emphasis in the following excerpt from the Illinois State Plan.

"Vocational youth organizations shall be established, developed and promoted as an integral part of the total instructional program. The statewide youth organizations shall be supervised by persons meeting the qualifications of a state supervisor of vocational education.

"When the activities of local vocational education youth organizations complement the vocational instruction offered, such activities shall be supervised by persons who are qualified as vocational education teachers. The allocation of time for the program of youth activities shall be the responsibility of the local school administration.

"For youth with special needs and others enrolled in experimental or pilot vocational education programs, youth organizations are to complement the goals of these instructional programs.

"Cooperation between the several youth organizations in vocational education and other organizations of youth and adults with similar objectives shall be encouraged on the State, district, or area, and local levels where the activities, such as joint meetings and projects, would improve the total vocational education program.

"The vocational youth group programs shall be reviewed periodically by the chief state supervisors as part of the evaluation of the total instructional program. The local youth group program shall be evaluated continuously by school and community personnel, such as a local advisory committee that is concerned with the local related instructional program."

A copy of the Constitution and By-Laws of the Illinois Association of the Vocational Industrial Clubs of America is included in the Appendix.

The coordinators's responsibilities for youth club organization and operation may be summarized as follows:

What the Coordinator Does	What the Coordinator Needs to Know
1. Organization of Club	
Arrange for time and meeting place with school principal Call the meeting Give the group the aims and purposes of the club Explain the CREED--EMBLEM--persons eligible for club membership. Local dues--state dues--national dues Explain and help plan induction ceremonies for club members Help in election officers--Time--Number--Duties-- Responsibilities	The aims and purposes of the club The benefits gained by the students Creed and emblem Persons eligible for club membership--Local, state and national dues Requirements for local chapter entrance in state and national organization Election of officers and duties of officers Induction ceremonies for membership into the club
2. Operation of Club	
Supervise and sponsor all club activities Explain how to nominate candidates for State Office. When. Explain State constitution Explain VICA Explain State Convention procedure. Who is eligible to attend. How to enter contest--benefits received Explain and create enthusiasm for all local club--activities--banquet--socials--projects Honor past members Assist officers and committee chairman in planning meetings Assist secretary with chapter reports Assist reporter with news articles Sponsor and assist in organization of district leadership meetings Explain club ratings Teach parliamentary procedure	State and National Constitution When and how to nominate candidates for state officers State & National Convention procedure Who is eligible to attend State convention How to prepare and enter state contest Local activities throughout the year in the club Vocational Industrial Clubs of America Parliamentary procedures

CHAPTER XIV

PUBLIC RELATIONS

Everything a coordinator does involves public relations. Some of the specific items should include:

What the Coordinator Does	What the Coordinator Needs to Know
Prepare newspaper copy or give information to newspapers	How to write newspaper copy What is news How to keep a special feature What is a news item copy should be standard How to prepare radio and T.V. scripts
Radio and T.V. - make programs	
Public speaking	
Work with community groups	Procedure for presentation Types of programs which would be most attractive Selection of participants How to organize material for talk Effective presentation of facts Cultivate proper use of voice Develop vocabulary to present information suitable to group How to prepare notes for talk Proper use of illustrative materials How to work with committee How to conduct meetings (Parliamentary procedures) (Group Dynamics) Organization of conferences Main purpose of each civic group How students may have part in civic affairs How to "fit in" in civic work

BIBLIOGRAPHY

1. Organization and Effective Use of Advisory Committees, Bulletin OE-84009, Office of Education, U.S. Department of Health, Education and Welfare; Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, Price 30¢

2. Vocational Advisory Committees, American Vocational Association, Washington, D.C.

3. Industry Advisory Groups, Electronic Industries Association, Washington, D.C.

4. [illegible], State of Illinois, Board of Vocational Education and Rehabilitation, Springfield

5. Trade Competence Tests in Trade and Industrial Education, Bulletin OE-84022, Office of Education, U.S. Department of Health, Education and Welfare; Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, Price 15¢

6. The Illinois Beauty Culture Act, State of Illinois, Department of Registration and Education, Springfield

7. Training Opportunities for Women and Girls, Women's Bureau, U.S. Department of Labor; Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, Price 30¢

8. Curriculum Materials for Trade and Industrial Education, Bulletin OE-84023, Office of Education, U.S. Department of Health, Education and Welfare; Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, Price 30¢

9. General Related Instruction, A Unit of Instruction for D.O., State of Illinois, Board of Vocational Education and Rehabilitation, Springfield

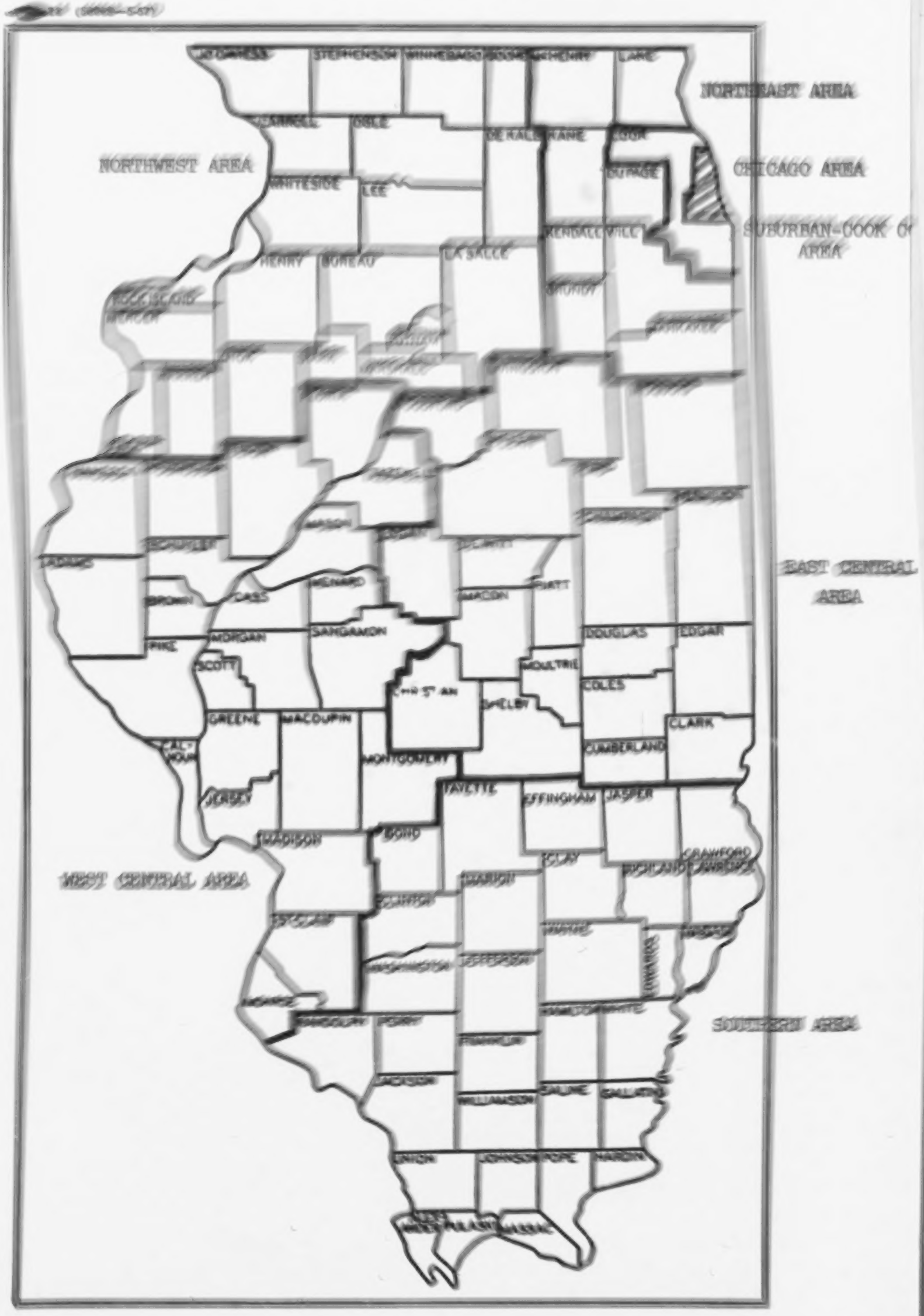
10. General Related Study Guide, Department of Industrial Education, College of Education, University of Missouri, Columbia, Missouri

11. Employer-Employee Relations, Instructional Materials Laboratory, Department of Vocational Education and Practical Arts, University of Michigan, Ann Arbor, Michigan

12. Educational Aids for Schools and Colleges, Education Department, National Association of Manufacturers, 2 East 48th Street, New York, N.Y. 10017

13. Blueprint for Tomorrow, Educational Division, Institute of Life Insurance, 488 Madison Avenue, New York, N.Y. 10022

14. Teaching Guide and Materials for Teaching Income Tax, Department of Internal Revenue, Washington, D.C.


NORTHEAST AREA
NORTHWEST AREA
CHICAGO AREA
SUBURBAN-COOK CO AREA
EAST CENTRAL AREA
WEST CENTRAL AREA
SOUTHERN AREA
STEPHENSON
WINNEBAGO
LAKE
OGLE
DE KALB
KANE
COOK
WHITESIDE
LEE
DUPAGE
KENDALL
HENRY
BUREAU
LA SALLE
MACON
PIATT
BROWN
CASS
MENARD
SANGAMON
PIKE
MORGAN
SCOTT
DOUGLAS
EDGAR
MOULTRIE
COLES
SHELBY
GREENE
MACOUPIN
CLARK
CUMBERLAND
MONTGOMERY
JERSEY
FAYETTE
EFFINGHAM
JASPER
MADISON
BOND
CLAY
CRAWFORD
RICHLAND
LAWRENCE
MARION
CLINTON
WAYNE
EDWARDS
WASHINGTON
JEFFERSON
WHITE
FRANKLIN
JACKSON
WILLIAMSON
SALINE
GALLATIN
UNION
JOHNSON
POPE
HARDIN

OCCUPATIONS FOR TRAINING IN
INDUSTRIAL COOPERATIVE EDUCATION
(Diversified Occupations and
Supervised Job Training)

Occupation	D.O.T. No.	Occupation	D.O.T. No.
Reporter	0-06.71	Dishwasher	2-29.61
Metallurgist	0-14.20	Cosmetologist	2-32.15
Medical Records Librarian	0-23.25	Hospital Attendants	2-42
Pharmacist, Helper	0-25.11	Physical Therapist Ass't.	2-42.34
Horticulturist	0-35.05	Veterinary Hospital Att'd.	2-42.60
Dairy Technician	0-35.16	Occupational Therapy Ass't.	2-43.33
Window Trimmer	0-43.30	Firemen, Fire Department	2-63
Interior Decorator	0-43.40	Custodian	2-84
Floral Designer	0-43.60	Kennelman	3-07.60
Commercial Artist	0-44	Farm Machinery Mechanic	3-35
Draftsman	0-48	Nurseryman & Landscaper	3-38
Medical Lab. Assistant	0-50.01	Greenhouse Worker	3-39.10
X-Ray Technician	0-50.04	Gardener	3-40.01
Dental Technician	0-50.06	Hatcheryman	3-41.10
Laboratory Tester	0-50.25	Baker	4-01
Medical Service Occupations	0-52	Candymaker	4-05
Chemical Laboratory Ass't.	0-52.22	Dairy Product Processing	4-06
Photographer Assistant	0-56	Miller, Grain & Feed	4-07
Radio Operator	0-61	Textile Manufacturing	4-19
Dispatcher	0-61.20	Seamstresses & Dressmakers	4-25
Mortician's Assistant	0-65	Tailor	4-26
Theaterman	0-66.92	Patternmaking (Garment)	4-27.432
Taxidermist	0-66.95	Lumberyard Workers	4-30
Abstractor	0-68.45	Sawmill Occupations	4-31
Production Planner	0-68.50	Cabinetmaker	4-32
Communications	0-69.21	Auto Upholster	4-35.610
Building Operators	0-87	Furniture Upholster	4-35.710
Mailer	1-18.05	Printers	4-44
Receptionist	1-18.43	Refining (Petroleum)	4-55
Quality Control Clerk	1-18.68	Shoe Repairman	4-60
Material Control Clerk	1-18.78	Stonecutter	4-68
Librarian Assistant	1-20.01	Jewelry Making	4-72
Dental Assistant	1-32.10	Enameler	4-72.462
Medical Assistant	1-32.20	Engravers	4-73
Shipping Clerk	1-34.14	Electroplating	4-74
Stock Clerk	1-38.01	Machinist	4-75
Tool Clerk	1-38.05	Tool & Die Maker	4-76
Telephone Operator	1-42.31	Sheet Metal Worker	4-80
Watch Repair	1-49.43	Foundry & Molders	4-81
Estimator (Woodworking)	1-49.51	Ornamental Ironworker	4-80.020
Produce Worker	1-70.10	Welder (Arc)	4-85.020
Housekeepers	2-25.21	Welder (Gas)	4-85.030
Commercial Cooks	2-26	Welder (Comb.)	4-85.040
Waiters & Waitresses	2-27	Heat Treating	4-87
Diet Assistant	2-29.03	Electricians (N.E.C.)	4-97
Bottler	2-29.42	Electricians (Wire)	4-97.010

OCCUPATIONS FOR TRAINING IN
INDUSTRIAL COOPERATIVE EDUCATION
(Diversified Occupations and
Supervised Job Training)

Occupation	D.O.T. No.	Occupation	D.O.T. No.
Electrician - Maint. & Rep.	4-97.020	Radio & T.V. Repair	5-83.411
Instrument Maker	5-00.912	Electric Motor Repair	5-83.433
Lens Grinder	5-08	Electronic Technician	5-83.444
Plastics Fabricator	5-10	Meter Repairman	5-83.465
Sign Fabricator	5-10.014	Gunsmith	5-83.542
Patternmakers	5-17	Locksmith	5-83.581
Brick Masons	5-24	Maintenance & Service	5-83.621
Tile Setter	5-24.410	Gas Engine Repair	5-83.652
Carpenters	5-25	Neon Sign Serviceman	5-83.871
Cement Finishers	5-26	Bicycle Repairman	5-83.881
Painting & Decorating	5-27	Mechanic - Heavy Equip.	5-83.931
Sign Painting	5-27.910	Air Conditioning & Refrig.	5-83.941
Plumbers & Steamfitters	5-30	Instrument Repairman	5-83.971
Pipe Fitter	5-30.110	Sharpeners & Tool Dressers	5-84
Floor Layer	5-32.752	Warehouse Worker	5-88
Switchman	5-44.010	Picture Framer	6-39.782
Telephone Servicemen	5-53	Food Processer	6-42.962
Projectionist	5-55	Machine Operator	6-78
Dyeing, Cleaning & Pressing	5-57	Construction Occupations	7-32
Meat Cutters	5-58	Carpet Layer	7-59.220
Stationary Engineer	5-72	Well Driller Helper	7-75.220
Glaziers	5-77	Pump Serviceman Helper	7-83.641
Millwrights	5-78	Film Splicer	7-86.060
Aircraft Mechanic	5-80	Blueprinter	7-86.330
Radiator Repairman	5-80.775	Surveying	7-87
Auto Mechanics	5-81.010	Exterminator (Pest Control)	7-89.121
Motorcycle Repairman	5-81.020	Tire Vulcanizer	7-89.424
Auto Body Mechanic	5-81.510	Lumberyardman	8-31.01
Appliance Repair	5-83	Bench Assembler	9-00.91
Typewriter Repair	5-83.127	Florist Helper	9-59.101

☐ Diversified Occupations Date _____

☐ Supervised Job Training

TRAINING OUTLINE

INDUSTRIAL COOPERATIVE PROGRAM

School _____ Coordinator _____

Trainee _____ Birth date _____

Establishment _____ Address _____

Person responsible for training at the establishment _____

Employment objective Surveyor Assistant Code number 7-87.200

Accredited training 2 years
(1 or 2 years)

I. MEASURING DISTANCES AND DIRECTION — 20 weeks
1. Use chains, rods, tapes and plumblines
2. Take rod-readings
3. Clear brush
4. Set stakes
5. Read and use surveyor's compass
6. Take magnetic bearings and compensate declinations

II. USE OF TRANSIT AND LEVELS — 20 weeks
1. Set and adjust transit
2. Set and adjust levels
3. Operate transit and various types of levels
4. Clean and care for instruments

III. LAND SURVEYING — 20 weeks
1. Establish base-lines
2. Subdivide sections
3. Make "closed-traverse" surveys
4. Survey by single set-up of transit
5. Survey curved boundaries
6. Relocate lost points
7. Establish grade lines
8. Make topographical surveys
9. Survey areas by compass

IV. OFFICE WORK — 15 weeks
1. Make computations
2. Read and interpret deeds
3. Index and file maps, plans, computations and orders
4. Make layout maps
5. Duplicate maps and charts
6. Clean maps and drawings
7. Maintain office equipment and supplies

V. MAINTENANCE — 10 weeks
1. Sharpen saws, axes, knives, and stakes
2. Clean and repair field equipment
3. Keep shop neat and clean

(Total training time, half-time basis) — 85 weeks

CREDIT: The University of the State of New York, State Education Department, Bureau of Trade and Technical Education, 23 South Pearl Street, Albany

SAMPLE

TRADE ANALYSIS FOR HOUSE WIRING AND PROGRESS CHART

Job No.	UNIT NUMBER ONE - ROUGH-IN CABLE WIRING	OBSERVATION	INSTRUCTION	SUPERVISION	SATISFACTORY PERFORMANCE	DATE OF SATISFAC-TORY PERFORMANCE	DATE RELATED IN-FORMATION COMPLETED
1.	Fasten switch boxes to wood walls	11	11	11	1111	10/15	10/20
2.	Fasten outlet boxes to wood walls						
3.	Ganging switch boxes						
	Make a mark (1) in this column for EACH TIME you have observed the job being done.						
	Make a mark (1) in this column for EACH TIME you have done the job under instruction.						
	Make a mark (1) in this column for EACH TIME you have completed the job under supervision without instruction.						
	Make a mark (1) in this column for EACH TIME you have completed the job without super-vision.						
	In this column put the date of satisfactory completion of the job.						
	In this column put the date of completion of the related information.						

Job. No.	UNIT NUMBER ONE - ROUGH-IN CABLE WIRING						
1.	Fasten switch boxes to wood walls						
2.	Fasten outlet boxes to wood walls						
3.	Ganging switch boxes						
4.	Boring holes for cable						
5.	Sharpening auger bits						
6.	Fasten cable to outlet and switch boxes						
7.	Fasten and pull cable between boxes						
8.	Prepare armored cable for connectors						
9.	Make splices and tape						

INDUSTRIAL COOPERATIVE EDUCATION TRAINING PROGRAM

To Student-Learner

You are entering a new phase of your high school education, namely, training for a specific job. You are required to spend one hour (60 minutes) each day in a related subject class. You are also required to spend a minimum of three hours each day on the job for which you receive pay. Upon the successful completion of this course, two high school credits will be given each year. Other high school subjects will make up the balance of your schedule.

To succeed in this course you should:

1. Really want to learn a trade or occupation.
2. Be an average or above average student.
3. Be able to carry on school work by following a work plan with a minimum of supervision.
4. Get and keep your parents' interest in this program.
5. Develop the proper attitude toward other employees.
6. Learn to respect rules and regulations.
7. Practice clean habits and develop a pleasing personality on the job.

For your class work you should have and know how to use:

1. A textbook
2. The progression Study Charts furnished with this course
3. References
4. A loose-leaf notebook

Daily schedules:

1. Get your study guide and notebook
2. Fill out daily progression record
3. Carry out work period
4. Fill out wage and hour report Monday of each week

If the interview is successful or you have sold yourself, your next step is to become acquainted with your training memorandum or agreement. Discuss it with your parents. If satisfactory, have them sign; also sign your own name.

You are now ready to train for work.

However, before reporting on the job for the first time, consider the following:

1. How are you going to dress?
2. How are you going to get there?
3. Have you your social security number?

FORM I

COVER SHEET

THE INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

_____
Applicant's Name

_____	FORM I	Cover Sheet and Placement Interviews
_____	FORM II	Student Interview
_____	FORM III	Student's Application
_____	FORM IV	Personal Data Sheet
_____	FORM V	Student Agreement
_____	FORM VI	Attendance, Discipline, Health
_____	FORM VII	Test Scores
_____	FORM VIII	Teacher's Recommendation
_____	FORM IX	Memorandum-of-Training Plan
_____	FORM X	Enrollment Record
_____	FORM XI	Trainer's Evaluation of Student
_____		
_____		
_____		

PLACEMENT INTERVIEWS

DATE	COMPANY	PERSON CONTACTED	RESULT

FORM II

STUDENT INTERVIEW

THE INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

Name _____

VOCATIONAL QUESTIONS	Help or Information Needed		
	Much	Some	Little or None
1. Do you know definitely the fields of work in which you are most interested?			
2. Have you analyzed carefully your skills and abilities?			
3. Have you determined the type of work for which your particular personality is best suited?			
4. Are there health factors or physical disabilities which must be considered in choosing your occupation?			
5. Have you considered carefully the employment outlook in those fields which seem most likely to expand?			
6. Do you know the general requirements of those occupations for which you seem best fitted?			
7. Do you know what jobs are most closely related to the one which you are considering?			
8. Have you made a satisfactory choice of a particular job for which you are well qualified?			
9. Do you know how to find reliable information about job requirements?			
10. Do you know to whom to go for competent advice and counsel?			
11. Have you considered carefully a possible need for further schooling?			
12. Do you know how to select the school and the subjects most helpful to you?			
13. Do you know how to locate job opportunities for a person with your qualifications?			
14. Can you write a good letter of application?			
15. Do you know the most important factors to keep in mind when you are interviewed by an employer?			
16. Do you know what factors your employer is likely to consider when you are ready for a raise or a promotion?			
17. Do you know how to decide whether or not a job is one with a future?			
18. Have you a clear idea of what you consider essential to success in life?			

FORM II (cont'd.)

SELF-RATING SCALE Personality Traits	Your Evaluation				
	Very High	High	About Average	Low	Very Low
Friendliness					
Cheerfulness					
Confidence in own abilities					
Respect for the rights of others					
Tolerance					
Neatness and personal appearance					
Freedom from fear and worry					
Sense of humor					
Ability to take criticism					
Ability to get along with people					
Ability to win cooperation					
Initiative					
Willingness to work hard					
Resourcefulness					
Pep and enthusiasm					
Open-mindedness					
Dependability					
Speech and self-expression					
Persistence. Ability to stick to a job . . .					

Date _____

_____
Signature of Student

PRE-EMPLOYMENT INFORMATION

Student-learner should have confidence in fairness of foreman and management.

Don't be impatient. It may take several years to learn your job.

Get along with fellow employees.

Be at work on time; avoid being absent except for illness or very urgent matters. Always phone and notify your employer and coordinator when it is necessary to be absent.

Save time -- do not waste it in idle chatter.

When the task assigned is performed, ask your trainer for another.

Do not waste the time of other workmen.

If you have a gripe, discuss it at once with your trainer or coordinator, not with your fellow employees.

Treat all matters of rate of pay, pay raises, earnings, in strict confidence. It is no affair of other employees what you earn, and no interest of yours what they earn.

Apply yourself. Listen carefully when work is explained to you. Do not make it necessary to be told the same thing repeatedly.

Your ability to earn more results from your ability to produce. Money for wages come from production.

Your first tasks will be simple-fundamental ones, and at times they may seem menial and dull. Do not expect to become a skilled worker overnight.

Be neat in your housekeeping about your station.

Take criticism of your work on the basis that it is not meant to be personal, but to improve your competence and skill.

Become one of the family -- don't be a "lone wolf." Attend their parties and outings and celebrations.

FORM III

STUDENT'S APPLICATION

THE INDUSTRIAL COOPERATIVE EDUCATION PROGRAM
of

_____

Date _____

Name _____ Date of Birth _____ Age _____

Year in school _____ Homeroom No. _____ Homeroom Teacher _____

Address _____ Phone No. _____ Sex _____

Color of Hair _____ Color of Eyes _____ Complexion _____

Weight _____ Height _____ ft. _____ in. General Health _____

Place of Birth _____ What physical handicaps do you have? _____

_____ Do you wear glasses? _____

Are you hard of hearing? _____ Have you ever been arrested? _____

Have you ever been on probation? _____ Do you have a driver's license? _____

Will you be able to provide your own transportation to your work? _____

Do your parents know you are making this application? _____ Do they approve? _____

List high school subjects taken: Total credits _____

Freshman Year			Sophomore Year			Junior Year		
Subject	Grade		Subject	Grade		Subject	Grade	

In what type of work do you desire training while attending school?

1st choice _____ 2nd choice _____

What do you plan to do after graduation? _____

What do you plan to do five years from now? _____

Are you working now? _____ Where _____

What do you like to do in your spare time? _____

_____

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FORM IV

PERSONAL DATA SHEET

THE INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

Name_____ Date_____

Father's Name_____ Age_____ Birthplace_____

Mother's Name_____ Age_____ Birthplace_____

Father and Mother are: Living together____; Living apart_____; Separated_____; Divorced_____; Father deceased_____; Mother deceased _____; Father has remarried_____; Mother has remarried _____.

Are you living with someone other than your parents?_____ If yes, who?_____

Is this person your legal guardian?_____ Their address?_____

Father's Occupation_____ Employed by_____

Father's Education_____

Mother's Occupation_____ Employed by_____

Mother's Education_____

Number of brothers_____ Their ages are_____

Number of sisters_____ Their ages are_____

Do you make your own bed?____Do you mow the lawn?____ Do you either wash or dry dishes?_____ Do you have any other chores assigned to you?_____

What are these chores?_____

Do you like to be with other people?_____Younger?_____Older?____Same Age?_____

Do you attend Sunday School or Church?_____ Name Church_____

What school organizations do you belong to?_____

Offices held?_____

Name musical instruments you play_____Do you sing?_____

Whistle?_____Give readings?_____Name other talents_____

What foreign language can you speak?_____Write_____Understand_____

FORM IV (cont'd.)

What sports do you enjoy watching?_____

What sports do you enjoy playing?_____

Do you like to go on picnics?____Dance?____Roller Skate?____Ice Skate?_____

Bowling?_____Do you own a car?_____Is it paid for?_____Do you have any debts to pay?_____How much do your parents contribute to your support? None?_____ Little?_____What is needed_____More than is needed_____Is it a necessity that you work?_____Why?_____

Will you have regular or monthly obligations to meet next year?_____How frequently do you attend the movies?____per week or____per month. What TV programs do you like?_____

Have you had any serious illness recently?____Name of illness_____

Do you have any defects in: Sight?_____Hearing?_____Speech?_____Limb?_____ Body?_____Heart?_____. Describe any other physical defects:_____

_____

Precautions necessary due to any of the above named defects:_____

_____

Do you enjoy reading?_____What?_____

High school subject you enjoyed most:_____Least:_____

Activities you and your father do together:_____

Activities you and your mother do together:_____

Which do you prefer: Entertain friends in your home?_____ Or going to parties in friends' homes?_____ Do you maintain a savings account?_____ In what occupation do you wish to earn your living after you have completed your education?_____

_____

Why did you decide upon the occupation you just listed?_____

_____

What do you know about the occupation previously listed, i.e., type of work, opportunities for advancement, salary, self-satisfaction, etc._____

_____

FORM IV (cont'd.)

How have you acquired the previous information? (By reading, experience, observation, etc.)_____

List six teachers you have had classes with:

1._____ 3._____ 5._____

2._____ 4._____ 6._____

Will you go to college?_____When do you plan to go?_____

What college will you attend?_____

What type of course do you want to study?_____

Will you have to pay some of your expenses while in college?_____What part of your expenses will you have to pay? None?____ 1/4____ 1/2____ 3/4____ All_____. If you had a choice of the following, what occupation would you like to enter? (Art, Music, Engineering, Teaching, Medical, Selling, Office, Mechanics). _____ Why?_____

_____

List the places where you have been employed before:

Place Where You Worked	Person For Whom You Worked	How Long?

_____
Signature of Student

FORM V

STUDENT AGREEMENT

THE INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

The industrial cooperative education program is planned to develop a student academically, economically, and socially. In doing this, there are definite things that must be done. There are responsibilities the student must realize and he must agree to cooperate in carrying them out to the fullest extent.

As condition for acceptance in the Industrial Cooperative Education Program, I therefore agree:

1. To be regular in attendance in school and on the job.
2. To be on time at school and on the job.
3. To notify my employer as soon as I know that I will be absent from work.
4. To notify the coordinator as early in the day as possible on days that I am absent from school.
5. If I am absent from school, I must also be absent from work on that day.
6. To carry out my training on the job in such a manner that I will reflect credit upon myself and upon the Industrial Cooperative Education Program.
7. To perform all my duties in a commendable manner and perform related study assignments with earnestness and sincerity.
8. To conduct myself in a satisfactory manner, both on the job and in the classroom, or my training may be discontinued and I may be removed from the program.
9. To know that if I am removed from the program due to failure either in the class instruction or work experience that I will receive a failing grade for the program and will lose both credits.
10. To attend any function the Industrial Cooperative Education class wishes to sponsor.
11. To pay all normal fees and charges necessary to pay for class activities, i.e., banquet, conferences, field trips.
12. To work toward the group and individual achievement goals.
13. To make a concerted effort to abide by all school rules and regulations, and thereby avoid detentions.
14. That while I am at work, I am in a school program and the appropriate school rules apply, i.e., no smoking on the job, etc.
15. To accept counseling and guidance from the coordinator as an aid to personal improvement.

Date_____School Year 19___ - 19___

Signature_____

FORM VI

ATTENDANCE, DISCIPLINE, HEALTH

THE INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

Student's Name _____ Date _____
Last First

	Freshman Year	Sophomore Year	Junior Year	Senior Year
Absences				
Tardies				
Detentions				

Special comments on student's discipline or conduct:

_____

_____

_____

_____

Date _____

_____
Assistant Principal for Discipline and Attendance

HEALTH RECORD:

Is the above named student in good health? _____

List any physical defects or limitations which would have any effect on his or her placement in the Industrial Cooperative Education Program.

_____

_____

_____

_____

Date _____

_____
School Nurse

FORM VII

TEST SCORES

THE INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

Student _____ Code: 0 1 2 3 4 Date _____

Otis Beta (given 9th year) I.Q. ____%
_____ raw score
Otis Gamma (given 10th year) I.Q. ____%
_____ raw score

Differential Aptitude Test: Score in percentile. (given 10th year)

Verbal Reasoning	_____
Numerical Reasoning	_____
Abstract Reasoning	_____
Space Relations	_____
Mechanical Reasoning	_____
Clerical Speed & Accuracy	_____
Language Usage: a. Spelling	_____
b. Sentences	_____

Gordon's Personal Profile Total
(Given _____)

A - ascendency	_____
R - responsibility	_____
E - emotional stability	_____
S - socialability	_____
Total	_____

Mechanical Comprehension
Test Form BB
(Given 10th year)

raw score	_____
percentile	_____

Minnesota Paper Form Board: Score in percentile. (given 9th year)
_____

Iowa Reading (given 8th year)

Comprehensive	_____
Vocabulary	_____

Stanford Arithmetic (Given 8th year)

Computation	_____
Reasoning	_____

School & College Ability Test: Score in percentile. (given 10th year)

Verbal	_____
Quantitative	_____
Total	_____

California Reading Test: (Given yearly)

Year given	9	10	11
Vocabulary grade equivalent			
Comprehension grade			
Equivalent			
Total grade equivalent			

Kuder Interest Inventory:
(Given 11½ year)

Outdoor	_____
Mechanical	_____
Computational	_____
Scientific	_____
Persuasive	_____
Artistic	_____
Literary	_____
Musical	_____
Social Service	_____
Clerical	_____

Thurstone Interest Schedule:
(Given 9th year)

Physical Sc.	_____
Biological Sc.	_____
Computational	_____
Business	_____
Executive	_____
Persuasive	_____
Linguistic	_____
Humanitarian	_____
Artistic	_____
Musical	_____

OTHER TESTS OR REMARKS:

FORM VIII

TEACHER'S RECOMMENDATION

THE INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

Student _____ Teacher _____ Date _____

	Poor	Below Average	Average	Above Average	Superior
DEPENDABILITY: Prompt, sincere, consistent, able to work without supervision, truthful, follows instructions.					
CULTURAL REFINEMENT: Courteous, considerate, appreciative, good manners, respectful, open-minded.					
LEADERSHIP: Aggressive, forcefulness, imagination, good judgment, resourceful, able to inspire others to act.					
INDUSTRIOUSNESS: Persistence, habits of work, filling one's time with worthwhile activity.					
MENTAL ALERTNESS: Attentive, interest, observing, eager to learn, memory.					
THOROUGHNESS: Accurate, sustained interest, completion of work, careful.					
PERSONAL APPEARANCE AND GROOMING: Clean, unoffensive, neat appearance, inconspicuous, orderliness, poise.					
ABILITY TO GET ALONG WITH OTHERS: Adaptable, friendliness, tactful, cooperative, willingness to be counseled, respect for others, sense of humor.					
SOCIAL HABITS: Attitude, self-control, thoughts of the mind, honesty, loud talking, destructive, argue or complain, give excuses.					
TOTALS					

EMPLOYABILITY: Can this student favorably represent the school on the job? In other words, if you were an employer, would you want this student working for you? YES_____ MAYBE_____ NO_____

OTHER COMMENTS:

FORM IX

THE INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

_____ High School

MEMORANDUM-OF-TRAINING PLAN

Date _____ 19___

I. The _____ will permit _____
(Student-Learner)
to enter their establishment for the purpose of gaining knowledge and experience as _____.
(Occupation)

II. The course of training is designed to run for a two-year period with a minimum of _____ hours per week required for the work experiences and at least one period in each school day required for the supervised and directed study of technical and related subjects.

III. The coordinators shall, with the assistance of the employer or someone delegated by him, prepare a schedule of processes to be learned on the job and an outline of related subjects to be taught in school. These items to be made a part of this memorandum.

IV. The schedule of compensation to be paid the trainee shall be fixed by the training agency and the coordinator and shall become part of this memorandum, and a record noted on the back of this sheet. Such wages shall be comparable to wages paid apprentices and other beginners in the occupation in which the student-learner is engaged. They shall conform to the Fair Labor Standards Act of 1938, amended, if applicable.

V. The student-learner will not be permitted, in the process of gaining occupational experience, to remain in any one operation, job, or phase of the occupation beyond the period of time that is necessary for him to become proficient.

VI. The student, while in the process of training, will have the status of student-learner and will not displace a regular worker now employed.

VII. All complaints shall be made to and adjusted by the coordinator.

VIII. The parent or guardian shall be responsible for the personal conduct of the student-learner while in training.

IX. The employment of the student-learner shall conform to all federal, state, and local laws and regulations.

X. The employer agrees to instruct the student-learner in safety procedures and safe work practices in on-the-job training.

_____	_____
Coordinator	Student
_____	_____
Employer	Parent or Guardian

FORM X

ENROLLMENT RECORD SCHOOL YEAR 19 - 19

THE INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

Student _____ Trainer _____

Date of birth _____ Age _____ Training Station _____

Year in School _____ Ind. Coop. I___ II___ Address _____

Parent _____ Phone _____ Ext. _____

Address _____ Phone _____ Occupation _____

Social Security No. _____ Visitation Time _____

DAILY SCHEDULE OF SCHOOL AND OF WORK

Period	Class	Room	Teacher
H.R.			
1st			
2nd			
3rd			
4th			
5th			
6th			

Time leaving school: _____

Time at training station: Arriving _____ Leaving _____

Method of transportation to training station _____

Special conditions: _____

REPORT CARD COPY

SUBJECT		1st	2nd	SEM	3rd	4th	SEM

FORM XI

TRAINER'S EVALUATION OF STUDENT

THE INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

Date_____ 19____

_____ Student

_____ Trainer

_____ Training Station

_____ Dates Covered

NOTE TO TRAINER: Please evaluate the student on all items that apply to your particular situation. Omit those that you feel do not apply. Put a check after each item in the column that indicates your evaluation of the student.

CHARACTERISTIC	Excellent	Above Average	Average	Below Average	Failing
Dependability					
Promptness					
Follows Instructions					
Take Care of Equipment					
Practices Safety					
Accepts Responsibility					
Ability to Learn New Work					
Personal Appearance					
Initiative					
Ability to Work Independently					
Courtesy					
Interest in Job					
Making Satisfactory Progress					
Accepts Criticism					
Cooperates with Fellow Employees					
Effort					

Number of days student was absent from work during this period _____

Comments: _____

Date_____ Signature_____

SUGGESTED CONSTITUTION

Constitution of the ILLINOIS ASSOCIATION of the Vocational Industrial Clubs of America

ARTICLE I - NAME

The official name of this organization shall be the ILLINOIS ASSOCIATION of the Vocational Industrial Clubs of America and may be referred to as the ILLINOIS ASSOCIATION of VICA.

ARTICLE II - PURPOSES

The purposes of this Association are:

To unite in a common bond without regard to race, creed, or national origin full time students enrolled in classes with vocational trade and industrial objectives.

To provide leadership for the local clubs.

To provide a clearinghouse for information and activities.

To provide recognition and prestige through an association of local clubs.

To develop leadership abilities through participation in educational, vocational, civic, recreations, and social activities.

To foster a deep respect for the DIGNITY OF WORK.

To assist students in establishing realistic vocational goals.

To help students attain a purposeful life.

To create enthusiasm for learning.

To promote high standards in trade ethics, workmanship, scholarship, and safety.

To develop the ability of students to plan together, organize and carry out worthy activities and projects through the use of the democratic process.

To foster a wholesome understanding of the functions of labor and management organizations and a recognition of their mutual interdependence.

To create among students, faculty members, patrons of the school and persons in industry a sincere interest in and esteem for trade and industrial education.

To develop patriotism through a knowledge of our Nation's heritage and the practice of D E M O C R A C Y.

ARTICLE III - ORGANIZATION

Section 1. The ILLINOIS ASSOCIATION of the Vocational Industrial Clubs of America is an Association of local clubs of the State of Illinois operating in accordance with a charter granted by the National VICA.

Section 2. The Administration of ILLINOIS VICA shall be vested in the State Executive Council comprised of State Association officers and the State Advisor. Officers shall be elected for a term of one year.

Section 3. Charters shall be issued to local clubs by the Executive Council of the ILLINOIS ASSOCIATION of the Vocational Industrial Clubs of America.

Section 4. A State Advisory Council composed of leaders from Education, Business, and Labor Unions shall be appointed by the Head State Supervisor to provide counsel, advice, and assistance to the State Association in carrying out its functions. Equal representation shall be given Business and Labor.

ARTICLE IV - MEMBERSHIP

Section 1. Membership of the ILLINOIS ASSOCIATION of the Vocational Industrial Clubs of America shall consist of the total eligible members of the chartered local club and members shall hold the same membership status as in their respective local club.

Section 2. A local club must have at least ____ members and all members of the State Association must be members of the National Organization to qualify for a charter.

Section 3. Each local club and State Association shall be open for membership to all students regardless of race, color, or national origin.

Section 4. Classes of membership which will be recognized by the ILLINOIS ASSOCIATION of VICA are:

Active Membership: Full-time preparatory students enrolled in secondary vocational courses offered in trade and industrial education meeting the requirements of the State Plan for Vocational Education.

Professional Membership: Persons associated with or participating in the professional development of VICA as approved by a State association. Such members shall include Club Advisors, Teacher-Educators and Supervisors. Professional members will pay dues as established by VICA, but members will be ineligible to serve as a national Voting Delegate, hold national office or otherwise represent his State Association in National VICA.

Associate Membership: Cooperative employers, and/or training station sponsors, advisory council members and lay persons associated with and contributing to the improvement and development of the organization and vocational trade and industrial education. They are not eligible to hold office or vote.

Honorary Life Membership: Individuals who have made significant contributions to the development of VICA and vocational trade and industrial education whose membership has been approved by the National Executive Council upon the recommendation of a State association. Such membership shall not require payment of National dues.

Section 5. A Membership Year shall be from September 1 through August 31 inclusive.

ARTICLE V - VOTING DELEGATES

Section 1. The VICA member shall exercise his franchise through Voting Delegates at State and National meetings.

Section 2. Each club shall elect delegates who shall be considered Voting Delegates at the State Leadership Conference. The number of delegates shall be determined as provided in the By-Laws.

Section 3. The number of Voting Delegates shall be variable with the directives of the national constitution. The number of alternatives shall be the same as the number of delegates. The President of the State Association is automatically a Voting Delegate.

ARTICLE VI - MEETINGS

Section 1. A State Leadership Conference shall be held each year and this shall serve as the official annual meeting of the ILLINOIS State Association of VICA.

Section 2. The State Executive Council shall be empowered to call special meetings.

ARTICLE VII - OFFICERS

Section 1. The officers of the ILLINOIS ASSOCIATION of VICA shall be the President, Vice-President, Secretary, Treasurer, and Parliamentarian.

Section 2. These officers shall be elected by a majority vote of the voting delegates at the annual State Leadership Conference.

Section 3. Officers shall serve for a term of one year.

ARTICLE VIII - DUES

Section 1. State Dues shall be determined at the State Leadership Conference for the school year which follows and shall be payable before November 1. The amount which has been set by the National VICA as National Dues shall be set aside from this amount, to be forwarded by the State Advisor to the National Treasurer.

Section 2. The State Treasurer shall report on or before December 1 of each school year as to which Clubs have paid their Membership Dues in full. These Clubs shall be designated as Clubs in Good Standing.

ARTICLE IX - EMBLEMS AND COLORS

The emblem of the ILLINOIS ASSOCIATION of VICA, and its colors shall be the same as those adopted by National VICA.

ARTICLE X - AUDIT

The Accounts of the State Treasurer shall be audited each year by an Auditing Committee appointed by the President.

ARTICLE XI - AMENDMENTS

Section 1. This Constitution may be amended by a two-thirds vote of the authorized delegates to any annual State Conference.

Section 2. Only such amendments shall be made as are in keeping with the purposes stated in Article II of this Constitution.

ARTICLE XII - RULES, REGULATIONS AND BY-LAWS

Section 1. Such rules, regulations and by-laws as are deemed necessary for the proper conduct of this organization shall be adopted.

Section 2. No rules, regulation, or by-laws shall be adopted which are contrary to this Constitution.

Section 3. In all meetings, Robert's Rules of Order, Revised, shall serve as standard procedure.

SUGGESTED CONSTITUTION FOR LOCAL CLUBS

CONSTITUTION OF
THE (SCHOOL) VOCATIONAL INDUSTRIAL CLUB OF AMERICA
ILLINOIS ASSOCIATION

ARTICLE I - NAME

Section 1. The official name of this organization shall be "(School, Community) Illinois Association of Vocational Industrial Club of America," and may be referred to as "(School, Community) Illinois Association of VICA."

ARTICLE II - PURPOSES

The purposes of this organization are:

To assist local club members in the growth and development of VICA.

To unite in a common bond without regard to race, creed, or national origin full time students enrolled in classes with vocational trade and industrial objectives.

To develop leadership abilities through participation in educational, vocational, civic, recreational, and social activities.

To foster a deep respect for the DIGNITY OF WORK.

To assist students in establishing realistic vocational goals.

To help students attain a purposeful life.

To create enthusiasm for learning.

To promote high standards in trade ethics, workmanship, scholarship, and safety.

To develop the ability of students to plan together, organize and carry out worthy activities and projects through the use of the democratic process.

To foster a wholesome understanding of the functions of labor and management organizations, and a recognition of their mutual interdependence.

To create among students, faculty members, patrons of the school and persons in industry, a sincere interest in and esteem for trade and industrial education.

To develop patriotism through a knowledge of our Nation's heritage and the practice of DEMOCRACY.

ARTICLE III - ORGANIZATION

Section 1. The (School, Community) Vocational Industrial Club of America shall be affiliated with the Illinois Association of VICA. The Club shall operate in accordance with its Charter granted by the State Executive Council of the Illinois Association.

Section 2. The administration of the Club shall be vested in the Club Executive Council comprised of the Club Officers, and Club Advisor. Officers shall be elected for a one-year term.

Section 3. A Club Advisory Council composed of community leaders from Education, Business, and Labor Unions shall be appointed by the appropriate school administrator, upon the recommendation of the Club Executive Council, to provide counsel, advice, and assistance to the club in carrying out its functions. Equal representation shall be given Business and Labor Unions.

ARTICLE IV - MEMBERSHIP

Section 1. Membership of the Club shall consist of full-time preparatory students, enrolled in (Name of Program of Name of School).

Section 2. Club membership shall be open to all students regardless of race, color, or national origin.

Section 3. State and National Membership shall only be permitted through the Club, and all members of the State Association must be members of the National Organization.

Section 4. Classes of Membership which will be recognized are:

Active Membership -- Full-time preparatory students enrolled in vocational courses offered in trade and industrial education meeting the requirements of the State Plan for Vocational Education.

Professional Membership -- Persons associated with or participating in the professional development of VICA as approved by a State association. Such members shall include Club Advisors, Teacher-Educators and Supervisors. Professional members will pay dues as established by VICA, but members will be ineligible to serve as a national Voting Delegate, hold national office or otherwise represent his State association in National VICA.

Associate Membership -- Cooperative employers, and/or training station sponsors, advisory council members and lay persons associated with and contributing to the improvement and development of the organization and vocational trade and industrial education. They are not eligible to hold office or vote.

Honorary Life Membership -- Individuals who have made significant contributions to the development of VICA and vocational trade and industrial education whose membership has been approved by the National Executive Council upon the recommendation of a State association. Such membership shall not require payment of National dues.

Section 5. A Membership Year shall be from September 1st through August 31st inclusive.

ARTICLE V - VOTING

Section 1. (School) Illinois Association of VICA members shall exercise their franchise through Voting Delegates at State Conferences.

Section 2. Each member in good standing shall have the right to cast his vote, concerning all club business and election of club officers.

ARTICLE VI - MEETINGS

Section 1. Regular meetings shall be held at least once each month during the school year.

Section 2. Parliamentary Procedure of all meetings will be governed by Robert's Rules of Order, Revised.

ARTICLE VII - OFFICERS

Section 1. The officers of the (School) Illinois Association of VICA shall consist of a President, Vice-President, Secretary, Treasurer, Reporter, and Parliamentarian; and each shall exercise the usual duties of the office to which he has been elected.

Section 2. The officers of the (School) Illinois Association of VICA shall be nominated and elected by ballot at the first regular business meeting of each school year. A majority of the active members shall be necessary to elect.

ARTICLE VIII - ADVISOR

Section 1. The Club Advisor shall be the Trade and Industrial Education Teacher of the class or course.

ARTICLE IX - FINANCES

Section 1. The Club will be responsible for State and National VICA dues, according to the number of individual members claimed in each membership classification, times the amount established for that classification.

Section 2. The Advisor shall be responsible for the finances and will furnish an annual audit to the State Advisor.

ARTICLE X - EMBLEMS AND COLORS

Section 1. The emblem of (School) Illinois Association of VICA shall be that of the National Organization. The wearing and use of this emblem will be governed by the National Organization.

Section 2. The colors of the (School) Illinois Association of VICA shall be Red, White, Blue, and Gold (or a combination).

ARTICLE XI - AMENDMENTS

Section 1. To amend this Constitution, the proposed amendment must be presented in writing by a member to the President. The President will present the amendment to the membership where it must be approved by a three-fourths majority vote for adoption.

VT 004 010

Hymer, Bennett

The Negro Labor Market in Chicago, 1966; Conditions in Employment and Manpower Training.

Chicago Urban League, Ill.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 66 20p.

NEGROES; UNSKILLED WORKERS; SEMISKILLED WORKERS; SKILLED WORKERS; RACIAL DISCRIMINATION; COMMUNITY SURVEYS; *NEGRO EMPLOYMENT; NEGRO HOUSING; NEGRO EDUCATION; *EMPLOYMENT PROBLEMS; SOCIOECONOMIC STATUS; SOCIAL PROBLEMS; EMPLOYMENT OPPORTUNITIES; EMPLOYMENT TRENDS; *EQUAL OPPORTUNITIES (JOBS); *EQUAL EDUCATION; LOW INCOME; TECHNOLOGICAL ADVANCEMENT; URBAN AREAS; VOCATIONAL EDUCATION; *LABOR MARKET; APPRENTICESHIPS CHICAGO; ILLINOIS

Census data and other research reports provided the data for an evaluation of current employment conditions for Negroes, the impact of recent technological developments on the Negro labor force, and public and vocational education available to Negroes. The major findings of the study were: (1) The lowering of racial barriers had not appreciably affected the socioeconomic status of Negro workers compared with that of white workers, (2) Unskilled Negro workers have been isolated from most of the changes that have taken place, (3) Because of housing segregation the relocation of industry in the Chicago area has resulted in a net loss of jobs for the Negro labor force, and (4) School segregation is now a major employment barrier. The analysis showed that despite the favorable conditions for Negro workers during the past 2 years, the Negro labor force still faces job loss through automation, rising unemployment, low wages, and inferior training. These factors reflect the "dual labor market" in which demand and supply forces operate separately for Negroes and whites in determining earnings, occupational distribution, recruitment procedures, hiring practices training, and promotion of workers. The solutions to these problems require that strong cooperative measures be taken to eliminate employment discrimination, housing segregation, school segregation, and inferior training. (ET)

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THE NEGRO LABOR MARKET IN CHICAGO 1966

Conditions in Employment and Manpower Training

Prepared by
BENNETT HYMER

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

VT004010

A Chicago Urban League Research Report

This report was originally prepared by the Chicago Urban League at the request of the Illinois Commission on Automation and Technological Progress. Mr. Hymer presented an oral summary of this material before the hearings on Vocational Education and Manpower Training in Relation to Employment Requirements, October 21, 1966.

I. INTRODUCTION

Over the past few years several major developments have occurred in the Chicago labor market that have been of particular importance to the Negro labor force. The pressures brought to bear by the Civil Rights Movement have resulted in the lowering of racial barriers in hiring and in the creation of new manpower retraining programs. On the economic front there has been an extremely tight labor market of exceptionally long duration. The rapid growth of the Chicago economy which has been responsible for the recent high demands for labor has also featured the continuance of two trends--the relocation of industry within the Chicago metropolitan area and the shift in the manpower requirements of employers from unskilled to skilled labor.

During the same period we also note a sharp controversy concerning Negro education in Chicago, no significant change in the relative status of the Negro worker in the Chicago labor market, disturbances and social unrest in low-income, nonwhite neighborhoods, and, most recently, a rise in the nonwhite unemployment rate.

This study analyzes these events. First, there is an evaluation of current employment conditions for Negroes in the Chicago labor market. Second, there is an assessment of the impact of recent technological developments on the Negro labor force. And, third, there is an examination of Negro public and vocational education in Chicago.

The research for this study is based upon recent Urban League research reports, the latest census data, and several academic oriented studies. The study has also utilized the practical expertise of the League's Employment and Guidance Department which directly encounters the problems faced by Negro workers in the Chicago labor market through interviews with job seekers and contact with employers. Most of the data and information presented pertain directly to the Chicago area; however, in some instances only national and regional employment estimates were available. In the past these figures have typified the Chicago picture.

The major findings of the study are:

(1) The lowering of racial barriers has not appreciably affected the socioeconomic status of Negro workers vis-a-vis that of white workers.

(2) Unskilled Negro workers have been isolated from most of the changes that have taken place.

(3) Because of housing segregation the relocation of industry in the Chicago area has resulted in a net loss of jobs for the Negro labor force.

(4) School segregation is now a major employment barrier.

II. THE NEGRO WORKER IN TODAY'S LABOR MARKET

Several key factors during the past few years have made employment conditions for Negroes the most favorable since the Korean War. First, an extremely tight labor market resulting from an economic expansion of exceptionally long duration has created a strong demand in the Chicago economy for almost all types of labor and in almost all industries. Second, the pressures exerted over the last decade by the Civil Rights Movement on employers and government has produced the 1964 Civil Rights Act, State Fair Employment Practices laws, Federal Executive Orders, and, most importantly, revised hiring policies in the private sector of the economy. Third, several programs initiated and sponsored by the Federal government now provide training for workers who lack the skills necessary for many of the present job vacancies. Under the Manpower Development Training Act (MDTA), many unskilled Negro workers are receiving specific occupational training through local On-The-Job Training (OJT) and institutional training programs.

These factors have resulted in the disappearance of most of the overt forms of hiring discrimination and in the lowering of many racial barriers in employment.[1] In the past, discrimination in hiring and promotion established job ceilings for Negroes and other nonwhite workers in almost all areas of the labor market. Negroes were either denied entry into many companies or had limits placed on their upward occupational mobility. Today, Negro workers can be found in many occupations from which they were previously excluded.

Although most of the overt forms of employment discrimination have disappeared, the integration of the labor force that has occurred has been limited. Discrete exclusionary methods like residence requirements, culturally-biased aptitude tests, irrelevant hiring criteria and recruitment procedures still curtail the hiring of nonwhite workers. In other cases, inadequate training, the result of a segregated school system, keeps Negroes out of many jobs. Also, some employers are engaged only in tokenism when integrating their labor forces as they are not taking affirmative action to either increase the flow of Negro applicants or to upgrade their existing Negro labor force. Finally, discrimination in promotion and in the selection of workers for advanced training often prevent the advancement of nonwhite workers.

Consequently, the current lowering of racial barriers in hiring has not appreciably affected the status of Negro workers in the economy. Even with the integration of the labor force that has taken place, the position of the Negro worker in the Chicago labor market remains as far behind that of the white worker as before the Civil Rights Movement.

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[1] Although it is impossible to estimate which factor has had the most effect in changing the hiring practices of employers--the tight labor market or pressure from government and civil rights groups--it is our impression that the former has been the major determinant of racial change in employment.

From 1960 to 1965 the ratio of Negro to white earnings for the North Central United States region, which includes Chicago, dropped from 74 percent to 72 percent, as the income gap between white and Negro earnings increased from $1800 in 1963 to $1900 in 1964.[1]

Perhaps more important, the rate of Negro unemployment is again rising. According to recent national employment figures of the U. S. Department of Labor,[2] the Negro unemployment rate rose from 7.0 percent to 8.2 percent from April, 1966, to August, 1966, despite the existence of numerous job vacancies. During this same period the unemployment rate for white workers remained constant at a low 3.4 percent. For the teenage segment of the Negro labor force (16-19 years), the unemployment rate remained at its disastrously high 27 percent level of the preceding year. In contrast, the unemployment rate for white teenagers fell from 14 percent in 1965 to 12 percent in 1966.[3]

Moreover, not all of the Negro labor force has been affected by the recent expansion of employment opportunities for nonwhite workers. In particular, unskilled Negro workers have been critically isolated from recent changes. Aggregate data obscures some of the important intergroup differences that exist within the Negro labor force. We get a more comprehensive picture by considering workers within broad occupational and skill categories.

Skilled and semi-skilled Negro workers, who together form from 40 to 50 percent of the total Negro labor force, have been the major beneficiaries of recent changes in hiring policies. Relative to white workers of similar backgrounds, Negro professionals, managers, operatives, and clericals have been able to maintain their relative income positions while experiencing substantial increases in living standards resulting from the current economic prosperity. In some instances, particularly among younger Negro workers like recent college graduates, the gap between white and Negro earnings may even have declined. In contrast, older Negro professionals employed in the public sector of the economy are still locked out of the more lucrative jobs that have opened up for skilled workers because of the age barrier in hiring.

Unskilled Negro Workers

The remaining 50 to 60 percent of the Chicago Negro labor force is made up of some 190,000 to 225,000 unskilled workers employed in low-paying

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[1] U.S., Department of Labor, The Negro in the United States, Their Economic and Social Status, Table III, A-4, p. 139.

[2] U. S., Department of Labor, News Digest, September 12, 1966.

[3] Recent studies in metropolitan areas show that the unemployment rate for Negro teenagers is the same both in and out of poverty areas; in contrast, white unemployment rates range from 20 percent in poverty areas to 12 percent in nonpoverty areas.

factory jobs or in service industries. For the most part, unskilled Negro workers have not shared in the recent economic prosperity nor has their social and economic position been ameliorated by any of the changes in race relations that has occurred, e.g., lowering of racial barriers or Federal programs like the War on Poverty.

Relative to unskilled white workers, the earnings of unskilled Negroes remain as far behind as in 1957. In some cases real income has not appreciably changed as increases in wage rates have only kept pace with higher prices. For other unskilled Negro workers, the movement of industry to the suburbs has resulted in higher transportation expenditures because of the lack of suitable communication between the inner city and the outlying areas of the city. Also, the incidence of the color tax, the rent differential between white and Negro dwelling units, and consumer credit abuses fall mostly on low-income Negroes.

Urban Peasantry

Particular groups of unskilled Negro workers are almost completely locked out of the mainstream of the economy. Over twenty percent of the Negro labor in Chicago (75,000) is employed at incomes below the $3,000 poverty level, while another 10 to 12 percent (40,000) is either unemployed or out of the work force completely, i.e., they are discouraged workers. These 115,000 workers and their families form a black urban peasantry that constitutes a pool of redundant surplus labor.

Relative to the number of unskilled jobs that are available to these workers, there is an excess labor supply. Because these workers have not been equipped with the skills needed in today's labor market, they are technologically obsolescent and have to rely on welfare assistance to prevent incomes from falling below the subsistence level.

The size of Chicago's urban peasantry has remained the same over the past fifteen years. The labor market entry of Southern migrants and indigenous teenagers from Chicago's public schools offset the number of workers who have been able to find suitable jobs that allow a decent standard of living.

Two factors prevent a significant reduction in the size of Chicago's Negro urban peasantry. First, unlike past pools of urban unskilled labor who were able to assimilate throughout the entire society over time, these workers are confined to the bottom layers of the socio-economic scale by both racial discrimination and the decline in the use of unskilled labor in production. Second, the inadequate training given to Negro youngsters in the Chicago schools virtually insures that many Negro youngsters will enter the labor market with no marketable skills.

The conditions under which this urban peasantry work and live are responsible for the outbreaks of racial violence that occurred during the past year. Last summer's disturbances in Chicago's low-income, nonwhite neighborhoods, as well as those living in other cities involved both the unemployed and the employed poor. In many cases the motive for the looting was dire economic need. Behind the violence was the cry of our cities socially and economically deprived citizens that forms of economic security with dignity be provided.

Slum dwellers in Chicago's Westside and Puerto Rican areas of residence, in the Hough Area of Cleveland, and in the Watts Area of Los Angeles who are employed are concentrated in the least secure, least desirable and least rewarding jobs. Three out of four Negroes who live in these areas and who have jobs work either as low-paid, semi-skilled factory workers, or as unskilled laborers, or in the service industries. In contrast, only three out of ten white workers who live in officially designated poverty areas are in such lowly jobs.[1]

The Dual Labor Market[2]

If it were not for the tight labor market, the lowering of racial barriers in hiring, the retraining programs, and the high conscription rate of Negroes into the Armed Forces, the Negro labor force would be facing a major depression. The current rate of Negro unemployment, if it existed throughout the entire economy, would produce a national crisis.

High Negro unemployment, low incomes, and the existence of a black urban peasantry reflect a racial dualism in the structure of the Chicago labor market. In practice, the Chicago labor market consists of two sectors: a primary metropolitan job market in which firms recruit white workers and white workers look for jobs, and a smaller, secondary market in which firms recruit Negro workers and Negro workers look for jobs.[3] For both the white and Negro sectors of the job market there are distinct demand and supply forces determining earnings and occupational distribution as well as different practices and procedures for the recruitment, hiring, training and promotion of workers.

Racial dualism in the Chicago labor market is visible in many dimensions--by firm, by departments within firms, by industry, by occupation, and by geography. In general, Negro workers are hired by certain industries

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[1] James R. Wetzel and Susan S. Hollard, "Poverty Areas of Our Major Cities," Monthly Labor Review (October, 1966), p. 1108.

[2] This section is based upon "The Negro Worker in the Chicago Labor Market," Harold Baron and Bennett Hymer, Employment Service Review, August, 1966.

[3] In Chicago, the Negro job market is approximately one-seventh the size of the white job market.

and by particular firms within these industries. Within all industries, including government service, there is unmistakable evidence of occupational ceilings for Negroes. Within establishments that hire both white and Negroes, Negro workers are usually placed in specific job classifications and production units. A good rule of thumb is that the lower the pay, or the more disagreeable and dirty the job, the greater the chance of finding a high proportion of Negroes; or the lower the position on the occupational scale, the greater the chance that there will be integration for a particular job classification.

In a racially dual labor market, jobs are distributed between white and Negro workers through discrimination in a way that gives white workers first opportunity at employment. Over a long period of time the effect of the dual labor market structure is to confine the position of the Negro labor force to that of a surplus labor pool. Expansion of employment opportunities for Negro workers occurs only during periods of tight job markets when certain jobs transfer either partially or fully from the white to the Negro sector. Most firms actively recruit or hire Negro workers only when the pool of white labor is dried up. Also, as the size of the Negro population and its purchasing power increase, certain jobs open up in servicing the Negro community.

The dual labor market also means that Negro workers receive lower pay than white workers. A recent study has compared unskilled white and Negro workers in Chicago.[1] Of those included in the study the unskilled Negroes had more education and better job experience. Yet, the unskilled Negro workers earned 17 percent less for basically the same type of job. In two particular occupations considered in the study, Negroes earned less than whites even though they were better qualified on terms of their training and backgrounds--Negro material handlers earned 30 cents an hour less than white material handlers and Negro janitors earned 10 cents an hour less than white janitors.[2]

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[1] David P. Taylor, "The Market for Unskilled Negro Males in Chicago," (unpublished dissertation, University of Chicago, June, 1966).

[2] These figures also refute the argument that Negroes earn less than whites because they are less skilled; as indicated, the study compared whites and Negroes with similar backgrounds.

III. TECHNOLOGICAL CHANGE AND THE NEGRO LABOR FORCE

Technological developments in the Chicago economy include both the relocation of industry and the substitution of machine for manpower in production processes. These changes have had important repercussions on the Negro labor force resulting in a net decline in the number of jobs available to the Negro labor force.

The Movement of Industry

An on-going study by the U. S. Department of Labor reveals that during the last decade (1954-1965) more than half of all new industrial and mercantile buildings were constructed outside of the central cities of the nation's metropolitan centers.[1] In Chicago, the areas which have had the most growth between 1959-1963 in net industrial locations were the ones furthest removed from the Negro community, while the areas which had lost the most jobs were located inside the Negro community.

Housing segregation in both the suburbs and the city prevents Negro workers from finding suitable housing near those jobs that are far removed from Negro ghettos. A recent study estimates that residential segregation in Chicago had cost the Negro labor force by 1956 at least 30,000 jobs.[2] In view of the conditions that employment decentralization, i.e., distribution of jobs within the Chicago geographical area, is proceeding steadily, while Negro residential centralization is increasing, the problem is likely worsening and is probably more serious than the 1956 estimates suggest.

Housing segregation also means that jobs for unskilled Negroes in suburban areas represent difficult, costly and time-consuming trips from central residence areas where the majority of Chicago's unskilled Negro population live to suburban workplaces. Unlike low-income white workers, Negro workers cannot adapt their residential choices to their job locations and to available transit sources. The transit system that is available in Chicago to transport Negro workers from the ghetto to the outlying areas is slow, expensive and involves several transfers. In a recent study, it is estimated that as many as 112,000 Negroes might move from Chicago's ghetto to suburban residences if they were free to choose locations similar to those available to low-income whites.

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[1] National Committee Against Discrimination in Housing, "Housing Bias Bars Suburban Jobs," Trends, Volume X, No. 7 (October, 1966).

[2] John F. Kain, "The Big Cities Problem," Challenge, Volume 15, No. 1 (October, 1966), pp. 5-8.

[3] Ibid.

Automation

The substitution of machine for manpower has resulted in a decrease in the proportion of jobs that do not require more than a few years of high school and an increase in the proportion of jobs that require sophisticated or advanced training. It can be expected that as the Chicago economy industrializes even further, the shift from unskilled to semi-skilled and skilled jobs will continue.

The Effect of Automation on Unskilled Negro Workers

Negro workers are already the victims of automation and technological progress. Within a racially dual labor market structure in which the Negro labor force is overrepresented in unskilled occupations and underrepresented in semi-skilled and skilled occupations, automation results in a net job loss for the Negro labor force.

Most of the job losses for the Negro labor force resulting from automation occurs within the unskilled segment of the labor market thereby directly reducing employment for unskilled Negro workers. Because automation affects unskilled white workers as well, a secondary effect occurs. Given the shrinkage in employment for all unskilled workers, discrimination in hiring serves as a rationing device to distribute the available number of unskilled jobs disproportionately between the white and Negro labor forces.[1] Consequently, unskilled Negro workers have higher rates of unemployment than unskilled whites and have to accept employment at lower wages in industries where working conditions are not as favorable.

Semi-skilled and Skilled Negro Workers

Although semi-skilled and skilled Negro workers are in a position from which they may sometimes benefit from the creation of new jobs, they still cannot make as much progress as white workers in comparable positions. Most of the new job openings are filled by intra-firm placement and promotion. Few Negroes are already in positions from which they may quickly move up because of past discrimination in employment. Those Negroes who have made breakthrough usually lack the seniority to be offered these new jobs. Also, while discriminatory barriers in hiring have been lowered in many establishments, discrimination in promotion still prevents Negro workers from moving into new positions.

When automation does result in job loss in the semi-skilled and skilled occupations, the first workers laid off are usually those with the least seniority. Since Negroes are often the newcomers, they are the first to be laid off. The next occupational area to be affected

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[1] The role of discrimination as a rationing device probably occurs in semi-skilled and skilled occupations as well.

by automation probably will be clerical and office help where Negroes have just been entering. In essence, Negroes in these professions may have earned the right to the job at the same time that the job is disappearing.

IV. PUBLIC EDUCATION AND VOCATIONAL TRAINING FOR NEGROES IN CHICAGO

Many of the problems now experienced by the Negro labor force in Chicago--job loss because of automation, low wages, insecure employment--may be attributed to inadequate training. In fact, discrimination in education and training has become as significant an employment barrier as discrimination in hiring.

Presently, many employers have unfilled job openings at the same time that from 10 to 12 percent of the Negro labor force is either unemployed or out of the labor force completely and an indeterminate number of Negro workers are employed below their skill levels. This situation results because of past and present conditions surrounding Negro public school and vocational training in Chicago. Given the current demand for semi-skilled and skilled workers in the labor market, the training and skill levels of the Negro labor force are now out of balance with present employment conditions.

The manpower gap that now exists within the Negro labor force is not unusual in an economy where job openings can expand almost instantaneously because of an increase in production while at least twelve years of training and preparation are required to fill these openings. In the past, the educational level of the Negro labor force was not an important determinant of employment since discrimination in hiring automatically excluded Negroes from many areas of the labor market.

Almost all of Chicago's major institutions for vocational training and public education operate according to a dualism based on race. With few exceptions we find either that there is a separate set of facilities for Negroes or that there is deliberate and systematic exclusion of Negroes when only a single facility is available. Where separate schools are available, the Negro institution is always inferior. In those cases where there is integration, we find that only a token number of Negroes are allowed to pursue certain courses.

Segregation and discrimination in Chicago's educational and pre-job training facilities reflect the racially dual labor market structure. Chicago's public schools and other institutions of vocational training have adjusted to the racially dual demand for workers in the Chicago labor market by providing inferior educational facilities to Negro pupils. The inferior training received by Negroes in Chicago's public and vocational schools is in fact only a "logical" response of the Chicago school system to the prevailing pattern of segregation in employment and housing.

Since Negroes in Chicago are generally restricted to low-paying and unskilled jobs which seldom require formal education or advanced training, there has been very little economic pressure on the schools to provide adequate education and preparation for Negro youngsters. Ironically, within the present framework of Northern urban racism, the system whereby Negro youngsters receive inferior educations is an economically efficient one according to the narrow interpretation of social planning that a segregated society uses. Second-rate educations prepare Negro youngsters for the second-rate jobs to which the Negro labor force has been confined.

Public School Education

The status quo in employment in the Chicago labor market is as effectively maintained by discrimination in education as by discrimination in hiring. The current relationship between education in Chicago's schools for Negroes and their success in the labor market is best summed up by a statement by Professor Kenneth Clark, the noted Negro psychologist: "Personnel men need no longer exercise prejudicial decisions in job placement, the educational system in Chicago screens out Negroes for them."

By all standards of performance or measurement, Negro pupils in Chicago receive an inferior education. A typical Negro school in comparison to a typical white school has more overcrowding of pupils in the classroom, more inexperienced teachers, lower expenditures per pupil and inadequate supplementary services like libraries and laboratories.[1] Only one-half of the Negro pupils who enter the first grade graduate from high school. Of those who do graduate, many do not have the equivalent of a good grade school education.

One junior college in Chicago reported in 1960 that less than one-fourth of the entering Negro pupils had test scores that indicated they could make passing marks in a four-year college. Another reported that one-third of the entering class students, almost all of whom are Negroes, had to attend remedial classes to learn to read, write and do simple arithmetic before embarking on the junior college curriculum. These students were graduates of Negro high schools in Chicago, their median reading scores were at the eighth grade level.[2]

A study of welfare recipients in a selected Negro residential area in Chicago revealed that of those who had been educated in Cook County, and who had completed eight years or more of schooling, 29 percent

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1 John E. Coons, Civil Rights USA. Public School Sites in the North and West, 1962 Chicago, A report to the U. S. Commission on Civil Rights.

2 Chicago Urban League Testimony in DeFacto Segregation in Schools, U. S. House, Committee on Education and Labor, 89th Cong., 1st Session, pp. 120-121.

tested as functionally illiterate. That is, they had a fifth-grade reading level or less. Only 18 percent of the Chicago educated subjects included in the study could read at the level of the school grade they had completed.

In the Hauser Report on Public School Segregation, it was reported that in all-white schools the average ninth-grade reading score was 12 points above the city median while in all-Negro schools it was 27 points below the city median. The results of this situation are obvious. Negro dropouts are destined to remain unskilled workers for the rest of their lives if they are fortunate enough to find employment. Even Negro graduates of the Chicago school system find themselves at a competitive disadvantage because whites have received a better education.

Vocational Education[1]

Both technological developments in the Chicago economy and changes in the composition of Chicago-based industry have made the curriculum and equipment in Chicago's vocational schools outdated. In many instances the schools find it impossible to duplicate the equipment and processes now used by industry.

At the same time most large employers prefer to conduct their own technical or vocational training programs. Increasingly, employers require that new employees possess the basic intellectual skills that presumably result from a sound high school education. Because they receive inferior educations, Negro pupils often have difficulty meeting the basic reading and writing requirements of employers. When they are hired, it is usually for temporary jobs or for jobs in which there is little chance for advancement.

Most of the Negro vocational schools are grossly inferior to the white vocational schools. Three of the four Negro vocational schools have the least impressive physical facilities. Two of the schools have been considered so inadequate that their transformation into adult education centers was recommended. Of the four vocational high schools that are below the city average in terms of number of pupils graduated, three are predominately Negro. Attendance areas seem to be drawn in a way that establishes certain vocational schools as Negro and others as white. There is also evidence of a pattern of exclusion of Negroes from the white schools.

Vocational Counseling

Counseling falls into the general pattern of inadequate education for Negroes. Most of the Negro high schools do not have a full

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[1] This section is based on The Public Schools of Chicago, A survey by Robert J. Havighurst, Chapter XI (Chicago, 1964).

complement of certified counselors. In some schools the pupil-counselor ratio has been established at 350 to 1. Often the counselors do little counseling, spending their time performing petty disciplinary and administrative tasks.

But more important most counselors in the Negro school counsel within the context of a racially dual labor market structure. Because of inadequate information concerning job openings for Negroes, youngsters are still referred only to those occupations where it is known that Negroes are hired--teaching, postal service, etc. Many counselors are not aware of the expansion in career opportunities for Negroes.

On-The-Job and Pre-Job Training[1]

Several government sponsored training programs are now in operation to retrain workers for occupations in which there are known shortages of labor. A rough estimate would be that about 800 Negro workers are currently being retrained through On-The-Job Training and about 2900 through institutional training out of a total of 40,000 who are in need of such retraining.

These training programs have been limited by three factors:

(1) Only a small portion of the trainees are probably from the hard core unemployed. The process used to select applicants in these programs seems geared to selecting workers who represent the cream of the unemployed and underemployed. The only significant exception is the JOBS NOW Project which has been designed to reach young workers who have specific social handicaps--school dropouts, criminal records, etc.

(2) The programs are not large enough in scope or depth to include the vast number of workers who need retraining. At the present time only a handful of workers who need retraining receive it.

(3) Negro graduates of these retraining programs usually can only find jobs that lie within the dual labor market structure. In most cases, they encounter discrimination in hiring once they begin working. According to a recent U. S. Department of Labor survey, the nonwhite M.D.T.A. graduate earns 21 cents less an hour than the white M.D.T.A. graduate even though nonwhites in the program have higher educational levels.[2]

Apprenticeship

Traditionally, Negroes in Chicago, as in other cities, have been denied entry into most of the crafts and unions. In 1961 approximately one percent of the enrollees at the Washburne Trade School were Negro

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[1] The Urban League has an on-going On-The-Job Training Project involving some 400 trainees.

[2] U. S., Department of Labor, "Training of Public Assistance Recipients Under MDTA," Manpower Evaluation Report, April, 1966.

(26 out of 2,682). Out of 12 trades surveyed, only five had any Negro apprentices.[1] In 1965, only 97 out of the 2,834 apprentices enrolled at Washburne were Negro.[2] If we consider only the building trades, in 1965 there were 50 Negro apprentices, as of September, 1966, there were 147 Negro apprentices. Although this represents a substantial improvement in absolute numbers, it still does not come near a figure proportionate to the 33 percent Negro population in the age group relevant for apprenticeship.

Several barriers limit the entry of Negro youngsters into apprenticeship:

(1) There exists an information gap between the crafts and the Negro community concerning apprenticeship openings. Information about openings is not distributed on a mass basis to counselors in Negro high schools. Several schools do not even mention apprenticeship in their literature. Many Negro youngsters still believe that Negroes are still refused entry into certain crafts while other youngsters have no concept of a craft. The passage of information by friends or relatives concerning openings does not work in the case of the Negro work force since so few Negroes are already skilled mechanics or craftsmen. Also, many of the large shops that have openings are white owned and pass on the information to white workers only.

(2) Most unions still practice only tokenism, i.e., they hire or admit only a few Negroes to satisfy watchdog committees and agencies.

(3) Few crafts practice affirmative action whereby they actively seek out Negro youngsters for apprenticeship.

(4) There is a veil of secrecy on the part of unions as to how the selection and placement of applicants on the waiting lists are made. There are no guarantees or safeguards to prevent the unions from again discriminating once they have admitted a few Negroes.

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1 Chicago Area Chapter Negro American Labor Council, "Wanted: More Negro Apprentices at Washburne Trade Schools," in De Facto School Segregation, U. S. House, Committee on Education and Labor, 89th Cong., 1st Session, p. 215.

2 Chicago Commission on Human Relations, "Contractors Show Gain in Negro Apprentices," ibid., p. 352.

V. CONCLUSION

Racism in Chicago is manifested in segregated housing, in inferior education and in a racially dual labor market. The relationship in Chicago between the impact of technology on the Negro labor force and conditions in the public and vocational schools is clear cut. Negro workers are more likely to be victims of economic dislocation than white workers because they receive inferior training. In turn, this inferior training results from a racially dual labor market structure maintained by the existence of Northern urban racism.

Even with the tight labor market continuing, the income positions of semi-skilled and skilled Negro workers in Chicago will remain stationary relative to those of white workers. At the same time, employment conditions for unskilled Negro workers will continue to deteriorate so long as no significant changes occur in the school system and the labor market.

Moreover, the possiblity of the tight labor market maintaining itself for much longer may be very slim. In a recent speech, Dr. Andrew Brimmer, the Negro member of the Federal Reserve Board, stated that:

> "Negro job gains are large and Negro unemployment falls sharply only when the economy is growing at a 'real' rate--after adjusting for higher prices--of well over four percent a year as measured by the gross national product, such as the experience of 1964 and 1965 which were the best years in the Negro's employment history and in which the number of Negroes crossing the poverty line was impressive.
>
> "Current economic conditions with nearly full employment and inflationary pressures call for a moderation of the growth rate next year to four percent. This may mean not simply a slackening in the pace of improvement but a halt in further progress and even some rise in unemployment for nonwhite workers. Postwar experience shows that a four percent growth in the economy produced a growth in blue collar jobs of about three-quarters of one percent. Yet, the recent rate of growth for the nonwhite labor force has averaged about 1.5 percent a year."[1]

Our analysis has shown that despite the favorable conditions for Negro workers during the past two years, the Negro labor force still faces job loss through automation, rising unemployment, low wages and inferior

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[1] Andrew F. Brimmer, The Quests for Economic Stability and Equal Employment Opportunity, A Speech to The National Urban League Equal Opportunity Day Dinner, November 18, 1966.

training. The solutions to these problems require that strong joint measures be taken to eliminate employment discrimination, housing segregation, school segregation and inferior training. The current system whereby proportionately more Negroes than whites enter the labor market as unskilled workers will remain so long as Negro workers do not have the same access to education, employment and housing.

More specifically, the entire Chicago school system needs to be upgraded. As a minimum, standards of education in both Negro and white, public and vocational schools must be brought up to the levels of suburban schools. Educators in Chicago must not be allowed to write off Negro children as uneducable because current teaching methods are not designed to reach youngsters from low-income family backgrounds. Second, discrimination in housing, which limits the mobility of Negroes to jobs and schools, must be eliminated. Third, employers must not practice just tokenism in regard to integrating their labor forces but must actively recruit Negro workers and institute training programs designed to overcome deficiencies caused by past inequities.

In essence, equality of results in education, employment and housing rather than mere equality of opportunity must become our social goals, and there must be a definite timetable for reaching these objectives. In some cases, this can be accomplished by enforcing existing legislations; in other cases, by expanding or improving current programs; and, in still others, by developing new programs and legislation to attack particular problem areas. More specifically, governments at all levels, city, state and Federal, must cooperate to accomplish the following:

1. All employment data for Illinois and Chicago should be broken down by race. Presently, information on the nonwhite labor force is available only at ten-year intervals from the U. S. Bureau of Census. Such data would enable interested agencies to know in what areas of employment Negroes are over or under represented and are earning less than whites.

2. On-the-job training and institutional training programs should be expanded so as to include all workers in the Chicago area who require additional training in order to be meaningfully employed.

3. There should be effective Open Occupancy throughout the entire state so that Negroes can live near job openings and the better schools. Open occupancy laws should be passed at both Federal and State levels and special programs should be instituted to assist Negroes who desire to move out of the ghetto.

4. The quality of education in all schools in Chicago should be raised to the levels of the better suburban schools. The allocation of state expenditure on public education should be used to equalize educational standards throughout the State so that more money is spent on pupils who are most needy of better education.

5. The number of Negro apprentices in the Chicago area should be proportionate to the number of Negroes in the corresponding age group.

6. There should be rigorous enforcement of the Illinois FEPC law, Section VII of the Civil Rights Act, and Federal Executive Orders banning discrimination in employment.

7. Transportation between Negro areas of residence and the outlying regions of Chicago should be improved by both the development of economically rapid transit and inner-city highways.

8. Programs should be developed to encourage industry to relocate or remain in inner-city areas. An effective program involves special investment bonuses, tax concessions, good transportation routes, water and sanitation facilities, and land clearance of obsolete industrial and commercial tracts.

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VT 004 016
Benjamin, Gerald R.
Significant Job Success Factors Found in Work-Study Programs in Five Major New York State Cities. Final Report.

New York State Education Dept., Albany. Bureau of Occupational Education Research
Syracuse Univ., N.Y. Div. of Special Education and Rehabilitation
MF AVAILABLE IN VT-ERIC SET.
BOR-2
Pub Date - Jul67 323p.

*WORK STUDY PROGRAMS; *PROGRAM EVALUATION; GRADUATE SURVEYS; STUDENT ATTITUDES; GRADE POINT AVERAGE; PROGRAM ADMINISTRATION; COUNSELING EFFECTIVENESS; JOB TENURE; *SUCCESS FACTORS; URBAN SCHOOLS; *HIGH SCHOOL GRADUATES; *EMPLOYMENT; *VOCATIONAL EDUCATION; MENTALLY HANDICAPPED; PROGRAM DESCRIPTIONS
NEW YORK

The purpose of the study was to identify aspects found in secondary school vocational study programs that seem to be closely related to graduates' job success. Five variables relating to the work-study programs and four variables relating to job success were used as criteria in determining which graduates had been the most occupationally successful. Data were received from a random 20 percent of 246 of the graduates who participated in the vocational work-study programs in five major city school districts. Of the 20 hypotheses tested, only 2 were found to be significant at the .05 level of confidence: (1) The students' grade point averages will have a positive relationship to the "Dictionary of Occupational Titles" classification of graduates' jobs, and (2) Assignment of students to work-study job stations related to their major field will be realted to the proportion of students' time employed after graduation. Some of the findings relating to the programs were: (1) Approximately 76 percent of the sample felt the program had helped them since graduation, (2) Approximately 80 percent felt they did better in school work while in the program, (3) Only 21 percent of the males and 70 percent of the females were placed in work-study program situations complimenting and extending their vocational programs, and (4) Relative minor emphasis was given to the guidance function of the 5 work-study programs. Data relating to employment revealed that (1) About 69 percent had a job when they left school upon graduation and an additional 12 percent found jobs within 30 days, (2) Approximately 82 percent were earning more than $1.51 per hour, and (3) The graduates' success on the job related to placement in jobs for which they had received specific training. A summary of the study is given in VT 005 269. (MM)

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Final Report

BOR 2

SIGNIFICANT JOB SUCCESS FACTORS FOUND IN WORK-STUDY PROGRAMS IN FIVE MAJOR NEW YORK STATE CITIES

School of Education
Division of Special Education and Rehabilitation
Syracuse University
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The University of the State of New York
The State Education Department
Bureau of Occupational Education Research

July 1967

VT004016

ABSTRACT

BOR 2

SIGNIFICANT JOB SUCCESS FACTORS FOUND IN WORK-STUDY PROGRAMS IN FIVE MAJOR NEW YORK STATE CITIES

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July 1967

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Problem

With the passage of the Vocational Education Act of 1963 by Congress, approximately 45 percent of the school districts in the state of New York initiated work-study programs. The purpose of these programs has been to provide occupational training for secondary school students so that they might make a smooth entrance into the world of work.

Until the present study, no systematic attempt has been made to determine the degree to which the various programs have been fulfilling their purpose or to find out what aspects of work-study programs seem to contribute most directly to job success among graduates.

Design of Study

The present study was so constructed as to identify aspects of the work-study programs that seem to be most closely related to job success among the graduates. In order to do this, it was necessary to identify factors involved in job success that could be used as criteria in

determining which graduates had been the most successful occupationally. The Vocational Work-study Programs included in the present study were those operated by the city school districts of New York City, Rochester, Schenectady, Syracuse and Yonkers.

There were five educational program variables and four job success factors used as criteria in this study. The educational program variables selected were:

1. The proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program;
2. The students' grade point averages;
3. The number of hours of counseling;
4. The administrators' salaries;
5. Assignment of students to Work-Study job stations related to students' major field.

The job success factors are:

1. The D.O.T. classification of graduates' jobs;
2. The proportion of students' available time actually employed after graduation;
3. The students' actual job held upon graduation and the students' actual job potential;
4. The job salaries of program graduates.

It was on the foregoing criteria that the hypotheses of this study were based.

Hypotheses

This study was designed to test twenty hypotheses. These hypotheses are arranged for the sake of convenience in five groups of four hypotheses each according to the educational programmatic factors involved.

The first four hypotheses deal with the relationship of the proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program to job success factors.

H_1: The proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program will show a positive relationship to the D.O.T. classification of graduates' jobs.

H_2: The proportion of Work-Study Administrators to the number of students in the occupational program will show a positive relationship to the proportion of students' available time actually employed after graduation.

H_3: The proportion of Work-Study Administrators and Supervisors to the number of students in

the occupational program will show a positive relationship to the students' actual job held after graduation and students' job potential.

H_4: The proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program will show a positive relationship to the job salaries of program graduates.

The second group of hypotheses deals with the relationship of students' grade point averages to job success factors.

H_5: The students' grade point averages will show a positive relationship to the D.O.T. classification of graduates' jobs.

H_6: The students' grade point averages will show a positive relationship to the proportion of students' available time actually employed after graduation.

H_7: The students' grade point averages will show a positive relationship to the difference between the students' actual job held after graduation and students' actual job potential.

H_8: The students' grade point average will show a positive relationship to job salaries of program graduates.

The third group of hypotheses deals with the relationship of the number of hours of counseling to job success factors.

H_9: The number of hours of counseling will show a positive relationship to the D.O.T. classification of graduates' jobs.

H_{10}: The number of hours of counseling will show a positive relationship to the proportion of students' available time actually employed after graduation.

H_{11}: The number of hours of counseling will show a positive relationship to the difference between the students' actual job held after graduation and students' actual job potential.

H_{12}: The number of hours of counseling will show a positive relationship to the job salaries of program graduates.

The fourth group of hypotheses deals with the relationship of the administrators' salaries to job success factors.

H_{13}: The Administrators' salaries will show a positive relationship to the D.O.T. classification of graduates' jobs.

H_{14}: The Administrators' salaries will show a positive relationship to the proportion of students' available time actually employed after graduation.

H_{15}: The Administrators' salaries will show a positive relationship to the difference between the students' actual job held after graduation and students' actual job potential.

H_{16}: The Administrators' salaries will show a positive relationship to the salaries of program graduates.

The fifth and final group of hypotheses deals with the assignment of students to Work-Study job stations related to students' major field to job success factors.

H_{17}: Assignment of students to Work-Study job stations related to students' major field will show a positive relationship to D.O.T. classification of graduates' jobs.

H_{18}: Assignment of students to Work-Study job stations related to students' major field will show a positive relationship to the proportion of students' available time actually employed after graduation.

H_{19}: Assignment of students to Work-Study job stations related to students' major field will show a positive relationship to the difference between students' actual job held after graduation and the students' actual job potential.

H_{20}: Assignment of students to Work-Study job stations which are related to the students' major field will show a positive relationship to salaries of program graduates.

Instrumentation

Data for the study were gathered by means of three questionnaires which were designed specifically by the investigator to provide student information.

Job success factors were created on the basis of Dictionary of Occupational Titles (D.O.T.). The investigator, using a system involving each occupation's relationship to Data, People, and Things, and the total level of complexity of the job, placed the occupations in which the graduates of work-study programs were employed on a scale of nine categories which indicated job success levels.

By use of intelligence test scores, each student's actual job potential was calculated.

Results of Study

Of the twenty hypotheses tested, significant correlations were noted in only seven cases. The significant correlations in hypotheses five through seven indicated that the more successful the student in his school work, the higher success rating he received on his job. The significant correlations noted for hypotheses seventeen through twenty indicated that the closer the correspondence between job skills learned by the graduates while they were in the work-study programs with the skills required for their jobs after graduation, the higher order of success they experienced in employment.

Conclusions

1. The vocational work-study programs investigated in this study seemed to uphold the original intent of the Vocational Education Act of 1963.
2. Relatively little attention appeared to have been given to the problem of guidance in the

work-study programs surveyed by this study. In the light of this circumstance and because of the fact that there should be very close correspondence between skills taught in the school program and the jobs entered by the graduates, it was suggested that more federal monies should be devoted to guidance, that the communication among work-study supervisors, counselors, instructors, and State Education Department officials be effected and that closer contact be maintained between work-study program directors and representatives of the various vocational groups drawing on the program graduates.

3. Further research in the areas of employer satisfaction with graduates, power of work-study programs, skill level improvement of students in programs, comparative success of rural and urban programs, and educational experiences contributing most to success of graduates.

Final Report

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ACKNOWLEDGMENTS

I am deeply indebted to the many who have given me information concerning the genesis, the past, as well as the current operation of the Vocational Work-Study Program funded under Public Law 88-210. Among them are: Mr. Joseph L. Lundari, Project Director, Vocational Work-Study Program, New York City; Mr. Joseph Salemi, Consultant, Vocational Work-Study Program, Rochester; Mr. Lester E. Williams, Director of Vocational Education, Schenectady; Mr. Joseph Fanella, Coordinator, Vocational Work-Study Program, Syracuse; Mr. George Kleitz, Director of Vocational Education; and Mrs. Ann Q. McDonald, Director, Bureau of Guidance and Pupil Personnel Services, Yonkers.

Others who have supplied me with invaluable details concerning this study are those people in the Bureau of Occupational Education Research, New York State Education Department, Albany.

I owe debts of gratitude to Dr. William F. Benjamin, Professor, Pre-service Elementary Teacher Preparation, Syracuse University, for his criticism of the manuscript. Not least of all, I wish to thank Dr. G. Orville Johnson, Professor, Special Education and Rehabilitation Department, Syracuse University, for his guidance and supervision throughout the course of the study. I also owe special thanks to Mrs. Jean B. Gilman and Miss Mary M. Casby for their many kindnesses and helpfulness in putting the manuscript into final form.

G. E. B.

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CHAPTER I

INTRODUCTION

> While America is blessed with industrial power in the form of natural and human resources and technical skill, the individual, instead of becoming more secure and more important, is becoming increasingly more fearful and less significant in his social role and in his own eyes.[1]

According to the Education Policies Commission[2] a major goal of public education is "economic efficiency." The goal implies that every youngster, upon leaving public school, should be equipped to participate in the economy as both a producer and a consumer.[3] As universal education became more the reality and as automation lowered the availability of unskilled and semi-skilled jobs, more young adults were ill-prepared upon entering the job market.

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[1] B. O. Smith, "Social Perspective as the Basic Orientation of the Curriculum," Toward Improved Curriculum Theory, Supplementary Educational Monograph No. 71, ed. R. W. Tyler and V. Herrick (Chicago: University of Chicago Press, March, 1950), pp. 3-5.

[2] Educational Policies Commission, Planning for American Youth (Washington: National Education Association, 1951).

[3] U.S., Office of Health, Education and Welfare, Vocational Education Act of 1963, P. L. 88-210 (Washington: U.S. Government Printing Office, 1964).

The late President John F. Kennedy, in his State of the Union Message to Congress on January 14, 1963, stated:

> The future of any country which is dependent on the will and wisdom of its citizens is damaged, and irreparably damaged, whenever any of its children is not educated to the fullest extent of his capacity, from grade school through graduate school. Today, an estimated four out of ten students in the fifth grade will not even finish high school--and that is a waste we cannot afford.[1]

This prediction was supported by a report, published in 1965 by the National Education Association pertaining to school dropouts, that approximately 40 percent of American youth leave school before completing the twelfth grade.[2]

The U.S. Department of Labor reported:

> During 1962, about one out of four non-white teenagers in the labor force was unemployed, compared with about one out of eight white teenagers. Since 1955, the jobless rate among Negro youth has risen twice as fast as among white. . . . Non-white girls have a much higher unemployment rate than any other group in the entire labor force. . . . Only about one-fifth of the young Negro workers with a high school diploma have white-

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[1] John F. Kennedy, State of the Union Message, January 14, 1963.

[2] Ralph W. Tyler, "Background," The School Dropout, Project: School Dropouts, ed. Daniel Schreiber (Washington: National Education Association, March, 1965), p. 5.

collar jobs; more than one-half of the young white workers have such jobs.[1]

In 1963, the President's Committee on Youth Employment reported that there were more than one million young men and women under 22 who had left school and who were unemployed. "At any given time 30% of the high school dropouts will be unemployed; even high school graduates average 15% unemployed." It is quite clear that there is little room in the labor market for the "undereducated, unskilled young worker." Lacking jobs, "their badge of belonging," reports the President's Committee, these young men and women represent "tomorrow's castoffs and chronic dependents, those who will live in poverty of body and mind, and who will bring up their children in their own image."[2]

In 1964, The American Council on Education[3] reported that one-fifth of out-of-school youngsters, under 21 years of age, was unemployed, the proportion being higher than that prevalent during the depression.

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[1] U.S. Department of Labor, Office of Manpower, Automation, and Training, Young Workers: Their Special Training Needs (Washington: U.S. Government Printing Office, Bulletin No. 3, May, 1963), pp. 9-11.

[2] Grant Venn, Man, Education and Work, Postsecondary Vocational Education (Washington: American Council on Education, 1964), p. 12.

[3] Ibid., p. 2.

The Research Division of the National Education Association[1] points out that one in every three ninth graders fail to finish high school.

Daniel Schreiber, in 1965, stated that according to national statistics a relationship existed between grade of leaving school and types of jobs: the lower the grade completed, the lower the job.

> Of all white 16-24 year old male dropouts employed in October, 1962, 17% of those who had completed only elementary school or less were farm laborers and another 17% were nonfarm laborers, compared with only 7% and 12%, respectively, for those completing one to three years of high school. Moreover, the proportion of craftsmen was noticeably smaller among white female dropouts, those who had not finished at least one year of high school were more likely to be domestic workers or farm laborers and less likely to be clerical or sales workers.[2]

Reports have indicated that many school dropouts have a number of common characteristics:

1. are 16 or 17 years of age and are retarded by one or more grades;

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[1] Herbert Goldstein, "Social and Occupational Adjustment," Mental Retardation, ed. Harvey A. Stevens and Rick Heber (Chicago: The University of Chicago Press, 1965), p. 251, quoting The Research Division of the National Education Association.

[2] Daniel Schreiber, "The Rural School Dropout," Rural Youth in Crisis, Facts, Myths, and Social Change, ed. Lee G. Burchinal (Washington: U.S. Department of Health, Education and Welfare, Welfare Administration, Office of Juvenile Delinquency and Youth Development, 1965), p. 133.

2. are from low-income families;
3. are discouraged with their work or are failing at the time of leaving;
4. are dissatisfied with teaching methods;
5. have a feeling of 'not belonging';
6. leave because of the lure of the job;
7. are from weak or broken homes.[1]

According to Bedford and Steelhead,[2] the main reasons why boys and girls drop out of school are as follows:

1. laziness
2. lack of money
3. dissatisfaction in school
4. lack of encouragement at home
5. employment

Yet Grant Venn[3] states in Man, Education, and Work that "lack of interest" is by far the most frequent reason they give for leaving.

According to the United States Bureau of Labor

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[1] R. A. and L. M. Tesseneer, "Review of the Literature on School Dropouts," National Association of Secondary School Principals, XLII (May, 1958), 143.

[2] James H. Bedford and Albert F. Steelhead, "How to Prepare for Success," Occupational Exploration, A Guide to Personal Occupational Adjustment (Society for Occupational Research, Ltd., 1941).

[3] Venn, op. cit., p. 2.

Statistics,[1] marriage was a major reason given by girls for dropping out. It was stated that even though few boys gave this reason, it may well have been a hidden incentive for boys who dropped out "to go to work" not because of the need for economic independence but as "a prelude to courtship and marriage."

Even though the image of the dropout is of a dull, rebellious individual, a study completed by the United States Bureau of Labor Statistics[2] in 1961, involving 22,000 students showed no substantial difference in intelligence between the dropout and his age group as a whole. For example, two-thirds of the dropouts were in the IQ range of 90 to 109.

During the 1960's, the U.S. Department of Labor, Bureau of Labor Statistics predicted that some 26 million new young people--with extremely varying preparation and capabilities--will seek to enter the labor market. At least 7.5 million will be school dropouts--equipped with few, if any, job qualifications; and 2.5 million of these dropouts will have had less than eight years of formal

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[1] U.S. Bureau of Labor Statistics, From School to Work, The Early Employment Experiences in Seven Communities, 1952-1957 (Washington: U.S. Government Printing Office, 1961), p. 6.

[2] Ibid., p. 5.

schooling.[1,2]

In spite of some popular beliefs that dropouts are exclusively from working class and lower class or low income families, Miller reports that in Syracuse, New York, for example, "30 percent of the parents of dropouts were in white collar occupations."[3]

While dropping out of school is doubtless an inevitable fact of the educational process--it will continue to exist, so long as "successful" high school graduation is not compulsory.[4]

Although public concern has been addressed to the dilemma of the unemployed high school dropout, Capobianco and Jacoby[5] and Venn[6] discuss still another important problem--youth underemployment.

These facts, cited above, together with the predicted population increases were ominous. In a society

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[1]Daniel Schreiber (ed.), "Introduction," The School Dropout, Project: School Dropouts (Washington: National Education Association, March, 1965), p. 2.

[2]U.S. Bureau of Labor Statistics, op. cit., p. 1.

[3]S. M. Miller, "Dropouts--A Political Problem," The School Dropout, Project: School Dropouts (Washington: National Education Association, March, 1965), p. 11.

[4]Ibid.

[5]R. J. Capobianco and Helen B. Jacoby, "The Fairfax Plan: A High School Program for Mildly Retarded Youth," Mental Retardation, IV (June, 1966), 15-20.

[6]Venn, op. cit., pp. 13-15.

rapidly demanding higher and more intensive training, fewer youth would have even marginally marketable skills.

Consequently the federal government inaugurated financial assistance programs to:

1. assist students directly by providing part-time work;
2. assist existing programs to add specialists in guidance, counseling, special education;
3. assist schools in initiating work-study programs.

Such programs are illustrated by the Vocational Education Act of 1963, P.L. 88-210; the Economic Opportunity Act of 1964, P.L. 88-452; and the Elementary and Secondary Education Act of 1965, P.L. 89-10.

The rationale behind all these programs can be summarized as the creation, upgrading, and addition of school offerings to persons between 15 and 21 years of age, both in and out of school. The support is available regardless of ability levels. Most employment opportunities will require a minimum of a high school education[1,2] although there is no expected decrease in the number of

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[1] Roslyn Kane, Technical and Trade Employment of Youth in the Detroit Metropolitan Area (Detroit: Detroit Commission of Children and Youth, 1960).

[2] U.S. Department of Labor, Manpower-Challenge of the 1960's.

service level jobs.[1]

The single most important aim of a good education today is to inculcate in students a "receptivity" toward continuous education. Education must reflect a definite commitment to the tenet that learning is a lifelong process. This is especially true in vocational education because the technical growth of society causes "steady attrition and obsolescence among acquired skills."[2]

"Full employment in this country depends on full education."[3]

Statement of the Problem

A major concern of thoughtful people now is the vast sums of money that have been put into high school vocational programs since 1963. During the fiscal year ending June 30, 1966, for example, Congress approved the appropriation of $177,500,000 for P.L. 88-210. New York

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[1] Edward I. Maher, Automation--A Background Memorandum (New York: National Association of Manufacturers, 1960), p.

[2] George E. Arnstein, "Vocational Education," The School Dropout, Project: School Dropouts, ed. Daniel Schreiber (Washington: National Education Association, March, 1965), p. 61.

[3] W. Willard Wirtz, Statement before the Subcommittee on Education, Senate Committee on Labor and Public Welfare, on S. 580, "National Education Improvement Act of 1963," April 30, 1963, p. 1.

State's actual share for school program youths from 15 through 20 years exceeded $3,000,000. In addition, federal funds in the amount of $225,000,000 have been authorized under the Law,[1] for the fiscal year ending June 30, 1967 and for each fiscal year thereafter. Yet the funds that have been specified for evaluation of the several different programs and research concerning their relative achievement of economic efficiency have been little and virtually ineffective.[2]

A review of the literature reveals that there are no projects in which the relative merits of the Vocational Work-Study Programs operating under P.L. 88-210 were studied for evaluative purposes and that no such research is currently being funded by the U.S. Office of Education.

The present study was so constructed as to identify aspects of the work-study programs that seem to be most closely related to job success among the graduates. In order to do this, it was necessary to identify factors involved in job success that could be used as criteria in determining which graduates had been the most successful occupationally. The Vocational Work-Study Programs

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[1] Vocational Education Act of 1963, P.L. 88-210, 88th Congress, H.R. 4955, December 18, 1963.

[2] "The Vocational Education Act of 1963 (P.L. 88-210)," Vocational Education Needs in Oswego and Onondaga Counties (Utica: Part-Gray Publications, Inc.), p. 38.

included in the present study were those operated by the city school districts of New York City, Rochester, Schenectady, Syracuse and Yonkers.

Assumptions

1. It must be assumed for this study that school records are adequate, and accurate for the gathering of pertinent data.
2. It is assumed that the graduates' ratings of various aspects of their Work-Study Programs and their personal data will be accurate and relatively objective.
3. It is assumed that the data received from the Work-Study Administrators and Supervisors in all districts will be accurate.
4. While it is assumed that the Work-Study Administrators and Supervisors are certified for their positions, it must also be assumed that they may not necessarily be qualified to teach Vocational Work-Study Program high school students their job.

Limitations

1. Only five New York State urban school districts have been included in this investigatory study.

2. Only those senior students who were graduated in June, 1966, were chosen to be participants in this study.

3. Inasmuch as the population chosen for study was graduated in June, 1966, the degree of achievement within each student's selected field of work was limited to a seven month period available for actual full-time employment following graduation.

Significance of the Study

It is hoped that the present study will fulfill the following functions:

1. Provide guidelines for the development and administration of work-oriented vocational training programs in urban areas of New York State.

2. Provide information of value to school administrators in choosing those students who are eligible for participation in the Vocational Work-Study Program.

3. Provide decision-making information to the New York State Education Department in distribution of federal assistance and in the limitation or expansion of funds to future occupational programs for youth with special needs.

4. Provide the bases for future evaluation of funded work-study programs in other than the urban areas studied.

Job Success Criteria

There are five educational variables and four factors related to job success. These will be used as criteria to determine the relationship between students' economic efficiency level and the types of programs from which the students were graduated.

The educational program variables are:

1. The proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program.
2. The students' grade point averages.
3. The number of hours of counseling.
4. The Administrators' salaries.
5. Assignment of students to Work-Study job stations related to students' major field.

The job success factors are:

1. The D.O.T. classification of graduates' jobs.
2. The proportion of students' available time actually employed after graduation.

3. The students' actual job held upon graduation and the students' actual job potential.

4. The job salaries of program graduates.

The hypotheses of this study are based on the foregoing educational program variables and job success factors.

Hypotheses

This study is designed to test twenty hypotheses. These hypotheses are arranged for the sake of convenience in five groups of four hypotheses each according to the educational programmatic factors involved.

The first four hypotheses deal with the relationship of the proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program to job success factors.

H_1: The proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program will show a positive relationship to the D.O.T. classification of graduates' jobs.

H_2: The proportion of Work-Study Administrators to the number of students in the occupational program will show a positive relationship to the proportion of students' available time actually employed after graduation.

H_3: The proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program will show a positive relationship to the students' actual job held after graduation and students' job potential.

H_4: The proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program will show a positive relationship to the job salaries of program graduates.

The second group of hypotheses deals with the relationship of students' grade point averages to job success factors.

H_5: The students' grade point averages will show a positive relationship to the D.O.T. classification of graduates' jobs.

H_6: The students' grade point averages will show a positive relationship to the proportion of students' available time actually employed after graduation.

H_7: The students' grade point averages will show a positive relationship to the difference between the students' actual job held after graduation and students' actual job potential.

H_8: The students' grade point averages will show a positive relationship to job salaries of program graduates.

The third group of hypotheses deals with the relationship of the number of hours of counseling to job success factors.

H_9: The number of hours of counseling will show a positive relationship to the D.O.T. classification of graduates' jobs.

H_{10}: The number of hours of counseling will show a positive relationship to the proportion of students' available time actually employed after graduation.

H_{11}: The number of hours of counseling will show a positive relationship to the difference between the students' actual job held after graduation and students' actual job potential.

H_{12}: The number of hours of counseling will show a positive relationship to the job salaries of program graduates.

The fourth group of hypotheses deals with the realtionship of the Administrators' salaries to job success factors.

H_{13}: The Administrators' salaries will show a positive relationship to the D.O.T. classification of graduates' jobs.

H_{14}: The Administrators' salaries will show a positive relationship to the proportion of students' available time actually employed after graduation.

H_{15}: The Administrators' salaries will show a positive relationship to the difference between the students' actual job held after graduation and students' actual job potential.

H_{16}: The Administrators' salaries will show a positive relationship to the salaries of program graduates.

The fifth and final group of hypotheses deals with the assignment of students to Work-Study job stations related to students' major field to job success factors.

H_{17}: Assignment of students to Work-Study job stations related to students' major field will show a positive relationship to the D.O.T. classification of graduates' jobs.

H_{1s}: Assignment of students to Work-Study job stations related to students' major field will show a positive relationship to the proportion of students' available time actually employed after graduation.

H_{1s}: Assignment of students to Work-Study job stations related to students' major field will show a positive relationship to the difference between students' actual job held after graduation and the students' actual job potential.

H_{2o}: Assignment of students to Work-Study job stations which are related to the students' major field will show a positive relationship to salaries of program graduates.

Definitions

In keeping with its purpose and intent, definitions 1 through 6 here cited are quoted from P.L. 88-210:

1. Vocational Education Act of 1963, P.L. 88-210

   It is the purpose of this part to authorize Federal grants to States to assist them to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, and to provide part-time employment for youths who need the earnings from such employment to continue their vocational training on a full-time basis,

so that persons of all ages in all communities of the State--those in high school, those who have completed or discontinued their formal education and are preparing to enter the labor market but need to upgrade their skills or learn new ones, and those with special educational handicaps--will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training.[1]

2. Vocational education

The term "vocational education" means vocational or technical training or retraining which is given in schools or classes (including field or laboratory work incidental thereto) under public supervision and control or under contract with a State board or local educational agency, and is conducted as part of a program designed to fit individuals for gainful employment as semiskilled or skilled workers or technicians in recognized occupations (including any program designed to fit individuals for gainful employment in business and office occupations, and any program designed to fit individuals for employment in occupations which the Commissioner determines, and specifies in regulations, to be generally considered professional or as required a baccalaureate or higher degree). Such term includes vocational guidance and counseling in connection with such training, instruction related to the occupation for which the student is being trained or necessary for him to benefit from such training, the training of persons engaged as, or preparing to become vocational education teachers, teacher-trainers,

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[1] Vocational Education Act of 1963, p. 1.

supervisors, and directors for such training, travel of students and vocational educational personnel, and the acquisition and maintenance and repair of instructional supplies, teaching aids and equipment, but does not include the construction or initial equipment of buildings or the acquisition or rental of land.[1]

3. State

The term "State" includes, in addition to the several states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and the American Samoa.[2]

4. Local educational agency

The term "local educational agency" means a board of education or other legally constituted local school authority having administrative control and direction of public elementary or secondary schools in a city, county, township, school district, or political subdivision in a State, or any other public educational institution or agency having administrative control and direction of a vocational education program.[3]

5. High school

The term "high school" does not include any grade beyond grade 12.[4]

6. Student eligibility

. . . employment under such work-study program shall be furnished only to a student who (A) has been accepted for enrollment as a full-time student in a vocational education program which meets the standards prescribed by the State board and the local educational agency for vocational education programs assisted

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[1] Ibid., p. 6.
[2] Ibid., p. 7.
[3] Ibid.
[4] Ibid.

under the preceding sections of this part, or in the case of a student already enrolled in such a program, is in good standing and in full-time attendance, (B) is in need of the earnings from such employment to commence or continue his vocational education program, and (C) is at least fifteen years of age and less than twenty-one years of age at the commencement of his employment, and is capable, in the opinion of the appropriate school authorities, of maintaining good standing in his vocational education program while employed under the work-study program. . . .[1]

The remaining definitions are derived from other sources as indicated.

7. Federal, State or local "public agencies or institutions," as mentioned in Part 4 of Sec. C. of Part 2 of Sec. 13, "Work-Study Programs for Vocational Education Students," of P.L. 88-210, are suggested in Youth Work-Study Program, Summary and Suggested Development:

   Public agency; public institution

   Courts; housing authorities; libraries; mental institutions; municipal departments, such as, police, fire, welfare, and public health; parks and playgrounds; schools.[2]

8. D.O.T. job classification: (The occupational classification and code as used in the Dictionary of Occupational Titles)

   The occupations in the Dictionary have been incorporated into a classification structure in which the individual occupations are

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[1] Ibid., p. 11.

[2] Youth Work-Study Program, Summary and Suggested Development (Albany, N.Y.: The University of the State of New York, The State Education Department, Divison of Special Occupational Services), p. 2.

identified by 6-digit code numbers. . . . Throughout this arrangement, jobs are grouped according to a combination of work field, purpose, material, product, subject matter, service, generic term, and/or industry, as reflected in the first three digits of the code. All occupations are grouped into nine broad categories, which, in turn, are divided into divisions and then groups . . . the last three digits of the code number can express the total level of complexity at which the job requires the worker to function.[1]

9. Specific vocational preparation (SVP)

The amount of time required to learn the techniques, acquire information, and develop the facility needed for average performance in a specific job-worker situation. This training may be acquired in a school, work, military, institutional, or avocational environment. It does not include orientation training required of even every fully qualified worker to become accustomed to the special conditions of any new job. Specific vocational training includes training given in any of the following circumstances:

a. Vocational education (such as high school commercial or shop training, technical school, art school, and that part of college training which is organized around a specific vocational objective);

b. Apprentice training (for apprenticeable jobs only);

c. In-plant training (given by an employer in the form of organized classroom study);

d. On-the-job training (serving as learner or trainee on the job under the instruction of a qualified worker);

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[1]U.S., Department of Labor, Manpower Administration, Dictionary of Occupational Titles, Definitions of Titles, I (3d ed.; Washington: U.S. Government Printing Office, 1965), pp. xvi-xviii.

e. Essential experience in other jobs (serving in less responsible jobs which lead to the higher grade job or serving in other jobs which qualify).[1]

10. Job potential

The job potential of a student is determined by equating the student's IQ[2] with a job level derived from the D.O.T. The IQ range represented by the graduates included in the present study was distributed on a stanine scale as follows:

Stanine	IQ Range
1.	0 - 75
2.	76 - 83
3.	84 - 88
4.	89 - 94
5.	95 - 102
6.	103 - 108
7.	109 - 115
8.	116 - 122
9.	123+

It was found that there were 32 occupational levels represented by the graduates.

11. Work adjustment

The term work adjustment will refer to an individual's ability to perform his job to his employer's satisfaction.

12. Slow learner

The term slow learner will refer to those students whose measured intelligence quotients are within the range of 75 to 90.

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[1] Ibid., p. 652.

[2] Intelligence test scores and grade point averages gathered in SHF, Section B are found in Appendix N.

13. Mentally handicapped

The term mentally handicapped will refer to those individuals whose measured intelligence quotients are within the range of 50 and 75.

14. Work experience

Work experience is a practical activity in the production or distribution of goods or services carried on under normal working conditions in business, in industry, in professional or institutional fields, or in the community, to further civic or occupational competence in youth.[1]

15. Advisory groups or committees

Advisory groups or committees are composed of several persons representing the various agencies interested in the cooperative work experience program. Usually included are school administrators, coordinator, businessmen, labor groups, and representatives of other agencies affected by the program.[2]

16. Business education

Business education includes any type of training for business occupations. Most experts now say that business education includes training for the two broad areas of distributive occupations and clerical office positions. The classes may be general in nature or they may have the vocational objective.[3]

17. Cooperative part-time work experience program

Cooperative part-time work experience program is a cooperative training program worked out together by the school, students, and

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[1] Wilson H. Ivins and W. B. Runge, Work Experience in High School (New York: The Ronald Press Co., 1951), p. 4.

[2] Ibid., p. 165.

[3] Ibid.

businessmen. Students attend school part time and work part time in an actual job in the cooperating business. It is a planned and supervised on-the-job, work experience program, including training. It may be operated for any specific type of work or occupational area.[1]

18. Cooperative office practice work experience program

The cooperative office practice work experience program is a cooperative program in which the students work in office and clerical occupations.[2]

19. Coordination

Coordination refers to the functions and duties of the coordinator. These include making contacts with businessmen, students on the job, and parents, with making adjustments and trying to bring the material taught in the classroom into direct relationship with the student trainee's work experience on the job.[3]

20. Coordinator

The coordinator is the individual who is in direct charge of the cooperative work experience program. He coordinates, regulates, adjusts, and in many cases teaches the vocational class period. A school may have as many coordinators as it has cooperative work experience programs. A coordinator who also teaches is referred to as a coordinator teacher.[4]

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[1] Ibid.

[2] Ibid.

[3] Ibid.

[4] Ibid.

21. Distributive education

Distributive education is a cooperative work experience program in which the students work in distributive occupation.[1]

22. Distributive occupation

A distributive occupation is one in which the worker is engaged in the distribution of goods or services. These workers may be distributing goods or services to consumers, retailers, jobbers, wholesalers, and others.[2]

23. Diversified occupations

Diversified occupations is a cooperative work experience program in which students work in any type of occupation and also attend school part time. A majority of such students are usually placed in trade and industrial occupations.[3]

24. Job instruction

Job instruction is the actual teaching and supervision given to student trainees on their jobs. A department head, manager, floorwalker, or other regular worker may give job instruction.[4]

25. Related-subjects class

A related-subjects class is one in which it is intended to broaden the vocational knowledge, understanding, morale, and judgment of the trainee. Background courses, such as business mathematics, speech, business letter-writing, mechanical drawing, and psychology are examples of related-subjects classes.[5]

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[1] Ibid.

[2] Ibid.

[3] Ibid., p. 166.

[4] Ibid.

[5] Ibid.

26. Job station

A job station is any tax-supported institution which employs student learners for the purpose of training them and cooperates with the school in the cooperative work study program.

CHAPTER II

REVIEW OF THE LITERATURE

A Paradox

> All of the important formulations of education's social goals in this century have mentioned explicitly the school's responsibility for some kind of vocational education. In the Seven Cardinal Principles it was preparation for 'vocational efficiency.' Of the four major aims defined by the Educational Policies Commission, one was 'economic efficiency.' Three of the ten objectives listed by the National Education Association Committee on Social-Economic Goals of America were 'suitable occupation,' 'economic security,' and 'equality of opportunity.' Only a few voices have been raised in protest, insisting that formal education, at least through the 14th year, should be exclusively general in character and primarily intellectual, leaving to special agencies and institutes the task of vocational preparation. The predominant view, however, has been a cordial acceptance of considerable responsibility for vocational education.[1]

In spite of this open commitment of acknowledged responsibility for vocational education, Norman C. Harris[2] declares that one of the biggest tasks facing the

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[1] Lawrence G. Thomas, The Occupational Structure and Education (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1956), p. 9.

[2] Norman C. Harris, "Meeting the Post-High Educational Needs of the Vast 'Middle Group' of High School Graduates," Presentation to the Committee on Articulation of Schools and Colleges (Chicago: North Central Association of Colleges and Secondary Schools, March 19, 1963).

American high school today is to make its curriculum meaningful to students: this meaning must be found in curricula pertaining to the world of work. In effect, schools must become what Reissman and Hannah[1] refer to as "positive human."

Indeed, those students who plan on terminating their formal educational training upon completing high school should be enrolled in courses which will prepare them for their future occupations.[2]

Current curricula designed for non-college bound students are inadequate in terms of preparing youth for economic efficiency,[3,4,5] even though a major focus in education has been the ability of the high school student to have a saleable skill that is marketable in the world of work. This focus was aroused because of the heightening

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[1]Frank Reissman and Arlene Hannah, "Teachers of the Poor," The Disadvantaged Child, Issues and Innovations, ed. Joseph L. Frost and Glenn R. Hawkes (Boston: Houghton Mifflin Co., 1966), p. 345.

[2]W. L. Warner, R. J. Havighurst and M. B. Loeb, Who Shall Be Educated? (New York: Harper and Brothers, 1944), p. 160.

[3]Jacob B. Zack, "The Best Place for Vocational Education, The Comprehensive High School," N.E.A. Journal, LIV (May, 1955).

[4]M. Sanders, "Vocational Education in the Central Schools," Central Ideas (November, 1965), p. 14.

[5]Walter M. Arnold, "New Directions in Vocational Education," American Vocational Journal (October, 1964), p. 1.

statistical reports on dropouts, or as Labor Secretary W. Willard Wirtz states, "push-outs," teen-age unemployment, underemployment, automation and the lack of semi-skilled and unskilled jobs. That millions of today's youth have not received adequate occupational education authenticates a serious shortcoming of our educational system.

Taba writes:

> The curriculum has become 'the amorphous product of tinkering'--a patchwork. This piecemeal approach is continuing today, when additions and revisions in certain areas are made without reconsidering the entire pattern, and when acceleration in one part of the school system is recommended without corresponding changes in the next.[1]

In spite of the fact that millions in federal monies have recently been allocated for vocational school programs, the lack of evaluative data pertaining to vocational work-study programs makes it difficult to describe what has been done or what should be or could be done with these programs.

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[1] Hilda Taba, "An Approach to Designing the Curriculum," Curriculum Development, Theory and Practice (New York: Harcourt, Brace and World, Inc., 1962), p. 8.

The History of Vocational Education

Until the advent by gradual stages of the Industrial Revolution in the eighteenth and nineteenth centuries, education for vocational competence was mainly left to the master-apprentice, father-son, proprietor-worker relationship.[1,2,3,4] With the advance of modern technology, however, an understanding of theory as well as practice became essential to the correct performance of many skills; the apprenticeship system was no longer adequate.[5]

In response to this situation first the Knights of Labor[6] and later the American Federation of Labor promoted not only technical training but general education for workers through night courses and vocational schools.

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[1] Charles A. Bennet, History of Manual and Industrial Education up to 1870 (Peoria: The Charles A. Bennett Co., 1926), p. 13.

[2] Edward M. Roden, "Identifying Strengths and Weaknesses of Vocational Industrial Teachers for Purposes of Professional Training" (unpublished Doctoral dissertation, Syracuse University, 1951), p. 1.

[3] James Mulhern, A History of Education (New York: The Ronald Press, Co., 1946), p. 28.

[4] Ivins and Runge, op. cit., p. 23.

[5] Venn, op. cit., p. 39.

[6] A. H. Edgerton, "Industrial Arts Education," Objectives and Problems of Vocational Education, ed. Edwin A. Lee (New York: McGraw-Hill Book Company, Inc., 1928), p. 329.

It was the American Federation of Labor that finally introduced a bill for federal support for vocational education.[1] The passage of this bill, The Smith-Lever Act, in 1914 set the stage for future government legislation in vocational education.

Federal Legislation and Federal Work Experience Programs

> The interest of the Federal Government in providing aid for education extends over a long span of years. . . . In its inception the interest was evidenced in legislation for the support of general education rather than specific programs of vocational education or of work experience.
>
> The general welfare clause (Art. 1, Sec. 8) of the Constitution has been found broad enough to warrant the use of federal funds for educational purposes throughout our history.[2]

The General Welfare Clause provides that: "The Congress shall have the power to lay and collect taxes, duties, imposts and excises, to pay the debts and provide for the common defense and general welfare of the United States. . . ."

Ivins and Runge state that the "constitutionality of Congressional acts applying to education has been upheld on this basis consistently."[3]

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[1]Arthur E. Holder, "Labor's Share in National Legislation for Vocational Education," Objectives and Problems of Vocational Education, ed. Edwin A. Lee (New York: McGraw-Hill Book Company, Inc., 1928), pp. 369-79.

[2]Ivins and Runge, op. cit., p. 29.

[3]Ibid.

The Smith-Lever Act of 1914,

> provided for extension services by county agricultural agents, home demonstators, 4-H leaders, and specialists in agriculture and homemaking, and for the professional training of teachers in these subjects.[1]

It is significant that this was the first time in which states were required to match federal educational funds.

The Commission on National Aid to Vocational Education, created in 1914 by the Sixty-third Congress, expressed the belief that:

> . . . The Smith-Lever Act provides wisely and liberally through national grants to the States for agricultural education . . . yet the provisions . . . need to be supplemented by national grants to the States for teachers, supervisors, and directors of agricultural subjects in district agricultural high schools or in agricultural departments of rural high schools.[2]

The first of all direct federal aid to vocational education on the secondary level was the Smith-Hughes Act, passed in 1917, which allocates an annual expenditure of seven million dollars for trade and industrial, vocational agricultural and home economics education. Until 1963,

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[1]Edgar L. Morphet, R. L. Johns and Theodore L. Reller, "The Federal Government and Education," Educational Administration: Concepts, Practices, and Issues (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1959), pp. 175-76.

[2]As quoted by Z. M. Smith, "Agricultural Education in Secondary Schools," Objectives and Problems of Vocational Education, ed. Edwin A. Lee (New York: McGraw-Hill Book Company, Inc., 1928), p. 84.

its major provisions were not amended and its state grants perpetually guaranteed.

During the period in which the act was signed, the majority of American workers were engaged in farming and industrial occupations. In addition to funds for teacher training and administrative services, the act provided for categorical restrictions alloting 50 percent for those "preparing to enter upon the work of the farm or farm home," and 50 percent for those "preparing to enter upon the work of a trade or industrial pursuit"; of the latter classification, 20 percent may be used for home economics instruction. These restrictions have been altered slightly by the 1963 amendment.[1]

> The act created a Federal Board for Vocational Education, composed of the Secretaries of Agriculture, Labor, and Commerce, the United States Commissioner of Education, and three citizens representing industry, agriculture, and labor. . . . By the end of the year all forty-eight states had, as the act required, submitted plans for approval; since few states had any relevant experience, these generally followed a uniform topical outline prepared by . . . the Federal Board staff. Because of this circumstance and the fact that the Smith-Hughes Act offered categorical aid only within narrowly defined limits, the Federal influence in the development of state programs was strong.[2]

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[1] Venn, op. cit., p. 112.

[2] Ibid., p. 59.

Some of the stipulations were student eligibility, facilities, curriculum form and content, program grade and level, length of school week and year, and instructor and administrator qualifications.[1]

Previous to enactment of the Smith-Hughes Act in 1917, New York State's vocational education program had already developed. Without a doubt this earlier program was influential in the drafting of the original federal rules.[2]

> . . . The educational leadership administering the high schools in the early part of the twentieth century was concerned much more with college preparatory education than education to meet the needs of all pupils of secondary school age. Therefore, the Federal acts providing financial support for vocational education were, in actuality, a lay revolt from the prevailing educational leadership.[3]

Although some Federal control of vocational education was provided by the Smith-Hughes Act, much of the control was delegated to the states. This act and subsequent legislation greatly stimulated vocational education programs.[4]

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[1] U.S. Office of Education, Administration of Vocational Education: Rules and Regulations, Vocational Education Bulletin No. 1 (Washington: U.S. Government Printing Office, 1917; rev. 1958).

[2] Norton, op. cit., p. 115.

[3] Morphet, Johns and Reller, op. cit., p. 177.

[4] Ibid.

> In 1929 Congress passed the George-Reed Act which authorized appropriations supplementary to those of the Smith-Hughes Act. They began at $500,000 and increased by that amount each year until a total of $2,500,000 was reached.
>
> The limited nature of the George-Reed Act caused apprehension among leaders in vocational education in 1934 as they looked forward to reduced programs resulting from discontinuance of its appropriations.[1]

When the George-Reed Act lapsed in that year, Congress passed the George-Ellzey Act, alloting three million dollars to be divided equally for vocational programs in agriculture, trades and industry, and home economics during the ensuing three years. The appropriations were to be on the basis of farm, non-farm, and rural populations in the states and territories.[2]

Russell,[3] in his discussion of the background of the George-Deen Act of 1936, expressed the belief that expiration of appropriations of the George-Ellzey Act indicated decreased federal support for vocational education, and thus, was responsible for efforts for enactment of additional aid legislation.

> The George-Deen Act gave tremendous impetus to both the cooperative distributive occupations and diversified occupation types of work experience programs. Its close adherence to the form

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[1] Ivins and Runge, op. cit., p. 32.

[2] Ibid.

[3] Russell, op. cit., pp. 291-300.

> and intent of the Smith-Hughes Act is striking. Its chief feature was the addition of new funds to the broad general program initiated under the Smith-Hughes Act, and the guarantee of those funds on a permanent basis. The main innovation was the specific provision for distributive occupations training which could have been supported by Smith-Hughes funds but had not been for a variety of reasons.[1]

By 1933, the United States was in its greatest financial depression. Franklin D. Roosevelt's New Deal, which was designed to break the depression, included several measures to improve the economic situation of the people. Even though they were designed to be relief measures, many of them affected education.

In March of 1933, Congress enacted legislation creating the Civilian Conservation Corps (CCC) to relieve unemployment, specifically for the "relief and rehabilitation" of unemployed youth.[2,3]

> It is difficult to estimate the effect of the CCC program upon work experience in public schools. Certainly the demonstrated aversion of the public schools to cooperation with the CCC camp in a variety of ways indicated a negative effect. . . . It seems possible . . . that some part of the negative interest . . . may have come from an awareness that a federal agency could effectively do a job which the schools should, but could or would not do.[4]

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[1] Ivins and Runge, op. cit., p. 33.

[2] Morphet, Johns and Reller, op. cit., pp. 177-78.

[3] Ivins and Runge, op. cit., p. 33.

[4] Ibid., p. 35.

By 1937, the CCC had developed an extensive educational program. There were 2.7 million enrollees participating in some type of educational program under the CCC between 1934 and 1941. The improved economic conditions of the early 1940's resulted in Congress' failure to continue appropriations for CCC and the agency was abolished in 1943.[1,2]

Another relief agency administered under the auspices of the Federal Emergency Relief Program was the National Youth Administration (NYA), which was even more closely linked with the public schools and colleges than the CCC. The NYA was established in 1935 by executive order for the initial purpose of providing work relief for unemployed youth of 16 to 25 years of age who were not full time students. The financial benefits of the agency motivated many high schools to initiated programs of work experience.[3,4]

> Many of the recommendations of NYA policy makers, and many improvements developed by individual schools, have since been incorporated into the work experience programs of high schools. The NYA plan of work experience was based on a primary need for financial aid to students. However, it also comprehended the goal of useful

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[1] Ibid.

[2] Morphet, Johns and Reller, op. cit., p. 178.

[3] Ibid.

[4] Ivins and Runge, op. cit., pp. 35-36.

> learning to be gained from the work as well as from classroom activities. Consequently, a plan of in-school work experience was developed which obviated necessity for much cooperation with outside agencies.[1]

The NYA program was administered separately from all other Federal, state and local agencies. It was completely controlled by the Federal government and was not coordinated with state education departments until after 1940.

Between 1933 and 1940 some of the more important Federal relief agencies which implemented programs providing significant aid to the public schools and colleges were: the Civil Works Administration, the Federal Emergency Relief Administration, the Works Progress Administration, and the Public Works Administration. The primary purpose of these agencies was to provide work for the unemployed. They were all liquidated in the early 1940's.

In 1943, the Vocational Rehabilitation Act, P.L. 16, made provisions for disabled veterans of World War II, similar to those of P.L. 178 of 1918, designed for the vocational education of World War I veterans. The

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[1] Ibid., p. 36.

Federal government supplied funds for the rehabilitation and training of disabled civilians, requiring matching state funds. This law was superceded by P.L. 113 of 1943, which gives Federal assistance to approved state programs for the vocational rehabilitation of injured persons.

The Vocational Rehabilitation Act and the "GI Bill," P.L. 346 of 1944, affirm federal interest on all school levels, including the secondary. The "GI Bill" provided liberal educational provisions for all World War II veterans, the length of training depending upon the length of service. This legislation enabled several millions of veterans to attend college. Korean War veterans received benefits of educational training under P.L. 550 of 1952.[1]

Further extension of the total vocational education program resulted from enactment of the George-Barden Act of 1946, which authorized twenty-nine million dollars to be spent "for the same purpose and in the same manner" as the seven million dollar appropriation of the Smith Hughes Act. The four chief aspects of the program

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[1]Morphet, Johns and Reller, op. cit., p. 182.

remained essentially constant during the forty-year operational period: 1) the program was "of less than college grade"; 2) the major emphasis was upon rural areas; 3) funds were supplied only for that part of the program which had "immediate" value to the vocational training of the students; 4) it was necessary for all courses to be "useful" and "practical."

In 1957, Sputnik initiated an increasing concern for the weaknesses in the educational system and for the potential threat of these weaknesses in regard to national defense. The resultant effect of this concern was the National Defense Education Act (NDEA) of 1958.

Specifically, occupational education posed two problems: 1) restricted vocational facilities of small secondary schools; school districts were not consolidated at a rapid pace; and 2) extreme shortage of technical manpower in the areas of science and engineering. Provisions to meet these needs evolved as title VII of NDEA, for the purpose of training "highly skilled technicians in recognized occupations requiring scientific knowledge

. . . in fields necessary for the national defense." The section was titled "Area Vocational Education" and amended to the George-Barden Act as title III.

The realization that pre-service and vocational education programs were not effectively meeting the economic challenge of the new technology led to passage of the Area Redevelopment Act of 1961 (ARA) and the Manpower Development and Training Act (MDTA). The former is less significant, in that its appropriations were limited to $4.5 million for vocational training of unemployed and underemployed individuals in designated "redevelopment areas" and that duration of support could not exceed sixteen weeks.

The Manpower Development and Training Act extends the ARA provisions beyond chronically depressed areas to authorize training of unemployed and underemployed individuals who are unable to obtain full time positions with their present skills or who are not working to occupational potential.

Vocational Education Act of 1963

> The year 1963 was the most important in the legislative history of vocational education since 1917. A new Federal-State cooperative program was enacted into law, highlighted by broadened conceptions of education for work and by greatly increased appropriations.[1]

Congress was confronted with two distinct points of view while drafting the new legislation. One point of view suggested that all new legislation should be similarly patterned to the Smith-Hughes Act. The other stated that the Smith-Hughes and George-Barden acts should be repealed and a new start made. A compromise was reached under which the two former bills were amended. The restrictiveness of the two older acts was altered as current labor market needs mandated: ". . . a state may now transfer Smith-Hughes and George-Barden funds from any of the prescribed categories into any other occupational program."[2]

Definitions of categories have been considerably extended. For example, vocational agricultural funds may be utilized for training in "agricultural related occupations, without the traditional farm practice requirement."[3]

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[1] Venn, op. cit., p. 124.

[2] Ibid.

[3] Ibid., p. 125.

The "intent of Congress was to foster flexibility, adaptability, and experimentation in a vocational education effort geared to technological change."[1]

Thus, the new legislation stipulates:

1. Periodic evaluations of the use of Federal money by the designated state board for vocational education must be justified in terms of the current and projected manpower needs of the state.[2]

2. Cooperative arrangements with the system of public employment services must be provided.[3]

3. The national administration of the program by the United States Commissioner of Education will be subject to the advisement of an independent advisory committee to relate the program to actual training requirements.[4]

4. The appointment of a national advisory council to recommend program improvements to Congress is required; it would be reconstituted during each five-year period of the program.[5]

The Vocational Education Act of 1963, as signed

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[1] Ibid.

[2] Vocational Education Act of 1963, Part A, Sec. 5,(a),(2), p. 4.

[3] Ibid., Part A, Sec. 5, (a),(4), p. 4.

[4] Ibid., Part A, Sec. 9, (a) and (b), p. 8.

[5] Ibid., Part A, Sec. 12,(a), p. 9.

by President Johnson, appropriates $60 million for the fiscal year ending June 30, 1964, $118.5 million for the fiscal year ending June 30, 1965, $177.5 million for the fiscal year ending June 30, 1966 and $225 million for the fiscal year ending June 30, 1967 and each fiscal year thereafter.[1]

Vocational Work Experience Programs--The Objectives

The fundamental tools of the "3 R's" are indeed necessary for successful vocational training. To wit, in a fairly recent edition of Newsweek, a United States Labor Department official pointed out, that

> to qualify for most MDTA training an applicant has to be 'trainable'--basically, educated, mentally and physically healthy, presentable and genuinely motivated to get and hold a job. And right there . . . you're missing most of the hard core 'unemployables.'[2]

If education is looked upon as a preparation for life then it seems only logical that experience which will foster socially approved community adjustment should underlie our curricula. Surely, education should open the door to the world of ideas, but should it not also

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[1] Ibid., Part A, Sec. 2, p. 1.

[2] "The 'Unemployables,'" Newsweek, November 7, 1966, p. 84.

introduce students to the world of work?

The concept of vocational education can be made more lucid by comparing vocational education to general education. The relationship which exists between these two types of education may be stated as follows:

1. Controlling purpose--General education should prepare us to live more intelligently. . . . Vocational education should prepare us to work more efficiently. Both are necessary. . . .

2. Subject matter taught--. . . general education should give training in the general information . . . and . . . in the general tools of learning needed to help us learn more about life and about our vocations . . . efficient vocational education gives specific training in the usable skill and knowledge for each occupation taught.

3. Groups served--General education is designed to serve everyone during the period of compulsory school attendance . . . and to continue this service through high school and beyond for anyone desiring it and able to profit by it--irrespective of their vocational interests and plans. Efficient vocational education for any employment can be given successfully only to those who are being prepared for such employment or who are already employed in it. . . .

4. Their sequence--General education now precedes vocational education, which uses it as a foundation. The former, as has already been pointed out, aims to provide a background of general knowledge and use of

> elementary tools of learning needed for vocational training. The latter gives points, purpose, significance, and application to the former. . . .[1]

In more explicit terms, the primary objectives for the high school work experience programs are presented only to show that compatibility prevails between the vocational and the general educational goals.

Ivins and Runge propose the following primary and secondary objectives in the order of their importance:

Primary Objectives:

1. The promotion of good student attitudes toward work.
2. The promotion of good student work habits.
3. The encouragement of desirable traits of character.
4. The promotion of feelings of self-respect and achievement in students.
5. The promotion of cooperative attitudes in students.
6. The promotion of student guidance, including some vocational preparation.
7. Making possible a limited supervised introduction of students to the activities and demands of the normal work world.[2]

Secondary Objectives:

1. Promotion of good employee-employer or worker-work supervisor relationships.
2. Development of job intelligence and imagination is student workers.
3. Development of student competence in the management of personal finances.

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[1] Charles A. Prosser and Thomas H. Quigley, "What is Vocational Training?" Vocational Education in a Democracy (Chicago: American Technical Society, 1949), pp. 10-11.

[2] Ivins and Runge, op. cit., p. 99.

4. Development of specific vocational skills in students.
5. Motivation of school nonwork experience program.
6. Development of interest in the school's regular or nonwork experience program in those students who respond best or only to real-life situations.
7. Development of general, elementary vocational skills.[1]

Advantages of Cooperative Work Experience Programs

Some of the most valuable vocational training may be provided on a pay-roll job when it is coupled with guidance of the work and associated by related instruction. The plan of alternating work and study has enabled many students to make better progress in school work and, at the same time, to develop competence on the job.

The cooperative work experience program can be a real school and community service. In addition to providing opportunities and benefits for students, it makes for a more effective school program. Also, it has values for employers as well as for the general community.

To Employers

1. Provides a source of trained employees.
2. School selects and provides better qualified employees.

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[1] *Ibid.*, p. 105.

3. Provides a steady source of part-time and potential full-time workers.
4. Mutual cooperation provides better training programs.
5. School saves employers' expense of training.
6. More efficient employees mean greater profits for business.
7. Proper selection and training reduce labor turnover.
8. Gives businessmen a part in total school program.

To the Student Trainees

1. Gives training balanced between theory and practice.
2. Prepares many for type of work for which they are adapted.
3. Increases contact with realities of life.
4. Provides actual work experience.
5. Money can be earned while learning.
6. Provides valuable on-the-job training.
7. Assists in developing ability to get along with people.
8. Provides increased chances for advancement.
9. School credit for on-the-job training.
10. May make school more interesting and meaningful.
11. Develops self-confidence and other personality factors.
12. Provides terminal vocational training for those unable to continue schooling.
13. May provide marketable skill to aid student in more advanced training.
14. Offers chance to complete high school to some who might drop out.
15. Leads to permanent full-time employment.
16. Motivates interest in school subjects.
17. Provides tryout-occupational experience which should make possible a better choice of life career.

To the School

1. Provides better school-community relations
2. Stimulates businessman's interest in school.
3. Economical, in that business establishments furnish laboratory for training.
4. Broadens educational service of the school.
5. Enriches the curriculum and makes it more effective by knowing needs of businessmen.
6. Helps keep teachers informed on current business needs and trends.
7. Students have greater interest in school.
8. Holding power of school increased.
9. Develops and makes use of community resources by the school.
10. Adds to vocational school offerings with little expense.[1]

Slow Learners

The objectives of education are derived from the culture. As the culture consists of the ideals, ideas, methods of thinking, skills, attitudes, institutions, and other man-made aspects of environment, whatever ends the school attempts to achieve will be ends recognized as desirable in the cultural system to which the school belongs.[2]

However, schools, uniquely viewed, are in a sense cultures. Gillian writes that these "cultures" education individuals, possibly in ways which are not part of the

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[1] Ibid., pp. 231-32.

[2] B. Othanel Smith, William O. Stanley, and J. Harlan Shores, "The Validation of Educational Objectives," Fundamentals of Curriculum Development (New York: Harcourt, Brade and World, Inc., 1957), p. 107.

conscious goals and design.[1] That which is exercised within these "cultures," namely the curriculum has been viewed by noted educators as "a strategy . . . a sound calculation,"[2] or "a sequence of potential experiences . . ."[3] or "the total effort of the school to bring about desired outcomes. . . ."[4]

The chief aim of education, as stated by the Commission for the Reorganization of Secondary Education in 1918, is:

> The purpose of democracy is so to organize society that each member may develop his personality primarily through activities designed for the well-being of his fellow members. . . . Consequently, education . . . should develop in each individual the knowledge, interests, ideals, habits, and powers whereby he will find his place and use that place to shape both himself and society toward even nobler ends.[5]

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[1] J. Gillian, "The School in the Context of Community," Education and Anthropology, ed. G D. Spindler (Stanford: Stanford University Press, 1957), pp. 62-63.

[2] J. Lee and D. Lee, "Guiding Life in the School: The Curriculum," The Child and His Curriculum (New York: Appleton-Century-Crofts, Inc., 1960), p. 148.

[3] Smith, Stanley and Shores, op. cit., p. 3.

[4] J. G. Saylor and W. M. Alexander, Curriculum Planning for Better Teaching and Learning (New York: Rinehart, 1954), p. 3.

[5] National Education Association, The Cardinal Principles of Secondary Education, Commission for the Reorganization of Secondary Education (Washington: N.E.A., 1918), p. 7.

Elaborating upon these aims, the Commission proposed the Seven Cardinal Principles as the basic objectives of secondary education. They are: 1) health, 2) command of fundamental processes, 3) worthy home membership, 4) vocation, 5) citizenship, 6) worthy use of leisure, 7) ethical character.[1]

Each of the above declarations either implies or clearly states economic efficiency as being one of the main aims of our established goals of education.

Still joblessness is painfully apparent in America today. Thousands of unemployed youth cast about at loose ends.[2]

Interestingly, the following statement was written by Howard M. Bell, in 1938:

> A very large percentage of youth assert that economic security is their most urgent personal need. The problem of unemployment is very great, but even employed youth face serious difficulties. Rates of pay tend to be low; hours tend to be long; a majority of youth with jobs must contribute to the support of families. Many youth are in blind alley jobs. Some are in jobs which they will shortly lose because of advancing age. Many more aspire to enter professional and semi-professional fields than are at all likely to be

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[1] Ibid., pp. 10-11.

[2] U.S., Department of Labor, The Challenge of Jobless Youth (Washington: U.S. Government Printing Office, 1963), p. iv.

> accommodated, and the majority are forced into unskilled or only slightly skilled occupations.[1]

Tragically, the nation's educational system is, when viewed as a whole, in what Edward Chase describes as "a gross imbalance; its attention concentrated on the 20% of students who go through college."[2] As Reissman and Hannah point out, school is "too often a bookish place--rigid, formalistic, prissy."[3]

Through personal interviews, adverse school experience was the major, single reason given by 1,600 dropouts. They voiced boredom with school subjects, dislike of teachers, or other general complaints. "The school records showed that over 45 percent of all the dropouts had IQ's of less than 90 and about one-third had IQ's of less than 85. . . ."[4]

Unemployment falls heaviest on the less academically talented and to the degree that a local educational agency does not make the necessary provisions to

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[1] Howard M. Bell, Youth Tell Their Story (Washington: American Council on Education, 1938), Foreword.

[2] Edward Chase, "Learning To Be Unemployable," Harper's Magazine (April, 1963), p. 33.

[3] Frank Reissman and Arlene Hannah, "Teachers of the Poor," The Disadvantaged Child, Issues and Innovations, ed. Joe J. Frost and Glenn R. Hawkes (Boston: Houghton Mifflin Co., 1966), p. 345.

[4] U.S., Bureau of Labor Statistics, From School to Work, p. 6.

educate the slow learner to his maximum potential, to that degree it is creating school dropouts.

True the slow learners

> . . . are problem learners in school because of their limited rate and level of development. They are adjustment problems because of the innumerable failure and frustrating situations they encounter while they are growing up--situations that under present conditions they can do little or nothing about. They are behavior problems, but not just because of their inability to meet the demands of their environment. The majority of the group are reared in the slum areas of the community, where certain kinds of deviate behavior is not only condoned but in many instances actually encouraged.[1]

Special educational provisions have not been considered essential for slow learners since they do not deviate as markedly from children of average ability as do the other groups of mentally retarded children. In 1958, it was asserted that:

> The slow learners are the highest intellectual group of retarded children and are largest in number. They form the . . . school population that can not quite 'keep up' and are usually doing the poorest work in the regular classroom. Slow learners are essentially normal in their emotional, social, physical, and motor development. Even in intellectual development the slow learners are at the lower fringe or range of the normal group. Thus, while they are retarded and

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[1] G. Orville Johnson, Education for the Slow Learners (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963), pp. 3-4.

> consequently have difficulty in 'keeping up' with the rest of the class, their deviation is not so great that they cannot be adequately educated in a regular classroom situation.[1]

Among the general school population, 15 to 17 to 18 percent[2] of the student body can be considered slow learners. The most obvious characteristic of the slow learners is their inability to stay on the same grade level as the rest of the class. For the most part, they are assigned to classes with average and above average students, which practice eventually has a detrimental effect upon their egoes and self-concepts. Since failure is their constant companion through their school careers, they have good reason to doubt whether they are good at anything.

> Shop or homemaking programs plus 'social promotion' in the required academic subjects enable school administrators to 'graduate' these pupils. This practice falls far short of contributing to the goal of American education for citizenship and self-realization.[3]

Work experience programs, both in-school and

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[1] G. Orville Johnson, "The Education of Mentally Handicapped Children," Education of Exceptional Children and Youth, ed. William M. Cruickshank and G. Orville Johnson (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1958), p. 190.

[2] Johnson, Education of the Slow Learners, p. 9.

[3] Marguerite B. Slack and Mark A. Boyer, "The Slow Learner in the Academic High School," Educational Leadership, XXI (March, 1964), 380.

out-of-school have been incorporated into existing curricula for slow learners by some rather "progressive" school districts.

A work-study program can be an important appendage of carefully planned school experiences designed to develop attitudes and behaviors relevant to vocational adjustment. The work-study program can provide an excellent opportunity to explore student attitudes in relation to the world of work. It can also provide an additional opportunity for the further broadening of occupational information and not only desirable but necessary work attitudes. The students' work experience can be utilized to supplement the classroom program.[1]

In an article appearing in the May, 1964, School Management Journal, it is stressed that while work-study programs are regarded "fine in theory, they don't work. Specifically, the students don't work." They are concerting their efforts toward the wrong types of jobs, and, as a result, they can't find work.

Superintendent Horace S. Oliver stated:

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[1] Preparation of Mentally Retarded Youth for Gainful Employment, A Study sponsored jointly by the U.S. Office of Education, the U.S. Office of Vocational Rehabilitation, and the Project on Technical Planning of the American Association on Mental Deficiency (Bulletin No. 28, 1959), p. 28.

> Under too many programs a student is placed in a position without too much consideration . . . he works at odd jobs, such as sweeping floors, running errands and the like . . . when school is out . . . he goes off looking for a job himself.[1]

Often, programs supposedly designed for slow learners become a "dumping ground"; the students who are assigned to these programs are those whom their teachers did not want in their classes.

If the above definitions of curriculum are viewed as valid, then is our "strategy" sound? Is our "sequence of potential experiences" in concert with the American ideal of a democratic system of education? Is "the total effort of the school to bring about desired outcomes" designed for a group free from academic pathology?

Mentally Handicapped

Special classes for the mentally handicapped were first organized in the public schools in the late nineteenth century.[2] From these initial efforts the programs have expanded into the thousands servicing hundreds of thousands of mentally handicapped children.

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[1] "Des Moines, Iowa: Industry Trains--and Hires--Vocational Students," School Management, VIII (May, 1964), 134.

[2] Johnson, "The Education of Mentally Handicapped Children," Education of Exceptional Children and Youth, p. 190.

The general objectives of education are as applicable to the mentally handicapped as they are to children with greater intellectual endowment. Inasmuch as their limited intellectual abilities define the extent to which the mentally handicapped can achieve these four objectives, namely:

1. The objectives of self-realization.
2. The objectives of human relationship.
3. The objectives of economic efficiency.
4. The objectives of civic responsibility.[1]

stated objectives for them often include only the first three. Realistically, the goals of an educational program for the mentally handicapped may then be stated as personal, social, and economic adjustment. The fourth objective, civic responsibility, "usually can be achieved to such a small degree that the only contribution made to society and to civic welfare is incidental."[2]

A planned special education program for the

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[1]Educational Policies Commission, Policies for Education in American Democracy (Washington: National Education Association, 1946), p. 47 as quoted by G. Orville Johnson, "Introduction," A Comparative Study of the Personal and Social Adjustment of Mentally Handicapped Children Placed in Special Classes with Mentally Handicapped Children who Remain in Regular Classes (Syracuse University Research Institute, Office of Research in Special Education and Rehabilitation, February, 1961), p. 1.

[2]Ibid.

mentally handicapped includes 12 years of school experience. In order to achieve the general educational objectives, stated above, the 12 year program is customarily organized in four age groupings: primary, intermediate, junior high, and secondary. "Progression from one group to the next is based on chronological age and achievement according to ability."[1]

On the junior high school level, school experiences are typically related to vocational interests and to the need for information relating to jobs. Placement into the senior high school program is based on the assumption that the mentally handicapped students are now ready for a work-school type of program.

Work-study programs in special education have formed the basis of the curriculum.

Engel writes:

> There is probably no aspect of education of mentally retarded children which is more important than that which concerns itself with the social and occupational adjustment in adult life. Every teacher in special education is concerned with the end result of his training and struggles to prepare his young people so that when they leave

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[1] Preparation of Mentally Retarded Youth for Gainful Employment, p. 6.

> school, they will be able to adjust successfully to jobs, to home life, and to their own social group.[1]

If the curriculum for the mentally handicapped does not take into account vocational and social experiences,

> . . . he is being expected to do the very thing in which he is known to be the weakest. Without help he is expected to transfer skills and information acquired in school to life situations. . . . He must adjust in competition with adults of normal intelligence, a group with whom he has never been able to compete on equal terms either in the school or in the community.[2]

According to Kirk and Johnson,[3] the local educational agency is in a strategic position to develop a postschool program[4] for the mentally handicapped.

> (1) The school has been in contact with the children for a number of years and being responsible to their training is well acquainted with individual abilities, personalities, and specific

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[1] Anna M. Engel, "Employment of the Mentally Retarded," Vocational Rehabilitation of the Mentally Retarded, ed. S. G. DiMichael, Rehabilitation Service Series No. 123, Federal Security Agency, Office of Vocational Rehabilitation (Washington: U.S. Government Printing Office, 1950), p. 80.

[2] Samuel A. Kirk and G. Orville Johnson, Educating the Retarded Child (Boston: Houghton Mifflin Co., 1951), p. 243.

[3] Ibid., p. 242.

[4] Ibid. The postschool program "would start at the time the mentally handicapped youth may legally leave school until he has made an economic and social adjustment in the community."

> training that has been provided. (2) The school has trained personnel (special class teachers, psychologists, and counselors) available to provide the necessary services. (3) The school has the necessary training facilities (various shops in the secondary and vocational schools to provide needed specific supplementary training).[1]

In the work-study program incorporated to facilitate a successful change from school to work, the student usually spends part of the day or week in acquiring work experience and in learning specific job skills. The balance of the student's time is spent in school settings. A few programs have been organized so that the student, for a period, spends full time in the job training program and then alternates this with a period of full-time school attendance.[2]

The community's economic conditions and the scope of occupational opportunities available will determine and direct the nature of the work-experience.

Individual work experiences must take into account the ability of the employer to be a positive factor in the development and training of the students.

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[1] Ibid., p. 244.

[2] Proceedings of a conference on Special Problems in Vocational Rehabilitation of the Mentally Retarded, U.S. Department of Health, Education and Welfare, Vocational Rehabilitation Administration, Rehabilitation Service Series No. 65-16 (Madison, Wisc.: November 3-7, 1963), p. 35.

A major advantage of this type of program is that it permits an assessment of the pupil's problems in adjusting to work and extends an opening for relating school and work-training activities.

The more the occupational preparation program simulates an actual work situation, the greater its efficacy. The work training may take place in private business and industrial settings within the community, in nonprofit institutions, or in specialized programs which may be developed by public and private funds.[1]

Evaluations of special educational curricula show how program variables can actually influence success on the job. It is generally agreed that traits other than intelligence are influential in determining the individual's job success. Studies report that among the important variables are attitudes toward school and work, emotional stability, and peer relationships.[2]

In 1922, Wallin stated:

> It is a fact that we cannot adequately diagnose a child's educational or social capacity or

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[1] Ibid., p. 36.

[2] Statements by J. J. Beckham, K. M. Cowdery, J. E. W. Wallin, T. M. Abel and E. F. Kinder, as reviewed by Herbert Goldstein, "Social and Occupational Adjustment," Mental Retardation, ed. Harvey A. Stevens and Rick Heber (Chicago: The University of Chicago Press, 1964), p. 248.

> prognose his industrial capability by intelligence tests alone. . . . The danger to be avoided in the educational and industrial classification of children and adults is the tendency to lean too exclusively on intelligence tests and scores and to minimize the importance of comprehensive analysis.[1]

Although studies point out researchers' efforts to establish minimum mental age levels for occupations, Burr, in 1931, stated this was touching on only one facet of a complex situation:

> . . . It is also essential that . . . the counsellor should not rely wholly upon the results of the mental tests, but take into account the total situation surrounding each individual.[2]

Channing,[3] in 1932, reporting on graduates of special class programs isolated the factors below:

1. specialized training helps insure job success;
2. in school achievement is related to on-the-job success;
3. good work in school was directly associated with longer employment on a single job, with greater pay increases and longer job mean duration.

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[1] Wallin, as quoted by Herbert Goldstein, Ibid.

[2] E. T. Burr, as quoted by Herbert Goldstein, Ibid.

[3] Alice Channing, Employment of Mentally Deficient Boys and Girls, United States Department of Labor, Bureau Publication No. 210 (Washington: U. S. Government Printing Office, 1932).

As his leading introductory statement, written for "A Study of the Personal Characteristics Desirable for the Vocational Success of the Mentally Deficient," H. Michal-Smith points out that:

> It has been established that personality traits are very largely responsible for the success or failure of the mental deficient in industry; that a retardate with good personal characteristics very often proves more efficient than another retardate with an identical IQ but less favorable traits.[1]

In 1965, Barrett, Relos and Eisele reported their study[2] as further evidence that IQ alone may not mirror the "true nature of the total mental ability of the retarded." Seated within the realm of conjecture, it is suggested that "those retardates who were successful were able to think on a higher reasoning level."[3]

Kolstoe[4] followed the progress of forty-one

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[1]H. Michal-Smith, "A Study of the Personal Characteristics Desirable for the Vocational Success of the Mentally Deficient," American Journal of Mental Deficiency, LV, 1 (July, 1950), 139.

[2]Two groups of mentally retarded were matched in terms of means and range for IQ and age. They had approximately similar backgrounds of education and training. One group of 58 men and women was determined to be vocationally successful and the group of 57 men and women was designated as unsuccessful.

[3]Albert M. Barrett, Ruth Relos, and Jack Eisele, "Vocational Success and Attitudes of Mentally Retarded Toward Work and Money," American Journal of Mental Deficiency, LXX, 1 (July, 1965), 106.

[4]O. P. Kolstoe, "An Examination of Some Characteristics Which Discriminate Between Employed and Non-Employed Mentally Retarded Males," American Journal Of Mental Deficiency, LXVI (1962), 472-82.

successful and non-successful trainees who had been through Southern University Employment Evaluation and Training Project Center. He found that the vocationally successful group was clearly superior to the unsuccessful group in physical, social, and work characteristics.

Phelps[1] reported in 1966 the records of 105 males and 58 female graduates of special classes. In addition to a relationship between IQ and job success, it was also discerned that efficiency on the job and behavior acceptable to peers were related to success.

Peckham[2] found that the most frequent reason given for job termination by clients of vocational rehabilitation was that they were the targets of teasing, ridicule, and practical jokes on the part of their fellow workers. Peckham reported that the retarded workers demonstrated lack of social and vocational sophistication by disregarding rules for punctuality, dress and general deportment. Their responses to teasing and ridicule were immature.

That this conflict between retarded and normal

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[1] H. R. Phelps, "Post-School Adjustment of Mentally Retarded Children in Selected Ohio Cities," Exceptional Children, XXIII (1956), 58-62, 91.

[2] R. Peckham, "Problems in Job Adjustment of the Mentally Retarded, American Journal of Mental Deficiency, LVI (1952), 448-53.

workers is not transitory was shown in 1954 by Brainerd,[1] who found that it sometimes took as long as two years for retarded workers to be accepted as regular employees by their fellow workers.

Goldstein,[2] in 1964, stated that while studies indicate that the retarded change jobs for reasons of personal choice based on the nature of the work, they may often be motivated to change by the rejection of their fellow workers.

In pursuit of students' attainment of successful personal adjustment to a vocational situation, Kokaska,[3] in 1964, candidly reported that it is easier to train students if we initially assist them in coping with the emotional demands met while working.

There are indications of other important variables in related literature. Hollingshead,[4] from his empirical data of Elmtown, reports the tendency for youth to follow parental occupations.

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[1] B. Brainerd, "Increasing Job Potentials for the Mentally Retarded," Journal of Rehabilitation, XX (1954), 4-6.

[2] Goldstein, op. cit., p. 249.

[3] Charles Kokaska, "In-School Work Experience: A Tool for Community Adjustment," Mental Retardation, II (December, 1964), 367.

[4] A. B. Hollingshead, Elmtown's Youth (New York: John Wiley and Sons, 1949).

Kirk and Johnson[1] and Keys and Nathan[2] mention the theoretical debate between programs that utilize job stations to teach specific jobs and programs that utilize them to teach generalized attitudes and skills.

In honoring the latter approach, Goldstein and Heber, in 1959, stated that when criticisms have been directed to school work programs, they have been directed toward those programs which have been too limited in the types of jobs students are exposed to and for providing students with unrealistic work experiences. They go on to say these criticisms are not applicable when the work programs are designed not for the purpose of teaching but rather to provide students with the types of general experiences which they will be faced with upon entering the world of work. Specific job skills can be learned while on the job.

> The in-school program is most useful when it stresses attributes which may be generalized to any job situation such as the relationship of the worker to the employer and vice versa, concepts of punctuality, socialization, and task completion.[3]

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[1] Kirk and Johnson, op. cit.

[2] N. Keys and J. Nathan, "Occupations for the Mentally Handicapped," Journal of Applied Psychology, XVI (1932), 497-511.

[3] Goldstein and Heber, "Summary of the Conference," Preparation of Mentally Retarded Youth for Gainful Employment, p. 29.

Due to prevalent misconceptions about intelligence, the genesis of progressive vocational programs for the mentally handicapped has been hindered. Misconceptions no doubt have narrowed the realm of possible vocational opportunities. The following six statements exemplify commonly held misconceptions.

> The IQ has been too frequently regarded as a highly efficient predictor of an individual's level of vocational and social adjustment. . . . As a consequence . . . intelligence test scores have been used as rigid criteria for the selection or rejection of individuals for placement in education and rehabilitation programs with little or no regard for other important variables. . . .
>
> Some assume that the mentally retarded show a rapid turnover in jobs, while others believe that a mentally retarded individual once placed on a job tends to remain in that position permanently. A belief in the former assumption has resulted in a reluctance of employers to employ, and placement counselors to place, mentally retarded students. The results of a belief in the latter assumption can be seen in those public school programs . . . which place great stress on the acquisition of specific job skills to the neglect of more general vocational attributes. Neither of these assumptions is supported by research.
>
> . . . the retarded do as well as, and even better than normals on what are described as repetitive, monotonous tasks . . . this notion has, in many instances, led school and rehabilitation personnel to seek and place students in jobs requiring repetitive operation at the expense

of an exploration of other possible vocational opportunities . . . this widely held assumption is backed by little or no experimental evidence.

. . . the retarded demonstrate a lack of persistence. Such a belief has adversely affected the willingness of employers to hire the mentally retarded as well as the willingness of counselors to place these students in many kinds of jobs. This notion has little support in research, with some data indicating that the mentally retarded do not fall short of normals in measures of persistence.

The mentally retarded are regarded by many as being highly suggestible . . . little data are available to support this notion with at least one study finding no significant differences between normals and retarded in degree of suggestibility.

. . . the retarded are accident prone. Because of workmen's compensation provisions, this belief, perhaps more than any other, has made employers hesitant in hiring retarded workers. . . . The limited research evidence available suggests . . . that the retarded may be somewhat less susceptible to accidents than their co-workers of average, or better intelligence.[1]

This very point was stressed again in the 1963 conference.[2]

The following discernible conclusions of follow-up studies by Fairbanks, Baller, and Kennedy are pertinent to this study:

The majority of higher grade mentally retarded persons will make an acceptable adjustment in their communities. . . .

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[1] Ibid., pp. 36-38.

[2] Special Problems in Vocational Rehabilitation of Mentally Retarded, p. 36.

> Higher grade mentally retarded persons in the community are hard hit occupationally in times of economic depression, while they appear to lose out in steady jobs, they get more than their share of part-time jobs. . . .
>
> . . . Occupationally, the mentally retarded persons appear to cluster at the semiskilled and unskilled end of the scale.[1]

Again, Channing, in her study concerning the work histories of former special-class students in Newark, New Jersey; Rochester, New York; Detroit, Michigan; Cincinnati, Ohio; and Los Angeles, San Francisco, and Oakland, California provided the following conclusions:

> (1) Under ordinary circumstances, the large majority of boys and girls graduating from special classes will become occupationally placed. (2) Like other youngsters just out of school they will tend to change jobs in the early years of employment. (3) Compared with the general population, their record of unemployment might be expected to be slightly higher. (4) They tend to cluster in the semiskilled and unskilled categories of employment. Positions held in other categories are essentially low level for the category. (5) Termination of jobs in, for the most part, voluntary. Only a small proportion of the terminations was imposed by the employer for inefficiency or misconduct.[2]

In considering reasons for termination of jobs, Johnson forwards an opposing opinion:

> . . . There is little in the way of intellectual abilities that they can use to compensate

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[1] Goldstein, op. cit., pp. 241-42.

[2] Ibid., p. 245.

> for any lack in the personal and social adjustment areas. The importance of healthy and appropriate attitudes as well as social skills is pointed up in a number of studies. For example, it has been found that the majority of the mentally handicapped who have lost their jobs have done so for non-manual reasons. . . . Unhealthy attitudes, unrealistic aspirations, and lack of social skills have caused their dismissal from the job.[1]

In appraising the occupational outlook for the retarded, Goldstein indicates that the picture is far from encouraging. Occupational categories, such as laborers' jobs in industry, private household workers, farm laborers, once the province of the retarded, have been decreasing markedly in the past half-century. "Predictions of experts indicate that this trend will persist, but at a reduced rate."[2]

Much of the absence of available jobs for the mentally handicapped:

> . . . may be attributed to technological changes wrought by automation and mechanization in industry, on the farm, and in homes. Competition for remaining jobs has become more keen because of the large pool available for such work.[3]

Goldstein points out the critical role that training programs as well as counseling and services for

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[1]Johnson, A Comparative Study of the Personal and Social Adjustment of Mentally Handicapped Children Placed in Special Classes with Mentally Handicapped Children Who Remain in Regular Classes, p. 4.

[2]Goldstein, op. cit., p. 254.

[3]Ibid.

the retarded are already playing in their social adjustment.

> Unless these services maintain an effective level of contribution, it may be necessary to consider the advisability of providing sheltered work settings for these retardates similar to those now typical for the trainable mentally retarded.[1]

The review of research reveals that differences affecting job success do exist. Many specific variables have been identified and are included in the present study along with certain other variables identified above from related research and theory.

Summary

Will the Vocational Education Act of 1963 be the catalyst which will escort appropriate types of curricula complimenting modern technology into our public schools or will history repeat itself by allowing the benefits of vocational education to fall into the hands of fortuity?

Will the Vocational Education Act of 1963 serve as a vehicle in providing better trained, more highly educated persons to fill the needs in semiskilled, skilled,

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[1] *Ibid*.

technical, and semiprofessional occupations, or will the Act be looked upon, in years to come, as having become decadent?

Indeed, our pioneer fathers who were responsible for the enactment of the Smith-Lever Act and the Smith-Hughes Act expressed allegiance to the inherent right of each individual to be educated to his optimal level. Yet, despite this firm commitment to counteract standardized formulae of mass education, Norton's[1] 1938 report concerning vocational education in New York State clearly articulates that far too many graduates were unable to reach the established levels of attainment in some types of courses, e.g. agricultural, commercial and homemaking courses. The reasons most frequently mentioned were: low intelligence, lack of responsibility, home environment, poor personality and lack of interest in the work.

Norton[2] exemplified inadequacies of the instructional staff: 1) teaching preparation programs are unsystematic, 2) many vocational industrial teachers are not qualified, and 3) that most commercial teachers do

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[1]Norton, op. cit., p. 46.

[2]Ibid., pp. 99-102.

not keep themselves up-to-date in such areas as business trends, technological developments, et cetera.

Two different additional statements, both published in 1964, confirm Norton's findings.

Grant Venn[1] wrote that many of the students who are enrolled in vocational and technical educational programs are the dropouts or castoffs of the academic program. In many instances, the instructional staff members are less academically oriented and they receive relatively low status within the field of education.

George Arnstein stated that there exists a propensity to send our least-abled students and most troublesome students to vocational classes. The classrooms are often equipped with teachers who have the least education. "The teachers are often the ones who failed to make good at their trade or are victims of technological change."[2]

The interpretation of the slogan, "equal opportunity for all," has proven to be the active generator of educational programs which do nothing more than propel

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[1]Venn, op. cit., p. 34.

[2]Arnstein, op. cit., p. 67.

imbalances in curricula. Hence, the dropouts might be more appropriately referred to as "pushouts." As previously quoted, of the 1,600 dropouts interviewed, 45 percent had IQ's of less than 90 and about one-third had IQ's of less than 85.[1]

Now that there is public recognition of the special needs of slow learners, and provision in the Act for students with special educational handicaps, perhaps boredom with school will succumb to interest nurtured by a definite feeling of "belonging."

Will the mentally handicapped student, who by definition is one whose mental faculties exonerate him from exposure to typical curricula, benefit from the Act? Will he be the recipient of the provisions stipulated?

> Vocational education for persons who have academic, socio-economic, or other handicaps that prevent them from succeeding in the regular vocational education program.[2]

The work-study program for the mentally handicapped so often patterned after the diversified "cooperative" training program, has been fruitful in some

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[1] U.S., Bureau of Labor Statistics, op. cit., p. 6.

[2] Vocational Education Act of 1963, Part A, Sec. 4(a), (4), p. 3.

instances; yet, as indicated,[1] many programs have been too limited in the scope of jobs a student is exposed to and for providing a student with unrealistic work experiences.

Due to technological changes, jobs falling within the province of the mentally handicapped, have been decreasing rapidly. Will it be necessary to consider placing the mentally handicapped in sheltered workshops similar to those designed for the trainable mentally retarded?

In considering eligibility of program participants, should there be any limits concerning intelligence as long as the students are seriously interested and minimally qualified?

Bluntly, Arnstein indicates that the Vocational Education Act of 1963:

> . . . should open the door to a new educational orientation which is part of our changing industrial society--or it will merely make more money available to train more youngsters in more obsolescent skills, and do a mediocre job of training at that.[2]

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[1] Goldstein and Heber, "Summary of the Conference," Preparation of Mentally Retarded Youth for Gainful Employment, p. 29.

[2] Arnstein, op. cit., p. 71.

CHAPTER III

PROCEDURES

This study will identify and describe major vocational work-study program variations in five major New York State city school districts. Data received from seniors, graduated in June, 1966, who had participated in Vocational Work-Study Programs financed under PL 88-210, will be compared with and related to data obtained from 1) New York City, 2) Rochester, 3) Schenectady, 4) Syracuse, and 5) Yonkers school districts.

Selection of Population

Approximately 45 percent of the school districts in New York State are presently operating Vocational Work-Study Programs under the Vocational Education Act of 1963, P.L. 88-210. The school systems identified for examination in the study are: 1) New York City, 2) Rochester, 3) Schenectady, 4) Syracuse, 5) Yonkers. These cities were chosen because they represent a) major population areas, b) earliest developed vocational

work-study programs, c) variation of large metropolitan and middle-sized cities, d) cross-sectional geographic areas. Profiles of each city's vocational education programs are contained in Appendix A.

The investigatory study was concerned with senior students[1] who had commenced, continued or returned to a full-time vocational program via the reimbursement granted them through P.L. 88-210.

Under the suggestion of Dr. Donald Myers, Associate Professor of Educational Psychology, Syracuse University, it was pre-determined that from the participating work-study membership, 20 percent of the seniors enrolled in each of the programs during the academic year September, 1965-June, 1966, would be randomly selected as subjects.[2] Furthermore, the 20 percent would be equated for boys and girls to reduce variation due solely to sex

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[1]The five New York State cities under investigation collectively submitted a listing of 1,049 graduated students who participated in the Vocational Work-Study Program during the 1965-1966 academic year. From this listing 246 students were selected as sample members. See Table 3, p.

[2]Even though 20 percent of the senior student population, for each of the local educational agencies included in this investigatory study, was considered ample for statistical significance by Dr. Donald Myers, Associate Professor of Educational Psychology, Syracuse University, he suggested utilizing Schenectady's total senior student enrollment due to the size of the program.

differences. All seniors meeting study criteria in Schenectady were made eligible since the total population was limited to 46 students, 14 boys and 32 girls. Syracuse had 148 active participating students, thus the selection of students was 15 boys and 15 girls. Rochester's list of 206 seniors provided the sample population with a total sum of 41 students, 20 boys and 21 girls. Yonkers submitted 172 names, from which 34 subjects were chosen, 17 boys and 17 girls. A list of 477 names was forwarded as being representative of student participants from 27 of the 29 high schools from New York City operating Vocational Work-Study Programs.[1] The 20 percent sample from New York City designated 95 students to be included in the study, 47 boys and 48 girls.

Instruments

Three questionnaires, The Program Descriptive Factor Sheet (Appendix I), The Student History Form, Section A (Appendix F), and The Student History Form, Section B (Appendix G), developed by the investigator specifically for this study, were utilized to serve as

[1]Two high schools never responded even though they were contacted five times after the initial letter, concerning the request of the names of all senior students of the 1965-1966 academic year, was mailed.

the basis in pointing out significant job success factors.

The Program Descriptive Factor Sheet (PDFS)

All data referring to specific school district programs during the 1965-1966 academic year were entered on this questionnaire form. The variables measured include the following:

a. Year program was developed and the origin of it.

b. The number and job titled of personnel.

c. The student enrollments and number of graduates.

d. The number, kind, remuneration, and location of job stations.

e. The scheduling of the program and types of records maintained.

The Student History Form (SHF), Section A

All data concerning the subject's high school record and post-school employment were collected on the SHF. The variables included:

a. Person responsible for student enrollment in the Work-Study Program.

b. Job stations assigned.

c. Time spent in school and at work.

d. Salaries paid.

e. Family background information.

f. Number, types, salary and duration of jobs held since June, 1966 and/or reasons for unemployment.

Explanation and Utilization of the D.O.T. Classification System for Purposes of This Study

Each job was rated in terms of degree of relationship to job stations. On this form, questions were also asked concerning attitudes toward the school-work program.

Each job was rated in terms of its D.O.T. classification and Specific Vocational Preparation as outlined in The Dictionary of Occupational Titles.[1] All occupations recorded in the Dictionary are grouped into nine broad categories, which, in turn, are classified into divisions (see Appendix K).

The occupations have been incorporated into a

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[1] Dictionary of Occupational Titles, Vol. I.

classification system in which each occupation is identified by a 6-digit code number. The first 3 digits provide a definition of each occupation's category, division, and group. The last three digits of the code number refer to the requirements made of a worker and the job's specific relationship to Data, People, and Things.

Together, the last three digits of the code number can express the total level of complexity at which the job requires the worker to function.[1]

A job's relationship to Data, People, and Things may be expressed by identifying the highest appropriate function in each hierarchial 8-point scale, which the job requires the worker to have. The lower the number, the more complex is the task. The above information is contained in Table 1.

Specific Vocational Preparation refers to the amount of time necessary to learn "the techniques, acquire information, and develop the facility needed for average performance in a specific job-worker situation."[2]

Table 2 provides an explanation of the nine levels of specific vocational preparation. The higher the

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[1] Ibid.

[2] Ibid., p. 652.

TABLE 1

DATA, PEOPLE, THINGS HIERARCHIES[a]

Data	People	Things
0 Synthesizing	0 Mentoring	0 Setting-Up
1 Coordinating	1 Negotiating	1 Precision Working
2 Analyzing	2 Instructing	2 Operating-Controlling
3 Compiling	3 Supervising	3 Driving-Operating
4 Computing	4 Diverting	4 Manipulating
5 Copying	5 Persuading	5 Tending
6 Comparing	6 Speaking-Signaling	6 Feeding-Off bearing
7 No significant	7 Serving	7 Handling
8 relationship	8 No significant relationship	8 No significant relationship

[a]U.S. Department of Labor, Manpower Administration, Dictionary of Occupational Titles, Definition of Titles, I (3d ed.; Washington: U.S. Government Printing Office, 1965), p. xviii.

(See Appendix J for Definitions of Functions)

TABLE 2

NINE LEVELS OF SPECIFIC VOCATIONAL PREPARATION[a]

Level	Time
1	Short demonstration only.
2	Anything beyond short demonstration up to and including 30 days.
3	Over 30 days up to and including 3 months.
4	Over 3 months up to and including 6 months.
5	Over 6 months up to and including 1 year.
6	Over 1 year up to and including 2 years.
7	Over 2 years up to and including 4 years.
8	Over 4 years up to and including 10 years.
9	Over 10 years.

[a]U.S. Department of Labor, Manpower Administration, Dictionary of Occupational Titles, Definition of Titles, II (3d ed.; Washington: U.S. Government Printing Office, 1965), p. 653.

number, the more time that is required to learn the techniques, acquire information and develop the facility needed for average performance.

In order to arrive at a D.O.T. classification level for the purpose of this study, the investigator added the last three digits of each job, which, in turn, were added to a digit indicating a specific level of vocational preparation.

Yet, as the lower the number representing the relationship among the worker and Data, People and Things indicated job complexity and the higher the number for Specific Vocational Preparation denoted greater length of time required to learn job techniques, et cetera, the investigator subtracted the nine levels of vocational preparation from ten in order to reverse the ranking. Thus, the more complex the job, the greater the amount of time necessary to become qualified for the job.

The Student History Form (SHF), Section B

Personal data, e.g., achievement test reports, intelligence test results, anecdotal records, absenteeism,

grades and number of counseled hours received, and type of school program were included and completed by the investigator from school records.

Development of the Survey Instruments: The Preliminary Questionnaires

As no formal investigatory study had been done previously to discover strengths and/or weaknesses of Vocational Work-Study Programs operating under The Vocational Education Act of 1963, four tentative questionnaires were designed to serve as the basis in pointing out significant job success factors:

1. Program Descriptive Factor Sheet (Appendix B)
2. Student History Form (Appendix C)
3. Graduate Work History Form (Appendix D)
4. Personnel Information Form (Appendix E)

Suggestions for the individual items appearing on the original four questionnaires were secured from The Vocational Education Act of 1963, P.L. 88-210; from an earlier investigatory study pertaining to vocational education;[1] and the October 1964 issue of the American Vocational Journal.

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[1] Max U. Eninger, The Process and the Product of T & I School Level Vocational Education in the United States: The Product (Pittsburgh: The American Institutes for Research, 1965).

The original questionnaires were then modified in the light of expert opinion.[1,2,3,4,5,6]

The Student History Form was eventually divided into two sections A[7] (Appendix F) and B (Appendix G), and the Graduate Work History Form was incorporated into Section B of the Student History Form.

In recognition of the positions the work-station supervisors may hold and of the merit of their ability, the Personnel Information Form was completely deleted.

Modifications, additions, deletions and/or suggestions for the general format of the tryout questionnaires were later secured from Youth Work-Study Program, Summary and Suggested Development;[8] and personal

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[1]Interview with Dr. Alan G. Robertson, Chief, Bureau of Occupational Education Research, New York State Education Department.

[2]Interview with Dr. Joseph Lev, Associate Statistician, New York State Education Department.

[3]Interview with Dr. Louis A. Cohen, Supervisor, Work-Study Program, New York State Education Department.

[4]Interviews with Mr. Charles Meislin, Associate, Bureau of Occupational Education Research, New York State Education Department.

[5]Interviews with Dr. G. Orville Johnson, Professor of Education, Department of Special Education and Rehabilitation, Syracuse University.

[6]Interviews with Mr. Gordon Lovell, Systems Manager, Data Center, Syracuse University.

[7]Copies of the initial letter and form, and the follow-up letter and form are included in Appendix F.

[8]Youth Work-Study Program, Summary and Suggested Development.

interviews.[1,2,3,4]

The questionnaires were once again submitted to the New York State Education Department, Division of Special Occupational Services for re-examination. The purpose of this step was the deletion of ambiguous, overlapping, or otherwise faulty items and the addition of questions which might be asked from raw data made available from participating school districts' reports or from those senior students who were active participants in the 1965-1966 Vocational Work-Study Program.

Revisions of the Survey Questionnaires

Program Descriptive Factor Sheet (P.D.F.S.)

Even though the original Program Descriptive Factor Sheet was revised twice, all questions appearing on the first form were maintained, but additional questions, relevant as to program effectiveness were added.

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[1] Interview with Dr. Louis A. Cohen.

[2] Interview with Mr. Charles Meislin.

[3] Interview with Dr. G. Orville Johnson.

[4] Interview with Mr. Gordon Lovell.

1st Revision: Section II. Program History

A. How Initiated:

1. Was there a Work-Study Program prior to the Vocational Education Act Program?
Yes___ No___

2. Required modification of former program?
Yes___ No___ If it was a modification, list specific changes:

3. Extension of Work-Study Program?
Yes___ No___

B. 1. Number and Titles of members on Screening and/or Advisory Committee:

2. What is their functional definition of eligibility for student participation in the program?

3. Who is (are) responsible for student placements?

4. a. Have periodic evaluations been made to determine effectiveness of the work-study program in terms of the program's objectives?

b. How frequently?

c. By whom?

5. Evaluation of student's work is performed by whom?

6. How are students solicited to participate in the work-study program?

F. Average length of student stay in Program.

G. How many students 15 years of age
16 years of age
17 years of age
18 years of age
19 years of age
20 years of age

H. b. How many of the 1965-1966 participants had previously dropped out of school?

Section III. Curriculum

B. Questions concerning the location of work-stations were elaborated to determine whether all student placements were made within the schools or if other tax-supported agencies were involved, and, if so, the size and types of agencies utilized.

(Fill in Percentages)

	Trade and Industrial		Business Education	
	1965	1966	1965	1966
In School				
Small Business (To 12 employees)				
Moderate Business (To 200 employees)				
Large Business				
Totals	100%	100%	100%	100%

Section IV. Scheduling

B. Hours per week for counseling:

Individual ___ Group ___

C. 1. Who determines the academic subjects taken by students?

2. a. Who interrelates academic subjects with the work-experience phase of the program?

b. Amount of time allowed for this?

3. Evaluation of on-the-job experience performed by whom?

4. Programs of vocational education are to be geared to labor market needs, both immediate and future. Who is responsible for this type of reporting?

5. Is there any coordination of the counseling services offered by the schools and the employment services? If so, who is responsible for this coordination?

a. Have periodic evaluations been made to determine effectiveness of the work-study program in terms of the program's objectives?

b. How frequently?
a. Start of program
b. Midway _____
c. End _____
d. Other _____

F. How many boys
15 years of age ___
16 years of age ___
17 years of age ___
18 years of age ___
19 years of age ___
20 years of age ___

How many girls
15 years of age ___
16 years of age ___
17 years of age ___
18 years of age ___
19 years of age ___
20 years of age ___

H. 5. How many job station supervisors worked with seniors, September, 1965--June, 1966?

6. Maximum amount of students job station supervisors may have had, 1965-1966.

2nd Revision: Section III. Curriculum

D. Average number of jobs assigned per student:
a. 1 ___
b. 2 ___
c. 3 ___
d. 4 ___
e. more than 4 ___

Section IV. Scheduling

C. 2. c. What measures have been taken to correlate work station experiences?

2. d. Who is responsible for this?

Section V. Evaluation of Student

c. by Program Coordinator
(Circle one: weekly, monthly, per job, other _____
(Explain)

Student History Form (S.H.F.)

When the original proposal was submitted to the New York State Department of Education for approval, the Student History Form, although seemingly terse, appeared adequate for the study's intentions. However, it was apparent after judicious inquiry that some of the items asked of the students were perhaps intimidating and would possibly threaten the necessary return of questionnaires.

Items appearing under Sub-sections entitled, Test Results and Grades, were eliminated from the form. However, as it was thought that this data was valuable in determining program effectiveness, the Student History Form was divided into Sections A and B. Items then appearing on Section A were to be answered by the students; answers to the items appearing on Section B were to be gathered by the researcher.

It was also suggested that in two instances the verbiage be altered: specifically, the words "instigation" and "own initiative." The term "Work Theory Courses" was thought inappropriate and this was

subsequently transformed into two sections: 1.) Industrial Arts Courses and 2.) Approved Vocational Program.

Revision 1

In October another Student History Form was designed which still embraced many of the items appearing on the first form. Yet not only did elaborations of previous questions seem fitting but additional inquiries now deemed necessary. Suggestions for general lay-out of items were proffered by several data processing employees.

Recorded changes made were:

Who was the person(s) responsible for your enrollment in the Work-Study Program?

(1) Guidance Counselor	___	(5) Principal	___
(2) Teacher	___	(6) Friend	___
(3) Homeroom Teacher	___	(7) Self	___
(4) Parent	___		

The genesis of the question, "If you did not graduate, year you left school." stems from Section 2B of Section 2c of Section 13 of Public Law 88-210,

> . . . is in need of the earnings from such employment to commence or continue his vocational education program. . . .

Precise meaning was given to the term "Rating"

which appeared in the incipit form. Officially, ratings became earmarked Dictionary of Occupational Titles (D.O.T.).

Under father's or guardian's and mother's or guardian's education level, students were to be presented with five alternatives, ranging from less than 8 years of formal education exposure to completion of four years of college.

Students were to be asked for the first time for a more thorough picture of their indigenous backgrounds in order to be able to see if their patterns in school as well as their work experiences were consonant with their siblings.

The listing of brothers and sisters was to be dichotomized according to those siblings who were NOT in school and those who were NOW in school. School grade completed as well as current job, if any, were also asked.

Revisions 2 and 3

The second and third revised copies of The Student History Form conformed mainly to the first

revised model until the third formal revision, when finally The Graduate Work History Form (G.W.H.F.) became part of S.H.F.'s constitution. The only changes were those pertaining to the structure and placement of the questions.

Graduate Work History Form (G.W.H.F.)

Original Form

Initially, The Graduate Work History Form merely asked for a listing of all jobs the students have had since graduation, June, 1966. Space was provided on the form for D.O.T. rating; the mean salary, the mean duration of time spent on the job(s).

Revision 1

In addition to the work history asked of each student, attitudes concerning the vocational work-study program were requested (Questions, Section A. 1, 2, and 3). Types of work-stations and major duties and duration of job assignments were listed as question A4.

Inquiry concerning the students' current work

status and job description were addended (Section b. 2a.--e.).

The final interrogative sentences under Section B were:

> 3. Did you have a job when you left school in June, 1966? Yes ___ No ___
> If not, how many weeks did it take you to get your first job?

Section V. Records Maintained

	Date Originated
Program Application	
Employer's Job Analysis	
Employer's Job Contract	

Section V. Records Maintained

	Date Originated
Employee's Job Contract	
Evaluation of Student	
by Supervisor at Work (Circle one: weekly, monthly, per job)	
by Teacher (Vocational) (Circle one: weekly, monthly, per job)	

The second and final revision of The Program Descriptive Factor Sheet encouraged further probing into

the design of each school district's program. Being explicit, these inquiries led to the following questions.

II. A. Program History

4. Student participants are drawn from how many high schools? ___ from how many junior high schools? ___

II. B. 2a. Administrator's salary ___ for ___ months.

2b. Was there an increase for those teachers and/or work-station supervisors participating in the Vocational Work-Study Program? Yes ___ No ___

If Yes, how much? ___

4. How many weeks have you been unemployed since June, 1966?

5. How many friends do you have at work? ___ (This question was later dropped due to the difficulty at arriving at a suitable definition.)

Revision 2

The Graduate Work History Form still remained a separate entity, with major changes affecting particularly the general format of the questionnaire.

Alternatives for questions (where appropriate) were listed: Section A, 5b. and c.; Section B, 1, 2b., 3b., 4, 5.

Question A. 4. appeared for the first time on the G.W.H.F. "While you were in the Work-Study Program, did you ever meet with anyone to talk about problems on your job(s)?

Yes ___
No ___

If yes, who, number of times individually; number of times on a group basis."

Revision 3

Only two changes called for a third revision. Firstly, it was thought the title, Graduate Work History Form could be dropped and that continuous numbering and lettering in proper chronological order should be employed, combining The Student History Form with The Graduate Work History Form.

Secondly, more appropriate limits were designated for those questions advancing alternatives.

Pretest and Re-test of the Student History Form--Revision III

On January 4, 1967 the questionnaire was submitted in person to two boys and eight girls who were active participants in The Vocational Work-Study Program

in Syracuse and who were graduated in June, 1966.[1] Each individual was given a sealed envelope which contained a copy of The Student History Form, a letter of introduction,[2] and an envelope for the questionnaire's return. These ten work-study program graduates were randomly selected from the list of the senior 1965-1966 participants originally submitted by the school system.

All questionnaires were completed with no apparent difficulty. A two-week period ensued before a re-test, utilizing nine of the ten subjects[3] took place on January 18, 1967.

The Pearson r correlation technique was used to indicate the degree of reliability. As such a high degree of reliability was apparent, we could assume that the questionnaire was also valid. The correlations are shown in Appendix I.

Three different statistical techniques, the Kendall-Tau, the Pearson product moment, and the Point Biserial, were utilized to test the data.

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[1] Arrangements had been made, however, to meet with 16 graduates--8 boys and 8 girls.

[2] See Appendix H.

[3] One student was drafted into the service before the re-test date.

Five educational variables and four factors related to job success were selected to be used as criteria to determine the relationship between students' economic efficiency level and the types of programs from which the students were graduated.

The Kendall-Tau rank correlation technique was used for hypotheses 1 through 4. These hypotheses were concerned with the degree of correspondence which existed between the proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program and the four job success factors.

The Pearson product moment correlation method was employed to measure the intensity of relationship between the students' grade point averages and the selected four job success factors (hypotheses 5 through 8). This same statistical method was again used for hypotheses 9 through 12--to determine the degree of significance between the number of hours of counseling and the job success variable.

The Kendall-Tau rank correlation technique was repeated for hypotheses 13 through 16 to measure the mark

of correspondence between the Administrators' salaries and the four job success factors.

For hypotheses 17 through 20, assignment of students to Work-Study job stations related to their major field and the four job success variables, the point-biserial technique was used.

CHAPTER IV

RESULTS

Introduction

Chapter IV presents an analysis of the data obtained in this investigatory study. The primary concern of this study was to identify aspects of work-study programs that seem to be most closely related to graduates' job success. In order to do this, it was necessary to identify factors involved in job success that could be used as criteria in determining which graduates had been the most successful occupationally. The Vocational Work-Study Programs of five New York State city school districts were included in the present study.

Three questionnaires were designed to serve as the basis for investigating significant job success factors:

1. Program Descriptive Factor Sheet (Appendix I)
2. Student History Form, Section A (Appendix F)
3. Student History Form, Section B (Appendix G).

The results of these questionnaires were analyzed in terms of: 1) the proportion of work-study administrators and supervisors to the number of students in the occupational program; 2) the D.O.T. level of graduates' jobs; 3) the proportion of students' available time actually employed after graduation (June, 1966-January, 1967); 4) students' actual job held upon graduation and students' actual job potential; 5) the job salaries of program graduates; 6) the grade point average of students; 7) the number of hours of counseling; 8) the administrators' salaries; 9) assignment of students to work-study job stations related to their major field of study in school; and 10) intelligence test results.

Three different statistical techniques were employed:

1. Kendall-Tau
2. Pearson product moment
3. Point Biserial

The first section of this chapter includes the data concerning each of the variables listed above as

recorded on the questionnaires. The second section contains the data found through statistical analyses.

Program Descriptive Factor Sheet

In order to present a clear, concise, comparative picture of each city's program, an item-by-item analysis is recorded below.

Program History

1. Was there a Cooperative Work-Study Program prior to the Vocational Education Act Program?

New York City

There were seventeen Cooperative Training Programs in accounting, bookkeeping, business machines, clerical practice, recordkeeping, retailing, stenography, typewriting, automotive trades, design, dressmaking, food trades, machine shop, millinery, needle trades, hospital aide, and plastics.

Rochester

The Rochester City School District offered five cooperative training programs.

The Cooperative Office Practice Program (1932)

The Cooperative Retail Program (1935-1942, started again in 1964)

The Edison Technical Industrial High School Cooperative Work Program (1935)

The Cooperative School Work Program (1959)

The Occupational Education Program (1959)

Schenectady

In Schenectady, there were cooperative training programs.

Cooperative Industrial Training
- Automobile Parts Manager
- Automobile Service Station Attendant
- Automobile Body Repairman
- Electrical Appliance Repairman
- Furniture Upholsterer
- Dry Cleaner
- Baker
- Copper-plate Printer
- Canteen Service Repairman
- Meat Cutter
- Silk Screen Specialist
- Greenhouse Worker

Cooperative Retailing

Cooperative Practical Nursing

Cooperative Office Practice

Syracuse

Prior to November 1, 1965, there were four types of work-study programs.

1. Office Occupations Work Experience Program
2. Sales Occupations Work Experience Program
3. School To Employment Program (STEP)
4. Special Education Work Study Program

Yonkers

The Industrial Cooperative Program was an integral part of the Yonkers School District's prior to the Vocational Work-Study Program.

Cooperative Training Programs included programs in printing, electrical wiring, automatic heating, carpentry, machine shop and auto mechanics.

2. Required modification of former program?

All cities responded, No.

3. Extension of Work-Study Program?

All cities responded, No.

4. Student participants are drawn from how many high schools? From how many junior high schools?

New York City

How many high schools? 61
How many junior high schools? 36

Rochester

How many high schools? 9
How many junior high schools? 0

Schenectady

How many high schools? 2
How many junior high schools? 5

Yonkers

How many high schools? 2
How many junior high schools? 0

II. B. 1. Number and Titles of members on student Screening and/or Advisory Committee:

Each school district reported the same answer--there exists no screening or advisory committee per se; however, a number of school personnel members representing various capacities may be involved in reviewing prospective work-study students. In each city, the chief consultant on, or, co-ordinator of, the Vocational Work Study Program, or as in the City of Yonkers, the Director of Vocational Education, has the privilege of either honoring the requests made by the school personnel (or, as in some cases, the requests made by the students themselves), or refusing admittance if the student does not

meet all necessary qualifications. Requests for student enrollment into the Vocational Work-Study Program may be forwarded by:

Principals
Vice-principals
Guidance counselors
Department chairmen
Deans of boys
Deans of girls
Classroom teachers

For any given student any combination of the above listed school-community members may serve as a "committee."

2. a. Administrator's salary for ten months.

New York City	$16,170
Rochester	11,650
Schenectady	10,810
Syracuse	11,050
Yonkers	11,000[1]

b. All cities reported that there was no increase in salary for these teachers and/or work station supervisors participating in the Vocational Work-Study Program.

3. The <u>functional</u> <u>definition</u> of student eligibility for participation in the program?

Each urban area included in this study quoted the

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[1]Salary quoted is that of the assistant to the Director of Vocational Education.

definition of "student eligibility" as recorded in P.L. 88-210. Tersely stated each student must be:

a. enrolled, on a full-time basis, in a vocational education program which acknowledges the standards prescribed by the State board and the local educational agency.[1]

b. in need of financial assistance to commence, continue, or return to, an approved vocational education program.

c. at least fifteen years of age and less than twenty-one years at the commencement of his employment.

4. Who is responsible for student placement?

The chief consultant[2] on, or coordinator of, the Vocational Work-Study Program. In Yonkers, it is the Director of Vocational Education.

How are students solicited to participate in the work-study program?

New York City and Yonkers

Through guidance counselors at each school, and school-wide announcements made by the principal and/or his assistants.

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[1] Yonkers City School District specifically stated only point A.

[2] Due to the size factor, each New York City school involved in the program has a work-study school supervisor. In reference to question 4, he would be responsible for student placement.

Rochester

1. Students may be approached by any member, or a "committee of" school-community personnel members.

2. Announcements are made in the high schools' newspapers.

3. Letters are sometimes forwarded to those students who may have previously worked in a cooperative training program or who were previously "employed" in the Vocational Work-Study Program. Statements concerning the work-study program are also addressed to those students who have expressed an open and active interest in the program.

4. Announcements are made in the schools.

Schenectady

Publicity for the work-study program in Schenectady is handled on an informal basis largely by the vocational education teachers. In this way all qualified students are made aware of the program and encouraged to participate.

Syracuse

1. In-school publicity

   Schools' newspapers
   Bulletins
   Announcements

2. In-school interviews

   a. Work-Study Program coordinator and the New York State Employment Counselor.

   b. Guidance department personnel and students.

3. Referrals from various community social agencies.

C. Length of Program

The Vocational Work-Study Program was originally financed in all the urban areas in this study in March of 1965.

Funding of this work-study program for the 1965-1966 academic year began in October in three of the cities included in this study, New York City, Schenectady, and Yonkers, and in November for the remaining two cities, Rochester and Syracuse.

D. Number of graduating participants
   1965-1966: Trade & Industry: Business Ed.: Other: Total

Due to the magnitude and scope of the program this request made of the school districts seemed unreasonable. For instance, in New York City 2,950 students participated in the 1965-1966 program. Rochester processed and placed 1,115 boys and girls. Schenectady, however, did have the information and readily made it available:

1965-1966 June Graduates

Vocational	Business Education	Technical	Total
16	26	4	46

E. Average length of student stay in Program.

	Approximately in weeks
New York City	32
Rochester	25
Schenectady (graduates only)	23
Syracuse	26
Yonkers	30

F. How many boys and girls: 1965-1966 academic year

Years of Age	New York City	Rochester	Schenectady	Syracuse	Yonkers
15-16	760	554	65	197	223
17-18	2,000	502	81	194	183
19-20	190	59	6	77	0
Total	2,950	1,115	152	468	406

G. How many of the 1965-1966 senior participants had previously dropped out of school?

New York City	Rochester	Schenectady	Syracuse	Yonkers
20	0	0	6	0

H. 1. Number of Vocational Work-Study Administrators and Supervisors.[1]

New York City	Rochester	Schenectady	Syracuse	Yonkers
640	440	49	108	29

2. Total number of students participating in the Work-Study Program, 1965-1966

New York City	Rochester	Schenectady	Syracuse	Yonkers
2,950	1,115	152	468	406

3. Number of senior participants, 1965-1966

New York City	Rochester	Schenectady	Syracuse	Yonkers
477	281	46	149	68

4. Number of graduating participants: 1965-1966

New York City	Rochester	Schenectady	Syracuse	Yonkers
477	281	46	149	68

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[1]School personnel as well as job station supervisors.

5. How many job station supervisors worked with seniors, September, 1965-June, 1966?

New York City	Rochester	Schenectady	Syracuse	Yonkers
N.A.[1]	N.A.	33	N.A.	N.A.

6. Maximum amount of students job station supervisors may have had at one time, 1965-1966?

New York City	Rochester	Schenectady	Syracuse	Yonkers
3	Typical 1[2]	3(A-V Dept)	Typical 1[3]	Typical 1[4]

III. Curriculum

A. Job Stations

New York City, Rochester, Schenectady, Syracuse and Yonkers

Jobs requiring the greatest skills, most frequently mentioned were:

Machine room assistants
Audio-visual assistants
Laboratory assistants
Key-punch operators
Librarian's assistant
Typists

The least-skilled jobs mentioned were:

Cafeteria aides
Custodian helpers
Laundry workers
Mail distributors
Office messengers

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[1] Not available.

[2] 6 maximum in custodial positions.

[3] 5 in custodial positions.

[4] 5 in custodial positions.

B. Location of job stations

It is clear that all the urban school districts involved in this study met with compliance regarding paragraph 4 of Part C of Section 13 of Public Law 88-210, that employment of students be in the local educational agency or for some other public agency or institution (Federal, State or local).

New York City

All but 4 percent of the business education students worked for the school-community.

Rochester and Schenectady

All vocational work-study students were placed on jobs, in various capacities, within the school-community.

Syracuse, Yonkers

Nearly all participating students in 1965-1966 work-study program were placed in school situations; however, some did work for city governmental agencies, such as City Health Department and public libraries.

C. Salary Range

The rate of $1.25 per hour was paid to all New York State "student-employees" participating in the vocational work-study program.

D. Average Number of Jobs Assigned per Student, 1965-1966

New York City	Rochester	Schenectady	Syracuse	Yonkers
1	1	1	1	1

E. Average Duration of Assignments

Each city's response was that a student, once placed at a particular work-station, was to remain there until the program came to a formal close at the end of the academic year.

IV. Scheduling

All five cities utilize the same general plan for scheduling students' academic responsibilities and work programs: A.M. in school; P.M. at work. Yet each program, with the exception of Yonkers, is flexible in that students are allowed to work in the mornings before school and, in some cases, during students' free-periods.

B. Hours per Week for Counseling[1]

New York City

If counseling services are needed and extended, they are done so on an individual basis by a guidance counselor.

Rochester, Schenectady,
Syracuse and Yonkers

In addition to the benefits a student would receive typically from qualified counseling personnel, a work-study student also receives guidance from the coordinator or consultant in charge of the work-study program as well as his work-station supervisor.

Yonkers couples the above services with two special group-counseling sessions headed by the director of vocational education and his assistant.

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[1]The impetus for asking this question stems from two statements recorded in a pamphlet issued by the Division of Special Occupational Services.

Topic 6. Suggested Development

c. . . . One major role of the supervisor is to help the student develop and maintain a responsible attitude toward his studies and the performance of his job. Counseling should be a major responsibility of the supervisor.

d. Adequate coordination and counseling time should be allotted to the supervisor in order to have the Work-Study Program operated effectively. Youth Work-Study Program, p. 3.

Schenectady has a counseling program similar to that which exists in Yonkers, only the students meet collectively three times during the course of the academic year.

C. 1. Who determines the academic subjects taken by students?

All cities reported the same: the guidance counselors.

2. Who correlates vocational subjects with the work-experience phase of the program?

New York City

In vocational high schools, correlations of vocational subjects with the work-phase of the program is performed by the school work-study supervisor.

In academic high schools, this responsibility is assumed by the school work-study supervisor and the guidance counselor.

In the junior high schools, this task is assumed by the teachers in charge of the career guidance program.

Rochester, Schenectady,
Syracuse and Yonkers

In the main, this task is primarily that of the consultant or coordinator or the director of vocational education in charge of the work-study program. However, in some situations, other school personnel members, such as the guidance counselor or departmental chairman, may be involved in planning a student's school program.

3. Evaluation of on-the-job experience performed by whom?

New York City

1. The work-station supervisor

2. The school work-study supervisor.

Rochester, Schenectady,
Syracuse and Yonkers

1. The work-station supervisor

2. The consultant, or coordinator of the work-study program.

4. Programs of Vocational Education are to be geared to labor market needs, both immediate and future. Who is responsible for this type of reporting?

New York City

Principals of vocational high schools.

Rochester and Syracuse

The Director of Vocational Education.

Schenectady

The Vocational Advisory Board.

Yonkers

1. The Director of Vocational Education.

2. Advisory Board of Vocational and Extension Education.

5. a. Is there any coordination of the counseling services offered by the schools and the local employment service agency?

New York City, Rochester, Schenectady and Syracuse gave the same answer, Yes; Yonkers, No.

b. If so, who is responsible for this coordination?

The response from the participating cities was the New York State Employment Counselor and school guidance counselor.

Evaluation of Student

a. by supervisor of student worker at work:

New York City

Weekly--Orally

Rochester

Daily--Orally

In written form, the student is evaluated three times during the course of the academic year.

Schenectady

Daily--Orally
Written reports are made out weekly

Syracuse

Daily--Orally
In written form, once at the close of the academic year

Yonkers

Daily--Orally
In written form, once a month.

b. by student's vocational teacher:

New York City

Quarterly--Written

Rochester, Syracuse

As needed

Schenectady

In most cases, the students' work-station supervisors are also the students' vocational teachers. In situations where this is not true, the vocational teachers evaluate students once a month.

Yonkers

Not applicable.

c. by Program Coordinator:

New York City

Not done at all. As explained, the one coordinator of the vocational work-study program is completely occupied with maintaining accurate payroll ledgers for the 101 participating schools.

Rochester

Every other week

Schenectady

Once every two months

Yonkers

Once monthly.

Student History Form, Section A[1]

The following data summaries represent, in tabular form, for the five urban areas, the patterns of responses to the SHF, Section A given by participating seniors in the Vocational Work-Study Program for the academic year 1965-1966.

Of the 1,049, June, 1966 graduates of the Vocational Work-Study Program, 246 graduates were chosen for inclusion in this study. Although 154 questionnaires were returned to this investigator, only 127 had been completed by the graduates of the program. Twenty-seven were returned either by postal authorities due to insufficient addresses and/or addressees unknown (17) or by the graduates' parents or siblings (9). One graduate stated that he chose not to participate in this study.

Yet, as this study is concerned with the work-history of the graduates of the Work-Study Program, 37 returned questionnaires could not be utilized for testing the hypotheses as they were returned by graduate(s) who currently:

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[1]See Appendix L for raw data.

1. hold a military status (4),
2. are college students (24),
3. are enrolled in business or secretarial school,
4. is enrolled in nursing school (1),
5. is registered in a technical school (1),
6. returned for a post-graduate course in high school (1),
7. are housewives (3).

TABLE 3

ANALYSIS OF STUDENT RESPONSE TO SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
1. Number of Senior Students in Population; Participants, 1965-1966 Vocational Work-Study Program:						
a. Boys	229	50	14	37	66	396
b. Girls	248	156	32	111	106	653
c. Subtotals	477	206	46	148	172	1,049

TABLE 3--Continued

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
2. Twenty Percent of Population Sampled:						
a. Boys	47	20	14	15	17	113
b. Girls	48	21	32	15	17	133
c. Subtotals	95	41	46	30	34	246
3. Total Responding to Questionnaire						
a. Boys	26	15	10	8	12	71
b. Girls	22	12	27	10	12	83
c. Subtotals	48	27	37	18	22	154
4. Total Number of Completed SHF, Sec.A:						
a. Boys	18	11	7	7	10	53
b. Girls	19	12	23	8	12	74
c. Subtotals	37	23	30	15	22	127
5. Total Number of SHF, Sec. A which were not completed:						
a. Boys	8	4	3	1	2	18
b. Girls	3		4	2		9
c. Subtotals	11	4	7	3	2	27

TABLE 3--Continued

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
6. Rationale for SHF, Sec. A which were not completed:						
a. Insufficient Address	3		2	1	1	7
b. Addressee Unknown	5	1	3	1		10
c. Refused to Participate			1			1
d. Boys in Service (SHF, Sec. A returned by parent or sibling)	3	3	1	1	1	9
e. Subtotals	11	4	7	3	2	27
7. Total Number of SHF, Sec. A Usable for Analysis of Hypotheses:						
a. Boys	15	8	3	4	2	32
b. Girls	16	12	13	8	9	58
c. Subtotals	31	20	16	12	11	90
8. Total Number of SHF, Sec. A Unusable for Analysis of Hypotheses:						
a. Boys	3	3	4	3	8	20
b. Girls	3		10		3	17
c. Subtotals	6	3	14	3	11	37

TABLE 3--Continued

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
9. Rationale for SHF, Sec. A Unusable for Analysis of Hypotheses:						
a. Boys in Service (who completed SHF, Sec. A)	2	1			1	4
b. Currently Enrolled in College:						
1) Boys	1	2	4	2	7	16
2) Girls	1		5		2	8
3) Subtotals	2	2	9	2	9	24
c. Currently Enrolled in Nursing School	1					1
d. Currently Enrolled in Business or Secretarial School			2	1		3
e. Currently Enrolled in Technical School			1			1
f. Currently Enrolled in High School[a]	1					1
g. Housewives			2		1	3
h. Subtotals	6	3	14	3	11	37

[a]Post-graduate course.

Results of Hypotheses

$H_{1,2,3,4}$: The proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program will show a positive relationship to job success factors for the seven month period following graduation (see Table 4).

TABLE 4[a]

NUMBER OF WORK-STUDY ADMINISTRATORS AND SUPERVISORS AND STUDENTS, PERCENTAGE, AND RANK OF CITIES ACCORDING TO PERCENTAGE

	Administrators and Supervisors (In Raw Numbers)	Students (In Raw Numbers	Percent	Rank
New York City	649	2,950	22	4
Rochester	440	1,115	40	1
Schenectady	49	152	32	2
Syracuse	108	468	24	3
Yonkers	29	406	07	5

[a]Cities are listed alphabetically.

For hypotheses 1-4, the Kendall-Tau rank correlation method was used. For both hypotheses 1 and 2, the proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program is

related to: 1) the D.O.T. level of graduates' jobs and 2) the proportion of students' available time actually employed after graduation. The degree of correspondence recorded for hypotheses 1 and 2 is -.2.

For H_3, a low, but positive relationship of .2 existed between the proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program and the students' actual job held upon graduation and students' actual job potential.

A zero relationship is established between the proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program and job salaries of program graduates. The rankings of the five cities according to D.O.T. level of students, percentage of time employed, actual job versus job potential and hourly wages of students are listed in Table 5.

Table 6 provides the reader with a listing of the five cities according to the proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program and also graphically charts each city's position in light of other variables.

TABLE 5[a]

RANK OF CITIES ACCORDING TO D.O.T., PERCENTAGE OF TIME EMPLOYED, ACTUAL JOB VS. JOB POTENTIAL, HOURLY WAGE OF STUDENTS

	D.O.T. Level of Students		Percentage of Time Employed		Actual Job vs. Job Potential		Hourly Wage of Students	
	$\bar{X}$	Rank	$\bar{X}$	Rank	$\bar{X}$	Rank	$\bar{X}$	Rank
New York City	26.97	5	79.50	4	.64	5	1.73	4
Rochester	24.05	3	87.75	3	-.09	3	2.09	1
Schenectady	25.00	4	75.31	5	.93	1	1.71	5
Syracuse	22.75	2	97.17	1	.33	4	1.82	3
Yonkers	22.55	1	89.55	2	-.73	2	1.89	2

[a]Cities are listed alphabetically.

TABLE 6

PROPORTION OF WORK-STUDY ADMINISTRATORS AND SUPERVISORS IN RELATION TO D.O.T., SALARY, PERCENTAGE OF TIME EMPLOYED, AND JOB POTENTIAL VS. ACTUAL JOB

	Rochester	Schenectady	Syracuse	New York City	Yonkers
Proportion of Work-Study Administrators & Supervisors	1	2	3	4	5
D.O.T.	3	4	2	5	1
Salary	1	5	3	4	2
Percentage of Time Employed	3	5	1	4	2
Job Potential vs. Actual Job	3	1	4	5	2

$$\tau = \frac{P - Q}{1/2(n)(n-1)} \qquad n = 5$$

	Variable			
	D.O.T.	Percentage of Time Employed	Potential vs. Actual	Salary
P	4	4	6	5
Q	6	6	4	5
τ	-.2	-.2	-.2	0

No significant trends could be noted by the Kendall-Tau correlation rank technique toward increase in the proportion of Work-Study Administrators and Supervisors to students with regard to the D.O.T. level of graduates' jobs, the proportion of time students were employed, the students' actual job held and students' job potential, and the job salaries of program graduates.

Due to the lack of pertinent information in the students' cumulative records, or students' unemployment, or students' omission of essential information on the Student History Form (Section A), the number of observations for each variable included in $H_{5,6,7,8}$ varied.

The Pearson product moment correlation technique is used to measure the intensity of correspondence between the students' grade point averages and:

1. the D.O.T. classification of graduates' jobs;
2. the proportion of students' time actually employed after graduation;
3. the difference between the actual job held after graduation and students' actual job potential;
4. job salaries of program graduates.

The number of observations and the results of the analysis between the students' grade point averages and D.O.T. classification of graduates' jobs are presented in Table 7. The coefficient of correlation equaled .19.

TABLE 7

ANALYSIS OF GRADUATES' GRADE POINT AVERAGES IN RELATION TO D.O.T.

X = D.O.T.	Y = Grade Point Average
$t_{(n-2)} = \frac{r}{\sqrt{1 - r^2}} (\sqrt{n-2})$	N = 89
	ΣX = 2204.0000
t = 1.77	ΣX^2 = 55830.0000
	ΣY = 6943.0000
	ΣY^2 = 544667.0000
	ΣXY = 171566.0000
	$\bar{X}$ = 24.7640
	$\bar{Y}$ = 78.0112
COEFFICIENT OF DETERMINATION	= .0362
COEFFICIENT OF CORRELATION	= .1903

The relationship of grade point average and proportion of students' time actually employed after graduation provides a correlation that is a positive, yet not statistically significant .16. The sample size and results are contained in Table 8.

TABLE 8

RELATIONSHIP OF GRADUATES' GRADE POINT AVERAGES AND PROPORTION OF TIME EMPLOYED

X = Percentage of Time Employed	Y = Grade Point Average
	N = 90
$t_{(n-2)} = \frac{r}{\sqrt{1-r^2}}(\sqrt{n-2})$	ΣX = 7376.0000
	ΣX^2 = 698456.0000
	ΣY = 7018.0000
t= 1.58	ΣY^2 = 550432.0000
p< .10	ΣXY = 578067.0000
	$\bar{X}$ = 81.9555
	$\bar{Y}$ = 77.9777
COEFFICIENT OF DETERMINATION	= .02817
COEFFICIENT OF CORRELATION	= .1678

The degree of relationship between the students' grade point averages and the difference between the actual job held after graduation and students' actual job potential is not statistically significant: the coefficient of correlation was .08. The number of observations and the results are presented in Table 9.

TABLE 9

RELATIONSHIP OF GRADUATES' GRADE POINT AVERAGES AND JOB POTENTIAL VS. ACTUAL JOB

X = Grade Point Average	Y	= Job Potential vs. Actual Job
$t_{(n-2)} = \frac{r}{\sqrt{1-r^2}}(\sqrt{n-2})$	N	= 77
	ΣX	= 5990.0000
	ΣX^2	= 468558.0000
t = .69	ΣY	= 541.0000
p < .25	ΣY^2	= 4195.0000
	ΣXY	= 42003.0000
	$\bar{X}$	= 77.7922
	$\bar{Y}$	= 7.0259
COEFFICIENT OF DETERMINATION		= .00670
COEFFICIENT OF CORRELATION		= .0818

The following analysis was based upon students' grade point averages and job salaries. The mark of relationship between the variables is considered not statistically significant as the degree of correspondence was .08. The sample size and the results are contained in Table 10.

TABLE 10

RELATIONSHIP OF GRADUATES' GRADE POINT AVERAGES AND JOB SALARIES

X = Grade Point Average	Y	= Salary
	N	= 87
$t_{(n-2)} = \frac{r}{\sqrt{1 - r^2}} (\sqrt{n - 2})$	ΣX	= 16092.0000
	ΣX^2	= 3115176.0000
t = .80	ΣY	= 6809.0000
p < .25	ΣY^2	= 535977.0000
	ΣXY	= 1261221.0000
	$\bar{X}$	= 184.9655
	$\bar{Y}$	= 78.2643
COEFFICIENT OF DETERMINATION		= .00751
COEFFICIENT OF CORRELATION		= .0867

No trends could be noted by correlation toward increase in D.O.T. classification, the proportion of students' time actually employed after graduation, the difference between the actual job held after graduation and students' actual job potential, and students' job salaries as students' grade point averages increase.

The number of hours of student counseling is used as a basis in formulating $H_{9,10,11,12}$. The Pearson product moment correlation method is repeated. A

discrepancy exists between the reported usable student forms and the stated size of the sample for each of the variables included in $H_{9,10,11,12}$. This dissimilarity in reporting is due to the lack of information in the students' cumulative folders or to the students' non-admission of data.

H_9: The number of hours of counseling will show a positive relationship to the D.O.T. classification of graduates' jobs.

The coefficient of correlation equals .0997. The number of responses and the results are presented in Table 11.

TABLE 11

RELATIONSHIP OF NUMBER OF HOURS OF COUNSELING TO D. O. T.

X = D.O.T.	Y = Number of Hours of Counseling
$t_{(n-2)} = \frac{r}{\sqrt{1 - r^2}} (\sqrt{n - 2})$	N = 88.0000
	ΣX = 2179.0000
	ΣX^2 = 55185.0000
t = .93	ΣY = 347.0000
$p < .20$	ΣY^2 = 6359.0000
	ΣXY = 8345.0000
	$\overline{X}$ = 24.7613
	$\overline{Y}$ = 3.9431
Coefficient of Determination =	.00995
Coefficient of Correlation =	.0997

H_{1o}: The number of hours of counseling will be related to the proportion of student time employed after graduation.

The coefficient of correlation recorded is -.48665. The size of the sample and the results are presented in Table 12.

TABLE 12

RELATIONSHIP OF NUMBER OF HOURS OF COUNSELING TO PERCENTAGE OF TIME EMPLOYED

X = Percentage of Time Employed	Y = Number of Hours Counseled
$t_{(n-2)} = \frac{r}{\sqrt{1 - r^2}} (\sqrt{n - 2})$	N = 89.0000
	ΣX = 7576.0000
	ΣX^2 = 698456.0000
t = .45	ΣY = 327.0000
p < .35	ΣY^2 = 5701.0000
	ΣXY = 27080.0000
	$\bar{X}$ = 85.1235
	$\bar{Y}$ = 3.6741
Coefficient of Determination =	.002367
Coefficient of Correlation =	.04866

H_{11}: The number of hours of counseling will show a positive relationship to the difference between the students' actual job held after graduation and students' actual job potential.

The degree of relationship between the two variables equals .123296. The number of observations and the results are presented in Table 13.

TABLE 13

RELATIONSHIP OF NUMBER OF HOURS OF COUNSELING TO JOB POTENTIAL VERSUS ACTUAL JOB

X = Number of Hours Counseled	Y = Job Potential Versus Actual Job
$t_{(n-2)} = \frac{r}{\sqrt{1 - r^2}} (\sqrt{n - 2})$	N = 75.0000
t = 1.05	ΣX = 336.0000
	ΣX^2 = 6236.0000
p < .15	ΣY = 522.0000
	ΣY^2 = 4038.0000
	ΣXY = 2168.0000
	$\overline{X}$ = 4.4800
	$\overline{Y}$ = 6.9600
Coefficient of Determination	= .0152
Coefficient of Correlation	= .1232

H_{12}: The number of hours of counseling will show a positive relationship to the job salaries of program graduates.

The coefficient of correlation is equal to .1643. The sample size and the results are charted on Table 14.

TABLE 14

RELATIONSHIP OF NUMBER OF HOURS OF COUNSELING TO JOB SALARIES

X = Salary	Y = Number of Hours Counseled
$t_{(n-2)} = \frac{r}{\sqrt{1 - r^2}} (\sqrt{n - 2})$	N = 90
	ΣX = 16290.0000
t = 1.56	ΣX^2 = 3122408.0000
	ΣY = 344.0000
p < .10	ΣY^2 = 6262.0000
	ΣXY = 67084.0000
	$\bar{X}$ = 181.0000
	$\bar{Y}$ = 3.8222
Coefficient of Determination	= .0270
Coefficient of Correlation	= .1643

No significant trends could be noted by correlation when the number of counseling hours is related to each of the four variables mentioned (D.O.T., salary, job potential, employment).

H_{13}: The administrators' salaries will show
H_{14}: a positive relationship to job success
H_{15}: factors for the seven-month period
H_{16}: following graduation.

Each city has been ranked according to the reported ten-month administrator's salary. The information is presented in Table 15.

TABLE 15[a]

TEN-MONTH SALARY OF WORK-STUDY ADMINISTRATORS

City	Salary	Rank According to Salary
New York City	$16,170	1
Rochester	11,650	2
Schenectady	10,810	5
Syracuse	11,050	3
Yonkers	11,000	4

[a]Cities are listed alphabetically.

Table 16 is a diagrammatic ranking of each variable: 1) the D.O.T. classification of graduates' jobs; 2) the proportion of students' time employed after graduation; 3) the difference between the actual job held after graduation and students' actual job potential; 4) salaries of program graduates, when correlated with the administrators' salaries. The degree of correspondence between the variables is noted.

TABLE 16

RANK OF CITIES ACCORDING TO D.O.T., PERCENTAGE OF TIME EMPLOYED, JOB POTENTIAL VERSUS ACTUAL JOB, AND GRADUATES' SALARIES CORRELATED WITH ADMINISTRATORS' SALARIES

	New York City	Rochester	Syracuse	Yonkers	Schenectady
Administrators' Salaries	1	2	3	4	5
D.O.T. Classification	5	3	2	1	4
Percentage of Time Employed	4	3	1	2	5
Job Potential vs. Actual Job	5	3	4	2	1
Salary of Program Graduates	4	1	3	2	5

$$\tau = \frac{P - Q}{1/2(n)(n - 1)} \qquad n = 5$$

Variable

	D.O.T. Classification	Percentage of Time Employed	Job Potential vs. Actual Job	Salary of Program Graduates
P	3	5	1	6
Q	7	5	9	4
τ	- .4	.0	- .8	- .2

No significant trends could be noted by correlation toward increase or decrease with each of the variables as the administrators' salaries increased.

Assignment of students to Work-Study job stations related to their major field was used as the basis for the final group of hypotheses. The point-biserial technique was used.

Low and not statistically significant correlations are noted for each of the variables.

> H_{17}: The students' D.O.T. classification did not appear to be strongly influenced by the assignment of students to work-study job stations related to their major field.

For this hypothesis a positive correlation of .1557 exists. Forty-nine students' job stations were related to their major field of study; thirty-eight students' job stations were not related to their major field of study.

The results of the above analysis are presented in Table 17.

TABLE 17

RELATED WORK-STUDY JOB STATIONS AND D.O.T. CLASSIFICATION OF GRADUATES

Point-Biserial

$$Y_b^2 = \frac{(\Sigma X_0)^2}{N_0} + \frac{(\Sigma X_1)^2}{N_1} - \frac{(\Sigma X)^2}{N}$$

$$Y_t^2 = \Sigma X^2 - \frac{(\Sigma X)^2}{N}$$

$$Y_w = Y_t^2 - Y_b^2$$

$$r_{pb} = \sqrt{\frac{Y_b^2}{Y_w^2}}$$

Y_b^2 = 29.6

Y_t^2 = 1249.9

Y_w^2 = 1220.3

r_{pb} = .1557

	Related	Non-related
N	49	38
ΣX	1188.0000	966.0000
ΣX^2	29130.0000	25450.0000
Sample Mean	24.2448	25.4210
Sample variance	6.6747	23.5069
Estimate of Population Variance	6.8137	24.1422
Sample SD	2.5835	
Estimate of Population SD	2.6103	

$$t_{(n-2)} = \frac{r}{\sqrt{1 - r^2}} (\sqrt{n - 2})$$

$t = 1.45$

$p < .10$

H_{1s}: The basis for the next analysis was Work-Study job stations related to the students' time employed after graduation.

The degree of correspondence between these two variables is .212. The number of observations and the results of the analysis are presented in Table 18.

TABLE 18

RELATED WORK-STUDY JOB STATIONS AND PROPORTION OF STUDENTS' TIME EMPLOYED AFTER GRADUATION

Point-Biserial

$$Y_b^2 = \frac{(\Sigma X_o)^2}{N_o} + \frac{(\Sigma X_1)^2}{N_1} - \frac{(\Sigma X)^2}{N}$$

$$Y_t^2 = \Sigma X^2 - \frac{(\Sigma X)^2}{N}$$

$$Y_w^2 = Y_t^2 - Y_b^2$$

$$r_{pb} = \sqrt{\frac{Y_b^2}{Y_w^2}}$$

Y_b^2 = 2561.438

Y_t^2 = 59648.280

Y_w^2 = 57082.840

r_{pb} = .212

	Related	Non-related
N	49	38
ΣX	4340.0000	2950.0000
ΣX^2	403500.0000	267000.0000
Sample Mean	88.5714	77.6315
Sample Variance	389.7958	999.6357
Estimate of Population Variance	397.9166	1026.6714
Sample SD	19.7432	31.6173
Estimate of Population SD	19.9478	

$$t_{(n-2)} = \frac{r}{\sqrt{1 - r^2}} \quad (\sqrt{n - 2})$$

$t = 1.98$

$p < .05$

H_{19}: When job stations are related to major fields, the discrepancy between students' potential and actual job level decreases.

The intensity of correlation equaled .0524.

The numbers of observations recorded were: 1) 45 who had been placed in job stations related to their major field of study; and 2) 28 who had not been placed in work situations where they could utilize the skills they were learning. The smallness of the latter group was due to the lack of information necessary to determine each student's job potential.

The results of this analysis are contained in Table 19.

TABLE 19

RELATED WORK-STUDY JOB STATIONS AND ACTUAL JOB AND JOB POTENTIAL

Point-Biserial

$$Y_b^2 = \frac{(\Sigma X_o)^2}{N_o} + \frac{(\Sigma X_1)^2}{N_1} - \frac{(\Sigma X)^2}{N}$$

$$Y_t^2 = \Sigma X^2 - \frac{(\Sigma X)^2}{N}$$

$$Y_w^2 = Y_t^2 - Y_b^2$$

$$r_{pb} = \sqrt{\frac{Y_b^2}{Y_w^2}}$$

$Y_b^2 =$ .95901

$Y_t^2 =$ 349.1233

$Y_w^2 =$ 348.1643

$r_{pb} =$ .0524

	Related	Non-related
N	45	28
ΣX	306.0000	197.0000
ΣX^2	2244.0000	1571.0000
Sample Mean	6.8000	7.0357
Sample Variance	3.6266	6.6058
Estimate of Population Variance	3.7090	6.8505
Sample SD	1.9043	2.5701
Estimate of Population SD	1.9259	2.6173

$$t_{(n-2)} = \frac{r}{\sqrt{1 - r^2}} \quad (\sqrt{n - 2})$$

$t =$ .45

$p <$ .35

H_{2o}: The degree of correspondence between students working in related work-study job stations and the graduates' salaries was negative and low.

The degree of relationship recorded is -.0317. The sample size and the results are recorded in Table 20.

TABLE 20

RELATED WORK-STUDY JOB STATIONS AND SALARIES OF PROGRAM GRADUATES

Point-Biserial

$$Y_b^2 = \frac{(\Sigma X_0)^2}{N_0} + \frac{(\Sigma X_1)^2}{N_1} - \frac{(\Sigma X)^2}{N}$$

$$Y_t^2 = \Sigma X^2 - \frac{(\Sigma X)^2}{N}$$

$$Y_w^2 = Y_t^2 - Y_b^2$$

$$r_{pb} = \sqrt{\frac{Y_b^2}{Y_w^2}}$$

$Y_b^2 =$ 1812

$Y_t^2 =$ 20624

$Y_w^2 =$ 204428

$r_{pb} =$ -.0317

	Related	Non-related
N	49	37
ΣX	8809.0000	6768.0000
ΣX^2	1634137.0000	1393532.0000
Sample Mean	179.7755	182.9189
Sample Variance	1030.5010	4203.6960
Estimate of Population Variance	1051.9697	4320.4653
Sample SD	32.1014	64.8359
Estimate of Population SD	32.4340	65.7302

$$t_{(n-2)} = \frac{r}{\sqrt{1 - r^2}} \quad (\sqrt{n - 2})$$

$t = .28$

$p < .40$

No significant trends could be noted by correlation between students working in related work-study job stations and their 1) D.O.T. classification, 2) the discrepancy between the students' job potential and actual job level, and 3) the graduates' salaries.

CHAPTER V

SUMMARY, DISCUSSION AND CONCLUSIONS

> Right now I am unemployed. I go around looking for a job but I can't find one. I went back to the high school I graduated from they sent me to . . . Placement Center . . . But I still don't have a job.[1]

Summary and Discussion

The clear and calloused fact that greater numbers of our youth will be attempting to carve their niche in the labor market without a proper occupational high school education has caused great concern among government officials, educators and business leaders.

> It is projected that 9,000,000 youths--1 of every 4 reaching age 18--will lack a high-school education when they enter the job market over the next years. With the number of unskilled jobs dwindling, labor specialists foresee the build-up of a large corps of unemployables unless action is taken now to reduce the number of drop-outs.[2]

The Federal government took action to attempt to solve this social pathological condition by approving and

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[1] Statement written by a June, 1966 graduate of a Vocational Work-Study Program in one of the five New York State city school districts included in this study. (Student History Form, Sec. A.)

[2] Mark Arnold, "Private Industry Expands Its Efforts to Keep Likely Drop-Outs in School," The National Observer (March 8, 1965).

enacting into legislation the Vocational Education Act of 1963, P.L. 88-210.

P.L. 88-210, as signed by President Johnson, appropriates $60 million for the fiscal year ending June 30, 1964, $118.5 million for the fiscal year ending June 30, 1965, $177.5 million for the fiscal year ending June 30, 1966, and $225 million for the fiscal year ending June 30, 1967 and each fiscal year thereafter.[1]

The rationale behind the Law can be summarized as the creation, upgrading, and addition of school offerings to persons between 15 and 21 years of age, both in and out of school. The Law was designed to extend part-time employment to high school students who are in need of earnings to "commence, continue, or return to," an approved vocational education program on a full-time basis.

A review of the literature reveals that there are no projects in which the relative merits of the Vocational Work-Study Programs operating under P.L. 88-210 were studied for evaluative purposes and that no such research

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[1] Vocational Education Act of 1963, Part A, Sec. 2, p. 1.

is currently being funded by the U.S. Office of Education.

The work experience program can be a real school and community service. In addition to providing opportunities and benefits for students, it makes for a more effective school program. Also, it has values for employers as well as for the general community.

Yet, while theoretical statements declare the distinct advantages of work-experience programs, Horace A. Oliver[1] reports that these types of programs ". . . don't work. Specifically, the students don's work." He writes that students are involved with the wrong types of jobs, and as a direct result, they can't find work.

The primary purpose of this study was to identify aspects found in the Vocational Work-Study Programs in five New York State city school districts: New York City; Rochester; Schenectady; Syracuse; and Yonkers, that seem to be most closely related to graduates' job success. Thus, it was necessary to identify job success factors to be used as criteria in determining which graduates had

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[1]"Des Moines, Iowa: Industry Trains--and Hires--Vocational Students," School Management, VIII (May, 1964), 134.

been the most occupationally successful.

Five variables relating to the work-study programs were surveyed:

1. The proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program;
2. The students' grade point averages;
3. The number of hours of counseling;
4. The administrators' salaries;
5. Assignment of students to Work-Study job stations related to students' major field.

These variables were related to four job success factors:

1. The D.O.T. classification of graduates' jobs;
2. The proportion of students' available time actually employed after graduation;
3. The students' actual job held upon graduation and the students' actual job potential;
4. The job salaries of program graduates.

An attempt was made to determine whether the programs having higher ratings on the five variables listed above placed the graduates in correspondingly better job situations. Twenty hypotheses were constructed for the study.

As no formal instruments had been constructed previously to identify strengths and/or weaknesses of Vocational Work-Study Programs operating under The Vocational Education Act of 1963, three questionnaires were designed and utilized to serve as the basis for investigating significant job success factors:

1. Program Descriptive Factor Sheet (Appendix I)
2. Student History Form, Section A (Appendix F)
3. Student History Form, Section B (Appendix G).

Although, in the main, no statistically significant trends were indicated, two hypotheses were found to be significant at the .05 level of confidence.

1. H_5: The students' grade point averages will have a positive relationship to the D.O.T. classification of graduates' jobs.

The Pearson Product Moment correlation technique was used. The results are summarized in Table 7.[1] This finding supports Channing's[2] earlier report that in-school achievement is related to on-the-job success.

2. H_{17}: Assignment of students to Work-Study job stations related to students' major field

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[1]See Chapter IV, p.

[2]Channing, op. cit.

will be related to the proportion of students' time employed after graduation.

The Point-Biserial technique was utilized. The results are contained in Table 18, page 145.

The first four hypotheses stated that the proportion of Work-Study Administrators and Supervisors to the number of students would show a positive relationship to:

1. The D.O.T. classification of graduates' jobs;
2. The proportion of students' available time actually employed after graduation;
3. The students' actual job held upon graduation and students' actual job potential;
4. The job salaries of program graduates.

The results of the present study did not support these hypotheses. Rochester, the city which was ranked highest in terms of Work-Study personnel to the number of Work-Study students, was ranked third when comparing the D.O.T. levels of graduates' jobs for the five cities, third highest for the percentage of students' time employed since graduation, and again third for students' actual job versus job potential. Rochester did rank

highest when considering the hourly wage of program graduates--$2.09. Yet it would be somewhat mendacious to honor a direct "cause and effect" relationship between the proportion of Work-Study Administrators and Supervisors to students and students' hourly wage. Rochester's relatively high general economy is an obvious factor which must be considered.

Unfortunately, it was not possible to obtain from four cities the number of Work-Study Administrators and Supervisors who worked exclusviely with seniors.

Eighty of the 127 study participants either strongly or mildly agreed that the Work-Study program could be improved. Sixty-five graduates chose to explain what ameliatory changes should be made; 18 responses (27 percent) suggested that greater supervision of students' work was in order.[1]

The rationale for constructing the second hypothesis was based upon the declared purpose of P.L. 88-210.

> It is the purpose . . . to assist them [States] to maintain, extend, and improve

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[1]See Appendix L, Table 36, for complete account of graduates' attitude of how the Work-Study Program could be improved.

> existing programs of vocational education, to develop new programs of vocational education, and to provide part-time employment for youths who need the earnings . . . to continue their vocational training. . . .[1]

It was assumed by the investigator that by continuing, and/or upgrading and/or adding curricula, which were designed with student needs and abilities in mind, that the students' academic performance and attitudes toward school would be improved appreciably, which in turn would influence their post-school careers.

Assuming the graduates' recall was accurate and relatively objective and assuming an "either--or" type of response is all that is necessary for discussion purposes, then 72 percent of the recorded graduates' responses indicated that they did "better" in their school work while participating in the Work-Study Program; 24 percent indicated that the Work-Study Program did not improve their school grades and 4 percent of the sample chose to ignore the question.[2]

Disregarding the 4 percent who did not respond to the question, the complexion of the over-all pattern changes appreciably if both ends of the continuum are

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[1] Vocational Education Act of 1963, p. 1.

[2] See Appendix L, Table 33, for complete account of graduates' responses.

weighed individually, strongly agree--strongly disagree, and both moderate-type responses--mildly agree and mildly disagree are grouped together. The responses would then read--27 percent, strongly agree; 9 percent, strongly disagree; and 60 percent; irresolute or mildly agree and mildly disagree.

While constructing the attitudinal section of the questionnaire,[1] it was decided to force the subjects to respond in an "either--or" pattern. Possibly, allowance for "No Change" should have been taken into account.

With reference to Question 15,[2] would that percentage, if any, of those who underscored mildly agree--mildly disagree, have recorded, "No Change," had the neutral choice existed?

As previously stated, the students' grade point averages did show a statistically significant relationship when correlated with the graduates' D.O.T. job classification level at the .05 level of confidence.

The remaining correlations for hypotheses 2, 6, 7, and 8 concerning grade point average when correlated

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[1]See Appendix F, Student History Form, Section A, Questions 12-17.

[2]"I did better in my school work while in the Work-Study Program."

with 1) the proportion of students' time actually employed after graduation, 2) the difference between the actual job held after graduation and students' actual job potential, and 3) job salaries of program graduates, even though not statistically significant, are positive. Hence, the general tendency suggested is that students' school achievement may influence the job success factors identified for this study.

Regarding hypotheses 9, 10, 11 and 12, notwithstanding the low degrees of relationship between the number of hours of counseling and the four job success factors, all correlations were positive. The implication here suggests that through proper guidance and counseling comes the opportunity for job success.

> Each student under this program shall be assigned to a school work-study supervisor or counselor. . . . Counseling should be a major responsibility of the supervisor.[1]

Yonkers and Schenectady were the only two cities which reported special group-counseling sessions for all vocational Work-Study students in addition to the pupil personnel services which are typically offered.

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[1] Youth Work-Study Program, p. 3.

Of the total sample, 59 percent responded that they never spoke to their administrator of job station supervisor concerning problems related to their jobs: 39 percent of the responses indicated a need on the part of the students to speak with their supervisor at one time or another. Two percent of the population chose not to respond to the question.[1]

Students who may have had difficulties in their job placements, may have chosen to discuss them with other school personnel members.

Although the Vocational Work-Study administrator or job station supervisor need not assume the role of a job-placement officer, it is this investigator's opinion that firmer lines of communication concerning senior students, who will soon be available to the working world marketplace, be established between the program's personnel and the school's guidance staff and/or the local public employment agency. As a case in point, 31 percent of the graduates in this study's sample population who were actively seeking employment, did not have jobs as of June, 1966.

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[1]See Appendix L, Table 37, for complete account of graduates' responses to "How many times did you speak to your administrator or job supervisor to talk about problems on your job(s)?"

Twelve percent of 31 percent, who were not placed in jobs upon graduation, found positions within a month. Yet 10 percent of the sample sought employment for over 90 days; one student reported she has never been employed.[1]

Even though specific reasons were not discernible from the existing raw data, it is gratifying to be able to report that 94 percent of the total sample population liked the Vocational Work-Study Program.

Regarding hypotheses 13 through 16, both low positive and low inverse relationships, in no case statistically significant, resulted when measuring the degree of correspondence between the Administrator's salaries and the four job success factors. The only statement which may be reported with certainty is the larger the program, the greater the administrator's salary.

Hypotheses 17 through 20 stated that assignment of students to Work-Study job stations related to their major field would show a positive relationship to the four job success factors identified.

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[1]See Appendix L, Table 43, for graduates' responses to "How long after graduation, June, 1966 did it take you to get your first job?" p. .

> . . . and the acid test of the quality of the vocational program is placement of graduates in the occupations for which they received instruction.[1]

In reviewing the literature pertaining to vocational or occupational education for students representing various ability levels, the investigator noted various researchers' mention of the importance and value of job-related stations.

For example, Venn reports that the intention of Congress in drafting P.L. 88-210, was "to foster flexibility, adaptibility, and experimentation in a vocational education effort geared to technological change."[2] To wit, vocational agricultural funds may be utilized for training in "agricultural related occupations, without the traditional farm practice requirement."[3]

Ivins and Runge[4] state that some of the most valuable vocational training may be provided on a payroll job when it is coupled with guidance of the work and associated related instruction.

In a study sponsored jointly by the U.S. Office

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[1] Eninger, op. cit., Foreword.

[2] Venn, op. cit., p. 125.

[3] Ibid.

[4] Ivins and Runge, op. cit., p. 231.

of Education, the U.S. Office of Vocational Rehabilitation and the Project on Technical Planning of the American Association on Mental Deficiency, it was reported that:

> A Work-Study Program can be an important appendage of carefully planned school experiences designed to develop attitudes and behaviors relevant to vocational adjustment.[1]

Prosser and Quigley write "Efficient vocational education for any employment can be given successfully only to those who are being prepared for such employment. . . ."[2]

> Job placement should utilize the student's abilities and interests for vocational education goals to the greatest extent possible.[3]

Three of the correlations did show a positive relationship between the assignment of students to job stations related to their major field and:

1. The D.O.T. classification of graduates' jobs;
2. The proportion of students' time employed after graduation;
3. The difference between students' actual job held after graduation and students' actual job potential.

Yet it was disconcerting when analyzing the raw

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[1] Preparation of Mentally Retarded Youth for Gainful Employment, p. 28.

[2] Prosser and Quigley, op. cit., pp. 10-11.

[3] Youth Work-Study Program, p. 3.

data to find that:

1. 51 percent of students in the total sample were placed in job stations not related to indicated major field;

2. Only 62 percent of those students who are currently employed are utilizing skills related to the occupations for which they received instruction;

3. 52 percent of those post-school jobs listed by graduates were not remotely related to job stations held in school.

Students' comments, such as the following, indicated an exigency for program change.

> In my case I was given a job of sweeping floors and washing walls and windows when I thought I'd be working with office machines and improving my field but as you see I'm not working in what I studied in school.
>
> I think a person in the Work-Study Program should be working in what he has been studying. . .
>
> In my case--the work I was doing had no relation to the course I was taking in high school.[1]

What percentage, if any, of those graduates who are now employed in job situations which are not related to the occupations for which they received instruction, were subject to poor work-study job stations? Syracuse

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[1] Statements written by June, 1966 graduates of Vocational Work-Study Programs (S.H.F., Sec. A).

and Yonkers were the only two school districts reporting involvement of Federal, State and/or local public agencies, outside of public school situations, when assigning students to job stations. There was an obvious attempt to place students in job situations which were related to their vocational program. Interestingly, both these cities rank highest of proportion of students' time employed after graduation. (Syracuse ranked highest; Yonkers, second.)

In constructing the outline of this study, it was assumed that while the Work-Study Administrators and Supervisors were certified for their positions; they may not have been necessarily qualified by training and experience to teach students their jobs.

Such criticism was reported by the Director of Vocational Education in Schenectady to this investigator. He felt those students who were placed with the custodial staff, for instance, were gleaning little. Hence, from October, 1965, no Vocational Work-Study Program students were assigned to those school personnel members holding custodial positions.

Although the survey instruments utilized in this study did not ostensibly allow for graduates' expressions of attitudes toward their work-stations,[1] per se, and while it may be true in several instances that students may have preferred the type of work required of them on tasks unrelated to their vocational programs, why were only 21 percent of the male population placed in work-situations bearing semblance to the vocational programs in which they were scheduled? This, as opposed to the nearly 70 percent of the female population who were placed in work situations complimenting and extending their vocational programs (see Table 21, p. 166). Where parallelism existed between the bi-faceted program, comments as indicated below, were typical.

> If it weren't for . . . of . . . , who got me into the work-study program, I feel that I wouldn't have had the necessary experience that I needed when I entered my job with. . . . I think the work-study program plays a great part in the student's future. You should be proud of it.

Eninger states that the matter of choosing a vocation is usually not an easy task.

> . . . the choice is based upon a combination of little real knowledge of the chosen vocation,

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[1]See Appendix F, Student History Form, Section A, Question 17B.

TABLE 21

RELATIONSHIP OF GRADUATES' WORK-STUDY JOB STATIONS TO THEIR VOCATIONAL PROGRAM MAJORS

	New York City	Roch-ester	Schenec-tady	Syra-cuse	Yonkers	Sub-totals
1. Currently Available for Employment:						
a. Boys:						
1)Related	2			2		4
2)Non-related	13	8	3	2	2	28
b. Girls:						
1)Related	9	8	10	6	8	41
2)Non-related	7	4	3	2	1	17
c. Subtotals	31	20	16	12	11	90
2. Not Currently Available for Employment:						
a. Boys:						
1)Related			2		2	4
2)Non-related	3	3	2	3	6	17
b. Girls:						
1)Related	1		6		3	10
2)Non-related	2		4			6
c. Subtotals	6	3	14	3	11	37
d. College Students						
1)Related			5		4	9
2)Non-related	2	2	4	2	5	15
e. Boys in Service						
1)Related						
2)Non-related	2	1			1	4
f. Business College and Secretarial School Students						
1)Related			1			1
2)Non-related			1	1		2
g. Nursing School Students						
1)Related	1					1
2)Non-related						

TABLE 21--Continued

	New York City	Roch-ester	Schenec-tady	Syra-cuse	Yonkers	Sub-totals
h. Post-graduate High School Student						
1)Related						
2)Non-related	1					1
i. Technical School Student						
1)Related						
2)Non-related			1			1
j. Housewives						
1)Related			2		1	3
2)Non-related						
3. Subtotals	37	23	30	15	22	127

much misinformation and high hopes, and pressures from parents, relatives and others interested in influencing the choice.[1]

He goes on to say that a student who realizes that the trade

> . . . he has selected is not what he is suited for, whether for reasons of ability or interest, is under considerable pressure to continue in the course selected. Schools tend to discourage switching from one course to another. Many parents are inclined to do the same. Even where these pressures are not present, there may be a reluctance to change to another course because change means leaving old classmates, starting all over again, admitting defeat, or other deterrents. For many who realize they have made the wrong choice, there is no solution but to continue in the course chosen until they graduate. After that, they can always go into something else.[2]

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[1]The Process and Product of T & I High School Level Vocational Education in the United States, chap. 4, p. 1.

[2]Ibid.

Only 62 percent of the 90 youths, eligible for employment, are currently working at jobs for which they received formal high school training: 56 percent of the male graduates are now responsible for performing skills which do not mirror the slightest identification to their vocational programs (see Table 22).

TABLE 22

RELATIONSHIP OF GRADUATES' CURRENT JOBS TO THEIR PREVIOUS VOCATIONAL PROGRAM MAJORS

	New York City	Roch-ester	Schenec-tady	Syra-cuse	Yonkers	Sub-totals
Boys:						
Related	8		2	4		14
Non-related	7	8	1		2	18
Girls:						
Related	10	8	9	6	9	42
Non-related	6	4	4	2		16
Subtotals	31	20	16	12	11	90
Not currently available for employment	6	3	14	3	11	37
Subtotals	37	23	30	15	22	127

And according to a recent study

> If the graduate's first job is not in the trade studied or a highly related trade, the chances are high that he will never enter the trade or a highly related trade. But, if his

> first job is in the trade or a highly related trade, the odds are great that he will stay with the trade or allied trade. Therein lies the significance of the first full-time job after graduation. The first job . . . is a harbinger of jobs to come.[1]

Conclusions

First of all, it is this investigator's feeling that in actuality the Vocational Work-Study Programs investigated in this study uphold the intent of the Vocational Education Act of 1963.

> DECLARATION OF PURPOSE
>
> Section 1. It is the purpose . . . to develop new programs of vocational education, and to provide part-time employment for youths who need the earnings from such employment to continue their vocational training on a full-time basis, so that persons . . . will . . . benefit from such training.[2]

This conclusion is based on the following:

1. Approximately 76 percent of the sample responded either strongly or mildly agree to:

   The Work-Study Program has helped me since graduation, June, 1966. (See Appendix L, Table 30.)

2. Approximately 79 percent of the sample responded either strongly or mildly agree to:

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[1] Ibid., chap. 5, p. 1.

[2] Vocational Education Act of 1963, p. 1.

I would tell a friend to go back to school for the Work-Study Program. (See Appendix L, Table 31.)

3. Approximately 94 percent of the sample responded either strongly or mildly agree to:

   I liked the Work-Study Program while in School. (See Appendix L, Table 32.)

4. Approximately 80 percent of the sample responded either strongly or mildly agree to:

   I <u>did</u> <u>better</u> in my school work while in the Work-Study Program. (See Appendix L, Table 33.)

5. Approximately 76 percent of the sample responded either strongly or mildly agree to:

   I <u>enjoyed</u> <u>school</u> more while I was in the Work-Study Program. (See Appendix L, Table 34.)

Of the 90 students who are eligible for employment:

6. Approximately 69 percent of the sample responded that they did have a job when they left school in June, 1966 (see Appendix L, Table 42) and an additional 12 percent of the sample found jobs within 30 days after graduation (see Appendix L, Table 43).

7. Approximately 64 percent of the sample responded that they are working 31-40 hours

per week and approximately an additional 16 percent responded that they work over 40 hours per week (see Appendix L, Table 39).

8. Approximately 82 percent of the sample responded that they are earning more than $1.51 per hour.
   a. Approximately 30 percent earn $1.51-$1.75 per hour.
   b. Approximately 26 percent earn $1.76-$2.00 per hour.
   c. Approximately an additional 26 percent earn more than $2.00 per hour (see Appendix L, Table 40).

Secondly, an area of great importance in the success of graduates of the Vocational Work-Study Program was indicated by data collected in the present study as that of placement of graduates in jobs for which they had received specific training. The findings of this study indicating the relative minor emphasis given to the guidance function of the five Vocational Work-Study Programs investigated are supported by Venn's statements concerning guidance in vocational technical education in general.

He writes that nearly half of the states benefiting from Federal monies for their programs spend less than 1 percent of the monies for occupational guidance and counseling.

> The problem begins in college-oriented high school guidance departments, which too often are staffed by people who have neither the knowledge to help students select an occupation nor the inclination to direct them toward the appropriate vocational or technical education opportunities. It continues once the student arrives in the vocational or technical school; although no other segment of education has recognized the importance of vocational guidance to the extent that these schools have, lack of funds, of reliable testing materials, and of appropriately trained vocational guidance counselors limits what the vocational and technical school is able to do.[1]

In light of the data reported herein concerning the relatively greater success of graduates placed in jobs utilizing skills in which they had received instruction, the following suggestions are made:

1. A greater percentage of the Federal monies should be spent for occupational guidance and counseling.

2. The use of local advisory committees, e.g. that which is proffered in Youth Work-Study Program,[2] should be further encouraged.

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[1] Venn, op. cit., p. 36.

[2] Youth Work-Study Program, p. 3.

3. There should exist "orientation" sessions, for school work-study supervisors, counselors, vocational and technical instructors, and appropriate officials of the State Education Department, so that program integrity is the result of concerted effort.

4. Specialists, representative of fitting disciplines and vocations should meet periodically to question openly whether the current vocational and technical curricula are equal to the demands of a changing world of work. While it is true that, ". . . schools pride themselves on how close their shop facilities duplicate real job conditions . . ."[1] according to Venn,

> . . . this does not necessarily mean that the school has given the graduate the education he may really need. What is called for is more and better occupational education, to be sure, but occupational education on a more general basis--teaching certain basic skills, of course, but also devoting more time to the development of broader technical understanding of communication and computational abilities, and of an appreciation of civic, cultural, and leisure.[2]

Thirdly, this study's findings seem to point out certain directions for future research.

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[1] Venn, op. cit., p. 32.

[2] Ibid.

As written in Chapter II, Arnstein stated that the Vocational Education Act of 1963 "should open the door to a new educational orientation which is part of our changing industrial society. . . ."[1]

Yet, has it? Further research pertaining to the efficacy of Vocational Work-Study Programs is in order. Such reports might attempt to seek the answers to such questions as:

1. Are employers more satisfied with those high school students who participated in the Vocational Work-Study Programs as compared to other terminal high school students?
2. Has the "holding power" of those schools offering Vocational Work-Study Programs increased appreciably?
3. Have the skill levels of the Vocational Work-Study Program graduates improved significantly as a direct result of participating in the Vocational Work-Study Program?
4. What strengths and/or weaknesses are discernible in Vocational Work-Study Programs conducted in rural or consolidated school districts as opposed to the urban-operated programs?

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[1]Arnstein, op. cit., p. 71.

5. What do periodic follow-up studies on participants of the Vocational Work-Study Programs reveal concerning their educational experiences?

Certainly much new thinking must be devoted to vocational and technical pedagogy, a realm visited by very few educators for a great many years. Perhaps the time is here for the educational community (with its over-all experience in matters of teaching and learning) and industry (which has many of the facilities to do the job) to re-examine their long standing apathy. . . .[1]

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[1]Venn, op. cit., p. 34.

APPENDICES

APPENDIX A

PROFILES OF FIVE VOCATIONAL PROGRAMS

New York City, New York

The Vocational High Schools

The vocational high schools of New York City combine training for earning a living in the skilled trades with general secondary education.

> It aims toward civic, economic, cultural, and physical development. Terminal courses are offered preparing for occupations in the industrial and commercial fields and in the service trades.[1]

The vocational high schools are in session six hours a day. Of this time, 50 percent is devoted to practical shop work in the vocational subjects chosen by the pupil. The balance of the day is devoted to classes in related mathematics, science, and drawing (or other related subjects) and in English, social studies, and health education or music.[2]

Educational Opportunities Offered in the Vocational High Schools of New York City.

Trade Courses. More than seventy separate three-year trade courses are offered in the New York City

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[1] "The Vocational High Schools," Directory of the Public High School of the City of New York, 1966-1967 (Brooklyn, N.Y.: Board of Education, Bureau of Educational and Vocational Guidance, n.d.), p. 7.

[2] Ibid.

vocational high schools.[1]

Business Courses. Commercial courses in seven different fields are in various vocational high schools. Students majoring in Business spend approximately three hours daily in commercial classes and three hours in regular high school academic classes.

Technical Courses. Eight different three-year technical courses are offered in the vocational schools. These courses of study prepare pupils for jobs as junior engineers, draftsmen, laboratory technicians, and assistant fashion designers in the textile field.

The technical course of study is so designed that three hours of every school-day is spent in laboratories, or shops or drafting rooms, and three hours in academic subjects. The academic subjects include English, social studies, elementary and intermediate algebra, plane geometry, trigonometry, advanced algebra, technical physics, and technical chemistry. Pupils are required to take Regents examinations.

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[1] Ibid.

Special Courses

The Cooperative Course in Academic and Vocational High Schools. Cooperative education combines the theoretical instruction of the classroom with practical experience in a related job and includes all types of work-study courses.

In the Cooperative Course pupils, 16 years or older, take the same subjects as are given in the regular courses. In addition to fulfilling requirements in English, social studies, art, and music, cooperative pupils may choose from the following electives: accounting, bookkeeping, business machines, clerical trades, design, dressmaking, food trades, machine shop, millinery, needle trades, hospital aide, and plastics.

Jobs are related to school studies, diploma credit is allowed for satisfactory employment, pupils are supervised on their jobs, and prevailing wages are paid. A variety of schedules is offered: alternate-week (AW); alternate-two-week (A2W); alternate six-week (A6W) in practical nursing, terms 7 and 8; and part-time daily (PT).[1]

Vocational Courses for Boys

Architectural Drafting
Automatic Heating Mechanics
Automation (Instrumentation)
Automotive Mechanics
- Auto Body and Fender Repair
- Automotive Machine Work
- Auto Painting
- Collision Body and Fender Work
- Gas Station Operation

Aviation Mechanics
Business Education
- Accounting and Business Practice
- Bookkeeping and Clerical Practice
- Distributive Education
- General Commercial

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[1] Ibid., p. 9.

- Medical Secretary
- Office Machine Operating
- Stenography and Typewriting

Business Machine Repair
Clock and Watch Mechanics
Commercial Art
- Advertising Art
- Architectural and Industrial Design
- Cartooning
- Costume Design and Illustration
- Fashion Illustration
- Illustration
- Industrial Design
- Modeling (Sculpture)
- Photography
- Sculpture and Stone Carving
- Sign and Show Card Making
- Window Display

Commercial and Domestic Refrigeration
Dental Laboratory Processing
Dual-Purpose Vocational Courses
Electrical Installation and Practice
Electronics (including Radio Mechanics and Television)
Equipment Repair Technician
Fashion Industries
- Costume Design and Illustration
- Fashion Illustration
- Fashion Merchandising
- Footwear Design and Production
- Fur Garment Manufacturing[1]
- Garment Machine Operating
- Men's Clothing Manufacture
- Pattern Making Design

Floristry
Food Trades
- Baking
- Cooking and Catering
- Meat Merchandising

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[1] *Ibid.*, p. 15.

Foundry Work
Hair Dressing
Industrial Chemistry
Instrument Technology
Interior Decoration
Jewelry Making
Machine Shop Practice
Maritime Trades
Mechanical Design and Construction
Optical Mechanics
Plastics
Plumbing
Printing Trades
    Book and Job Makeup
    Bookbinding
    Graphic Arts
    Hand Typesetting
    Ludlow Typesetting
    Machine Typesetting
    Offset Presswork
    Presswork
    Printing and Presswork
    Silk Screen Printing
    Stonework
Radio Mechanics
Sheet Metal Work
Technical Courses:
    Architectural Drafting and Building Construction
    Automation Instrumentation
    Electricity
    Electronics
    Fashion Illustration and Design
    Industrial Chemistry
    Instrument Technology
    Mechanical Design and Construction
Upholstery
Woodworking Trades:
    Boat Building
    Residential Carpentry
    Cabinet Making
    Wood Turning and Pattern Making[1]

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[1] *Ibid.*, p. 16.

Vocational Courses for Girls

Cosmetology (Beauty Culture)
Business Education
    Accounting and Business Practice
    Clerical Practice
    Distributive Education
    Doctor's Office Assistant
    General Clerical and Commercial
    Office Machine Operating
    Stenography and Typewriting
    Typewriting
Commercial Art
    Advertising Art
    Architectural and Industrial Design
    Cartooning
    Ceramics
    Fashion Illustration
    Illustration
    Industrial Design
    Modeling (Sculpture)
    Photography
    Sign and Show Card Making
    Silk Screen Printing
    Window Display
Commercial Photography
Dental Office Assisting
Fashion Industries
    Garment Machine Operating
    Special Garment Machine Operating
    Trade Dressmaking
    Trade Millinery
    Women's and Children Garment Operating and Manufacture
Floristry
Food Trades
    Cafeteria and Tea Room Training
Interior Decoration
Health Careers
Practical Nursing
    Registered Nurse Preparatory
Technical Courses
Theatre Arts[1]

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[1] Ibid., p. 17.

Post-High School Study

Special Courses for Recent High School Graduates

One-year, full-time trade or technical programs for recent high school graduates under twenty-one years of age are now available as follows:

Trade Courses:

Automotive High School--Auto Mechanics (Boys (only)

H. S. of Fashion Industries--Pre-employment course in interior design, textile design, fashion merchandising, fur operating and cutting, shoe manufacturing, men's clothing manufacturing, upholstery

Manhattan Vocational-Technical High School--Machine Shop (Boys only)

New York School of Printing--Printing (Boys (only)

Technical Courses (Boys and Girls)

George Westinghouse Vocational & Technical High School

These courses are on a technical level with a large portion of the day devoted to laboratory work.

Computer Technician--laboratory work in computer circuitry, computer mathematics, and training on electronic data processing equipment. This course is open only to graduates of technical electricity or electronics courses.

Computer Programmer--approximately 4 hours a day on practical "on hands" time on the computer and associated electronic data processing equipment, programming theory, computer mathematics, and business accounting. This course is open to graduates of technical or academic high school courses having a three-year sequence in Regents mathematics.

> Radio and TV Studio Technician--Students will spend all day in the television studio. A first-class radio-TV license is required for graduation. This course starts in July and is open to high school graduates of electricity, radio, or electronics courses, or to those having experience as radio amateurs.[1]

Rochester, New York

> We have a good curriculum. Our offerings are comprehensive and diverse. There are offerings that lead to semi-skilled and skilled occupations and to all sorts of post-high school education. These offerings are constantly being reviewed, evaluated, and revised.[2]

In recognition of individual differences, the city of Rochester provides programs for the academically talented, both honor and accelerated classes; the Regents program, the usual course of study for average and above average high school students; the Non-Regents[3] program, designed for students whose school records show they would have extreme difficulty in a Regents program; the School-Work Program, a three-year program for slow-learning students who have been unable to show normal progress

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[1] Ibid., p. 74.

[2] Herman R. Goldberg, "Message to Students and Parents," Opportunity Unlimited--Rochester, New York (Rochester, N.Y.: Guidance Department, City School District, 1965), p. 6.

[3]

in the elementary schools,[1] and the Occupational Education program for the mentally retarded students who fall within the intelligence range designated by the State Education Department.

Courses at Edison Technical and Industrial High School

The Exploratory Program. The Exploratory Program offered at Edison Technical and Industrial High School has been developed so that the ninth grade pupils are presented with the basic fundamentals of the various trades taught at this high school and to assist pupils in the selection of a shop program best suited to their interests, abilities and needs.

The trades included in this program are drafting; electricity; graphic arts; machine; metal and wood; textile fabrication; and transportation.

The Technical Program. The technical program is designed to provide a student with a thorough foundation in technology. The students who are graduated from this program are qualified for positions as technicians or for college.

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[1] "The School-Work Program," Opportunity Unlimited--Rochester, New York (Rochester, N.Y.: Guidance Department, City School District, 1965), p. 16.

Four class periods of the eight-period school day are devoted to the study of Regents English, social studies, mathematics, physics, chemistry. Regents achievement is also required in the student's field of interest, such as electrical technology, instrumentation, and mechanical design.[1]

Industrial Courses.

> The industrial program offered at Edison Technical and Industrial High School is designed to prepare a student for employment in a skilled occupation.[2]

Graduates of this program are qualified for not only jobs but continued education either in apprenticeship training programs and specialized school. For second semester senior students with a cumulative C average, there is offered a cooperative work program.

Those students enrolled in an industrial course will spend approximately 50 percent of each school day in shop classes. The remainder of the day entails the study of related mathematics, science, and drawing, in addition to the required subjects in English, social studies,

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[1] "Courses at Edison Technical and Industrial High School," Opportunity Unlimited--Rochester, New York (Rochester, N.Y.: Guidance Department, City School District, 1965), p. 26.

[2] Ibid.

health instruction, and physical education.[1] A student enrolled in an industrial course may elect Regent subjects.

Industrial courses available are auto mechanics; commercial art; shop drafting; electricity; lithography; machine shop; pattern making and foundry practice; printing; sheet metal; textiles; and welding.

In addition to the above, the vocational education curricula include two other programs--cosmetology and horticulture.

Cosmetology is a two-year program given in the junior and senior years at Jefferson High School. It is made available to both boys and girls. Students enrolled in this program spend three consecutive hours daily in cosmetology and the remainder of the school day in academic classes. Upon successful completion of this program, students are awarded a high school diploma. Those students who pass the state board examinations qualify as licensed beauticians.[2]

The horticulture program offered at Charlotte High School prepares high school students for employment

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[1] Ibid.

[2] "Vocational Education," Opportunity Unlimited--Rochester, New York (Rochester, N.Y.: Guidance Department, City School District, 1965), p. 60.

in the field of ornamental horticulture in greenhouses, florist shops, nurseries, garden stores, and landscape service companies.[1]

Students may choose to pursue their education at the State Agriculture and Technical Institute.

Cooperative Training Programs.

The Cooperative Training Programs offer a combination of class work and actual job experience.

The Rochester City School District offers five Co-operative Training Programs.

1. The Cooperative Office Practice Program.
2. The Cooperative Retail Program.
3. The Edison Technical Industrial High School Cooperative Work Program.
4. The Cooperative School Work Program.
5. The Occupational Education Program.

Selection of students who wish to participate in a Cooperative Program is made on the basis of high school grades, skills, and personal characteristics.

Co-op students usually start at the beginning pay rate and must work a minimum of fifteen hours per week.[2]

Business Education

Rochester's business education program is threefold in purpose:

1. Contributes toward the general education of students.
2. Provides basic business training for employment upon graduation.

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[1] Ibid.

[2] "Cooperative Training Programs," Opportunity Unlimited--Rochester, New York (Rochester, N.Y.: Guidance Department, City School District, 1965), p. 30.

3. Offers courses which have personal use and vocational values for students who will be pursuing a college education.[1]

A strong emphasis on favorable personal qualities and work habits, that are necessary for maintaining and advancing on-the-job, is included in all business curricula. An appendage of the business education program, cooperative work-study programs, is offered to qualified business students in office skills and retailing.

The business education program provides opportunities in four major areas: stenographic, bookkeeping, retail, and general clerical.

Special Education Programs

The School-Work Program. The School-Work Program is a three-year program designed for slow-learning students. The importance of general work attitudes and skills is stressed. During the third and final year of the School-Work Program, classroom work is combined with actual on-the-job experience for which they are paid.

The Occupational Education Program. The Occupational Education program is also a three-year program,

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[1] Ibid.

but is designed for mentally retarded students. The curriculum is work-orientation which culminates in a work-study program for the student's final year.

Schenectady, New York

Schenectady High Schools

The Schenectady Public Schools offer courses for students who wish to prepare for college careers and for students who wish employment upon graduating from their high school programs. While the college-bound student pursues vocational courses in medicine, law, education, engineering, and other professions in the university, the vocational preparation of the non-college student must be given while in high school.

The Vocational Department of the Schenectady Public Schools is concerned, in the main, with the education of high school students who are not college-bound.

> These are the students who after graduation are employed in the offices, stores, trades and manufacturing plants of the city. These are the students who become our skilled employees. The Schenectady Public Schools offer training for vocational competence on both the high school and adult levels.[1]

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[1] Lester E. Williams, "Preface," Vocational Courses in the Schenectady High Schools (Schenectady: Linton High School Printing Department, n.d.).

As vocational education places emphasis upon skills, one-half of the student's day is spent in the shop or laboratory. The daily program also includes related courses in the mathematics, science and drafting needed by the trained craftsmen in any one occupational field. In addition, the vocational students take English, social studies and physical education along with all other high school pupils.

> The selection of the skilled vocations included is based upon the prevailing occupations of the community and the number of replacements needed yearly in each particular field of employment.[1]

Vocational education courses are offered at Mont Pleasant and Linton High Schools for both boys and girls.

<u>Educational Opportunities at Mont Pleasant</u>

College Preparatory Courses
- Academic
- Business
- Technical Electrical
- Technical Mechanical

Business Education Courses
- Clerical
- Distributive Education
- Secretarial

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[1] <u>Ibid</u>.

General
Vocational and Cooperative Courses
  Industrial Arts
  Trade Aviation
  Trade Auto Mechanics
  Cooperative Industrial
  Cooperative Practical Nursing
  Trade Marine and Small Engine
  Trade Dressmaking
  Trade Power Sewing
  Trade Industrial Drafting
  Trade Mechanical Drawing
  Trade Transportation

Special Education Courses
  General
  Industrial Arts
  Occupational Training
  Ungraded

Course Objectives.

College Preparatory Courses.

College preparatory courses are designed to provide the necessary course requirements for college entrance. Basically, sixteen units are needed for a college preparatory diploma. However, eighteen units are preferred in view of increasing college entrance requirements and qualification for New York State Regents diploma. The technical program adds to the college preparatory requirements more mathematics, science and technology thereby providing a challenging high school preparation for the academically talented, science-oriented boy or girl. The college preparatory-business course will qualify a pupil for either admission to a four-year college or full-time employment upon successful graduation from high school.

Business Education Courses.

Business education courses are primarily designed for students who wish to seek employment

immediately upon graduation from high school. However, if the business education student has maintained a good academic average and has chosen elective subjects commensurate with academic ability, he may qualify for entrance into some colleges and business schools. Business education specialty areas include:

1. Secretarial
2. Clerical
3. Distributive Education

Vocational and Cooperative Courses.

Vocational and cooperative courses may or may not prepare the student for college, depending on the choice of elected subjects and academic achievement. The courses should be of interest to those who wish to concentrate on an area of study which fulfills their needs and interests. The specialty areas from which the student may choose include:

1. Industrial Arts
2. Cooperative Industrial
3. Trade Auto Mechanics
4. Trade Aviation
5. Cooperative Practical Nursing
6. Trade Marine & Small Engine
7. Trade Dressmaking
8. Trade Power Sewing
9. Trade Industrial Drafting and Mechanical Drawing
10. Trade Mechanical Drawing
11. Trade Transportation.

Special Education Courses.

Special education courses are designed to help students who require a more individualized approach or more intensive assistance because of their sight, hearing, speech, orthopedic and/or other physical or health limitations. Students may follow regular courses with this assistance to complete requirements for graduation from high

> school and for further study. Special education also helps students with learning disabilities imposed by other types of limitations. The latter program is very flexible and proceeds at a much slower pace with greater emphasis on meeting the interests and needs of students. The specialty areas from which a student may choose include the more general areas such as industrial arts, occupational training, and the ungraded areas of the language arts, and social studies.[1]

Educational Opportunities at Linton High

Linton High School's guidance department's "Courses of Study" gives a panoramic view of the subjects and courses offered.

There appears to be overlap between the courses of study available at the two high schools--Mont Pleasant and Linton.

The courses of study at Linton High are:

College Preparatory
- a. College
- b. College--Business Education
- c. College--Graphic Arts

Business Education
- a. Stenography
- b. Bookkeeping
- c. Office Practice
- d. Business Management

Cooperative Education
- a. Cooperative Industrial Training
- b. Cooperative Practical Nursing
- c. Cooperative Retailing

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[1] "Course Objectives," Courses of Study, Mont Pleasant High School, Schenectady, N.Y. (Schenectady, N.Y.: Linton High School Printing Department, 1967), p. iv.

Vocational Education for Boys
- a. Automobile Mechanics
- b. Electricity and Industrial Electronics
- c. Industrial Drafting
- d. Machine Shop
- e. Graphic Arts Education

Vocational Education for Girls
- a. Cosmetology
- b. Dressmaking

General
- Special Class Education

Objective of Courses

The College Preparatory Course is designed to meet the entrance requirements of colleges in general. However, there is considerable variation in the entrance requirements of different colleges. For example, some colleges will admit an applicant without science, while others do not require a language.

The College Preparatory Business Education Course is designed for the student who is able to carry a college preparatory course but who also desires training in the business field. The course offers excellent preparation for business training on a college level.

The College Preparatory Graphic Arts Course is designed with the twofold purpose of giving the student a broad educational background and to equip him to continue his training on either an apprenticeship level or on a collegiate level. Should the student decide to change his educational objective he would still be able to enter college upon completion of the course.

The Business Education Course is designed to give preparation for office and store employment or preparation for advanced business training.

The Cooperative Education Courses provide an opportunity for practical work experience during the senior year.

Vocational Education Courses offer training in preparation for work in the several trades. They should be of special interest to those students who do not plan to enroll in institutions of higher learning after graduation from high school.

The General Course is designed for those students who desire to major in the field of their particular interest. The course may or may not prepare for college, depending upon the subjects taken and the marks achieved.

The Special Class Education Course provides training for the ungraded students.[1]

Cooperative Education Courses.

Cooperative Industrial Training.

There are many industrial types of occupations for which the public schools can offer training. The Cooperative Industrial Training Program is designed to assist those students who are interested in a co-operative work-study plan to obtain training in occupations not afforded in the regular day school programs.

Some of the occupations involved in the program are as follows:

Automobile Parts manager
Automobile service station attendant
Automobile body repairman
Electrical appliance repairman
Furniture upholsterer
Dry cleaner
Baker
Copper-plate printer
Canteen service repairman
Meat cutter
Silk screen specialist
Greenhouse worker

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[1] and "Objectives of Courses," Courses of Study, 1966-1967, Linton High School (Schenectady, N.Y.: Linton High School Printing Department), p. 3.

The plan offers an opportunity to learn practically any trade in the community, creates opportunity for experience on real jobs under actual working conditions, and provides an experience background for a full-time job.

Students who desire to participate in the program must have a satisfactory school record and must be acceptable to both the teacher-coordinator and the employer. Students spend four periods in school and the remainder of the day with the employer. One of the four periods is spent with the teacher-coordinator in a class on occupational theory. This class covers such topics as getting along with people, succeeding on the job, personal problems, employment objectives, and industrial psychology. Each student is given an outline which covers the technical part of the work which he will encounter on his job.

The teacher-coordinator makes arrangements for placing the student in a suitable training establishment, although some jobs which are secured by the student may be approved. The teacher-coordinator makes periodic inspections of the on-the-job training to insure that a suitable training program is being followed and the individual is making satisfactory adjustments to this program.

The average work week is thirty hours. The student receives a salary while working and two units of high school credit upon the successful completion of the training program. The program is primarily for seniors.[1]

Cooperative Retailing.

The course in Cooperative Retailing is fundamentally designed to train students in actual business situations while they are attending school. Practical experience is obtained in the classroom laboratory and in the Student Store. The cooperative training program, open to both boys and girls, should be elected at the beginning

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[1] "Cooperative Education Courses," Courses of Study, 1966-1967, Linton High School (Schenectady, N.Y.: Linton High School Printing Department), p. 26.

of the eleventh year. An outline of the course follows:

Retailing I (11th year)

History & Development of Retailing
Principles of Merchandising
Channels of Distribution
Sales and Sales Supporting Activities
Salesmanship & Stockkeeping
Store Policies & Customer Services

During the twelfth year, students in the Distributive Education program attend school for four periods during the day and work in offices and stores for the remainder of the day. The classroom work is planned to assist the student in his work on the job. The following is an outline of the course:

Retailing II (12th year) (Co-op Work Program)

Developing Leadership
Store Organization & Operation
Duties of a Buyer
Retail Mathematics & Stock Control
Sales Promotion
Advertising
Window Display
Fashion Merchandising

Employment is supervised by the teacher-coordinator. The student receives a salary while engaged in this work. He also receives one unit of school credit for his on-the-job employment if satisfactorily completed.

Cooperative Practical Nursing.

The practical nurse is an essential member of the hospital nursing staff. Her services are also needed in the home, in industry, and in the doctor's office.

The excellent laboratory and teaching facilities which are available permit a highly efficient nursing program to be offered. Eligible students must be interested in helping people,

regular in attendance, and reliable. The student enters the program in the eleventh year of high school. In addition to English and physical education, subjects studied include body structure and function and home and family living.

The cooperative phase of the program begins with the twelfth year and is spent in the local hospitals. Here the student obtains actual nursing experience and receives instruction in the fundamentals of nursing, including both medical and surgical nursing. The high school diploma is awarded upon the successful completion of the twelfth year.

After graduation the student remains at the hospital for several months to continue the practical experience and to complete the clinical courses required for admission to the state examination for practical nurses. Satisfactory completion of the examination is a necessary requirement for receiving the practical nursing license.

Syracuse, New York

In defining curricula offerings in the technical area, there are five courses of study students may pursue. They are technical chemical, technical electrical, technical mechanical design, computer technology, and technical physics. The technical curricula are planned and designed as a challenge to the most talented students who are interested in the applications of mathematics and science. The curricula have been planned in cooperation

with engineers and scientists from local industry, and have been approved by the State Education Department.

The general objectives of the technical curricula are:

1. To prepare students for engineering college entrance
2. To give students thorough preparation for employment as technicians or assistants to engineers.[1]

For the entire technical high school program, required subjects fill every period of an eight-period school day. At the completion of the program, at least 20 units have been credited, as compared with the 16 required by the State.

Graduates receive the standard Syracuse High School Diploma, and are also eligible for the State Regents' Diploma in Technical subjects.[2]

Industrial Program.

All eleven curriculums involve all the requirements for the regular high school education. Three full hours each day is spent in the specialized program, over a three-year sequence, (1800 total hours) preparing for entrance into one of the skilled industrial or service occupations of the community.

Instruction is offered by an instructor with nine or more years of experience in his specialty, in addition to his teaching training preparation. Included in these curricula are courses in applied mathematics, related science, elements of business operation and the reading of plans and

---

[1] "Introduction," Technical Curriculums (Syracuse, N.Y.: Central Technical High School Print Shop, n.d.).

[2] Ibid., p. 7.

blueprints. Although the immediate objective is preparation of graduates to enter employment, many do go on to college.[1]

The industrial arts curricula include:

Automobile Mechanics Curriculum
Carpentry Curriculum
Air Conditioning and Sheet Metal Curriculum
Beauty Culture Curriculum
Electronics Service Curriculum
Food Administration Curriculum
Fashion Shop Curriculum
Machine Shop Curriculum
Practical Nursing Curriculum
Welding Curriculum
Graphic Arts Curriculum

As indicated in "Guidance Guide to Comprehensive City-Wide Programs In Business Education," the Terminal Business Education Programs provide opportunities for training in four major fields: Stenographic, Bookkeeping, Clerical (Regular and Basic),[2] and Sales (Distributive Education). The programs are designed to lead to immediate employment upon graduation. As a part of each of these programs, selected business education students in their senior year participate in coordinated work-study experiences on a paid basis.

The following list of jobs available in the Metropolitan Syracuse area is a small portion of types of Entry Jobs available for Business Education Graduates who have successfully completed a vocational sequence in high school

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[1] Courses Offered in the Syracuse Public High Schools, Curriculum Bulletin, Board of Education, City School District (3d ed.; Syracuse, N.Y.; November, 1962), pp. 26-27.

[2] For students who do not qualify for Typewriting (regular) or Office Practice.

- Stenography Sequence
  - Stenographer
  - Transcribing machine operator
  - Receptionist
  - Secretary
  - Proofreader
- General Clerical
  - File clerk
  - Telephone operator
  - General Office Clerk
  - Receptionist
  - Duplicating machine operator
    - Liquid duplicating machine
    - Mimeograph
    - Multilith
    - Offset
  - Mail clerk
  - Office Machine Operator
    - Ten-key adding listing
    - Calculator
    - Comptometer
  - Credit clerk
  - Payroll clerk
  - Messenger
  - Switchboard operator
  - Proof machine operator (banking)
  - Insurance Rater Trainee
- Clerk Typist
  - Clerk typist
  - Statistical typist
  - Transcribing Machine operator
  - Varitypist
  - Proofreader
- Bookkeeping
  - Bookkeeper
  - Bookkeeping machine operator
  - Bank clerk
  - Teller
  - Statistical clerk
    - Inventory clerk
    - Billing machine operator

Distributive Education
- Salesman (Retail trade)
- Salesman (Wholesale trade)
- Grocery clerk
- Stock clerk
- Cashier
- Service desk clerk
- Auto Service Station attendant
- Store cashier
- Telephone order clerk
- Hotel clerk
- Sales clerk
- Telephone solicitor
- Ticket seller

Data Processing

1. Basic Office Machine Operators
   - Data typist
   - Key-punch operator
   - Verifier Operator
   - Tape librarian
   - Card-tape converter operator
2. Peripheral equipment operator
   - Sorting machine operator
   - Tabulating machine operator
   - Encoding machine operator[1]

Students who plan to attend college and major in Business Administration, Secretarial Science, Accounting, Marketing, Sales or Business Teaching are offered a choice of concentration for preparation in either Secretarial Science or Business Administration. The College Preparatory Programs in Business Education provide an opportunity for the development of salable skills of a vocational nature.

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[1] , Guidance Guide to Comprehensive City-Wide Programs In Business Education, Curriculum Bulletin No. 2 (Syracuse, N.Y.: City School District, Business Education Department, 1966-1967), p. 7.

The General Business Program of Study is designed for the development of limited job skills which might assist students in earning a living or in obtaining part-time employment to help finance post high school education. This program is established for those students who are undecided as to their future plans.[1]

Special Education Work Study Program. The special education work-study program is designed for those students who have been enrolled in the special education program. As no monies are available, the special class students must and are placed at work stations in private industry, Manpower Development Training, or if qualified, in the Vocational Work Study Program. Students fill such positions as service station attendants, dishwashers, maintenance helpers, and are placed in some types of stock keeping positions.

Yonkers, New York

Two high schools, Saunders Trades and Technical and the High School of Commerce, represent the City of Yonkers' endeavor to prepare youth for occupational efficiency.

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[1] Courses Offered in the Syracuse Public High Schools, pp. 2-5.

Saunders Trades and Technical High School is a public secondary school for boys. It offers two different types of curricula.

Technical Education.

> Technical education is a curriculum intended to prepare a student to earn a living in a profession or occupation in which success is dependent upon technical information with an understanding of mathematics and science as they are applied to design and production.
>
> Ultimately, most of the graduates from the technical courses continue their education and eventually become the men who invent, design, write specifications, organize and supervise production and test the finished product.
>
> Those boys who do not choose to continue their education after graduation have little difficulty in finding employment in advanced technical fields.[1]
>
> The technical curriculum prepares the students for admission to engineering colleges and for positions on the technical level in the junior engineering field. Three year courses are offered in
>
> Architecture
> Chemistry
> Machine design
> Electricity--electronics
>
> Training in English, social studies, mathematics and science enables a student to meet college entrance requirements.

Industrial Education.

> Industrial education is a curriculum intended to prepare a student to earn a living in a job in which success is dependent mostly upon the

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[1] , Saunders Trades and Technical High School (Yonkers, N.Y.: Saunders Trades and Technical Print Shop, 1964), p. 8.

skillful use of hand or machine tools together with the related science, mathematics and materials that go with the understanding and knowledge of mechanics.

Students following vocational curriculums obtain practical experience in shops equipped with machines and hand tools comparable to those found in industry.[1]

In their academic and related subject classes, they study the basic and advanced subjects to provide a program of general high school education. In the shops they obtain experience by using materials, handling tools, instruments and equipment used in the trade.

A trade curriculum prepares the students, upon satisfactory completion of the three year course, to enter the following trades:

Auto mechanics
Carpentry
Electrical work
Machine shop work
Automatic heating
Printing

The trade curriculum does not prepare students for further formal education. Graduates from a trades course will not be able to enter college without supplementary courses as prescribed by the college selected.

The High School of Commerce.

The High School of Commerce offers opportunities in eight different commercial and trade areas:

Secretarial
Bookkeeping
Office Machines
Clerical
Retailing
Cosmetology
Food trades
Trade dressmaking and design

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[1] Ibid., p. 14.

Each curriculum includes all requirements for the approved New York State High School diploma.

Many Commerce students work part time during their junior and senior year, and this leads to permanent employment. By the time they have been graduated, the great majority of seniors have been placed in good paying positions.[1]

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[1] _____, "Foreword," High School of Commerce (Yonkers, N.Y.), p. 2. (No date or publisher given.)

APPENDIX B

PRELIMINARY PROGRAM DESCRIPTIVE FACTOR SHEET

(P.D.F.S.)

I. District:_____

Location:_____

Superintendent:_____

Supervisor for Work/Study:_____

Specific Title:_____

II. Program History

A. How Initiated:

1. Was there a Work/Study Program prior to The Vocational Education Act Program? Yes___ No___

2. Required modification of former program?
Yes___ No___
If it was a modification, list specific changes:
a.
b.
c.
d.

3. Extension of Work/Study Program? Yes___ No___

B. Number and Titles of members on Screening and/or Advisory Committee:

1. Screening Committee

1_____
2_____
3_____
4_____
5_____
6_____
7_____
8_____

Advisory Committee

1_____
2_____
3_____
4_____
5_____
6_____
7_____
8_____

2. What is their functional definition of eligibility for student participation in the program?

_____

_____

_____

3. Who is (are) responsible for student placements?

4. a. Have periodic evaluations been made to determine effectiveness of the work-study program in terms of the program's objectives?_____

_____

b. How frequently?_____

c. By whom? 1._____
Title

2._____
Title

3._____
Title

4._____
Title

5._____
Title

5. Evaluation of student's work is performed by whom?

_____
Title

_____
Title

_____
Title

_____
Title

6. How are students solicited to participate in the work-study program?

_____

_____

_____

_____

C. Length of Program: Years 1 2
(Circle One)

D. Number of graduating participants:

	Trade & Industrial	Business Education	Totals
1966			

E. Total number of graduating participants

1966 _____

F. Average length of student stay in Program

_____

G. How many students 1966

15 years of age _____
16 years of age _____
17 years of age _____
18 years of age _____
19 years of age _____
20 years of age _____

H. a. How many of the 1965-1966 participants had previously graduated from school? _____

b. How many of the 1965-1966 participants had previously dropped out of school? _____

I. Where Located: 1966 _____

III. Curriculum

A. Job Stations:

1. Range

Trade	High	
	Low	
Business Ed.	High	
	Low	

Use of Office Personnel

D.O.T.	
Gen'l Ab'ty	Int'g'ce

B. Location:

(Fill in Percentages)

	Trade and Industrial		Business Education	
	1965	1966	1965	1966
In School				
Small Business (To 12 employees)				
Moderate Business (To 200 employees)				
Large Business				
Totals	100%	100%	100%	100%

C. Salary Range:

	$1.00 - $1.25	Total
1966		100%

D. Average number of jobs assigned per student:

1966_____

E. Duration of Assignments:

1966_____

IV. Scheduling

(Check One)

A. Trade and Industrial	Business Education	
		Day in School-Day at Work
		A.M. in School-P.M. at Work
		P.M. in School-A.M. at Work
		Flexible (Explain)_____

B. Hours per week for Counseling:

Individual_____ Group_____

By whom?_____

Title

_____

Title

_____

Title

_____

Title

C. 1. Who determines the academic subjects taken by students?

2. a. Who interrelates academic subjects with the work-experience phase of the program?

_____

Title

_____

Title

_____

Title

_____

Title

b. Amount of time allowed for this?_____

_____

3. Evaluation of on-the-job experience performed by whom?

_____

Title

_____

Title

_____

Title

4. Programs of vocational education are to be geared to labor market needs, both immediate and future. Who is responsible for this type of reporting?

_____

Title

_____

Title

_____

Title

_____

Title

5. Is there any coordination of the counseling services offered by the schools and the employment services? If so, who is responsible for this coordination?

_____
Title

_____
Title

_____
Title

_____
Title

V. Records Maintained:

	Date Originated
Program Application	
Employer's Job Analysis	
Employer's Job Contract	
Employee's Job Contract	
Evaluation of Student	
by Supervisor at Work (Circle one: weekly, monthly, per job)	
by Teacher (Vocational) (Circle one: weekly, monthly, per job)	

Please Submit Copies of All Forms Used:

APPENDIX C

PRELIMINARY STUDENT HISTORY FORM, SECTION A,

GRADUATE WORK HISTORY FORM,

AND FORM REVISIONS

STUDENT HISTORY FORM
(S.H.F.)
(SECTION A)

(Please Print)

Name:_____Age:_____ Birthdate:_____

City:_____Sex: M F

Number of Years Enrolled in Work-Study Program _____

Who was the person(s) responsible for your enrollment in the Work-Study Program?

(1) Guidance Counselor____
(2) Teacher_____
(3) Homeroom Teacher_____
(4) Parent_____
(5) Principal_____
(6) Friend_____
(7) Self_____

Years graduated from school_____

If you did not graduate, year you left school_____

Are you a part time student at the present time? (If yes, please write in where._____)

For Office Use Only
D.O.T. Ratings (Leave Blank)

Father's or Guardian Occupation_____

_____

Mother's or Guardian's Occupation_____

_____

Father's or Guardian's Education Level

____1. Less than 8th grade

____2. Completed 8th grade

____3. Completed high school

____4. Completed two years of college

____5. Completed four years of college

Mother's or Guardian's Education Level

____1. Less than 8th grade

____2. Completed 8th grade

____3. Completed high school

____4. Completed two years of college

____5. Completed four years of college

Brothers or Sisters NOT in School

First Name	Age	School Grade Completed	Present Job? If yes, what?	Office Use Only D.O.T. Ratings (Leave Blank)
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

Brothers or Sisters NOW in School

First Name	Age	Grade	Part time job? If yes, what?	(Leave Blank)
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

LAST YEAR WHILE YOU WERE IN SCHOOL, YOU ALSO WORKED. YOU MAY HAVE WORKED FOR THE LIBRARIAN, OR A TEACHER, OR IN THE SCHOOL KITCHEN, OR FOR THE CUSTODIAN, OR SOMEONE ELSE IN THE SCHOOL BUILDING. YOU WERE ACTUALLY PARTICIPATING IN A PROGRAM KNOWN AS THE WORK-STUDY PROGRAM. THE PROGRAM IS CALLED WORK-STUDY BECAUSE YOU WORKED FOR PAY PART OF THE DAY AND WENT TO SCHOOL PART OF THE DAY.

NOW THE NEW YORK STATE DEPARTMENT OF EDUCATION AND SYRACUSE UNIVERSITY ARE WORKING ON A WORK-STUDY PROJECT AND NEED 5 MINUTES OF YOUR TIME. WE WOULD LIKE TO HAVE YOU ANSWER SOME QUESTIONS ABOUT YOUR WORK-STUDY PROGRAM.

ATTACHED YOU WILL FIND A FORM WHICH WE WOULD LIKE YOU TO FILL OUT. THIS FORM WILL BE SHOWN TO NO ONE BUT THOSE WORKING ON THE WORK-STUDY PROJECT.

YOU WILL ALSO FIND ENCLOSED AN ENVELOPE SO THAT YOU MAY EASILY RETURN THIS FORM BY JANUARY 20TH.

YOUR HELP WILL BE GREATLY APPRECIATED.

VERY TRULY YOURS,

STUDENT HISTORY FORM
(S.H.F.)
(SECTION A)

(Please Print)

Name:_____Age:_____Birthdate:____

City:_____Sex: M___ F___

WHEN WERE YOU ENROLLED IN WORK-STUDY PROGRAM?_____
(Date)

Who was the person(s) responsible for your enrollment in the WORK-STUDY PROGRAM?

(1) Guidance Counselor ___
(2) Teacher_____
(3) Homeroom Teacher_____
(4) Parent_____
(5) Principal_____
(6) Vice-Principal_____
(7) Friend_____
(8) Self_____
(9) Other_____

What year were you graduated from school: June, 1964_____
June, 1965_____
June, 1966_____

If you previously left school, but returned to participate in the WORK-STUDY PROGRAM, what year did you leave school?

1963_____
1964_____
1965_____
1966_____

Father's or Guardian's Occupation
(Please be specific in giving JOB TITLE, for example, doctor, or truck-driver, or carpenter, or plumber.)

_____

(What does your father or your guardian do on his job?)

_____

_____

_____

Mother's or Guardian's Occupation
(Please be specific in giving JOB TITLE, for example, secretary, or housekeeper, or sales-lady.)

_____

(What does your mother or your guardian do on her job?)

_____

_____

_____

Father's or Guardian's Education Level (Please Check)

1. Less than 8th grade _____
2. Completed 8th grade _____
3. Completed high school _____
4. Completed two years of college_____
5. Completed four years of college _____

Mother's or Guardian's Education Level

1. Less than 8th grade _____
2. Completed 8th grade _____
3. Completed high school _____
4. Completed two years of college _____
5. Completed four years of college _____

Brothers or Sisters NOT in School

First Name	Age	School Grade Completed	Present Job? If Yes, What?	D.O.T.
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

Brothers or Sisters NOW in School

First Name	Age	School Grade Completed	Part-Time Job? If Yes, What?	D.O.T.
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

GRADUATE WORK HISTORY FORM
(G.W.H.F.)

(Please print)

A.

1.a. Do you think the Work-Study Program you had in school helped you since graduation, June, 1966? yes ___ no ___

b. How?_____

_____

_____

2.a. Would you tell a friend to go back to school on the Work-Study Program? yes ___ no ___

b. Why?_____

_____

_____

_____

3. Do you think the Work-Study Program could be improved in any way? yes ___ no ___

If yes, how?_____

_____

_____

_____

4. While you were in the Work-Study Program, did you ever meet with anyone to talk about problems on your job(s)? yes ___ no ___

Who	Number of times by yourself	Number of times with other students

5. When you were in the Work-Study Program--1965-1966 what type of jobs did you have?

	Where did you work?	What did you do?	How many weeks?	Pay rate per hour	Do not write here D.O.T. Ratings
1.					
2.					
3.					
4.					
5.					

Which of these jobs did you enjoy?
Please check:

1. ___
2. ___
3. ___
4. ___
5. ___
6. none ____

Which of these jobs has proven helpful to you with your present job?
Please check:

1. ___
2. ___
3. ___
4. ___
5. ___
6. none ____

6. Do you feel you did better in your school work while in the Work-Study Program? yes ___ no ___

7. Do you feel you enjoyed school more while you were in the Work-Study Program? yes ___ no ___

B.

1. How many jobs have you had since June, 1966?

0 _____
1 _____
2 _____
3 _____
4 _____
5 _____
6 _____
more than 6 _____

2.a. Do you now have a job?

yes ___
no ___

If yes, where? _____

_____

_____

b. For your present job, what is your pay per week?

$ 0-10 _____
$10-20 _____
$21-30 _____
$31-40 _____
$41-50 _____
$51-60 _____
$61-70 _____
$71-80 _____
$81-90 _____
$91-100_____
more than $100

---

c. What kind of work do you do on your job?_____

_____

_____

_____

d. Did the Work-Study Program help you to get your present job?
yes ___
no ___

3. Did you have a job when you left school in June, 1966?
yes ___
no ___
Have never been employed ___

If not, how many weeks did it take you to get your first job?
1 - 2 weeks ___
3 - 4 weeks ___
5 - 6 weeks ___
7 - 8 weeks ___
9 -10 weeks ___
11 -12 weeks ___
more than 13 weeks ___

---

4. How many weeks HAVE YOU been unemployed since June, 1966?
0 weeks ___
1 - 2 weeks ___
3 - 4 weeks ___
5 - 6 weeks ___
7 - 8 weeks ___
9 -10 weeks ___
11 -12 weeks ___
more than 13 weeks ___

---

5. How many weeks have you worked since June, 1966?
0 weeks ___
1 - 2 weeks ___
3 - 4 weeks ___
5 - 6 weeks ___
7 - 8 weeks ___
9 -10 weeks ___
11 -12 weeks ___
more than 13 weeks ___

---

6. Do you like the people you work with?
yes ___
no ___
have not worked ___

7. Please list all the jobs you have ever had, in school.

Employed By	As (Title)	What Did You Actually Do?	Did Your School Program Prepare You For This Job?	Why Did You Leave?	Beginning Salary Per Hour	Date	Ending Salary Per Hour	Date
1.								
2.								
3.								
4.								
5.								
6.								
7.								

Do Not Write Here:

Calculations Job Level _____

_____

_____

_____

_____

_____

$\bar{X}$ Level _____

Median _____

$\bar{X}$ Salary _____

Median _____

$\bar{X}$ Duration _____

Median _____

8. Please list all the jobs you have ever had, out of school.

Employed By	As (Title)	What Did You Actually Do?	Did Your School Program Prepare You For This Job?	Why Did You Leave?	Beginning Salary Per Hour	Date	Ending Salary Per Hour	Date
1.								
2.								
3.								
4.								
5.								
6.								
7.								

Do Note Write Here:

Calculations Job Level _____

_____

_____

_____

_____

_____

$\overline{X}$ Level _____

Median _____

$\overline{X}$ Salary _____

Median _____

$\overline{X}$ Duration _____

Median _____

Last year while you were in school, you also worked and were paid by the school. You were participating in a program known as the Work-Study Program.

Now, the New York State Department of Education and Syracuse University are working on a work-study project. We need 10 minutes of your time to answer some questions about the Work-Study Program you were in last year.

Attached you will find a form which we would like you to fill out. This form will be shown to no one but those working on the work-study project.

You will also find enclosed a self-addressed, stamped envelope so that you may easily return this form by January 20th.

Your help will be greatly appreciated.

Very truly yours,

Gerald E. Benjamin
Research Assistant

STUDENT HISTORY FORM
(S.H.F.)
(Section A)

INSTRUCTIONS: Please fill in and complete the following form as best you can and return it in the attached envelope by January 20, 1967.

(Please Print)

1. Name: _____

2. Age: _____ 3. Sex: Boy ____ Girl _____

4. Who was the most important person responsible for your enrollment in the WORK-STUDY PROGRAM?

(1) Guidance Counselor___
(2) Teacher_____
(3) Homeroom Teacher_____
(4) Parent_____
(5) Principal_____
(6) Vice-Principal_____
(7) Friend_____
(8) Myself_____
(9) Other (Explain)_____

_____

5. If you previously left school, but returned to participate in the WORK-STUDY PROGRAM, what year did you leave school?

1963_____
1964_____
1965_____
1966_____

6. Father's or Guardian's Occupation
(Please be specific in giving JOB TITLE, for example, doctor, or truck-driver, or carpenter, or plumber.)

_____

(What does your father or your guardian do on his job?)

_____

_____

_____

7. Mother's or Guardian's Occupation
(Please be specific in giving JOB TITLE, for example, secretary, or housekeeper, or sales-lady.)

_____

(What does your mother or your guardian do on her job?)

_____

_____

_____

8. Father's or Guardian's Education Level (Please check)

1. Less than 8th grade _____
2. Completed 8th grade _____
3. Completed high school _____
4. Completed two years of college _____
5. Completed four years of college _____
6. List other educational experiences, (for example, apprenticeship program)_____

_____

9. Mother's or Guardian's Education Level

1. Less than 8th grade _____
2. Completed 8th grade _____
3. Completed high school _____
4. Completed two years of college _____
5. Completed four years of college _____
6. List other educational experiences, (for example, apprenticeship program)_____

_____

10. Brothers or Sisters NOT in School

First Name	Age	School Grade Completed	Present Job? If Yes, What?
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

11 Brothers or Sisters NOW in School

First Name	Age	School Grade Completed	Present Job? If Yes, What?
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

Please check the way you feel about the following questions.

	strongly agree	mildly agree	mildly disagree	strongly disagree
12. The Work-Study Program has helped me since graduation, June, 1966				
13. I would tell a friend to go back to school for the Work-Study Program.				
14. I liked the Work-Study Program while in school				
15. I did better in my school work while in the Work-Study Program.				
16. I enjoyed school more while I was in the Work-Study Program.				
17. A. The Work-Study Program could be improved.				

17. B. If you feel that the Work-Study Program could be improved, how? _____

_____

_____

18. How many times did you speak to your administrator or job supervisor to talk about problems on your job(s)?

a. not at all_____

b. 1 - 5_____

c. 6 - 10_____

d. more than 10_____

19. How many jobs have you had since June, 1966?

a. none _____

b. 1 - 2 _____

c. 3 - 4 _____

d. 5 - 6 _____

e. more than 6 _____

20. If you now have a job, do you work:

a. 1 - 10 hours per week ___

b. 11 - 20 hours per week____

c. 21 - 30 hours per week ___

d. 31 - 40 hours per week ___

e. over 40 hours per week ___

21. For your <u>present</u> <u>job</u>, what is your pay per hour?

a. less than $1.25 _____

b. $1.26 - $1.50 _____

c. $1.51 - $1.75 _____

d. $1.76 - $2.00 _____

e. if more than $2.00, how much per hour? _____

22. A. <u>YOUR</u> Occupation

(Please be specific in giving <u>JOB</u> <u>TITLE</u>, for example, doctor, or truck-driver, or carpenter, or plumber, or secretary, or sales-lady.)

_____

B. Generally, what kind of work do you do on your job?

_____

_____

_____

23. Did the Work-Study Program Administrator or your immediate job supervisor help you to get your first job after graduation, June, 1966?

Yes _____
No _____

24. Did you have a job when you left school in June, 1966?

Yes _____
No _____

25. How long after graduation, June, 1966 did it take you to get your first job?

a. was working when graduated_____
b. have never had a job_____
c. 31 - 60 days _____
d. 61 - 90 days _____
e. over 90 days _____

26. How long have you been employed since graduation, June, 1966?

a. have never had a job _____
b. less than 1 month _____
c. 1 - 2 months _____
d. 3 - 4 months _____
e. 5 - 6 months _____
f. ever since graduation _____

27. How long have you been unemployed since June, 1966?

a. have never had a job _____
b. less than 1 month _____
c. 1 - 2 months _____
d. 3- 4 months _____
3. 5 - 6 months _____

27b. For which of the following reasons were you UNEMPLOYED, the majority of the time:

a. did not look for work_____
b. could not find work_____

APPENDIX D

GRADUATE WORK HISTORY FORM

(G.W.H.F.)

GRADUATE WORK HISTORY FORM
(G.W.H.F.)

(Please Print)

A.

1a. Do you think the Work-Study Program has helped you?
Yes ____ No ____

b. How?_____

_____

_____

2a. Would you tell a friend to go back to school on the Work-Study Program? Yes ____ No ____

b. Why?_____

_____

_____

_____

3. Do you think the Work-Study Program could be improved in any way? Yes ____ No ____

If yes, how? _____

_____

_____

_____

4. When you were in the Work-Study Program--1965-1966--what type of part-time jobs did you have?

	Job Station	Major Duties	How Many Weeks	Pay Rate	Office Use Only D.O.T. Ratings
1.					
2.					
3.					
4.					
5.					

Which of these jobs did you enjoy?
Please check: 1 ___ 2 ___ 3 ___ 4 ___ 5 ___

Which of these jobs has proven helpful to you with your present job?
Please check: 1 ___ 2 ___ 3 ___ 4 ___ 5 ___

B.

1. How many jobs have you had since June, 1966?

   1 ___ 2 ___ 3 ___ 4 ___ More Than 4 ___

2a. Do you now have a job? Yes ___ No ___

   If yes, where? _____

   _____

   _____

b. For your present job, what is your pay _____ per hour?

   _____ per day?

   _____ per week?

c. How many hours do you work per week? _____

d. What do you do on your job? _____

   _____

   _____

   _____

e. Did the Work-Study Program help you to get your present job?
   Yes ___ No ___

   Please explain? _____

   _____

   _____

3. Did you have a job when you left school in June, 1966?
   Yes ___ No ___

   If not, how <u>many</u> <u>weeks</u> did it take you to get <u>your</u> <u>first</u> job?

   _____

4. How many <u>weeks</u> have you been <u>unemployed</u> since June, 1966? ___

5. How many friends do you have at work? _____

6. Please list all the jobs you have ever had, both in and out of school.

Employed by	As (Title)	What Did You Actually Do?	Did Your School Program Prepare You For This Job?	Why Did You Leave	Beginning Salary	Beginning Date	Ending Salary	Ending Date
1.								
2.								
3.								
4.								
5.								
6.								
7.								

Use of Office Only

Calculations Job Level _____

_____

_____

_____

_____

_____

$\bar{X}$ Level _____

Median _____

$\bar{X}$ Salary _____

Median _____

$\bar{X}$ Duration _____

Median _____

APPENDIX E

PERSONNEL INFORMATION FORM

(P.I.F.)

PERSONNEL INFORMATION FORM
(P.I.F.)

I. Name _____

District _____

When Employed _____

Initial Responsibility _____

Current Responsibility _____

II. Education:

Highest Grade Completed (Circle 12 13 14 15 16 17 ____

Type of High School Diploma

1. Academic
2. Vocational
3. Business
4. General

Degree(s) Held:

	Major		Major
B.A.		Ph.D.	
B. Ed.		Ed.D.	
M.A.			
M.Ed.			

Certification (Write in Title of Certificate(s)):

_____
(Title) (State)

_____
(Title) (State)

_____
(Title) (State)

_____
(Title) (State)

III. Experience: (Enter number of years at respective levels.)

A.

Teaching	Elementary	Junior High	Senior High	B. Trade or Business (Enter Job Title)	Number of Years
Academic Subjects					
Shop					
Other					

(Please Specify) _____

(Responsibility)

APPENDIX F

STUDENT HISTORY FORM (S.H.F.), SECTION A;

INITIAL AND FOLLOW-UP LETTERS

STUDENT HISTORY FORM
(S.H.F.)
(SECTION A)

INSTRUCTIONS: Please fill in and complete the following form as best you can and return it in the attached envelope.

(Please Print)

1. Name:_____

2. Age:_____ 3. Sex: Boy _____ Girl _____

4. Who was the most important person responsible for your enrollment in the WORK-STUDY PROGRAM?

(1) Guidance Counselor_____
(2) Teacher_____
(3) Homeroom Teacher_____
(4) Parent_____
(5) Principal_____
(6) Vice-Principal_____
(7) Friend_____
(8) Myself_____
(9) Other (Explain)_____

_____

5. If you previously left school but returned to participate in the WORK-STUDY PROGRAM, what year did you leave school?

1963_____
1964_____
1965_____
1966_____

6. Father's or Guardian's Occupation
(Please be specific in giving JOB TITLE, for example, doctor, or truck-driver, or carpenter, or plumber.)

_____

(What does your father or your guardian do on his job?)

_____

_____

_____

7. Mother's or Guardian's Occupation

(Please be specific in giving JOB TITLE, for example, secretary, or housekeeper, or sales-lady.)

_____

(What does your mother or your guardian do on her job?)

_____

_____

_____

8. Father's or Guardian's Education Level (Please check)

1. Less than 8th Grade_____
2. Completed 8th Grade_____
3. Completed High School_____
4. Completed two years of college_____
5. Completed four years of college_____
6. List other educational experiences, (for example, apprenticeship program)_____

_____

9. Mother's or Guardian's Education Level

1. Less than 8th Grade_____
2. Completed 8th Grade_____
3. Completed High School_____
4. Completed two years of college_____
5. Completed four years of college_____
6. List other educational experiences (for example, apprenticeship program)_____

_____

10. Brothers or Sisters NOT in School

FIRST NAME	AGE	SCHOOL GRADE	PRESENT JOB? IF YES, WHAT?
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

11. Brothers or Sisters NOW in School

FIRST NAME	AGE	SCHOOL GRADE	PRESENT JOB? IF YES, WHAT?
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

Please check the way you feel about the following questions.

	strongly agree	mildly agree	mildly disagree	strongly disagree
12. The Work-Study Program has helped me since graduation, June, 1966.				
13. I would tell a friend to go back to school for the Work-Study Program.				
14. I <u>liked</u> the Work-Study Program while in school.				
15. I <u>did</u> <u>better</u> in my school work while in the Work-Study Program.				
16. I <u>enjoyed</u> <u>school</u> more while I was in the Work-Study Program.				
17. A. The Work-Study Program could be improved.				

17. B. If you feel that the Work-Study Program could be improved, how?_____

_____

_____

_____

18. How many times did you speak to your administrator or job supervisor to talk about problems on your job(s)?

a. not at all_____

b. 1 - 5_____

c. 6 - 10_____

d. 11 - 15 _____

e. 16 - 20_____

f. more than 20_____

19. How many jobs have you had since June, 1966?

a. none_____

b. 1_____

c. 2_____

d. 3_____

e. 4_____

f. 5_____

g. 6_____

h. more than 6_____

20. If you now have a job, do you work:

a. 1 - 10 hours per week_____

b. 11 - 20 hours per week_____

c. 21 - 30 hours per week_____

d. 31 - 40 hours per week_____

e. over 40 hours per week_____

21. For your <u>present</u> <u>job</u>, what is your pay per hour?

a. less than $1.25_____

b. $1.26 - $1.50_____

c. $1.51 - $1.75_____

d. $1.76 - $2.00_____

e. If more than $2.00, exactly how much per hour?_____

22. A. YOUR Occupation

(Please be specific in giving JOB TITLE, for example, doctor, or truck-driver, or carpenter, or plumber, or secretary, or sales-lady.)

_____

B. Generally, what kind of work do you do on your job?

_____

_____

_____

23. Did the Work-Study Program Administrator or your immediate job supervisor help you to get your first job after graduation, June, 1966?

Yes_____

No_____

24. Did you have a job when you left school in June, 1966?

Yes_____

No_____

25. How long after graduation, June, 1966 did it take you to get your first job?

a. had a job when graduated_____

b. have never had a job_____

c. within 30 days_____

d. 31 - 60 days_____

e. 61 - 90 days_____

f. over 90 days_____

26. How long have you been employed since graduation, June, 1966?

a. have never had a job_____

b. less than 1 month_____

c. 1 - 2 months_____

d. 3 - 4 months_____

e. 5 - 6 months_____

f. ever since graduation_____

27. A. How long have you been unemployed since June, 1966?

a. have never had a job_____

b. less than 1 month_____

c. 1 - 2 months_____

d. 3 - 4 months_____

e. 5 - 6 months_____

B. For which of the following reasons were you <u>unemployed</u> since June, 1966?

a. did not look for work_____

b. could not find work_____

28. Please list all the Work-Study Program jobs you have had.

Employed by	As (Title)	What did you actually do?	Date
1.			
2.			
3.			
4.			
5.			

SYRACUSE UNIVERSITY

SCHOOL OF EDUCATION | DIVISION OF SPECIAL EDUCATION AND REHABILITATION

805 SOUTH CROUSE AVENUE | SYRACUSE, NEW YORK 13210

Last year while you were in school, you also worked and were paid by the school. You were participating in a program known as The Work-Study Program.

Now, The New York State Department of Education and Syracuse University are working on a work-study project. We need 10 minutes of your time to answer some questions about The Work-Study Program you were in last year.

Attached you will find a form which we would like you to fill out. This form will be shown to no one but those working on the work-study project.

You will also find enclosed a self-addressed, stamped envelope so that you may easily return this form by February 16, 1967.

Your help will be greatly appreciated.

Very truly yours,

Gerald E. Benjamin
Research Assistant

SYRACUSE UNIVERSITY

SCHOOL OF EDUCATION | DIVISION OF SPECIAL EDUCATION AND REHABILITATION

805 SOUTH CROUSE AVENUE | SYRACUSE, NEW YORK 13210

Perhaps last week you were so busy that you didn't have time to answer the form which was mailed to you.

Perhaps you thought your answers to the questions were not important for the work-study project. However, they are very important.

Would you please give us 10 minutes of your time this week?

Attached you will find a form which we would like you to fill out. As we said before, this form will be shown to no one but those working on the work-study project.

You will also find enclosed a self-addressed, stamped envelope so that you may easily return this form by Monday, February 27th.

Your help will be greatly appreciated.

Very truly yours,

Gerald E. Benjamin,
Research Associate

APPENDIX G

STUDENT HISTORY FORM (S.H.F.)

SECTION B

STUDENT HISTORY FORM
(S.H.F)
(SECTION B)

Name:_____ Age:_____ Birthdate:_____

City:_____ Sex: M ☐ F ☐

Ethnic Background:_____

Achievement Test Results:

_____
(Name of Test) (Date) (Results)

_____

_____

_____

_____

Intelligence Test Results:

_____
(Name of Test) (Date) (Results)

_____

_____

_____

_____

_____

Counseling Service Extended:

_____
(By Whom?) (Title) (Date)

_____

_____

_____

_____

Absenteeism Record:

_____	_____	_____	_____
(9th)	(10th)	(11th)	(12th)

Comments:_____

Summary of Anecdotal Record:

9th Grade _____

_____

_____

10th Grade _____

_____

_____

11th Grade _____

_____

_____

12th Grade _____

_____

_____

WORK/STUDY SUPERVISOR'S COMMENTS:

_____

_____

_____

_____

_____

_____

_____

GRADES

ACADEMICS	1st Year	2nd Year	3rd Year	4th Year	$\overline{X}$
MATH					
ENGLISH					
HISTORY					
SCIENCE					

INDUSTRIAL ARTS COURSES

1.					
2.					
3.					
4.					
5.					

APPROVED VOCATIONAL PROGRAM

1.					
2.					
3.					
4.					
5.					

APPENDIX H

RESULTS OF PRETEST AND RE-TEST OF STUDENT HISTORY FORM, SECTION A

Last year while you were in school, you also worked and were paid by the school. You were participating in a program known as The Work-Study Program.

Now, The New York State Department of Education and Syracuse University are working on a work-study project. We need 10 minutes of your time to answer some questions about The Work-Study Program you were in last year.

Attached you will find a form which we would like you to fill out. This form will be shown to no one but those working on the work-study project.

You will also find enclosed a self-addressed, stamped envelope so that you may easily return this form by January 20th.

Your help will be greatly appreciated.

Very truly yours,

Gerald E. Benjamin
Research Assistant

STUDENT HISTORY FORM
(S.H.F.)
(SECTION A)

INSTRUCTIONS: Please fill in and complete the following form as best you can and return it in the attached envelope by January 20, 1967.

$$r = \frac{XY}{\sqrt{\Sigma X^2}\sqrt{\Sigma Y^2}}$$

(Please Print)

1. Name:_____

2. Age:_____ 3. Sex: Boy_____ Girl_____

4. Who was the most important person responsible for your enrollment in the WORK-STUDY PROGRAM?

(1) Guidance Counselor___
(2) Teacher_____
(3) Homeroom Teacher_____
(4) Parent_____
(5) Principal_____
(6) Vice-Principal____
(7) Friend_____ r = 1.0
(8) Myself_____
(9) Other (Explain)___

_____

5. If you previously left school, but returned to participate in the WORK-STUDY PROGRAM, what year did you leave school?

1963_____
1964_____
1965_____
1966_____

6. Father's or Guardian's Occupation
(Please be specific in giving JOB TITLE, for example, doctor, or truck-driver, or carpenter, or plumber.)

_____

(What does your father or your guardian do on his job?

_____

_____

_____

7. Mother's or Guardian's Occupation
(Please be specific in giving JOB TITLE, for example, secretary, or housekeeper, or sales-lady.)

_____

(What does your mother or your guardian do on her job?)

_____

_____

_____

8. Father's or Guardian's Education Level (Please check)

1. Less than 8th Grade_____
2. Completed 8th Grade_____
3. Completed High School_____ r=1.0
4. Completed two years of college_____
5. Completed four years of college_____
6. List other Educational experiences (for example, apprenticeship program)_____

_____

_____

9. Mother's or Guardian's Education Level

1. Less than 8th Grade_____
2. Completed 8th Grade_____
3. Completed High School_____
4. Completed two years of college_____ r=.9525
5. Completed four years of college_____
6. List other Educational experiences, (for example, apprenticeship program)_____

_____

10. Brothers or Sisters NOT In School

FIRST NAME	AGE	SCHOOL GRADE COMPLETED	PRESENT JOB? IF YES, WHAT?
1.			
2.			
3.			
4.			
5.			r = 1.0
6.			
7.			
8.			

11. Brothers or Sisters NOW In School

FIRST NAME	AGE	SCHOOL GRADE COMPLETED	PRESENT JOB? IF YES, WHAT?
1.			
2.			
3.			
4.			
5.			r = 1.0
6.			
7.			
8.			

Please check the way you feel about the following questions.

	strongly agree	mildly agree	mildly disagree	strongly disagree
12. The Work-Study Program has helped me since graduation, June, 1966.				
13. I would tell a friend to go back to school for the Work-Study Program.				
14. I <u>liked</u> the Work-Study Program while in school.				
15. I <u>did better</u> in my school work while in the Work-Study Program.				
16. I <u>enjoyed school</u> more while I was in the Work-Study Program.				
17. A. The Work-Study Program could be improved.				

r=1.0

17. B. If you feel that the Work-Study Program could be improved, how?_____

_____

_____

_____

18. How many times did you speak to your administrator or job supervisor to talk about problems on your job(s)?

r = 1.0

a. not at all_____
b. 1 - 5_____
c. 6 -10_____
d. more than 10_____

19. How many jobs have you had since June, 1966?

r = 1.0

a. None_____
b. 1 - 2_____
c. 3 - 4_____
d. 5 - 6_____
e. more than 6_____

20. If you now have a job, do you work:

r = 1.0

a. 1 - 10 hours per week_____
b. 11 - 20 hours per week_____
c. 21 - 30 hours per week_____
d. 31 - 40 hours per week_____
e. over 40 hours per week_____

21. For your present job, what is your pay per hour?

r = 1.0

a. less than $1.25_____
b. $1.26 - $1.50_____
c. $1.51 - $1.75_____
d. $1.76 - $2.00_____
e. if more than $2.00, how much per hour?_____

22. A. YOUR Occupation

(Please be specific in giving JOB TITLE, for example, doctor, or truck-driver, or carpenter, or plumber, or secretary, or sales-lady.)

_____

B. Generally, what kind of work do you do on your job?

_____

_____

_____

23. Did the Work-Study Program Administrator or your immediate job supervisor help you to get your first job after graduation, June, 1966?

Yes_____

r = 1.0

No_____

24. Did you have a job when you left school in June, 1966?

Yes_____

r = 1.0

No_____

25. How long after graduation, June, 1966 did it take you to get your first job?

a. have never had a job_____

b. within 30 days_____

r = 1.0

c. 31 - 60 days_____

d. 61 - 90 days_____

e. over 90 days_____

26. How long have you been employed since graduation, June, 1966?

a. have never had a job_____

b. less than 1 month_____

r = 1.0

c. 1 - 2 months_____

d. 3 - 4 months_____

e. 5 - 6 months_____

27. How long have you been unemployed since June, 1966?

a. have never had a job_____

b. less than 1 month_____

r = 1.0

c. 1 - 2 months_____

d. 3 - 4 months_____

e. 5 - 6 months_____

APPENDIX I

PROGRAM DESCRIPTIVE FACTOR SHEET (P.D.F.S.)

PROGRAM DESCRIPTIVE FACTOR SHEET
(P. D. F. S.)

I. District:_____

Superintendent:_____

Supervisor for Work-Study:_____

Specific Title:_____

II. Program History

A. How Initiated:

1. Was there a Work-Study Program prior to The Vocational Education Act Program?

Yes_____

No _____

2. Required modification of former program?

Yes_____

No _____

If it was a modification, list specific changes:

a.
b.
c.
d.

3. Extension of Work-Study Program? Yes_____

No _____

4. Student participants are drawn from how many high schools?_____ from how many junior high schools?_____.

II. B. 1. Number and Titles of members on Screening and/or Advisory Committee:

Screening Committee	Advisory Committee
1_____	1_____
2_____	2_____
3_____	3_____
4_____	4_____
5_____	5_____
6_____	6_____
7_____	7_____
8_____	8_____

2. a. Administrator's salary_____for_____months.

b. Was there an increase for those teachers and/or work station supervisors participating in the Work-Study Program?

Yes_____

No _____

c. If yes, How much?_____

3. What is their functional definition of eligibility for participation in the program? (On what basis do you classify Vocational Work-Study Program students?)

_____

_____

_____

4. Who is (are) responsible for student placements?

5. a. Have periodic evaluations been made to determine effectiveness of the work-study program in terms of the programs's objectives?_____

Yes_____

No _____

b. How frequently?

a. Start of program_____
b. Midway_____
c. End_____
d. Other_____

5. c. By whom? 1._____
Title
2._____
Title
3._____
Title
4._____
Title
5._____
Title

6. Evaluation of student's work is performed by whom?

_____
Title
_____
Title
_____
Title
_____
Title

7. How are students solicited to participate in the work-study program?

_____
_____
_____
_____

C. Length of Program: Years 1 2
(Circle One)

D. Number of graduating participants:

	Trade & Industry	Business Ed.	Other (Please specify)	Totals
1965				
1966				

E. Average length of student stay in Program

_____

F. How many boys 1966

15 years of age _____

16 years of age _____

17 years of age _____

18 years of age _____

19 years of age _____

20 years of age _____

How many girls 1966

15 years of age _____

16 years of age _____

17 years of age _____

18 years of age _____

19 years of age _____

20 years of age _____

G. How many of the 1965-1966 senior participants had previously dropped out of school? _____

H.1. Number of Vocational Work-Study Administrators and Supervisors (1965-1966): _____

2. Number of students participating in the Work-Study Program, 1965-1966: _____

3. Number of senior participants, 1965-1966: _____

4. Number of graduating participants: 1965 _____

1966 _____

I.1. How many job station supervisors worked with seniors, September, 1965-June, 1966? _____

2. Maximum amount of students job station supervisors may have had, 1965-1966 _____

III. Curriculum

A. Job Stations:

Range		Use of Office Personnel D.O.T. General Ability	Intelligence
Trade-Industry	High		
	Low		
Business Ed.	High		
	Low		

B. Location: (Fill in Percentages for 1966)

	Trades & Industry	Business Ed.	Other (Please specify)		Totals
In School-to work					
Small Institution (To 12 employees)					
Moderate Institution (To 200 employees)					
Large Institution					
	100%	100%	100%	100%	

C. Salary Range:

	50¢ -75¢	75¢ - $1.00	$1.00 - $1.25	Total
1966				100%

D. Average number of jobs assigned per student:

a. 1 _____
b. 2 _____
c. 3 _____
d. 4 _____
e. more than 4 _____

E. Average Duration of Assignments:

1966 _____

IV. Scheduling (Check One)

A.

Trade and Industrial	Business Education

Day in School-Day at Work

A.M. in School-P.M. at Work

P.M. in School-A.M. at Work

Flexible (Explain) _____

_____

B. Hours per week for Counseling:
Individual _____ Group _____

By whom? _____
Title

_____
Title

_____
Title

_____
Title

C. 1. Who determines the academic subjects taken by students?

_____

2.a. Who correlates vocational subjects with the work-experience phase of the program?

_____
Title

_____
Title

_____
Title

_____
Title

b. Amount of time allowed for this? _____

c. What measures have been taken to correlate work station experiences? _____

_____

_____

2.d. Who is responsible for this?

_____
Title

_____
Title

_____
Title

3. Evaluation of on-the-job experience performed by whom?

_____
Title

_____
Title

_____
Title

4. Programs of vocational education are to be geared to labor market needs, both immediate and future. Who is responsible for this type of reporting?

_____
Title

_____
Title

_____
Title

_____
Title

5. Is there any coordination of the counseling services offered by the schools and the employment services?

Yes _____
No _____

If so, who is responsible for this coordination?

_____
Title

_____
Title

_____
Title

_____
Title

V. Records Maintained:

	Date Originated
Program Application	
Employer's Job Analysis	
Employer's Job Contract	
Employee's Job Contract	

Evaluation of Student

a. by Supervisor of student worker at work
(Circle one: weekly, monthly, per job, other _____)
(Explain)

b. by student's Vocational Teacher
(Circle one: weekly, monthly, per job, other _____)
(Explain)

c. by Program Coordinator
(Circle one: weekly, monthly, per job, other _____)
(Explain)

PLEASE SUBMIT COPIES OF ALL FORMS USED.

APPENDIX J

D.O.T. DEFINITIONS OF FUNCTIONS

DEFINITIONS OF FUNCTIONS

DATA: Information, knowledge, and conceptions, related to data, people, or things, obtained by observation, investigation, interpretation, visualization, mental creation; incapable of being touched; written data take the form of numbers, words, symbols; other data are ideas, concepts, oral verbalization.

0 Synthesizing: Integrating analyses of data to discover facts and/or develop knowledge concepts or interpretations.

1 Coordinating: Determining time, place, and sequence of operations or action to be taken on the basis of analysis of data; executing determinations and/or reporting on events.

2 Analyzing: Examining and evaluating data. Presenting alternative actions in relation to the evaluation is frequently involved.

3 Compiling: Gathering, collating, or classifying information about data, people or things. Reporting and/or carrying out a prescribed action in relation to the information is frequently involved.

4 Computing: Performing arithmetic operations and reporting on and/or carrying out a prescribed action in relation to them. Does not include counting.

5 Copying: Transcribing, entering, or posting data.

6 Comparing: Judging the readily observable functional structural, or compositional characteristics (whether similar to or divergent from obvious standards) of data, people, or things.

PEOPLE: Human beings; also animals dealt with on an individual basis as if they were human.

0 Mentoring: Dealing with individuals in terms of their total personality in order to advise, counsel, and/or guide them with regard to problems that may be resolved by legal, scientific, clinical, spiritual, and/or other professional principles.

1 Negotiating: Exchanging ideas, information, and opinions with others to formulate policies and programs and/or arrive jointly at decisions, conclusions, or solutions.

2 Instructing: Teaching subject matter to others (including animals) through explanation, demonstration, and supervised practice; or making recommendations on the basis of technical disciplines.

3 Supervising: Determining or interpreting work procedures for a group of workers, assigning specific duties to them, maintaining harmonious relations among them, and promoting efficiency.

4 Diverting: Amusing others.

5 Persuading: Influencing others in favor of a product, service, or point of view.

6 Speaking-Signaling: Talking with and.or signaling people to convey or exchange information. Includes giving assignments and/or directions to helpers or assistants.

7 Serving: Attending to the needs or requests of people or animals or the expressed or implicit wishes of people. Immediate response is involved.

THINGS: Inanimate objects as distinguished from human beings; substances or materials; machines, tools, equipment; products. A thing is tangible and has shape, form, and other physical characteristics.

0 Setting Up: Adjusting machines or equipment by replacing or altering tools, jigs, fixtures, and attachments to prepare them to perform their functions, change their performance, or restore their proper functioning if they break down. Workers who set up one or a number of machines for other workers or who set up and personally operate a variety of machines are included here.

1 Precision Working: Using body members and/or tools or work aids to work, move, guide, or place objects or materials in situations where utimate responsibility for the attainment of standards occurs and selection of appropriate tools,

objects, or materials, and the adjustment of the tool to the task require exercise of considerable judgment.

2 Operating-Controlling: Starting, stopping, controlling, and adjusting the progress of machines or equipment designed to fabricate and/or process objects or materials. Operating machines involves setting up the machine and adjusting the machine or material as the work progresses. Controlling equipment involves observing gages, dials, etc., and turning valves and other devices to control such factors as temperature, pressure, flow of liquids, speed of pumps, and reactions of materials. Setup involves several variables and adjustment is more frequent than in tending.

3 Driving-Operating: Starting, stopping, and controlling the actions of machines or equipment for which a course must be steered, or which must be guided, in order to fabricate, process, and/or move things or people. Involves such activities as observing gages and dials; estimating distances and determining speed and direction of other objects; turning cranks and wheels; pushing clutches or brakes; and pushing or pulling gear lifts or levers. Includes such machines as cranes, conveyor systems, tractors, furnace charging machines, paving machines and hoisting machines. Excludes manually powered machines, such as handtrucks and dollies, and power assisted machines, such as electric wheelbarrows and handtrucks.

4 Manipulating: Using body members, tools, or special devices to work, move, guide or place objects or materials. Involves some latitude for judgment with regard to precision attained and selecting appropriate tool, object, or material, although this is readily manifest.

5 Tending: Starting, stopping, and observing the functioning of machines and equipment. Involves adjusting materials or controls of the machine, such as changing guides, adjusting timers and temperature gages, turning valves to allow flow of materials, and flipping switches in response to lights. Little judgment is involved in making these adjustments.

6 Feeding-Offbearing: Inserting, throwing, dumping, or placing materials in or removing them from machines or equipment which are automatic or tended or operated by other workers.

7 Handling: Using body members, handtools, and/or special devices to work, move, or carry objects or materials. Involves little or no latitude for judgment with regard to attainment of standards or in selecting appropriate tool, object, or material.

NOTE: Included in the concept of Feeding-Offbearing, Tending, Operating-Controlling, and Setting-Up, is the situation in which the worker is actually part of the setup of the machine, either as the holder and guider of the material or holder and guider of the tool.[1]

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[1] Dictionary of Occupational Titles, Vol. II, op. cit., pp. 649-650.

APPENDIX K

D.O.T. OCCUPATIONAL DIVISIONS

TWO-DIGIT OCCUPATIONAL DIVISIONS

0
1 PROFESSIONAL, TECHNICAL, AND MANAGERIAL OCCUPATIONS

00
01 Occupations in architecture and engineering
02 Occupations in mathematics and physical sciences
04 Occupations in life sciences
05 Occupations in social sciences
07 Occupations in medicine and health
09 Occupations in education
10 Occupations in museum, library, and archival sciences
11 Occupations in law and jurisprudence
12 Occupations in religion and theology
13 Occupations in writing
14 Occupations in art
15 Occupations in entertainment and recreation
16 Occupations in administrative specializations
18 Managers and officials, n.e.c.
19 Miscellaneous professional, technical, and managerial occupations

2 CLERICAL AND SALES OCCUPATIONS

20 Stenography, typing, filing, and related occupations
21 Computing and account-recording occupations
22 Material and production recording occupations
23 Information and message distribution occupations
24 Miscellaneous clerical occupations
25 Salesmen, services
26
27 Salesmen and salespersons, commodities
28
29 Merchandising occupations, except salesmen

3 SERVICE OCCUPATIONS

30 Domestic service occupations
31 Food and beverage preparation and service occupations
32 Lodging and related service occupations
33 Barbering, cosmetology, and related service occupations
34 Amusement and recreation service occupations
35 Miscellaneous personal service occupations
36 Apparel and furnishings service occupations
37 Protective service occupations
38 Building and related service occupations

4 FARMING, FISHERY, FORESTRY, AND RELATED OCCUPATIONS

40 Plant farming occupations
41 Animal farming occupations
42 Miscellaneous farming and related occupations
43 Fishery and related occupations
44 Forestry occupations
45 Hunting, trapping, and related occupations
46 Agricultural service occupations

5 PROCESSING OCCUPATIONS

50 Occupations in processing of metal
51 Ore refining and foundry occupations
52 Occupations in processing of food, tobacco, and related products
53 Occupations in processing of paper and related materials
54 Occupations in processing of petroleum, coal, natural and manufactured gas, and related products
55 Occupations in processing of chemicals, plastics, synthetics, rubber, paint, and related products
56 Occupations in processing of wood and wood products
57 Occupations in processing of stone, clay, glass, and related products
58 Occupations in processing of leather, textiles, and related products
59 Processing occupations, n.e.c.

6 MACHINE TRADES OCCUPATIONS

60 Metal machining occupations
61 Metalworking occupations, n.e.c.
62 Mechanics and machinery repairmen
63
64 Paperworking occupations
65 Printing occupations
66 Wood machining occupations
67 Occupations in machining stone, clay, glass, and related materials
68 Textile occupations
69 Machine trades occupations, n.e.c.

7 BENCH WORK OCCUPATIONS

70 Occupations in fabrication, assembly, and repair of metal products, n.e.c.
71 Occupations in fabrication and repair of scientific and medical apparatus, photographic and optical goods, watches and clocks, and related products
72 Occupations in assembly and repair of electrical equipment
73 Occupations in fabrication and repair of products made from assorted materials
74 Painting, decorating, and related occupations
75 Occupations in fabrication and repair of plastics, synthetics, rubber, and related products
76 Occupations in fabrication and repair of wood products
77 Occupations in fabrication and repair of sand, stone, clay, and glass products
78 Occupations in fabrication and repair of textile, leather, and related products
79 Bench work occupations, n.e.c.

8 STRUCTURAL WORK OCCUPATIONS

80 Occupations in metal fabricating, n.e.c.
81 Welders, flame cutters, and related occupations
82 Electrical assembling, installing, and repairing occupations
84 Painting, plastering, waterproofing, cementing, and related occupations
85 Excavating, grading, paving, and related occupations
86 Construction occupations, n.e.c.
89 Structural work occupations, n.e.c.

9 MISCELLANEOUS OCCUPATIONS

90 Motor freight occupations
91 Transportation occupations, n.e.c.
92 Packaging and materials handling occupations
93 Occupations in extraction of minerals
94 Occupations in logging
95 Occupations in production and distribution of utilities
96 Amusement, recreation, and motion picture occupations, n.e.c.
97 Occupations in graphic art work[1]

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[1] U.S. Department of Labor, Manpower Administration, Dictionary of Occupational Titles, Occupational Classification and Industry Index (ed ed.; Washington: U.S. Government Printing Office, 1965), II, 1.

APPENDIX L

GRADUATES' RESPONSES TO SHF, SECTION A

2. Mean Ages of Senior Students, June, 1966[a]

TABLE 23

GRADUATES' RESPONSES TO ITEM 2, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Mean Ages
Boys	17.11	18.1	17.5	17.11	17.7	17.10
Girls	17.8	17.8	17.7	17.5	17.7	17.7

[a]Items 1) Name and 3) Sex are not reported in this sequence of tables.

4. Who was the most important person responsible for your enrollment in the WORK-STUDY PROGRAM?

TABLE 24

GRADUATES' RESPONSES TO ITEM 4, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
1. Guidance Counselor	5	7	7	5	5	29
2. Teacher	16	7	13	6	3	45
3. Homeroom Teacher		1	3	2		6
4. Parent	1	1				2
5. Principal		1			3	4
6. Vice-Principal	3	2	2			7
7. Friend	2		1		1	4
8. Myself	7	2	4	1	7	21
9. Other:						
a. Attendance Clerk		1				1
b. Dean		1				1
c. Job Counselor	1					1
d. Work-Study Administrator	1			1	3	5
e. Work-Study Supervisor	1					1
Subtotals	37	23	30	15	22	127

5. If you previously left school but returned to participate in the WORK-STUDY PROGRAM, what year did you leave school?

It was reported by the coordinators of the Vocational Work-Study Program in New York City and Syracuse that a small portion (N.Y.C.--20 students; Syracuse--6 students) of the senior participants, during the academic year 1965-1966, had previously dropped out of school. However, none of the students who responded had ever interrupted their educational careers.

6. Father's or Guardian's Occupation

TABLE 25

GRADUATES' RESPONSES TO ITEM 6, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
0						
1	3	3	2	4	1	13
2	1	1	3	2	2	9
3	13	5	6	3	5	32
4						
5	2		1			3
6	1	4	5	3	2	15
7		5			5	10
8	1	3				4
9	5		7	1	4	17
Retired	2		2	1		5
Divorced or Separated	3		1		1	5
Deceased	4		3		1	8
No Response	2	2		1	1	6
Subtotals	37	23	30	15	22	127

Occupational Categories[a]

0
1 Professional, technical, and managerial occupations
2 Clerical and sales occupations
3 Service occupations
4 Farming, fishery, forestry, and related occupations
5 Processing occupations
6 Machines trades occupations
7 Bench work occupations
8 Structural work occupations
9 Miscellaneous occupations

[a]See Appendix K.

7. Mother's or Guardian's Occupation

TABLE 26

GRADUATES' RESPONSES TO ITEM 7, SHF, SECTION A

Occupational Categories[a]	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
0						
1			1		1	2
2	3		3	1	3	10
3	6	4	8	4	5	27
4	1					1
5	4					4
6	2	1				3
7		1			1	2
8						
9						
Housewives	20	16	16	8	12	73
Deceased		1	1	1		3
No response	1		1	1		3
Subtotals	37	23	30	15	22	127

[a]See Appendix K.

8. Educational Level of Father or Guardian

TABLE 27

GRADUATES' RESPONSES TO ITEM 8, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
1. Less than 8th grade		2	2	1		14
2. Completed 8th grade	14	10	13	3	6	46
3. Completed high school	12	10	9	10	13	54
4. Completed two years of college	1	1	2		1	5
5. Completed four years of college			2	1		3
No response	1		2		1	4
Attended school in Portugal					1	1
Subtotals	37	23	30	15	22	127
6. List other Educational experiences						
a. Art school and Radio-TV School	1					1
b. Instruction in Plane Parts Making	1					1
c. Trade School		1				1
d. X-Ray Technology Program			1			1
e. Machinist Apprentice Course			2			2
Subtotals	2	1	3			6

9. Educational Level of Mother

TABLE 28

GRADUATES' RESPONSES TO ITEM 9, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
1. Less than 8th grade	9	1	1	1	1	13
2. Completed 8th grade	12	11	11	4	7	45
3. Completed high school	16	7	17	9	12	61
4. Completed two years of college		4	1	1	2	8
5. Completed four years of college						
No response						
Subtotals	37	23	30	15	22	127
6. List other educational experiences						
a. 6-month secretarial course	1					1
b. Dressmaker	1					1
c. Nurses-Aide Program			1			1
d. 4-year Hospital Training Program			1			1
3. Nursing School					1	1
Subtotals	2		2		1	5

10. and 11. Average Number of Siblings

TABLE 29

GRADUATES' RESPONSES TO ITEMS 10 AND 11, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
1. Out of school						
a. Number of Responses	37.	23.	30.	15.	22.	127.
b. Total Number of Siblings	48.	20.	29.	27.	20.	142.
c. Ratio	1.3	.8	.9	1.8	1.9	1.1
2. In school						
a. Number of Responses	37.	23.	30.	15.	22.	127.
b. Total Number of Siblings	56.	58.	32.	25.	31.	202.
c. Ratio	1.5	2.5	1.07	1.7	1.4	1.6
3. Preschool						
a. Number of Responses	37.	23.	30.	15.	22.	127.
b. Total Number of Siblings	1.	9.	1.	1.	2.	14.
c. Ratio	.03	.3	.03	.07	.09	.11

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12. The Work-Study Program has helped me since graduation, June, 1966.

TABLE 30

GRADUATES' RESPONSES TO ITEM 12, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
1. strongly agree	17	7	9	4	11	48
2. mildly agree	7	12	14	10	6	49
3. mildly disagree	5	4	2	1	3	15
4. strongly disagree	7		2		1	10
No response	1		3		1	5
Subtotals	37	23	30	15	22	127

13. I would tell a friend to go back to school for the Work-Study Program.

TABLE 31

GRADUATES' RESPONSES TO ITEM 13, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
1. strongly agree	16	12	13	8	9	58
2. mildly agree	16	6	9	2	9	42
3. mildly disagree	1	2	6	3	3	15
4. strongly disagree	1	3	1	2		7
No response	3		1		1	5
Subtotals	37	23	30	15	22	127

14. I liked the Work-Study Program while in school.

TABLE 32

GRADUATES' RESPONSES TO ITEM 14, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
1. strongly agree	28	18	25	8	12	91
2. mildly agree	7	5	4	4	9	29
3. mildly disagree	1			1	1	3
4. strongly disagree				2		2
No response	1		1			2
Subtotals	37	23	30	15	22	127

15. I did better in my school work while in the Work-Study Program.

TABLE 33

GRADUATES' RESPONSES TO ITEM 15, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
1. strongly agree	9	6	9	3	7	34
2. mildly agree	19	10	11	7	10	57
3. mildly disagree	4	5	3	2	5	19
4. strongly disagree	3	2	4	3		12
No response	2		3			5
Subtotals	37	23	30	15	22	127

16. I enjoyed school more while I was in the Work-Study Program.

TABLE 34

GRADUATES' RESPONSES TO ITEM 16, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
1. strongly agree	21	13	15	3	4	56
2. mildly agree	8	8	9	5	11	41
3. mildly disagree	3	2	3	4	6	18
4. strongly disagree	2		2	3		7
No response	3		1		1	5
Subtotals	37	23	30	15	22	127

17A. The Work-Study Program could be improved.

TABLE 35

GRADUATES' RESPONSES TO ITEM 17A., SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
1. strongly agree	13	7	3	6	12	41
2. mildly agree	11	8	10	4	6	39
3. mildly disagree	5	4	9	3	3	24
4. strongly disagree	4	3	4	1		12
No response	4	1	4	1	1	11
Subtotals	37	23	30	15	22	127

17B. If you feel that the Work-Study Program could be improved, how?

TABLE 36

GRADUATES' RESPONSES TO ITEM 17B., SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
a. Type of work (should relate to major area)	6		1		6	13
b. Higher wages and more hours	7	2		2	2	13
c. More supervision	4	1	3	4	6	18
d. Greater variety of job experiences	1	2	2	1		6
e. More students should participate		3	3	2	3	11
f. Post-graduate placement service			1			1
g. Parent Orientation		1				1
h. Better equipment	2					2
No comment	17	14	20	6	5	62
Subtotals	37	23	30	15	22	127

18. How many times did you speak to your administrator or job supervisor to talk about problems on your job(s)?

TABLE 37

GRADUATES' RESPONSES TO ITEM 18, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
a. not at all	23	13	17	7	14	74
b. 1-5	9	6	4	4	7	30
c. 6-10	1	1	3	1		6
d. 11-15			1			1
e. 16-20			3			3
f. more than 20	3	2	2	2	1	10
No response	1	1		1		3
Subtotals	37	23	30	15	22	127

19. How many jobs have you had since June, 1966?

TABLE 38

GRADUATES' RESPONSES TO ITEM 19, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
a. none	1					1
b. 1	18	12	10	8	6	54
c. 2	7	4	5	2	5	23
d. 3	1	4	1	2		8
e. 4	1					1
f. 5	2					2
g. 6						
h. more than 6						
No response[a]	7	3	14	3	11	38
Subtotals	37	23	30	15	22	127

[a]The numbers indicating No Response include those students whose responses were unusable for analysis of hypotheses, i.e., those not currently available for employment.

20. If you now have a job, do you work.

TABLE 39

GRADUATES' RESPONSES TO ITEM 20, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
a. 1-10 hours per week	1					1
b. 11-20 hours per week		2	1	1		4
c. 21-30 hours per week	2	2	2		1	7
d. 31-40 hours per week	24	12	7	7	10	60
e. over 40 hours per week	2	4	4	4		14
Unemployed	1		1			2
No response[a]	7	3	15	3	11	39
Subtotals	37	23	30	15	22	127

[a]The numbers indicating No Response include those students whose responses were unusable for analysis of hypotheses, i.e., those not currently available for employment.

21. For your present job, what is your pay per hour?

TABLE 40

GRADUATES' RESPONSES TO ITEM 22, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
a. Less than $1.25	1					1
b. $1.26-$1.50	5	1	5	1	1	13
c. $1.51-$1.75	11	2	6	6	2	27
d. $1.76-$2.00	7	7	3	1	5	23
e. If more than $2.00, exactly how much per hour?	5	10	1	4	3	23
Unemployed	1		1			2
No response[a]	7	3	14	3	11	38
Subtotals	37	23	30	15	22	127

The numbers indicating No Response include those students whose responses were unusable for analysis of hypotheses, i.e., those not currently available for employment.

23. Did the Work-Study Program Administrator or your immediate job supervisor help you to get your first job after graduation, June, 1966?

TABLE 41

GRADUATES' RESPONSES TO ITEM 23, SHF, SECTION A[a]

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
Yes	10	6	2	3	4	25
No	20	14	14	9	7	64
No response[b]	7	3	14	3	11	38
Subtotals	37	23	30	15	22	127

[a]Responses to item 22 relating to description of occupation are not included in this sequence of tables.

[b]The numbers indicating No Response include those students whose responses were unusuable for analysis of hypotheses, i.e., those not currently available for employment.

24. Did you have a job when you left school in June, 1966?

TABLE 42

GRADUATES' RESPONSES TO ITEM 24, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Subtotals
Yes	21	13	9	11	8	62
No	10	7	7	1	3	28
No response[a]	6	3	14	3	11	37
Subtotals	37	23	30	15	22	127

[a]The numbers indicating No Response include those students whose responses were unusable for analysis of hypotheses, i.e., those not currently available for employment.

25. How long after graduation, June, 1966 did it take you to get your first job?

TABLE 43

GRADUATES' RESPONSES TO ITEM 25, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
a. had a job when graduated	21	13	9	11	8	62
b. have never had a job	1					1
c. within 30 days	6	4	2		1	11
d. 31-60 days	2	1				3
e. 61-90 days		1	1	1	1	4
f. over 90 days	3	1	4		1	9
No response[a]	6	3	14	3	11	37
Subtotals	37	23	30	15	22	127

[a]The numbers indicating No Response include those students whose responses were unusable for analysis of hypotheses, i.e., those not currently available for employment.

26. How long have you been employed since graduation, June, 1966?

TABLE 44

GRADUATES' RESPONSES TO ITEM 26, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
a. have never had a job	1					1
b. less than 1 month	3		1			4
c. 1-2 months	2	1	2		1	6
d. 3-4 months	2	2	3		1	8
e. 5-6 months	4	5	2	1	1	13
f. ever since graduation	19	12	8	11	8	58
No response[a]	6	3	14	3	11	37
Subtotals	37	23	30	15	22	127

[a]The numbers indicating No Response include those students whose responses were unusable for analysis of hypotheses, i.e., those not currently available for employment.

27A. How long have you been unemployed since June, 1966?

TABLE 45

GRADUATES' RESPONSES TO ITEM 27A, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
a. have never had a job	1					1
b. less than 1 month	3	4			1	8
c. 1-2 months	2	2	2	1		7
d. 3-4 months	3	2	3		2	10
e. 5-6 months	3		2			5
No response[a]	25	15	23	14	19	96
Subtotals	37	23	30	15	22	127

[a]The numbers indicating No Response include those students whose responses were unusable for analysis of hypotheses, i.e., those not currently available for employment.

27B. For which of the following reasons were you unemployed since June, 1966?

TABLE 46

GRADUATES' RESPONSES TO ITEM 27B, SHF, SECTION A

	New York City	Rochester	Schenectady	Syracuse	Yonkers	Sub-totals
a. did not look for work	5	5	1		1	12
b. could not find work	3	1	5		1	10
No response[a]	29	17	24	15	20	105
Subtotals	37	23	30	15	22	127

[a]The numbers indicating No Response include those students whose responses were unusable for analysis of hypotheses, i.e., those not currently available for employment.

APPENDIX M

INTELLIGENCE TEST RESULTS AND GRADE POINT AVERAGES OF GRADUATES

TABLE 47

INTELLIGENCE TEST RESULTS AND GRADE POINT AVERAGES OF NEW YORK CITY GRADUATES

Student Number N = 31	Intelligence Test Results[a]	Grade Point Averages
50	114	80
52	105	75
54	100	81
59	82[c]	79
67	N.A.	74
68	99[b]	77
69	69	81
71	103	65
75	85[d]	72
76	94[d]	77
78	78	78
79	99	81
80	116[d]	69
84	N.A.	79
86	102	89
87	98[d]	89
88	82[d]	88
89	67	83
91	91[d]	75
94	110	91
95	104[b]	80
97	102[b]	74
103	95[d]	66
108	92[d]	82
111	115	74
117	95[b]	76
119	90	75
123	105	72
290	89[d]	78
299	65	84
300	71[d]	69

[a]Otis Quick Scoring Mental Ability Test (Beta) unless otherwise noted.

[b]Henmon-Nelson Tests of Mental Ability

[c]S.R.A. Non-verbal Form Test

[d]Pinter-Cunningham Mental Test

TABLE 48

INTELLIGENCE TEST RESULTS AND GRADE POINT AVERAGES OF ROCHESTER GRADUATES

Student Number N = 20	Intelligence Test Results[a]	Grade Point Averages
159	113[d]	79
160	112[d]	84
163	116	81
165	116	76
166	N.A.	93
169	105	83
173	80[b]	77
175	N.A.	82
181	N.A.	76
182	86	72
183	N.A.	76
184	112	87
188	128	83
189	90	77
190	87	78
191	104	79
193	94[c]	79
194	N.A.	71
196	90	72
197	N.A.	82

[a]Differential Aptitude Test unless otherwise noted.

[b]Kuhlmann-Anderson Intelligence Test

[c]S.R.A. Non-verbal Form Test

[d]Pinter-Cunningham Mental Test

TABLE 49

INTELLIGENCE TEST RESULTS AND GRADE POINT AVERAGES OF SCHENECTADY GRADUATES

Student Number N = 16	Intelligence Test Results[a]	Grade Point Averages
1	106	83
5	100	77
10	109	82
12	100	84
13	103[b]	73
14	103[b]	76
15	N.A.	70
20	108	82
31	113	80
32	89	69
33	92	84
35	100	85
36	92	84
37	81	85
39	92	77
42	86	71

[a]California Test of Mental Maturity unless otherwise noted.

[b]Otis Quick Scoring Mental Ability Test (Beta).

TABLE 50

INTELLIGENCE TEST RESULTS AND GRADE POINT AVERAGES OF SYRACUSE GRADUATES

Student Number N = 12	Intelligence Test Results[a]	Grade Point Averages
201	106	81
202	N.A.	71
204	115	80
205	124	79
210	112	72
212	103	86
215	105	82
216	111	75
219	109	78
225	108	85
226	106	83
228	88	77

[a]Otis Quick Scoring Mental Ability Test (Beta)

TABLE 51

INTELLIGENCE TEST RESULTS AND GRADE POINT AVERAGES OF YONKERS GRADUATES

Student Number N = 11	Intelligence Test Results[a]	Grade Point Average
132	102	69
136	89	70
137	117	85
138	102	72
139	107	78
146	106	69
148	106	76
150	85	69
153	106	81
154	83	76
158	103	82

[a]Otis Quick Scoring Mental Ability Test (Beta)

BIBLIOGRAPHY

Arnold, Walter M. "New Directions in Vocational Education," American Vocational Journal (October, 1964), P. 1.

Arnstein, George E. "Vocational Education," The School Dropout, Project: School Dropouts. Edited by Daniel Schreiber. Washington: National Education Association, March, 1965.

Barrett, Albert M., Relos, Ruth and Eisele, Jack. "Vocational Success and Attitudes of Mentally Retarded Toward Work and Money," American Journal of Mental Deficiency, LXX, 1 (July, 1965), 106.

Bedford, James H. and Steelhead, Albert F. "How to prepare for Success," Occupational Exploration, A Guide to Personal Occupational Adjustment. Society for Occupational Research, Ltd., 1941.

Bell, Howard M. Youth Tell Their Story. Washington: American Council on Education, 1938. Foreword.

Bennet, Charles A. History of Manual and Industrial Education up to 1870. Peoria: The Charles A. Bennett Co., 1926.

Brainerd, B. "Increasing Job Potentials for the Mentally Retarded," Journal of Rehabilitation, XX (1954), 4-6.

Capobianco, R. J. and Jacoby, Helen B. "The Fairfax Plan: A High School Program for Mildly Retarded Youth," Mental Retardation, IV (June, 1966), 15-20.

Channing, Alice. Employment of Mentally Deficient Boys and Girls. United States Department of Labor, Bureau Publication No. 210. Washington: U.S. Government Printing Office, 1932.

Chase, Edward. "Learning To Be Unemployable," Harper's Magazine (April, 1963), P. 33.

"Des Moines, Iowa: Industry Trains--and Hires--Vocational Students," School Management, VIII (May, 1964), 134.

Edgerton, A. H. "Industrial Arts Education," Objectives and Problems of Vocational Education. Edited by Edwin A. Lee. New York: McGraw-Hill Book Company, Inc., 1928. P. 329.

Educational Policies Commission. Planning for American Youth. Washington: National Education Association, 1951.

Engel, Anna M. "Employment of the Mentally Retarded," Vocational Rehabilitation of the Mentally Retarded. Edited by S. G. DiMichael. Rehabilitation Service Series No. 123, Federal Security Agency, Office of Vocational Rehabilitation. Washington: U. S. Government Printing Office, 1950.

Eninger, Max U. The Process and the Product of T & I School Level Vocational Education in the United States: The Product. Pittsburgh: The American Institutes for Research, 1965.

Gillian, J. "The School in the Context of Community," Education and Anthropology. Edited by G. D. Spindler. Stanford: Stanford University Press, 1957.

Goldstein, Herbert. "Social and Occupational Adjustment," Mental Retardation. Edited by Harvery A. Stevens and Rick Heber. Chicago: The University of Chicago Press, 1965.

Harris, Norman C. "Meeting the Post-High Educational Needs of the Vast 'Middle Group' of High School Graduates," Presentation to the Committee on Articulation of Schools and Colleges. Chicago: North Central Association of Colleges. Chicago: North Central Association of Colleges and Secondary Schools, March 19, 1963.

Holder, Arthur E. "Labor's Share in National Legislation for Vocational Education," Objectives and Problems of Vocational Education. Edited by Edwin A. Lee. New York: McGraw-Hill Book Company, Inc., 1928.

Hollingshead, A. B. Elmtown's Youth. New York: John Wiley and Sons, 1949.

Ivins, Wilson H. and Runge, W. B. Work Experience in High School. New York: The Ronald Press Co., 1951.

Johnson, G. Orville. "The Education of Mentally Handicapped Children," Education of Exceptional Children and Youth. Edited by William M. Cruickshank and G. Orville Johnson. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1958.

_____. Education for the Slow Learners. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963.

_____. "Introduction," A Comparative Study of the Personal and Social Adjustment of Mentally Handicapped Children Placed in Special Classes with Mentally Handicapped Children Who Remain in Regular Classes. Syracuse University Research Institute, Office of Research in Special Education and Rehabilitation, February, 1961.

Kane, Roslyn. Technical and Trade Employment of Youth in the Detroit Metropolitan Area. Detroit: Detroit Commission of Children and Youth, 1960.

Kennedy, John F. State of the Union Message. January 14, 1963.

Keys, N. and Nathan J. "Occupations for the Mentally Handicapped," Journal of Applied Psychology, XVI (1932), 497-511.

Kirk, Samuel A. and Johnson, G. Orville. Educating the Retarded Child. Boston: Houghton Mifflin Co., 1951.

Kokaska, Charles. "In-School Work Experience: A Tool for Community Adjustment," Mental Retardation, II (December, 1964), 367.

Kolstoe, O.P. "An Examination of Some Characteristics Which Discriminate Between Employed and Non-Employed Mentally Retarded Males," American Journal of Mental Deficiency, LXVI (1962), 472-82.

Lee, J. and Lee, D. "Guiding Life in the School: The Curriculum," The Child and His Curriculum. New York: Appleton-Century-Crofts, Inc., 1960.

Maher, Edward I. Automation--A Background Memorandum. New York: National Association of Manufacturers, 1960.

Michal-Smith, H. "A Study of the Personal Characteristics Desirable for the Vocational Success of the Mentally Deficient," American Journal of Mental Deficiency, LV, 1 (July, 1950), 139.

Miller, S. M. "Dropouts--A Political Problem," The School Dropout, Project: School Dropouts. Edited by Daniel Schreiber. Washington: National Education Association, March, 1965.

Morphet, Edgar L., Johns, R. L., and Reller, Theodore L. "The Federal Government and Education," Educational Administration: Concepts, Practices, and Issues. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1959.

Mulhern, James. A History of Education. New York: The Ronald Press Co., 1946.

National Education Association. The Cardinal Principles of Secondary Education. Commission for the Reorganization of Secondary Education. Washington: National Education Association, 1918.

Norton, Thomas L. Education For Work. New York: McGraw-Hill Book Company, Inc., 1938.

Peckham, R. "Problems in Job Adjustment of the Mentally Retarded," American Journal of Mental Deficiency, LVI (1952), 448-53.

Phelps, H. R. "Post-School Adjustment of Mentally Retarded Children in Selected Ohio Cities," Exceptional Children, XXIII (1956), 58-62, 91.

Preparation of Mentally Retarded Youth for Gainful Employment. A Study sponsored jointly by the U. S. Office of Education, the U. S. Office of Vocational Rehabilitation, and the project on Technical Planning of the American Association on Mental Deficiency. Bulletin No. 28, 1959.

Proceedings of a Conference on Special Problems in Vocational Rehabilitation of the Mentally Retarded. U. S. Department of Health, Education, and Welfare, Vocational Rehabilitation Administration, Rehabilitation Service Series No. 65-16. Madison, Wisc.: November 3-7, 1963.

Prosser, Charles A., and Quigley, Thomas H. "What is Vocational Training?" Vocational Education in a Democracy. Chicago: American Technical Society, 1949.

Reissman, Frank, and Hannah, Arlene. "Teachers of the Poor," The Disadvantaged Child, Issues and Innovations. Edited by Joe L. Frost and Glenn R. Hawkes. Boston: Houghton Mifflin Co., 1966.

Roden, Edward M. "Identifying Strengths and Weaknesses of Vocational Industrial Teachers for Purposes of Professional Training." Unpublished Doctoral Dissertation, Syracuse University, 1951.

Russell, John Dale and Associates. "Vocational Education," Staff Study No. 8. Advisory Committee on Education. Washington: U. S. Government Printing Office, 1938.

Sanders, M. "Vocational Education in the Central Schools," Central Ideas (November, 1965), P. 14.

Saylor, J. G. and Alexander, W. M. Curriculum Planning for Better Teaching and Learning. New York: Rinehart, 1954.

Schreiber, Daniel (ed.). "Introduction," The School Dropout, Project: School Dropouts. Washington: National Education Association, March, 1965. P. 2.

_____. "The Rural School Dropout," Rural Youth in Crisis, Facts, Myths, and Social Change. Edited by Lee G. Burchinal. Washington: U. S. Department of Health, Education and Welfare, Welfare Administration, Office of Juvenile Delinquency and Youth Development, 1965.

Slack, Marguerite B., and Boyer, Mark A. "The Slow Learner in the Academic High School," Educational Leadership, XXI (March, 1964), 380.

Smith, B. O. "Social Perspective as the Basic Orientation of the Curriculum," Toward Improved Curriculum Theory, Supplementary Educational Monograph No. 71. Edited by R. W. Tyler and V. Herrick. Chicago: The University of Chicago Press, March, 1950. pp. 3-5.

Smith, Z. M. "Agricultural Education in Secondary Schools," Objectives and Problems of Vocational Education. Edited by Edwin A. Lee. New York: McGraw-Hill Book Company, Inc., 1928.

Taba, Hilda. "An Approach to Designing the Curriculum," Curriculum Development, Theory and Practice. New York: Harcourt, Brace and World, Inc., 1962.

Tesseneer, R. A., and Tesseneer, L. M. "Review of the Literature on School Dropouts," National Association of Secondary School Principles, XLII (May, 1958), 143.

Thomas, Lawrence G. The Occupational Structure and Education. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1956.

Tyler, Ralph W. "Background," The School Dropout, Project: School Dropouts. Edited by Daniel Schreiber. Washington: National Education Association, March, 1965.

"The 'Unemployables,'" Newsweek, November 7, 1966, p. 84.

U. S. Bureau of Labor Statistics. From School to Work, The Early Employment Experiences in Seven Communities, 1952-1957. Washington: U. S. Government Printing Office, 1961.

U. S. Department of Labor. The Challenge of Jobless Youth. Washington: U. S. Government Printing Office, 1963.

U. S. Department of Labor, Manpower Administration. Dictionary of Occupational Titles. Definitions of Titles, I. 3rd ed. Washington: U. S. Government Printing Office, 1965.

U. S. Department of Labor. Manpower-Challenge of the 1960's.

U. S. Department of Labor, Office of Manpower, Automation, and Training. Young Workers: Their Special Training Needs. Washington: U. S. Government Printing Office, Bulletin No. 3, May, 1963.

U. S. Office of Education, Administration of Vocational Education: Rules and Regulations. Vocational Education Bulletin No. 1. Washington: U. S. Government Printing Office, 1917; rev. 1958.

U. S. Office of Health, Education and Welfare. Vocational Education Act of 1963, P. L. 88-210. Washington: U. S. Government Printing Office, 1964.

Venn, Grant. Man, Education and Work, Postsecondary Vocational Education. Washington: American Council on Education, 1964.

"The Vocational Education Act of 1963 (P.L. 88-210)," Vocational Education Needs in Oswego and Onondaga Counties. Utica: Part-Gray Publications, Inc.,

Warner, W. L., Havighurst, R. J. and Loeb, M. B. Who shall be Educated? New York: Harper and Brothers, 1944.

Wirtz, W. Willard. Statement before the Subcommittee on Education, Senate Committee on Labor and Public Welfare, on S. 580, "National Education Improvement Act of 1963," April 30, 1963.

Youth Work-Study Program, Summary and Suggested Development. Albany, N. Y.: The University of the State of New York, The State Education Department, Division of Special Occupational Services.

Zack, Jacob B. "The Best Place for Vocational Education, the Comprehensive High School," N.E.A. Journal, LIV (May, 1955).

VT 004 119
Brooke, Walter L.; DuBose, David C.
Instituting a Vocational Major in Natural Resources.

Shasta Coll., Redding, Calif.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jun67 41p.

*SCHOOL SURVEYS; *AGRICULTURAL EDUCATION; *POST SECONDARY EDUCATION; *NATURAL RESOURCES; QUESTIONNAIRES; *CURRICULUM PLANNING
CALIFORNIA

Purposes of this survey were to identify job requirements for planning a "Natural Resources" curriculum, to estimate employment opportunities for students, and to apprise employers of the programs. Interviews were held with employers or personnel managers and employees to identify jobs and make job descriptions. This information pointed out 182 positions in six jobs where "National Resources" education would be essential, 212 positions in eight jobs where such education would be useful, and 130 positions in seven jobs where such education would be marginally related. It was found that the seven existing "Natural Resources" curriculum options might be compressed to two by reorganizing the present curriculum. The appendix contains interview forms, addresses of employers, and course descriptions. (EM)

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INSTITUTING A VOCATIONAL MAJOR In NATURAL RESOURCES at Shasta College

June, 1967

VT004119

INSTITUTING A VOCATIONAL MAJOR IN NATURAL RESOURCES

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Instructor, Natural Resources, Shasta College
June, 1967

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INTRODUCTION

The economy of the three counties from which Shasta College draws most of its students is based largely upon the natural resources of the area. Activity relating to the development or regulation of our natural resources is on the increase. Within the past few years, Kimberly Clark Corporation, a wood processing firm, has completed construction on a pulp mill adding 1150 new jobs to an industry which leads all others in economic importance to our area. Utilization of water resources was expanded with the construction of three major dams: Trinity, Whiskeytown, and Black Butte. In addition, Pacific Gas and Electric Company has recently completed a series of dams on the Pit River adding new reservoirs to an already extensive power and water storage system. The economic importance of these water resources was further enhanced when it was decided to locate the regional office of the state Department of Water Resources in Red Bluff. This agency presently employees 113 people and will raise that figure to 1000 employees within ten years. The recreational usage of the lakes, streams and woodlands of northern California has also increased with state population growth and the improvement of highways linking the north state with the major population areas.

In the fall of 1966, Shasta College instituted a new vocational major designed to prepare students for jobs in businesses and agencies associated with the development or regulation of these natural resources. From the standpoint of student acceptance, the program

was an immediate success. Over seventy students declared a vocational major in natural resources and all classes were closed before registration was completed. This student acceptance was not altogether surprising. At Shasta College we have consistently had large numbers of students who begin college with the intention of completing a professional major in forestry, fish and game, or other majors related to the management of natural resources. And yet, despite the initial high enrollment in transfer programs, few of these students have gone on to state colleges or the university. A look at the test records of students who enroll in our two unit General Forestry course suggests why. This two unit offering is a survey course for students planning a professional career in forestry and other natural resource majors. Until the fall of 1966, when the vocational major in natural resources was instituted, this was the only course offered by Shasta College to students with an interest in natural resources occupations. We searched the school records for the ACT test scores of all students enrolled in this course during the school year which preceded the institution of the new vocational major. The ACT test is used nation-wide to measure the academic development of college students and is the entrance test used by Shasta College. The following table shows how students in the General Forestry course scored on this test when compared with typical college freshmen in four year programs.

TABLE 1

ACT Scores of General Forestry Students

ACT Composite Percentile Score	Number of Students Receiving Score
76% and Above	3
Between 51% and 75%	10
Between 26% and 50%	26
25% and Below	34

The test scores suggest that the greater proportion of these students would have difficulty competing with other college students in four year programs. The number of students who eventually transfer in forestry bears this out. Our records indicate that only slightly more than 20 percent of these students eventually transfer to a four year college

To summarize, Shasta College had two compelling reasons for instituting a vocational program in natural resources. First, we had become aware of a growing, if unspecified, job market for students with the kind of training provided by the natural resources major. And second, we had large numbers of students with interests in the field of natural resources whose educational needs we were not meeting.

Purpose of the Study

One of the most persistent problems in vocational education programs is the inability to generalize. If such programs are to

be successful, they must be practical and suited to the industries and agencies they are intended to serve. This is especially true of non-specific majors such as our vocational major in natural resources designed to prepare students for a variety of jobs. Although several organizations were invited to the college to discuss the program prior to its institution (see Appendix I), school officials were aware that the information gained from this discussion was insufficient and that a more systematic study of the program would have to follow. The information was considered inadequate as a guide in educational planning for at least two reasons. First, the agencies and businesses contacted were not completely representative of the organizations we intended the program to serve. And second, the discussion tended to center around the general acceptance of the program by the organizations and not upon the specific educational needs of students who would take jobs with the organizations. Consequently, the curriculum initially devised for the program cannot be considered final. One of the major purposes of this study was to examine the relationship between the natural resources curriculum and the training needs of specific jobs.

A second and related purpose of the study was to estimate the job placement potential in the Shasta College service area for graduates of the program. It was previously indicated that this vocational program has been received with great interest by the students. It would, however, be a tragic mistake to allow student interest to be the determining factor in the number of students we train.

Since classes in the major were filled to capacity and beyond immediately upon their introduction, it would seem that we could be in real danger of training more students than there are jobs to be filled. It is therefore as important to know how many students we can reasonably expect to place as it is to know the training needs of the jobs.

A third purpose of the study is one inherent in most surveys which accompany the introduction of a vocational program but is seldom explicitly stated. This is simply to make initial contact with the potential employer and make him aware of the existence of the program. Vocational programs not only must be developed, they must be sold. We felt that this usually tacit purpose should be formally incorporated since it has important implications for the design of the study.

PROCEDURE

The first step in the development of this study was to construct a list of all businesses and agencies in or closely adjacent to the Shasta Joint Junior College District whose principal activity was related to the natural resources curriculum. Agencies and businesses engaged in fish and game regulation or management, forestry, wood processing, range management, rural recreation, or public relations for an outdoor recreational enterprise were listed. To obtain an accurate estimate of available jobs, we endeavored to contact officials in each of the firms we had listed. This was essentially carried out although some of the smaller wood processing

firms and rural recreation enterprises were removed from the list when it became apparent that placement of students with these firms was highly unlikely. The list is shown in Appendix II.

To insure that the greatest benifit would be derived from the initial contact with potential employers, it was decided that a standardized interview would be used in the study. For the purpose of the study this seemed far better, if more time consuming, than the less personal mailed questionnaire. All interviews were conducted by a member of the teaching staff in the natural resources major. It was felt that this procedure would maximize communication and give the teaching staff additional insight into the training needs of their students. The counselor chiefly responsible for assisting vocational students in their educational planning accompanied the teaching staff member on several of these interviews and assisted in analyzing the data.

It was suggested previously that the title of the vocational major under investigation, "Natural Resources", does not refer directly to the activity of any given job, but rather to the general activity of a variety of businesses and government agencies. Many of the businesses and agencies contacted had vocational level positions which were not directly related to the natural resources curriculum and might be more appropriately filled by students from different vocational majors. To avoid an indiscriminate listing of all positions which could be filled with junior college graduates, a clear distinction between positions in a given organization was

needed. It was decided that a survey instrument incorporating questions relating to specific tasks performed on the various jobs would be appropriate for this purpose. Two standardized interviews were constructed for this study.

One standardized interview was developed for use with the employer or personnel manager of the agency or business. The interview record form is shown in Appendix III. In this interview, general information on the jobs in the organization was gathered. This included the number of the people working for the firm, the various job titles held by persons in the firm, the employers statement of the skills and experience necessary for the various positions, and the anticipated openings in the various positions.

A second standardized interview was developed to be used with employees of the firm. In this interview the employee was asked to describe the major duties and responsibilities of the job, working conditions on the job, the method by which he was selected for the job, and other important characteristics.

When the interviews were completed, the various job titles obtained in the interviews were listed. The number of positions encountered for each job was tabulated. The jobs were then assigned to one of three classifications: If the knowledge and skills developed in twenty or more units of the natural resources curriculum was essential to functioning on the job, the job was placed in category one. Since twenty units is the accepted minimum standard for a vocational major at Shasta College this seemed appropriate. It would be unrealistic to label a course of study a "major" where the

essential courses in the program constitute less than a third of the course work.

Jobs were listed in the second category if the course work in natural resources would be useful, but not essential. Jobs were placed in this category if skills in some of the natural resources courses were required for the job, but not enough to constitute a twenty unit vocational major. Jobs in this category were either too narrowly specialized to require two years of preparation (such as "lumber grader") or they were jobs where, although some course work in the major would be useful, the principal duties did not correspond to the natural resources curriculum.

Jobs were listed in a third category if the course work in natural resources was marginally related. If the course work in natural resources would serve only to acquaint the student with the general role of the organization and would be of little or no value in either getting the job over other applicants or functioning on the job once the position was obtained, the job was placed in this category. To be completely consistent, all jobs in the organizations surveyed other than those listed in the first two categories should appear in this one. This would make the list too long and pointless. What has been listed is the titles of jobs which by their title seem to be related to the natural resources curriculum but upon closer inspection of the duties depend on other kinds of training. It is important to note that all but eighteen of the 130 positions listed in this category are technical engineering jobs.

RESULTS

The following table outlines the findings derived from the analysis described in the preceding section.

TABLE 2

Importance of Curriculum to Duties and Tasks of Jobs In Organizations Relating to Natural Resources

Category One--Curriculum Essential

Job Title	Positions	
Forestry Technician	90	
Game Warden	38	
Fish and Wildlife Assistant	31	
Fish Culturist	19	Total=182
Range Technician	2	
Game Refuge Foreman	2	

Category Two--Curriculum Useful

Job Title	Positions	
Tank Truck Operator	79	
Scaler	53	
Lumber Grader	37	
Fire Control Aid	22	
Recreation Aid	12	
Recreation Supervisor	3	
Park Guide	3	
Park Attendant	3	Total=212

Category Three--Marginally Related

Job Title	Positions	
Engineering Aid	67	
Saw Filer	18	
Soil Conservation Technician	15	
Conservation Engineering Technician	15	
Water Resources Technician	10	
Materials Aid	3	
Geologic Aid	2	Total=130

The findings presented in table two show six jobs in which knowledge and skills can be considered "essential" under the definition used by the study.

In the following section, the six jobs which require twenty units or more of the course work in natural resources are discussed in the order of the frequency of positions indicated by our survey. The job for which there was the greatest number of positions is discussed first. The information below is not intended to be complete descriptions of the jobs. Only that information which is relavent to curriculum and placement is discussed. More complete information on these jobs is in the possession of Mr. David DuBose, instructor in natural resources courses at Shasta College.

Job Title: Forestry Aid or Technician Positions: 90

Principal Duties and Responsibilities: The duties vary somewhat with the position. In private organizations activities such as cruising and scaling timber, surveying lines and roads are likely to occupy most of the worker's time. With the U.S. Forest Service, which accounts for the majority of the positions, the work is broader. "Forestry technicians perform nonprofessional and technical forestry work in connection with the multiple-use management, conservation, development, utilization, and protection of the forest resources; or perform similar work in forestry research activities."

Pay Range: Pay for the work varies with the position and the amount of experience and education. At the GS-4 level in federal service where our graduates would qualify, the beginning salary is $4778 per year. The highest salary recorded for this job in the survey was $7810 a year. Other areas have persons with technical level training making $10,000 a year.

Placement Potential: Most organizations contacted were dependent upon a parent organization in determining their final planning for manpower needs; they were therefore unable to release exact figures. Many Forest Service districts use their technical level jobs as summer positions for four year forestry programs: where the supply of professional trainees in high openings are limited. One Forest Service official indicated that while districts vary in their hiring policy with regard to forestry technicians, districts are finding they can free professional foresters for other work. Further, professional foresters must move about to get the varied experience needed for promotion; the technician tends to give continuity to the programs of a district. For these reasons the use of technicians is on the increase. Taking the region as a whole the ratio of full-time technicians to professional foresters is three to one. The students trained in technical forestry would also qualify for positions on fire suppression crews. Table II indicates that many such positions exist in the area, but listing them under the "forestry technician" title seemed inaccurate since positions on fire crews might be more appropriatly thought of as being related to the Fire Science major here at the college.

Relation of Natural Resources Curriculum to the Job: According to the personnel officer in the regional office of the U.S. Forest Service, students with this major would have excellent employment opportunities with the U.S. Forest Service if the training is geared specifically to the tasks which will be performed on the job. In his opinion, the present curriculum appears to be too general. The more

specific the skills developed, the more likely the employee will be retained on a year around basis (skills in drafting and timber stand improvement are useful in this respect.)

Job Title: Fish and Wildlife Assistant Positions: 31

Principal Duties and Responsibilities: This is also a job with the Department of Fish and Game. The work is described as "Hatching, rearing and feeding of fish or game birds; cleaning troughs, ponds, pens and other fish or wildlife enclosures; liberating game birds or planting fish; removing barriers from streams, installing and maintaining fish screens, ladders, and traps; planting or cultivating wildlife cover or forage plants; installing and maintaining artificial watering devices and building protective cover for wild birds; collecting field data on fish or wildlife by censuses and other means; trapping, tagging, or marking of fish and wildlife; collecting fish and wildlife samples and specimens; as required, operates automobiles, trucks, tractors, pumps, fish loaders, and other types of mechanical equipment; keeps records; and does other work as required."

Pay Range: The pay for this job varies from $5820 to $6360.

Placement Potential: This job offers the best employment opportunity in the Department of Fish and Game. The applicant would be eligible on a state wide basis. The fact that his training was specifically related to the job would be in his favor on the exam.

Relation of this job to the Natural Resources curriculum: In interviewing officials from the Department of Fish and Game, it was pointed out that most of the opportunity for vocational students

is working in fish hatcheries. Most positions in game management are filled by graduates of four year programs. As was previously stated, this job offers a promotional opportunity to the job of Game Warden. It would be appropriate for the student to consider including the specified police science courses in his program if he is otherwise physically qualified. A second promotional opportunity exists to the job of Fish Culturist. For this position the police science training would not be necessary.

Job Title: Fish Culturist Positions: 19

Principal Duties and Responsibilities: "A Fish Culturist performs work in a major phase of the operation of a fish hatchery including installing and maintaining racks and traps; spawning fish; incubating eggs; hatching fish; feeding fish; cleaning troughs and equipment; grading and counting fish; maintaining hatchery grounds; keeping records; preparing reports; assisting in collecting field data on and fish and habitat; and does other work as required."

Pay Range: The pay for this job varies from $5772 to $7020 per year.

Relation of this job to the Natural Resources curriculum: The student would not be eligible for this job directly out of school. Ordinarily two years of experience is necessary in the Fish and Game Assistant job before application can be made for the job of Fish Culturist. One year of the experience requirement can be eliminated, however, with two years of college in courses in biological sciences or fisheries management.

Job Title: Game Warden Positions: 38

Principal Duties and Responsibilities: Enforces and prevents violations of laws and regulations relating to the conservation and protection of fish and wildlife. In connection with these duties the game warden issues warnings and citation, serves warrants, makes arrests and prepares and presents evidence in court actions. He will also investigate wildlife crop damage, advise landowners on counter-measures and issue kill permits. He feeds game birds or animals during unusual weather conditions and may assist in the planning of controlled hunts. He collects and reports information on the condition of fish and wildlife and their habitat. He may assist in fish planting and he may be called upon to speak at meetings of sportsmen's, civic, and other groups to explain fish and game laws and regulations and the Department's conservation programs.

Pay Range: The minimum salary is $7020 per year and the maximum is $8532 per year.

Placement Potential: Officials of the Department of Fish and Game state that the majority of these positions are filled from the Fish and Game Assistant job. Again, no exact figures are possible, but the applicant taking the test is eligible for positions on a state wide basis.

Special Requirements: Some screening must be conducted before students are encouraged to look to this job as a vocational objective. The applicant must have "ability to swim at least 100 yards and ability to row a boat; strength, endurance, and agility; normal hearing; visual acuity of not less than 20/40 in both eyes provided

the defective vision is not due to active or progressive organic disease; normal color vision; height not less than 5'8" and waist measurement not in excess of the measurement of the chest in repose. Age requirement minimum 21 years, maximum 40 years as provided by Section 854 of the California Fish and Game Code."

Relation of Natural Resources Curriculum to the Job: Although many of the courses necessary for preparing for this job are offered in the police science program at the college, it does not require enough of the police science units to constitute a police science major. It is quite important that a student preparing for this vocational objective have strong preparation in natural resources courses. Not only is an understanding of fish and wildlife critical to the job, but the student is not likely to be old enough to apply when he finishes his training. Since holding the Fish and Wildlife Assistant job for two years is one of the specific recommendations of the California State Personnel Board as a possible way of qualifying for the job, this preparation would seem most appropriate.

Job Title: Range Technician Positions: 2

Principal Duties and Responsibilities: The work consists largely of conducting surveys to measure the effects of brush control and removal programs. Sample plots are layed out and tallies of the animal life which can be supported on the improved range are made. The technician must have an understanding of aerial photographs and maps to function on the job.

Pay Range: The two technicians included in the sample were recently hired at the GS-4 level at a yearly salary of $4776 a year. The GS-7 level is probably the highest which could be expected in this specialization with two years of college.

Entry Potential: The U. S. Bureau of Land Management, with a total of 30 positions, employs only these two technicians. We were unable to find any other openings in the college service area which employed people with this job title.

Relation of This Job to the Natural Resources Curriculum: Both state and federal agencies contacted indicated that few opportunities exist for the A.A. Degree graduate in range management in this area.

Job Title: Refuge Foreman Positions: 2

Principal Duties and Responsibilities: Supervises the planting and irrigation of crops for birds in a game refuge. Local farmers are usually hired on a temporary basis for the actual planting of the crops.

Pay Range: Pay for this job was $7800 per year. No minimum was indicated. It was indicated that this was top pay for the job.

Placement Potential: No position has been open in this job for the past ten years.

Relation of This Job to the Natural Resources Curriculum: Although several courses in the natural resources curriculum appeared appropriate, the low placement potential makes further discussion meaningless.

RECOMMENDATIONS

Several recommendations seem warranted on the basis of the findings of this study. While staffing problems and coordination between departments are likely to be limiting factors in bringing about some of the suggested changes, it is felt the following recommendations merit the attention of school officials and the Natural Resources advisory committee.

1. It is recommended that the options of Range Technology, Rural Recreation, and Public Relations in the Natural Resouces major be eliminated: As table 2 indicates, few jobs exist in the college district for which such training is applicable. While it is true that some students with special advertising talent might find jobs in public relations, and also true that students choosing a rural recreation or range technology options might use the training if they have sizable acerage they are converting to recreational use, most students have neither the talent nor the real estate to make use of these specializations. It is suggested that these options be discontinued to avoid unrealistic planning on the part of students.

2. It is recommended that the Fish and Game Assistant option and the Game Warden option be combined: Both these options refer to specific job titles for the California State Department of Fish and Game. While both of these are listed as entry level jobs with the Department, six of the nine Game Warden positions open in the past year were filled by persons with the job of Fish and Game Assistant.

Those students who could not meet the physical requirements for the Game Warden position or who prefered work in fisheries could omit the police science units from their program and substitute courses which would prepare them for the job of Fish Culturist. Job opportunities would indicate that more courses in fisheries and fewer in game or range management would be appropriate.

3. It is recommended that greater emphasis be given to the Forestry option of the Natural Resources major and that the training offered the student be more specific to the tasks performed on the job: The student should certainly understand the phase of a logging operation in which he is likely to take part. For this reason scaling, marking, and identification of timber should be taught as specific skills. Timber stand improvement is also likely to be part of the technical forester's job. Techniques in tree planting, thinning, pruning, and disease control should be mastered. It would seem appropriate to include courses which would make the student familiar with the operation and maintenance of basic fire supression equipment (Fire Hydraulics and Fire Apparatus and Equipment) to increase his chances of getting the important first job. A separate lab might well be offered in the General Surveying course for Natural Resources students which would emphasize pacing, use of the compass, use of maps and aerial photo interpretation. To make room in the student's course of study for learning these specific skills it would seem that some of the general life science courses (Botany, Zoology, General Biology) could be eliminate and some of the general natural resources courses (Forest Management and Range Management, Natural Resources Conservation,

and Conservation Administration) could be combined and offered for fewer units.

4. It is recommended that the Wood Technology option remain an in-service training program in the evening division as it presently is: In discussing the feasibility of offering this option as a pre-service vocational major with officials of wood processing firms, it became apparent that students would have little or no advantage over any other applicant for a specific job. Almost all firms have union agreements which must be honored. Seniority plays as important a role in qualifying for a given job as pre-service training in most mills. In addition, most jobs are of such a specific nature that on-the-job training is a far more practical approach to qualifying for the job. It would appear that such wood technology courses as might be offered be suggested by officials of these firms. Students from the day program might be encouraged to include some of these courses in their study list where time permits, but this option should be clearly specified as in-service training to avoid unrealistic planning on the part of students.

SUMMARY

The two basic purposes of this study were, first, to gain information on job requirements for planning the Natural Resources Curriculum, and second, to estimate placement opportunities for students in the major. It was found that many of the initial courses planned for the major tended to focus on the general role of agencies and businesses and not upon the specific jobs open to vocational students

in those organizations. When specific job posibilities were considered, it was found that the Natural Resources options might be compressed from seven to two. Students would have better employment opportunities if they had each developed specific skills for a group of closly related jobs. Mention should be made of the third and less tangible purpose of the study--to make employers aware of the existence of the program. It is felt that the personal contacts made with employers to find what was needed in the actual work and the willingness of school officials to change the program to fit these needs will certainly improve the placement opportunities for students in this vocational major.

APPENDIX I

February 17, 1966

Dear Mr.

For several years Shasta College has been concerned about the number of students attending the college who have indicated a strong interest in such careers as forestry, fish and wildlife, range management, recreation management, wood technology and others. Many of these students do not transfer to four-year colleges; they either drop out of the college or change into other occupational pursuits because of the lack of course offerings designed to meet the needs and interests of vocational students interested in less than a four-year technical degree.

The college staff, in studying these occupations, identified certain basic requirements that are common to all of them. Since the common core of these requirements seemed to center around natural resources, a program of exploratory nature, with courses built around natural resources, has been developed. By placing the student in these courses and offering certain other optional courses, plus a strong on-the-job work experience program, it was felt that the student's interests could be met and the industry's needs served.

As there is no comparable program offered in any junior college in the United States there are no guidelines to follow. This will permit a pilot program to fit this area's needs and allow exploration of new ideas.

The administration and staff of the college join with the Board of Trustees in inviting you to meet and review the work already done and make recommendations on its improvement. It is hoped, through such a meeting, to explore the scope and possibilities of such a program with you.

Included with this letter are suggested courses and requirements for your perusal. The meeting has been set for Thursday, February 24th at 3:00 P.M. in the Faculty Dining Room at Shasta College.

Sincerely,

Gilbert A. Collyer
District Superintendent-President

dg

enc.

PLANNING QUESTIONNAIRE
NATURAL RESOURCES MAJOR
SHASTA COLLEGE

NAME: _____ ORGANIZATION: _____

ADDRESS: _____ PHONE: _____

Because of the wide range of experiences and training required to develop technicians for the Natural Resources occupations, cooperation between industry, governmental agencies, private individuals, and Shasta College is essential. Some of this cooperation could be in the forms of:

1. Providing work experience (on-the-job) training.
2. Making available outstanding individuals to instruct in specialized areas.
3. Serving on a Natural Resources advisory committee.
4. Or others.

1. Would your organization employ students who had successfully completed technician training in one of the Natural Resources options? _____

   Remarks:

2. Would your organization be willing to provide work experience (on-the-job) training while the student is enrolled? _____

   Remarks:

3. Would there be opportunity for summer employment in your organization? _____

   Remarks:

4. Could your organization aid the college by making available specialists to instruct in technical areas? _____

   Remarks:

5. Would you be willing to serve or have a member of your organization serve on an ad hoc advisory committee on Natural Resources? _____

   Remarks:

6. Your comments as to improvements of this program (additions, deletions, changes, etc.)

APPENDIX II

Businesses and Organizations Contacted in This Study

California State:

Division of Beaches and Parks
Shasta State Historical Monument
Shasta, California

Department of Fish and Game
627 Cyprus Avenue
Redding, California

Division of Forestry
Sierra-Cascade District Headquarters
1000 Cyprus Avenue
Redding, California

Department of Water Resources
2135 Akard Avenue
Redding, California

Corona Box and Lumber Company
Main Office
Olive Road and Rawson Avenue
Red Bluff, California

Diamond National Corporation
1155 Court Street
Redding, California

Dye Creek Preserve
Wayne Long, Manager
Rt. 1, Box 831
Red Bluff, California

Forty Niner Door Stock Company
Olive Road and Rawson Avenue
Red Bluff, California

Lassen Volcanic National Park
Headquarters Building
Mineral, California

Lorenz Lumber Company
Burney
California

M B & C Lumber Incorporation
Olive Road and Rawson Avenue
Red Bluff, California

Main Lumber Company
2375 Garden Avenue
Redding, California

Pacific Gas & Electric Company
Recreation Division
1255 Sacramento
Redding, California

Paul Bunyan Lumber Company
South Anderson
California

Scott Lumber Company, Inc.
Burney
California

Shasta-Cascade Wonderland Association
South Market and Parkview
Redding, California

United States:

Forest Service:

Corning Ranger Station
1112 Solano
Corning, California

Hayfork Distric
Hayfork, California

Federal Building
Red Bluff, California

Pacific S.W. Forest & Range
Experimental Station
1615 Continental
Redding, California

Shasta Lake
Antler Fire Control Station
Lakeshore, California

Willows District Ranger
Federal Building
Willows, California

Bureau of Land Management
2460 Athens Avenue
Redding, California

Bureau of Reclamation:

238 South Main Street
Red Bluff, California

Willows Field Office
112A South Butte Street
Willows, California

Soil Conservation Service
Federal Building
Red Bluff, California

Bureau of Sport Fisheries & Wildlife
Sacramento National Wildlife Refuge
Highway 99W South
Willows, California

United States Plywood Corporation
Highway 99 North
Anderson, California

Whiskeytown National Recreation Area
Administration Office
John F. Kennedy Memorial Drive
Whiskeytown, California

(Name and address of firm)

APPENDIX III

Interview Record Form

At Shasta College we are attempting to develop a vocational training program which will enable the student to function effectively as an employee in an organization such as your own as a skilled worker. Could we begin by listing the different positions your organization has which require training but are open to persons with less than four years of college?

(List Job Titles) 1._____

2._____

3._____

4._____

5._____

6._____

7._____

If you were hiring now for the first job we listed, what is the minimum training or experience you would expect of the person filling the position?

(Refer to number above) 1._____

2._____

3._____

4._____

5._____

6._____

7._____

This sheet describes the courses we offer in the Natural Resources major. Would you mind going through it with me to determine which courses would meet the training or experience requirements listed above? (where requirements can be met by course work, indicate by placing the course number over the requirement.

Related education: "Some of your employees are likely to need skills in addition to those gained in natural resources training. I have some questions on additional skills an employee might need. I would like you to tell me in which job these skills might be needed and in which it would just be desirable.

1. In which of the jobs we have discussed is the employee required to submit written reports? (Specify job number, get copy of form or describe the nature of report)

_____

_____

_____

_____

_____

2. In which job is the employee required to keep a set of books or understand an accounting procedure?

_____

_____

3. In which job is the employee required to have direct contact with the public? Could you describe the duties?

_____

_____

_____

_____

4. What equipment or machines, including business machines, is the employee required to understand, operate, or maintain?

Machine or equipment	Employee responsibility

Questions on Employment outlook:

1. How many of these jobs have you filled in the past year? (Show job number and the number hired.)

_____

_____

2. What is the outlook for new openings in the next two year period? (show position and the number to be hired.)

_____

_____

Reasons why we would hope you would look to Shasta College in the future as a source of new employees:

1. We will have seen the boy's work for two years and can help you evaluate.

2. The boy will have demonstrated he can stick with a program for two years; this will tell you something about his reliability and interest in the work.

3. He will have had a good basic training program-our grading policy will give you an indication of what he is capable of doing.

Interview Record Form

(Employee)

A. Job Title or Name:_____

B. Present Methods and Procedures of Work:
   1. Duties and tasks worker performs:_____

   _____

   _____

   2. Supervision received and given:_____

   _____

   _____

   3. Job relationships other than supervision:_____

   _____

   _____

   4. Materials, supplies, and machines the worker uses:_____

   _____

   _____

C. Working Conditions:
   1. Place of work--describe (inside--outside, etc.):_____

   _____

   Dangerous or harmful aspects:_____

   2. Day, week and hours of the work period:_____

   3. Amount and method of pay:_____

   4. Opportunities for promotion or advancement:_____

   5. Fringe benefits: health plan_____, Vacation_____

   retirement_____, other:_____

D. Methods of selection for the position:
   1. Tests:_____
   2. Interview:_____
   3. Transfer or promotion:_____
   4. Other:_____

APPENDIX IV

CATALOGUE OUTLINE AND COURSE DESCRIPTIONS

Natural Resources

First Year	1st Sem.	2nd Sem.
Dynamics of Group Disc. 56	3	
Report Writing 38		3
Natural Resource Conservation 60	3	
Soils 23		3
Fish & Wildlife Cons. 70	3	
Nat. Resources Recreation 61		3
Forest Propagation and Identification	3	
Water Resources 64		2
Intro to College 40	1	
Hygiene 11		2
Electives	2	2
P. E.	½	½
	15½	15½

Second Year	1st Sem.	2nd Sem.
U.S. History & Govt. 17AB	3	3
Conservation Admin. 63	2	
Natural Resource Survey 62	3	
Forest Products 68	3	
Range Management 22		3
Forest Management 50	3	
Natural Resource Mech.		3
Work Experience Seminar	1	
Work Experience	2	2
Electives	1	1
P. E.	½	½
	15½	15½

Natural Resources Option

Fish & Game Assistant

Omit: Forest Propagation and Identification, Natural Resources Surveying, and Forest Products Technology
Add: Zoology, Botany or General Biology, and Crop Production 21A.

Forestry

Omit: Forest Products Technology and Water Resources.
Add: General Forestry, Botany, Zoology or General Biology, Crop Production.

Game Warden

Omit: Forest Propagation and Identification, Natural Resources Surveying, Forest Products Technology, Forest Management, Water Resources, Natural Resource Mechanics and Soils.
Add: Criminal Evidence, Criminal Investigation, Administration of Justice, Firearms, Criminal Law and Applied Psychology.

Public Relations

Omit: Forest Propagation and Identification, Natural Resources Surveying, Forest Technology, Natural Resources Mechanics and Soils.
Add: Advertising, Salesmanship, Introduction to Journalism, Publicity and News Service, Photography, and Applied Psychology.

Rural Recreation

Omit: Forest Products Technology, Natural Resources Surveying, Forest Management and Forest Propagation and Identification.
Add: Salesmanship, Advertising, Merchandising, Landscape Design, Agriculture Marketing and Agriculture Math.

Wood Technology

Omit: Fish & Wildlife Conservation, Natural Resources Recreation, Natural Resources Surveying, Range Management, Soils, and Natural Resources Mechanics and Water Resources.
Add: General Chemistry, Botany or General Biology, Applied Psychology, Typing, and Algebra or Agriculture Math.

Range Technology

Omit: Forest Propagation and Identification and Forest Products Technology.
Add: Crop Production 21A, Feeds and Feeding, and Livestock 12A.

Course Descriptions

Feeds and Feeding 11 (4)
A study of the constituents of feed, carbohydrates, proteins, fats, minerals, vitamins and water; their utilization by the animal body. The digestive system, the process of digestion and assimilation of the various constituents. A study of various feeds and their individual values. Computations of standard rations for livestock and the problems involved in practical feeding. (3 lect-1 lab.)

Livestock Production 12A-12B (4-4)
A study of beef cattle production, swine production, sheep production, and dairy production in the United States, but with emphasis upon California conditions. Breeds of livestock will be considered, feeding and management of those enterprises, the planning of an economic unit for each of those major livestock classes and the marketing of the product. (3lect-1 lab.)

Crop Production 21A-21B (4-4)
A study of the basic forage crops, including irrigated pastures, alfalfa, and the cereal hays, silage crops and sudan. Also will be the various field crops, major cereal crops and cultural and economical factors such as soil management, harvesting methods, cost of production, rotation, cultivation and irrigation practices, variety of crops, seed selection and pest control. (3 lect-1 lab.)

Range Management 22 (3)
Rangelands and forage crops of the Western United States. Basic principles of range management and their relationships to the management and their relationships to the management of wildlands for

livestock production, wildlife, water, recreation, and timber. Development of plans for effective production and utilization of range forage on selected ranges of the region. (2 lectures, 1 lab.)

Soils 23 (3)
Deals with origin, formation, composition, classification, and the physical, chemical and biological properties of soils; effect of soil and cultural practices toward soil productivity. The management of the California soils effecting maximum conservation as well as yield. (3 lect.)

Natural Resources Mechanics 32 (3)
Safety, operation and maintenance of trucks, tractors, equipment and tools. Maintenance of buildings, including plumbing and painting. The use of hand and power tools for wood, metal and concrete. (1 lect., 2 lab.)

Natural Resources Conservation 60 (2)
A study of the history and development of conservation of the United States and human population in relation to resources. It would also cover government programs and legislation as pertaining to conservation. Practical conservation practices applicable to improving natural resources, including soil, water, forest and rangeland. (2 lect.)

Natural Resources Recreation 61 (3)
Development and management of rural recreational enterprises. Including a study of National and State parks, forests and historical sites. Practical recreational practices including the development and operation of rural picnic, swimming, boating, horseback riding, game sport areas, hunting preserves and fishing waters. The organization and financing of federal, state, and private conservation programs. An analysis of conservation problems including tourists, advertising and record keeping. (2 lect. 1 lab.)

Natural Resources Surveying 62 (3)
The use of basic surveying equipment such as hand compass, staff compass, abneys, topographic and engineer's chain, use of the level and transit and the drafting of field data and maps. (2 lect., 1 lab.)

Conservation Administration 63 (2)
A analysis of conservation problems and public relations. The organization and financing of federal, state, and private conservation programs including a study of both federal and state fish and game laws. (2 lect.)

Water Resources 64 (2)
Scope, magnitude and significance of water resources. A study of the federal, state and private water programs and proplems. (2 lect.)

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Forest Management 66 (3)
The development of forestry and the lumber industry, management and utilization of the forest resources, the development of forests, and the study of trees and shrubs in the U. S. and California in particular, including basic silviculture, timber sampling methods, forest protection and fire control, forest valuation and economies. (2 lect., 1 lab.)

Forest Propagation and Identification (3)
Methods of treatment of forest stands to insure continuous growth pertaining to forestry nursery management and the regeneration by artificial means. Dealing also with planting and land preparation for timber as well as Christmas tree stands. The identification and study of forest species and types common to western forests will be covered. (2 lect., 1 lab.)

Forest Products Technology 68 (3)
A review of the history of lumber and wood products industry, covering the wide range of products made or manufactured by the industry. The changes occuring in the field, job opportunities and skills needed. (2 lect., 1 lab.)

Wood Processing 69A-69B (3-3)
A study of the characteristics of the principal native species of wood. Basic structure of wood including chemical composition. The operation of certain wood processing machines dealing with special manufacturing processes. Skills such as grading, sampling and tallying would be stressed.

Fish and Wildlife Conservation 70 (3)
The study of plant and animal ecology from the standpoint of fish and wildlife management. Dealing with the main fish and game animals of California and the Pacific Coast, including waterfowl, upland game birds, and the various types of fresh water fish. The practical aspects of wildlife conservation and management would be emphasized. (The lab would include several full day or weekend field trips to game preserves and management areas. (2 lect., 1 lab.)

VT 004 216
Mickens, Alvin
Manpower Perspectives for Urban Redevelopment.

New York Univ., N.Y. Center for the Study of Unemployed Youth
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 67 88p.

*MANPOWER DEVELOPMENT; *URBAN AREAS; MIGRATION; INNER CITY; *URBAN RENEWAL; GHETTOS; POPULATION TRENDS

This monograph is intended to provide planning and human resource agencies with certain essential perspectives on the urban labor market, and on the character of the changes taking place within it, in the hope of stimulating a stronger appreciation of the need for metropolitan-wide coordination in the manpower field. The relevance and adequacy of Model Cities Programs for coping with patterns of change, and impediments to change, peculiar to metropolitan labor markets are assessed. The decentralization of employment away from the centrally located slum unemployed raises new questions about the efficacy of the current emphasis on upgrading the supply-side of the urban labor market. It was noted that a "comprehensive" strategy, as represented in the Model Cities approach, may not necessarily be the one best suited for effecting social change. Population data changes by metropolitan and nonmetropolitan areas, trends in migration, jobs, and ghetto concentration are reviewed. Suggestions for isolating specific components in Model Cities proposals to heighten the mobility and adaptation of the ghetto labor force throughout the metropolitan area are delineated. (PS)

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MANPOWER PERSPECTIVES FOR URBAN REDEVELOPMENT

by

Alvin Mickens

MANPOWER TRAINING SERIES

VT004216

CENTER FOR THE STUDY OF UNEMPLOYED YOUTH

GRADUATE SCHOOL OF SOCIAL WORK • NEW YORK UNIVERSITY

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MANPOWER PERSPECTIVES FOR URBAN REDEVELOPMENT

by

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This publication is part of a project conducted by the N.Y.U. Center for the Study of Unemployed Youth under a grant provided by the Office of Juvenile Delinquency and Youth Development, U.S. Department of Health, Education, and Welfare to develop curriculum materials for program planners and operators.

SUMMER 1967

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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CENTER FOR THE STUDY OF UNEMPLOYED YOUTH

PURPOSE

The Center for the Study of Unemployed Youth of the Graduate School of Social Work reflects fundamental policies of New York University to reach out and contribute to the progress and development of the community.

The Center engages in a variety of activities designed to contribute to knowledge of the multiple problems faced by unemployed youth and to assist in the planning and administration of programs for such youth. By facilitating the interaction between practitioners and academic specialists, the Center hopes to improve understanding and skill in each area of concern resulting from the unemployment of young people. The activities of the Center are supported with funds provided by New York University, The Office of Economic Opportunity, The U.S. Department of Health, Education, and Welfare, and the U.S. Department of Labor.

PROGRAM

Research. The Center is currently completing a three-year study of changes in work attitudes and performance of youth enrolled in the Neighborhood Youth Corps in New York City.

Curriculum Materials. The Center develops training materials primarily through workshops and institutes, participated in by planners and operators of youth-work programs among federal, regional, state and community agencies. The curriculum materials are intended to serve the training needs of personnel engaged in youth-work programs at all levels.

Technical Assistance. The Center offers technical assistance in the planning, operation and assessment of Comprehensive Employment Programs and the Scheuer nonprofessional programs for selected metropolitan areas.

Training. The Center designs and conducts training programs for staff personnel of the Bureau of Work Programs.

PREFACE

Shifting trends in the pattern of urban and suburban growth have prodded urban authorities toward a wider acceptance of metropolitan-area approaches to planning. Fragmented and multiple independent jurisdictions, so advantageous for local electioneering, have come to be viewed as impediments to urban control of water and air pollution, transportation planning, and general urban sprawl. Demands for metropolitan-area planning or urban public school districts have been gaining a wider audience in recent years, but the parallel need for extending an area-wide approach to human resource problems in general, and to manpower problems in particular, has won only limited public recognition and support.

As part of the Center's urban concern, therefore, this monograph is intended to provide planning and human resource agencies with certain essential perspectives on the urban labor market, and on the character of the changes taking place within it, in the hope of stimulating a stronger appreciation of the need for metropolitan-wide coordination in the manpower field.

The exodus of industry, reflected in the decentralization of inner city employment, the growing separation of home and work, spurred by improvements in urban transportation, and social barriers operating through the housing and local labor markets, are leading factors in the spread of racial ghettoes and pockets of unemployment. These trends suggest the conclusion that the costs and benefits of shifting growth patterns are being unevenly shared within the metropolitan complex. The central cities are the immediate victims of these changes, but the interests of the associated suburban rings stand to suffer quite as much in the long run.

Recognizing the social costs and multiple causes of urban blight and poverty, the federal government has offered the Model Cities Program to help finance local efforts in urban rejuvenation. Thus a dual purpose of this paper will be to assess the relevance and adequacy of Model Cities Programs for coping with patterns of change, and impediments to change, peculiar to metropolitan labor markets. While the scope of the monograph clearly precludes a manual or "how-to-plan" approach, it is hoped that it may serve as a useful guide to shaping manpower planning in urban redevelopment strategies.

In preparation of this paper, the author visited a number of urban planners, officials and specialists in government, universities, and community manpower agencies in order to first gain an impression of what is being done in various localities to link up manpower and job development program to wider plans for urban redevelopment as prescribed for Model

Cities funding. A second, and more important consideration, was to learn what steps are being taken to promote metropolitan-wide redevelopment schemes which might even out some of the burdens that migration patterns and employment dispersal impose on the inner city and its contiguous "gray areas."

On the first point, officials and planners admitted to a stronger appreciation of the critical importance of manpower considerations to the success of urban redevelopment plans. There was general endorsement of a viable strategy for job creation and development to accompany community-wide plans for urban renewal, slum clearance, rehabilitation, new construction and social improvements. This awareness is also reflected in many of the Model Cities proposals that 188 localities have submitted.

There is much less appreciation of the need for metropolitan-area planning to cope with adverse trends in the labor market, or even a clear understanding of what these trends imply for urban policy-making. The growth of centrally located ghettos in tandem with the flight of jobs and middle-income residents to outlying areas is a perplexing challenge, many specialists conceded. Yet there is little consensus on specific urban economic and social approaches that might best adapt to these trends. This ambivalence is also reflected in many Model Cities applications, which are explored in greater detail in latter sections of the paper.

The introductory Section I stresses the centrality of employment and manpower problems in an overall approach to urban blight and poverty, and raises some questions about the effectiveness of certain multi-intervention strategies in the light of job dispersal to fringe areas. Section II reviews relevant data on conflicting patterns in urban migration and job decentralization in metropolitan areas; Section III examines various urban policy responses and feasible options posed by the growing inbalances in migration and jobs, and examines in particular the effect of barriers in transportation and housing market segregation on job opportunities for the ghetto population. Section IV considers the record and the potential of the urban renewal program on community employment. Section V delineates tentative suggestions for isolating specific components in Model Cities proposals which, coordinated with certain other manpower related projects, could serve to heighten the mobility and adaptation of the ghetto labor force throughout the metropolitan area.

My profound gratitude goes to Professor John F. Kain of Harvard University, whose useful insights and empirical findings on urban job dispersal and related housing market segregation aided the preparation of this paper. I am particularly indebted to Dr. Emanuel Tobier of the Regional Plan As-

sociation, Professor Bert E. Swanson of the Institute of Community Studies at Sarah Lawrence College, and the staff of the Center for the Study of Unemployed Youth, who critically reviewed the initial draft, and provided many valuable comments and suggestions for improving its focus and content. Finally, my thanks go out to all those in community and government agencies, too numerous to mention here, who afforded me the benefit of their precious time and experience in interviews and consultations. Of course, I alone remain responsible for any errors or shortcomings.

SECTION I

INTRODUCTION: 1. AN OVERVIEW OF THE PROBLEM

"Over, under, and through it all the expressways loop, tunnel and carve their way with the contemptuous indifference of a new order. The metropolis of which the central city is the heart grows continually, but in the city itself there are sinister portents of decline. Department stores stand empty: buildings are pulled down and turned into parking lots waiting for better times: offices follow their employees to the suburbs. On placards in Detroit buses a wide-eyed child reaches out exclaiming, 'There is more of everything downtown' — but every year there is less."

Peter Marris,
Journal of American Institute of Planners, (August, 1962).

The last decade of American urban experience has produced a vast amount of data which document a weakening of the central city as a viable economic unit. By practically all the conventional socio-economic indices cores of metropolitan areas are declining relative to their fringes. Since World War II most of the outlying portions of metropolitan areas have been growing rapidly in terms of population, income, capital investment and employment, while the core areas have been growing very little, and in many instances, have experienced actual declines. The diminution in comparative advantage of a central location for a wide variety of businesses has spurred their departure to outlying areas and, along with them, the disappearance of job opportunities for the central city's labor force, particularly the ghetto population, the decline in the rate of capital spending for city renewal, and the erosion of the tax base.

Moreover, the out-migration of people as well as jobs has been selective: persons, mostly white and well-to-do, in the mobile and productive ages (21-45), have constituted the bulk of those moving to suburban areas, while those remaining in and migrating to the inner city have increasingly been the non-white, the aged and the poor. Manufacturing and trade employment have led the flight to the urban peripheries much more than white-collar occupations. The former offers wider job opportunities to the underskilled and disadvantaged population concentrated in the core than does the latter. The urge toward lower-density living on the part of middle-income families with children has led many to choose suburban homes. But Federal policies in the field of mortgage insurance, which have generally favored single-family construction relative to multiple dwellings, have sparked this outward movement, as have public policies in the field of highway construction. Rapid postwar increases in family income have

strongly influenced residential density and automobile ownership, by way of reducing the former and increasing the latter, which in turn facilitates the fanning out of residences and workplaces over the wider metropolitan complex.

The core areas of metropolitan confines therefore confront a unique tangle of urban problems. Apart from the traditional burden of handling a day time population some 25 to 50 per cent greater than its residential population, a conjunction of social barriers and powerful economic forces operate to disperse and expand job opportunities in the urban fringes* and away from the very concentration of an available cheap labor supply, anchored in the declining areas of the center. These blighted areas are also the concentration of a formidable array of acute community social problems: delinquency, narcotics addiction, poor housing, family impairment, school drop-outs, unemployment, etc.

Meanwhile, the central cities continue to serve their historic function as "intake centers" for low-income migrants from outside the metropolitan areas. A steady flow of displaced rural Negro and Spanish-speaking minorities replace earlier migrations from abroad as the chief sources of inexperienced and underskilled manpower for blue-collar urban jobs. The majority of these migrants, like previous ones, concentrate in the older blighted areas of the core. But now, in contrast to previous migrations, they do so in a period of growing decentralization of employment-generating activity outside the core and over the broader reaches of the metropolitan area largely inaccessible to the job-needy disadvantaged of the inner city.

Urban policies attempting to offset these adverse trends have frequently resulted unintentionally in exacerbating the problem: public housing developments located in or on the edge of slum areas often serve to anchor the unemployed poor even more solidly to the ghetto, physically isolated from the newer centers of job expansion; urban renewal practices that result in displacement of workplaces employing sizeable blue-collar labor to then replan the sites for office buildings, chiefly using white-collar workers, or for upper-income housing; urban transportation policies absorbed almost exclusively with linking suburban commuters and centrally located white residences with downtown workplaces while bypassing transportation problems of ghetto residents.

The inadequacy of much of the current urban response to the issues posed by the spread of ghettos, job dispersal and joblessness in metro-

* "Urban fringe" and "suburban ring" are used interchangeably in this monograph to represent the entire area outside of the central city or cities of Standard Metropolitan Statistical Areas, as defined by the U.S. Bureau of the Budget.

politan cores has prompted new directions in Federal manpower programs, with the aim of rendering them more attuned to the employment problems of the disadvantaged in their urban context.

The Neighborhood Youth Corps (NYC), the nation's largest youth work program, channeled 70 percent of its job opportunities and funds into urban areas in 1966, reflecting increased efforts to enroll disadvantaged youth concentrated in inner city slums. Manpower Development & Training Act programs (MDTA) are placing heightened emphasis on projects in central cities aimed at reaching potential trainees with special labor market disadvantages. A new Comprehensive Employment Program (CEP) has been launched to provide immediate employment and a wide range of related job market services specifically in areas of stubborn concentrations of joblessness in major cities.

The Model Cities Program (MCP), authorized under the Demonstration Cities and Metropolitan Development Act of 1966, and now in its planning phase, attempts a large-scale and concerted approach to revitalizing blighted communities. This program, focusing on specific target areas in each demonstration city, envisages a simultaneous and integrated attack not only on poor housing, but also on subemployment and lack of services (e.g., health, education, recreation, etc.) as well as community physical improvement. It is the underlying assumption of MCP that the solutions to urban problems are to be found only in a coordinated approach mobilizing all the legislative tools and resources represented in existing independent programs and policies.

But the "concerted" approach, confined to blighted areas, is open to serious question if key factors in slum pathology are unemployment, or are tied in with the sweep of forces in the metropolitan labor market itself. Where unemployment and subemployment are chief factors, the case for a "comprehensive" approach is seriously weakened, since the latter would ignore the fact that some urban problems, like Orwellian pigs, are plainly more equal than others.

2. "Comprehensive" Versus Selective Attack on Slums

With the advent and development of the War on Poverty, a battery of measures have been harnessed to novel strategies for a concerted assault on the physical and social causes of urban blight. While these initial efforts represent a mere beginning relative to the total needs, and have been too limited and thinly spread for decisive impact, they nevertheless have served to promote a more adequate theory of social change, embracing a total approach to acute community problems and addressed to basic causes.

Community Action Programs (CAPs), funded under the Economic Opportunity Act (EOA) of 1964, represent a bold effort at mobilizing an assortment of weapons for combating community ills. Even though the jurisdictional limits of governmental funding sources are intensely parochial, the CAP through its agency base attempts to mount a concerted attack on an array of local programs by utilizing a complement of programs funded under separate specialized governmental agencies. Thus the CAP agency attempts to link the work experience assistance for welfare clients, authorized under EOA's Work Experience Program, to MDTA training programs that would complement the final step needed for economic self-support, even though each program is funded under separate agency auspices. Again, a CAP agency may receive Department of Housing and Urban Development grants for neighborhood facilities, authorized under the 1965 Housing Act, to finance the establishment of youth centers or health stations whose programs would be funded under EOA provisions.

It is precisely the opportunity to enlarge this scope for program coordination that inspired much of the design in the Model Cities strategy. The inherent weakness in an ad-hoc approach to local ills is underscored in the following statment:

> . . . For example . . . intensive pre-school training unaccompanied by other complementary measures will enjoy a low probability of success. For what happens is that the teacher's work is invariably undone by the adverse effects of the unreconstructed family and community contexts to which the children receiving the extra training return after school. Thus we are led to the need for revitalizing family and community. But just as the pre-school training program automatically becomes the province of the Board of Education, so the family-oriented programs become the property of other specialized units. The underlying real-world phenomena they deal with are unitary ones — problem children in problem families in problem communities . . .[1]

A similar recognition of the interrelated causes of poverty is found in the literature on the economics of underdeveloped countries. Gunnar Myrdal formulated a theory of "circular and cumulative causation"* to explain how a circular constellation of forces tend to act and react upon one another in such a way as to keep a poor country moored in poverty; and it is significant that the Model Cities program as well as the federal programs on juvenile delinquency and community action embody this perception from economic development literature:

> For example, a poor man may not have enough to eat; being undernourished, his health may be weak; being physically weak,

* See **Rich Lands and Poor** (New York: Harper & Bros. Publishers, 1957) Chap. II, pp. 11-22. References to all numbered footnotes are listed at the end of this paper.

his working capacity may be low, which means that he is poor, which in turn means that he will not have enough to eat; and so on. A situation of this sort, applying to a country as a whole, can be summed up in the trite proposition: 'a country is poor because it is poor'.[2]

Hence there has been of late wide acceptance of the necessity to develop concrete programs embodying a series of interrelated measures for attacking urban blight and poverty. The new stress is on strategies, i.e., those addressed to underlying causes rather than symptoms of urban decline. Thus the Model Cities guidelines invite localities to "concentrate on the strategy and program approach to solving problems in the area, not on a detailed project-by-project specification"[3] while recommending that a panoply of social components "be comprehensive so that projects and activities within each component reinforce each other . . . "[4]

This program, under the Department of Housing and Urban Development, constitutes a big stride in the long drive to make the Government's housing program more attuned to the social causes, as opposed to the physical symptoms, of neighborhood blight. It would help a limited number of selected cities plan and carry out comprehensive demonstration projects large enough to attack overall neighborhood decline, and increase substantially the low and middle-income housing inventory, while providing assorted social services needed to remake slum areas into viable neighborhoods. Thus physical reconstruction and rehabilitation would for the first time be combined with positive programs for the rehabilitation of people.

The shift away from the ad-hoc "bricks and mortar" project approach that has characterized past housing policy represents a heightened awareness by housing officials that no program designed to revitalize slum areas can succeed that does not come to grips with the social pathologies of slum life. Until now, urban renewal and public housing have been the two main programs, attacking urban blight and slums. Neither program contains specific elements tailored to deal with the social tangle of pathologies concomitant with slum living.

The fragmented site-by-site renewal policy was modified in 1955, when the urban renewal law was amended to require communities to have a "Workable Program for Community Improvement" to get urban renewal funds or public housing. This marked the beginning of the neighborhood approach to renewal and slum clearance, but the benefits from both programs have been mixed. The public housing program has been kept so limited that only a miniscule fraction of the housing needs of low-income familes is being met. Urban renewal operations, on the other hand, have had the effect of decreasing the available supply of low-income housing,

while shifting the slum tenants elsewhere to promote, form, and accelerate neighborhood decline.

The Model Cities approach, then, first of all, shifts the emphasis of renewal away from large-scale demolition and slum clearance — thus avoiding some of the social problems created by relocation and job displacement — to rehabilitation and neighborhood preservation. Secondly, the approach embodies a strategy for community regeneration through a multi-pronged intervention into the interlocking series of ghetto pathologies. The reasoning being that interrelated problems demand a "total" or comprehensive strategy for their alleviation.

Thus the content of a comprehensive Model Cities program is inferred from the purposes stipulated in Section 101 of the Demonstration Cities and Metropolitan Development Act of 1966 (See Appendix C) as including: total demonstration projects in revitalization of slums and blight; the expansion of housing, income, job and educational opportunities; reduction of welfare dependency and the incidence of crime and delinquency; the reduction of disease and ill health; the enlarging of recreational and cultural opportunities; and establishing better access between homes and jobs, and "generally to improve living conditions for the people who live in (blighted areas through) the most effective and economical concentration and coordination of Federal, State and local public and private efforts to improve the quality of urban life." Moreover, the eligibility criteria require that the program "make a substantial impact on the physical, economic and social problems in the model neighborhood area."

But while the fresh innovation of this program is praiseworthy compared to previous thinking in urban redevelopment, there is an elusive contradiction about a social strategy that purports to make a strong impact on intertwined community problems by a wholesale attack on all of them! A more realistic analysis of the process of social change reveals that all the factors identifed in a problem "tangle" are not of equal importance; there are primary factors which generate secondary influences that in turn intensify primary ones. For example, unemployment and marginal jobholding, a staple feature in urban slum areas, militates against the urge to plan for one's family and future consumption. This may encourage family fragmentation, a situation which is more amenable in the face of income uncertainty, and large households sharing accomodations intended for single-room occupancy — which may ease rental payment in the short-term (although requiring higher payment in the long-run). Both represent household adaptations to severe employment and income uncertainty, and these adaptations might in turn dampen the urgency of the quest for a more

secure income and employment situation. Hence a sound strategy of intervention would not be built around combating the surface manifestations of family fragmentation and inadequate housing — since program resources are severely limited. It would rather be concentrated upon the underlying need for enlarging employment opportunities to restore work incentives sufficiently to enable people to frame their own solutions for dealing with their community ills.

It is almost platitudinous to point out that involuntary idleness and subemployment, concentrated among the disadvantaged, are key afflictions in major urban centers; it is not always stressed, however, that an urban redevelopment strategy holds little promise that does not come to grips with an enlarging ghetto concentration on the one hand, and the progressive dispersal of job opportunities on the other, however successful other "social components" of a comprehensive program may be in attacking crime, poor housing, neighborhood blight, etc.

Problems in manpower utilization and development, particularly in their metropolitan context, are infinitely more complex and frustrating for urban policy-makers and planners than other aspects of community action concerns. This stems in part from the intricacy of the urban labor market itself, but it is due also to the many critical forces in the problem outside the control of local authorities. Most community efforts at alleviating urban joblessness have been concentrated on the supply side of the labor market, i.e., remediating the poor to fit existing or presumed vacancies. Yet, if "upgrading" the potential labor supply through job training activities is a strategy that encounters fewer institutional and market barriers than aggressive job development programs for the disadvantaged — as some observers have noted — it is also a strategy that runs a high risk of generating dangerous despair in the event viable jobs do not materialize on conclusion of the training. It is not surprising, therefore, that a national evaluation in 1967 of the community action programs for the OEO by the Yankelovich Corp. reported that job training and job placement programs were the "least successful" of CAP activities. Given the centrality of manpower problems in the root causes of urban poverty, this failure could be another item in the-operation-was-successful-but-the-patient-died department.

Such a cynical dismissal, however, would be both unfair and inaccurate. The hostility of established local forces to some aspects of CAP activities has plunged many programs in incipient and continual struggle for sheer survival, and therefore probably discourages or enfeebles effective combat in the sometimes intractable manpower field. More importantly, the CAP

manpower role has contributed to a much sharper definition of the geographic and structural dimensions of urban employment problems, particularly among the slum disadvantaged.

Yet it cannot be overstressed that there are no substitute or alternative benefits in other areas comparable to success in the manpower field. As a corollary, the failure to come to grips with chronic urban unemployment and underemployment probably devalues whatever gains scored in other areas of social action. No amount of discussion on "tangles of pathology" should becloud this point. Since employment problems are the leading links in the "tangle," gains in this area produce large spillover benefits all along the chain, and failures undercut gains scored elsewhere. Granted that the vicious tangle of poverty represents a total self-reinforcing system, such that every community problem generates heightened individual and family problems which further exacerbates the community condition, it does not follow that each community "problem" must be simultaneously taken in tow by action on all fronts — which is what the Model Cities Program purports to do.

3. Job Dispersal and Program Planning

Moreover, the strategy of upgrading and adding to the potential labor supply blithely ignores what is happening to the location of jobs and people in urban centers. With the decentralization of workplaces from urban cores to outlying portions, inaccessible to ghetto work seekers, inordinate concentration on the supply side of manpower is cruelly misplaced. If the demand for labor "suburbanizes," it is then hard to resist the conclusion that the supply must suburbanize with it. This would suggest that supply-side measures should be directed more toward heightening the **mobility,** rather than the **employability,** of centrally located work seekers.

At the same time, federal manpower and Model Cities planners will more and more have to think in terms of the "commuting orbit" and the metropolitan labor market, in framing measures directed at ghetto joblessness. Improvements in urban transportation have already induced business firms, as well as mobile work seekers, to utilize these larger geographic frames of reference. It is in this context that "concerted" programs may realize their strongest potential. The "scattering" of publicly supported low-cost housing can then be weaved into a strategy to improve (1) metropolitan job market information (2) mobility of disadvantaged work seekers, and (3) ghetto transit links to outlying workplaces. Such a comprehensive strategy would require the intimate coordination of at least three separate cabinet-level jurisdictions at the Federal level, not to mention considerable

cooperation and accord between fragmented jurisdictions at the metropolitan level.

The declining areas of the nation's central cities are plagued by more and less urgent problems, which must be identified in some order of priority so that a workable strategy of intervention at specified critical points can be devised, and the "leading links" of the tangle can form the basis of that strategy.

As was noted above, the "leading links" in the chain of urban blight and poverty are the marginal jobholding and jobless disadvantaged concentrated in the declining core areas of major cities, whereas the available jobs are dispersing rapidly to the virtually out-of-reach periphery of the metropolitan labor market. Moreover, government policies in the areas of urban renewal, housing code enforcement, highway building and land use have probably resulted in a substantial net displacement of inner city jobs, in tandem with the more familiar hardships to low-income housing welfare.

During the hearings before the Ribicoff sub-committee dealing with problems of the cities, Senator Robert Kennedy stated.

> . . . . The crisis in Negro unemployment . . . is significant far beyond its economic effects . . . For it is both measure and cause of the extent to which the Negro lives apart . . . More than segregation in housing and schools, more than differences in attitudes or life styles, it is unemployment which marks the Negro of the urban ghetto off and apart from the rest of us — from Negroes who have jobs . . . almost as much as from whites. Unemployment is having nothing to do — which means having nothing to do with the rest of us.[5]

The high incidence and duration of joblessness and marginal employment over the last decade, disproportionately borne by inner-city Negroes and Spanish-speaking minorities, is said to generate a "pathological" culture of ghetto poverty which heightens the incidence of physical and emotional illnesses, inducing labor force withdrawal or non-entry, estrangement from conventional work-seeking patterns, and disinterest in job or vocational training programs to upgrade skill levels.

All of this continually frustrates efforts at central city renewal and serves to nullify the impact of most manpower retraining schemes in the War on Poverty. In his proposal for "An Action Program for Urban America," Senator Ribicoff observed:

> The most obvious fact in America is that a good job at an adequate wage is the key to providing self-respect for an individual and progress for a nation. We have known this lesson for years. Yet our overall manpower situation still troubles us — and in the central city it depresses us — economically and psychologically.[7]

If work in American society is the key to independence, status and self-respect, what happens when the value system extolling the ethic of hard work and achievement, comes to be perceived as at odds with reality? It has been suggested that this situation creates a tension-provoking dissonance, causing the individual to seek anxiety-reducing solutions to his internal conflict. What occurs is a restructuring of values in order to resolve the dissonnance, probably taking the form of a general devaluation of work as a means of obtaining money and the substitution of alternative means.[8]

> Specifically, it is felt that children from lower social economic class environments are confronted with work-value dissonant situations. On the one hand they do receive a work orientation, and on the other hand they are daily confronted with chronic long-term unemployment in the family and in the community. Moreover, among the lower-class Negro population, the situation must be somewhat more severe — even in good times, the structure of opportunities for the Negro is considerably more closed than it is for the lower-class white.[9]

The growing awareness of the deleterious psycho-social effects of sub-employment, poverty and other undesirable conditions prevalent in central city ghettoes has prompted widespread demands for corrective action, ranging from "more police protection" to increased public housing and urban renewal.

Measures aimed at improved housing assumed that this would result in heightened tenant morale and diminished community ills. Controlled studies have confirmed that improved housing reduces the incidence of illness and death.[10] There is even some evidence from a recent housing demonstration project in Washington, D.C. that the shift to better housing is a positive influence in raising family income.[11] Yet studies reveal that public housing tenants, when compared with slum residents, showed somewhat higher morale and greater pride in their neighborhood, but few differences in inner feelings, i.e., in the way of heightened aspirations for jobs, for their children, or for home ownership.[12] The authors noted that other circumstances in the material existence of the families studied (e.g., jobs, incomes, etc.), remained unaffected.

Multiple regression techniques, when feasible, provide a useful way of isolating and measuring the relative contribution of different social characteristics to a community's tangle of problems. The Haryou Report employed this method in tracing the roots of Harlem's social pathology chiefly to the low education, employment and income status of its inhabitants.[14]

Indices of poor housing scored low coefficients, confirming earlier studies that housing, while perhaps boosting morale, does not appear to

affect the more fundamental variables of low economic status and limited aspirations. Male unemployment also had only a limited influence on the results. This apparent contradiction, in view of the other findings, is probably explained by the marginal employment status that characterizes the majority of Harlem's workers, and which obliterates the significance of the conventional distinction drawn between having "a job" and being unemployed. As was noted by Senator Ribicoff:

> . . . Employment and manpower are constantly shifting factors. When men can slide into poverty very quickly, there is always a fear of layoffs and underemployment.[15]

Hence the sub-employment status, which characterizes a disproportionate number of central city ghetto inhabitants, inflicts grave psychological as well as social damage and operates as a barrier to efforts at rejuvenating blighted areas of our major cities.

To summarize, in this section, we have examined three core assumptions.

(1) We reviewed feasible strategies for policy intervention into intertwined community problems. In this connection it was noted that a "comprehensive" strategy, as represented in the Model Cities approach, may not necessarily be the one best suited for effecting social change: the spread of resources and energies over multiple intervention points serves to attenuate and enfeeble the total programmatic impact on any given problem.

(2) The tangled chain of community ills in central city ghettoes demands a strategy of forceful intervention **only** along those fronts that can be identified as "leading links" in the chain, and

(3) The decentralization of employment away from the centrally located slum unemployed raises new questions about the efficacy of the current emphasis on "upgrading" the supply-side of the urban labor market.

What are the dimensions and peculiarities of job dispersal in metropolitan areas? What compelling issues do these factors raise for urban policy-making, and what options do they offer urban authorities and social planners?

These questions are explored in the following section.

SECTION II: TRENDS IN MIGRATION, JOBS, AND GHETTO CONCENTRATION

The metropolitan area has become an established phenomenon in 20th Century America. Broad technological and economic changes occuring in the field of transportation and in the nature of production have made possible a fanning out of plants, residential developments and shops over a wide expanse around the older central city. Thus the nation's 212 Standard Metropolitan Statistical Areas (SMSAs) — as defined by the Bureau of the Budget — contained an estimated 124 million persons in 1965, or 64 percent of the nation's population, the remainder residing in non-metropolitan and rural areas. Within the SMSAs, slightly less than half, or 48 percent of the population resided in central cities, the majority now living in suburban rings. This is the exact reversal of the situation in 1960, when 52 percent of the metropolitan population inhabited the central cities. The latest estimated breakdown in the dimensions of these shifts is represented in Table I below.

TABLE I

POPULATION CHANGES BY AREAS, 1960 & 1965 (in Millions)

	1960	1965	% Increase 1960-1965	Average Annual 1950-1960	% Increase 1960-1965
Metropolitan areas	112	124	10.2	2.3	1.9
Central cities	57	60	3.2	1.0	0.6
Suburban rings	55	64	17.7	4.0	3.3
Nonmetropolitan areas	66	68	3.4	0.8	0.7

SOURCE: U.S. Bureau of the Census, **Pocket Data Book, U.S.A., 1967,** Table 8, p. 41.

By any measure metropolitan growth has been rapid but unevenly distributed. The suburban rings of cities have experienced sharp increases in population, while the center areas have grown much less rapidly and for a number of key cities, populations declined in absolute as well as relative terms. Figures since 1960 show no abatement of the suburban persistence of metropolitan residential choices.

The dynamics of changes in the location of people and jobs differ markedly between large, medium and small population centers. The Economic Development Administration of the U. S. Department of Commerce has derived certain estimates of the relationship between county size and projected employment growth rate for the period 1960-1975. These data are summarized below in Table II.

The results indicate that job growth in both low population counties and those with large populations, such as counties included in major urban complexes, will be at a much lower rate than growth at the national average. Moderate size counties, on the other hand, with populations between 50,000 and 500,000 are expected to have a job growth rate considerably higher than the national average.

More significant are projections for population and job growth in metropolitan areas, since they include nearly two-thirds of the nation's total inhabitants. These estimates, based on different assumptions, sought to determine what would be the relationship between future jobs and future population, both for and within metropolitan complexes, assuming no migration occured into or out of those with more than 1 million inhabitants. Again the results (See Table III) are striking. The estimates suggest that major urban complexes are faced with a serious problem of providing their inhabitants with jobs and that a large-scale process of economic shifts will have to take place **within** the metropolitan areas.

Note that this somber conclusion is drawn from Table III even though the results were based on the most optimistic assumption of no additional migration to the major cities. For the data indicate that in order to achieve an unemployment rate of 4 percent, there must be a net outmigration of

TABLE II

RELATIONS BETWEEN COUNTY SIZE AND PROJECTED EMPLOYMENT GROWTH RATE FOR 1960-75*

1960 counties or local governments with population of	Number of counties	Percent with projected employment growth less than national average
Less than 10,000	823	82
10,000 to 50,000	1,652	71
50,000 to 500,000	531	26
500,000 to 1,000,000	49	65
Over 1,000,000	16	87

SOURCE: Paper by Jonathan Lindley, Dep. Asst. Secretary for Policy Coordination, Economic Development Administration, U.S. Dept. of Commerce, presented to Eighth Annual Conference Center for Economic Projections, National Planning Assoc., April 28, 1967.

* Assuming 4 percent national average unemployment rate.

population of more than 6 percent from the ten largest urban complexes, and 5 percent from our 29 largest urban complexes over the 1960-1975 period.

This sizeable imbalance is projected even while taking into account the offsetting growth of jobs in the corresponding suburban rings of these cities. Of course, if the "no migration" assumption is relaxed, then the problem of imbalance becomes all the more acute. Indications are that migration to the cities of the rural poor and displaced segments of the Negro population will continue, although at a somewhat diminished pace. However imperfect these estimates may be, if the basic trends are correct, they at least signal the likelihood of a serious mismatch of people and jobs in most major urban centers in the near future.

More revealing than projected population and employment shifts between central cities and urban fringes are the changes taking place in ethnic and status compositions of the inhabitants. Between 1950 and 1960 the Negro population in central cities of the 12 largest metropolitan areas increased to more than 20 percent of all residents. These 12 central cities lost over 2 million whites and gained just under 2 million Negroes.

TABLE III

Short-fall of jobs in major urban areas assuming no migration — Urban complexes of over 1 million population, 1966-75 migration required to balance people with jobs, assuming a 4 percent rate of unemployment.

(Millions of people)

	TOTAL		
	10 largest complexes	29 largest complexes	Excluding California, 25 largest complexes
1975 population if no migration occurs into or out of the complexes	63.0	96.6	72.6
Migration required by 1976 to balance people and jobs, total	— 4.0	— 4.6	— 7.1
Central cities only (exclude suburban rings)	— 5.9	— 7.4	— 8.4
Associated suburbs and outer ring areas	+ 1.9	+ 2.8	+ 1.3
Migration required to balance jobs and people as percent of 1975 population	— 6.3	— 4.8	— 9.8
Comparable 1950-60 migration rate (in %)	+ 6.5	+ 10.0	+ 6.1

SOURCE: Same as Table II.

(Note: "+" means in-migration; "—" means out-migration)

Table IV is to some extent, a measure of the expansion of central city black ghettos rendered possible by the flight to the urban fringes of the residential white population.

Between 1960 and 1965 the Negro population in all central cities taken together increased again by 20 percent, (See Table IV) while the white population in these areas actually declined, for the first time, and by about 1 percent, or more than 400,000, as suburban migration more than offset gains from population growth. The growth in the non-white population in central cities between 1960 and 1965 was at an even faster pace than in the previous decade. Official data reveal that the Negro population, age 15 and over, rose by 1.1 million during the period.

At the same time, Negroes have been unable to make many inroads into suburban ring areas where the dominant proportion of investment in in-

TABLE IV

COMPONENTS OF POPULATION CHANGE IN CENTRAL CITIES FOR PERSONS 15 YEARS AND OVER, BY COLOR AND AGE, 1960-65

Color and Age	Absolute Change (thousands)			% change in total population 1960-65
	Total	Due to migration	Due to natural growth	
Total	696	–1,001	1,697	1.7
15 to 19 years	844	65	779	21.3
20 to 24 years	461	326	135	12.1
25 to 44 years	–1,197	–1,077	–130	–7.9
45 to 64 years	75	–462	537	0.6
65 years and over	523	147	376	9.2
White	– 378	–1,599	1,221	–1.1
15 to 19 years	478	–48	526	14.6
20 to 24 years	279	149	135	8.9
25 to 44 years	1,371	–1,266	–105	11.2
45 to 64 years	–177	–565	–96	–10.3
65 years and over	413	96	317	8.1
Nonwhite	1,074	598	476	16.1
15 to 19 years	366	113	253	52.7
20 to 24 years	182	182		26.4
25 to 44 years	154	189	–25	
45 to 64 years	252	63	189	14.1
65 years and over	110	51	59	20.0

SOURCE: Manpower Report of the President, 1967, Table 3, p. 92.

dustrial construction and employment activity is moving. The Negro population increase in core cities, mainly in the rundown areas, and of whites in the associated suburban rings, are the combined result of natural growth and migration, with the latter accounting for about 60 percent of the respective increases.

Next to the Negro youth population (which rose by 50 percent between 1960-65), the most rapidly growing segment of the central city Negro population are persons aged 45 and over, whose numbers increased by 15 percent in the short five-year span. This group faces the double handicap of racial and age discrimination in employment complicated further by relatively low education and skill levels.

The rapid urbanization in the non-white population and its growing concentration in the larger central cities is reflected in the following figures. The twenty large central cities where Negroes were estimated to number at least 100,000 in 1965 were the residence of approximately one-third of the total Negro population in the United States (See Appendix A). These same cities contained less than 20 percent of the total white population.

The rapid growth in the composition and concentration of the non-white population in the cores of the nation's larger metropolitan areas has been in response to the wider range of employment opportunities and superior public services offered by such areas. These factors facilitate the adaptation of newcomers to an alien social climate, with the important difference that the current in-migration of the rural poor and non-white disadvantaged lack the prospects for job growth that earlier migrant waves had, owing to the shift to the outskirts of the inner city of the old urban industries that offered work to the underskilled.

Finally, urban renewal operations, and particularly industrial and expressway construction, have resulted in large-scale displacements of slum residents in particular localities, forcing those displaced to crowd into adjacent neighborhoods to accelerate slum formation, or to intensify the pressures on suburban communities ("gray areas") situated just outside the legal boundaries of the central city, which sets the stage for the well-known "border conflicts" now plaguing a number of metropolitan areas.

The exodus to the fringes by the residential white population along with rising concentrations of Negroes in central cities is expressed also in changes in conventional indices of socio-economic status. These denote shifts in median education, percent of population in white-collar occupations, and relative changes in personal family income. As shown in Table V, which summarizes 1960 Census data for 200 urbanized areas, central

cities suffered a diminution in the percent of their population in white collar trades, and improved much less spectacularly than their suburbs in terms of rises in family income and median school years completed.

TABLE V

CHANGES IN SOCIO-ECONOMIC STATUS OF POPULATIONS, CENTRAL CITIES AND SUBURBAN RINGS, 1950 & 1960

	1950	
	Central Cities	**Suburban Rings**
Median School years completed	9.9	11.1
% in White collar occupations	45.2	46.9
Median Family income	$2,249	$2,499
	1960	
	Central Cities	**Suburban Rings**
Median School years completed	10.7	12.0
% in white collar occupations	40.6	50.3
Median family income	$5,945	$7,114

SOURCE: **Census of the Population,** "Advance Reports," Series PC(A3)-1 Table 100

GAPS IN URBAN EDUCATION, INCOME AND AGE

There is also a widening gap between central city-suburban income and educational levels in metropolitan areas. This gap is duplicated within the central city itself between the ghetto communities and the rest of the inner city. Two-thirds of the residents in the former had less than a high school education compared with 45 percent of the latter. For example, in the suburban ring communities of New York City, in 1960, more than 52 percent of all residents had at least a high school education compared with only 37 percent of New York City residents; in the city's two major ghettos of Central Harlem and Bedford-Stuyvesant, on the other hand, less than one in four residents completed high school.

With the large growth in the Negro teenage and young adult population (which is usually better educated than previous slum generations), a corresponding rise in the average educational level of urban slum residents has been observed. Between 1960 and 1966, median school years completed increased from 8.3 to 10.4 for people aged 25 and over in slum areas of ten large cities surveyed by the Bureau of Labor Statistics.[1] Nevertheless, the educational attainment of ghetto slum residents is still far below the central cities of which they are a part. Similar differences exist for income comparisons: Suburban ring average family income in 1964 exceeded that

of central cities by nearly 20 percent; but central city family income still exceeded inner city slum family income in major cities by more than two-fifth.[2] Changes in family income summarize the deteriorating position of slum residents relative to other parts of the metropolitan area. In areas where current data are available, slum family income failed to keep pace with income in the rest of the same city or the country as a whole. Family income in Cleveland's poverty neighborhoods, for example, rose by barely 7 percent between 1959 and 1964, compared with a 17 percent rise in the remainder of the city, and 9 percent nationally. Ghetto neighborhoods of South Los Angeles had a rise in family income of only 4 percent, and in East Los Angeles income remained virtually unchanged between 1959-64, compared with a rise above 8 percent for the rest of the city as shown below:

	1959	1964	Percent change
Cleveland:			
Poverty neighborhoods	$4,937	$5,259	6.5
Remainder of city	6,558	7,642	16.5
Total, United States	$5,417	$6,882	8.6
Poverty neighborhoods, South Los Angeles	4,497	4,669	3.8
Poverty neighborhoods, East Los Angeles	5,094	5,106	.2
Remainder of Los Angeles	7,185	7,800	8.3

SOURCE: Manpower Report of the President, 1967, p. 89.

It is clear that family purchasing power in these and many other slums actually dropped during the period since the national Cost of Living index for urban families rose by more than 8 percent between 1959 and 1964.

Of all persons of working age classified as poor (by the Social Security Administration's Index) in 1964, half the whites and about 80 percent of the Negroes lived in central cities. Moreover, median family income in every occupational group studied, from relatively low-paid laborer categories to higher-paid professions, was from 10 to 20 percent lower among city than suburban residents.[3]

Important median age differences have also resulted from the selective pattern of migration from inner cities to urban fringe communities. For example, a community with a large fraction of its residents mainly below 18 and/or over 65 years of age has possibly greater service needs and less economic potential than a similar area with a high proportion of its residents in the 18 to 64 age bracket. Thus the major central cities have a growing number of residents in the "dependent" ages — under 18 and

over 65 years of age, whereas their urban fringe areas enjoy a larger proportion of residents in the economically productive age ranges, and a marked deficiency of elderly persons.[4]

The manpower implications of these demographic shifts between core city and fringes are clear, at least for the older, major central cities where the pattern of changes has been most consistent: The suburbanized zones have the highest concentration of workers in the professional and managerial classes while the central cities more and more contain the bulk of persons in the blue collar jobs and the lower-paying service trades, those too old or too young to work, the poorly educated and the unemployed.

It would be a mistake to consider these trends as dramatically new or unperceived developments. The current picture is in part the culmination of long-term tendencies that have been in the making for decades. We have earlier alluded to the historic role the central city serves in helping new-comers adapt to an urban environment, and long before most of the present trends became readily obvious, sociological models (e.g. E. W. Burgess') forecasted that higher-status residents would tend to settle in the suburban-rings while the central portions would be composed of the newest immigrants and those whose earning powers condemned them to inexpensive or rundown residences*. But whereas in the past, large scale income-generating activities were concentrated in the central city and grew apace — or at least in some tolerable balance — with a burgeoning underskilled labor force, these activities have now become more widely dispersed throughout the metropolitan area, with preponderant growth taking place outside the central portion. This is the heart of the imbalance between available manpower and shifting sources of utilization now taking shape in metropolitan areas.

DISPERSAL OF JOBS TO OUTLYING AREAS

The much discussed relative and absolute declines in income-generating activities in central cities, and particularly in their central business districts (CBD's) have been the outcome of a confluence of technological and economic changes that have made de-centralization a more feasible, more economic, or more desirable choice for many businessmen as well as households. Great strides in transportation and communications have spurred locational choices on the urban periphery where land assembly for large-scale developments and for one-story "flow-through" factories is

* Note: While this pattern is found to be valid for the older established central cities of the East and East Central parts of the United States, it is less true for the relatively younger central cities of the West and South which continue to grow, or of some of the older suburban communities or "grey areas" located on the immediate periphery of the central cities that are receiving some of the "spillover" of populations from the high-density central ghettoes.

easier, and where the upper and middle classes fleeing the core areas are forming a ready labor and consumer market that exerts further pull on the wholesale and retail trade activities remaining in the center.

Some evidence of the magnitude of these changes taking place in the locations of new investment activity outside of central cities is presented in Table I and Appendix B.

TABLE I

Percent of New Private Nonresidential Building Inside and Outside the Central Cities of Standard Metropolitan Statistical Areas, United States 1960-65 and 1954-65

Type of new nonresidential building	Percent of valuation of permits authorized for new nonresidential building — United States: Inside Central City	Outside Central City
	1960-65	
All types[1]	53	47
Business	53	47
Industrial	38	62
Stores and other mercantile buildings	48	52
Office buildings	73	27
Gasoline and service stations	49	51
Community	55	45
Educational	55	45
Hospital and institutional	65	35
Religious	45	55
Amusement	53	47
	1954-65[2]	
All types[1]	51	49
Business	54	46
Industrial	37	63
Stores and other mercantile buildings	47	53
Office buildings	73	27
Gasoline and service stations	47	53
Community	55	45
Educational	50	50
Hospital and institutional	64	36
Religious	46	54
Amusement	52	48

[a] Data for groups of years are used to avoid erroneous impressions from erratic year-to-year movements in building construction.

1 Includes types not shown separately and excludes major additions and alterations for which type of building is not known.

2 Excludes data for 1959, for which comparable information is not available.

SOURCE: Unpublished data of the Bureau of the Census, tabulated at the request of the Bureau of Labor Statistics. Based on a sample of over 3,000 permit-issuing places.

The tables clearly point up the long-term tendency for major sources of manpower utilization to be located at a considerable distance from the residence of those workers now experiencing a high incidence of unemployment, subemployment and poverty. Fully three in five industrial structures are being built outside central cities. This dispersal of facilities to outlying areas presages and reflects the rapid growth of employment in the ring. For Chicago the suburban ring share of plant investment was 77 percent; it was 85 percent for Los Angeles. (See Appendix B). At the same time, the data reveal the importance of the central city as the services hub of the metropolis. Office buildings and community service activities continue to favor inner city locations by a sizeable margin over fringe locations. But these activities are prime sources of white-collar employment, for which a growing segment of the core city work force does not qualify. Moreover, there is evidence that central cities have been losing their edge in these activities, too, within the past 5 years.

Investment shifts are only an indirect indication of employment dispersal. More direct barometers are net percentage and mean absolute changes in employment between core cities and fringes over time. These were calculated for 40 SMSA's by John F. Kain, and results for selected years are presented in Table II.

In practically every category, suburban mean employment increased more rapidly than jobs in central cities, and with the exception of service employment — which rises steadily in good and bad times — total central city jobs dipped significantly during the 1958-63 period. Even when allowance is made for cyclical influences during the periods presented, suburban ring employment gain is a steadily rising multiple of that in central cities. While only incomplete data are available on changes in central city manufacturing employment during the period, they do suggest that the pattern is no different for the cities studied.

Differences in employment shifts between city and suburb are marked and consistently greater in the ring for practically all categories — manufacturing, wholesale and retail trades, and services. Department store sales as well as payroll employment have soared in the suburbs compared with the SMSA as a whole (and hence compared with the central city) for virtually all the metropolitan areas studied, from which data could be obtained (See Table III). These industries account for two-thrids of nonagricultural emplyoyment, and in 1964 better than 60 percent of all heads of families in central cities were in such occupations. Dorothy K. Newman reports that three-fifth of those unemployed 15 weeks or longer in early 1967 had been last employed in such occupations.

There is no doubt, then, that many job-needy centrally located residents could qualify for the new and expanding activities available in the suburban rings of metropolitan areas.

TABLE II

ESTIMATED MEAN ANNUAL ABSOLUTE AND PERCENTAGE CHANGES IN EMPLOYMENT FOR THE CENTRAL CITIES AND SUBURBAN RINGS OF 40 LARGE SMSA's
(simple, unweighted averages of individual city changes)

	Central City			Suburban Ring		
	1954-1958	1958-1963	% Change 1952-1963	1954-1958	1958-1963	% Change 1958-1963
Manufacturing	–2,990	N.A.	N.A.	2,120	N.A.	N.A.
Wholesaling	55	–198	–0.2	767	831	15.1
Retailing	118	–985	–2.0	2,263	1,931	13.4
Services	1,011	–294	0.9	934	756	13.5

SOURCE: Bureau of the Census data in John F. Kain, "Distribution and Movement of Jobs and Industry," Discussion paper No. 8, MIT-Harvard Joint Center for Urban Studies, Nov. 1966, Tables 4 & 5 pp. 16, 19. N.A.=not available.

Manufacturing employment for New York City, for example, declined by more than 200,000, or 18% between 1953 and 1965, compared with a gain of 7 percent for its suburban counties and a 13 percent gain nationally.[5] Philadelphia and Chicago suffered losses of comparable dimensions, with more than offsetting gains for their urban fringes. Total employment within a 5-mile radius of downtown Boston fell by 29,000 between 1950 and 1960 but more than offsetting gains were made by its suburban ring. Between 1958 and 1965, manufacturing employment dropped by 7,000 in San Francisco, while it was gaining over 28,900 in the four Bay Area suburban counties, and wholesale trade lost 4,700 in the city while gaining 12,000 in the four suburban counties.[6] Similar patterns are repeated for practically all the large central cities (with the exception of Los Angeles) and, as Table III illustrates, for all central cites taken together.

More telling of the dimensions of employment shifts is the suburban ring's growing share af total SMSA employment. Table IV shows that the fringe proportion of total SMSA employment rose more than 37% for manufacturing and tripled its share for wholesaling.

TABLE III

PERCENT CHANGE IN PAYROLL EMPLOYMENT IN SELECTED SMSA's AND IN THEIR RINGS, BY INDUSTRY GROUP 1959-65[1]

Standard Metropolitan Statistical Area	All industries		Manufacturing		Trade			
					Retail		Wholesale	
	Total SMSA	Ring	Total SMSA	Ring	Total SMSA	Ring	Total SMSA	Ring
Total of 12 SMSA's[2]	12	30	4	15	15	39	8	46
Atlanta	32	51	21	39	26	58	38	138
Boston	9	14	–24	–2	14	24	7	37
Chicago	10	34	6	27	16	47	9	60
Cleveland	10	36	3	34	14	35	5	9
Dayton	17	20	10	20	12	8	33	(3)
Detroit	16	48	11	36	16	57	11	76
Indianapolis	11	25	10	20	–1	29	14	10
New Orleans	24	54	26	12	14	77	–1	17
New York	9	37	1	15	11	40	4	66
Philadelphia	9	22	1	12	11	37	3	44
San Francisco	19	27	6	13	25	37	10	29
Washington	34	61	34	75	28	58	24	57
	Construction		Transportation and public utilities		Finance, Insurance & real estate		Services	
Total of 12 SMSA's[2]	18	31	14	19	14	55	30	55
Atlanta	67	80	35	130	44	88	37	81
Boston	27	31	–1	18	12	23	32	42
Chicago	5	6	(3)	11	10	30	24	60
Cleveland	18	10	16	33	20	29	27	71
Dayton	36	27	23	20	10	11	42	48
Detroit	14	80	7	67	19	276	34	82
Indianapolis	8	8	14	13	14	20	24	52
New Orleans	53	151	20	48	18	125	34	73
New York	4	24	20	19	7	51	26	58
Philadelphia	8	14	23	4	17	41	28	49
San Francisco	19	19	12	21	31	35	36	50
Washington	43	59	10	13	47	106	47	78

1 Excludes government workers and the self-employed. Employment in the ring is estimated from employment outside of the county in which the central city is located. The central city and county were coterminous in both years in New Orleans, New York, Philadelphia, and Washington. For the following the ratio of the central city to central county employment in 1960 was 107 in San Francisco-Oakland, 89 in Boston, 70 in Indianapolis, 68 in Chicago, 64 in Detroit, 61 in Atlanta, 53 in Cleveland, and 52 in Dayton. Since the central county was used to establish the central city, the figures for the ring underestimate the suburban trend in all central cities which are smaller than the central city-county.

2 Excludes Los Angeles and St. Louis; for Los Angeles data for the central city-county do not permit close enough approximation with the city proper, and for St. Louis, data are not yet available for 1965.

3 Less than 0.5 percent change.

SOURCE: County Business Patterns (U.S. Bureau of the Census, 1959 and 1965), in "Decentralization of Jobs," Dorothy K. Newman, **Monthly Labor Review,** (May 1967).

TABLE IV

SUBURBAN RING SHARE OF SMSA EMPLOYMENT
BY SELECTED YEARS

	1948	1954	1958	1963
Manufacturing	36.5	41.1	45.6	50.3*
Wholesaling	9.5	16.3	23.4	31.5
Retailing	25.3	32.3	39.3	47.5
Services	17.4	24.5	29.5	35.2

SOURCES: Census data computed by John F. Kain, op.cit., Table 10, p. 38.

* Computed by author only for 22 large SMSA's.

Other data reveal that since 1948, the slowest growing central cities have been losing an average of 32,000 manufacturing jobs per year, to an average 15,000 jobs per year for central cities with medium and higher growth rates. Moreover, the trends within central cities indicate that employment tended to decline less for their downtown CBD's, and more sharply for their outer business rings, which frequently include the burgeoning slum population.

Thus by almost any index, central cities are losing employment to their peripheral areas, and indications are that this decentralizingtrend is accelerating. The problems posed by these structural changes in the urban labor market have enormous implications for manpower planning, utilization and development.

But the key point is that recent population and job dispersals have thrust upon the central city the enormous burden of accommodating the sweeping changes besetting urban life in America today. No one would seriously deny that the immediate problem of adjustment revolves around the employment status of disadvantaged youth and members of minority groups, primarily Negroes.

Only slowly is a metropolitan-area approach to urban planning beginning to emerge that might encompass considerations of manpower cost-benefit aspects of developing industrial parks and other employment generating activities relative to alternative land uses of city spatial scarcities. And judging from most of the Model Cities proposals reviewed by the author, there is virtually no recognition of the decentralizing trends in urban jobs and residential densities, or any understanding of the critical choices they pose for urban policy-making.

How to stem the rapid expansion of a concentrated ghetto population

of jobless on the one hand and the fanning out of employment sources beyond the city's administrative boundaries on the other? Urban authorities are confronted with several strategies to meet the adverse trends in jobs and migration. They include: (1) policies to re-concentrate workplaces inside central cities, or at least stem the tendencies toward employment dispersal, through increasing the comparative advantages of centrally located businesses and industries, (2) multiple policies geared to re-locate ghetto residents in the more bustling labor markets in the suburbs, stem ghetto concentrations in the inner city through a broad-scale attack on metrpolitan housing market segregation, promote development of public-supported housing in lower-density areas of the metropolitan complex, etc., (3) the development of a comprehensive mass transportation net efficiently linking all principal origin and destination points in the metropolitan area, or (4) some ordered or selective combination of these.

While these strategies are not necessarily conflicting, they do compete at many points, as this paper demonstrates in Section III, and therefore the need emerges to determine and slect a central guiding strategy around which other approaches might evolve. This master strategy, or combination of strategies, must articulate in a coherent way policies for coping with imbalances in the metropolitan labor market.

Essentially there are three ways by which urban manpower planning may affect changes in the metropolitan labor market: (1) by modifications in the demand for manpower, (2) upgrading and reclaiming the potential manpower supply, and (3) revamping and sharpening the organization and operation of the metropolitan labor market.

The above discussion has reviewed the dimension of urban job decentralization in the context of ghetto expansion in core areas. It would now be useful to examine the various modal responses of urban policy-makers in coping with underutilized manpower resources posed by the conflicting trends of widening ghetto concentrations and employment dispersal, and seconly to evaluate the adequacy of these strategic responses in terms of the dimensions of the problem.

SECTION III — INNER CITY RESPONSES TO MANPOWER PROBLEMS

1. Policies to Re-Concentrate Jobs and Boost Urban Manpower Demand

Urban policy-makers have responded in various ways to stem or reverse the outward redistribution of people and jobs that entails such adverse consequences for the urban tax base and municipal finance. Commercial and industrial renewal is the most direct attack on employment dispersal undertaken by cities. This program usually takes the form of attracting new industry or inducing firms inclined to decentralization to remain inside the cities' administrative boundaries. Most such measures aim at reducing the difficulty and cost of assembling larger tracts of unencumbered land, while other proposals seek to attrack and subsidize the location of plants within central city ghettoes. This is often considered desirable due to the high incidence of unemployment experienced by Negroes that is exacerbated by the steady movement of job opportunities away from accessibly located areas at the center.

While this paper makes no attempt to discuss these measures in detail, as a general observation it may be noted that the underlying rationale for facilitating land assembling and reform in land use policies are solidly grounded in evidence that inner cities could stand improvement in this area. Few central cities have made vigorous efforts at rationalizing the urban land market in tune with new trends and demands. Studies show that in most major central cities in the United States the share of land devoted to industrial-commercial (job-creating) purposes averages from 6 to 12 percent.[1] These cities are also ones experiencing expansions and new formations of slum neighborhoods. New York City, for example, is reported to zone little more than 5 percent of its land for industrial purposes, of which 635 acres are currently vacant.

At the same time, Mayor Lindsay has ordered a study of the possibilities of converting over 3,000 acres of publicly and privately owned land, now used for unneeded streets and junkyards, to industrial and residential purposes.[2] A survey by the New York City Department of Commerce, and other studies of manufacturers who relocated out of the city during 1965, showed that nearly 80 percent of the reasons advanced revolved around economic and legal problems in the development and use of city space, compared to less than 30 percent which gave taxes, and 5 percent labor problems as reasons.[3]

To meet this problem the city has set up a Public Development Corporation to take over city-owned land, develop it, and lease it to industry on

a long-term basis, as well as provide other services and assistance to attract and hold job-creating businesses.

New York City recently acquired title to the 185 acres of land of the now defunct Brooklyn Navy Shipyard which planners hope to convert into an industrial park. Their goal is to attract light industry into the area with a potential for high-density employment that could mean 36,000 new jobs for a neighborhood reported to experience unemployment exceeding 13 percent, half of which comprises Negroes and Puerto Ricans.[4]

Other major cities, notably Philadelphia, have undertaken similar measures, using provisions of the Community Renewal Program to promote the development of industrial parks and other sites conducive to employment-generating activity. However, there is as yet no solid evidence that these local efforts have made any discernable impact on the persistence and dimensions of out-migration and employment dispersal trends. Clearly, urban policy makers have not undertaken many local steps that could remove irritants and barriers to increased industry relocation and business activities.

Another proposal to spur lagging demand for urban manpower which has gained wider receptivity in recent years is that of inducing job-creating business activity to relocate in the Negro ghettoes. While proposals along these lines did not primarily originate with local authorities, they have been offered to meet the widespread demands for immediate corrective action of the pressing employment needs of slum residents. The Kennedy-Javits "Impact" legislation, the Comprehensive Employment Program (CEP) innaugurated in late 1966 by the White House, as well as HUD's Model Cities Program — are all attempts in part, to answer these needs. The U.S. Department of Labor has given its blessings and a $7 million contract for a comprehensive manpower program to provide jobs and training for 2,700 persons in the Bedford-Stuyvesant area of Brooklyn over the next two years. The programs seek to combine jobs with slum rehabilitation in the community under the Special Impact Programs established by the 1966 Kennedy-Javits amendment to the Economic Opportunity Act. Other features of the program aim at attracting some 25 business enterprises to the community to create 1,000 to 2,000 new jobs, and developing several hundred additional jobs in neighborhood construction and rehabilitation. The plans are designed to "cure the tendency toward chronic unemployment and rising community tensions," according to the announcement.[5]

Similar approaches at ghetto job creation to curtail "rising community tensions" are being undertaken in the Watts area of Los Angeles where Aerojet General Corporation established a subsidiary engaged mainly in

making items for the military. The firm started with 25 local residents and has expanded to over 200 employes, most of whom formerly consisted of the "hard-core" unemployed in the neighborhood.[6] The company was initially established to provide jobs and work-skill training for Watts residents and, given the physical isolation of the community from more distant workplaces in the Los Angeles area, it is small wonder that the firm boosts an employment application backlog of 2,200.

Since most of these efforts are relatively new, and just getting underway, it might be useful to note some of the chief reservations to locating additional industry into the central city and its slums.

The first consideration is that measures aimed at large-scale industrial renewal of inner cities are trying to buck powerful, and presumably healthy, national trends toward a more even spread of residences and workplaces throughout the metropolitan area. High density agglomeration of activities at the center, compounded by narrow streets, one-way traffic patterns and congestions of obsolescent structures conspire to undercut historic benefits from a central location. This is particularly applicable to the older central cities of the North where competition between high density workplaces and residences has been joined by the automobile, the expressway and other more recent competitors to the urban land market.

Decentralization, then, is thought to be desirable by some professional planners in order to reduce congestion and peak densities at the center, and that at any rate, not many more jobs, requiring relatively high ratios in square feet per worker, are likely to be "shoehorned" into the over-crowded big cities under modern land market conditions.

Moreover, it is pointed out that "realistic" cities which seek to maximize total revenue, will opt for the kinds of workplaces having higher paid employment — such as office buildings — with larger scope for vertical expansion. Policy would then be geared to attracting employers of white-collar and certain service industries, since these now account for nearly 3 out of 5 persons in the nonagricultural labor force, and are "a more stable and more regularly growing source of income than manufacturing."[7]

None of this is to condemn efforts at increasing the attraction of the inner city to business location, but rather to question the future of the city as a center for particular goods-producing industries.

If the scope for blue-collar and manufacturing employment in central cities is limited, then urban authorities are faced with the problem of absorbing a growing pool of underskilled manpower. While many cities are opting for white-collar employers, the disadvantaged and particularly Negro

employment gains have been seen to move in tandem with cyclical growth in manufacturing output and in industries employing sizeable numbers of common laborers. Thus if trends dictate a shifting of policy emphasis away from these sectors, local ghetto unemployment can be expected to remain at high levels, with all the attendant social dangers this situation entails.

Moreover, manufacturing industries are assumed to create wider external economies (i.e. bonus benfits that redound to outside industries and workers) and stronger multiplier effects than either white-collar or service industries.

Assessing ghetto job creation schemes is made difficult by the vagueness of many of the proposals advanced and the limited number of actual attempts and experiments. Even though ghetto areas suffer a high incidence of unemployment, and constitute a source of cheap labor supply, most industrial developers and businessmen apparently do not find it propitious to locate in them, and the turbulence now sweeping many central city slum areas only exacerbates such prospects.

Nevertheless, pressures to promote factory location in ghetto neighborhoods to relieve the severe employment problems have been increasing. A number of Model Cities proposals have taken up the idea. One metropolis, for example, has framed most of its job creation efforts in the manpower component of its application around programs for "selecting industries for the [Model Neighborhood] area which will meet the needs and requirements of the community." The proposal then proceeds to reduce the plausibility of the entire scheme by a burdensome criteria that require that "selected" industries be committed not only to employing and training large numbers of residents, but "must offer employment that can be quickly learned in . . . industries whose products can be identified with, and have a demand in, the local area." These specifications are exceeded by requirements that the firms selected to locate in the slum neighborhood "must offer satisfying futures to their employees" and "must be rewarding in terms of motivation, friendship, cultural and educational advancement, as well as monetary improvement." Such slippery realism calls to mind Charles Abrams' remark that "A nation's desire that industry settle where it is good for the nation is not always what the industrialist thinks is good for his business."[8]

Most other proposals reviewed by the author are somewhat more modest in their ghetto job creation schemes, usually sticking to the safer enterprises, such as day- and child-care centers employing indigenous mothers, and physical improvement activities to be carried out by local residents, none of which stand to offer more than a very limited scope for indigenous employment. Another point often missed in enthusiastic schemes for ghetto

job creation is that, carried out on a meaningful scale, such programs would exacerbate the already inadequate supply of low- and moderate-income housing. Truly effective industry development in slum areas would at some point entail large-scale land assembly. Since there are few contiguous vacancies and little unencumbered land in ghetto neighborhoods, problems would immediately arise in the process of demolition, land clearance, and displacing tenants whose standard housing needs the private market and public housing policies have failed to meet.

A yet more serious objection to ghetto job creation is that such programs might reduce pressures for residential open occupancy in metropolitan areas, and would tend to perpetuate and reinforce the ghetto, thus stultifying the drive against existing practices of segregation in housing markets and discrimination in the labor market. Prof. John F. Kain of Harvard notes that ghetto improvement and job creation schemes might have as their result a heightened migration of Southern Negroes, "greatly aggravating the already serious problems, while leaving the existing adverse levels of income and unemployment unchanged."[9]

Perhaps the toughest problem for urban policy in this area is determining criteria for encouraging the right "mix" of income-generating activities that maximizes local employment in all categories of available manpower while satisfying rising needs of municipal revenue. Each urban center, depending on its size, must tailor a development strategy to its economic setting. We have seen that cities of 50,000 to 500,000 in population are showing the largest potential for job growth. It would follow that public policy might better build around a growth strategy centered on reinforcing and sustaining this natural growth trend.

One facet of this policy would be diverting the future flow of rural migration to these growth centers. Another crucial facet must be aimed at dispersing and decentralizing the dangerous agglomeration of inner city ghettoes and their inhabitants more evenly over the suburban and outer ring growth centers of the metropolitan area. For this, however, a much larger measure of metropolitan coordination and Federal leadership, more resolute than any witnessed to date would be required, particularly in the field of open occupancy in housing markets, coordination of labor market policies and services, and comprehensive transportation planning better tailored to serve all groups in the metropolitan population.

Industrial renewal and ghetto job creation schemes for the larger metropolitan areas must in this strategy, therefore be seen as a means of easing the inner city through a painful transition period of adverse migration and employment trends. It would be a mistake to regard ghetto job creation as

offering more than a provisional and limited solution to the "rising community tensions" in urban poverty areas.

If central cities efforts to influence the demand for manpower have been uneven, limited and frequently irrelevant for the city's disadvantaged inhabitants, what has been the city's contribution on the supply side, i.e., on upgrading manpower resources? This question is examined below.

2. Policies for Upgrading Urban Manpower

It is now almost platitudinous to note that the Negro unemployment rate is double the rate for white workers, and that this inferior economic position cuts across every occupational class. It is also widely conceded that ghetto areas of central cities experience even higher rates. In March, 1967, United States Department of Labor released the results of a survey[10] on the characteristics of the labor force in slum areas that covered some 12 major cities for November 1966. The findings showed that traditionally defined unemployment rates (i.e., able-bodied persons "actively seeking work") of big city slums average three times the prevailing rate for the metropolitan labor market, of which the slum area is a part.

The survey also disclosed that: nearly 7 percent of those listed as employed are involuntary part-time workers (i.e., persons who would work full-time if such jobs were available). This figure compared with 2.3 percent nationally.

One in five full-time workers in slum areas earn less than $60 per week (the equivalent of the $3,000 poverty figure on an annual basis) compared with 15.4 percent nationally; medium family income was about $3,800 ($6,300 nationally), with over 37 percent reporting less than $3,000 annually.

The nonparticipation rate of men 20-64 "not in the labor force" in these areas exceeded 11 percent as against 7 percent nationally. This figure is, in part, a measure of the number of "discouraged workers" and suggests an ominous trend. For example, in 1948 barely 5 percent of Negro males in these ages were not "actively seeking work"; since 1958, however, this rate has hovered between 8% to 10% on a national basis. Thus the contraction of economic opportunities for Negroes since 1953 has probably resulted in increasing labor market withdrawal and apathetic idleness.

In March, 1966 Negro men were two-thirds of all nonparticipants in poverty areas of major cities;[11] the slum survey also discovered that from one-fifth to a third of adult men expected by other statistical sources to be part of the slum population, were "unfound."This was apparently consistent

with the "undercount" factor in the 1960 Census data, although more precise estimates of this statistic are now underway.

From the aggregation of these indices a "sub-employment" index was constructed by the Labor Department, consisting of a composite weight for each of these labor force characteristics for each slum area.

The principal reasons offered by the slum area respondents themselves for their subemployment status were lack of education and skills (44%), no jobs available (17%) or health deficiencies (6.2%).

Poverty-area dwellers, especially Negroes, according to other data, were concentrated in the least secure, least desirable and least rewarding jobs, with three out of four ghetto Negroes employed as low-paid, semi-skilled factory workers or operatives (25%), and lower-skilled laborers and service workers (50%).[12] It is frequently noted that these are the very occupational categories that have been diminishing in significance and in relative size as the nature of the economy changes. Even Negro males who held jobs in higher level occupations tended to be concentrated in seasonal industries (e.g. construction) or in the lower-skill levels of the occupation group.

Most of the unemployed slum population in particular cities did not appear to match the job vacancies that did exist, as was illustrated by data for the city of Philadephia:

	Slum unemployed	City-wide Vacancies
White collar jobs	15%	38%
Craftsmen	3%	23%
Operatives	11%	21%
Laborers	26%	5%
Service jobs	23%	13%
Never worked	22%	.....
	100%	100%

The report noted that "there were only 877 vacancies in the entire Philadelphia labor area for laborers, where there are 799 unemployed laborers in the slum area alone. There were 1,660 white collar and 1,300 sales vacancies, and only 442 slum unemployed with white-collar backgrounds."

Yet these figures raise more questions than they answer regarding urban manpower imbalances. They seem to describe more than explain the specific disparities between vacancies and the unemployed. There is no explanation, for example, why unemployed laborers should be so numerous,

even though total vacancies exceed this figure by nearly 10%. Nor why should 442 white-collar persons remain jobless side by side with 1,660 white-collar vacancies.

Quite apart from technical problems in data comparability, we can safely surmise that much of the disparity is due in no small measure to access problems, gaps in job market information, discriminatory hiring practices, or some variant of "shape-up" hiring, whereby non-white applicants are considered after other applications have been processed.

The urban labor market for the disadvantaged youth population presents an equally disturbing picture. Even in relatively good times, such as November, 1966, when the national unemployment rate was 3.7 percent, Negro teenage unemployment ranged from 27 to 35 percent. For slum areas of the major cities, teenage unemployment (14-19 year old) ranged from 18 percent in Washington, D.C. to 36 percent in Philadelphia, with the rate running above 30 percent in seven other areas.

In the preceding section it was noted that the Negro teenage population in cities rose 50 percent between 1960 and 1965, more than double the rise for the teenage population nationally. This unprecedented growth in the number of youth in larger urban areas is a potential source of social turbulence and unrest, and the present joblessness many of them now suffer, coupled with uninspiring future prospects, stand as a formidable challenge to urban public policy. Moreover, a special tabulation of data for poverty and non-poverty tracts in large metropolitan areas disclosed that as far as joblessness among Negro teenagers is concerned, it makes no difference whether or not they live in ghettoes. For them the male unemployment rate held at 31 percent **in** or **out** of the slum areas, contrasted with a 20 percent rate for white teenagers in the slum areas, which fell to 12 percent outside of slum areas.[14]

This situation of unrelieved bleakness for disadvantaged youth in urban areas, despite a number of expanded programs in the youth-work field, has led to a new and portentous mood in ghetto areas. As one press source reported:

> A group coordinating local open housing organizations said today there is a growing conviction among young Negroes that further civil rights progress will be gained only through social turbulence . . . reported . . . the National Committee Against Discrimination in Housing. 'Negroes, in their own words, don't want the plantation fixed up . . . They want massive clearance of slum housing, new construction as well as rehabilitation, and full access to new and improved dwellings in all sections of metropolitan areas.'[14]

There is increasing evidence, too, that the dual forces of technological change and metropolitan employment shifts are posing serious problems for new entrants to inner city labor market. Reviewing data concerning labor force attachment, in 1953 — perhaps the last time that the American economy really approached full employment — those with no previous work experience comprised only 4.4 percent of the total unemployed. By 1958, this figure had risen to 9.3 percent, and since 1963 it has ranged between 14.8 and 16 percent of the jobless.

The gravity of this problem can be seen from BLS projections which show a faster relative growth for the non-white labor force. By 1970, the non-white labor force will have risen by 31 percent over 1960 compared with 22 percent for the total labor force. By 1980 the Negro labor force will have risen by 41 percent over 1960 as against 26 percent for the total labor force.[15] Hence new entrants to the work force can be expected to be a rising proportion of the Negro unemployed unless job opportunities expand at a much faster pace.

How many new jobs will be needed to absorb those who now suffer the burdens of subemployment? One study estimates that:[16]

—260,000 additional jobs would be required to reduce the unemployment rates in slum areas to the level prevailing in nonpoverty metropolitan areas.

—another 90,000 jobs would be required to equate Negro unemployment rates to that of whites outside of slum areas.

—100,000 more jobs would be needed to provide full-time work for those persons employed part-time for economic reasons.

—an added 175,000 jobs would be necessary to employ men in the 25 to 64 age group who have withdrawn in despair from the labor force. These total only 600,000 full-time steady jobs required. But to this conservative estimate must be added the millions of urban workers in low-paid industries and occupations employed full-time but earning less than the $60 per week poverty benchmark plus the number of able-bodied adult men, mainly Negroes, missed in the 1960 Census count.

This number is impossible to measure accurately, but probably another 5 million jobs, including an estimate based on additional above-poverty-rated equivalent hours, would be needed to bring down "real" unemployment (i.e., unemployment that exceeds the official definition) in ghetto areas to that prevailing for the particular metropolitan labor market area.

It is clear that such a big order is quite beyond the purview of even the

most dedicated policy-makers at the metropolitan level. Therefore, the national government, through aggressive tax and fiscal measures, will be obliged to generate a climate of full employment sufficient to begin absorbing the potential manpower surplus damned up in the nation's ghetto areas.

Full Employment Policies and Ghetto Unemployment

Citing the array of "personal" deficiencies that characterizes potential workers in slum areas (e.g. high incidence of welfare claimants, crime, low-education and motivation, etc.) the Labor Department's slum survey concludes that "No conceivable increase in the gross national product would stir these backwaters. The problem is less one of inadequate opportunity than of inability, under existing conditions, to use opportunity." Elsewhere, however, the report concedes that "There shows up in these surveys more signs of continuing racial discrimination than it was expected would be found," and again: "Important as these 'personal' factors are . . . it is nevertheless clear that the slum unemployment situation is strongly affected by 'job market' circumstances."

Moreover, the report's assertion that ghetto unemployment is inelastic relative to GNP conflicts with other empirical findings of economic research. One study, for example, by Lester C. Thurow, using multiple regression techniques to trace key poverty generating variables, shows essentially that Negro employment and family income were highly elastic (i.e. sensitive) with respect to changes in aggregate demand, with non-white elasticities estimated to be more than double that of whites. (Calculated elasticities were 2.24 for Negroes vs. 1.21 for whites). This meant that Negro employment and income gain relative to whites in periods of expansion, and decline relative to whites in recessions. Thurow notes that:

> During every recession in the post-war period, the ratio of Negro to white incomes dropped sharply. With improving employment opportunities in 1964 Negro incomes rose from 53 to 56 percent of white incomes, but were still below [the] 1952 levels. This phenomenon occured in both 1958 and 1961 . . . Between 1947 and 1952, median Negro family income rose from 51 to 57 percent of median white family income, but by 1958 all of the gains were lost and Negro incomes were back to 51 percent. With high unemployment and few job opportunities, Negro incomes fell behind those of whites.[17]

Another study by Einar Hardin, employing multiple regression techniques to establish relationships between full employment and the utilization of workers with different levels of educational attainment, concludes that " . . . disparities in unemployment rates among persons with unequal levels of education diminished as the national rate of unemployment de-

clined."[18] In short, sustained full employment policies tended to reduce unemployment rates for less educated workers (such as ghetto Negroes) faster than rates for higher educated workers. The results also failed to find that alleged shortages among higher educated workers in periods of expansion are a significant explanatory element in inflationary pressures.

Stanley Sadofsky, Director of the Center for the Study of Unemployed Youth, New York University, stated before the House Committee on Education and Labor, that

> It is our present national economic policy to accept an unemployment rate of four percent rather than to pursue the expansionary steps necessary to drive the unemployment rate to three percent or less . . . The effect of the change, we believe, is to lock hundreds of thousands of productive disadvantaged people into depressed conditions of unemployment and underemployment. The difference between a four percent and a three percent unemployment rate is approximately 750,000 more unemployed persons.[19]

It would thus be a costly error if Federal policy abandons commitment to expansionary measures to spur inroads into ghetto unemployment. For without national growth and a heightened expansion of employment opportunities, no fundamental solutions are likely to be achieved, least of all by *powerless and isolated policy-makers at the metropolitan level.*

Local Policies for Upgrading Urban Manpower

However, other measures for upgrading urban manpower resources are more within the ambit of local authority: one is using the local civil service and other municipal arms to undertake large-scale, in-service and on-the-job training for unemployed youth and able-bodied ghetto men, both in and out of the traditionally defined labor force.

Stronger emphasis on preventive care medical services delivered by means of mobile clinics, as well as the promotion of lare-scale ghetto day care institutions charging nominal fees and employing indigenous workers, would serve to renew the contact of many "non-participants" as well as hard-core unemployed with the labor market.

While neither of these measures is considered particularly sweeping or revolutionary, significantly few of the Model Cities proposals reviewed by the author committed city applicants to efforts at revamping their local civil service systems to the goal of in-service training and employment of more ghetto residents, although practically all applications placed heavy emphasis on the establishment and expansion of day-care centers in slum neighborhoods.

With one-half to three-fourth of metropolitan-area youth who graduate from high schools directly entering the labor market, it is one of the crowning ironies of American education that so little emphasis, investment and talent have been directed to reform and expansion in the system of vocational education. A national study[20] of vocational education in a number of communities resulted in the findings that the system, in terms of the adequacy of curriculum content, administration, advisory committee, and in many other areas, is in urgent need of reorganization and stronger support, particularly from local educational boards — which were often found to be out of touch and sympathy with vocational education needs and goals. Moreover, Federal grants-in-aid for state vocational education programs go back to 1917 and have altered little since then. Private vocational education programs, on the other hand, which receive no federal help, all but monopolize the teaching of construction trades and office clerical occupations, where there is a large turnover of jobs annually.[21]

These private sponsors are reported to lobby vigorously against heavier public investment in expanding vocational education in tune with modern labor market demands. Clearly, much of the federal investment now going to institutional and skills training by community agencies, might better be allocated to an all-around improvement in aspects of vocational education, which could more effectively enlarge the adaptability and mobility of youth to the modern labor market.

Vocational education and training in modern skills may be too serious a business to be left to the benign lights of traditional-minded and sometimes hidebound local education boards. The entire system might be improved through contractual takeover by local resourceful universities, which can more readily be relied on to keep curricular tools and standards abreast with modern technical trends. This course incidentally could also liberate local vocational education from the dead hand exercised by proprietary trade union interests, which dominate advisory committees by overseeing the conduct of training for the craft occupations.

3. Strategies and Barriers In Improving the Functioning of the Urban Labor Market

There are essentially three levers for influencing and improving the organization and working of the urban labor market. One is through the lever of information and communication. A second is through improved means of transportation and access, and a third is through the eradication of social and institutional barriers to the free and rational allocation of manpower demand and supply forces within the metropolitan labor market.

Job Market Information in Metropolitan Areas

Urban labor markets, embracing core cities and their urban fringes, have become very complex mechanisms. In contrast to the more informal patterns that characterize small towns and rural areas, metropolitan labor markets are highly intricate, and more formal and limited regarding points of access to specific job opportunities. This situation magnifies the problem of making a rational occupational choice. Only a limited amount of data is disseminated on the present availability of jobs, up-to-date information on hiring standards and job seeking techniques of different workers. For example, a study on comparative job-seeking patterns of whites and Negroes by Melvin Lurie and Elton Rayack[22] revealed that, while both groups relied predominantly on informal methods of search, such as leads through relatives, friends, etc., Negroes depended nearly four times as much on state employment services than did whites. Conversely, white workers relied as heavily on private employment agencies which were generally shunned by Negroes. New in-migrants of either group, but particularly Negroes, also fared poorly in their job search relative to established urban residents.

Standard communications media, such as newspapers, T.V., etc. fail to reach out sufficiently into ghetto areas of the metropolitan complex. In-migrants, particularly those recently arrived from rural areas, are doubly handicapped in their job search and in knowledge of jobs and services available to them. One report from Cleveland of recent migrants disclosed that few are aware of existing training opportunities, and that "almost none have ever been contacted by social workers or others in a position to appraise their experience, abilities and needs and to direct them toward appropriate service agencies. Yet both white and Negro migrants have been unanimous in expressing a desire for occupational training."[23]

Job-seeking patterns of 450 disadvantaged youth in Philadelphia were also reported in 1966, which documented the narrowness of the job search among the unskilled and disadvantaged. Chief among the findings were that many youth had never made a single contact with an employer (41%), and only one in five had made as many as one such contact per week. The longer their period of unemployment, the less effort they made to find work. Most youth restricted their search to a few occupations and industries, preferring to stay as close to home as possible. The report noted:

> Some youth felt that the chances of securing a job were better since the prospective employer 'might know' them and would be more apt to hire them. Several boys said they were afraid to travel through territories of other gangs. Several others 'did not know their way around the city' and said they thought they might get lost.[24]

Many adult workers, particularly Negroes, fearing rebuff from discriminatory hiring practices (e.g., race, age, etc.), similarly narrow their job search to a few occupations and industries.

The results of these studies are consistent with previous labor market surveys that point to the ineffectiveness of traditional channels of job market information. Studies have long confirmed that most blue-collar work seekers prefer the informal methods of consultation with friends, relatives or through direct application at personnel offices, etc. This means that in ghetto areas, where many of the neighbors and relatives themselves are jobless, and where potential employment sources have now fanned out over a vast area remote from the job-seekers place of residence, such informal techniques are likely to prove most unproductive, since many of the jobs that are available can only be identified through information channels that are not readily available in the central city.

Barriers in a "Dual" Labor Market

Marked differences in job hunting, information availability, and physical access to the growing volume of job opportunities in suburban areas have suggested the existence to some observers[25] of a dual labor market in metropolitan areas. This analysis traces the American tolerance of unemployment rates above those accepted in Europe to the surplus labor pool served by the ghetto labor force:

> In more specific terms, a racially dual labor market means that there exists a primary metropolitan labor market in which firms recruit white workers and in which white workers look for jobs; side by side with the major market, there exists a smaller labor sector in which Negroes are recruited and in which Negroes look for employment. For each sector there are separate demand and supply forces determining the allocation of jobs to workers and workers to jobs. Over time, this dualism is characterized by a transfer of jobs from the white sector to the Negro sector as the economy develops and as the Negro labor force expands in absolute and relative numbers.

Hints that urban firms "shop" in suburban markets for white labor, and in inner city markets for ghetto labor are suggested by a recent Labor Department complaint that a State Employment Service office in a virtually all white suburb of Cleveland received and processed job orders from inner city firms, instead of promptly referring such orders back to centrally located offices in Cleveland.[26] It is difficult to determine how widespread this practice of "shopping" for workers in localities inaccessible to ghetto residents may be by some employers. To gain a measure of "duality" in urban labor markets, central cities, in cooperation with suburban communities, could

invest greater efforts into a more sophisticated system of collection, analysis, dissemination and exchange of pertinent labor market information.

Official federal data collection agencies draw their samples and analyze results on the basis of 150 "labor market areas" of the country, as defined by the Bureau of Labor Statistics. With few exceptions these areas coincide with the Budget Bureau's SMSAs, which cover a commuting orbit sufficiently large that localized pockets of manpower imbalances are fig-leafed and evened out in the results collected for the area as a whole. The Labor Department's slum survey noted that the employment situation in these areas . . . is so much worse than it is in the country as a whole that the national measurements of unemployment are irrelevant."

But the misleading picture presented in the national measurements is shared by the reporting systems for the metropolitan labor areas. Table I presents something of the magnitude of the discrepancy between employment conditions in large metropolitan labor areas and in their inner city ghettoes. In no ghetto area is unemployment less than double the rate for the labor area as a whole. The range is from multiples of 2.1 for the Boston area to 4.3 for St. Louis, with sub-employment rates in slum neighborhoods approaching disaster levels.

Hence time series of labor market data that provide special and separate reporting for the "depressed" sub-areas must become a regular feature of the information flow. Since most of the larger cities already have labor departments, this aim could probably be attained by urban authorities arranging broader sub-contractual arrangements with local offices of the Employment Service and regional offices of the Bureau of Labor Statistics.

The information resulting from a more intensive stratified coverage should be accompanied by intensive counseling of new entrants and reentrants to the labor market and of those who are forced to acquire a new occupational orientation. Finally, computer techniques for securing comprehensive information about the concentration and dispersal of job vacancies within the commuting orbit should augment the improved regular data series. This latter task, of course, will have to be undertaken jointly with federal, municipal, and private agencies which can enlist the support and cooperation of a substantial number of employers.

Urban Commuting Problems and Accessibility to Work

Improved channels of information by themselves do not eradicate the hang-ups in the metropolitan labor market. The spread of workplaces around the central city's perimeter has made accessibility to suburban em-

TABLE I

UNEMPLOYMENT RATES BY MAJOR LABOR MARKET AREAS AND CENTRAL CITY GHETTOES, FOR NOVEMBER, 1966

	Labor Area Rate(1)	Ghetto Rate(2)	Ghetto Sub-employment Rate(2)
Boston	3.3	6.9	24.2
Cleveland	3.1	15.6	N. A.
Detroit	2.6	10.1	N. A.
Los Angeles	4.2	12.0	N. A.
New Orleans	3.3	10.0	45.3
New York City	4.0	.....	.....
Central Harlem	.....	8.1	28.6
East Harlem	.....	9.0	33.1
Bedford-Stuyvesant	.....	6.2	27.6
Oakland	4.5*	13.0	N. A.
Philadelphia	2.8	11.0	34.2
Phoenix	3.1	13.2	41.7
St. Louis	2.9	12.9	38.9
San Antonio	4.2	8.1	47.4
San Francisco	4.5*	11.1	24.6

SOURCES:

(1) Area Trends in Employment and Unemployment, Statistical Supplement, U.S. Department of Labor, Bureau of Employment Security, January, 1967.

(2) A Sharper Look at Unemployment in U.S. Cities and Slums, A Summary Report submitted to the President by the Secretary of Labor.

* Labor area data combined for San Francisco and Oakland N.A. — not available.

ployment particularly formidable for the ghetto's disadvantaged — both white and Negro — who occupy the older residential sections that usually girdle the downtown business districts.

Earlier generations of workers from these slums were usually able to walk to the local factory or take a short bus or trolley ride to their centrally located workplaces. However, the exodus of industry and commerce to the urban fringe has severely weakened the physical nexus between the job-seekers place of residence and his prospective source of employment. This development also contributes to the ineffectiveness of the informal job-seeking patterns of most blue collar workers discussed above.

At the same time, inner cities, in tandem with national trends, are in-

creasingly the preponderant sources of white-collar employment. As was shown in Section II above, central cities still corral nearly three-fourth of all investment in construction of office buildings, in contrast to their minority share in construction of industrial and commercial facilities. The Regional Plan Association of New York, for example, reports that 60 percent of all white-collar employment for the enlarged New York Metropolitan Area (including the five New York City counties, and 17 suburban counties in New York, Northern New Jersey and Connecticut) is concentrated in Manhattan's central business district between 61st Street and the island's southern tip.

Thus in recent years, as many urban authorities have observed, office buildings have been springing up in central cities that will largely employ suburban ring residents who have to commute to work, while industrial plants, major sources of lower-skill employment, are increasingly concentrated in suburban areas where the bulk of disadvantaged workers, particularly Negroes, do not live.

Getting to a suburban job therefore becomes a costly and arduous undertaking for ghetto workers. Quite apart from the fact that operating schedules of public transportation facilities are poorly adapted to linking rush-hour commuters from core areas with outlying workplaces ("reverse commuting"), substantial evidence by Meyer, Kain and Wohl reveals that inner city residents are obliged to spend more money and time to reach suburban employment than suburban workers commuting to the city.[27]

Los Angeles authorities, for example, estimate that a resident of Green Meadows South (a ghetto area of South Los Angeles) commuting to a workplace in the City of Commerce would spend $57, travel 924 miles, and spend 77 hours each month. According to estimates by the New York City Traffic Commission, it would cost a Central Harlem worker $40 a month to commute by public transportation to work in an aircraft plant in Farmingdale, Long Island, or to a plant in Yonkers, or to a job in Staten Island. The public transit cost for a Bedford-Stuyvesant worker to the same places would amount to nearly $50 a month.[28]

Similar transit difficulties exist in other large urban centers. Ghetto areas of West Side Chicago are reported to have a lower rate of automobile usage for commuting to jobs than any other area of the city.[29] This finding supports data from the 1960 Census that showed fewer than half of all nonwhite families in central cities owning an automobile, for 8 of the 14 cities surveyed.[30] Only in 6 cities, all located in the Midwest and West where Negro median family income is highest, was automobile ownership above 50 percent.

Nevertheless, inner city residents in general, and ghetto residents in particular, are known to rely most on public transportation. Yet these travel difficulties add not only to the burden of seeking work, as was noted above, but also to the cost of working. Under the impact of higher public transit fares in urban areas over the past year, the Consumer Price Index for public transportation costs has climbed from 121.4 in December 1965 (1957-59 = 100) to 130.6 for April 1967, a rise that led every other component in the index save medical care.

These developments have prompted economist Arnold R. Weber to note:

> In the past, commuting to work was associated with corporate presidents and bankers. As part of our continued progress in democracy, commuting is now a privilege extended equally to domestic servants and janitors . . . Thus a new class has emerged in the urban labor market. Its members are separated from the mainstream of economic activity by deficiencies in skill and education, pronounced gaps in the labor market information system, and increased physical distance.[31]

The seriousness with which the national government views the problem of low-income workers' accessibility to jobs located at inconvenient and costly distances from their residences, is revealed by the Department of Housing and Urban Development's (HUD) awarding of demonstration grants to local agencies to expand existing, or develop new, mass transit facilities serving low-income neighborhoods.

New York State has received a $2 million grant to provide low income residents of Nassau and Suffolk Counties direct access to job opportunities that can now be reached only by car or by circuitous bus routes, involving for most persons multiple transfers and several hours.[32] The McCone Commission's report on Watts, for example, attributed much of the unemployment and desparate isolation of that ghetto to what "may well be the least adequate network of public transportation in America." Accordingly, HUD approved in early 1966 a $2.7 million demonstration research project in Watts to study the relationship between public transportation and job opportunities for low-income groups.

Similar demonstration projects have been awarded in other cities, notably: Chesapeake, Virginia, where a HUD grant has established service between the town's residential areas and employment opportunities in the industrial areas of Norfolk; and in Rome, New York, to help set up a transportation system where 2,000 households do not have automobiles and 10 percent of the eligible workers are jobless.[33]

Practically all of the programs aimed at expanding job opportunities for

the poor in urban areas have been demonstration projects in which HUD finances experiments that localities themselves would not otherwise be induced to undertake. The grants are authorized under the Urban Mass Transit Act of 1964, as amended, with $150 million allotted to capital improvement and demonstrations for fiscal 1968 and 1969.

Thus the disadvantaged job seeker's problem of accessibility to work, generated by changes in spatial organization and the dispersal of human activities, has become a central concern in national plans for urban rejuvenation.

Since the proportion of commuters using public transportation has been declining steadily since 1948, as the expressway has made the private automobile a more desirable choice, transit companies in most localities have curtailed or abandoned services for many sections of the city. All the signs point to a continuation of this trend, except for the high-density residential and workplace areas. Component "D" (Public Facilities) of the Model Cities Guidelines is designed in part to assist localities in shaping a public transportation system for easing "access between residential areas and centers of employment."

There is, however, scant evidence that the goal of easier access between home and work will be furthered by transportation programs in proposals we have reviewed. Most localities, while routinely stating this as their goal, committed themselves to little more than "surveys" and "studies" of the use of public transportation by Model Neighborhood residents.

One Midwestern city explained that there was little it could do to influence improvements in public transit service to its target area, because the local transit company was privately-owned. The locality did promise to seek the "cooperation" of the company, but failed to note about what. At the same time, this applicant city is applying for a transportation research and demonstration grant from HUD, even though the proposal, in another place noted that access to workplaces and to other facilities is not a serious problem.

One large city where access to employment and services has been a well-known problem for ghetto residents, is convinced that its efforts to develop jobs and new industries in the target neighborhood area will obviate the need to seek more radical improvements in existing transit services, since the builk of workers "will be able to walk to work."

One curious feature in this city's Model scheme is that it plans to develop most industries and jobs in the southwest part of the target area where a railroad yard is situated, and which is bordered by two expressways.

The plan argues that these facilities enhance the area to industry. Yet there is no southwest access to either of the freeways that physically isolate this target ghetto area. The lone access, leading to only one expressway, is located in the northern part more than 15 blocks away.

It would not be useful to further elaborate the relative merits of this component in other proposals reviewed. Our interest in this, as other features of the Model Cities Program, is in the impact of mass transit deficiencies on ghetto employment difficulties and labor mobility **within** the metrolopitan area.

While we have demonstrated this to be a serious problem, it is important to consider the evidence which suggests that housing segregation and Negro ghettoes are complicating factors. Prof. John Kain observes that the urban transportation "problem" would lose much of its complexity in the absence of metropolitan housing market segregation, which creates the need for several independent but overlapping transit systems:[34]

> "A system is needed to transport central city white captive' transit users (low-income, childless and elderly white households) between high-density origins and other destinations.
>
> "An entirely different transit system is needed for ghetto Negroes. Since they are much less able to change their places of residence, this second system must be (1) largely confined to the ghetto, (2) very indirect and thereby slow . . . or (3) very extensive, expensive and heavily subsidized (if it is to provide reasonably direct and fast service to the rest of the metropolitan area). . . .
>
> "Finally, a third system is needed to transport centrally employed whites through the steadily expanding ghettoes to white garrison suburbs. Since the distances between home and work are so great and steadily growing, the white commuter system must be high performance . . . and subsidized."

These strictures notwithstanding, some cities are moving ahead wtih further ghettoization of mass transit planning. In Washington, D. C., for example, the Metropolitan Area Transit Authority (MATA) has current plans for the Districts' proposed subway that are expected to by-pass Negro ghetto areas of Anacostia and Cardozo in a city nearly two-thirds non-white. A report notes:[35]

> The basic Washington system also calls for building subway lines out mostly white, middle-class Connecticut Avenue, and out the Baltimore and Ohio right-of-way through Northeast Washington. There are no immediate plans to serve Cardozo or the Shaw urban renewal area of Anacostia.
>
> In the Shaw area especially, the Rev. Walter F. Fauntroy has voiced doubt that urban renewal could be planned for his neighborhood without the benefit of transportation planning as well.

HUD Secretary Weaver recently objected to the widespread practice of planning mass transit facilities that ignore the needs of the poor. The Secretary emphasized:[36]

> . . . developing a balanced national transportation system that does not permit the isolation of neighborhoods to occur or continue to re-occur . . . It is a question very much alive at this moment in a number of places where the decision must be made soon on where the first subway line will run . . . Will it be out one street through middle- and upper-class neighborhoods, or out another street just a few blocks away, through low-income neighborhoods?

Most of these citations reinforce the suggestion that racial barriers behind residential patterns severly complicate the problem of job access for the ghetto population.

Admittedly, the evidence is as yet too tenuous and impressionistic to support sweeping generalizations regarding the decisiveness of social barriers to ghetto labor mobility and employment. And as with all other urban problems, the multiple causes of imbalance in metropolitan labor markets are complex and interrelated. However, it would be foolish as well as dishonest to deny that barriers to open housing for non-white families in the urban fringes of core cities constitute, among other things, a formidable impediment to employment and work accessibility.

Social Barriers: Housing Market Segregation and Employment

If the deficiencies elaborated above in urban public transportation constitute a formidable long-term hindrance to job accessibility and employment welfare for any group of workers, the logical deduction is that they should simply move as close to their jobs as their housing dollars permit.

An important condition in economic theory for the successful functioning of a market economy is the free mobility of productive factors, particularly labor. And the labor statistics that are available confirm that American workers retain a remarkably high degree of occupational, employer, and residential mobility.[37] Yet for a large segment of the potential work force in central cities, this presumed mobility and easier job access are non-existent. A former director of the Economic Development Administration explained before the Ribicoff subcommittee hearings on urban affairs that

> In theory, of course, the blue collar workers in these needy urban areas should have followed the blue-collar jobs out of the city. But in practice this has not happened, and there is no indication that it is about to happen. The blue-collar workers in these areas either do not have the motivation . . . to move . . . or [lack] the money to move, or some may be barred by discrimination from living near their jobs outside of the city.[38]

Kain has established an empirical relationship between housing market segregation and the level and distribution of Negro ghetto employment.[39] His findings show the occupational and geographical distribution, as well as the level, of Negro ghetto employment to be highly affected by the racial composition of the workplace neighborhood, and the physical distances separating Negro ghetto areas from workulace locations.

The problem cannot be so easily dismissed by referring simply to the dearth of low-cost housing in suburban areas for white as well as black workers. For one thing, the trek from the inner cities to the suburban rings in America has been as much a lower-middle class phenomenon as an upper-middle class one, and it is necessary to add that differences in median family income between Negroes and whites is not a significant explanatory reason for the observed segregation in housing.[40] Kain makes a related point:[41]

> Low-income white workers adapt their residential choices to their job locations and to available transit services. When their jobs are in suburban areas, an increasing trend, they invariably live in suburban areas. When Negro jobs are located in suburban areas, they must either be foregone or they represent difficult, costly, and time-consuming trips from central residence areas to suburban work places.

He also notes how segregated housing distorts both the market for jobs and housing:[42]

> . . . employment dispersal provided strong incentives for many whites to move to suburban residence areas nearby their new workplace locations . . . But the jobs of many whites remained in central cities, and these individuals often would have reduced their combined housing and travel outlays by not moving. Moreover, many Negro jobs also shifted to suburban locations; others were located there all the while; and if Negroes had free access to suburban housing markets, both the number of Negroes employed in suburbs and the number of whites employed in central cities would be larger.

Kain calculates that housing exclusion in suburban residence areas may cost Detroit Negroes an estimated 9,000 jobs and Chicago Negroes upwards of 30,000 jobs, based on 1952 and 1956 data.

Although recent data to buttress some of these observations are elusive, there are disturbing hints that this problem is worsening. A JOBS Project in Chicago was awarded a labor mobility demonstration grant from the Labor Department authorized under sections 208 and 306 of MDTA, as amended, to test the feasibility of federal programs relocating jobless Negro men from the city's slum areas to available jobs in the increasingly industrialized suburban towns on the fringes. The goal of the project was to relocate not

more than 75 persons, but instead it failed to transplant even 10 percent of that number due mainly to suburban opposition to housing integration as the account noted:[43]

> Though the project's files bulge with job offers from suburban employers, a double-edged resistance to transplanting the Negroes has largely stymied attempts at relocation. The reactions from white-dominated suburbs where housing for Negroes is difficult or impossible to find, range from cool to hostile.

The report also noted the reluctance of many of the job-seekers to consider relocating from ghetto residences to suburban environments. But whether this can be attributed to "low" motivation or to affinity for familiar surroundings, or to other factors, they cannot be properly assessed without relation to the distorting consequences of traditional social housing patterns.

The objective of the mobility project just described was to uncover the chief "mechanical and operational" barriers to relocating unemployed slum dwellers to residences with heightened accessibility to employment. Instead, the principal impediment in this instance was found to be neither operational nor mechanical and one whose dynamics rarely yield to such approaches.

When several large employers announced in late 1966 decisions to shift their corporate headquarters out of New York City to more spacious sites offered in suburban counties, the Westchester County executive explained in effect that, while the county welcomed "white collar" employers, the zoning law and housing market made it undesirable to accomodate large users of blue collar labor.[44] Residential zoning restrictions have long been recognized as an additional safeguard of suburbia against "invasion" by the economically and socially disadvantaged. "Zoning is something our forefathers would never have believed possible . . . These laws to keep the peasants out are putting out the flame under America's melting pot," complained a Connecticut General Assemblyman as he introduced a bill to curb the use of such laws.[45]

Newer developments, as well, have suffered from the inclination by the planners to preserve the class integrity of burgeoning communities.* In early 1967 the Department of Housing and Urban Development awarded a study grant to the "New Town" of Reston, Virginia to plan how low-income families might be integrated into the community, which critics charged had

* For documentation on the existence and extent of residential segregation in American cities see: Karl E. and Alma F. Taeuber, **Negroes in Cities**, (Chicago: Aldine Publishing Co., 1965); George and Eunice Grier, **Equality and Beyond: Housing Segregation and the Goals of the Great Society** (New York: Anti-Defamation League of B'nai B'rith, 1966); Harry Sharp and Leo F. Schnore, "Changing Color Composition of Metropolitan Areas," **Land Economics**, May 1962.

been planned only for middle and upper-income groups. In announcing the grant, Housing Secretary Weaver noted:[46]

> Much of today's new town planning is predicated upon occupancy by a single economic or social group, generally the managerial class. Yet the new industries springing up in the suburban areas are having trouble finding workers with lesser skills, who live in the inner city because they cannot find housing close to the job openings. They find it too costly to travel to and from work."

This widespread disposition to freeze community physical and social patterns doubtlessly contribute to the virtually unchanging proportion of Negroes living outside central cities, as illustrated in Table II and the chart below. In five of the twelve largest SMSAs, for example, the percentage of Negroes residing in suburban areas actually declined between 1950 and 1960, and in no area did the proportion exceed seven percent. This situation can be contrasted to the mushroom growth of nonwhites in central cities, which rose by an average of 12 percent in the same period.

It is no longer even fashionable to claim that "apathy" and afinity for familiar surroundings explain the rising Negro concentration in central city ghettoes. Whatever empirical data available seem to indicate a strong preference on the part of most ghetto residents for improved housing and for residences in non-ghetto neighborhoods, if it were possible.[47]

TABLE II

TWELVE LARGEST SMSA's AND PERCENTAGE OF WHITES IN TOTAL POPULATION IN CENTRAL CITY AND SUBURBAN RING 1940, 1950 & 1960

	Central City			Suburban Ring		
	1940	1950	1960	1940	1950	1960
New York City	93.6	90.2	85.3	95.4	95.5	95.2
Los Angeles	94.0	90.2	84.7	97.7	97.3	95.9
Chicago	91.7	85.9	76.4	97.8	97.1	96.9
Philadelphia	86.9	81.7	73.3	93.4	93.4	93.7
Detroit	90.7	83.6	70.8	97.1	95.0	96.2
San Francisco - Oakland	95.1	88.2	78.9	96.4	93.2	93.2
Boston	96.7	87.7	90.2	99.1	99.2	99.0
Pittsburgh	90.7	82.0	83.2	96.4	96.5	96.6
St. Louis	86.6	94.7	71.2	93.3	92.7	93.7
Washington, D. C.	71.5	64.6	45.2	86.3	91.3	93.6
Cleveland	90.3	83.7	71.1	99.1	99.2	99.2
Baltimore	80.6	76.2	65.0	88.1	89.8	93.1

SOURCE: Leo Schnore, **The Urban Scene** (New York: The Free Press, Collier-Macmillan, Ltd. London, 1965) p. 268.

John Kain estimates that as many as 40,000 Detroit Negro workers and nearly 112,000 Chicago Negroes might be willing to move from central to outlying residential areas "if they were free to choose locations similar to those of low-income whites employed at the same workplaces."[48]

Thus the limited access of Negroes to the housing market in general, and the suburban housing market in particular, has probably been as detrimental to employment opportunities as to housing welfare.

None of this is to imply that housing segregation and ghetto isolation pose the only social barriers to heightened labor mobility and job access for disadvantaged workers. A host of other determinants, such as family considerations, neighborhood attachment, loss of pension and seniority rights, etc., influence residential mobility decisions. The point made here, however, is that the very existence of the ghetto and the stubborness of widespread housing segregation seriously benumb any attempt to evaluate independently other determinants of Negro worker mobility.

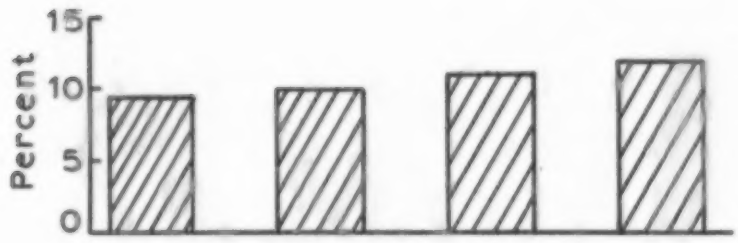
Many authorities have expressed hopes—or fears—that the Model Cities Program might serve as one of the federal government's chief wedges in achieving a breakthrough against rigid patterns of housing market segregation so counter-productive to ghetto job opportunities. A Philadelphia news source, citing criticism of the Model Cities Program by community leaders, reported:[49]

> "Richard Watson, executive director, North Philadelphia Corp, charged that Model Cities spending would merely 'gild the ghetto' . . . Both Watson and Mrs. Perry [of the Philadelphia Council for Community Advancement] criticized the Model Cities proposal for failing to mention the need for free choice in housing. This issue, said Mrs. Perry, was 'sharply raised' in conferences that preceeded the drafting of the funding request but, at the end, it was dropped . . . From Robert C. Weaver, Secretary of Housing and Urban Development, on down there was a determination that the Model Cities Program should 'attack segregation'."

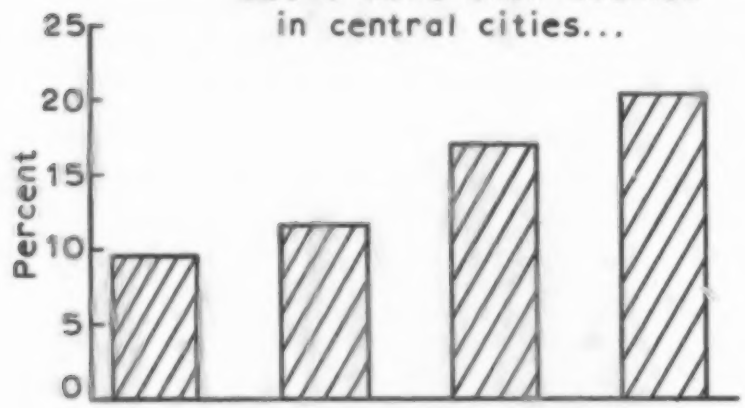
Illustrative of the fears that the program would aim at "racial balance schemes" are the remarks on the floor of the House by Rep. Paul Fino of New York City:[50]

> Two months ago, March 17, 1967, HUD officials told the Federal Bar Association that demonstration cities preference would be given to cities which used scattered rent subsidy and public housing projects to integrate middle-income neighborhoods . . . if you are opposed to HUD's deception and all of these economic and racial balance schemes, then I urge you to support this amendment and cut the [Model Cities] funds.

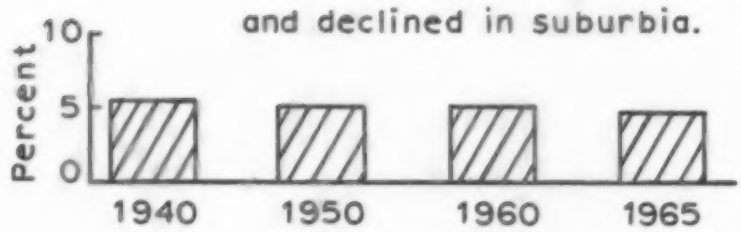
The proportion of nonwhites in the U.S. population increased slightly during the past quarter century...



but it more than doubled in central cities...



and declined in suburbia.



(Source: U.S. Dept. of Labor)

Whatever the official thinking concerning open occupancy behind the program, the guidelines omit specific reference to this issue, as do practically all the Model Cities proposals we examined.

Component "C" (Housing Choice) of the guidelines instructs localities to meet this standard:

> A comprehensive city demonstration program is eligible for assistance only if it will contribute to a well-balanced city with maximum opportunities in the choice of housing accommodations for all citizens of all income levels.

This standard, coupled with Executive Order 11246 and the mandatory compliance provisions of Title VI of the 1964 Civil Rights Act, presumably equip the Department of Housing and Urban Development with reasonably broad authority to assist freer housing choices for ghetto residents. Yet virtually all the proposals we reviewed at best merely tipped their hats to the issue.

One city, where failure to enact a revised open housing ordinance led to energetic protests by local civil rights groups, approaches the standards of Component "C" this way:

> "[Model City] has a nationally acclaimed record of racial reconciliation and the guaranteeing of the rights of its minorities . . . recognizes the existence of inordinate concentrations of its Negro citizens within the Model Neighborhood Area; that coupled with other social problems . . . this is an unhealthy situation which the community cannot abide.
>
> "[Model City] is troubled with the universal question as to what extent this concentration — with its accompanying inertia — exists in and of itself, or is forced through community attitudes and customs. Whether either, or both . . . higher income Negro families do not move from the area, thus further restricting an already limited center-city pool of available standard housing . . ."

How does the community propose to remedy this situation? It commits itself to nothing more than "efforts to improve human understanding" lamenting that "the solution will not come easily" with the warning: "Nothing lasting or satisfactory can be forced, and no arbitrary, preplanned patterns for housing occupancy or opportunity can be set."

Many cities have interpreted the "Housing Choice" standards of the Guidelines to refer only to "choice" within the targeted slum area. One Southwestern city, which has no open occupancy ordinance, states in its application that the "residents should be permitted widest possible choice within the Model Neighborhood Area."

It is clear, then, that many central localities are not yet prepared to approach the thorny issues of open occupancy in housing, let alone coordinate arrangements with governing units in suburban communities to provide wider metropolitan housing choices for centrally confined ghetto residents.

If the Model Cities Program is to come to grips with what we consider to be the central urban manpower problem — employment dispersal away from centrally anchored pockets of unemployment — it must either encourage new centralization in jobs, decentralization in racial ghettoes, or both, in the absence of solutions to metropolitan transportation problems. The proposals we have examined, however, are clearly inadequate in these terms.

The preceeding discussion has focused on the dominant trends and manpower implications of outmigration, ghetto concentration and employment dispersal occuring in central cities and fringes. The chief responses of urban policy-makers for coping with these trends and implications affecting disadvantaged workers were evaluated in terms of their contribution to (1) activating the demand for idle manpower, (2) upgrading the supply and (3) improving the functioning in the spatial organization of the metropolitan labor market.

SECTION IV: URBAN RENEWAL AND RELOCATION — SOME EMPLOYMENT IMPLICATIONS

Included in the Model Cities legislation are provisions for urban renewal and relocation projects which are to be coordinated within the framework of the comprehensive demonstration activities. It is therefore useful at this juncture to draw some labor market implications from past renewal practices to better alert those framing Model Cities strategies in this area.

Component "K" (Relocation) specifies the statutory standard as follows:

> A comprehensive city demonstration program shall include a relocation plan the provisions and procedures of which meet relocation standards equivalent to those prescribed for urban renewal projects. Relocation activities, to the maximum extent feasible, should be coordinated with the increase in the supply of standard housing for low and moderate-income occupancy . . . in order to best maintain the available supply of housing for all such families and individuals throughout the city.

The urban renewal program derived its initial motivation in the desire for "slum clearance," but soon the rebuilding of declining central areas of cities, especially downtown business districts, came to receive primary emphasis. Renewal essentially entails the acquisition of large tracts by the local planning agency, and a replanning of the area for subsequent resale or leasing of that portion not required for public use to private developers for rebuilding or rehabilitation. With experience, however, it was quickly seen that minority groups and low-income families — two largely overlapping categories — suffered disproportionately in the dislocations necessitated by the process.

Thus critics charged that, contrary to its original intent, the program consituted a polygamous union between federal financing, local agencies and private developers to dispossess the poor and raze their buildings, in order to construct gleaming new developments out of their financial reach. Peter Marris wryly observed: "The dispossed enjoy as their reward a distant view of luxury apartments rising over their old homes."[1]

Some of the evil effects charged to the program by critics are: that it contributes to the destruction of functioning communities and a further weakening of the social fabric developed by the poor; that it serves to perpetuate or even increase the substandard housing of many relocatees, most of whom are minority group members; that it has led to an increase in the rents paid by relocated families, thereby reducing the amount of money

left for food, clothing, etc.; that it forces many of the victims of relocation to scurry about the city from apartment to apartment, each time keeping just one jump ahead of the bulldozer; that it swells the existing slums with new refugees from urban renewal and other types of construction; and that in sum, it heightens the alienation of these groups by demonstrating the limited value placed on their welfare by the larger society.

The 1949 Housing law merely stipulated that displaced persons were to be relocated in "safe, decent, and sanitary housing," but left the implementation of this goal entirely in the hands of the local community; it offered little direct assistance to the displaced. The dimensions of the problem, however, gained public attention in the debate over the program's achievements in terms of the welfare of the relocatees. In 1964, Chester W. Hartman, a sociologist at the MIT-Harvard Joint Center for Urban Studies, published an extensive analysis of previous investigations of relocation in conjunction with a report of his own empirical findings on relocation's social consequences in Boston's West End renewal area. His report[2] documented many of the charges leveled against the program.

But his findings were quickly challenged in Washington by results from a special survey done in 1964 by the Bureau of the Census,[3] at HUD's request, which appeared to contradict most of Hartman's conclusions, and presented a more favorable picture of the effects of the program. This was by no means a debate stopper, since the critics challenged the interpretation of the data and noted some issues that the survey failed to investigate.

One upshot of the controversy has been rising opposition on the part of local community and civil rights groups to the unfettered urban renewal practices (which have since been tightened up) that marked much of the program's past.

It is not the aim of this monograph to examine the chief social issues raised by broad urban renewal operations. But any attempt to evaluate the program's impact on different aspects of social welfare must allow for three important considerations. First, official statistics on the effects of displacement operations, both in terms of completeness and accuracy, leave much to be desired. Second, the paucity of available standard low-income housing in most central cities have confounded even the best laid and most humane renewal plans. Finally, given the strong probability that the typical relocating family will be non-white, the processes of the program frequently run afoul of housing market segregation. As we have seen earlier, the latter factor is an important obstacle as well to residential mobility and job access of disadvantaged workers. Whatever else can be claimed for the urban re-

newal program, it has made little contribution to the alleviation of these particular manpower problems.

For example, in the Census Bureau's relocation survey of 132 cities cited above, only about 10 percent of whites and a similar proportion of non-whites with fixed places of employment were required to change jobs in the post-relocation situation, but 38 percent of Negroes and 35 percent of whites reported longer journeys to work after relocation compared with only 13 percent of both groups who said they experienced journeys to work as a result of relocation. In short, an additional one in four Negroes and one in five white workers, endured longer work journeys after being relocated.

Much more serious, however, is that despite the study's concession that "Poverty was common among the families covered by the survey," it excluded data for 36 percent of displaced household heads "who had no fixed place of employment . . . like laborers . . . charwomen, etc.," in addition to omitting data on the unemployed and elderly. It also omitted individual householders, although they comprised 30 percent of all displaced housholds. When we add to these categories the 23 percent of households which were to be included in the survey but could not be found, the incompleteness of the data becomes readily apparent.

It will be recalled that Section III above detailed significant information on the characteristics of the labor force in poverty areas of major cities. These showed a disproportionate number of the residents were either unemployed or were engaged in the kinds of marginal employment that required them to move often from workplace to workplace.

Many other adult men were either "unfound" or were not in the labor force. It follows, then, that the Census' relocation survey must have omitted more than half of all ghetto residents affected by displacement!

If this deduction is accurate, a valid picture of the impact of relocation on ghetto employment can only be surmised. At best, displacement was no asset in this respect, and the presumption is strong that it compounded job market problems for those affected.

In some areas urban renewal operations have had the effect of displacing workplaces employing mainly lower-skilled workers to make room for the construction of huge office buildings with little use for blue collar labor.[4] In other areas, low-income housing and accommodations have been bulldozed, eliminating access to local job opportunities for disadvantaged migrants.[5]

But the Achilles heels of the relocation part of urban renewal — and the

chief reasons why its operations have been stymied by local opposition in numerous cities across the country[6] — remain the chronic shortage of standard low-income housing and the growing confinement of Negro ghettoes to central portions of the metropolitan areas.

The private housing market builds probably no more than one-eighth of all housing within reach of low-income families, and the flow of Federal appropriations for public housing has dried to all but a trickle. The median price of new one-family homes was estimated to be over $21,000 in 1966, well out of reach of virtually all families under $5,000 income. " . . . Public housing, the key to effective urban redevelopment, has become so unpopular that . . . the private real estate interests no longer bother to attack it." observed one specialist. Yet the urgent unmet housing need is greatest among the poor and moderate income families, and the pressures building up in this area will soon become too compelling to ignore.

Given the paltry current additions to low-cost housing supply, the number of low-income households occupying substandard dwellings in 1969 are expected to remain virtually unchanged over 1960.[8] Since most of the middle-income population is already well-housed, the effective demand from this sector, to which the market is mostly geared, is probably not providing sufficient impetus to residential building required for economic growth and market prosperity. Hence, the 5-year slump in home building, which occurred more than 18 months before interest rates on conventional first mortgages began to climb.[9]

Economist Dorothy Newman, using the BLS input-output employment tables, conservatively estimates that a well coordinated large-scale program of rehabilitation and rebuilding to eliminate substandard housing could generate in the first year a total of 1,275,000 jobs of all kinds — 630,000 for on-site work with the remainder accruing through multipler effects.[10]

If the national government embarked on a vigorous $10 billion program of construction and rehabilitation, employing the most advanced techniques, to refurbish in one year a quarter of the 4 million sub-standard units now occupied by the disadvantaged in central cities, an estimated 1 million on-site jobs could be generated and a similar number via the multiplier. This may appear overly ambitious, but the number of sub-standard units is increasing in some cities faster than standard replacements. In New York City, the number of sub-standard housing units rose by 100,000 between 1960 and 1965.

A large-scale rehabilitation program as an initial strategy may be pre-

ferable to present housing approachs on two grounds. First, its employment potential per unit for inexperienced and underskilled workers is probably higher, and second, it avoids the damaging displacement effects in housing and employment welfare so widely condemned in urban renewal practices. The emphasis now must be shifted from slum "clearance" to increasing the housing inventory for low-income families and in this process, to maximize the employment potential of the labor force in the target slum areas. The past 18 years of urban renewal experience is a powerful argument against extensive slum demolition, even for public housing projects, except in cases where slum vacancies are sufficient to give the residents an opportunity of wider choices in a variety of settings.

If the Model Cities approach is truly to be an innovation in urban replanning, it must steer clear of some of the more common tactical blunders by which renewal and relocation practices have come to grief in many localities. This warning needs to be raised since the guidelines require that relocation plans meet the "standards prescribed for urban renewal projects." But the point is that these "standards" have been honored in the breach in many localities, especially since their execution and assessment have been left in the hands of the agencies responsible for the plan's success.

Local inability to meet the more rigorous relocation standards, coupled with disinterest or calculated delays by prospective developers, have stymied and postponed urban renewal projects in many Model Cities target areas. Since the relocation component in proposals we have reviewed indicate no novel solutions to the quandary of "slum clearance" amid the dearth of standard low-cost housing, perhaps a more promising course would be to employ the Model Cities approach in spurring modernization and reform of existing local housing practices and policies, i.e., to prod local planning agencies in the search for feasible alternatives to practices necessitating major relocations involving low-income tenants.

SECTION V — CONCLUSION: ASSESSING THE MANPOWER COMPONENT IN MODEL CITIES STRATEGIES

In the initial section of this paper we sought to focus on a process for isolating and identifying the "explanatory" roots to urban social decay. It was noted that the Model Cities Program places particular emphasis on encouraging local strategies that meet the rather vague and ambiguous standards of program coordination and comprehensiveness set forth in the guidelines. The guidelines further require the city's program to be "of sufficient magnitude to make a substantial impact on the physical and social problems and to remove or arrest blight and decay in entire sections of neighborhoods," although all of this has to bear fruit "within a reasonably short period of time." Thus limited resources are called upon to finance both more and better housing along with expensive coordinative planning. These apparently conflicting provisions of Model Cities should serve as a warning to planners against reading the guidelines too rigidly.

In mapping out a coherent integrated strategy, the planner must settle on a suitable technique for selecting and relating distinct program components. For this, an overall conceptual approach is needed for sifting, from a bewildering jungle of possible choices, those that are identified as "leading links." The burden of this monograph has been to demonstrate the "leading" character of the manpower link in the intricate social tangle of urban problems.

Our evidence presented at some length the large-scale geographical shifts occuring in the spatial distribution of employment, particularly industrial jobs, within metropolitan areas, and the implications briefly touched upon were the changing metropolitan role of job market information, urban commuting problems and housing market segregation, further clouding the employment prospects of ghetto job-seekers. Thus the potential mismatch of jobs and manpower taking shape in metropolitan areas revolves around man-made impediments to freer mobility of productive resources **within** urban labor market areas.

Since problems of productive utilization of ghetto manpower are metropolitan in character, only the framing of metropolitan responses can be expected to cope with them in the long run. This inescapable fact appears at best only dimly recognized in the manpower components (component "J") in the two dozen Model Cities proposals we examined, or even in the statutory standard of the guidelines which reads:

> A comprehensive city demonstration program is eligible for assistance only if it is of sufficient magnitude to make marked pro-

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gress in reducing underemployment and enforced idleness, to provide maximum opportunities for employing residents of the area in all phases of the program, and to enlarge opportunities for work and training.

A chief failing of the Model Cities formulation was the omission of standards to applicant localities requiring evidence of greater metropolitan coordination on labor market problems between inner cities and associated suburban localities. While this would have posed a difficult undertaking for some cities, particularly those in states where formal agreements for metropolitan coordination require approval by state legislatures, it could hardly be more difficult or ambitious than some of the standards included in the present guidelines.

While none of the applications we examined meet the metropolitan approach, there are salutary features in a number of proposals that could strengthen the manpower component in the overall demonstration program.

An eastern city plans to establish a "job bank" consisting of an array of job vacancy listings for applicants in the central city and four associated suburban counties. These listings are expected to be matched on the supply side against inventoried listings of qualifications and skills possessed by Model Neighborhood residents. To effect and augment indicated matches, demonstration shuttle bus services linking prospective applicants to available openings in other parts of the metropolitan area will be initiated when necessary.

Without underestimating the practical difficulties inherent in such a scheme, the applicant city creditably seeks to introduce to its target area unemployed and underemployed the wider metropolitan employment choices available. Thus, in this case, dispersal of job opportunities is matched with dispersal of job search efforts as well.

A quite different manpower tack is taken by another applicant city which, in view of secular national and local occupational trends, seeks to transform this locality into a "service center," grooming the target area unemployed youth and adaptable adults to the current and projected openings in health, education, welfare agencies and branches of the civil service. As part of the scheme, the applicant city plans a major overhaul in the system of vocational education to better attune it to "the growing special needs of a service economy." This strategy, it will be recalled, is geared to reinforcing and exploiting what are perceived to be the "natural" growth centers and trends within the labor market and thus easing the pain of transition.

The only drawback to this approach is the over-readiness of this appli-

cant city to "write off" the growing new job openings in evidence in its suburban ring with the unsubstantiated conclusion that " . . . the enterprises ringing the suburbs outside [applicant city] do not provide the kind of job opportunities which model neighborhood residents can qualify for."

A southeastern city's application is notable in its plan to (a) establish a training program in the building trades and (b) to take "immediate steps to open local union building trade membership to all, regardless of race, color or creed." In addition, the applying locality intends to institute New Careers trainee positions in fields of health and education that will subsequently be linked in with recurring vacancies in permanent agency positions.

But while a few applicant cities also mention the need to eliminate "cultural" and discriminatory barriers to equal employment opportunity, virtually **all** the proposals examined appear somehow to view unemployment problems as defects of the **unemployed person.** Rarely is there an awareness, or an admission of awareness, that job market circumstances, artificial and institutional barriers, or job access problems weigh heavily, and sometimes decisively, in the employment fortunes of the poor.

Applications, in general, evidenced little awareness of the complexity of manpower problems, or how metropolitan labor markets are interwined with existing problems of transportation, job search and residential segregation within the commuting orbit. This probably accounts for the inability of many proposals to really regard the manpower component as an integrating link in the comprehensive demonstration approach.

Essential Ingredients in the Model Cities Manpower Component

Some modest possibilities for influencing the demand for ghetto manpower will obviously be uncovered in the implementation of limited rehabilitation and physical improvement efforts to bring structures and facilities up to code standards. (It is less than likely that resources to accomplish more than this limited objective will be available under Model Cities funding). This undertaking could employ a number of jobless adult men on a continuing basis, and would serve to restore ties to the labor market of "discouraged" workers who dropped out of the labor force or never entered it.

A second group whose renewal of ties to the labor market would produce a measure of "external economies" in the form of reduction of public assistance costs are able-bodies female heads of familes. Many applications propose a significant expansion of day-care and child-care centers, augmented by increased neighborhood health clinics and homemaker serv-

ices employing target area residents, which might contribute to more positive work experience, while partly bridging the community's yawning gap in supportive services. But increasing the participation rate of women in this category does not seem to be coupled with comparable measures to develop viable job opportunities.

A third target group for whom a more specialized and structured initiation to the urban job market should be attempted are the area's disadvantaged youth. Here the manpower component in the program might include no more than a brief orientation and pre-training (varying from 2 to 6 weeks). The pre-training phase might be linked up in continuum to a battery of in-service and on-the-job "New Careers" positions in civil services and in cooperating private firms. This would require enlisting the cooperation of key elements in local trade associations, and in government, the formal heads of civil service executive boards in given regions. Important in framing the new urban manpower component of the demonstration programs is to avoid developing non-specific, targetless and undirected "job training" that may lead back to the sidewalks, reinforcing despair and cynicism.

However, at the heart of the manpower demonstration component must be effective means for improving the operation of and matching in the labor market. This could be achieved through (a) transportation demonstration projects to test the relative effectiveness of adapting a special ghetto transit facility for linking model neighborhood residents to accessible workplaces in the urban fringes and (b) effective labor mobility demonstration projects (Sections 208 and 306 MDTA) that would combine job market information and counseling for metropolitan area job openings with (c) formal arrangements for securing housing accomodations in suburban areas in order to afford target area workers easier and more varied alternative employment opportunities.

A judicious ulitization of rent supplements, coupled with vigorous application of open occupancy standards could have considerable impact in promoting ghetto dispersal and labor mobility **inside** metropolitan areas. This aspect of the component may appear unduly courageous to some, but in the light of job decentralization trends in metropolitan areas, no immediate dent in the manpower crisis plaguing slum areas of city cores is possible in the face of the demonstrably limited mobility of ghetto work-seekers. To ignore the problem altogether would lend substance to the charges that the Model Cities Program is designed to perpetuate, reinforce, and contain racial ghettoes inside central cities, while lending a spurious Potemkin-village character to the spreading blight.

At the national level stronger efforts toward banning metropolitan

housing segregation must be undertaken, coupled with measures to encourage localities to take into account ghetto transportation needs in the formulation of metropolitan-wide transportation schemes.

Sen. Ribicoff has proposed an important amendment that would enlarge the functions of the Economic Development Administration to include economic development responsibilities in urban slum areas. His amendment would enable the EDA to provide financial assistance under Title II of the Economic Development Act to public works and business loan projects, thus sparking additionally needed job opportunities in urban core areas of high concentrated unemployment. Any city slum area of 20,000 or more population could then be designated an urban redevelopment area.

One feature of this proposed amendment would greatly enhance the effectiveness of, and confidence in, the Model Cities Program. That is the mandatory requirement of inter-agency coordination between the Secretaries of Commerce, Labor, Housing and Urban Development, and the Director of the Office of Economic Opportunity. This kind of coordination is not yet mandated under the Model Cities legislation, and consequently many localities entertain serious doubts about the capabilities or likelihood of the various federal agencies to coordinate separate reviews and fundings required in a coherent and integrated Model Cities application:

> Recognizing that the Federal Government has difficulty in coordinating its own activities, many cities fear that applications will get caught in the cross-fire between agencies. No new means of inter-agency coordination has been provided for the Model Cities Program.

Yet the Model Cities program does represent a fresh and daring innovation in urban planning, and while its approach must be cast in metropolitan terms to become truly effective, it has already served as a spur to novel and bold thinking in an area too long cursed by a physical "bricks and mortar" approach to severe problems of urban decline.

APPENDIX A

PERCENT AND NUMBER OF NON-WHITES IN CITIES ESTIMATED TO HAVE MORE THAN 100,000 NEGROS IN 1965

	1960 %	1965 %	1965 (in thousands)
New York	14	16	1,300
Chicago	23	27	960
Los Angeles	14	18	500
Philadelphia	26	29	610
Detroit	29	39	650
Cleveland	29	34	277
St. Louis	29	37	260
Washington	54	63	506
Baltimore	35	41	378
Pittsburgh	17	19	115
San Francisco	10	14	100
Newark	34	40*	161*
Atlanta	38	38	198
Milwaukee	9	13	102
Richmond	42	47	101
Cincinnati	22	28	130
Indianapolis	21	24	120
Oakland (California)	23	31	112
Houston	23	25	260
New Orleans	37	41	269

SOURCE: "The Negro Population: 1965 Estimates and 1970 Projections," The Center for Research in Marketing, Inc,. Social Dynamics Corp., (New York, N. Y.) Feb., 1966.

* Other 1966 estimates place Newark's Negro population in excess of 50%, and 200,000 persons.

TABLE 2. PERCENT OF NEW PRIVATE NONRESIDENTIAL BUILDING OUTSIDE THE CENTRAL CITIES OF 14 SELECTED SMSA'S, 1960–65 AND 1954–65 [1]

Type of new nonresidential building	Percent of valuation of permits authorized for new nonresidential building in—													
	Atlanta	Boston	Chicago	Cleveland	Dayton	Detroit	Indianapolis	Los Angeles	New Orleans	New York	Philadelphia	St. Louis	San Francisco	Washington
	1960–65													
All types [2]	47	64	65	56	62	69	41	59	42	38	65	41	60	74
Business	44	68	64	60	66	69	49	60	49	39	70	39	63	70
Industrial	71	81	77	61	56	70	52	85	58	61	75	67	84	96
Stores and other mercantile buildings	44	74	67	74	78	80	55	63	66	64	75	75	72	91
Office buildings	25	52	58	38	53	55	21	41	10	21	52	32	36	58
Gasoline and service stations	63	91	54	57	98	58	54	60	60	51	66	55	72	76
Community	60	61	64	44	49	71	33	61	37	31	60	37	58	77
Educational	59	63	64	51	28	68	24	61	35	29	67	67	57	57
Hospital and institutional	59	38	56	15	56	61	14	72	44	25	38	35	52	78
Religious	69	92	73	84	56	81	56	69	35	55	77	86	62	86
Amusement	31	59	80	60	99	86	58	35	41	19	59	85	74	96
	1954–65 [3]													
All types [2]	42	68	63	58	(4)	71	44	62	(4)	44	67	(4)	63	64
Business	41	70	61	59	(4)	73	50	63	(4)	44	69	(4)	64	62
Industrial	66	82	73	60	(4)	75	61	86	(4)	75	76	(4)	84	84
Stores and other mercantile buildings	40	74	67	73	(4)	77	52	66	(4)	71	72	(4)	72	89
Office buildings	21	51	39	37	(4)	58	21	41	(4)	18	51	(4)	37	47
Gasoline and service stations	60	82	59	62	(4)	65	56	62	(4)	65	73	(4)	73	81
Community	48	67	66	44	(4)	70	40	63	(4)	38	68	(4)	64	64
Educational	57	72	69	61	(4)	79	46	59	(4)	34	72	(4)	73	57
Hospital and institutional	32	41	58	33	(4)	62	10	70	(4)	32	43	(4)	53	61
Religious	59	86	68	81	(4)	74	59	70	(4)	61	80	(4)	65	75
Amusement	30	64	75	57	(4)	43	52	50	(4)	33	72	(4)	55	94

[1] Data for groups of years are used to avoid erroneous impressions from erratic year-to-year movements in building construction. Data for southern and western SMSA's reflect a more significant degree of annexation and area redefinition and are therefore less reliable than figures for other regions.

[2] Includes types not shown separately and excludes major additions and alterations for which type of building is not known.

[3] Excludes data for 1959, for which comparable information is not available.

[4] Not available.

SOURCE: Unpublished data of the Bureau of the Census, tabulated at the request of the Bureau of Labor Statistics. Based on a sample of over 3,000 permit-issuing places.

APPENDIX C

DEMONSTRATION CITIES AND METROPOLITAN DEVELOPMENT ACT OF 1966
(Public Law 89-754)
Title I — Comprehensive City Demonstration Programs

Findings and Declaration of Purpose

Sec. 101. The Congress hereby finds and declares that improving the quality of urban life is the most critical domestic problem facing the United States. The persistence of widespread urban slums and blight, the concentration of persons of low income in older urban areas, and the unmet needs for additional housing and community facilities and services arising from rapid expansion of our urban population have resulted in a marked deterioration in the quality of the environment and the lives of large numbers of our people while the Nation as a whole prospers.

The Congress further finds and declares that cities, of all sizes, do not have adequate resources to deal effectively with the critical problems facing them, and that Federal assistance in addition to that now authorized by the urban renewal program and other existing Federal grant-in-aid programs is essential to enable cities to plan, develop, and conduct programs to improve their physical environment, increase their supply of adequate housing for low and moderate-income people, and provide educational and social services vital to health and welfare.

The purposes of this title are to provide additional financial and technical assistance to enable cities of all sizes (with equal regard to the problems of small as well as large cities) to plan, develop, and carry out locally prepared and scheduled comprehensive city demonstration programs containing new and imaginative proposals to rebuild or revitalize large slum and blighted areas; to expand housing, job, and income opportunities; to reduce dependence on welfare payments; to improve educational facilities and programs; to combat disease and ill health; to reduce the incidence of crime and delinquency; to enhance recreational and cultural opportunities; to establish better access between homes and jobs; and generally to improve living conditions for the people who live in such areas, and to accomplish these objectives through the most effective and economical

concentration and coordination of Federal, State, and local public and private efforts to improve the quality of urban life.

Basic Authority

Sec. 102. The Secretary of Housing and Urban Development (hereinafter referred to as the "Secretary") is authorized to make grants and provide technical assistance, as provided by this title, to enable city demonstration agencies (as defined in Section 112(2)) to plan, develop, and carry out comprehensive city demonstration programs in accordance with the purposes of this title.

Eligibility for Assistance

Sec. 103. (a) A comprehensive city demonstration program is eligible for assistance under sections 105 and 107 only if:

(1) physical and social problems in the area of the city covered by the program are such that a comprehensive city demonstration program is necessary to carry out the policy of the Congress as expressed in section 101;

(2) the program is of sufficient magnitude to make a substantial impact on the physical and social problems and to remove or arrest blight and decay in entire sections or neighborhoods; to contribute to the sound development of the entire city; to make marked progress in reducing social and educational disadvantages, ill health, underemployment, and enforced idleness; and to provide educational, health, and social services necessary to serve the poor and disadvantaged in the area, widespread citizen participation in the program, maximum opportunities for employing residents of the area in all phases of the program, and enlarged opportunities for work and training;

(3) the program, including rebuilding or restoration, will contribute to a well-balanced city with a substantial increase in the supply of standard housing of low and moderate cost, maximum opportunities in the choice of housing accommodations for all citizens of all income levels, adequate public facilities (including those needed for education, health and social services, transportation, and recreation), commercial facilities adequate to serve the residential areas, and ease of access between the residential areas and centers of employment;

(4) the various projects and activities to be undertaken in connection with such programs are scheduled to be initiated within a reasonably short period of time; adequate local resources are, or will be, available for the completion of the program as scheduled, and, in the carrying out of the program, the fullest utilization possible will be made of private initiative and enterprise; administrative machinery is available at the local level for carrying out the program on a consolidated and coordinated basis; substantive local laws, regulations, and other requirements are, or can be expected to be, consistent with the objectives of the program; there exists a relocation plan meeting the requirements of the regulations referred to in section 107; the local governing body has approved the program and, where appropriate, applications for assistance under the program; agencies whose cooperation is necessary to the success of the program have indicated their intent to furnish such cooperation; the program is consistent with comprehensive planning for the entire urban or metropolitan area; and the locality will maintain, during the period an approved comprehensive city demonstration program is being carried out, a level of aggregate expenditures for activities similar to those being assisted under this title which is not less than the level of aggregate expenditures for such activ-

ities prior to initiation of the comprehensive city demonstration program; and

(5) the program meets such additional requirements as the Secretary may establish to carry out the purposes of this title: *Provided,* That the authority of the Secretary under this paragraph shall not be used to impose criteria or establish requirements except those which are related and essential to the specific provisions of this title.

(b) In implementing this title the Secretary shall

(1) emphasize local initiative in the planning, development, and implementation of comprehensive city demonstration programs;

(2) insure, in conjunction with other appropriate Federal departments and agencies and at the direction of the President, maximum coordination of Federal assistance provided in connection with this title, prompt response to local initiative, and maximum flexibility in programing, consistent with the requirements of law and sound administrative practice; and

(3) encourage city demonstration agencies to (A) enhance neighborhoods by applying a high standard of design, (B) maintain, as appropriate, natural and historic sites and distinctive neighborhood characteristics, and (C) make maximum possible use of new and improved technology and design, including cost reduction techniques.

(c) The preparation of demonstration city programs should include to the maximum extent feasible (1) the performance of analyses that provide explicit and systematic comparisons of the costs and benefits, financial and otherwise, of alternative possible actions or courses of action designed to fulfill urban needs; and (2) the establishment of programing systems designed to assure effective use of such analyses by city demonstration agencies and by other government bodies.

(d) Nothing in this section shall authorize the Secretary to require (or condition the availability or amount of financial assistance authorized to be provided under this title upon) the adoption by any community of a program (1) by which pupils now resident in a school district not within the confines of the area covered by the city demonstration program shall be transferred to a school or school district including all or part of such area, or (2) by which pupils now resident in a school district within the confines of the area covered by the city demonstration program shall be transferred to a school or school district not including a part of such area.

Financial Assistance for Planning Comprehensive City Demonstration Programs

Sec. 104. (a) The Secretary is authorized to make grants to, and to contract with, city demonstration agencies to pay 80 per centum of the costs of planning and developing comprehensive city demonstration programs.

(b) Financial assistance will be provided under this section only if (1) the application for such assistance has been approved by the local governing body of the city, and (2) the Secretary has determined that there exist (A) administrative machinery through which coordination of all related planning activities of local agencies can be achieved, and (B) evidence that necessary cooperation of agencies engaged in related local planning can be obtained.

Financial Assistance for Approved Comprehensive City Demonstration Programs

Sec. 105. (a) The Secretary is authorized to approve comprehensive city demonstration programs if, after review of the plans, he deter-

mines that such plans satisfy the criteria for such programs set forth in section 103.

(b) The Secretary is authorized to make grants to, and to contract with, city demonstration agencies to pay 80 per centum of the cost of administering approved comprehensive city demonstration programs, but not the cost of administering any project or activity assisted under a Federal grant-in-aid program.

(c) To assist the city to carry out the projects or activities included within an approved comprehensive city demonstration program, the Secretary is authorized to make grants to the city demonstration agency of not to exceed 80 per centum of the aggregate amount of non-Federal contributions otherwise required to be made to all projects or activities assisted by Federal grant-in-aid programs (as defined in section 112(1)) which are carried out in connection with such demonstration program: *Provided,* That no Federal grant-in-aid program shall be considered to be carried out in connection with such demonstration program unless it is closely related to the physical and social problems in the area of the city covered by the program and unless it can reasonably be expected to have a noticeable effect upon such problems. The specific amount of any such grant shall take into account the number and intensity of the economic and social pressures in the sections or neighborhoods involved, such as those involving or resulting from population density, poverty levels, unemployment rate, public welfare participation, educational levels, health and disease characteristics, crime and delinquency rate, and degree of substandard and dilapidated housing. The amount of non-Federal contribution required for each project in a Federal grant-in-aid program shall be certified to the Secretary by the Federal department or agency (other than the Department of Housing and Urban Development) administering such program, and the Secretary shall accept such certification in computing the grants hereunder.

(d) Grant funds provided to assist projects and activities included within an approved comprehensive city demonstration program pursuant to subsection (c) of this section shall be made available to assist new and additional projects and activities not assisted under a Federal grant-in-aid program. To the extent such funds are not necessary to support fully such new and additional projects and activities, they may be used and credited as part or all of the required non-Federal contribution to projects or activities, assisted under a Federal grant-in-aid program, which are part of an approved comprehensive city demonstration program. Such grant funds, however, shall not be used—

(1) for the general administration of local *governments; or*

(2) to replace non-Federal contributions in any federally aided project or activity included in an approved comprehensive city demonstration program, if prior to the filing of an application for assistance under section 104 an agreement has been entered into with any Federal agency obligating such non-Federal contributions with respect to such project or activity.

Technical Assistance

Sec. 106. The Secretary is authorized to undertake such activities as he determines to be desirable to provide, either directly or by contracts or other arrangements, technical assistance to city demonstration agencies to assist such agencies in planning, developing, and administering comprehensive city demonstration programs.

Relocation Requirements and Payments

Sec. 107. (a) A comprehensive city demonstration program shall include a plan for the relocation of individuals, families, business

concerns, and nonprofit organizations displaced or to be displaced in the carrying out of such program. The relocation plan shall be consistent with regulations prescribed by the Secretary to assure that (1) the provisions and procedures included in the plan meet relocation standards equivalent to those prescribed under section 105(c) of the Housing Act of 1949 with respect to urban renewal projects assisted under title I of that Act, and (2) relocation activities are coordinated to the maximum extent feasible with the increase in the supply of decent, safe, and sanitary housing for families and individuals of low or moderate income, as provided under the comprehensive city demonstration program, or otherwise, in order to best maintain the available supply of housing for all such families and individuals throughout the city.

(b) (1) To the extent not otherwise authorized under any Federal law, financial assistance extended to a city demonstration agency under section 105 shall include grants to cover the full cost of relocation payments, as herein defined. Such grants shall be in addition to other financial assistance extended to such agency under section 105.

(2) The term "relocation payments" means payments by a city demonstration agency to a displaced individual, family, business concern, or nonprofit organization which are made on such terms and conditions and subject to such limitations (to the extent applicable, but not including the date of displacement) as are provided for relocation payments, at the time such payments are approved, by section 114(b), (c), (d), and (e) of the Housing Act of 1949 with respect to projects assisted under title I thereof.

(c) Subsection (b) shall not be applicable with respect to any displacement occurring prior to the date of the enactment of this Act.

Continued Availability of Federal Grant-in-Aid Program Funds.

Sec. 108. Notwithstanding any other provision of law, unless hereafter enacted expressly in limitation of the provisions of this section, funds appropriated for a Federal grant-in-aid program which are reserved for any projects or activities assisted under such grant-in-aid program and undertaken in connection with an approved comprehensive city demonstration program shall remain available until expended.

Consultation

Sec. 109. In carrying out the provisions of this title, including the issuance of regulations, the Secretary shall consult with other Federal departments and agencies administering Federal grant-in-aid programs. The Secretary shall consult with each Federal department and agency affected by each comprehensive city demonstration program before entering into a commitment to make grants for such program under section 105.

Labor Standards

Sec. 110. (a) All laborers and mechanics employed by contractors or subcontractors in the construction, rehabilitation, alteration, or repair of projects which—

(1) are federally assisted in whole or in part under this title and

(2) are not otherwise subject to section 212 of the National Housing Act, section 16(2) of the United States Housing Act of 1937, section 109 of the Housing Act of 1949, or any other provision of Federal law imposing labor standards on federally assisted construction,

shall be paid wages at rates not less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a—276a-5): *Provided,*

That this section shall apply to the construction, rehabilitation, alteration, or repair of residential property only if such residential property is designed for residential use for eight or more families. No financial assistance shall be extended to any such projects unless adequate assurance is first obtained that these labor standards will be maintained upon the construction work.

(b) The Secretary of Labor shall have, with respect to the labor standards specified in subsection (a), the authority and functions set forth in Reorganization Plan Numbered 14 of 1950 (15 F.R. 3176; 64 Stat. 1267; 5 U.S.C. 133z-15), and section 2 of the Act of June 13, 1934, as amended (48 Stat. 948; 40 U.S.C. 276c), and the Contract Work Hours Standards Act (76 Stat. 357).

Appropriations

Sec. 111. (a) There are authorized to be appropriated, for the purpose of financial assistance and administrative expenses under sections 104 and 106, not to exceed $12,000,000 for the fiscal year ending June 30, 1967, and not to exceed $12,000,000 for the fiscal year ending June 30, 1968.

(b) There are authorized to be appropriated, for the purpose of financial assistance and administrative expenses under sections 105, 106, and 107, not to exceed $400,000,000 for the fiscal year ending June, 1968, and not to exceed $500,000,000 for the fiscal year ending June 30, 1969.

(c) Appropriations authorized under this section shall remain available until expended.

Definitions

Sec. 112. As used in this title—

(1) "Federal grant-in-aid program" means a program of Federal financial assistance other than loans and other than the assistance provided by this title.

(2) "City demonstration agency" means the city, the county, or any local public agency established or designated by the local governing body of such city or county to administer the comprehensive city demonstration program.

(3) "City" means any municipality (or two or more municipalities acting jointly) or any county or other public body (or two or more acting jointly) having general governmental powers.

(4) "Local" agencies include State agencies and instrumentalities providing services or resources to a city or locality, and "local" resources include those provided to a city or locality by a State or its agency or instrumentality.

Grant Authority for Urban Renewal Projects which are Part of Approved Comprehensive City Demonstration Programs

Sec. 113. Section 103(b) of the Housing Act of 1949 is amended by inserting after the first sentence the following new sentence: "In addition to the authority to make grants provided in the first sentence of this subsection, the Secretary may contract to make grants under this title, on or after July 1, 1967, in an amount not to exceed $250,000,000: *Provided,* That the authority to contract to make grants provided by this sentence shall be exercised only with respect to an urban renewal project which is identified and scheduled to be carried out as one of the projects or activities included within an approved comprehensive city demonstration program assisted under the provisions of section 105(c) of the Demonstration Cities and Metropolitan Development Act of 1966."

State Limit

Sec. 114. Grants made under section 105 for projects in any one State shall not exceed in the aggregate 15 per centum of the aggregate amount of funds authorized to be appropriated under section 111.

FOOTNOTES

SECTION I

1 Bensman, Joseph and Emmanuel Tobier, "Anti-Poverty Programming: A Proposal," **Urban Affairs Quarterly,** Vol. 1, No. 1. (Sept. 1965), p. 56.

2 Ragnar Nurkse, **Problems of Capital Formation in Undeveloped Countries,** (Oxford, 1953) pp. 4f.

3 "Improving the Quality of Urban Life" — **A Program Guide to Model Neighborhoods in Demonstration Cities,** U.S. Dept. of Housing and Urban Development, Office of Demonstrations and Intergovernmental Relations, Wash. D.C., p. 4. (Hereafter referred to as "Guidelines").

4. Ibid., p. 11.

5 **Hearings on Urban Affairs,** Subcommittee on Executive Reorganization, Committee on Government Operations, U.S. Senate, 89th Cong. 2nd Session, Aug. 15 & 16, 1966, Part 1, pp. 31-32. (Wash. D.C.: Gov. Printing Office, 1966) (Hereafter referred to as "Ribicoff Hearing . . .").

6 **A Sharper Look at Unemployment in U.S. Cities and Slums,** Summary Report Submitted to the President by the Secretary of Labor, 1967. (Hereafter referred to as "Slum Labor Survey").

7 **Congressional Record — Senate,** January 23, 1967, Vol. 113, No. 8, S710.

8 Michael Schwartz & George Henderson, "The Culture of Unemployment: Some Notes on Negro Children," Institute of Labor and Industrial Relations, Wayne State University, Reprint Series, No. 29, p. 461.

9 Ibid, p. 461.

10 D. M. Wilner, et.al. "Effects of Housing, on Health and Performance" in **The Urban Condition,** Leonard J. Duhl, ed., (New York: Basic Books, 1963, pp. 215-228.)

11 **New York Times,** Dec. 18, 1966, Section 8, p. 1.

12 N. M. Wilner, et. al. "How Does Housing Quality Affect Health and Family Adjustment?" **American Journal of Public Health,** Vol. 46, No. 6, June 1956, pp. 736-744; and Alvin L. Schorr, **Slums and Social Insecurity.**

13 **Youth in the Ghetto: A Study of the Consequences of Powerlessness And a Blueprint for Change,** Harlem Youth Opportunities Unlimited, Inc., New York, 1964, pp. 158-160.

14 **Cong. Record,** op. cit., p. S711.

SECTION II

1 **Manpower Report of the President,** U.S. Department of Labor, March 1967, pp. 90-92.

2 U.S. Bureau of the Census, **Current Population Reports** Series P-60, No. 48 "Income in 1964 of Families and Unrelated Individuals by Metropolitan — Nonmetropolitan Residence," (Washington, D.C.: U.S. Government Printing Office, 1966) Table B, p. 3.

3 Ibid., Table 7, p. 19.

4 John C. Bollens & Henry J. Schmandt, **The Metropolis,** (New York: Harper & Row Publishers, Inc.) 1965, pp. 100-102.

5 See "Some Dimensions of Jobs and People in New York City" U.S. Department of Labor, BLS-(341 9th Ave., New York, New York, May 1965); and **Metropolis New York: An Economic Survey,** First National City Bank, Nov. 1966.

6 **Report of the Mayor's Employment Task Force,** San Francisco, 1966, p. 11.

SECTION III

1 Charles Abrams, "The Uses of Land in Cities," in **Cities,** ed., Scientific American book, ('New York: Alfred A. Knopf, 1966), pp. 122-32.

2 "Unused Streets Target of City" **New York Times,** March 12, 1967, Section 8, p. 1.

3 "Some Facts on People and Jobs in New York City," U.S. Dept. of Labor, Bureau of Labor Statistics, 341 9th Ave., New York, N. Y. Feb. 1, 1967 p. 14. Also, **New York Metropolis** op. cit., pp. 20-22.

4 "Navy Yard Waits Takeover By City," **New York Times,** May 25, 1967, p. 49.

5 **News** from U.S. Department of Labor, Release of June 24, 1967.

6 "Business and Watts: Jobs in the Ghetto," **New York Times** June 18, 1967, Sec. 3, p. 1.

7 Jean Gottman, **Megalopolis: The Urbanized Northeastern Seaboard of the U.S.** (Cambridge: M.I.T. Press, 1965), p. 573.

8 **Man's Struggle for Shelter in an Urbanizing World** (Cambridge, Mass.: The MIT Press, Massachusetts Institute of Technology, 1964) p. 139.

9 John F. Kain, "The Distribution and Movement of Jobs and Industry," Discussion paper No. 8, MIT-Harvard Joint Center for Urban Studies, November 1966.

10 **Slum Labor Survey,** op. cit., 1967.

11 James R. Wetzel and Susan S. Holland, "Poverty Areas of our Major Cities" **Monthly Labor Review,** Vol. 89, No. 10, (October 1966) pp. 1108-9.

12 Ibid., p. 1107.

13 "Poverty Areas of Our Major Cities" Op. cit., Table 3, p. 1108.

14 "Ghetto Looks to Violence," **Baltimore Sun,** March 2, 1967, p. 3.

15 Denis F. Johnson and George R. Methee, "Labor Force Projections by State, 1970 and 1980" **Monthly Labor Review,** Oct. 1966, Vol. 89, No. 10, p. 1100.

16 James R. Wetzel and Susan Hollan, Op., Cit., p. 1110.

17 "The Causes of Poverty," **Quarterly Journal of Economics,** (Feb. 1967), Vol. LXXXI, No. 1, pp. 28-30. Also, see Jocke Anderson, "Trickling Down," same journal, Vol. LXXVIII, (Nov. 1964), pp. 550-553.

18 "Full Employment and Workers' Education" **Monthly Labor Review,** Vol. 90, No. 5, (May 1967) pp. 21-25.

19 Statement on **Nation's Manpower Programs,** Before House Committee on Education and Labor, Select Committee on Labor, June 21, 1967.

20 Jacob J. Kaufman, et. al., **The Role of the Secondary Schools in the Preparation of Youth for Employment,** Institute for Research on Human Resources, The Pennsylvania State University, University Park, Pa., February 1967.

21 See, for example Wilbur R. Thompson, **A Preface to Urban Economics,** (Baltimore: Resources for the Future, Inc., The John Hopkins Press, 1965) pp. 234-237.

22 "Racial Differences in Migration and Job Search," **Southern Economic Journal,** (July 1966), pp. 81-95.

23 **Manpower Report of the President,** Op. Cit., p. 86.

24 Saul S. Leshner and George S. Snyderman, "Jobseeking Patterns of Disadvantaged Youth" in **Preparing Disadvantaged Youth for Work,** Reprints from the Employment Service Review. U.S. Department of Labor, Wash. D.C. p. 3.

25 See Harold M. Baron and Bennett Hymer, "The Negro Worker in the Chicago Labor Market: A case study of De-Facto Segregation," Monograph prepared in Julius Jacobsen, (ed) **The Negro Worker** (forthcoming) p. 25.

26 "Job Rights in Ohio" **Washington Post** March 4, 1967; See also, **Cleveland Plain Dealer,** March 4, 1967.

27 See **The Urban Transportation Problem** (Cambridge, Mass.: Harvard University Press, 1965) chapters 1 and 2.

28 Dorothy K. Newman, "Decentralization of Jobs" **Monthly Labor Review,** Vol. 90, No. 5 (May 1967) p. 10.

29 **Manpower Report,** Op. cit. pp. 87-88

30 Dorothy K. Newman, Op. cit., p. 11.

31 Arnold R. Weber in "Labor Market Perspectives of the New City," in **City and Suburb — The Economics of Metropolitan Growth,** ed., Benjamin Chinitz, (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1964) pp. 73-74.

32 "White House Transit Aid Tied to Poverty Fight in Making Jobs Accessible to Poor," **New York Times,** March 20, 1967, p. 18.

33 Ibid., p. 18.

34 "The Big Cities Big Problem" **Challenge,** (Sept./Oct. 1966) Vol. 15, No. 1, p. 6.

35 "Needs of Poor Cited in Transit Planning" **Washington Post,** April 19, 1967, p. 21.

36 Ibid., p. 21.

37 See, for example, Robert E. Marsh, "Geographic Labor Mobility in the United States — Recent Findings," **Social Security Bulletin,** March 1967, Vol. 30, No. 3, pp. 14-20, 55.

38 Quoted by Senator Ribicoff in the **Congressional Record,** January 23, 1967, p. 5712.

39 "Housing Segregation, Negro Employment, and Metropolitan Decentralization," Discussion paper No. 14, Harvard University, May 1967 (Revised).

40 See, for example, Meyer, Kain and Wohl, **op. cit.,** pp. 163-166; and Karl and Alma Taeuber, **Negroes in Cities** (Chicago: Aldine Publishing Company, 1965) pp. 23 and 24.

41 **Challenge,** op. cit., p. 6.

42 Ibid., p. 6 and "Housing Segregation," op. cit., p. 9.

43 "U.S. Looks for Snags in a Negro-Relocation Plan — And Finds Plenty," **Wall Street Journal,** Feb. 17, 1967 p. 1.

44 "Westchester Finds Influx of Businesses Is a Worry," **New York Times,** April 18, 1967, p. 28.

45 "Suburban Zoning is Again Attacked," **New York Times,** Jan. 1, 1967, p. 27. See also **Times,** May 22, 1967, p. 1.

46 "Reston to Study Low-Income Units," **New York Times,** Jan. 1, 1967, Section 8 p. 1.

47 See Summary of John F. Kraft's Attitude Survey of Ghetto Residents in **Ribicoff Hearings,** August 31, Sept. 1, 1966, Part 6, pp. 1403-1423.

48 **Challenge,** op. cit., p. 8. Also "Housing Segregation . . .", op. cit., p. 9.

49 "Poor Must Be Given 'Real Power' in Programs for Betterment, Philadelphia Studies Assert," **Philadelphia Bulletin,** May 21, 1967.

50 **Congressional Record — House,** May 17, 1967, p. H5646.

SECTION IV

1 "Social Implications of Urban Redevelopment," **Journal of the American Institute of Planners,** (JAIP), Vol. XXVIII, (Aug. 1962), p. 182.

2 See "The Housing of Relocated Families," **JAIP,** (Nov. 1964), Vol. XXX, No. 4, pp. 226-82.

3 **The Housing of Relocated Families,** Housing and Home Finance Agency, March 1965, also summarized in Ribicoff Hearings, Aug. 15 and 16, 1966, Part 1, pp. 107-116.

4 "City Hopes to End Relocation Woes," **New York Times,** August 13, 1962, p. 22.

5 "Migrants Face Housing Shortage" **Ibid.,** April 25, 1967, p. 45.

6 "Urban Renewal Facing Rights Suits" Ibid., Dec. 23, 1966, p. 13.

7 Staughton Lynd, "Urban Renewal — For Whom?", In **New Perspectives on Poverty,** ed., Arthur B. Shoster and William Gomberg, (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1965) p.

8 See Dorothy K. Newman, "The Low Cost Housing Market." **Monthly Labor Review,** Vol. 89, No. 12 (Dec. 1966). pp. 1362-68.

9 Ibid., p. 1364.

10 Ibid., pp. 1367-8.

SECTION V

1 **Strategies for Shaping Model Cities,** Arthur D. Little, Inc., 1967.

SELECTED REFERENCES

GRIER, GEORGE & EUNICE, **Equality and Beyond: Housing Segregation and the Goals of the Great Society** (New York: Anti-Defamation League, B'nai B'rith, 1966).

KANWIT, EDWARD L. & ALMA F. ECKARTT, "Transportation, Implications of Employment Trends in Central Cities and Suburbs," paper presented at 46th annual meetings of Highway Research Board, Washington, D.C. (January 1967) especially pp. 10-15.

KAIN, JOHN F. "Distribution and Movement of Jobs and Industry," Discussion Paper No. 8, Harvard University, MIT-Harvard Joint Center for Urban Studies, Nov. 1966.

_____, _____ "Housing Segregation, Negro Employment, and Metropolitan Decentralization," Discussion Paper No. 14, Harvard University, MIT-Harvard Joint Center for Urban Studies, May 1967 (revised).

_____, _____ "The Big Cities Big Problem," **Challenge** (September/October 1966) pp. 5-8.

Manpower Report of the President, 1967, U.S. Department of Labor, Manpower Administration, March 1967.

MEYER, J. R., KAIN, J. F. and WOHL, M., **The Urban Transportation Problem,** (Cambridge, Mass.: Harvard University Press, 1965).

NEWMAN, DOROTHY K., "Decentralization of Jobs," **Monthly Labor Review,** Volume 90, No. 5, (May 1967) pp. 7-13.

_____, _____, "The Low-Cost Housing Market," **Monthly Labor Review,** Vol. 89. No. 12 (December 1966) pp. 1362-8.

A Sharper Look at Unemployment in U.S. Cities and Slums, U.S. Department of Labor, March 1967.

SHEPPARD, HAROLD L. & A. HARVARD BELITSKY, **The Job Hunt,** (Baltimore, Md.: The John Hopkins Press, 1966).

WETZEL, JAMES R., & SUSAN S. HOLLAND, "Poverty Areas of our Major Cities," **Monthly Labor Review,** Vol. 89, No. 19, October, 1966) pp. 1105-1110.

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VT 004 218
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Guidelines for a Data Collection System for Community Programs for Unemployed Youth.

New York Univ., N.Y. Center for the Study of Unemployed Youth
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Feb66 19p.

*GUIDELINES; *DATA COLLECTION; *YOUTH PROGRAMS; *UNEMPLOYED; *COMMUNITY PROGRAMS

Community programs for unemployed youth are attempts to change people. They have a set of goals, a defined population, and a set of procedures by which they hope to reach and change members of that target population. In this paper, a plea is made for a much more extensive data collection system to provide information in sufficient detail and in sufficient quantity so that some kind of generalizable and applicable knowledge about such programs can be obtained, including an estimate of the extent to which the programs have succeeded. Guidelines are discussed for (1) the inclusion of more than one program in the same basic data collection system, (2) the inclusion of the total program target population, whether they are ultimately involved in the program or not, into the data collection system, (3) provision for intensive followup over an extended period of time, and (4) the inclusion of much more detailed information about what happens to the youth while being served by the program. (PS)

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GUIDELINES FOR A DATA COLLECTION SYSTEM FOR COMMUNITY PROGRAMS FOR UNEMPLOYED YOUTH

by Clarence C. Sherwood

TRAINING SERIES

VT004218

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GUIDELINES FOR A DATA COLLECTION SYSTEM FOR COMMUNITY PROGRAMS FOR UNEMPLOYED YOUTH.

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Prepared for:
NEW YORK UNIVERSITY
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February, 1966

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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This paper is part of a project conducted by the N.Y.U. Center for the Study of Unemployed Youth under a grant provided by the Office of Juvenile Delinquency and Youth Development, U.S. Department of Health, Education, and Welfare to develop curriculum materials for program planners and operators.

GUIDELINES FOR A DATA COLLECTION SYSTEM FOR COMMUNITY PROGRAMS FOR UNEMPLOYED YOUTH

In this paper I have attempted to set down some basic guidelines for the development of a data collection system for community programs for unemployed youth. At the outset, one very important distinction should be made. For me, the purpose of such a data collection system is to provide information in sufficient detail and in sufficient quantity so that some kind of generalizable and applicable knowledge about such programs can be obtained, including an estimate of the extent to which the programs have succeeded in coming to grips with the problem they are designed to solve. Simple reporting of program and financial activities, as such, will be given no attention. As necessary as they are to provide a basis for judging whether public or private money has been spent honestly, such reports usually provide no clues at all as to whether the money has been spent wisely and effectively. Social action practitioners have developed a wide variety of formats for reporting about programs—staff activity, the size and characteristics of clientele, outcome data such as placements on jobs, etc. However, there is a double danger in such reports when they are presented and accepted as the whole story. They really do not provide a basis for judging the worth of a program, but they often seem to and are often accepted as having done just that. In a typical report, statements are made concerning the number of youth counseled in the program and the number subsequently placed on jobs in the community. If the numbers are large enough— and what constitutes "large enough" is likely to be highly subjective and to vary widely from place to place—they tend to be accepted as **prima facie** evidence of the fine work the program is doing. It is assumed that these youth would not be working if it were not for the program and that the counseling was a necessary ingredient in the process leading to that outcome. The remainder of this paper is likely to contain little of interest to those for whom such "evidence" is regarded as sufficient.

Community programs for unemployed youth are interventions; that is, they are explicitly or implicitly, attempts to change something, usually people. Rationally planned, they have at a minimum, a set of goals, a defined target population, and a set of procedures by which they hope to reach and change members of that target population. Many programs fitting this general model are already in operation; even more, I suspect, are in the planning stage. During the next five or ten years, millions of dollars of public money will be spent in these various attempts to enhance the employability of hundreds of thousands of youth. Such programs should be seen as trial

efforts, as attempted solutions to a vital social problem. But we cannot assume that they necessarily are solutions. We must find out whether they are or not.

In my opinion, one major obstacle to the development of an all-out, rational, societal attack on such problems as unemployed youth is the widespread fear of apparent failure and the resulting zeal to advertise programs as successes. I am convinced that we are not going to solve social problems until each effort is viewed as an experiment, the success of which is to be measured in terms of how much is learned from it rather than how successful it can be made to look. This may not be the century in which such a reversal of attitude will take place, but those of us who see this as the only hope must continue to state our case. This shift must take place particularly in the minds of representatives of funding agencies. They must make their decisions about refunding on the basis of what has been learned about a problem and how to solve it rather than on the basis of how glowing a report can be concocted describing the magnificent "success" of particular programs. Again, the remainder of this paper is directed to those of us who want to know rather than to sell.

SOME GUIDELINES FOR A DATA COLLECTION SYSTEM

A common system for several programs. The same basic data collection system should be adopted by a number of programs for unemployed youth, ideally including several programs of each of the various types of approaches to the problem which have been and are being developed throughout the country. There are at least two very powerful reasons for this; one theoretical, the other practical. The theoretical reason is the basic need for comparative data. Our knowledge about such programs will be greatly augmented if we can obtain similar types of information, gathered in a similar manner, about a number of programs. If we can compare similar programs in different kinds of communities and different programs in similar kinds of communities, we will be even further along the road. The practical reason has to do with resources—financial and human. The data collection system suggested in these guidelines requires that a significant amount of money and effort be devoted to the gathering and processing of information. I do not believe that there is any magic shortcut to the kind of knowledge which is required. A substantial proportion of available resources will have to be allocated to the data collection component of programs for unemployed youth if valid and usable information is to be obtained. Urgent pleas are going to have to be made in order to divert sufficient funds to more intensive and systematic data collection operations than those now in use. The pre-

vailing and rather overwhelming zeal to pour all resources into "doing" and little or nothing into "knowing" must be successfully challenged. However, even the most optimistic of views must recognize that the financial resources that will be allocated to such tasks are likely to be rather limited. If one general data gathering and processing system were adopted by a number of communities the returns on the same investment would be much greater. One set of intake and process record forms could be designed, printed in multi-carbon sets, and distributed to the cooperating programs. Hundreds of man-hours would be saved in avoiding the duplication of effort involved when each program designs and produces its own set of similar data forms. One set of procedures could be designed for identifying and gathering basic information about each program's target population. Ideally, I believe this should be done in all of the cooperating communities by one central unit established or employed for this specific purpose. One set of procedures could be designed for following up, over time, the members of the target population, both program participants and non-participants. Again I believe this should be done in all the cooperating communities by one central unit. One set of coding and other data processing procedures could be designed to handle the data received from each of the cooperating programs, all compatible with a centrally operated computer tape file system including the necessary input and output computer programs for rapid, comparable, information feedback. Physical, financial and human resources for the handling of large amounts of data are still relatively limited. Good coding devices and the staff and facilities necessary for the reliable coding of large amounts of data require a great deal of effort for development and maintenance; computer programs for information feedback require a great deal of thought and effort if that information is to be intensive and tailored to the task. Therefore a combined, across-communities, centralized effort would minimize the over-all cost and maximize both the amount and comparability of the information obtained.

A target population base data file. What information is obtained, when, from whom, by whom, and in what order are likely to be important parts of an action program and may affect the success of the program. For example, information gathering procedures may affect the attitude of the potential client toward the program and possibly the motivation and effort of the program staff as well.

There appears to be good reason to believe that youth—and particularly youth of the type that fall into the category of relatively unemployable school drop-outs—resist and resent searching questioning. If they are greeted by a barrage of questions which appear unrelated to the reason they have sought out the program, they are very likely to back away from the program before

its services can be offered to them. If actually reaching those members of the target populations who need help the most is as difficult as I think it is, then every effort must be made to avoid giving them initial experiences which repel them from the situation. In addition, if a sound relationship between program staff and clientele is essential to the ultimate inducement of change, then the initial interactions between staff and client must be structured according to our most appealing hunches so as to maximize the establishment of rapport and minimize disruptive strain.

Also, there appears to be a nearly universal, if not natural, aversion among practitioners to data gathering procedures; the practitioner, believing that what he does is valuable and effective, wants to spend his time serving his clients rather than writing reports, filling out forms, and so on. He seems to much prefer working with people to working with typewriters, forms and filing cabinets. Assuming that some people are more skilled in inducing change in people than others, a rational system should aim at minimizing the amount of time that such people spend at clerical tasks. On the other hand, there are categories of information that are needed, generally for both program and research purposes, that can only be obtained through direct interview, observation or testing of the individual and that often is best obtained by people who have skills in working with other people.

I believe, therefore, that each community program for unemployed youth should obtain as much information about each member of its target population from sources other than the individual himself, and whenever possible, prior to the individual's participation in the program.

If such a target population base data file were established—and I think it is quite possible and feasible to do so—each program would already possess considerable basic background information about each "client" when he walks into the program office. The only immediate questions that would have to be asked of any given individual would be those required to identify him among the members of the target population. These data consist mainly of name and date of birth, and possibly mother's first name. These can be obtained by an office registration clerk; they are generally (except possibly for mother's name) the kind of information that anyone expects to have to give under such circumstances; and they would not involve the program staff at all at this point. This type of information, however, should be obtained with great care. Both the first and last names should be spelled carefully and verified by the individual, and the date of birth should be repeated back to the individual for confirmation. With such an "ideal" system in operation, a folder of information could be waiting for the individual at his first interview session with the program staff member assigned to him. A few, quick,

validation questions could be devised to ascertain with greater certainty that the individual in the office is the one represented by the data in the folder. Effort could then immediately proceed to attempt to offer the individual something he wants, to satisfy to some extent, if possible, the reasons he applied to the program for help in the first place. Such a procedure would, if properly implemented, avoid two of the major pitfalls confronting efforts to hold such individuals in programs: the danger of driving the individual out of the program before he gets started by barraging him with questions, and the danger of building up resentments in the client toward the worker and thus impeding future progress in the development of a working relationship between the program staff and the youth. There is little doubt that a good counselor or other program staff person can obtain such information, but it is more easily and less disruptively done gradually, over time, while a relationship is being established. If the individual remains in the program, each item in the dossier should be checked and verified and a system should be established whereby such verifications would be noted in the records. If the individual does not remain in the program, sufficient information would, in most cases, already be available for follow-up for effort to re-involve the individual in the program or for subsequent comparisons of outcome.

Follow-up of total target population. An adequate data collection system must include, in my opinion, in addition to the target population base data file, provision for intensive follow up of the total target population over an extended period of time. We must know much more about community programs for unemployed youth than the number of youth "served" and how much it cost to "serve" them.

To develop this point, let me refer to a report of one on-going program for unemployed youth, the Chicago J.O.B.S. Project. In its report for the period March 30, 1964 to May 29, 1965,[1] it was stated that during that 14 month period a total of 1,542 trainees had been registered. Of these, slightly less than half had left the program before completion of training. Half of these (approximately one-fourth of the total registered) had left "without good cause". A total of 210 were reported as placed in full time jobs. The report also states that 367 were placed in On-The-Job-Training (OJT) positions. It is my contention that a series of very important questions are left unanswered and unanswerable by a data collection and reporting system which deals only with its clientele and is unable to place such information against the backdrop of its target population.

The J.O.B.S. Project was designed to train 1,100 unemployable youth

1 Report No. 7 to the Office of Manpower, Automation and Training, J.O.B.S. Project, Chicago, Ill. March 30, '64 to May 29, '65.

to reach the necessary educational level for employment, to develop the attitudes required for employment, to acquire some job skill experience, and, finally, to be placed in employment. This target population, the unemployed, disadvantaged, school drop-out, is generally agreed to be a difficult group to reach and hold in programs. The actual—although admittedly difficult to determine—success of such programs should, in my opinion, be measured in terms of the following: what is the size and nature of the target population in the community at some given point in time; what are the characteristics of those members of the target population who are reached and who remain in the program to some terminal training point; what are the characteristics of those who are held in the program who appear to change in desired directions; and how do the members of these four categories fare in the world of work in the five or ten years following attempted intervention? Answers to questions such as these cannot be obtained without reasonably intensive follow-up of an identified target population.

The four categories are: (a) the members of the target population who are not reached by the program; (b) those who are reached but who do not remain in the program; (c) those who are reached and remain but who do not appear to change as desired by the program; and (d) those who are are reached and remain and who appear to change in desired directions. Each of the four categories has its special significance within an over-all attempt to accumulate knowledge about the problem of unemployed youth and ways to solve it. We tend to know little or nothing about the first category—the unreached. It may be that programs tend to reach those who need the service most and that the unreached fare pretty well by themselves, but I doubt it. Although there is undoubtedly a significant number of drop-outs who go into business or into craft training with family members or friends, it is more likely that an even more significant proportion of the unreached are most in need of some kind of intervention to increase the probability that they will be able to take some kind of productive and self-sustaining role in our economic system. It seems to me that for us to have any idea concerning the extent to which a given community program for unemployed youth is coming to grips with the program, we need to know what happens to this group over time.

Knowledge about general outcomes for the second category—those who are reached but drop out of the training programs—may be even more significant if we are to really know if such programs are even in a position to be successful.

Let me expand upon both of these points. Assume a target population at any given moment (which as was pointed out above is unfortunately usually unknown as to its size, location and to some extent its characteristics); then

let us assume that X proportion is, within some given period of time attracted to a program and that eventually Y proportion of those drop out of the program. Even if X is fairly large, say 80%, and Y is fairly small, say 30%, the total percentage of the target population not served by the program is 44%. If X and Y are 70% and 40%, respectively, the unserved proportion becomes 58%. Now it is a generally recognized fact that the unemployment rate of apparently hard-core unemployed 17 to 21 year old segments of the population drops considerably by the time that group is 25 to 29 years of age. It very well may be, and I believe it is highly likely, that the hard-core unemployables in the 25-29 age bracket are largely comprised of the unreachables and the program drop-outs when they were in the 17 to 21 age category. If this is substantially the case, it means that most, if not all, of the reached and served in the 17 to 21 age group would have been employed by age 25 to 29 anyway. And, therefore, subsequent reports of the employment status of previous participants in programs for unemployed youth do not necessarily constitute evidence of the success of those programs. It may be that the participants, although they would have been working anyway, would not have been employed as well without intervention—in terms of income, skill level, prestige or some other criterion. But to demonstrate this, it is not enough to show that the participants are better off than the non-participants; it must be shown that they are better off than they would have been without the intervention. It may be that the latter is in fact generally the case, but I have yet to see a program that can even begin to provide evidence pertaining to this question. A significant proportion of over-all program and research effort should, in my opinion, be directed to knowing about the unreached and the program drop-out what happens to them, why they failed to respond or dropped-out, and what their characteristics are relative to those of program participants. Without some such basic, comparative information, program reports must remain simple tabulations, not knowledge.

The key here is an intensive and extensive follow-up procedure. Ideally, as suggested previously, if one general system were adopted by a number of communities, the reliability and comparability of the information would be maximized and the cost minimized, particularly if these procedures were conducted by the same central unit.

Data concerning the intervention. The focus of the three previous guidelines for a data collection system has been on the need for the adoption of synchronized and compatible systems across programs, the identification and study of each program's target population, and the inclusion of provisions for intensive and extended follow-up of the total population. Clearly, another essential component of a desired body of information about community programs for unemployed youth is information about what happened

to those youth while they were being served by the program. Since programs from community to community are likely to vary considerably in philosophy, approach, and procedures, the possibilities for the use of identical data collection procedures by several programs are much more limited. The goals of comparability and compatibility can be attained through the adoption of identical data formats even though the substantive information may vary to some extent from program to program. The objective is to maximize the possible use of a single computer data storage and retrieval system. A central coding and data processing unit—shared by the group of cooperating programs—would make this both possible and feasible.

The in-program data collection system should attempt to follow each individual through the program, including observations made of him, decisions made about him, and intervention components he is exposed to. A generalized training model appears to me to involve the following assumptions and characteristics: (a) an individual is believed to have certain deficiencies which impede the development of a satisfactory work pattern; (b) the prediction or assumption is made that he will not fare well in the work world unless changes on all or at least some of these variables take place; and (c) the program is designed to provide services which theoretically have the power to produce changes in those variables which in turn will lead to better future performance on the part of the individual in the world of work. Therefore, information should be gathered for each individual at each point in the process: what are the individual's specific deficiencies and at what level is the individual functioning with respect to each of these variables (henceforth referred to as "deficiency variables") at intake time (or as soon afterward as is practical); with respect to which variables are efforts made by the program to induce change, and some measure, judgment, or rating of the duration and intensity of the participation by the individual in those efforts should be made and recorded; periodic measures — preferably in standardized fashion — should be taken on each of the deficiency variables (the minimum is a post or end-of-treatment measure in addition to the pre-measures; and measures should be taken on all deficiency variables whether efforts are being made to induce change or not). This information, in addition to objective measures of post-treatment work performance, will provide a better basis for estimating whether the program makes a difference or not than is usually available for real-world, large-scale programs such as these. Although such a procedure does not meet the ideal of a control group design, some estimate of the validity of the intervention model and the effects of the program may be made, in my opinion, through use of it. It should be those who change in the desired direction on the deficiency variables who significantly out-perform those who do not change, controlling

for starting functioning level. If differences in post-treatment performance are unrelated to changes in the deficiency variables, the assumptions of the program would certainly be open to question. All that would be known is that some participants in the program did better than others; but we could have been pretty sure that that would happen before we started. With this model, relative success among programs would be judged not in terms of the number of trainees placed in jobs but in terms of the program's relative ability to predict, on the basis of in-program observed change, relative post-program performance.

Ideally, agreement on the list of deficiency variables should be reached among the cooperating programs. At the very least, the major target variables of each program should be included in the list. Then if three additional steps were taken, the amount of valuable comparative information produced by such a joint effort would be vastly enhanced. First, periodic measures on all the variables should be taken on all the individuals in each program, whether or not they are regarded as important by that program or whether or not effort to change them will be made by any particular program. Second, measures on as many of these variables as possible should be taken on all drop-outs — which means that to the extent that these variables consist primarily of visual observations, and such things as school data and work history which can be obtained least disruptively, the more possible it is likely to be that the information will be obtained on a broad scale. Third, similar information should be obtained by the target population survey and follow-up unit on all or at least a sample of the "unreached," as defined at some particular point in time. Such information should provide an even better basis for estimates of the effects of the program on its target population, since it should provide a basis for the development of reasonably efficient prediction instruments of work performance.

Most programs have several alternative interventions to which they may expose their clientele, and they usually allocate youth to one or the other of these interventions, or combinations of them. A classification procedure is basic to such a system. Implicitly at least, a theory underlies the decision making process whereby allocations of individuals to the various interventions are made. Some provision should be made in the data collection system to record the highlights of this decision making process. This classification and allocation process is a vital part of any program which offers more than one intervention; it is, as far as I can tell, seldom studied to anywhere near the intensity that is probably necessary. One problem which appears to cause little concern is reliability. What reason is there to believe that a second team of "assignment personnel" would make the same decisions about any given individual as did the first team? This problem exists

within programs; it is undoubtedly more serious among programs. This problem has vast implications for the total effort. It is logically possible that a given program may have an effective set of alternate treatments available but an invalid theory or unreliable procedures upon which the allocations of individuals to the alternative treatments are made. It appears to me that we should have good reason to believe that the "theoretically appropriate" people are being exposed to the "theoretically appropriate" programs—that is, that the procedures are being reliably used—or it would be better to make random allocations and then attempt to determine empirically which kinds of interventions work best with which kinds of people.

In-program reporting procedures should include a description of the extent of participation of each of the trainees. Reference has frequently been made in this paper to participants and program drop-outs. The ultimate categorization of all of those "reached" by a program into participants and drop-outs requires some carefully thought out and explicit operational definitions. The most extreme definition of participant would require that the individual complete the training schedule designated for him; a somewhat different definition would regard him as a participant in the program (as compared with a non-participant) if he left for a satisfactory position even though he did not complete the full training schedule. At any rate, careful records should be kept—beginning dates, attenance information, terminal dates and reason for termination, etc., for each individual registered in the program. Attendance information and drop-out definitions are logically related; therefore, if comparable information is to be obtained across programs, explicit difinitions must be agreed upon and consistently used by the cooperating programs. If one program classifies individuals as drop-outs if they miss one or two training sessions in a row, it is likely to have a high drop-out rate and a high attendance rate; the reverse is likely to be true of programs that carry individuals on the books as "absent participants", even though they have missed a long series of training sesions.

Although they are likely to be very difficult to devise, some components of the in-program data collection system should aim at recording the theoretically important segments of the interventions. For example, if counseling is given a significant role in the program design, considerable effort should be devoted to capturing the nature of the conseling services offered, on an individual-counselor case basis. Data should be obtained concerning similarities and differences among the definitions of counseling, both among programs and within programs. Data should also be collected in the form of behavioral descriptions (either through observation or by interview)

concerning what counseling actually consisted of. Two counselors—or two programs—may verbalize counseling theory differently but do essentially the same things in counseling practice; the reverse is also possible. There are likely to be great variations in the amounts of time devoted to counseling, again both among programs and among counselors within programs. If such data were obtained for a number of counselors, some interesting possibilities concerning the relationship between variations in counseling technique and variations in outcome arise. For example, is there a relationship between variations in the frequency of counseling sessions, the duration of counseling sessions, or the duration of counseling sequences and success rates (by whatever criterion of success—ratings, subsequent employment history, etc). If this is true, when counselors are compared, that the greater the variance the greater the success, the notion that the more successful counselors vary their counseling efforts (that is, provide more or less counseling, etc., for different individuals) on the basis of some criteria. This indicates the clear need for the inclusion in a data collection system for procedures whereby the bases for decisions such as these that are made by such personnel as counselors get recorded. This analytical model is applicable to a wide variety of program issues. To continue the counseling example, counselors undoubtedly vary considerably in terms of their counseling emphasis or lack thereof. One counselor may tend to focus on family problems whereas another may vary the emphasis depending upon some decision system. Again, there may be a relationship between variations in focus and success—this relationship may be either direction—that is, success may be positively related to either the smaller or the larger variance. At this point we are probably not in a good position to guess the direction, although some counseling theories may provide a basis for hypothesizing in one direction or another.

Data concerning the job market and the community. There is little doubt that job placement is one of the key elements (perhaps, second only to the youth's motivation) of programs for unemployed youth. Youths from such programs who end up in regular employment in the community tend to do so through three somewhat different channels: (a) they obtain jobs "on their own;" (b) they obtain jobs with the initiative and assistance of the youth employment training program but through relatively traditional channels—state employment services, in particular; and (c) they obtain jobs through channels established directly between the youth employment training program and the employer. Programs vary in the extent to which the third channel is utilized. There are several important questions in this connection for which the program collection system should provide answers. Careful records should be kept of the way in which indi-

viduals enter the working force. (Information concerning those who obtain jobs "on their own" will most likely be best obtained through the target population follow-up procedures.) Knowledge concerning at least two sets of relationships would be very valuable: differences in the characteristics of those who obtain employment through the three different routes; and, differences in the subsequent work histories of those who obtain employment through the three different routes. A more sophisticated analysis of the latter might attempt to control for some general variable such as "employability," or a combination of scores on the so-called deficiency variables previously referred to. Central to this issue is the prevailing notion that youth of the type which comprise the target populations of programs for unemployed youth need a special, protected, or at least sympathetic, working environment in their first few real work experiences. The third channel, listed above—directly from the program to the employer—requires a job development component of the over-all program. Generally speaking, whether it tends to be admitted or not, job development personnel of youth and work programs eventually have to ask employers to take as employees (provisionally, temporarily or otherwise) individuals who are not the most qualified, or desirable, of those available. This runs directly counter to traditional placement policy whereby, theoretically at least, the most qualified available person is placed in or referred to each opening. To the extent that this is so, the employer and his supervisory personnel, their attitudes, expectations, tolerance limits, etc., may become very important variables in the over-all youth employment training program. Information should be gathered concerning these employers, how they were approached, the explanations given to them about the program, its objectives, the problems that may be involved, and how these problems may be and actually were handled. Again, if sufficient, reliable data is obtained from a number of programs, valuable information can be forthcoming. For example, studies of differences in subsequent work histories of individuals assigned to different "types" of employers could be made. If this information were related to data concerning the youth's "employability" score, some estimates could be made of the relative importance of the training component as against the work-situation component of the total program to satisfactory outcome.

Programs will also vary in the extent to which the job development personnel are integrated with the total program and the extent to which the program's concept of training extends beyond placement. Records should be kept of the activities of the job development personnel that extend beyond job finding. There seems to be only three general avenues open to programs in this regard: (1) give employers only "good kids"—and then serious questions arise concerning the extent to which the program is dealing with the basic problem; (2) attempt to place the "hard-core" youth and then keep

looking for new employers as job sources are shut off due to dissatisfaction with the performance of previous referrals; or (3) attempt to place the "hard-core" youth and work with the employer both before and while the youth is employed with him. The last is clearly the most promising and appealing but it is expensive, time consuming, and difficult; we should know if it is worthwhile.

A related problem receiving current attention is that we tend to have a "credential oriented" system and that the unemployed, disadvantaged youth is particularly vulnerable to it. A set of formal requirements have been set up for many jobs—even relatively unskilled jobs—and rather rigidly adhered to (a high school diploma is a prime example). At a minimum, records should be kept concerning the relationship between the youth's credentials and the more traditional, formal requirements of the position in which he is placed. Special attention should be given to those cases where the program may have been successful in persuading one or more employers to lower the barriers a little. Studies of the work performance and the subsequent work history of youth placed in such positions could be very valuable. If the study could be extended to include comparisons with youth in similar jobs who meet the formal requirements and with youth with the same credentials placed in jobs for which they are formally regarded as qualified, even more of great value could be learned. Ideally, as with most of the other questions raised in this paper, carefully designed action-research experiments could include, in addition to the above, special job analyses, job analyses based on required behavior, personality, and skill in the broadest sense of the word, rather than on presumed indicators of satisfactory performance.

CONCLUSIONS AND RECOMMENDATIONS

In this paper I have made a plea for a much more extensive data collection system for programs for unemployed youth than those that, in my experience, are usually used by such programs. This extension is essentially in four directions: (1) toward the inclusion of more than one program in the same basic data collection system; (2) toward the inclusion of the total program target population, whether they are ultimately involved in the program or not, into the data collection system; (3) toward the inclusion of follow-up information about the total target population well into the future (preferably a number of years); and (4) toward the inclusion of much more detailed and dynamic information about the intervention itself and its relationship to the job market and the community.

The basic assumption of this set of preliminary guidelines is that we do not know anywhere near enough about programs such as these—how

they work, how well they work, and the extent to which they are reaching and changing the truly problem segments of the population. We will remain in relative ignorance if current data collection practices are not radically overhauled.

The central recommendation of these guidelines is that several programs should attempt to pool their resources, human and financial, toward the development and implementation of a common data collection system—beginning with data forms and procedures and including compatible coding and data storage and retrieval procedures. With very few exceptions, communities are likely to be unwilling and probably unable to allocate sufficient resources to do this job properly, and even if they were there would be a tremendous amount of unnecessary duplication of effort.

VT 004 221
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Issues and Problems in Integrating Needed Supportive Services in Neighborhood Youth Corps Projects.

New York Univ., N.Y. Center for the Study of Unemployed Youth
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Feb66 11p.

*PROBLEMS; *YOUTH PROGRAMS; *COUNSELING; *REMEDIAL PROGRAMS; *JOB TRAINING; JOB PLACEMENT; FEDERAL PROGRAMS
NEIGHBORHOOD YOUTH CORPS

Experience has taught that supportive services are a vital part of a Neighborhood Youth Corps project. Supportive services include: (1) diagnostic services prior to enrollment, (2) adjustment services during enrollment, (3) basic education services during enrollment, (4) minimal skills training during enrollment, and (5) job development and placement services near the completion of enrollment. Some of the problems identified in providing these services include: (1) the specific identification of the nature and quantity of each necessary service together with the appropriate delivery system, (2) the availability of the supportive services, (3) the difficulty of coordinating existing agencies with the new agencies, (4) the administrative problem of timing the initiation of projects with the provision of the services, (5) the conflicting standards of the Youth Corps and other groups, and (6) the rigidity of some school systems for providing a curriculum to fit the needs of individuals. Several Neighborhood Youth Corps projects where integration of services has been accomplished are discussed. (PS)

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ISSUES AND PROBLEMS IN INTEGRATING NEEDED SUPPORTIVE SERVICES IN NEIGHBORHOOD YOUTH CORPS PROJECTS

by Mark Battle

TRAINING SERIES

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CENTER FOR THE STUDY OF UNEMPLOYED YOUTH
GRADUATE SCHOOL OF SOCIAL WORK • NEW YORK UNIVERSITY

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ISSUES AND PROBLEMS IN INTEGRATING NEEDED SUPPORTIVE SERVICES IN NEIGHBORHOOD YOUTH CORPS PROJECTS

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NEW YORK UNIVERSITY
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February, 1966

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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This paper is part of a project conducted by the N.Y.U. Center for the Study of Unemployed Youth under a grant provided by the Office of Juvenile Delinquency and Youth Development, U.S. Department of Health, Education, and Welfare to develop curriculum materials for program planners and operators.

ISSUES AND PROBLEMS IN INTEGRATING NEEDED SUPPORTIVE SERVICES IN NEIGHBORHOOD YOUTH CORPS PROJECTS

As Vice President Humphrey said when the War Against Poverty was started, "The poverty effort will require inter-agency cooperation, the likes of which this country has never seen". And the coordination cannot be entirely in Washington. It must be carried out in every city and town in the country — wherever the poverty war is being waged.

The current concern with the question of integrating necessary supportive services with Neighborhood Youth Corps work experience projects is thus, especially timely. It is a concern voiced first by the framers of the legislation; second by the Department of Labor task force which designed the implementive vehicle; third by manpower specialists with some experience with youth employment programs under MDTA, both in and outside government; and finally by committed sponsors who saw a need and sought a way of meeting it.

This paper is intended to present certain dimensions of the concern. Its charge is to present the issues and the problems involved in integrating supportive services in Neighborhood Youth Corps' projects. It is not intended to present a prescription for resolving either problems or issues. However, in following the explication of each problem and issue the reader may discover implications or directions which may prove useful byways to follow.

What follows then is an annotated "laundry list" together with a few examples of projects within which some noteworthy measure of integration of services has been achieved.

The Neighborhood Youth Corps is now one year old. It has emassed a considerable body of experience to date. No doubt it will gather much more in volume and variety as it proceeds.

In order to mount a national program of the size of the Neighborhood Youth Corps, and especially in order to reach as many youth as possible, the Neighborhood Youth Corps began with relatively "lean" projects. This leanness was not because Neighborhood Youth Corps failed to perceive the need for supportive services, but rather because it was felt that these services could and should be provided by other community resources. Unhappily also, the **necessary** nature and volume of such supportive services had not been validated.

Experience has taught us that the services are a vital part of a Neighborhood Youth Corps project. The need is most obvious in the out-of-school programs but it is no less important in the in-school projects. Experience has also taught us that these services do not appear without considerable effort on the part of the sponsor, as well as encouragement and support from the Neighborhood Youth Corps.

The Neighborhood Youth Corps is faced with a dilemma. Simply stated the dilemma is this. The need for and the cost of the Neighborhood Youth Corps basic program and of supportive services are now established. The Neighborhood Youth Corps has funds to take care of only ten to fifteen percent of the youth in the country whose poverty status makes them eligible for the basic program. If money is also spent for supportive services, the Neighborhood Youth Corps will be forced to serve fewer youth. At the same time, the Neighborhood Youth Corps continues to be an integral part of the War Against Poverty, which has as one of its fundamental principles the notion that only by an integrated attack on the many faceted enemy poverty, will it be possible for the victims of poverty to be assured the opportunities promised.

The young dropout who is sick or half-sick, cannot benefit appreciably from the Neighborhood Youth Corps work experience. He probably cannot even make it to work every day. The Neighborhood Youth Corps enrollees who cannot read or write, or talk clearly enough to be understood, will not be able to get anything but the most menial job — even though he has had the benefit of six months of Neighborhood Youth Corps work experience.

The resolution of this dilemma which seems to hold the most promise is to find and integrate supportive services with Neighborhood Youth Corps projects at the community level, wherever this is at all feasible.

What are the supportive services that must be provided? Generally speaking these fall into five categories: (1) diagnostic services prior to enrollment; (2) adjustment services during enrollment; (3) basic education services during enrollment; (4) minimal skills training during enrollment; and (5) job development and placement services near the completion of enrollment.

There may well be considerable argument as to whether these services are supportive or in fact essential and hence integral to the basic program. The current fact is that they are viewed by Neighborhood Youth Corps as supportive even though necessary in some degree in all programs.

If it is agreed, however, that the services are necessary and that they must be provided by community resources other than Neighborhood Youth Corps, what are the problems involved in assuring that the services will, in fact, be provided?

The first problem is the specific identification of the nature and quantity of each necessary service together with the appropriate delivery system. The nature and quantity part of this problem should be obvious. It includes such questions as what kind of counselling — what kind of testing and other assessment devices — what kind of adjustment services and how much of each. The delivery system problem may be stated as follows — what kind of structure and mechanism with what kind of staff is necessary to insure that the client will be supported in using the services? Traditional institutions have

designed systems which primarily support the staff in delivering services. (This is part of the fact of disadvantaged peoples not being served.)

The second problem is of course the availability of the supportive services. The Neighborhood Youth Corps has between 800 and 1,000 projects in operation at any one time. Many of them are in small communities where supportive services are simply non-existent. In the cities, generally services are there, but frequently not in sufficient quantity or quality to be of real benefit to the Neighborhood Youth Corps' enrollees. It often comes down to the necessity for the administrators of the agencies and departments offering these services to deliver the services where the funding source directs. Thus the problem of conflict in agency policy is introduced. For example, the health department may be already overloaded and understaffed. In the school extra remedial education teachers must be found and paid. Where does the money come from?

We should face realistically the problems of financing. Generally, the answers may be in the new federal programs in the fields of manpower, education and health. In the case of the Neighborhood Youth Corps this means primarily the Community Action Program and the Elementary and Secondary Education Act.

A third major difficulty is the age old one of coordinating existing agencies with the new agencies. This is reflected in the whole issue of sponsorship of Neighborhood Youth Corps projects and the relation of Neighborhood Youth Corps to the community action agencies. There is a time lag in the history that is important. The Neighborhood Youth Corps got off to a fast start; in many cases much more quickly than the local community action agencies. The Neighborhood Youth Corps sponsor often was already in operation, with his contract in his hand, while the community action agency organization was still in the planning state. Neighborhood Youth Corps policy is to encourage Neighborhood Youth Corps sponsors to coordinate with the community action agency. This is particularly necessary for the provision of supportive services. However, Neighborhood Youth Corps sponsors are sometimes reluctant to lose their identity and become what in their view is a subordinate agency of a community action group. Furthermore, it may not always be wise to insist that the sponsor become a part of a local community action agency. Sometimes either joint sponsorship or a simple coordination may suffice. The wide variety of the Neighborhood Youth Corps sponsors and the strengths and weaknesses of the individual community action agency must be taken into account. Moreover, the immediate need for assistance on the part of the target population may be the compeling important factor. (A 19 year old unemployed boy needs a job and income now!)

A fourth problem is the administrative one of timing the initiation of projects with provision of the services. If the sponsor does arrange for the pro-

vision of supportive services from other community resources, this can involve the hiring of staff, provision of space, and allocation of funds on the part of the prospective supplier of supportive service. Presumably, this should be done by the Neighborhood Youth Corps sponsor before he gets his contract. If he delays making the arrangements until after the contract is signed, weeks and probably months will pass before the services can actually be provided. In the interim, the enrollees who should be getting services are not. On the other hand, if the arrangements are made and the contract delayed for whatever reason, one faces the prospect of unproductive staff costs and disillusionment on the part of cooperating agencies.

Problem number five revolves around conflicting standards. The Neighborhood Youth Corps standard of eligibility, for example, may frighten off some groups that might be willing to provide services. They simply see themselves serving a wider group than the hard-core poor that the Neighborhood Youth Corps is focussed on. The Neighborhood Youth Corps sponsor is then caught in a squeeze and must look for some other way to get his services.

A final and very serious problem is the rigidity of some school systems. Basic to the concept of a work experience for disadvantaged youth who are attending school is the conviction that money alone is not enough to keep them in school. The program is aimed at the potential dropout who is more apt to leave school because of a personal failure and/or institutional failure than because of acute need for money. This is not to say that money is not important. We are getting considerable evidence that it does in fact make a difference with many individuals, particularly in the rural and small town areas. But the work experience must be coupled with a program designed to interest the youth in continuing his education. This involves not only counseling, but also an adaptation of the curriculum to fit the needs of the individual wherever that is possible. Many school systems have not been able to provide this kind of support as a general rule. The money made available to schools under Title I of the Elementary and Secondary Education Act makes it possible to integrate supportive services in the schools much more fully than has previously been the case. In fact, some projects have been developed where special classes will be offered to Neighborhood Youth Corps enrollees under the Elementary and Secondary Education Act.

Discussed in the following pages are several Neighborhood Youth Corps projects where integration of services has been accomplished.

The Bibb County School Board in Macon, Georgia, is sponsoring an out-of-school project for 250 actual dropouts. Macon is a small industrial city of about 100,000 which is growing rapidly. There is a textile industry there as well as electronic and aircraft plants. It is a booming town with job opportunities aplenty. The principal of the largest vocational school in the city

is the guiding spirit behind the planning and organization of the project. He has the support of the local Chamber of Commerce, and of the city government. There is evidently an historical interest in the town in vocational education — in making sure that the youth move in an orderly and systematic way from school to the many jobs in the community. There is a community action agency in the town, but it is not the sponsor of the Neighborhood Youth Corps project. However, the project is coordinated with the community action agency, and there is evidently no friction. The program involves a special educational set up, designed just for this project.

The youth will work for three hours each day; attend remedial education classes for three hours, and vocational education classes for two hours. The educational component, both remedial and vocational, are being provided by the schools. The vocational education is in such subjects as shop work, clerical courses, etc. It is geared to the job opportunities that are open in the community. The work that the enrollees do is related to the schools which provide the work stations. It includes such classifications as teacher aids, library assistants, electrical maintenance aides, auto mechanic assistants, audiovisual aides, etc. The project is planned to run for 39 weeks. It started in November and already there are marked differences in the attitudes and outlook of the enrollees. They are evidently getting a real lift from the program, which is up to full strength — one indication of the holding power of a project.

This is an example of integration of services at its best. Why did it happen here and not in other places? First, there is a real interest in the community in vocational training of youth. There is also a real commitment of all groups in the community to help disadvantaged dropouts. The fact that there are plenty of jobs makes it easier to move the youth into employment. They are very obviously needed. Another very important factor is the ability of the director to communicate and interpret the Neighborhood Youth Corps project to all parts of the community. There is an understanding of what the Neighborhood Youth Corps is doing, what the purpose is. In addition, there is an absence of agency jealousy and individualism. The willingness to cooperate had already been established. In fact, the same principal had started manpower development and training programs that are in operation in the same schools where the Neighborhood Youth Corps enrollees are working.

Another example of successful integration is in Trenton, New Jersey. There, the Plans for Progress, the community action agency is the sponsor of the Neighborhood Youth Corps project. In this project all of the enrollees get health examinations, provided through a grant to the New Jersey Health Department from the Office of Economic Opportunity. In addition, the community action agency is supplying job development for the enrollees, while remedial education is being provided by the local schools.

East St. Louis offers an interesting example of community participation. As in Trenton, the project is sponsored by the community action agency. It is an out-of-school project for 500 enrollees. It is a very poor community — a combination Watts and Appalachia — and without the job opportunities that characterize Macon, Georgia. Headquarters of the project are in a building provided by the city, and called the Neighborhood Youth Corps Center. The Youth Opportunity Center is providing the recruitment and pre-enrollment counseling services. Neighborhood Youth Corps counselors provide counseling during enrollment. The school board now offers some adult basic education classes in which Neighborhood Youth Corps enrollees participate, though the classes are not set up exclusively for the Neighborhood Youth Corps enrollees. The project will institute in the near future its own remedial education program for enrollees with space and equipment provided by the schools.

One particular interesting feature of the East St. Louis project is that it will utilize student teachers from the University of Southern Illinois which has a campus in the city. These teachers are assigned to the Board of Education and they will get academic credit for the work they do with the Neighborhood Youth Corps enrollees. The school board is providing consultants to work with the teachers. The project director expects that they will be used not only for the remedial classes, but also in the recreation program, which is carried out on school property and which has developed into an important part of the total project. What has happened is that the Neighborhood Youth Corps has sparked the development of an entire community recreation program. It is not limited to Neighborhood Youth Corps enrollees, but the enrollees get the benefit of being the core of a highly popular endeavor.

Other community agencies have also been involved in the project. The Mental Health Association and Mental Health Center provide free services to Neighborhood Youth Corps enrollees, as do the Illinois Vocational Rehabilitation Service and the Family Children Service.

These are a few examples of cases where the necessary integration of community service is taking place. There are others where the picture is not so good.

In these latter, a lack of understanding of the purpose and scope of the Neighborhood Youth Corps program, a shortage of funds, a lack of professionally trained personnel, and the difficulties of welding together different agencies and groups into an effective team constitute the main evident problems to successful integration of services. However, the solution to these problems are obviously not impossible to find. Where we have failed to design and implement a delivery system which embodies the necessary integration of supportive services the fault lies not in the stars but in ourselves.

VT 004 222
Lagey, Joseph C.
Population Data and Community Self Surveys for the Planning and Operating of Youth-Work Programs.

New York Univ., N.Y. Center for the Study of Unemployed Youth
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jun66 27p.

*COMMUNITY SURVEYS; *EDUCATIONAL PLANNING; *PROGRAM DESIGN; *DATA COLLECTION; YOUTH PROGRAMS; UNEMPLOYED; YOUTH; *ECONOMICALLY DISADVANTAGED

For comprehensive program planning, information is needed at the local level on the numbers of the poor, their location, and their characteristics, such as age, sex, race and nationality, occupation, income, employment, education and other population data releveant to particular programs. Three sources and methods of data gathering discussed are--(1) U.S. Census and Bureau of Labor Statistics, (2) state and local community sources, public and voluntary, and (3) community self-surveys. The importance of the community self-survey is emphasized and the following are discussed--(1) the purpose of a community survey, (2) staffing, (3) consultation, (4) interviewer training, (5) questionnaire or schedule construction, (6) data processing, (7) writing of the final report, (8) distribution and utilization of the report, and (9) do's and don'ts of the community survey. (PS)

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POPULATION DATA AND COMMUNITY SELF SURVEYS FOR THE PLANNING AND OPERATING OF YOUTH-WORK PROGRAMS

With the multiplicy of federal programs providing support to the local communities in their "wars on poverty", there is an obligation for comprehensive program planning. In order to achieve this, information is needed at the local community level on the numbers of the poor, their location, and their characteristics, such as age, sex, race and nationality, occupation, income, employment, education and other population data relevant to particular programs.

The possession of such information will enable local planners and administrators to devise programs which fit both the numbers and the needs of the prospective participants. For those responsible for the carrying out of youth programs—the principle focus of this paper—information on the target population (the out-of-work youth between 16 and 21) makes it possible to plan more appropriately for job slots as well as for the particular needs of this special group of clients. Without such knowledge there have been communities embarrassed by their inability to fill all of their available openings or slots. On the other hand, there have been communities equally embarrassed by their inability to cope with unexpected numbers of youth seeking work and training opportunities. More important, with rising employment levels, is the need to know more about the residual, hard-core group of the especially disadvantaged and unemployed youth.

For example, in one community, there were only nine trainees available for the 45 slots for auto service station mechanics, for 30 clothes pressers only one youth, and for all 490 slots for trainees, only 138 available trainees could be located.[1] This is not necessarily the fault of local planners and administrators. Presently, there are neither guidelines for obtaining such information nor readily accessable data for most communities in the United States. Consequently, the ability to develop comprehensive youth-work and training programs is limited without data describing the target population. With such information not only is it possible to avoid such embarrassements, but also to develop comprehensive programs and to plan the proper "mix" of these programs. How many local youth are in need of Job Corps, Neighborhood Youth Corps, OJT, MDTA, or other programs? What combinations and amounts of supportive services will be necessary for each of these programs? Will sixteen year olds require different provisions than 18 year-olds? Will

1 Baltimore Sun, Jan. 11, 1966.

the hard-core unemployed, the delinquent or the minority group youth require special programming? If so, for how many and in what areas of the community?

That such information is hard to obtain was testififed to by the recent Workshop on youth-work programs[2] where program planners and administrators from cities in the northeast region indicated they had only crude estimates of the number of unemployed youth aged 16-21, and beyond that very little other knowledge about their programs' impact on their target populations.

For some federally supported programs target information data are desirable but not required, but for other programs—particularly Title II, the Community Action Program of the Economic Opportunity Act—such data are legally required. Usually, data derived from the 1960 Census will suffice to meet requirements. But for reasons to be discussed below, comprehensive programming for youth-work programs requires data both more current and more relevant than that found in the last available census. Such programming, in order to be both comprehensive and applicable to the needs of the clients, would require minimally the following information:

1. Number of youth in the community, 16-21, with breakdowns for each age and sex.
2. Number of unemployed, out-of-school, 16-21, for each age and sex.
3. Number of in-school youth, 16-21, for each age and sex.

(These data provide the baselines for estimating the dimensions of the problem as well as for calculating unemployment rates, trends, and information which could be used for monitoring the effectiveness of the programs. While the focus of this paper is on data gathering for the purpose of program planning and administration, the same data, or modifications, could have other purposes, such as for recruiting, monitoring or evaluating program impact at a later date.)

The following data should be collected where possible, for the out-of-work, out-of-school youth, 16-21.

4. Educational attainment, including literacy level.
5. Race.
6. Nationality.
7. Geographical location or residence.

2 "Summary of Proceedings: Workshop on Problems of Planning Recruitment and Selection for Youth-Work Programs," Center for the Study of Unemployed Youth, New York University Graduate School of Social Work, Nov., 1965.

8. Family income and source, i.e., social security, general assistance or public welfare.

9. Median rental in areas from which unemployed youth come.

(This information is necessary not only to identify and describe salient characteristics of the target **population,** but also to locate target **areas.** A knowledge of target areas is useful in planning the location of "intake" centers where clients can be contacted, a preliminary assessment of need made and recruitment undertaken.)

Beyond these data it would be more than useful to have such descriptive information on the target population as:

1. General scholastic achievement of out-of-school, out-of-work youth.
2. Aptitudes, interests and abilities of the target population.
3. Language handicaps or limitations.
4. Minority group status.
5. Previous work experience.
6. General health status.
7. Attitudes and motivation toward work and training.
8. Delinquency patterns.
9. Residential mobility or stability patterns.

Source of Data

Assuming the importance of such data, what are its sources and how accessible are they? How accurate, up-to-date and stable are they? What is the cost, time and what are the modifications or adjustments which will be needed? Data gathering is not the main focus of programming. It is only a resource. As such, wisdom and common sense need to be exercised in allocating the appropriate time, cost, and attention to their collection. Three sources and methods will be discussed:

1. U.S. Census and Bureau of Labor Statistics
2. State and local community sources, public and voluntary
3. Community self-surveys

I. U. S. Census and Bureau of Labor Statistics

These are the two major sources of unemployment and poverty information in the United States. The problem their use presents to the program planner is best indicated by Commissioner Ross of the Bureau of Labor Statistics who stated: "One thing that has troubled me is that we don't know how many unemployed people there are in the Watts areas of Los Angeles . . . that indicates that while we have excellent figures on a national basis, we do not have the detailed coverage for areas and occupations we should have when we get down to the hard-core of social problems."[3]

The basic census materials for program planners at the local community level are the Censuses of Population and Housing, 1960.[4] These provide data by census tracts for all tracted areas in the United States for numbers, sex, age, income, source of income, occupation, education, median rental, race, ethnicity, unemployment, migratory status and information on residential stability. For some thirty-six cities and a possible 150 more, a separate series, "Income, Education and Unemployment in Neighborhoods", is available.[5] Similar data to that of the 1960 census are included with the addition of "poverty" indices and maps showing those census tracts with the highest composite rates of low income, education and employment. For the cities where this is already available this can be a very useful resource. For the cities (or counties or metropolitan areas) which have not had the series completed, this can be done at modest cost by request to the Census Bureau.

With all data derived from the 1960 census there are several qualifications or limitations which need to be kept in mind. The first is that for many cities the data, now six years old, are outdated. Significant changes in births, deaths, out-migration or in-migration may have occurred. Urban renewal or other changes in land use may have emptied sections of the city or replaced them with residents of different characteristics. Finally, although population levels and age distribution may be similar to those of 1960, displacement or replacement of previous residents by new populations may result in areas of the city having quite different characteristics, such as more recent rural migrants, different language, or higher rates of delinquency and illegitimacy.

Barring major population shifts from the 1960 census, such as demolition of poverty areas for freeways or replacement by higher rental apartments, its rough estimates of numbers of impoverished families and individuals must suffice in lieu of more recent data. It should be remembered,

3 The Christian Science Monitor, Jan. 13, 1966.

4 U.S. Dept. of Commerce, Bureau of Census, Final Report PHC(1)-83, pt. 2

5 U.S. Dept. of Labor, Bureau of Labor Statistics, 1963.

however, that turnover rates from 50 to 200 percent per year have been reported for target areas in some cities. On the other hand, special censuses conducted for several cities in 1965 show only a ten percent increment since the 1960 census — a change acceptable for most program planning purposes.

How, though, are program planners or administrators to know if any major changes or shifts have taken place? Without the undertaking of a special census or survey there is no sure way. Where there is reason to believe that major changes have occurred, youth-work program administrators can request elected officials of the community to contract with the Census Bureau to undertake such a census — which, however, will not be reported in the same detail as the 1960 census. Also, unless specially contracted for, enumeration is not reported by census area or tract as in the regular census. However, many communities, particularly those losing population, will not wish to have a special census undertaken. In such cases it is possible for youth-work program administrators to contract for a special census of a **part,** not the whole, of a given community. Depending on the size of the area to be surveyed, the approximate number of persons and the complexity of the data, cost will range upward from about twenty-five cents per interview. Information about these special censuses may be obtained from the regional offices of the Bureau of the Census, U. S. Department of Commerce. The surveys usually are completed in five to six weeks.

While there may be less advantage for program planners to use the census tract as the base, it has added value for the administrator who may wish to use census tract data as one of the units for measuring change which could have been induced by the program. An increase, for example, in average educational attainment, employment rates or family income between 1960 and after the program has been in operation, may, with careful qualifications, be a measure of program impact on the area.

The "Monthly Report on the Labor Force", which is the official nationwide report of employment and unemployment trends, does not report on local unemployed youth. Estimates of unemployment are made for labor market areas, which encompass the larger cities in each state as well as the satelite communities surrounding them. There is no breakdown for these areas by age, sex, or sub-section of the city, such as in the 1960 census tracts, so that comparisons and trends with the 1960 census data are not possible. The Monthly Reports also tend to systematically underestimate the number of unemployed youth through inadequate sampling.

It is apparent, then, that federal sources are limited, have many in-

adequacies and tend to be outdated. In view of the billions expended for programs aimed at the reduction of poverty, it appears paradoxical that the federal government—the principal funding agent of these programs—permits itself to be so handicapped. Without more accurate information at the local level, where the encounter with the disadvantaged, unemployed school drop-out takes place, program planning must suffer not only at the local level but at the national level as well.

II. State and Local Community Sources — Public and Voluntary

While there will be variations from state to state and between local communities, the resources cited below are usually available:

1. State Development or Economic Commissions or Boards. While these differ from state to state, many will have detailed and comprehensive data with particular emphasis on hardship areas, i.e., areas of chronic and high rates of unemployment. The particular mission of such groups is usually to attract industry, trade, and commerce to areas of high unemployment. While there will usually be population projections for the next several years, there will also be considerable information on trade areas, transportation facilities, power resources, labor force potential, financial inducements and natural resources. Their particular value for the program administrator is as a possible placement resource for newly trained youth with newly located industry. By knowing what the possible labor force requirements of a new industry might be, appropriate youth training programs can be established.

2. University extension departments, departments of rural sociology, agricultural economics or urban research centers are another source. In many states land grant universities have extensive data banks describing in fairly complete detail population and area characteristics for large segments of the state, particularly for chronically depressed and rural areas. This will frequently be the most complete, if not the only, source of data available for the smaller community and the rural hinterland. Some states have detailed descriptions of every county excepting the large urban counties indicating levels of income and occupational status, educational attainment, housing, race, and market area data.

For the smaller communities, there often is available a wealth of knowledge of employment resources, local attitudes and traditions, and frequently attitude surveys of teenagers. These university resources may also be called upon to undertake special surveys or studies, either on a contractual or cooperative basis. In a considerable number of states there have been detailed studies of migratory workers and their children.

Urban research centers of universities, on the other hand, focus their research and survey activities on the larger metropolitan complexes. These centers are fewer in number than university resources studying rural areas, but where they do exist, they can be invaluable sources of data on demographic and population changes. They conduct frequent surveys on a sampling basis of attitudes, behavior, housing characteristics, migration patterns, and, in many cities, continuing ecological studies. The latter can be useful to planners in locating target areas where services should either be located or intake centers established. In allied departments of sociology there usually will be data on delinquency patterns and distribution for many cities, with spot mapping available to show areas of highest delinquency.

3. State departments of education, welfare, health or youth services can often provide considerable information on a local community basis. Although their annual reporting is usually state-wide, it is sometimes possible to obtain information on a particular city or town. This frequently will include case finding and diagnosis of problem and handicapped youth, unwed mothers, delinquents, and incidence of venereal disease on a local community basis. Such information may help to identify target areas as well as the hard-core of the disadvantaged youth. Some state youth commissions have survey teams able to undertake special surveys at the request of the local community.

4. Local health and welfare councils exist in most middle size or larger cities in the United States. The larger cities usually have research departments as a part of the council operation. Most have accumulated over the years a vast amount of demographic, population, ecological and housing data while serving as a repository for agency service statistics and delinquency information. Through their youth services or group work and recreation programs there will be information on leisure time resources, camping facilities, and other recreational activities. Any number of surveys of needs and resources for youth will have been undertaken over the years. In most cities this is probably the one place where the largest amount of data are available which have relevance for program planning. While much of the data would serve primarily to delineate target areas, a considerable proportion could be used in program planning where particular supportive services may be useful. The main value of community health and welfare councils, however, lies in the extensive nature of data collecting around the general area of social pathology.

5. City planning departments exist in most cities in the United States. If there are current estimates of population, housing characteristics and a

knowledge of any major physical changes which have taken place in the community, such information will most likely be with such departments. Many have conducted surveys of skid-row areas, inadequate housing, and changing land-use patterns over time. However, there has been limited experience on the part of city planners in collaborating with social scientists, social workers, and others outside their discipline. The best detailed maps indicating various characteristics of the area, both for the present and projected for the future, will usually be found in such departments. Urban renewal and relocation plans are also usually available together with a knowledge of industrial or commercial growth and changes. These data are more generally useful for describing target areas rather than for individual or group characteristics.

6. School departments can be the most fruitful source of information on the teenage population, dropouts, scholastic achievement, psychometric data (including test information on aptitudes, abilities, interests) and health information for all those youth who have been in the system. While school districts and boundaries do not usually coincide with census tracts, it is possible for program planners to make adjustments which approximate census tracts. School boards, especially in larger communities, will have research departments, one of whose functions is to estimate current and projected populations for each school grade. With corrections for dropouts these will provide estimates of teenagers in each "adjusted" census tract. Using 1960 census tract data as a baseline, it becomes possible to estimate rates and levels of population changes. There will be an under-estimation because of the in-migrant youth who are above minimum required school attendance age are frequently not in school. However, the most important use of school data lies in the fact that the school is the only social institution which has contact with all youth; which is the repository for official records, data, trends and personal data; and which also can be an invaluable resource for learning local community attitudes and teenage culture. The local school principal and his faculty who are sensitive to the local school community and its traditions can frequently be of assistance to a program planner or administrator.

Where the individual candidates for work or training programs have been in recent attendance, classroom teachers can also be an additional source of information regarding group attitudes, dress and behavior, and an appraisal of potential which may not have been demonstrated either in scholastic achievement, placement or achievement tests, or in other psychometric devices. Insofar as school data are concerned, there may be a considerable volume of information which could be used to describe the dropout, particularly if they had been within the same school system for a period

of years. But it should be realized that, especially for the "hard-core", hard-to-reach client, such records may provide a distorted and biased picture. Generally, such records will systematically tend to under-estimate capacities and over-estimate the negative and culturally dysfunctional aspects of such youth.

7. Public health departments, community mental health clinics, and hospitals can be a source of information on health problems of the target population (some studies have shown that as many as fifty percent of the applicants for youth-work programs require medical service) and also indicate target areas with a high concentration of venereal disease, tuberculosis, mental illness and other indicators of poverty.

8. Police, family and juvenile courts, probation and parole officers are an additional source for identifying and locating certain groups of the "hard-core", delinquent or pre-delinquent youth. The program planner will need to know the numbers of such youths, what their attitudes toward work programs may be and what special problems of addiction or aggressiveness the group will present. Consideration will have to be given to the idea of "balance", that is, of planning the optimum mix of these groups with the more tractable and amenable groups in the program. Too heavy a weighting with this special "hard-core" group would probably impose extra difficulties on the whole program and subject it to increased risk of failure.

9. Youth from families on public welfare or general assistance should automatically be identified as members of the target population. In particular, youth from families on AFDC or AFDC-UP (Aid to Families with Dependent Children-Unemployed Parent), the largest of the federally supported welfare programs, by reason of being on public support are one of the major target groups of the poor. Recipients of aid from Childrens' Aid Societies or other child protective agencies are also usually members of the target population due to their dependency or neglected status.

Program planners can learn something of the nature of family backgrounds and problems of this largely "mother only" group. Case workers assigned to such families (many welfare agencies have a special services unit for the multi-problem or "hard-core" family) can brief programmers on the characteristics, deficits and capacities of this segment of the target group.

Of particular value to the program administrator are the supportive services which are often available from such agencies. Under the provisions of the recent medical aid bills, for example, it is possible for youth in such families to receive medical services under the aegis of the local public wel-

fare agency. It may also be possible to place trainees under Title V, Community Work and Training Programs of the Economic Opportunity Act, which are administered by the local public welfare agency and supported by funds from the Federal Bureau of Family Services. Public welfare agencies may also be used as sources for trainee placement under the Neighborhood Youth Corps and eventual employment for some in these agencies, either as indigenous aides, clerical or custodial staff, or case aides.

10. Local draft boards should also be a source of target group information. With rejection rates running as high as forty percent for both psychological and physical disability, program planners will need to know the kinds of impairment which handicaps this group in order to plan appropriate supportive services. Most of these youth are from economically and culturally handicapped families.

11. The Urban League, NAACP and CORE, through their local chapters, can be the principle means of indicating both the numbers and the employment status of Negro youth. There are growing indications that the established networks of agencies and services have not been successful in meeting the needs of this segment of the target population.

12. The AFL-CIO Community Services programs which exist in most larger communities are less a source of information on target youth than they are a potential source of support for the developing of apprentice training programs. Programmers need to know not only the numbers and characteristics of the target population but also need to have slots in which to place such youth either for training, work experience, or employment.

13. There are a number of private research organizations specializing in social welfare research and surveys. While most of their head offices are in New York they contract to undertake welfare surveys and studies all over the nation. Their fees may be higher than many youth program directors are able to afford, but they will undertake any study the client may wish.

14. Perhaps the most important resource for information on target groups are the State Employment Services. While there is considerable variation in their ability to relate to all groups of disadvantaged and deprived youth, they remain the principal agency for providing employment and related services. And where State Employment Services have a special youth services program or have established a Youth Opportunity Center they can become a major resource to planners and administrators.

Information on unemployed youth registered with local SES offices is available on a monthly basis, often including age, sex, major courses studied in school, and previous work history. The General Aptitude Test Battery in

most instances will have been administered, providing program planners with estimates of general learning ability, verbal aptitude, numerical aptitude, motor coordination and manual dexterity.

Where YOC's have been established, additional testing results can be made available. The Metropolitan Achievement Test, both elementary and intermediate level, is an additional tool for estimating verbal and numerical attainment. For youth with low verbal skills, language deficits or the culturally deprived, the IPAT, supposedly a culture free test, is administered. Some YOC's will have additional information on family characteristics which will indicate the nature of the home conditions of the unemployed youth. While the main purpose for establishing these testing programs has been for individual counselling, program planners, by obtaining an assessment of group characteristics, can build training and work programs around the strengths or capacities of target populations.

The full utilization of SES resources, obtained either from their special youth services branches or their Youth Opportunity Centers, could result in a fairly complete delineation of the target population and its characteristics.

Generally speaking, most of the above agencies having target population data will make them available on a group basis. It should be kept in mind that there will be considerable overlap of information since many "hard-core" clients and their families may be receiving services from a variety of agencies.

III. Community Self-Surveys

Recognizing, however, that not all unemployed, out-of-school youth (particularly many minority group youth, "hard-core", or seriously deprived, delinquent or impaired youth) will register with established employment or welfare agencies, program planners should utilize other means to obtain additional estimates of the target population. One which particularly recommends itself is the community self-survey directed toward the target area of a community. Faced with the limitations of the 1960 census, the unavailability of current unemployment statistics for their local communities, the generally limited and incomplete nature of other estimates of the target population, and the limited budgets of most programs, youth-work planners can initiate their own community surveys.

One possibility is to utilize VISTA personnel, particularly those who may have had allied skills which could be transferable to the kinds of activities which would lend themselves to carrying out a survey. In most cases, since such personnel will rarely have skills adequate to planning a survey, ques-

tionnaire or schedule construction, and a knowledge of interviewing, it would seem almost necessary to have research consultation for these activities while VISTA personnel would largely carry out the interviewing.

A second possibility is the utilization of local volunteers. For example, some projects have used selected and trained members of the American Association of University Women for such interviewing with salutary results. Again, it would be desirable to have local university or college consultation for sampling design and schedule construction.

A third and final method for undertaking a local community survey is through the utilization of indigenous personnel, which a number of communities have done. Where indigenous youth are to be used for interviewing or in other survey components, there may be problems of low reading and writing skills. In one project is was found that most of the youth were unable to read beyond the fifth grade level. Where this is the case additional training time will have to be provided for the purpose of reviewing the schedule, practice interviews and practice recording. Also, it will be necessary to adjust the level of sophistication, complexity or difficulty of the interviewing or data processing to the limitations of the interviewers.

In order to determine the advantages and disadvantages of a number of different methods for undertaking such a survey, the survey programs of three cities were observed. Utica, New York, a city of 100,000, carried out its survey with some 80 Neighborhood Youth Corps youth conducting the interviewing. Hartford, Connecticut (162,000) used 50 to 60 interviewers from the professional staff of the State Department of Labor while Port Chester, New York (25,000) used about 40 volunteers, largely from local colleges or middle class areas of the city.

In addition to data gathering, there were additional purposes for conducting a survey in each of the three communities. In one it was to provide a socialization experience as part of a work training program for culturally deprived youth. It was also to provide many middle class residents, who were also surveyed for comparative purposes, contact with low income and minority group youth.

The Hartford survey had as its purpose case finding of the unemployed and under-employed as well as their recruitment into job training programs. Incidentally, in the high poverty area where the family by family survey was undertaken, 1,771 new unregistered persons sixteen and over needing employment were found—about 1 out of 4 persons interviewed.

Port Chester, like Utica, sought to use the survey as a means of obtaining community support for programs which initially were either not

understood or were opposed by the non-poor of the community. However, instead of sending the poor out into the community as Utica did, it sent the middle class volunteer interviewers into the areas and homes of the poor.

Administrators, then, were able to use community surveys for purposes in addition to obtaining enumeration counts of the poor. Thus, program operation often preceded program planning, which in turn could not always wait for the development of current survey data. While it is obvious that human needs must have priority over planning and data gathering, in the long run administrators would find their programs far more defensible to the degree that these programs validly reflect the current needs of their communities.

1. **Purpose:** Should a neighborhood household survey be focused primarily on the 16-21, out-of-school, out-of-work youth? What about persons sixty-five and older, the under-employed, the parolee, addicted, mentally retarded or mentally ill, mother-only families or single adult unemployed — should they not also be counted? In part, the emphasis of a survey will reflect the interests of particular agencies as well as the needs of the population they serve. However, since poverty is a community problem as well as an individual one, the wiser strategy suggests as broad a coverage as possible. Although many surveys will probably be carried out by enrollees of the Neighborhood Youth Corps, information gathering should go beyond the needs of youth. Youth, for the most part, are in families which have an array of problems resulting from poverty and who live in high poverty areas with inadequate, inaccessable or unavailable services. Program planning, development and administration for the poor requires a broad survey for **all** the poor rather than for a special target population.

However, local program planners and administrators using non-professional staff would be well advised to confine such a neighborhood survey to obtaining an enumeration count of the population in target areas by age, sex, ethnic group, employment status, family size, educational attainment, number of rooms in residence, length of time in residence and possible interest in some of the programs such as Project Headstart, Neighborhood Youth Corps, Youth Opportunity Centers, Medicare, Job Corps, etc. On questions of employment status one should expect only a crude approximation of the true condition.

(Where estimates for various pathologies listed above are needed for program planning, it is suggested that recourse be made to those sources for data gathering described on pages 8-13.)

Regardless of which particular agency, project or program may be physically carrying out the survey, a more adequate description of needs and

resources can be obtained if such surveys are carried out under the general auspices of the local Community Action Agency. By so doing, there is greater assurance that the interests of all the constituent agencies and of all the client groups will be more adequately represented.

The primary purpose of the survey, then, should not reflect the needs of a special interest program or agency but should be directed towards a broad description of the needs, interests, abilities and resources of all of the poor, disenfranchised and disadvantaged in the poverty areas of the community. (It becomes too costly and needlessly comprehensive to survey all households in communities of 50,000 or over. Where such a city-wide survey is desired, sampling procedures should be used. These, however, add considerably to the complexity and technical difficulties of such a survey.)

Secondary purposes such as involving the non-poor in enriching experiences, exposing the poor to wider segments of the community, or developing a public relations program for inculcating more favorable or sympathetic attitudes toward the war on poverty, need to be approached cautiously. In the Hartford survey, for example, no publicity on the survey was provided to the mass media until it was completed. It was believed that premature publicity was too unpredictable in its impact on the clients to be interviewed or on civil rights groups who might have been concerned about invasions of the right to privacy. There was also some concern that wide, pre-survey publicity could encourage irresponsible or criminal elements to exploit the situation by posing as "interviewers" and gaining access to homes.

A part of the primary purpose should be to obtain data descriptive of target areas as well as target populations. What agencies or services are available in local pockets of poverty? Is there an outreach station for the State Employment Services, what about Youth Opportunity Centers, Neighborhood Youth Corps, Health Centers, and other services? What are the transportation facilities? Do they provide ready access to local job markets? Is there adequate police protection, waste removal, rodent control, legal protective services for tenant victims of slum landlords? These are all a part of the story on poverty.

2. **Staffing:** Generally, the proposed or estimated number of household interviews will determine staff size and composition. Regardless of the size of the activity, the experience of the three cities strongly suggests the need for experienced professional staff persons to be in charge of the project. The experience with indigenous non-professional personnel indicates that their most effective use is at the team or "street" level of supervision.

Supervisors, who may be non-professional and/or indigenous, are necessary to accompany teams of interviewers as they enter the area to be surveyed. Where Neighborhood Youth Corps trainees are used as interviewers, the Utica experience points out the value of indigenous supervisors who were able to anticipate some of the potential sources of awkwardness or "non-professional" behavior on the part of individuals on the survey teams. Their knowledge of their own communities also proved an asset since they were able to assess the temper of the local community as well as to act as a communication bridge between the program and the poor. There is always the danger of divided loyalty of the indigenous leader[6] who may become too separated or too alienated from his own people if he over-identifies with the program. The Utica experience of using one supervisor for thirty-six interviewers was found to be inadequate. The optimum arrangement, where interviewers are going in pairs, is one supervisor for six pairs.

If the schedules are designed to ordinarily take less than thirty minutes to complete, and where either indigenous or volunteer interviewers are being used (the error factor increases with increased length and detail), a team of twelve interviewers working in pairs with one on-the-street supervisor may expect to complete an average of twenty-five to thirty interviews per day. The Hartford experience found that about one fifth of the interviewees were not at home at any one time.

The advantages of using volunteers over Neighborhood Youth Corps, Community Work and Training Program (Title V) enrollees or other indigenous groups are that there is no cost involved, and their time contributed may be used as the "in-kind" matching share of the local agency's contribution to federal grants. In addition, they are easier to train, are more presentable and acceptable to the community at large and can interpret the needs of the poor to a broader constituency.

Their liabilities are that they are not always easy to recruit and once recruited are not always available when needed. They cannot be assigned the same work over an extended period of time as a paid worker, and their personal or family activities frequently receive higher priority than a volunteer assignment.

The experience with paid staff indicates that many of the above objections are overcome. They can be counted on to fulfill schedules and assignments, and their dropout rate is lower. (For both Utica and Hartford where Neighborhood Youth Corps and State Department of Labor staff were used,

6 See Levinson, Perry and Schiller, Jeffry, "The Indigenous Nonprofessional-Research Issues," Research Working Paper No. 6, Welfare Admin., Division of Research, Dept. of H.E.W., Washington, D. C., 1965.

there were no dropouts). While there is less interpretation of the total program provided to the larger community, communication and interpretation of the program and of the special interviewing project can be facilitated at the local level by using indigenous agency staff. Where some of the volunteer interviewers were repelled by the conditions encountered in some of the homes of the poor, this was less the case with youth from the local Neighborhood Youth Corps.

The disadvantage of paid staff, of course, is cost. Funds for undertaking special surveys are generally not available, either from local or federal sources. To use some sixty youth from the Neighborhood Youth Corps as Utica did, would require a grant in the order of $50,000. This will not cover all of the expenses involved as such a grant is primarily for work training. Additional expenses such as card punching, computer programming and research consultation, unless they are a part of work training, would have to be budgeted from other funds.

Where it is possible to obtain funds to carry out such a survey, administrators will probably find that the advantages of paid staff outweigh the disadvantages. Volunteers can be used in other capacities in less vulnerable projects.

3. **Consultation:** All of the cities could have benefitted from expert consultation on the design, construction and pre-testing of the schedule to be used in the household survey. Schedules or interview forms suffered from being too lengthy, unclear with ambiguous items, from open-ended interviewing (which led to the problems of reliable recording and coding), an absence of pre-coding of the responses to the questions, and a format which made it difficult to easily card-punch. When between 1,000 to 6,000 schedules with thirty to fifty items were used, the data processing difficulties, unless set up for computer beforehand, become obvious. One other limitation should be mentioned. Questions, were often framed in such a way that the responses could not be compared, for example, to age distribution or income in the 1960 Census or to other possible base lines.

The regional and local offices of the Census Bureau usually have available lists of local consultants who might be available for such purposes as design and construction of the schedule or interviewing instruments. Faculty in most sociology departments, instructors of research in schools of social work, market research specialists, local health and welfare council researchers and staff in city planning departments or research departments of larger city school departments are often also available as consultants.

Many other specialists might be profitably used on a consulting basis,

but the program envisioned here is for the smaller cities with limited budgets and few specialized personnel.

4. **Questionnaire or Schedule Construction:** While consultants may be of assistance in designing the survey, the kinds of information sought must be decided by planning and program directors. Given this information consultants can then structure the interview form properly, pre-code it, and set it up for future computer tabulation if necessary.

In an "omnibus," multi-purpose community inventory and household survey, other agencies, programs, and projects in the community may wish to include questions relevant to their activities. Where possible, as many agencies as feasible should be given such an opportunity. This is advisable not only for the sake of community relations, professional courtesy, and inter-agency cooperation, but also because of the possibility that two heads are better than one and that the danger of an oversight or omission of important or needed data is thereby reduced.

Apart from the customary items such as age, race, sex, education, income, occupation, source of income, median rental, and family size, there should also be items on voter registration, literacy levels, bi-lingualism, rent violations, interest in training or work programs, and school dropouts.

5. **Interviewer Training:** The purpose of training should be not only to teach the rudiments of interviewing procedure but also to develop familarity with the interview instrument. The interviewer should have sufficient confidence in his ability to manage the flow and order of questions so that he will be able to devote considerable of his attention to establishing rapport with the respondant. To the degree the respondant can be given a sense of assurance that the information he gives will be treated confidentially and responsibly, to that degree the interview situation gains in credence and significance.

Training should also incorporate the induction of an appropriate set of attitudes toward the survey task, particularly where indigenous personnel are to be utilized. They must have a sense of the ethical responsibility such an assignment entails. Constantly to be reiterated is the requirement of confidentiality of the data: the rights of the clients — the respondants — must be assured and protected. Also to be instilled in the indigenous or other interviewer is a sense of the utmost need for the integrity of the data. Its accuracy and honesty must be assured and protected.

The training period should be organized on a formal basis with a schedule, agenda, curriculum and appropriate professional instruction. It should include a discussion as to the overall general purpose of the survey

as well as an indication of the purpose and value of each item on the interview schedule.

Practice interviews should be held between the trainees with the instructor commenting appropriately. This is best done one pair at a time before the class so that all members of the project staff can visualize the interviewing process. All the interviewers should play the role of the person being interviewed as well as the role of the interviewer, so the advantage of using a pre-coded schedule as against one requiring written responses will become apparent. Since the use of indigenous personnel suggests the possibility of limited literacy skills, there should be assurance that all are able to read the questions and instructions.

After several sessions of practice interviews there should be several practice interviews in the field. These should be followed by staff meetings with a review of the problems encountered. Some of the inadequacies and unforseeable limitations of the schedule may be learned at this time and it usually will be necessary to make a number of changes.

A suggested training agenda might be the following — with no implication that this is a preferred model:

First Day:	Screening, testing and interviewing and selection of candidates.
Second Day a.m. session:	Orientation of candidates to project by project director. Distribution of schedule, definition of boundaries of area to be surveyed. Group discussion on expectations of dress, behavior and language.
p.m. session:	Introduction to appropriate Community Action Agency or project personnel, board members and public officials, carefully selected so as to not impair usefulness of indigenous trainees by being too closely identified with symbols or spokesmen of the "establishment".
Third Day a.m. session:	Review and analysis of the schedule.
p.m. session:	Practice interviews.
Fourth and Fifth Days:	Continuation of practice interviews. Role playing, especially if there are to be female interviewers or interviewers of a different race than the respondants, on what situations to anticipate and how to handle them.

Sixth and Seventh Days:	Practice interviews in the field by pairs.
	The last part of each day's interviewing should include a full staff meeting with a report on difficulties encountered and their possible solutions.
Eighth Day a.m. session:	Discussion of any changes made in the schedule, assignment of routes, designation of sample, distribution of material, instructions for checking in and out, and procedures for turning data in at the end of each day and on call-backs.
p.m. session:	Survey commences. Supervisors in the field with their assigned teams. Project director remains at office base to answer queries from police, area residents or instructions to supervisors on handling any special questions or problems which may emerge.
	As data begin to accumulate, the second phase of job training may now be developed for card punching. File clerking and data processing with an IBM counter and sorter, if this is available.

6. **Data Processing:** As previously indicated, in those communities where special or expert consultation had not been utilized, it became very difficult if not impossible to process the data from the schedules. Where open-ended interviewing has been used it is quite unlikely that several thousand responses of one or more paragraphs to each such structured question will ever be coded and analyzed. A good rule of thumb is to require justification for each question or item in the interview schedule. Who wants the question asked and why? How does he propose to use the answer? How will it fit in with the basic purpose of program planning, development, administration or evaluation?

Only if each item or question can meet these criteria, and if it can be asked simply and coded easily, should it be considered for inclusion. By so doing, project directors can facilitate and expedite the processing of raw data from the schedules.

All data processing, tabulating or counting should be repeated once over. Inevitably discrepancies will occur between the two counts and these must be rectified. Double-counting provides assurance that all errors have

been identified and corrected as well as providing job training in "market research" for the staff. This should include IBM card punching, which will provide a check on punching accuracy. Where there are differences between the decks, reference should be made to the original schedule to verify the correct punching.

The success of data processing, then, is first contingent on the expertise in which the schedule format was initially layed out. The second condition for ease and facility for processing is the design of the summary tables, which show the distribution of pre-coded responses to each item in the schedule. It would be wise to have these laid out in advance where consultation is available. Summary tables should present the findings not only by gross counts but also by percentage distribution of respondants for each possible response to each question.

Where manual procedures must be used, the general experience suggests work in pairs — one person calling the response to the item and the other recording the response on tally sheets.

7. **Writing of the Final Report of the Survey:** Unless the findings of the survey are brought together into a final report they will lose much of their value and utility. The report becomes the tangible evidence of the fulfillment of the project.

Generally speaking, the final report should be a straight forward statistical summary of the findings written by a senior staff person or consultant. It should contain a statement of purpose, a list of the participating agencies, the source of financial support for the survey, statements of appreciation to cooperating parties or organizations, the findings presented in tabular form and finally a copy of the interview schedule and other relevant documents.

8. **Distribution and Utilization of the Report:** Depending on the size of the community it is usually advisable to publish several hundred copies of the report. For this reason it is perhaps wiser to mimeograph rather than duplicate as it is also often necessary to supply additional copies at a later date. Copies should be distributed to all participating and co-operating agencies, to the press, and to other interested community organizations. All of the project staff should also receive copies.

If the project was carried out under the auspices of the local Community Action Agency it should convene a workshop or conference on the report in order to formulate program startegies suggested by the survey findings.

If the survey was under the auspices of the local Neighborhood Youth Corps, Youth Opportunity Center or other agency, a workshop, conference or institute might also be conducted but primarily to impart information to invited agencies.

Above all, the agencies, programs or projects most directly involved should conduct a review session for their own planning and administrative staff in order to ascertain the program implications for their own agencies. Without such a special effort the findings of the survey may be neglected and have no impact on action or program.

Particular concern should be paid to the survey findings as they relate to the type and extent of programs for various target populations. Are they broad enough to provide opportunity to participate for most of those in need and eligible or, as has happened in a number of communities, are there too many slots for the available number of clients in the local community? In any event, as charges that Project Headstart is not engaging the very poor persist, or as the Neighborhood Youth Corps is admonished to reach out more aggressively for the uninvolved hard-core dropout, program administrators, if they choose, will find the survey an invaluable tool in knowing where their poor are, how many there are, and what their needs are.

9. Do's and Don'ts of the Community Survey

1. Limit interviews to thirty minutes.
2. Alert police, Chambers of Commerce, Better Business Bureaus, and mass media **before** the survey.
3. Alert people in area to be covered with circulars placed under doors — not in mail boxes.
4. Survey supervisors should accompany teams into survey areas and should know whereabouts of female interviewers.
5. Carry identity cards, clip boards, portfolios, flashlights, extra schedules and pencils with erasers, not pens.
6. Where family is not at home leave a card indicating when next call-back will be made. Make at least three call-backs.
7. Where cases of need or crisis are uncovered, notify appropriate agency as soon as possible. Give such persons instructions, telephone numbers and directions for reaching appropriate agency or agencies.

8. Conduct staff review meetings weekly to discuss problems, questions and issues which arose during week.

9. Pre-code all questions. Avoid open-ended questions.

10. Expend extra efforts in locating the single unemployed males, particularly the 17-18 age group.

11. Questions on income and source of income evoke sensitive responses, particularly where income may be low or derived from public welfare. One way to handle questions on income is to present a card with a range of income and sources, and ask for an indication of category.

12. Interviewers should be instructed that they are not allowed to drink while on the job.

13. Completed interviews must be turned in at the end of each day.

14. One way to insure confidentiality is to assign a numerical code for each interview. The code sheet containing the name of the interviewer and its code number should be placed in a vault for safekeeping.

VT 004 223
Williams, J. Earl
The Role of the Community Action Program in the Solution of Rural Youth Manpower Problems.

New York Univ., N.Y. Center for the Study of Unemployed Youth
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jun67 22p.

*YOUTH PROGRAMS; *RURAL YOUTH; *COMMUNITY ACTION; FEDERAL PROGRAMS; *UNEMPLOYED; *COMMUNITY ROLE
COMMUNITY ACTION PROGRAM; CAP

Youth is defined as that segment of the population between the ages of 15 and 24. This definition includes 24 million persons, or 13.4 per cent of the population. Of this number, 7.5 million are rural and 1.8 million of the rural segment are farm youth. The unemployment rate for teenagers in 1965 was 13.1 percent for males and 14.3 per cent for females--the largest category of unemployment by far. The manpower problem of rural youth differs from that of urban youth, and it is to this point that this paper speaks. Based on the 1960 census, the Department of Agriculture indicated that, of the 16 million persons thought to be in poverty, almost half of them were in rural areas. The need for a Community Action Program (CAP) is discussed. The components of CAP are briefly summarized and include--(1) an information center to communicate existing knowledge to youth in the area, (2) a survey of human resources, (3) a referral service, (4) vocational training, (5) job development, (6) on-the-job training, and (7) multi-county programs. Some policy suggestions are recommended. (PS)

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THE ROLE OF THE COMMUNITY ACTION PROGRAM IN THE SOLUTION OF RURAL YOUTH MANPOWER PROBLEMS

by J. Earl Williams

TRAINING SERIES

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GRADUATE SCHOOL OF SOCIAL WORK • NEW YORK UNIVERSITY

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THE ROLE OF THE COMMUNITY ACTION PROGRAM IN THE SOLUTION OF RURAL YOUTH MANPOWER PROBLEMS

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Prepared for:
NEW YORK UNIVERSITY
Graduate School of Social Work
Center For The Study of
Unemployed Youth
June, 1966

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This paper is part of a project conducted by the N.Y.U. Center for the Study of Unemployed Youth under a grant provided by the Office of Juvenile Delinquency and Youth Development, U.S. Department of Health, Education, and Welfare to develop curriculum materials for program planners and operators.

THE ROLE OF THE COMMUNITY ACTION PROGRAM IN THE SOLUTION OF RURAL YOUTH MANPOWER PROBLEMS

Youth is generally defined as that segment of the population between the ages of 15 and 24. This definition includes 24 million persons, or 13.4 per cent of the population. Of this number, 7.5 million are rural and 1.8 million of the rural segment are farm youth. In many ways the manpower problem of rural youth differs from that of urban youth, and it is to this point that this paper speaks. First, however, it is necessary to get an overview of the youth manpower problem.

BACKGROUND TO THE PROBLEM

In 1965, 550,000 teenagers entered the labor force. This was three times the average increase of the preceding four years and constituted 40 per cent of the labor force growth. In addition, the employment of youth age 20-24 increased by 400,000. As a result, the unemployment rate for teenagers dropped from 14.5 per cent to 13.1 per cent for males and from 15 per cent to 14.3 per cent for females. Nevertheless, teenage unemployment still remained the largest category of unemployment by far. In the 20-24 age group unemployment dropped from 8.1 per cent to 6.3 per cent for males and from 8.6 per cent to 7.3 per cent for females. This was still almost double the national average at that time.

The problem is further complicated by the fact that, during the next several years, the number reaching the age of 18 will be 3½ million annually or over 700,000 more than 1964, which was a very high year. The employment prospects worsen when it is noted that ¾ of the male teenage increase in employment in 1965 was in jobs as operatives or laborers which require little or no skill. Also, the biggest increase in jobs for males in the 20-24 group was as operatives. However, the 1966 Manpower Report of the President points out that occupations as laborers will decline in actual numbers by 200,000 between 1965 and 1975. While the operative category will increase in numbers, the total is relatively small and represents the smallest percentage increase of any of the occupations showing increases between 1965 and 1975. This means that most youth face the prospect of seeking employment in the occupations which will expand the most between now and 1975 or the professional, technical, white collar, and service categories. With the exception of some service categories, these are occupations which most often require more than the usual high school diploma. However, as late as

1963, there were more than 6.7 million out-of-school youth in the 16-21 age bracket and more than 45 per cent of them had less than four years of high school. Of those with less than high school, ¼ had no more than 8th grade educations and ⅔ had less than tenth grade.

Turning more specifically to the rural segment of the manpower problem, the effects of the technological revolution on the farm have been well documented. While the decline in numbers of farmers and farm laborers in the workforce will lessen between 1965 and 1975, there will still be a reduction of 800,000 in this category. Further, it is expected that only one in ten farm boys who come of working age in the 1960's will be able to own and operate a farm of sufficient size to make a living.

Thus, the technological revolution on the farm has doubtless served as the base for substantial poverty in rural areas. Based on OEO guide lines and the 1960 census, an internal document of the Department of Agriculture indicated that, of the 16 million persons thought to be in poverty, almost half of them were in rural areas. Of this number, at least 1.8 million youth in the 16-21 age group were included. Further, due to the age and education of the family head, the Department of Agriculture estimated that over one million families were "boxed in" with no place to go for relief. In addition, another 1.75 million rural non-farm families were considered to be "boxed-in" for the same reasons. Finally, there were 49,000 heads of farm families who were 25 years of age or less and 50 per cent of them had an 8th grade education or less.

Based on the above, it is not surprising that unemployment rates are consistently higher for farm people. This causes the farm person to turn to one of two alternatives. The first is to stay in the rural area and seek non-farm employment. From this standpoint, it is worth noting that while farm employment dropped 34 per cent during the 1950's, the rural population hardly declined. In addition, while there was a 23 per cent increase in non-agricultural employment in urban areas during the 1950's, there was a **19 per cent increase in non-agricultural employment in rural areas!** For many, particularly the rural youth, the first alternative has not been available or desirable. This leads to the second alternative and a major complicating factor in the manpower problem of rural youth — migration!

The large percentages of youth and the small percentages of ages 20-45 in rural areas compared to urban is evidence of a continuing pattern of migration. Nevertheless, there is strong evidence that rural youth make every effort to remain within commuting distance of their rural homes. For example, in a study made by Michigan State professors Beegle and Rice (for the National Committee for Children and Youth), it was clearly established

that while rural youth in the 15-19 age bracket are over-represented in comparison to those in urban areas in all geographical areas of the nation, males in this bracket are actually under-represented in areas which are 50 miles or less from a Standard Metropolitan Statistical Area. The reverse of this is true in communities which are 50-150 miles from such an area. This would seem to indicate that knowledge of job opportunities, better education and training opportunities, and the short distance from the home environment is correlated positively with migration. The opposite situation is true for rural youth in the 20-24 age bracket. Although generally under-represented in comparison with urban areas, they are significantly over-represented in areas 50 miles or less from a Standard Metropolitan Statistical Area. Yet from 50 to 200 miles away, they are substantially under-represented. This would appear to indicate that many of the youth in the latter areas had finished school and then decided to migrate upon reaching the age of 20. Conversely, the high percentages near the metropolitan area may indicate that more job opportunities are available, thus enabling the person in the 20-24 age bracket to farm and supplement his income or else turn to non-agricultural pursuits entirely while continuing to live in his home area. In both cases, it appears that most rural youth desire to remain in or near their home area for as long a period as possible.

That the alternatives suggested above are not always equally available was indicated in a study by Professor George S. Trolly of North Carolina State College[1] in which employment in outlying counties (defined as a county having no town of 50,000 population or touching such a county) grew only 1 per cent during the 1950's compared with 15 per cent for the national average. Further, around farm areas those industries that are attracted are usually large employers of women and/or contain a number of jobs for which the farm male has little training. Thus, it is not surprising that there is an annual heavy outmigration, particularly from the outlying counties, which has been totaling 250,000 in recent years.

Professor Bishop's study also indicated the effect of continued outmigration of farm youth on the rural youth manpower problem. For example, less than half of those on the farm in 1960 (in the age group 15-24) will still be there in 1970 in the North Central or the Northeast regions. In the West, only one in three would remain, and only one of five in the South. Thus, if the estimated farm migration of 2 million males during the 1960's becomes a reality, it would deplete the rural population by 8 million persons if not offset by an expansion in non-agricultural employment. This would approximate a 15 per cent decline in rural population. While, theoretically, one can draw

[1] (See Rural Youth in Crisis: Facts, Myths, and Social Change, U.S. Department of Health, Education, and Welfart, pp. 257-71.)

finite positive conclusions from such a prediction, the reality of history indicates a worsening of the manpower problem generally in a declining community and an upheaval of social and economic problems (with manpower being basic) in the form of increased slums, increased unemployment and heavy pressures for crash job-related education and training programs. Thus, the sword of alternatives has two sharp edges, both of which must be dulled if the rural youth manpower problem is to be solved.

THE COMPONENTS OF THE PROBLEM

Given the background just discussed, a number of general components of the problem can be summarized. They are:

1. Youth are entering the labor force at ever increasing numbers.

2. Youth generally continue to experience the greatest rates of unemployment.

3. There will continue to be both a real and percentage decline in jobs requiring little or no skill.

4. There is an urgent need for education and training beyond the usual high school degree.

5. Rural youth, in general, have a much lower level of education and training than urban youth.

6. There will be a continued decline of farm opportunities for rural youth.

7. The fact that very large numbers of rural families are "boxed in" has contributed to the disproportion of poverty in rural areas.

8. A geographical difference in migration patterns has developed largely based on knowledge of and/or actual existence of non-agricultural job opportunities.

9. A particular problem of employment opportunity exists (agricultural or non-agricultral) in outlying counties.

10. Rural out-migration has a real effect on the urban manpower problem.

The summary of the general components of the problem immediately bring to mind some needs and possible approaches to the solution of the general problem. It is here that specific components of the problem are discovered. Therefore, it is necessary to consider the totality of the problem be-

fore developing a framework for the solution. Thus, the specific components to be considered are:

1. In general, education and vocational training facilities in rural areas are far from adequate.

2. Despite heavy out-migration, there is still relatively little emphasis in rural vocational programs on non-agricultural related employment.

3. The existence of untrained labor has a negative effect on the community ability to attract non-agricultural industry.

4. Local rural communities, generally, are not capable of financing needed general and vocational education.

5. The spacial problem makes it difficult for rural youth to obtain knowledge of jobs in distant communities.

6. Services in general, are inadequate in rural communities, especially in guidance and counselling, and post high school programs are practically non-existant in most communities. Consequently, little is known of the interest, abilities, and aptitudes of rural youth.

7. Their background and environment have generally put rural youth at a disadvantage when seeking employment in an urban environment.

8. Even when needed programs exist, the geographical problem has hampered the identification of the specific and individual needs and potentials of all rural youth.

FEDERAL LEGISLATION RELATED TO THE PROBLEM

Before establishing a Community Action framework, it behooves a community to have, at least, a brief acquaintance with the existing legislation which might contribute to the solution of the problem. Space will permit only a cursory treatment of some of the major federal legislation and no discussion of state and local possibilities. However, this brief summary should put the Community Action Program framework in proper perspective. Some of the major legislation possibilities are:

1. **The Manpower Development and Training Act:** This Act and its amendments have been largely related to vocational training. It is now possible for youth as young as 17 to draw training allowances for up to two years. Also, the per cent of the total budget which can be allotted to training of

youth under 22 years of age has been increased to 25 per cent. In 1965, 42 per cent of the institutional trainees were youth under 22, and 39 per cent of the on-the-job trainees. In addition, experimental and demonstration projects are possible as well as a variety of mobility programs.

2. **Other Department of Labor Programs:** Either under MDTA or through its regular bureaus, the Department has a number of additional aids. For example, the Bureau of Employment Security has special youth programs which extend to most of their local offices. A prime example is the Job Opportunity Center. Other special youth job development programs have been created.

3. **Vocational Education Act - 1963:** Among other things, this Act attempts to de-emphasize agricultural and home economic vocational training and provide more of the skills whcih are needed for the jobs developing in the non-agricultural sector. Up to July 1, 1968, one third of a State's allocation, and 25 per cent thereafter, can be used for vocational education for persons who have completed or left high school and who are available for full time study in preparation for entering the labor market. High schools, vocational schools, and even colleges can qualify to administer such programs. In addition, grants are available for area vocational-technical school construction, and 125 were authorized in fiscal year 1965. Finally, work-study programs with cash benefits and experimental, developmental, and pilot programs designed to meet the special vocational needs of youth are available.

4. **Higher Education Facilities Act - 1963:** Education beyond the usual high school diploma is encouraged in the form of grants and loans for the construction of facilities. Twenty-two per cent of the total budget is allocated to public community colleges and technical institutes, and private technical institutes are eligible in the other 78 per cent.

5. **Elementary and Secondary Education Act - 1965:** The possibility of tackling the youth manpower problem in high school exists with this Act. Title I contains more than one billion dollars for grants to strengthen educational programs for disadvantaged children. Under Title II a wide variety of educational materials can be acquired. Finally, Title III allows grants for such services as guidance and counselling, including continuing adult education.

6. **Higher Education Act - 1965:** Under this Act funds are available for helping colleges and universities to provide community services, improve libraries and give financial assistance to students. Not only is work-study

provided for, but also grants of from $200 to $1,000 are available to high school graduates in financial need. Among the other provisions is the inclusion of a National Teacher Corps which could be of immense benefit in rural areas.

7. **The Appalachian Act:** While related to a specific area of the nation, the highway construction and reclamation programs have a direct relation to rural community development and may often be the major link in the chain of programs necessary for problem solution. Recently, the planning and location of vocational schools have been of prime concern to the agency.

8. **The Rural Community Development Service:** This service was recently developed in a Department of Agriculture and, according to one of its internal documents, has the primary mission of facilitating the administration of Federal programs in rural areas and guiding and helping USDA agencies plan and coordinate their rural community development activities. Public information programs, workshops, close coordination with the county Technical Action Panels are a few of the resources to be utlized in an effort to assure rural people of the availability of federal services. The Service has a very strong interest in vocational training of youth.

Finally, the RCDS proposes to develop Community Development Districts whereby municipal and county governments in rural areas can pool their resources for comprehensive planning and action. A typical district may contain two small municipalities, have a radius of fifty miles from the center and have as high as 240,000 in population.

9. **Economic Development Agency:** This is the successor to the Area Redevelopment Agency and has over 3 billion dollars for economic development programs. A major innovation is the introduction of multi-county districts and multi-state regional planning commissions. Starting July 1, 1966, special financial assistance will be given to economic deveopment "centers" contained in these districts.

10. **Economic Opportunity Act:** Popularly referred to as the Poverty Program, this Act contains such features as the Neighborhood Youth Corps, Job Corps, Vista, work-study, and migrant programs, in addition to the Community Action Program. The open-ended possibilities of community action should be kept in mind as Section 205 includes as possibilities programs and services such as "employment job training and counselling, health, vocational rehabilitation, housing, home management, welfare, and special remedial and other non-curricular educational assistance. . . ."

THE THEORETICAL BASIS OF A COMMUNITY ACTION PROGRAM

While the legislation is not explicit in the development of this framework, a number of theories must, of necessity, have been implied. Some of the more important ones which a year of administrative experience has made clear to the writer are:

1. Since the purpose of the Act is to reduce poverty, it is difficult to see how this can be accomplished without enhancing income. This implies programs which will make it possible for a person who is unemployed to become employed or for one who is in poverty as a result of underemployment to get a better job. Included, of course, is the removal of whatever obstacles exist which make it impossible for the intended trainee to embark upon the program. Consequently, all CAP programs should, in either the short or long-run, relate to the achievement of this stated objective.

2. Yet, there are a large number of agencies and an even greater number of programs which can relate to this objective.

3. Nevertheless, there are not nearly enough financial resources in the combined budgets to meet all the needs.

4. In addition, the programs that do exist are often completely uncoordinated and duplication of effort is commonplace. Thus, the already insufficient resources are further dissipated.

5. At the same time, it has long been argued that the local community is in the best position to analyze its own problems and to develop solutions — particularly if it is strengthened financially.

6. But even on the local level, there has generally been insufficient knowledge of all of the existing program possibilities, and often agencies which serve the same or similar groups have not known of the existence of the other. This is largely due to an almost complete absence of coordination of programs at the local level.

7. So the CAP program was established to inform, advise, introduce agencies, achieve cooperation, and attempt to coordinate the action of all other federal-state-local programs to the fullest extent possible. Theoretically, this makes sense, particularly in the case of the manpower problem of rural youth.

8. Thus, it was not intended that all community problems be solved with community action funds only or that a community action program was to consist only of components funded by OEO. Even theoretically, it was more

the intention that the local CAP serve as the catalyst to spur investigation, cooperation, program development and coordination rather than serve as an administrator with authority to direct all action. This kind of theoretical underpinning is fraught with awe-inspiring possibilities as well as frightful responsibilities.

RURAL YOUTH MANPOWER PROGRAM FRAMEWORK

The approach to the development of a manpower program should be no different from any other and there is no single model. It may be a separately operated component or part of an overall manpower component or total CAP program. The practicality of the situation should dictate the administrative arrangement, and the questions asked to determine the practicality would normally be the same. The order of the questions would generally be somewhat as follows:

1. What is the problem?

This may be quite obvious such as excessive youth unemployment, substantial high school drop-outs, lack of trained youth, etc.

2. What is necessary to solve the problem?

It is probably best to think of a chronology of needs rather than think in terms of specific program possibilities of specific agencies at this point. It may include such things as lack of finances, transportation problems, availability of vocational training facilities, etc. On the other hand, it may be the need to develop a public facility or attract an industrial plant or some other need indirectly related to solving the manpower problem of rural youth. In searching for what needs to be contained in a manpower program to solve the problem, it is well to assess all components from recruitment of the rural youth through training to job placement.

3. What contribution to solving the problem can the local community make?

This may mean a thorough assessment of local finances, the inauguration of an industrial development program, or simply a request to an existing service agency operating in the local community to expand its services throughout the geographical area.

4. What should be the geographical coverage of the program?

Assessments up to this point may provide a ready answer. Given limited financial resources and vocational facilities, many rural communities are finding it wise to develop multi-county programs. The pooling of resources in this manner may solve part of the problem.

5. What are are remaining gaps?

6. Which agencies and programs can relate to these gaps?

Here a knowledge of all program possibilities is important and a thorough perusal is called for.

7. How can a total unified approach best be achieved?

By this time, the number of agencies and programs involved should be known and the pieces put together. The program will be much more meaningful if this step is achieved and each agency to which a request for funds is to be made is fully aware of its role in the total integrated program. Piecemeal applications result in piecemeal programs.

SOME PROGRAM SUGGESTIONS

By this time, it is clear that there is a multitude of approaches which can be used as attempted solutions to the manpower problem of rural youth. These can be fully coordinated and integrated total manpower approaches covering a large geographical area or components of an overall program. The environment of the time will probably dictate what must be done. While it is best to look at such a program totally, it may be of benefit to discuss separate components and services, any or all of which can become a part of one total program. A brief summary of possibilities follows.

1. Information Center

A great deal can be accomplished by a CAP by merely finding ways to communicate existing knowledge to youth in the area covered. This could be as simple as one person in the CAP office to handle all areas of information, of which youth opportunities would be only one phase. On the other hand, there may be a separately operated youth program with an extensive amount of special materials and aids available for an inquiring youth.

2. A Survey of Human Resources

Even the existence of an information center will mean little if no one seeks the information. Yet, throughout the nation very little is known about individuals in need specifically. This is especially true in rural areas. In total, we know that so many youth live in an area, and perhaps the census data tells us that so many are in need. Yet we have few records of the individuals specifically and have no idea singly or totally of the actual needs and potentials of the youth in the area. What is needed is more than what is commonly called recruiting for a specific program. Rather, we need a door-to-door canvas if we are to fully analyze the manpower problems of rural youth.

This must be combined with interviews, tests, counseling, etc. One approach is to employ other youth to make the call and bring the youth to the CAP or other employment center. Often VISTA volunteers can be utilized. One approach which has been very effective in rural areas is the mobile youth center. In this case a bus or trailer is turned into a laboratory in which testing, counseling, etc., can take place. As the unit goes from one community to another, it becomes the youth center for the time it is there. Often these centers have programs which relate to the parents, as well as assembly programs in some of the schools, films, and even recreation programs. All these techniques can serve to heighten the interest of youth in the community.

3. Referral Services

The key to the two previous program areas is having a good referral system. The referral can be to a program run by the CAP or to one run by another agency. It can be to a job, to a school, to a manpower training course, to the county health department, etc. If there is good coordination among all the agencies and a thorough cataloguing of youth needs and potentials, the referral phase can be a most effective bridge.

4. Vocational Training

Hopefully, there will be the requisite facilities for institutional training at least in an area vocational school. If this is not the case, there exists enough flexibility in various laws to allow for transportation to and from the nearest city, or actual movement to the city with subsistence allowances. In fact, it is not inconceivable that experiments in housing near an area vocational school could be tried. A great variety of approaches to vocational training in rural areas is possible. Some of these are:

(a) **Farm Training:** While it normally would not be practical to attempt farm training for youth, it makes a great deal of sense to attempt to improve the lot of the adults previously discussed who are trapped on the farm. If they could spend the remaining years of their life in the environment they like best and with a more decent income, it would eliminate the necessity of their sons and daughters growing up in the city slum. Thus, given the proper youth manpower program in the community, a happier solution should be the result. One such program, recently developed, included literacy education, farm management, leadership development, cultural enlightment, progressive area improvements, community opportunities and resources and supervised on-the-farm training. A large number of services are to be performed without cost to the project by the State Agricultural Extension Service.

(b) **Agricultural-Related Training:** Although the number of farms are declining, the average size is greatly increasing. Consequently, a number of jobs are developing in the broader agricultural sense. For example, a very successful program which is currently being operated in Louisiana is training former farm hands to operate and repair complicated farm equipment. The sponsor, Loyola University, has developed small motivational groups for problem solving and has a basic education component which includes history, current events, civics, basic science, consumer eduation, home and family care, and health.

One of the most unusual agricultural-related training programs was developed earlier this year by the Employment Division of OEO. This is a ranch management program which will include all subjects necessary to make the trainee an efficient ranch hand in a 12-months-a-year job. Included is everything from branding to irrigation to artificial insemination and cattle diseases. Half of the time is spent in the classroom and half on the ranch. Basic education and cultural enrichment, as well as a formal recreation program are included for the youth, all of whom live on the ranch. Food is also provided, as well as clothing and a health allowance. Most of the trainees are rural youth, although some come from Denver and one from New York City. Their backgrounds range from experience as a summer cowboy to city boys with no work experience and who have never ridden a horse. Job offers already received at the ranch are several times the number of trainees and at wage levels double the rate for seasonal employees.

By the end of 1965, the MDTA program had trained 15,000 in agricultural-related courses. In addition, the Office of Education sponsored a study in 30 states to determine new and emerging occupations related to agricul-

ture for which training may be given. Some of the training to date has included dairymen, foremen, gardeners, nurserymen, and jobs in food processing and wood processing.

In addition, if agricultural-related public employment is considered, it is estimated that there are 265,000 man-years of non-recurring work and over 1,000 man-years of annually recurring work which needs to be done in national forests. Another 10,000 to 25,000 youth could be employed in constructing multiple-use roads, campsites, picnic areas, recreation facilities, planting trees, improving timber stands, as well as the range, wildlife, soil and water. Finally, the USDA estimates that non-urban recreation activities are to increase by 62 per cent between 1960-73; this will be an increase of 400,000 jobs.

(c) **Training Rural Non-Farm Residents:** While non-farm residents can be trained for any of the positions previously mentioned, there are great numbers of jobs which are developing in the rural fringe of urban areas. A very successful program currently operating in Tennessee utilizes a one-to-one ratio of volunteers to trainees who go into basic education programs in the rural area. After 8 to 24 weeks of basic, they are placed in OJT situations for 8 to 24 weeks. All of the job placements are in rural areas or in very small rural towns.

(d) **Training for Mobile Rural Youth:** While a great number of opportunities exist for the kind of training previously discussed, it must be recognized that many rural youth must look to the urban opportunity as their best choice. This is especially true when the high school diploma has been received and aptitude for non-rural opportunities exists. In this case the urban area and a number of rural counties should be tied together in one manpower program. Also, a good basic component is a multi-occupational vocational training program. This gives the rural youth a number of alternatives such as commuting to class, moving to the city for classes, receiving training which would not be possible in the rural area (but in some cases would enable him to return to or near his home environment) and relating these to a number of educational programs. For example, not nearly enough linkage of the many OEO educational-work programs has been attempted. Over the long run it should be possible to think in terms of a chronology of manpower services to youth starting with the Job Corps, to the Neighborhood Youth Corps, to Upward Bound, to the work-study provisions for college students. A central training program for a wide geographical area could be tied to this, thereby giving additional work-training-education alternatives for those unable to follow through to college.

5. Job Development

While job development components of manpower programs vary greatly in size, the rural areas need a thorough survey of jobs. Every employer in the area, particularly the small and medium-sized ones, should be canvassed. This approach often turns up unknown jobs or employers who are willing to do their own on-the-job training. It is possible to utilize this approach, however, for a formal and extensive OJT program. (OJT programs will be discussed under a different heading.)

The job development specialist should be thoroughly familiar with the businesses of the area and be able to ascertain training needs, as well as job opportunities. Thus, in close concert with the Employment Security Office, MDTA programs can be arranged. This component should be familiar with job opportunities in nearby or other areas, in order to properly advise the more mobile rural youth.

Consequently, aids to mobility can be very much a part of a job development program. A number of possibilities are available under MDTA, and there is no reason why there cannot be a variety of mobility aids developed by OEO funded programs. It would even be well to have a formalized aid program in the city for rural youth who migrate for training or a job.

6. On-the-Job Training

As already noted, an OJT program can be part of a number of manpower components, or it is possible to develop it as a separate component. OJT is simply the training of workers while on the job. Several Titles of the Economic Opportunity Act, as well as MDTA, make such training possible. It can be used in a variety of ways to assure a fully-developed job program. It is particularly useful for those youth who do not want to return to the kind of school they attended. The program is flexible in duration, as well as in the size of companies cooperating. It is also very important to combine OJT with remedial education. No one educational approach has proved best; so much experimentation on the local level is possible.

The development of OJT requires finding suitable training positions, negotiating a rate of pay with the employer, obtaining the consent of the union in many cases, and drawing up the training contract with the employer. While, in the past, the Bureau of Apprenticeship and Training has done most of this work, it is now possible for a CAP to serve as the "prime contractor" and deal directly with prospective OJT employers. The CAP sub-contracts with the employer subject to BAT review and approval.

One of the best examples of a comprehensive rural youth OJT program is the New Jersey Youth Development Program. Its primary purpose is to offer OJT in conjunction with remedial education, counseling, basic work experience and finally full-time employment. The youth worked with State agencies and received $1.25 to $1.35 per hour. Of the first 500 enrollees, 100 received full-time employment, others went into more formal OJT for service occupations, 30 went back to school, and a number entered the Job Corps, NYC, or the military.

7. Multi-County Programs

In the rural area, it is extremely important to think in terms of regions rather than small local areas. Any number of possibilities exist for CAP agencies to combine forces or for a separate regional organization to develop a manpower program which can not only contribute to problem solutions but can stimulate the development of a viable CAP program where one does not exist. The best example of this to date is in Mississippi, where the Catholic Church served as the catalyst for developing a non-profit state-wide agency. Eighteen centers cover the state as both human resources and jobs are catalogued. Basic education is taught at each center and all state agencies cooperate in referrals.

SOME POLICY SUGGESTIONS

It is extremely difficult in a limited period of time to make many specific policy recommendations. What is probably needed more is extensive use of the possibilities which already exist. Consequently, what follows are a few very general recommendations for both the local and the federal level.

1. There is a very definite need for the development of University Manpower Centers. Such centers can perform a variety of needed functions. For example, it can serve as a clearing house of information, provide valuable consulting services for program development and evaluation, and most important at the present is the training and orientation of regional and local CAP personnel. It is also possible to sub-contract difficult components to such centers and to cooperate with them in work-study programs. Fortunately, through the efforts of Dr. Sanford Kravitz, OEO has recently established four such centers, in addition to the one which is sponsoring this program today. Others will be developed by OEO, but it is always possible to work out cooperative programs with universities which have not received OEO grants for program development.

2. One of the most urgent needs on the local level is the training and orientation of your own personnel in the manpower field. The federal manpower staff in OEO is quite small and not available for such a program. Generally the regional offices do not have manpower specialists and in addition their staffs are small. While it is true that regional staffs allegedly received some orientation in manpower recently, it was not given from a background of knowledge in the field of manpower economics or with knowledge of the needs of rural areas. Consequently, the feeling of the writer is that any orientation received by regional staff worsened rather than improved the situation. Thus, it behooves a local staff even more to acquaint itself with the intricacies of manpower problems.

3. It is important for local staff to make its feelings, whether in regard to program administration or legislation, known all the way to Washington. The writer has received many comlpaints from rural areas that cities are given preference both in regional and federal offices. This complaint, along with sound program knowledge, received of necessity in university programs, should have a proper airing.

4. Thought should be given by local CAP's as to the proper administrative home for manpower programs. There is often duplication, and federal agencies are not equally qualified in manpower. For example, time and experience might suggest that the Department of Labor would be better qualified to handle OEO manpower programs. Much of the Act is already delegated. If there is a need to use OEO funds to stimulate old line manpower agencies, it might be possible for OMPER to serve this purpose as it has already done with experimental and demonstration programs. Your experience with manpower provisions of other Acts should be added to this thinking.

5. Clearly there is a need for liberalization of the provisions of much federal legislation. For example, OEO and OMPER can often give services which are not legal for Employment Security or some HEW agencies. Particularly in the case of Employment Security, the provision and encouragement for a broader range of services should become a reality.

6. There is a need for legislation provision for funding programs designed to study the total rural vocational training needs and potentials. This should be tied in with commercial and industrial development of rural areas.

7. There is need for specific authorization for broad human resources

and job surveys in rural areas. Only in this way will the nation be fully aware of its manpower needs and possibilities.

8. While a beginning has been made in some legislation, there still remains a need for setting aside specific percentages of federal manpower funds for rural areas only. This will serve to eliminate many of the administrative and rural biases which currently exist.

In the 1966 Manpower Report of the President, the concluding remarks in President Johnson's introduction to the report were:

> A manpower policy should lead us to a society in which every person has full opportunity to develop his—or her—earning powers, where no willing worker lacks a job, and where no useful talent lacks an opportunity.

The rural youth of America is composed of many willing workers and many useful talents. Thus, it is hoped that by highlighting their problems for the past few moments, a number of rural CAP's will be better able to help rural youth achieve the full opportunity of which the President spoke.

VT 004 226
Lesh, Seymour
The Nonprofessional Worker in Youth Employment Programs.

New York Univ., N.Y. Center for the Study of Unemployed Youth
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Feb66 19p.

*NONPROFESSIONAL PERSONNEL; *YOUTH PROGRAMS; *EMPLOYMENT PROGRAMS; RECRUITMENT; PERSONNEL SELECTION; SUPERVISION; ON THE JOB TRAINING

The nonprofessional is described in this paper as a person who comes from the same milieu as that of the clients being served by the program. As such he can communicate with those clients not responsive to present professional training or techniques. He works as a part of a team with professionals, has an opportunity to contribute to policy making, has ancopportopity to contribute to policy making, has a career opportunity within the work he is doing, and is chosen without regard to academic or similar credentials. The roles of nonprofessionals can enhance the work of programs by freeing professionals to exercise their unique skills more fully. Some of the special characteristics of indigenous nonprofessionals which make them valuable staff members are described. Some ways in which nonprofessionals may be recruited, selected, trained, and supervised are suggested. A hierarchy of nonprofessional jobs is identified, each with a different level of responsibility and concomitant remuneration. (PS)

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THE NONPROFESSIONAL WORKER IN YOUTH EMPLOYMENT PROGRAMS

by Seymour Lesh

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VT004226

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THE NONPROFESSIONAL WORKER
IN
YOUTH EMPLOYMENT PROGRAMS

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Prepared for:
NEW YORK UNIVERSITY
Graduate School of Social Work
Center For The Study of
Unemployed Youth
February, 1966

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This paper is part of a project conducted by the N.Y.U. Center for the Study of Unemployed Youth under a grant provided by the Office of Juvenile Delinquency and Youth Development, U.S. Department of Health, Education, and Welfare to develop curriculum materials for program planners and operators.

THE NONPROFESSIONAL WORKER IN YOUTH EMPLOYMENT PROGRAMS

INTRODUCTION

Youth employment problems are intensifying faster than we can solve them by traditional means. Walk into most youth employment agencies and note the harrassed look on the faces of many of the professionals as they scamper about with fistfuls of paper, two or more youth in tow, answering telephone calls which are demanding that more forms be filled out, and placating irate parents who want to know why the welfare department has cut off their checks just because their son is earning twenty dollars a week. Or notice the reception room with large groups of youth waiting to talk with someone, and waiting, and waiting. . . . Notice, too, the inability of some professionals to communicate with certain types of youth, and watch those youth as they leave the program embittered at, disenchanted with, and alienated from a world they don't understand and which doesn't understand them. It is our contention that nonprofessional workers, **properly trained and utilized,** can alleviate much of this chaos and waste.

The lack of acceptance of the nonprofessional is often based upon what he **cannot** do rather than on what he **can** do. Part of this stems from the title "nonprofessional" which is negative; it describes what the worker is not, rather than what he is. There is fear that disservice will be done to youth by foisting them off on well-meaning but professionally-untrained workers. One way of achieving some perspective on this issue is to look at the nonprofessional in terms of his role and the possible utilization of that role within professional disciplines. What can the nonprofessional do? And are such roles practicable within the context of preserving the professional's status and serving and protecting the youth?

In a recently completed training program[1] we found that there is a substantial role for nonprofessionals in youth employment programs; that given proper training and supervision the nonprofessional can perform, and is performing, some or all of the following duties:

> He gathers information relating to youth and their employment by visiting their homes and interviewing them and/or their parents. He acts as a reception and intake worker for new clients reporting to the agency. He assists counselors by administering structured interviews and questionnaires and discusses the findings with other staff members. He assists teachers or professional remediation workers

1 National Committee on Employment of Youth, "A Demonstration On-the-Job Training Program for Semi-Professional Personnel in Youth Employment Programs," **Final Report**, Dec. 1965.

tutoring individuals or small groups in reading and mathematics. He supervises groups of youth in the performance of certain maintenance, clerical or laboring tasks. He assists psychometrists in administering and evaluating a variety of tests or work samples. He canvasses employers by phone, mail or in person to locate possible job openings for youth and refers youth for interviews. He visits youth on the job or in training situations to discover progress and uncover problems. He recruits youth for the program by approaching them in the street or in areas where they congregate. He teaches specific skills in certain limited areas.[2]

These are real jobs within youth employment programs; they reflect the broad range of services which a program can adopt if patterns of personnel utilization are carefully delineated. More effective use also is made of the professional's specialized training and unique skills.

But it is not just a matter of having extra "hands" in the program or of being able to shunt off tedious or menial jobs on someone else which makes the nonprofessional valuable. He brings to a program certain attributes which, in and of themselves, make him a valuable addition to staff. In our discussion, we are referring to those youth employment programs dealing with deprived or minority-group youth, and providing outreach, counseling, remediation, work experience, vocational training, placement, or any combination of these services; and to nonprofessionals indigenous to the same neighborhood or group as the youth being served. The indigenous nonprofessional, therefore, has grown up in a milieu similar to that of the youth. Because of this, he has experienced most, if not all of the problems and frustrations inherent in that milieu. His family background, his patterns of speech, his hopes, dreams and desires, his experiences in coping with society's bureaucratic institutions, his knowledge of his neighborhood's social and anti-social alignments and biases; in effect, his "life-style" is the same in every way as that of youth growing up in distressed circumstances. And therein lies his strength. He can do what most professionals cannot do — he can **communicate,** in the broadest sense of the term, with those youth deemed "unreachable" or beyond hope by the professionals. Thus, the nonprofessional can operate as the "eyes and ears" of the program and as a "bridge" between the professional and the youth, interpreting for both what heretofore was unintelligible.

TRAINING

To augment his natural attributes, that is, to complete the bridge, the

2 **Ibid.,** These duties have been taken from a job description of "Professional Aide" (nonprofessional) developed by us and based upon actual work performed by sixty people during their training and after final placement.

nonprofessional needs to develop certain skills, to obtain certain information which will enable him to function within the program's structure and goals and to achieve a measure of self-esteem. His ability to relate to youth, despite his inherent qualities, will have to be learned, as will his relations to professionals and professional norms. And, conversely, the professional's ability to relate to him will have to be learned. This latter point is troubling administrators in the field as they often discover that there is serious lack of information on what constitutes proper tasks for **professional** personnel, to say nothing of nonprofessional tasks. Unless professionals clearly understand the objectives of a program and their roles and responsibilities within it, they will be unable to relate realistically to nonprofessionals. It is necessary, therefore, to prepare professionals for their own tasks prior to having them select, train or supervise nonprofessionals. Admittedly, this means changing old patterns of staff roles and utilization, and finding adequate time for the training. These are administrative functions or decisions which, if thoughtfully implemented, will enhance the effectiveness of a program by allowing for the differentiation of professional and nonprofessional tasks. And these tasks will determine in large measure the kinds of skills and information the nonprofessional will need, and how they will be transmitted to him.

Our experience gained in working with a variety of youth employment programs, indicates that nonprofessionals will need, among other things, some preparation in the following areas:[3]

1) **The social and psychological problems of youth.** Focusing and organizing the nonprofessional's experiences on problems related to: the family, the home, the peer group, the school, the neighborhood; problems of anti-social behavior: addiction, delinquency, probation and parole; specific problems of minority groups; poverty.

2) **Youth and the labor market.** Local labor market conditions affecting youth employment; employer standards for new workers; what youth needs to meet these standards; effect of good work habits; meaning of automation for youth.

3) **Perspectives, theory and operation of public and private social agencies.** Services and resources to draw upon; the role of the professional; the potential role of the nonprofessional; orientation to parent agency; special government-supported programs and services.

3 Ibid., pp. 22-42, for a more detailed description of these areas.

4) **Communication skills.** Techniques of observation, interviewing, reporting and evaluation; written and oral reports; dealing with professionals and youth.

In addition, they will need a practical application of these elements to synthesize the more theoretical aspects of their preparation. Experience has shown that in order for learning to take place there has to be active participation of the learner. In this respect, nonprofessionals are no different from anyone else when it comes to training. However, theoretical or vicarious learning can take place for nonprofessionals only after a certain amount of success has been achieved in practical learning. For this reason, on-the-job training is the key element in preparing nonprofessionals to work with youth. It is the means by which relatively abstract knowledge is translated into practical terms; it is a time for trying out unused skills and developing new skills in a protected setting. A real learning experience is, of course, essential; one can not be successful and use tasks of a make-work nature. Nonprofessionals, as all workers in the field, need to have direct contact with the youth being served. And they need to perform a variety of tasks in order to test themselves in different situations. Again, as with anyone in a new situation, the nonprofessional learns best by starting with relatively simple tasks and proceeding to the more complex.

The broad subject areas listed earlier are more easily understood and assimilated by the nonprofessional when related to experiences gained on the job. The nonprofessional, himself, can recommend specific facts and material he needs in order to do his job properly. Thus, whether training be formal or informal, an atmosphere which is at once **flexible** and **demanding** should be fostered. **Flexible** because each nonprofessional worker will need different things at different times with varying degrees of intensity; each will have had different experiences on the job, leaving much leeway in training to the awareness of the supervisor. **Demanding** because the nonprofessional worker needs to understand his responsibilities to youth and to the program, and that his greatest asset—that upon which his employment is based—lies within the **disciplined** application of his own resources.

SUPERVISION

The role of the nonprofessional's supervisor (or trainer) is difficult, then, because he too must be both flexible and demanding, because he must allow the nonprofessional to achieve a degree of independence within the limits of nonprofessional responsibilities.

The nonprofessional worker, at least when first hired, needs a highly structured situation in which he can perform his tasks effectively. While he can be extremely resourceful within his given areas of functioning, his previous work experience, largely in unskilled occupations, limits his ability to

work successfully without direction. Few, if any, nonprofessionals will have had "white collar" jobs, and they will tend to associate the role of a supervisor with that of a foreman in a production situation. Instead of the give-and-take of a supervisor-nonprofessional relationship, the worker will expect to be told what to do and how to do it. The sophistication, discipline and self-confidence required to work in an unstructured atmosphere will have to be learned, and the supervisor must establish the kind of relationship with the nonprofessional which will result in achieving that learning. Whether the nonprofessional acts independently or as a member of a team, his proper utilization is based on the role prescribed by the program and the supervision provided by the professional staff. While these are broad guidelines of supervision applicable to all workers, for the nonprofessional, supervision becomes the make-or-break element because his job description will be different from any previous worker's description and, therefore, supervisory techniques will have to be somewhat different from those used with professionals or graduate students.

The nonprofessional should have **one** person to whom he can turn for direction and guidance and a base to which he can return for support and instruction. This does not preclude his working with a number of professionals, but it does imply that one person will be responsible for the way in which his work is assigned and carried out and for the way in which other professionals deal with him. If his place in regular agency or program operation is not clear to him and to other personnel there is the danger that his job will deteriorate into unrelated and meaningless assignments. In the case of a new program where all staff are learning their jobs, supervision of nonprofessionals becomes difficult, but could be incorporated as part of the training of professional staff.

The nonprofessional should be encouraged to discuss methods and techniques for dealing with his own job within the agency as well as with the target population. Again, through an adequate understanding of his own role, he can function better with those in need of service.

Our experiment in the use of nonprofessional workers indicates that supervisory time, as with all workers, must be extensive in the beginning, but as the worker becomes more familiar with his role, time can be reduced in most instances. We found that where a thoughtful supervisory program has been established, the nonprofessional has been much freer to admit his inability to cope with various problems and to seek the necessary help than in those cases where supervision is provided haphazardly. The regularity of supervisory conferences depends upon each program, but for the nonprofessional these conferences should be held no less frequently than conferences with other staff.

SPECIAL CHARACTERISTICS

It is easy to overlook or forget that what the nonprofessional brings to a program is a background of poverty, minority-group membership and discrimination. The prior work experience of those nonprofessionals we trained was generally as unskilled factory hands, porters, maintenance men, delivery boys or other dead-end positions. Female nonprofessionals generally had been employed as domestics, laundry workers, and the like. Placed in a situation where suddenly they had new status and different roles, it was extremely difficult for them to retain balance. One of the more difficult tasks for those programs in which we placed people was how to ensure that the nonprofessionals maintained their identity and contact with the target population and, at the same time ,understood, but did not overidentify with, the middle-class orientation of most professionals. In a few instances, nonprofessionals tended to overidentify with the clients. This, too, poses a difficult problem.

While many facets of this problem can be coped with in supervision and training, a few can be precluded by a careful recruitment and selection process. By careful we don't mean "creaming," but rather an emphasis on the human element, that is, selecting nonprofessionals on the basis of their ability to relate to many different kinds of people and on an ability and willingness to innovate in a field not known for its dogmatic methodology. The ability to innovate is important when dealing with disadvantaged youth. Often programs will not have the best facilities or materials for dealing with particular problems. For example, we experienced the case where, after only a half-day training session on remedial techniques, a nonprofessional trainee began teaching a youth to read better in a room devoid of newspapers, magazines, books, and blackboard. With only a pencil and paper she was able to make astonishing progress with the youth. After talking with the young man for some time, she found out that his major interest was in playing basketball. She tore what little paper she had into many small squares and printed on each one a single word the youth had used when talking about basketball. She had him look at all the words and then pick out groups of words to make simple sentences which he could understand. As the youth became surer of himself, the worker gradually added more words to the pile—words the youth had used. He became so fascinated with the "game" of learning to read that the worker had to insist they stop after two hours—she was exhausted. Despite lack of materials, she utilized what she had learned in a way which many people could not. And it is this ability to innovate which is so important in selecting nonprofessionals.

RECRUITMENT

Just stating that nonprofessionals will be used does not answer the questions of where they will come from nor how the desired characteristics can be identified. The recruitment of nonprofessionals will be different from the recruitment process for other workers. A number of sources can be tapped for locating potential nonprofessionals, some better than others, depending upon local conditions and the program's influence in the communtiy. For one program, the public employment service might be best, for another, street-club workers or church groups. But whatever the major sources, potential nonprofessionals will have to be sought after. It is unlikely that they will voluntarily approach an agency or program and ask for a job. Restrictions as to education, training and experience have eliminated from their thinking the possibility that the social service fields might be open to them. And up to very recently they were right. So they must be "found."

In our experience the following resources were helpful:

1) **The State Employment Service,** particularly those local offices which are located in disadvantaged areas of the city or community, or in those areas being served by the program. Local offices which specialize in referring applicants for training or retraining under the Manpower, Development and Training Act are also extremely useful. Applicants who are referred there for training or who apply on their own have one basic advantage over other people; they have recognized (or have been made to recognize) that they need to explore other fields of work. Employment service interviewers at local offices can perform preliminary screening for the program and can provide program staff with another view of the applicant. It is important to elicit each employment interviewer's personal evaluation of the applicant to determine if they understand the goals of the program and the criteria for selection.

2) **Public and private social agencies,** especially those serving populations similar to the program's youth population. They will have contact with local people who may have worked for the agency either on a paid or voluntary basis. This kind of referral is useful for two reasons. First, it provides the program with an excellent preliminary screening device which can save considerable time in the selection process and, secondly, it involves other agencies with the youth employment program. This involvement makes for allies who can be called on for help in other situations. They are, in effect, committed to the program and are excellent sources for supportive services.

3) **Neighbors and acquaintances of present nonprofessional workers** are good employment risks. In any field, employees who believe in their jobs will usually be extremely careful about whom they will refer to their employer as potential co-workers. Then, too, in the course of living and

working in the community, they are likely to meet people capable of working well with youth, and they often can identify intuitively those people who are desired by the program. They can spot the "phonies" who give the right answers to questions but who, for their own needs, tend to exploit people.

There are numerous other sources for recruiting non-professionals such as advertising, local schools and their associations, housing organizations, and religious institutions. However, agencies and individuals referring applicants must understand the goals of the program, its plan of operation and its basic criteria for hiring. A poor referral is a waste of staff time and a disappointment for the applicant. As more and more contact is achieved with referral sources, staff will have to deal with changing concepts of the program. This is an ongoing process which, if handled properly, will cement relations with those sources and, conversely, if the process is ignored, the program can expect confusion, misinterpretation of goals and referral of unqualified applicants.

Selection

Many different kinds of people can be utilized in youth employment programs, and each can contribute valuably no matter what his or her experience and achievement has been in the past. However, not everyone from a minority group or from a poverty neighborhood is suitable for, or will be willing to do this kind of work. The purpose of an intensive recruitment process is to ensure that those who are suitable and willing have an opportunity to apply.

People indigenous to a disadvantaged neighborhood or group, as described earlier, have certain inherent characteristics which make them useful in working with youth. In addition to these characteristics the selection process should be concerned with identifying those who want to be part of society even if, at present, it is the worst part; who stand out as a father, mother or family member; who indicate a benevolence toward youth; who evidence attachment rather than disattachment toward people; who have potential leadership qualities and a reasonable measure of social maturity. The greatest intellect is not called for; attitude, maturity and motivation are the important characteristics to be sought.[4]

Education, in particular, has been, and continues to be, the major barrier for nonprofessionals seeking work in a human relations field as it is in much of private industry. For many professionals, nonprofessional means someone with a bachelor's degree in one of the social sciences, some related work experience and a stated desire to go on for an advanced degree. Happily, there are enough professionals and agencies willing to accept far less in the way of formal education. We found that level of education need

4 We are indebted for this formulation to Dr. Richard Brotman, Division of Community Mental Health, Department of Psychiatry, New York Medical College.

not be used as a criterion for selection when consideration is given to those characteristics cited above. Correlation between formal education and job performance is inconclusive. Most nonprofessionals with comparatively high levels of education are doing well on the job. Most of those with less formal education, however, also are doing well on the job. This seems to indicate that while education may be helpful, there are other, more pertinent, factors which lead to satisfactory job performance. We found that an alternate correlation seems to be a great deal more applicable. That is, when a nonprofessional was hired by an agency and performed well on the job, he was then likely to seek formal education as a means for upgrading in the field.

Some programs using nonprofessionals have found that, at times, education plays a negative role in the performance of a job. It may actually hinder certain kinds of relationships with youth by creating an inflated sense of self-importance or pseudo-professionalism in the nonprofessional.

Assuming then that educational requirements are left flexible, how can youth employment programs identify the amorphous characteristics so important to the job performance of the nonprofessional? In our experience, tests proved to be almost totally useless when applied to the kind of population we were considering. Only gross deficiencies showed up and these were more easily identified in a personal interview. We used a reading, writing and comprehension test which was useful in determining literacy levels of each applicant. However, if the applicant grasped major concepts and could express them (orally or in writing), whether grammatically correct or not, then he was considered a good risk for the program. His true verbal skills could not be assessed by the tests.

We used a lengthy personal interview with many open-end questions that allowed the applicant to express himself on a variety of topics and that gave important clues to his attitude, motivation and maturity. Standard information dealing with the applicant's education, work history, health, etc., was also gathered at this time. Each applicant's answers were later summed up by the interviewer on a separate form and presented in a case conference with all staff. The interviewer answered questions posed by staff about the applicant's characteristics and background. A decision to accept or reject an applicant was made by all staff. In some instances a second interview was conducted by a different staff member to clear up certain unsettled questions.

There are any number of other ways the selection might be made, but above all, the interviewer must be aware of the nature of the cultural background of the applicant. He must listen to what the applicant is saying and determine whether the words being used by both are understood in the

same way by both. The street talk, poor grammar or accent of the applicant may conceal a worker really needed by the program — one who can talk and listen to youth and their families.

Upgrading

Achievement of professional status depends upon extensive formal education; there are limited possibilities for reaching the professional level without advanced degrees. As professions achieve certified status, new people coming into the fields are required to have more and more graduate training. There are few, if any, alternate routes to professional status. This means that a permanent gap exists between the professional and nonprofessional, the only bridge across that gap being formal education. And there is little being done to provide upgrading within the nonprofessional's role. Too often "nonprofessional" is seen as a single category of worker, with no gradations and no chance for advancement. Some nonprofessionals may be satisfied to remain at the entry level, with only periodic salary increases as they gain experience and seniority. But others will need the opportunity to expand their knowledge and increase their skills so that they may assume greater responsibility and earn more. If nonprofessionals are given appropriate supervision, direction and opportunity for additional training, youth employment programs will find they can develop highly skilled workers. For these people, a hierarchy of nonprofessional jobs could be developed, each with a different level of responsibility and concomitant remuneration. For example, a program might consider some or all of the following categories:[5]

1) NONPROFESSIONAL — new worker, no minimum educational requirements, needs constant training, orientation and supervision, may do some elementary information gathering in the field or act as escort for youth, can be promoted to subprofessional level.

2) SUBPROFESSIONAL — needs continued training and supervision, may do reception and intake work, preliminary screening of youth, make telephone contacts, and other such tasks, can be promoted to semi-professional level.

3) SEMI-PROFESSIONAL — needs training and supervision but on a less intensive basis, may do extensive field work, data collection in the community, make family contacts, direct the performance of a work crew, may assist in the supervision of lower levels, can be promoted to assistant or aide if obtains required academic or experiential credit.

5 This hierarchy of jobs is based in part on Pearl and Riessman's model for new careers in education in which they propose: Supervisor, Teacher, Associate, Assistant and Aide. See Arthur Pearl and Frank Riessman, **New Careers for the Poor: The Nonprofessional in Human Service,** The Free Press, New York, October 1965, pp. 55-74.

4) ASSISTANT/AIDE — has two years of college or equivalent experience working with youth, may do preliminary counseling, may administer structured questionnaires, may assist remediation instructor, may make employer contacts, may assist researchers in data gathering or interviewing, helps supervise all lower categories, can be promoted to associate if obtains required academic credit.

5) ASSOCIATE — has bachelor's degree with major in one of the social sciences, assists professional in all major functions, helps supervise all lower categories, may perform all or part of the administrative and reporting functions for the professional, performs those tasks which cannot be handled at lower levels but which are still below the professional level, can achieve professional status by obtaining required graduate credits.

6) PROFESSIONAL — has a graduate degree and/or certification in one of the social sciences, responsible for overall training of others, responsible for supervising the work of all others, delegates work to the appropriate personnel, deals personally with the more serious problems of youth which require his special skills.

With such a structure a youth employment program could hire staff at all levels, but more important, it could provide the opportunity for nonprofessionals to advance to whatever level they were capable of achieving. There would be a clear-cut system of rewards for work well done, a system which could be understood easily by the nonprofessional. And it would increase the effectiveness of the professional; he would be free to spend more time on his truly professional duties: supervision, training, and handling the serious problems.

However, whether such a structure is used or not, those nonprofessionals indicating a desire and aptitude for moving into professional ranks should be allowed to exercise their option to do so. Programs which hire nonprofessionals should consider the possibility of providing scholarships, fellowships or stipends to enable qualified personnel to upgrade their educational levels. Agreements with colleges and universities might be developed allowing for advanced placement on the basis of experience gained on the job. Information on, and aid in, preparing for Proficiency Examinations could be made available by the program. Or, an agency might induce local colleges, particularly community colleges, to develop new curricula and different screening and selection criteria. Those nonprofessionals not possessing high school diplomas could be encouraged and coached to take equivalency examinations.

For a few people such procedures would enable them to reach a professional level and would be one more way for dealing with the shortage of professional workers. Most nonprofessionals who opt for further formal

education will not reach the professional level, but whatever level they reach, the opportunity for self-improvement will affect all aspects of their lives. It will mean movement within the program and within the field. As they advance on the job or move out to other agencies or fields, there will be continuing opportunities for others to enter and advance. There will be created, in effect, a large group of people able to work in human services at all levels of need.

Conclusion

Community acceptance of the relatively new social service professions has been too slow for too long. This, more than any other factor, has led to adverse criticism of the use of nonprofessionals. Fears are expressed that if tasks once performed by professionals are turned over to nonprofessionals there will be an accompanying loss of status for the professionals as well as a "watering-down" of services to youth. There is, of course, the obvious defense that the increasing shortage of professional workers in the face of demand for increased services has created the need for new kinds of workers. However, let us consider the problem from two other standpoints, namely: (1) What is a nonprofessional? and (2) What is a professional?

1) The nonprofessional has been described in this paper as a person who comes from the same milieu as that of the clients being served by the program. As such he can communicate with those clients not responsive to present professional training or techniques. He differs from production and service workers who are not professionals because he works as part of a team with professionals, he has an opportunity to contribute to policy, he has a career opportunity within the work he is doing, and he is chosen without regard to academic or similar credentials. His very name signifies his function and his limits: he is an aide, an assistant, a **non**professional — he is **not** a professional. He should **not** be used in lieu of a professional when the job to be done clearly calls for someone trained in a specific discipline. He is **not** out to take over the professional's role, but rather to enhance that role and make the professional more valuable to youth, to the program, and ultimately to society.

2) Sociological definitions of what constitutes a profession and a professional vary in many ways, but each incorporates some or all of the following factors: prolonged training, autonomy, expertise, an ethical code, community sanction, a service ideal, and responsibility in the use of the special competence. The sum of these factors indicates that the specialized training and unique skills of the professional must be aimed at the best possible service to his client. There is a clear mandate that he use whatever competence and resources he can muster to provide that service. There is a further responsibility inherent in the meaning of professional. Because

of his store of knowledge and technical skills, his efforts should be devoted to exploring and extending the boundaries of his field while others perform those routine duties for which he has prepared them. In other words, it is incumbent upon the professional to pass on, to teach, to train others in those tasks and techniques which no longer require the same degree of expertise which once they did.

Summary

We have shown that there are roles for nonprofessionals in youth employment programs. We have taken the position that these roles can enhance the work of programs by freeing professionals to exercise their unique skills more fully. In addition, we have noted some of the special characteristics of indigenous nonprofessionals which make them valuable staff members. We have suggested some ways in which nonprofessionals may be recruited, selected, trained and supervised, and have indicated some of the problems to be considered. The foregoing are in no way complete or all-inclusive and are intended only as a guide or stimulant for further investigation. Each youth employment program, perhaps using some of the concepts and categories noted in this paper, will have to develop its own approach to the question of using nonprofessional staff.

SUGGESTED BIBLIOGRAPHY

Brager, George, "The Low Income Nonprofessional: An Overview of His Role in Program," paper at the National Conference on Social Welfare, Los Angeles, May 1964, mimeo.

Fishman, Jacob R., William Klein, Beryce MacLennan, Lonnie Mitchell, Arthur Pearl, and Walter Walker, **Training for New Careers: The Community Apprentice Program,** The Center for Youth and Community Studies, Howard University, Washington, D.C., June 1965.

Grant, Joan, "New Career Development Project," California Department of Corrections, Sacramento, 1964, mimeo.

....., "The Industry of Discovery: New Roles for the Nonprofessional," California Department of Corrections, no date, mimeo.

MacLennan, Beryce, "The Training of Community Apprentices and of Professional Supervisors," Center for Youth and Community Studies, Howard University, March 1964.

Miller, S. M., and Martin Rein, "Change, Ferment and Ideology in the Social Services," paper at Council of Social Work Education, Toronto, January 1964.

National Committee on Employment of Youth, **Youth Employment Programs in Perspective,** Office of Juvenile Delinquency and Youth Crime, Washington, D.C., 1963.

Office of Economic Opportunity, Division of Community Action Programs, "Involvement of the Poor: Hiring Nonprofessionals," **Workbook,** April 1965.

Pearl, Arthur and Frank Riessman, **New Careers for the Poor: The Nonprofessional in Human Service,** The Free Press, New York, October 1965. With additional chapters of interest by Gertrude Goldberg, Joan Grant, J. Douglas Grant, and Henry Saltzman.

Reiff, Robert, and Frank Riessman, **The Indigenous Nonprofessional: A Strategy of Change in Community Action and Community Mental Programs,** National Institute of Labor Education, Mental Health Program, Report Number 3, November 1964.

Richan, Willard C., "A Theoretical Scheme for Determining Roles of Professional and Nonprofessional Personnel," **Social Work,** Vol. 6, October 1961, pp. 22-28.

Riessman, Frank, "Curriculum for Training Indigenous Nonprofessionals," Mobilization For Youth, November 1963, mimeo.

....., "The Revolution in Social Work: The New Nonprofessional," Mobilization For Youth, November 1963, mimeo.

....., Jerome Cohen, and Arthur Pearl, eds., **Mental Health of the Poor,** The Free Press, New York, 1964.

Shrank, Robert, and Dan DeWees, "The Recruitment and Training of Crew Chiefs in the Urban Youth Work Corps," Mobilization For Youth, December 1964, mimeo.

Taran, Freida, "The Utilization of Nonprofessional Personnel in Social Work; Part I: The Social Work Associate," Mobilization For Youth, October 1963, mimeo.

U.S. Department of Labor, Office of Manpower, Automation and Training, "The Indigenous Worker in Manpower Projects," August 1964, mimeo.

....., "On Group Work: An 'Untrained Sub-Professional' Speaks His Mind," 1964, mimeo.

....., "Volunteers and Subprofessionals in MDTA," April 1964.

....., United States Employment Service, **Project CAUSE,** material related to training for Youth Opportunity Centers.

Weed, Verne, and William H. Denham, "Toward More Effective Use of the Nonprofessional Worker: A Recent Experiment," **Social Work,** Vol. 6, pp. 29-36.

VT 004 227
Kranz, Harry
The Youth Opportunity Centers of the Public Employment Service.

New York Univ., N.Y. Center for the Study of Unemployed Youth
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jun66 27p.

*YOUTH PROGRAMS; *EMPLOYMENT PROGRAMS; *EMPLOYMENT SERVICES; *FEDERAL PROGRAMS; *PROGRAM DESCRIPTIONS
YOUTH OPPORTUNITY CENTERS; YOC

The Youth Opportunity Centers (YOC) are operated by State Employment Services with funds and guidance provided by the U.S. Department of Labor's Bureau of Employment Security. Present plans call for more than 175 YOC's in 140 cities throughout the Nation and serving 1,000,000 youth, 16 to 21, with outreach, conseling, testing, job development, placement, followup, and referrals to training and remedial services. The YOC emphasizes employability. The Centers are located in offices separate from those of the regular Employment Services in fringe areas between the pockets of poverty that make up the slums, and the business area of the city. Nearly 421,000 new applicants were served by the Centers from the time the first YOC opened in February, 1965, until the end of 1965. More than 100,000 youth job placements were made during the first year of operation. Farm placement accounted for 3 per cent, unskilled occupations 31.1 per cent, clerical and sales positions 30.7 per cent, and service trades 20.3 per cent of the 100,000 placements. The importance of coordination with the Community Action Program, MDTA program, Job Corps, Neighborhood Youth Corps, and other remedial programs is emphasized. Some problems of the YOC are discussed. (PS)

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THE YOUTH OPPORTUNITY CENTERS OF THE PUBLIC EMPLOYMENT SERVICE

by Harry Kranz

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THE YOUTH OPPORTUNITY CENTERS
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June, 1966

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This paper is part of a project conducted by the N.Y.U. Center for the Study of Unemployed Youth under a grant provided by the Office of Juvenile Delinquency and Youth Development, U.S. Department of Health, Education, and Welfare to develop curriculum materials for program planners and operators.

THE YOUTH OPPORTUNITY CENTERS OF THE PUBLIC EMPLOYMENT SERVICE

For the first time in the 19 years of his existence, Joe Beecher realized he was trapped. Not only had he missed an easy shot to the side pocket of the pool table, but a search of his blazer jacket yielded only a nickel, two pennies and one bent cigarette. It was only 10 p. m. and he didn't have enough cash for another game. And this guy who had just beaten him at pool was offering him a light and some advice.

"So why don't you come over and see if we can help you get some money?" He sounded like he came from the neighborhood. Joe had seen him around.

Joe looked closely at the guy — he was maybe two or three years older than Joe. "Money?" Joe asked. "How much?"

"That depends. Maybe 50 bucks a week — to start." This guy, Joe recalled now, had said he was Bill Smith, a Community Worker employed by the YOC. Joe wasn't sure what "YOC" meant, but Bill Smith was offering Joe a way to spring open all those tight traps.

Joe's mind raced quickly over some of the traps. Born in a dingy three-room apartment facing the alley on this dirty street, Joe had been raised by his mother. He didn't remember his father. For his two younger brothers and a sister, as well as his mother and himself, the monthly welfare check was the main source of support. Toward the end of the month, when the last can of pork and beans was gone, Joe's mother would tell Joe to take care of the children while she went out to wash floors for $8 a day and carfare.

Most of Joe's youth had been spent on street corners, in pool halls, dodging the cops. He picked up a buck now and then, running errands for the big operators on the block. For most of his school years, he was a fugitive from the truant officer, who eventually gave up and forgot him. He wrote "Joe Beecher" occasionally and painfully, but little else. He could read numbers and some simple ads, but he floundered in a long sentence. In fact, the draft rejected him because he couldn't answer the 8th grade arithmetic and reading questions on the Armed Forces Qualifying Test.

The morning after their meeting at the pool hall, Joe Beecher kept his date with Bill Smith at the Youth Opportunity Center. Joe had never been in a State Employment Security office before, but he'd heard unpleasant stories from guys who had. He was surprised when he got inside the YOC. It wasn't what he expected.

He found the big room in front pleasant and well lighted. The walls were done in soft pastels. There were comfortable, upholstered chairs spaced in circles around low tables. Joe sat down in one of them. He noticed the tables had ash trays as well as papers and magazines, scattered over them. Joe's eyes roamed over the right side of the room, where he saw a row of booths, with swinging barroom-type doors, painted in bright red, blue, yellow, green and orange colors. In the back of the room, Joe could see several desks at which people sat, some writing, some telephoning, some talking to kids his age. Joe began to feel at home when he noticed the juke box along the wall next to the reception area. The juke was playing some solid rock, although it was tuned a little too low for his taste.

Bill Smith greeted Joe and ushered him through one of the swinging doors where he was introduced to John Fowler, a YOC counselor. Bill Smith stayed for a while, but Joe scarcely noticed when Bill slipped out. Joe was talking about himself to the young counselor. He felt that what he said and what he wanted were important to John Fowler.

Joe came back to the YOC often for more interviews. Once John asked him to take a test. Joe didn't mind the test too much for it had many things he could do, even a part with pictures and numbers he had to match up. Very little reading.

Within two weeks of his first visit to the YOC, Joe was offered a job with the Neighborhood Youth Corps. He was a member of a work crew assigned to cleaning up the city's parks. It wasn't the 50 bucks a week he had hoped for, nor was the work exactly pleasant. But John Fowler told him it would be only temporary, to give him some work experience. At least he now had money to spend — for a haircut, for some new shirts and pants, for food, for cigarettes and to take home. "Man, I'm getting with it," he told Bill Smith one day, "I'm swinging."

Then came his chance. Maybe because he'd had so many hungry days in his short life, Joe had always dreamed of becoming a cook. John Fowler told him about on-the-job training where he could learn new skills and earn money while he was learning. He told Joe about an OJT opening as a cook trainee. It paid $1.50 an hour to start. After six months of OJT Joe would be making $2.50 an hour — 100 bucks a week. He grabbed the referral slip and rushed out to see his new employer. Joe was hired.

Both Bill Smith and John Fowler have eaten at the restaurant where Joe is working. Joe's boss is pleased at his dependability and native intelligence. In the fall Joe plans to enter night school to get his high school diploma. He would like to run a Hamburger Haven of his own some day. Thanks to the

YOC, Joe Beecher escaped the tight traps of the past for the open vistas of the future.

* * *

The YOC that Joe Beecher visited was one of 132 that were operating by May 1, 1966, throughout 50 States, Puerto Rico and Washington, D. C. With funds and guidance provided by the U. S. Department of Labor's Bureau of Employment Security, the affiliated State Employment Services have moved rapidly to open these new community manpower service centers dedicated to youth, 16 to 21, since the first YOC opened quietly in Albuquerque, N. M., on February 4, 1965. Albuquerque was officially dedicated months later, but Memphis, Tenn., had the distinction of the first public ceremony for its YOC on February 15, 1965.

Present plans call for more than 175 YOC's in 140 cities throughout the Nation and serving 1,000,000 youth with outreach, counseling, testing, job development, placement, followup, referrals to training and remedial services, and helping to reduce further the critical 10 percent unemployment rate for those 16 to 22, still four times as high as that for adults over 22. With the establishment of youth personnel and youth units in regular employment service offices and mobile teams throughout non-urban America, improved employability services are being extended to additional thousands of youth.

The Youth Opportunity Centers are separate, identifiable facilities that provide young persons with one clearly designated place to go for highly personalized services tailored to meet their individual needs. The Centers are located in fringe areas, between the pockets of poverty that make up the slums, and the business area of the city. They are near main transportation routes, making them accessible to all youth, not just the disadvantaged.

Youth may visit the YOC on their own initiative or they may be referred by others — schools, health and welfare agencies, juvenile courts, religious organizations, private, civic and social organizations; or friends or families of youth may refer them to the YOC. Youth who visit the regular local office of the State Employment Service and who are in need of specialized youth services are referred to the YOC in their vicinity.

The Youth Opportunity Center emphasizes employability. It focuses upon the whole youth, with the aim of providing the services needed to help him overcome deficiencies in education, training, motivation, or other areas that affect his employability. In order to do this, the YOC program utilizes all the resources of the community, including health services, educational, social welfare, and recreational services; or governmental or private industrial facilities.

YOC FULL-SCALE SERVICES

Youth who visit the YOC are provided with the following:

1. Exploratory interview
2. Couseling, both individual and group
3. Testing, to determine aptitude and achievement level
4. Occupational information
5. Referral to training facilities
6. Referral to community facilities for diagnostic and remedial services
7. Referral to and placement in part-time, stop-gap and regular jobs
8. Followup to assure satisfactory adjustment to a referral facility.

The case of Joe Beecher is not atypical of the 421,000 new applicants served by the national network of Youth Opportunity Centers from the time the first YOC opened in February, 1965 until the end of 1965. Fifty-five percent of these applicants have been males; 43 percent were 18 or 19 years old. Only one-fourth of the applicants had jobs when they came to the YOC, but a number of these were underemployed. More than half of the applicants had not finished high school and 60 percent of those who were dropouts had been out of school for more than a year. The majority of the YOC clientele were single, but more than 12 percent were already married and one or more dependents were being supported by 11 percent. Better than 7 percent had at least one child dependent, while 2 percent had dependents other than children.

A close look at nearly 4000 applicants served in a short period by the Minneapolis YOC confirms the widespread prevalence of Joe's problems. More than half of the youth cited low family income as one of their principal worries. One fifth were members of families receiving public welfare aid. One fourth were plagued by the disrupted marital status of their parents. Nearly one-fourth had physical or mental handicaps. More than one-fifth had been involved with the authorities — and 11 of the 132 young women in the group were unwed mothers.

Many of the YOC's have pioneered new services to youth — particularly the disadvantaged. For them, 1965 was a year of innovation and accomplishment — a chance to do many things for youth they never had the resources to do before.

Based on personal visits to more than 30 YOC's, a careful analysis of the monthly statistical reports and the periodic staff evaluations of YOC's; this paper is an attempt to capture both the spirit and the reality, the successes and the failures, the performance and the promise of the first year of an emerging national institution — the Youth Opportunity Centers.

PHYSICAL FACILITIES

Location of the Centers in offices separate from those of the regular Employment Service enables their managers and staffs to start afresh in designing and arranging attractive facilities for their youth clients. Informal reception areas are designed to put the young applicants at ease. In some centers, reception rooms are furnished with movie projectors that show slides and films. The decor includes pictures and attractive posters. An ever-changing array of clippings, pamphlets and notices lines the bulletin boards. In some cases flower boxes partition the rooms.

In Phoenix, Arizona, a counselor who is also a skilled cartoonist illustrates "employment pointers" on a sketchboard in the waiting area. In Jamaica, New York, the YOC has a display board in the entrance area captioned "Youth in Art" which is reserved for the tempera, charcoal and pen and ink drawings of YOC clientele.

In Miami, Florida, a record player pipes music into the reception area while the Milwaukee, Wisconsin, YOC has been experimenting with commercially furnished music broadcast throughout the Center.

Although the national office is working on plans for a juke box that dispenses occupational information as well as music and a TV-like apparatus that shows 20 minutes or more of 8 mm film without interruption, many YOC's have gone ahead with imaginative use of available visual aids. Occupational films available from the Department of Labor have been supplemented with other educational films obtained from business and state departments of travel, conservation and education. These not only raise the horizons of applicants, but make group sessions more interesting.

OUTREACH

Obviously, the YOC's cannot find jobs or training for youth if they cannot find the youth. Thousands of the most disadvantaged of our young people are submerged in urban ghettos or up the back roads of barren hills in rural areas. Coming from families with several generations of welfare recipients or with catch-as-catch-can employment records, many have never seen the inside of an Employment Service office. To seek out and find these youth,

all YOC's were urged to establish outreach programs. A total of 32,000 youth were brought into YOC's through outreach in 1965.

A door-to-door recruitment program initiated in Hartford, Connecticut, in January 1966 met with some success. The home visit technique was also tried in Mt. Vernon, New York, utilizing lists of dropouts furnished by the public schools and in Casper, Wyoming, through the use of the Salvation Army's Christmas Basket list.

In both Honolulu, Hawaii, and San Antonio, Texas, youth have been sought out in their own neighborhoods. Many have later reported to the Centers for counseling and placement. In Honolulu, the YOC has used its corps of Community Workers for outreach; San Antonio uses 42 NYC enrollees of the SANYO program and in Rochester, New York, a small van has been outfitted as a mobile office or "recruitmobile" where youth can be interviewed with privacy in the disadvantaged neighborhood. YOC staff members in Providence, Rhode Island, are carrying their message directly into all homes by daily appearances on a local television program.

Several Centers have been contacting young people who are soon to be released from correctional institutions. In December, 1965, Lynn, Massachusetts, reported the successful placement of seven parolees who had been counseled and tested in that Center's "Within the Walls" project. Of those youth contacted in the Maryland Training School by the Baltimore YOC, 97 percent have come to the Center for assistance immediately upon their release.

It is expected that as YOC's gain more experience they will invest increased amounts of imagination and effort in their outreach programs. Only 8 percent of all applicants served thus far by the Centers have come into the YOC's as a result of outreach. A majority (60 percent) have come in on their own initiative; while 16 percent have been referred by schools and social agencies.

COUNSELING

The program of YOC services often begins with counseling, particularly for the disadvantaged. Throughout the Employment Service, while initial counseling interviews given adults declined slightly in 1965, the rate for youth increased by 11 percent over 1964. In the newly-opened YOC's, nearly 160,000 individuals received 250,000 counseling interviews in 1965 — 133,500 for the first time. Moreover, with BES-sponsored training programs, such as Project CAUSE, stressing the more effective techniques of group counseling, increased use is being made of the group process. Nearly 1,000 group guidance sessions were held at the new YOC's in 1965.

As a means of working with a larger group of applicants, one Youth Advisor in the Berkeley, California, Center formed a discussion group of ten unemployed young men, most of whom were school dropouts, who meet regularly at the YOC to discuss their own problems and attempt to find solutions.

Counselors in the YOC in Portland, Maine, meet regularly through a Friday afternoon Counselor Case Conference with the personnel from other agencies such as the NYC, MDTA, Boys' Training Center, city and state health and welfare agencies and school guidance programs to discuss programs and individual cases.

Group guidance sessions held in the Washington, D. C., Center include giving information on government tests, how to obtain drivers' licenses and birth certificates, part-time schools and bus routes in the Washington areas.

It is becoming clearer each day that much of the success of the YOC program is due to the dedicated staff, particularly the recently trained, newly employed counselors, Youth Advisors and Community Workers. In many Centers they are contributing their services on evenings and weekends to help reach and counsel the youth they serve.

TESTING AND WORK TRYOUTS

Many youth can be guided to appropriate careers and jobs by the GATB and other tests developed over the years by the Employment Service. These tools are being used by the YOC staffs, who tested nearly 150,000 youth in 1965.

But for many non-verbal, alienated, failure-prone young persons, the traditional Employment Service tests are not suitable. Other tools, like the non-verbal intelligence tests given to 3,300 youth and the educational achievement tests given to more than 4,000 youth in YOC's in 1965, have been helpful in referring the disadvantaged to jobs and training.

Plans are underway for YOC's to adopt the method of work tryouts to evaluate the job potential of disadvantaged youth. Experiments in recent years involving State Employment Service agencies, private agencies and disadvantaged youth have shown the efficacy of this method, which will be introduced into selected YOC's during the coming year.

The work tryout or work sample technique will substitute job-related materials, tools and equipment of the type used in actual production, for paper and pencil tests. Its goal will be to expose the youth to a number of occupational tasks in order that his skills can be evaluated and a basis estab-

lished for determining instruction and counseling needs. It will also acquaint the youth with a variety of occupational tasks to be performed in a simulated work environment. In addition to producing performance ratings, the work sample method will enable the counselor to observe other job-related skills such as the ability to follow oral and written instructions, relationship with the instructor, interest in the task and the like. The work sample technique is expected also to prove useful as a vocational interest inventory since standard vocational interest tests have generally yielded rather flat profiles for disadvantaged groups. Finally, the relatively wide exposure to job tasks would serve as a useful training experience.

JOB DEVELOPMENT AND PLACEMENT

Statistics alone cannot begin to tell the story of how YOC efforts have brought new meaning to young persons whose lives have been a series of gray, grim and unhappy experiences on the streets of America or locked away within the walls of its institutions. Statistics cannot tell the story of the young man who reported to the YOC in Phoenix, Arizona, the day he was released after spending three years in a Federal prison camp for juveniles. In prison he had worked on the maintenance and operation of dry cleaning and laundry machines. Although he liked the work and said it gave him his first feeling of competence, he was apprehensive about applying for a job because of his record. Working in cooperation with the youth's counselor, a placement interviewer called on a number of cleaning establishments and was able to develop a job opportunity for him. He was accepted as a probationary employee and follow-up indicated that he is now a permanent employee with a promising future of increased responsibilities. The YOC has helped him find a new life.

Or how can figures alone tell the story of the 17-year-old lad in Wheeling, West Virginia, who was in jail with a long record of petty offenses — a potential hard-core criminal? Coming from a deficient home environment where his family had long been on welfare, the youth was brought to the attention of the YOC by a social worker and a minister. A YOC staff member discussed his case with the judge of the juvenile court and received permission to accompany him to the Armed Services Recruiting Offices. When the Navy was unable to accept the young man, he and the counselor turned to the Army recruiter. The youth passed all tests, and the recruiter agreed to enroll him, but only after a 60-day period of good behavior. The YOC arranged for placement in a foster home and temporary employment was found for him. At the end of 20 days, the YOC counselor found the youth performing well on his job, adjusting to the foster home and well on his way toward serving his 60-

day probationary period. The YOC counselor remains in continuous contact with the youth in order to assist him.

Or take the case of Jeff B., an unskilled, completely deaf, non-white newcomer to the Los Angeles area from Texas. Jeff thought he was doomed to the life and the precarious income of a janitor. But when he walked into the West Pico Boulevard YOC in Los Angeles, California, he was referred to a counselor who secured a job opening for him in a plastics factory. There he started as a machine operator trainee at $1.60 per hour. His employer reports that Jeff tries hard and learns well. The employer is learning sign language from Jeff.

Pamela P. was referred to the Los Angeles YOC by the medical social worker at General Hospital. Pam lives in a half-way house for the emotionally disturbed. She needed a job where she could work and continue therapy at the hospital each morning. She was referred by the Center to an assembly job on the swing shift at $1.50 an hour. She is doing well at her work and showing improvement in therapy. Pamela, too, is attaining a self-sustaining position in society.

Stop-gap jobs are also important. At the Central YOC in San Jose, California, counselors arranged employment for four non-English speaking applicants as sample distributors with Proctor & Gamble. Not only did this help them await an opportunity for training but it also gave them needed work experience. The employer was highly satisfied with their performance. This same Center also arranged for part-time employment with the local post office for a group of six male MDTA trainees. This work is providing these youth with excellent work experience relevant to their clerical training. They are looking forward to full time employment at the post office after completion of their MDTA training, and are receiving help from YOC personnel in filling out their Forms 57 and in preparation for their Civil Service examinations.

The San Jose Central YOC makes every effort to help applicants remain in school. When a San Jose high school sophomore told her school counselor about her very difficult home situation, the YOC was contacted. In consultation with the juvenile probation officer, the two counselors arrived at a solution through which the young woman could remain in school. The YOC interviewer arranged for her to take a live-in job. Her school grades have improved. Her future looks bright.

In response to the instructions to provide job development services so that the undereducated, unskilled and disadvantaged youth might find employment, the YOC's have done extensive work in seeking out and finding job

openings for youth. Over 30,000 job solicitation and 27,000 job development contacts were made from July through December, 1965.

The results of these efforts can be gauged by the fact that more than 100,000 youth placements were made during the first year of operation of the Centers. Some 73,000 were placed during the last six months of 1965. Farm placements accounted for only 3.0 percent of the 100,000 placements. Unskilled occupations led the field of nonagricultural placement, with 31.1 percent of applicants finding employment in them. Clerical and sales positions, comprising 30.7 percent of placements, were a close second, with 20.3 percent of the applicants taking jobs in the service trades.

In job placements by industry, wholesale-retail trade still leads, providing 28.6 percent of the total job openings in YOC's, with the service trades offering 25.9 percent. Government on all levels provided 19 percent, pressed by manufacturing with 18.9 percent of the total.

The total of all youth placed in nonagricultural employment in 1965 was 15 percent higher than the total of those placed during 1964. The gain was greatest among male youth, with 19 percent more being placed in 1965 than in 1964. These increases can generally be credited to the fact that 16 percent more youth applied to the Employment Service for jobs in 1965 than in 1964. It must be emphasized that while the placement rate of young people showed a 15 percent gain, during the same period the rate for all workers in the nonagricultural field decreased slightly. At the same time, adult job applications also dropped.

YOUTH SERVICES IN NON - YOC AREAS

YOC's are located primarily in metropolitan areas of the United States. To provide services for youth living in those areas not served by the YOC's, the Department of Labor has provided for special augmentation of employment service youth staff. In most cases, identifiable youth units are being established within the local offices. In other instances, area teams are being organized to take the youth services to communities where employment services are not available.

For example, the State of Maryland serves its Eastern Shore — an area traditionally devoted to fishing occupations with a "Caravan Office-on-Wheels." The "Caravan," equipped with 2 desks and a waiting area provides a place where youth can be interviewed in privacy. It shares jobs and training openings with local offices by means of a telephone which connects with all local office lines.

At least one "hero" has emerged as a result of the Eastern Shore project. He is a young man who recently completed training and who obtained work with a construction company outside the area — a rare accomplishment for these youth whose horizons have been limited to their own tight little community and its predominant trade of shell fishing.

The Maryland Caravan on Wheels is supplemented by mobile teams that penetrate the back woods areas of the state, often working out of tiny churches where pews are substituted for counseling booths.

In fiscal year 1966, the Department of Labor granted a total of 1,172 new positions to the States for augmentation of youth personnel in local offices. These youth services personnel receive specialized training along with YOC staff and, in so far as staff and facilities permit, provide the same intensive services to youth as are carried out in YOC's.

COORDINATION WITH OEO

The effectiveness of the YOC program depends, in large measure upon the coordination and mutual support of YOC's and the special programs for disadvantaged youth under the Economic Opportunity Act.

The YOC, through bringing together youth and the variety of work and training programs available to them, functions as a significant manpower arm in the War against Poverty. The range of opportunities provided to youth through the YOC enables it to tailor its services to fit the needs of the individual youth.

CAP

The Community Action Program (CAP), under the Office of Economic Opportunity, consists of comprehensive efforts at the local level, undertaken by communities themselves, to combat poverty by improving the conditions under which people live and work. The YOC program is closely coordinated with the CAP, both locally and at the national level.

In those cities where a CAP is well under way, either in planning or in implementation, a representative of the State Employment Service (usually from its top managerial staff) generally is on the local CAP board. In establishing the YOC, consideration is given to the CAP planning, whether advanced or in its initial stage, to assure a coordinated and integrated pattern of community services. In many cities YOC staff are outstationed in CAP neighborhood centers where they augment the role of the YOC in the total program of the community. This kind of coordinated effort on the part of the

YOC and the CAP assures full utilization of the existing services in the community and avoids wasteful overlap and duplication of services to youth. In cities where a CAP is not yet underway, the YOC retains sufficient flexibility to enable it to give supportive services to the newly emerging community effort.

Both the CAP and the YOC are new institutions. It is to be expected therefore, that as they take shape, tensions may develop between them. Actually, the two programs operate under different legislative instructions. The CAP deals with the poor; the Employment Service with the unemployed, including the poor. It may be difficult at the local level for the directors of the two programs to interpret to each other this basic difference in their objectives. What is sometimes viewed as an unwillingness to cooperate may in reality be a reflection of the agency's concentration on its own particular mandate.

MDTA

Referrals to three major training programs — MDTA, Job Corps, and NYC — are among the resources available to the YOC's to increase employability. They are using all three.

The YOC's were urged to refer applicants to the special MDTA projects for youth and to continue with job placement and follow-up responsibilities when training is completed. The guidelines also called for them to provide counseling and placement services as part of the special MDTA projects. In addition, they were asked to secure the additional special community services that trainees might need.

From July 1, 1965 to the year's end, over 11,000 YOC applicants were enrolled in MDTA training.

In Newark, New Jersey, one YOC applicant was unable to qualify for apprenticeship training because of his lack of education. He was placed in a nine-month MDTA machine-tool operating course. Upon the completion of the course, his skills were upgraded and he was able to qualify for a machinist apprentice opening at $1.75 per hour. After six months he was performing successfully on his new job.

The Hunters Point Center in San Francisco, California, has put much effort into helping MDTA youth become job-ready. Three MDTA courses have been offered in the clerical field. Several weeks before the courses were scheduled to end, the YOC began developing jobs for the trainees and agreed to test them to assess their newly acquired typing and spelling skills. The tests were aimed at giving the trainees experience in test-taking as well as giving the YOC an idea of their qualifications. The results of the first tests

were poor. It was suggested to the training facility that greater emphasis be placed on spelling and typing. Arrangements were made for retesting and for lengthening the course for some. Although this took extra effort on the part of both YOC and training staff, it gave the trainees a second chance and lessened the probability of turning out unqualified applicants who could not be placed.

As the present rate of unemployment continues to decline, the percentage of unemployed who are youth will sharply increase. Much more thought and effort still need to go into enrolling these unemployed into training programs.

Job Corps

A second training resource available to the Youth Opportunity Centers is the Job Corps. Credit goes both to the YOC's and local offices for screening 90 percent of nearly 52,000 male youth referred to the Corps during 1965. In those cities where YOC's are in operation, Job Corps screening is handled by the YOC; where the YOC's are not yet operational, the State Employment Service performs this function through its regular local offices. Under a recent agreement (Jan. 1966), the Employment Service will have the major responsibility for placing returning Corpsmen (both men and women) in jobs or in training programs.

NYC

During the July-December period of 1965, a total of 40,500 referrals were made to NYC projects. During the coming year, additional thousands of youth will seek entrance into the Neighborhood Youth Corps. YOC's have the major responsibility for screening out-of-school youth for NYC.

NYC, like Job Corps, is an OEO program. However, responsibility for its operation has been delegated to the Manpower Administrator. The YOC program operates under the guidance of the BES and provides manpower services to the NYC, as it does to the Job Corps. The fact that NYC and the YOC are both administered by the Department of Labor does not mean that they have been merged into a single program or that they will merge in the future.

One problem in getting youth to enroll in the NYC has been transportation. Many devices have been used to solve this problem. The Tampa, Florida, YOC reports that one NYC sponsor arranged a pickup point in the city and transported the young men from there to his State Park project several miles away.

The YOC in Las Vegas, Nevada, is one of those providing work stations for NYC enrollees in the Center itself. This provides other applicants with the opportunity to meet disadvantaged youth like themselves who are working and earning money. It increases the number of job sites in the area served by the YOC. Counselors are able to offer their services more readily and more often to the enrollees and the staff of the Center receive services which would not otherwise be available.

The NYC projects provide not only work experience but quite often there is an opportunity for the enrollee to further his formal education. One Center tells of a 16-year-old youth who was living with his parents and trying to complete high school. His father was unemployed and the family's sole income was his Unemployment Insurance check. The student felt that he either had to find part-time employment or leave school. The YOC representative contacted the youth's school and assisted in having him placed in an NYC in-school project. The lad is now continuing his education.

OTHER REMEDIAL PROGRAMS

Referral of applicants to remedial programs of various kinds has shown a steady increase during the life of the Centers. This is due to the fact that the YOC staff are becoming more familiar with the work of other assistance agencies in the community and are developing improved working relationships with them. In 1965, during the July-December period, 5,108 YOC applicants were referred for medical, rehabilitation, welfare or other remedial assistance. An additional 4,800 were referred to schools on either a full-time or part-time basis or to apprenticeship or vocational training. Most of these referrals have come as a result of consultations with psychologists, psychiatrists and social workers. The total number of such consultations from July through December mounted to almost 4,000.

Perhaps the most complete arrangements for remedial services have been set up by the Centers in New York City. They have arranged for complete medical check-ups, eye examinations and eyeglasses, an emergency shelter for homeless boys, chest X-rays and the on-premises services of a psychologist and remedial reading teacher.

VOLUNTEER AND COMMUNITY ACTIVITIES

Centers across the country report many examples of the use and value of volunteers and varying community activities. In some Centers (Wichita, Kansas, is one example), the WICS (Women in Community Service) are doing excellent volunteer work. A room on the second floor of this Center has been set aside for them. They have been very productive, interviewing 436 young

women of whom 51 have been accepted in the Job Corps. They also carry out conducted tours of industry and business and, at the request of one group of disadvantaged youth, arranged a tour of the Art Institute. The WICS brought in a beautician to talk to the young women about grooming. The manager is planning to involve other volunteers including groups of senior citizens.

What appears to be an ideal manner of combining volunteer work with a Center's outreach program has been set up in a low-income area of Honolulu. There the community workers operating out of the YOC have guided a group of 15 NYC enrollees, together with their NYC supervisor and an interested citizen, in forming a youth organization to meet some of their recreational, social and cultural needs. They plan dances, excursions, athletic events and participation in other community projects.

A great majority of applicants need help in making a good impression on potential employers. Their needs may vary from better clothing to grooming and from help in filling out application forms to simple verbal communication. To help fill these needs, several Centers have sought out volunteer assistance.

Clothing for needy applicants is being supplied by members of the Junior Chamber of Commerce in Akron, Ohio, and by merchants in Albany, New York. In Jamaica, New York, the Center staff themselves have collected and donated clothing for those applicants who need it. A women's club in Cleveland, Ohio, has raised funds in order to help those youth in greatest need who come into the Cleveland Center. The Center in Beckley, West Virginia, has arranged for the Toastmasters Club to supply an instructor for a heavily attended class in communications. In Atlanta, Georgia, the Uptown Business and Professional Women's Club has held Saturday sessions in grooming at the YOC. Many young women have greatly improved their appearance as a result of information which was not available to them before. Similar courses held at the Center in Wheeling, West Virginia, have included preparation for employment and remedial reading classes.

A mutually beneficial arrangement has been worked out by the YOC in Columbia, South Carolina, with a 19-year-old high school dropout. This young woman has been referred by the Center to an MDTA clerk-stenography training course. She is doing voluntary clerical work at the Center and gaining valuable experience in line with her training course. In addition, she is studying to take her high school equivalency examination as a result of the encouragement given her by the staff.

Two Master's Degree students at the State University of New York in

Buffalo, enrolled in a Rehabilitation Counseling Program, are doing volunteer work in the Buffalo YOC as part of their course internship requirement. They are as pleased with their opportunity as the staff is with their work.

In total, more than 16,000 man-hours of work were donated to the Centers by almost 650 volunteers during the last six months of 1965. Almost 2,500 meetings of various kinds have been held at Youth Opportunity Centers during this period and YOC staff have attended more than 2,700 meetings held outside the office. Professionals on YOC staffs have given some 1,500 talks to groups outside the YOC's and have made more than 4,700 visits to other agencies. These figures do not, of course, include visits to employers, schools, applicants and others, in line with staff duties.

The use of volunteers is limited only by the imagination and energy of each Center's staff. Volunteers are also available from the disadvantaged groups themselves. In those areas where indigenous non-professionals have been worked into the YOC program, it has been found that their ability to communicate with disadvantaged youth is excellent. The experience gained in the use of CAUSE II-trained Community Workers is perhaps the best example of the value of such non-professionals.

ADVISORY COUNCILS

Each Youth Opportunity Center is required to set up an Advisory Council "to give guidance to the Director in the operation of the Center and to assist in securing and maintaining the community support and cooperation which are essential for effective service to youth."

These advisory councils consist of approximately 25 persons, including representatives of schools; health and welfare agencies; employers; minority groups; unions; civic, service and professional organizations; neighborhood groups; Selective Service Boards; Community Action Programs; and other community agencies, organizations and resources.

The functions of the council and its committees include: liaison with the public, arousing public support, encouraging new youth services to be developed, obtaining commitments from employers, seeking the support of unions in developing opportunities for youth, assistance in removing artificial employment barriers, aiding the Center to play a role in the economic development of the community, improving the working relationships with community youth services, providing technical advice and assisting in recruiting qualified volunteers.

Usually the Director of the YOC is an ex-officio member of the Advisory

Council, with the Center's Community Relations Coordinator acting as its Executive Secretary. An auxiliary council of the youth themselves may be set up in order to get a flow of ideas from the young persons in the area, or they may be appointed to the Advisory Council itself.

Advisory council members may also be utilized as consultants. While consultants are contracted for on a regular basis for staff development and staff assistance, community resources are explored to determine the availability of needed services without cost. YOC consultants include educational specialists, psychologists, psychiatrists, social welfare workers, health specialists and others, as needed. The Centers also utilize the services of consultants in the fields of legal services and public relations.

EMPLOYABILITY PROBLEMS

Despite their many successes, the YOC's have had some problems. Many factors operate to decrease the employability of youth. Centers in bilingual areas have applicants who lack the ability to speak, read or write English. Basic educational courses, classes in remedial reading and communications, and similar programs are essential for these youth.

In St. Petersburg, Florida, the Center has been in contact with a 20-year-old high school graduate who has had no previous work experience. Troubled with obesity, this 295-pound lad finds it impossible to accept training for his chosen vocation of automobile mechanic for which he has also shown an aptitude. The counselor is persuading him to embark on a medically supervised diet and will make arrangements for referral to a mental health clinic, if necessary. The youth hopes to lose enough weight to allow him to enroll in an MDTA auto-mechanic course this fall. Here again is a case that needs continuous individual attention from the counselor.

Temporary employment for needy applicants ranges close to the top of the list of MUST items. In Phoenix, a part-time and temporary placement unit has been set into operation. In its report the YOC lists four main reasons for this activity:

1. Some clients need such employment to remain in school or while awaiting Job Corps or other assignments
2. Such work often opens the door to permanent jobs with the same employer
3. It gives less-skilled applicants a chance to polish their skills and test vocational choices
4. The employers find such services to be valuable.

As one means of developing more employer interest, the St. Louis, Missouri, YOC has started a postcard resume program. The card mentions the employer's past employment needs and suggests that he might wish to interview the youth in question. A brief one-paragraph resume follows. While the response has varied, signs point to a sharper interest on the part of many employers.

Several YOC's report a dearth of job openings for 16- and 17-year-old youth as well as for female applicants. Applicants with arrest and conviction records frequently have difficulty in finding employment. This sometimes is due to difficulty in bonding such persons as well as to apprehension on the part of many employers over accepting a "criminal" in their work force. Imaginative and persistent deliberations are called for in cases such as this. Continuous contact must be maintained with those applicants who are accepted by employers.

STAFF TRAINING

The effective work of the YOC's is, in turn, proving the value of the CAUSE training programs of 1964 and 1965. The principal reason for the CAUSE training was to meet the urgent present and prospective demand for qualified staff to work with youth and help them achieve parity in the nation's economy. It was designed not to supply fully trained counselors, but to provide the trainees with sufficient skills in the techniques of counseling to enable them to establish rapport with disadvantaged young persons and channel them into opportunities that would increase their employability. CAUSE came on the heels of widespread criticism of both the quality and quantity of counseling in the Employment Service.

The CAUSE I program produced 1,725 Department of Labor certified trainees. More than 1,000 of these were employed for work in YOC's and youth units of the Employment Service following completion of their training in September 1964. The CAUSE trainees were generally retained in local offices pending opening of the YOC to which they were assigned. The first YOC became operational in February 1965 and by the end of the fiscal year, only 31 YOC's were open.

A BES survey of counseling personnel showed that, as of October, 1965, 953 CAUSE trainees were employed as counselors alone, 540 of whom were employed in YOC's. The survey did not include CAUSE trainees employed as Youth Advisors, Community Workers, Interviewers or in other titles (one CAUSE trainee is a YOC manager).

As of April, 1966, 1,060 of the 1,561 certified CAUSE II trainees had been hired by the Employment Service and an additional 158 had been hired by other agencies in training related jobs. Thirty-six were not available because of military service, return to school or other reasons.

The 1964 CAUSE program trained for 2 categories—Counselor Aides and Youth Advisors. The 2 classes met identical selection requirements and received the same training, with one exception: Counselor Aides were college degree holders and Youth Advisors had not completed college. The 1965 CAUSE program trained 3 classes—Master's Degree Counselors, Counselor Trainees and Community Workers.

The Community Workers were recruited locally by the Employment Service in consultation with community leaders in disadvantaged neighborhoods. Educational requirements were minimal; however, selectees were required to be indigenous to the community in which they would work. They were trained separately in programs developed especially for the purpose, at the National Federation of Settlements in Philadelphia, Pennsylvania, and Cincinnati, Ohio; at the Youth Opportunity Board in Los Angeles, California, and at two universities. A total of 144 persons were trained as Community Workers, more than half of whom are employed in YOC's.

Both Community Workers and Youth Advisors function as outreach personnel. They were trained on an experimental basis to help determine the desirability and usefulness of employing sub-professionals in the YOC program. A question that has frequently arisen with regard to these two classes is the question of promotion. One avenue of advancement would be through additional academic accomplishment to enable them to meet Civil Service and State Merit System requirements for higher level positions. Youth Advisors are better able to advance in this manner since most of them had some college training and all were high school graduates. A second would be through the establishment by Civil Service and State Merit Systems of separate, distinct classes, with their own levels of advancement. The question has not yet been settled. In fact, in some States, Civil Service and Merit Systems prevent the hiring of either class on a permanent basis. In a few of these States, Community Workers have been hired on a contract basis.

Two research studies presently underway hopefully will give us some guidance on the problems of both the Community Worker and the Youth Advisor. The BES is making a study of the utilization of outreach personnel in the Employment Service, which consists almost entirely of Community Workers and Youth Advisors. The preliminary phase of a special research project, designed to followup on the CAUSE programs, is being carried out

by American University. This study will focus on the CAUSE trainees and their adjustment to and effectiveness in the YOC program.

Each of the 132 YOC's has several CAUSE graduates on its staff. Forty percent of the staff are former Employment Service personnel. Many of the Centers report planned programs for in-service training and development, especially for counselors. The Wichita YOC reports that 44 percent of their staff are enrolled in out-service training. They also report that they have been able to bring in authorities in such fields as alcoholism and mental illness to participate in their in-service training programs.

PROBLEMS

Like any new program, the YOC's have not been without problems. In addition to the usual "growing pains," however, a number of problems stem from the fact that the YOC has introduced a new concept of client service into the public employment service system. In contrast to the traditional concept of matching workers to jobs, the YOC looks at the whole youth, determines what services are needed to increase his employability and then attempts to provide these services through its own resources and those of the community. Intensive counseling, testing, and referrals to remediation, rehabilitation, training or jobs are tailored to the needs of the individual youth. Present trends are toward the embodiment of the YOC concept in services not only to youth but for adults as well. The following are some of the problems the YOC's are presently facing:

Delay in starting. The YOC's got off to a slow start. Many state agencies were reluctant to accept the radical new program. A series of conferences throughout the nation helped convince administrative and supervisory personnel of the need for and the value of the program. Most are now enthusiastic about the YOC's and proud of their accomplishments.

Nevertheless, the delay in starting meant that the CAUSE trainees, many of whom were impatient to begin their work with disadvantaged youth, were stockpiled in regular local offices until the YOC's became operational. During the interim, many of these eager, dedicated, young persons left the Employment Service for jobs in other agencies and were lost to the YOC's.

Overburdened Staff. The contemplated expansion of YOC staff during the second year of program operation did not materialize. Most of the centers have had a very large volume of applicants, with peak loads during the summer months. These two factors together make for a greatly overburdened staff in virtually all YOC's. As a result, counseling cannot be provided on the intensive basis needed by many youth. In some cases, appointments

must be scheduled weeks ahead and, inevitably, youth who need the services must go without them. To help alleviate the shortage of staff time, more training in group methods is being provided and audiovisual aids are being prepared as holding devices for youth who must wait for counseling and other services.

Job Corps and NYC. Job Corps, NYC and the YOC's all became operational about the same time. In addition to the YOC's "growing pains," it has shared the beginning problems of these OEO programs as well. Both NYC and Job Corps, in their eagerness to fill existing "slots," have set quotas which the YOC's and local offices of the Employment Service have attempted to fill. The idea of quotas has at times threatened to interfere with the basic premise of the YOC program, which is to tailor the services to the individual needs of the youth. We would like to get away from quotas and refer youth on the basis of individual need. NYC has moved more rapidly in filling its projects than Job Corps has moved to fill its conservation and urban centers. However, during the coming fiscal year, Job Corps will very probably increase its enrollees to capacity. When this has been accomplished, assignments can then be regularized and the pressure of quotas should correspondingly decrease.

Follow-up. Admittedly, follow-up on YOC applicants referred to jobs and training has lagged behind. From July 1 through March 1966, although 80,705 YOC applicants were placed in jobs for the first time and all job placements totaled 155,160, only 31,407 instances of youth follow-up were reported. Routinely, the employment service placement interviewer follows-up with the employer on job referrals. However, follow-up on applicants referred to jobs, testing, or other services has not been traditional with the Employment Service. In addition, there is a need to follow-up on youth who do not return to the YOC to keep appointments. In those YOC's where Community Workers are employed, some of this is being done.

Volunteers. The guidelines for YOC's call for recruitment, training and utilization of volunteers to assist the regular staff and to carry out duties which would not otherwise be performed. Volunteers could, for example, do follow-up and outreach, assist in screening for NYC and Job Corps, help conduct group sessions and the like. However, a lack of experience with volunteers in the Employment Service has apparently created a reluctance on the part of YOC supervisory staff to utilize their services. We are hopeful that with additional guidance from the national office we can increase the use of volunteers in our YOC's.

Confidentiality of Records. The coordination of the YOC program with other anti-poverty programs creates a problem of sharing records on youth

applicants. As YOC's increasingly adopt the caseload approach, the accumulation of confidential information about a youth will increase. Referral of YOC clients to other agencies for services not available at the Center calls for interchange of information between these agencies and the YOC's.

Employment Service policy has generally been that for those agencies with which a cooperative relationship exists and which also are helping persons, information about the applicant will be provided. The information may be given over the telephone or it may be in the form of a written statement. Operating records, such as application and counseling cards, are not transferred to other agencies since they contain information about the applicant which may be of concern only to the Employment Service. Only pertinent, needed information is given.

It should be added that efforts are underway not only to correct the deficiencies of YOC's, but to introduce into them new programs and services that will increase their effectiveness.

As he dedicated the Twin Cities Center in Minneapolis on July 6, 1965, Vice-President Humphrey stated, "What does this Youth Opportunity Center offer? It offers what one boy told me not long ago: 'It was my last chance.' This Youth Opportunity Center is open to all who need it. The door here will always be open."

VT 004 231
Nixon, R.A.
Federal Legislation for a Comprehensive Program on Youth Employment.

New York Univ., N.Y., Center for the Study of Unemployed Youth
MF AVAILABLE IN VT-ERIC SET.
Pub Date - May66 27p.

*YOUTH PROGRAMS; *DISADVANTAGED YOUTH; *FEDERAL LAWS; *EMPLOYMENT PROGRAMS

When the Office of Economic Opportunity issued its "Catalogue of Federal Programs for Individual and Community Improvement" on December 15, 1965, it listed 250 different federal programs. At least 35 of them are potentially applicable to youth-work programs seeking to increase the employability and employment of disadvantaged youth. The planner of a youth-work program must seek to utilize all the available legislation to help build a comprehensive program. The purpose of this paper is to describe the major relevant federal legislation. It gives the intent of the legislation, what it makes possible, who allocates funds, and who can apply for and receive funds. Included are: (1) The Job Corps, Neighborhood Youth Crops, Community Action Programs, Adult Basic Education Programs, and Work Experience Programs of the Economic Opportunity Act, (2) Manpower Development and Training Act, (3) Vocational Education Act of 1963, (4) Federal-State Employment Service based on the Wagner-Peyser Act of 1933, (5) Vocational Rehabilitation Act, (6) Health Care--Social Security Amendments, (7) Elementary and Secondary Education Act of 1966, (8) Civil Rights Act of 1964, and (9) Juvenile Delinquency and Youth Offenses Control Act. (PS)

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FEDERAL LEGISLATION FOR A COMPREHENSIVE PROGRAM ON YOUTH EMPLOYMENT

by R. A. Nixon

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FEDERAL LEGISLATION FOR A COMPREHENSIVE PROGRAM ON YOUTH EMPLOYMENT

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Prepared for:
NEW YORK UNIVERSITY
Graduate School of Social Work
Center For The Study of
Unemployed Youth
May, 1966

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This paper is part of a project conducted by the N.Y.U. Center for the Study of Unemployed Youth under a grant provided by the Office of Juvenile Delinquency and Youth Development, U.S. Department of Health, Education, and Welfare to develop curriculum materials for program planners and operators.

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FEDERAL LEGISLATION FOR A COMPREHENSIVE PROGRAM ON YOUTH EMPLOYMENT

INTRODUCTION

Congress has passed many different laws dealing with manpower, employment, unemployment and related problems. When the Office of Economic Opportunity issued its **Catalogue of Federal Programs for Individual and Community Improvement** on Dec. 15, 1965 it listed 250 different federal programs administered by 16 different government agencies. At least 35 of these are potentially applicable to youth-work programs seeking to increase the employability and employment of disadvantaged youth. Commenting on the complexity of manpower legislation generally, Yale Professor E. Wight Bakke recently wrote that "when . . . we survey the vast dispersion of these tasks that fall logically and necessarily under the employment and manpower umbrella, the first inclination is to throw up our hands in despair at ever achieving any integrated direction and coordination. . . ."[1]

But the planner of a youth-work program cannot "throw up his hands in despair". He must seek to utilize all the available legislation to help build a coherent and comprehensive program. The purpose of this paper is to help him by describing the major relevant federal legislation. It is written to indicate the intent of that legislation and what it makes possible, who allocates funds, and who can apply for and receive funds. It makes no attempt to go beyond the specific terms of the laws to deal with the highly relevant and practical administrative regulations and practices putting them into effect. This is not intended to be a "how to do it" paper.

Not every federal law with a conceivable effect on youth employment is included. But all the major pieces of federal legislation are described. No attempt has been made to include state and local legislation.

Some of the Congressional enactments are vague and leave to administrative clarification such matters as the specific definition of "poverty", allowances for Job Corps enrollees, or the responsibility for operating the Neighborhood Youth Corps. The very vagueness of the legislation can often be turned to advantage by achieving its most advantageous specific application. Some of the legislation described cannot be utilized directly by community manpower or youth-work officials. But even in this case, knowledge of these laws is essential for the youth-work planner if he is to realize the full

1 Bakke, Wight E., **A Positive Labor Market Policy**, Charles E. Merrill Books, Inc., Columbus, Ohio (1963) p. 149.

potential of cooperating agencies, and perhaps to help create new policies and legislation in the services of a complete program for youth employability and employment.

ECONOMIC OPPORTUNITY ACT — THE ANTI-POVERTY PROGRAM

The main purpose of the Economic Opportunity Act is well known. The principal means of eliminating "the paradox of poverty in the midst of plenty" is stated to be "opening to everyone the opportunity for education and training, the opportunity to work. . . ." Emphasis is on youth employment and Title I of the Act deals with "Youth Programs".[2]

The Job Corps

The Job Corps is aimed at a particular hard-core of disadvantaged youth who need a "change in surroundings and associations" in order best to receive "education, vocational training, useful work experience" that will increase their employabliity and prepare them "for the responsibilities of citizenship".[3] For this purpose the OEO Director is to set up a series of conservation camps and urban residential centers where work and training, health, education, and counseling services will be provided.

The OEO Director is authorized to prescribe the eligibility standards for Job Corps enrollees aged 16 through 21, and is given wide latitude in making arrangements for "any federal, state, or local agency or private organization"[4] to establish and operate Job Corps centers.

The law requires that 40 percent of the male Job Corps enrollees must be assigned to "Youth Conservation Corps" camps engaged in conservation of natural resources. Job Corps enrollment can be for 2 years. In addition to all living and transportation costs, the OEO Director may provide Corps enrollees with an allowance which he deems "necessary or appropriate for their needs". Each youth on leaving the Corps is to receive $50 for each month of "satisfactory participation". Although not in the law itself, Congress expressed its intent that at least one-third of the Job Corps enrollees should be young women.[5]

2 "The major part of the war on poverty . . . is that part which involves the problem of finding jobs for young people, especially those who have been born into the world of poverty, and have no way out save through education, training and a decent job . . ." Secretary of Labor Willard Wirtz at the House Education and Labor Committee Hearings on Economic Opportunity Act, March 19, 1964.

3 **Economic Opportunity Amendments of 1965,** House Committee on Education and Labor, Report No. 428, May 27, 1965, p. 2.

4 Unless otherwise indicated, quotations are from the text of the legislation being discussed.

5 **Economic Opportunity Amendments of 1965,** op. cit., Report No. 428, p. 3.

At the beginning of May, 1966 there were 99 Job Corps centers in operation serving 24,017 youths of a reported 287,911 eligible "Job Opportunity" application cards received.[6] The President's 1967 Budget Message states that the "capacity" of the Job Corps in fiscal 1967 will be 39,000 young men and 6,000 young women. That Message estimates Job Corps costs as $240 million in fiscal 1966 and $350 million in fiscal 1967, which suggests a Job Corps average enrollment of 25,000 during the year ending June 30, 1967.

The Neighborhood Youth Corps

The Neighborhood Youth Corps — designated as "Work-Training Programs" in the Economic Opportunity Act — has the purpose of increasing employability of jobless youth and the resumption or continuation of school attendance of high school dropouts or potential dropouts. Socially useful jobs on either public or non-profit private projects are to be combined with "vocational training and educational services". Jobs with "high training potential" are to be given priority and both work experience and training is to be in occupational skills with "a reasonable expectation of employment".

The OEO Director is to cooperate with state and local agencies and with private non-profit organizations to set up Neighborhood Youth Corps, and is to make agreements with such units to pay "part or all of the cost" of the program. (The Director of OEO has delegated responsibility for the NYC program to the Secretary of Labor.) The law provides that NYC enrollees shall be aged 16 through 21, and their participation must be "consistent with the purposes" of the Economic Opportunity Act. The Director is to assure that rates of pay and conditions of work are "appropriate and reasonable".

The law emphasizes that NYC enrollees should be provided with vocational and educational services, with testing, counseling, job development, and referral services. If these are inadequately available, the program may make special arrangements for these supplementary services. Distribution of NYC funds among the States is to be "equitable" with no state getting more than 12½ percent of the total.

The President's 1967 Budget Message reports that NYC will provide 125,000 part time jobs during the next school year, 165,000 jobs during the summer, and "the equivalent of 128,000 work and training positions of 6 months duration" for "out-of-school unemployed youth".

6 **A News Summary of the War on Poverty,** Office of Economic Opportunity, May 2, 1966, p. 4.

COMMUNITY ACTION PROGRAMS (CAP)

The Community Action Programs (Title II-Part A of the Economic Opportunity Act) are to help "urban and rural communities mobilize their resources to combat poverty". While the CAP is not solely concerned with youth-work or other manpower programs, the law clearly directs CAP toward this activity. A "Community Action Program" is defined as one which, among other things, "provides services, assistance, and other activities . . . [that] give promise of progress toward elimination of poverty or a cause or causes of poverty through developing employment opportunities, improving human performance, motivation, and productivity . . ." In outlining the components of a CAP program which justify the OEO Director in making CAP grants to "appropriate public or private non-profit agencies", the Act lists "employment, job training and counseling, health, vocational rehabilitation, housing, home management, welfare, and special remedial and other non-curricular educational assistance . . ."

This language authorizes CAP to make arrangements for and help fund many components of a comprehensive youth-work program. The OEO Director is mandated to give preference in the allocation of all assistance under the Act to programs and projects that are integral parts of the CAP. The Community Action Program is to be "developed, conducted, and administered with the maximum feasible participation of residents of the areas and members of the groups served". Grants and/or contracts with public agencies, universities, and private organizations to develop research, training, and demonstration projects are authorized up to a total of 15 percent of total CAP appropriations.

Adult Basic Education Programs

As part B of the Title II—Urban and Rural Community Action Programs—there is provision for programs of instruction in English language literacy to serve "adults", defined as "individuals who have attained the age of eighteen". The purpose is employability of such "adults" through elimination of their "inability to read and write the English language [which] constitutes a substantial impairment of their ability to get or retain employment commensurate with their real ability . . ."

The OEO Director is mandated to grant funds covering 90 percent of all the costs to states which have developed plans approved by him to carry out the adult literacy purposes of the Act. Such approved plans are to be administered by the appropriate "State Educational Agency". Allotments to states shall be on the basis of the relative proportions between states of their population which have "attained age eighteen and who have completed not more than five grades of school . . ."

One of the statutory conditions for approval of a state adult basic education program is that it "provides for cooperative arrangements between the State Educational Agency and the State Health Authority looking toward provision of such health information and services . . . as may be available" and "reasonably be necessary" to enable those receiving the literacy instruction to "benefit" from that training.

This opens a door to remedial education and health service for functionally illiterate youth who are school dropouts and over 17 years of age. The President's 1967 budget contemplates provision of basic education to 75,000 adults through $30 million in grants to states under this program.

Total spending for the Community Action Programs, including Project Headstart and the Adult Literacy Program, is scheduled by the Administration's proposed budget to increase from $491 million in fiscal 1966 to $710 million in fiscal 1967.

Special Work Experience and Training Programs for Jobless Welfare Recipients

The Economic Opportunity Act (Title V) "Work Experience Programs" continues and extends the program initiated in the 1962 Amendments to the Social Security Act to provide "constructive work experience and other needed training" to jobless persons receiving public assistance. OEO funds — $150 million was authorized for fiscal year 1966 — are transferred for this purpose to the Secretary of Health, Education, and Welfare who administers the program in cooperation with state welfare departments. He is to finance experimental, pilot, and demonstration projects to advance the aim of assisting public welfare recipients towards "capability for self-support or personal independence".

This section of the anti-poverty program is directed towards the hard-core unemployed. There are no age limits and its terms could be applied to young persons in welfare families, whether or not they are heads of the family. At the beginning of May, 1966, there were 58,755 participants in the program.

MANPOWER DEVELOPMENT AND TRAINING ACT

The Manpower Development and Training Act of 1962, as significantly amended in 1963 and 1965, with an estimated expenditure for its purposes in fiscal 1966 of $279 million is a major component of the national manpower policy and program. As stated by the House Education and Labor Committee Report on the 1965 MDTA Amendments, "The primary emphasis

of the Manpower Development and Training Act, from its beginning, has been upon the training and retraining of unemployed adults with substantial past employment experience. This continues to be the proper emphasis, in the view of the Committee".[7] In the MDTA legislation Congress has primarily reflected its concern over "shifting employment needs" due to automation, other technological developments and "changes in the structure of the economy"; to the consequent displacement of experienced workers; and to the development of shortages of skilled manpower.

While there has been a steadily increased emphasis on disadvantaged youth, the fact remains that the law restricts the participation of young persons in MDTA. The law now allows 25 percent of the participants who receive training allowances to be youths aged 17 to 22. This will permit MDTA training allowances for approximately 31,000 youth aged 17 to 22 during the current (1966) fiscal year. On the reasonable assumption that the amount of the average adult training allowance is more than double that for youth, 10 to 12 percent of MDTA training allowance funds can go to needy jobless youth. This would amount to approximately $21 million a year.[8]

In his report on "Manpower Requirements, Resources, Utilization, and Training" transmitted to Congress in March, 1966, the Secretary of Labor reported that 43,200 youth (16 to 22) were enrolled in MDTA institutional programs and 4,000 were on OJT projects. Youth made up 42 percent of all MDTA classroom trainees and 39 percent of all on-the-job trainees in 1965.[9]

MDTA provides for two main types of training: **One**, so-called institutional training carried on in regular classrooms or training centers; **Two**, on-the-job training under agreement with private employers or other suitable groups.

Institutional training is of several types. The basic category is training in an occupation for which the Secretary of Labor has determined "there is a reasonable expectation of employment". When the Secretary of Labor decides that some eligible persons need basic education before they can pursue their desire for occupational training, he can refer them to special

7 **Manpower Act of 1965,** House Report No. 170, March 15, 1965, p. 22.

8 "There is no intention to change present policies with respect to the enrollment of youth in the MDTA program. Since the Act was last amended, in 1963, to increase effectively the proportion of youth trainees, Congress has enacted the Economic Opportunity Act. The NYC, Job Corps and other programs authorized by this recent Act provide extensive new work and training opportunities for youth. Accordingly, the committee reaffirms its support for a policy of maintaining a reasonable limitation on the proportion of youths in the MDTA program". **House Committee Report,** op. cit., on 1965 MDTA Amendments, p. 21-2.

9 **Manpower Report of the President, and a Report on Manpower Requirements, Resources, Utilization and Training,** U. S. Department of Labor, March 1966, p. 97.

preparatory classes. Finally, the Secretary can establish a "special program for the testing, counseling selection, and referral of youths, sixteen years of age or older, for occupational training and further schooling". The Secretary is also to provide counseling, placement, and follow-up studies for those who have completed their training.

All unemployed over fifteen who need training to get a job are eligible to MDTA programs. Training allowances are available to unemployed persons who have worked at least two years. The allowances can equal the average unemployment compensation payment in the state, plus $10 per week, plus maximum allowances of $20 for six dependents. Each trainee can also work for pay on a regular job for 20 hours a week without reducing his allowance. Under certain circumstances transportation and subsistence payments are allowed.

MDTA training payments can be made for one hundred and four weeks. This long period was provided to meet the special needs of trainees preparing for very technical skilled occupations and for the particularly disadvantaged who need extensive remedial basic education prior to regular occupational training.

Youths aged 17 to 22 — those trainees aged 16 are excluded — may also receive training allowances up to $20 a week if the Secretary of Labor decides they need it in order to undertake training. The Secretary of Labor must "satisfy himself" that the youth trainee is a bona fide "dropout" from high school.

The Secretary of Labor carries the main federal responsibility for MDTA. He is to make arrangements with each state "or with the appropriate agency in each State" to set up both institutional and on-the-job training programs. On OJT, the Secretary can also make agreements for training programs with "private and public agencies, employers, trade associations, labor organizations and other industrial and community groups . . ." Training allowance payments are to be handled by each state under agreement with the Secretary of Labor.

Persons to be trained are referred by the Secretary of Labor to the Secretary of Health, Education, and Welfare who in turn makes agreements of two types: regular occupational training agreements are made with "the appropriate State vocational education agencies" to do the training; for basic education prevocational training the HEW Secretary makes arrangements with the "appropriate education agency". If the state does not make an agreement with HEW, or if it does not provide required training, the Secretary of HEW can contract for it with public or private training institutions.

The Secretaries of Labor and HEW apportion MDTA funds between states according to a set formula based on proportions of jobless and labor force. These funds can be reapportioned when any state has not used its share. The law also provides that, with Bureau of Budget approval, MDTA funds can be transferred among different departments and agencies of the government, provided they are used for MDTA purposes. Until July 1, 1966 all costs of all MDTA programs are paid by the federal government. Thereafter, each state is to pay ten percent of the training costs, except that all training allowances will continue to be funded entirely by the federal government.

Projected MDTA spending in fiscal 1967 is about the same for fiscal 1966 — rising from $279 million to $282 million next fiscal year. The President in his Budget Message stated that "In 1966 and 1967, this program [MDTA], is being redirected to concentrate on workers who have little or no skills. Two-thirds of the estimated 250,000 trainees in 1967 will be drawn from this group of workers, who generally are least able to take advantage of the job opportunities of our prospering economy".

Under the MDTA legislation, the Secretary of Labor is authorized (with the consultation of the Secretaries of HEW and Commerce, and the OEO Director) to establish "experimental, developmental, demonstration, and pilot projects" through grants or contracts with public and private organizations to explore improved methods of meeting the training, employment, and manpower problems of worker groups, including disadvantaged youth and minority groups. The Office of Manpower, Planning, Evaluation and Research (formerly OMAT, now OMPER) of the Labor Department administers this program. Demonstration projects to increase worker mobility by assisting in meeting relocation expenses are also authorized.

VOCATIONAL EDUCATION ACT OF 1963

Under the Vocational Education Act of 1963 the federal government, through the U. S. Commissioner of Education in the Department of Health, Education, and Welfare, makes grants to states to subsidize their vocational education programs. In this 1963 Act, the system of federal aid to state vocational education was modernized and enlarged to subsidize all non-professional occupations training that is "realistic in the light of actual or anticipated opportunities for gainful employment". It introduced new attention to training of disadvantaged youth and provides a program of part-time employment to youths who need such income supplement to continue vocational education.[10]

10 The Federal Vocational Education Assistance Program had, prior to 1963, been based on the Smith-Hughes Act of 1917 and the George-Barden Act of 1946. Federal aid was limited to training for specified occupations, and almost two-thirds was for agriculture and home economics. See U. S. Department of Health, Education, and Welfare, Office of Education, **Digest of Annual Reports of State Boards of Vocational Education**, 1961, Table 3, p. 7.

The following statement in 1963 by the House Committee on Education and Labor which handled the MDTA and Vocational Education legislation clarifies the purpose of both Acts: "The Committee is aware some question may be raised as to the relationship of MDTA to the Vocational Education Act of 1963. That there may be an overlap is apparent only under superficial examination. Historically, vocational education has been available throughout the country for many years. But it had little impact upon training of the displaced unemployed for the simple reason that no adequate means were available to maintain the financial support needed by a breadwinner for his family during the period needed to complete his training. The [MDTA] Act passed by the Congress last year was primarily to plug this void. Some 60 percent of its appropriations is spent for training allowances alone. It covers training costs, but normally these are costs of special courses set up for full-time training outside the normal operations of vocational education. Moreover, new or expanded vocational training facilities cannot be provided under MDTA. Therefore, sums spent on vocational education are complementary to the MDTA programs . . . since additional facilities provide more opportunity for meeting effectively the training needs of the unemployed under MDTA".[11]

Federal Vocational Education aid is authorized for high school classes, for full-time vocational education of those out of school, for upgrading employed workers, for construction of facilities, for education of "persons who have academic, socio-economic, or other handicaps that prevent them from succeeding in the regular vocational education program", and for "ancillary services and activities to assure quality in all vocational education programs . . ."

Mandatory provisions of a federally approved and funded State Vocational Education plan require that one-third of the alloted funds be used for education of out-of-school jobless and/or construction of new facilities, and that 3 percent of the funds be used for "ancillary services". Also required is assurance that "all persons in all communities of the State will as soon as possible have ready access to vocational training suited to their needs, interests, and ability to benefit therefrom". A cooperative arrangement with the State Employment Service regarding labor market information and vocational guidance and counseling is required.

Allotments to the states are made by the U. S. Commissioner of Education on the basis of population proportions weighted to emphasize that proportion under 19 years of age. Re-allotment of unused state allocations is provided. Ten percent of the appropriation for Vocational Education (auth-

11 **Amendments of Manpower Development and Training Act of 1963, House Committee on Education and Labor, Report No. 861, Oct. 18, 1963, p. 4.**

orized to be $118,500,000 during the current fiscal year) is to be used by the Commissioner to make grants to colleges and universities and other public or non-profit private agencies and institutions to pay the costs of "research and training programs, and of experimental, developmental, or pilot programs . . . to meet the special vocational education needs of youths, particularly youths in economically depressed communities who have academic, socio-economic, or other handicaps that prevent them from succeeding in regular vocational education programs".

The 1963 Act includes two new programs aimed at disadvantaged youth. The first is a "work-study program" for students in an approved vocational educational program. Using an allotment formula based on proportions of the population aged fifteen to twenty, the Commissioner can assign funds to each state to pay for up to fifteen hours of work each week by students. The part-time jobs must be for a local educational agency or some other public unit. Total pay is limited to $45 in any month or $350 per year. Such part-time work will be available only to needy, full-time vocational education students aged 15 to 21. This plan is to be administered by the State Vocational Education Board, which is also the applicant for aid.

The second special program authorizes grants to set up and operate residential vocational education schools for youths aged 15 to 21 "who need full-time study on a residential basis in order to benefit fully from such education". As yet, funds have not been appropriated for this program.

Two special vocational education programs are illustrative and warrant mention. **Practical Nurses Training**: Included in the appropriations for Vocational Education in fiscal 1966 is $5 million earmarked for training of practical nurses and other "health occupations" as established in George-Barden Vocational Education Act of 1946. Special state plans organized by either the State Board of Vocational Education or the State Education Agency are required to qualify for allotment from this fund by the U. S. Commissioner of Education.

In fiscal 1965 there were 66,772 enrolled in practical nursing and related health occupation courses. Five million dollars was authorized for these courses in 1965, and $4,535,000 was spent. The states are required to match federal funds on a 50-50 basis.[12]

The Nurse Training Act of 1964 provides funds to facilitate training of professional nurses and nursing teachers and supervisors. The Public Health Service administers the program.

12 **Digest of Annual Reports of State Boards for Vocational Training**, U. S. Office of Education, Division of Vocational and Technical Education, 1962.

Fishing Trades: The fiscal 1966 vocational education appropriation also includes $375,000 to train fishing industry personnel. The Commissioner of Education makes the appropriations "on an equitable basis" after consultation with the Secretary of the Interior. In 1962 the federal expenditure for such training was $93,725, out of total federal-state-local expenditure of $233,349.[13]

FEDERAL-STATE EMPLOYMENT SERVICE WAGNER-PEYSER ACT OF 1933

The public employment system is a combined federal-state relationship based on the Wagner-Peyser Act of 1933. It is actually a dominantly state apparatus with complete federal financing and limited federal supervision and direction. Dr. Garth L. Mangum, when he was Research Director of the Senate Subcommittee on Employment and Manpower, wrote that "Because of the history of State initiative and because of the peculiar Federal-State structure of the American government, labor market placement services in this country are primarily a State and local function with financial support and some coordination from the Federal level . . . Any attempt to appraise the functioning of public employment services in the United States must focus on the State agencies . . ."[14]

Under the Wagner-Peyser Act $492 million was granted by the Federal Budget in fiscal 1966 to finance 2,000 Employment Service offices in the 50 states. In this public employment service system are the main resources available for testing, counseling, and job referral. The responsibilities of the United States Employment Services are specified in the Wagner-Peyser Act as:

> "It shall be the province and duty of the Bureau to promote and develop a national system of employment offices for men, women and juniors who are legally qualified to engage in gainful occupations, including employment counseling and placement services for handicapped, etc. . . . The Bureau shall also assist in coordinating the public employment offices throughout the country and in increasing their usefulness by developing and prescribing minimum standards of efficiency, assisting them in meeting problems peculiar to their localities . . ."

Although the Employment Service operated a special "Junior Placement Service" during the '30's, little attention was paid to young entrants into

13 **Ibid**, p. 177, 1962 Reports.

14 **The Labor Market Role of the State Employment Services**, Senate Committee on Labor and Public Welfare, Jan. 24, 1964, p. 1-2.

the labor force in the intervening years. During 1965 the U. S. Employment Service moved to step up its youth services and set up a number of Youth Opportunity Centers. The Labor Department says, "These Centers form the core for assisting the youth of the Nation to find suitable employment — here they will go to be tested, counseled, and referred to a job or to training for whatever skill they need . . ." President Johnson in his 1967 Budget Message has requested an additional $40 million for the Employment Service, in large part to operate 139 YOC units for "improved employment services for disadvantaged youth" in major metropolitan areas.

In September, 1965, the Secretary of Labor appointed a special task force of experts to study the Service and make recommendations for improvement. The task force urged that more attention should be given to "the provision of special counseling, job development, and placement services for young, inexperienced persons . . ." and that "technical assistance and administrative support" should be given to other government agencies in the manpower field such as the Neighborhood Youth Corps and the Office of Economic Opportunity. Congress is considering, in the current 1967 session, proposed legislation to amend the Wagner-Peyser Act "so as to provide for more effective development and utilization of the Nation's manpower resources by expanding, modernizing, and improving operations at both State and Federal level . . ."[15]

VOCATIONAL REHABILITATION

The Vocational Rehabilitation Act, importantly amended in 1965, provides federal assistance to state rehabilitation programs. The target population of this legislation are severely handicapped individuals who need special care "so they may prepare for and engage in gainful employment to the extent of their capabilities". The availability of this service is important to a youth-work program as an auxiliary resource to which a particular portion of disadvantaged youth can be referred. It can relieve projects such as the Neighborhood Youth Corps and regular training programs of the need to try to accommodate youth requiring very special vocational services.

The law defines the term "physically handicapped" as meaning "any individual who is under a physical or mental disability which constitutes a substantial handicap to employment, but which is of such a nature that vocational rehabilitation services may reasonably be expected to render him fit to engage in a renumerative occupation".

The Secretary of HEW is authorized to make grants to state vocational

15 Senator Joseph Clark (D-Penna.) on the introduction of proposed amendments to the Wagner-Peyser Act, Congressional Record, Feb. 24, 1966, p. 3751.

rehabilitation agencies to assist them in conducting and extending their state programs, and for research and demonstration projects. The federal share, beginning in fiscal year 1967, is to be 75 percent of total vocational rehabilitation costs. The fiscal 1966 federal expenditures are estimated to be $215 million, a large increase from the fiscal 1965 actual expenditure of $137 million. Estimated expenditures for fiscal 1967 are $314 million. It is anticipated that 215,000 handicapped persons will be rehabilitated in 1967, 25 percent more than in 1966.[16]

Handicapped persons who are disadvantaged in their job prospects are eligible for vocational rehabilitation, the final decision regarding their acceptance being made by the local agency. Mental retardation, mental illness, speech and hearing disorders, heart disability, and amputations are included in the handicaps dealt with.

The 1965 Amendments established medical examinations to determine the degree of disability and other services to estimate ultimate employment capacity as a regular part of vocational rehabilitation. Special workshops to train the handicapped are authorized, with the federal government paying 90 percent of the costs. Weekly training allowances up to $25 plus $10 for each dependent (maximum $65 per week) are authorized for two years.

The program is administered by the Vocational Rehabilitation Administration of the Department of Health, Education, and Welfare. State rehabilitation agencies may apply for regular funds.

HEALTH CARE FOR DISADVANTAGED YOUTH: SOCIAL SECURITY AMENDMENTS OF 1965

The employability of many jobless youth is seriously impaired by defects of health. A comprehensive youth-work program needs to include health care providing physical examinations and medical care. The Social Security Amendments of 1965 includes two programs which may provide such services. Their full potential remains to be developed.

Special Project Grants for Health of School and Preschool Children (Title II — Part 1 — Sec. 532):

The Children's Bureau, Welfare Administration of HEW is authorized to make grants to projects that promote the health of children and youth of school and preschool age, especially in areas of concentrations of low income families. These grants can be made to state health agencies, to other health agencies in the state (with the approval of the state health agency), and to any medical and dental school. These eligible agencies can make applica-

16 **The Budget of the United States Government 1967**, p. 119 and 248.

tion for grants to the Division of Health Services of the Children's Bureau, HEW. The federal grant can cover 75 percent of the costs of a comprehensive project for health care and services for children and youth of school age. Since the covered youth need not be enrolled in school, it may cover school dropouts and potential dropouts enrolled in youth-work programs.

The law stipulates that approved projects must include screening, diagnosis, preventive services, treatment, correction of defects and aftercare, both medical and dental, as the Secretary of HEW prescribes. Only low income family children are to receive treatment, correction of defects and aftercare. Appropriations are authorized for these projects of $15 million in fiscal 1966, $35 million in fiscal 1967, and $45 million in fiscal 1968.

Grants to States for Medical Assistance Programs — (Title XIX)

Under plans developed and administered by state welfare agencies, and approved by the Secretary of HEW, federal funds will be made available to cover 60 percent of the cost for medical assistance for needy individuals including low income families with dependent children lacking resources "to meet the costs of necessary medical services . . ." This medical assistance can be given to needy persons not receiving other public assistance, and is aimed to cover all needy children under 21 years of age.

"Medical assistance" is defined to include, among other care, dental services, eyeglasses, clinic services, and "other diagnostic, screening, preventive, and rehabilitative services".

Application for Title XIX funds must be made by the state welfare agency to the Bureau of Family Services, Welfare Administration, HEW. Title XIX became effective January 1, 1966.

The House Ways and Means Committee report on the Social Security Amendments of 1965 estimated that "if all States took full advantage of provisions of the proposed Title XIX, the additional Federal participation would amount to $238 million. However, because all States cannot be expected to act immediately to establish programs under the new title . . . the Department of Health, Education, and Welfare estimates that additional Federal costs in the first year of operation will not exceed $200 million".[17]

ELEMENTARY AND SECONDARY EDUCATION ACT OF 1965

Deficiencies in ability to read and write English and to handle simple arithmetic seriously limit the employability of a large part of disadvantaged

17 U. S. Congress, House of Representatives, Committee on Ways and Means, **Social Security Amendments of 1965,** Report No. 213, March 29, 1965, pp. 74-75.

jobless youth. A great new potential resource for the remedial education necessary to deal with this problem is found in the Elementary and Secondary Education Act of 1965 (ESEA).

The main body of the Act is Title I — "Financial Assistance to Local Educational Agencies for the Education of Children of Low Income Families". For the purposes of Title I, $970 million is budgeted for fiscal 1967 — about 80 percent of the total appropriations for the Act. The purpose of this federal aid is to help local school districts meet "the special needs of educationally deprived children". It is recognized that where such low income families are concentrated there is also low community capacity to meet special educational needs.

Under this law the U. S. Commissioner of Education makes grants to local school districts based on a formula determined in large part by the number of children aged 5 to 17 inclusive who come from families with annual incomes of less than $2,000.[18] But the Act does not limit aid to children of 5 to 17, defining the term "child" as meaning "any child who is within the age limits for which the applicable State provides free public education".

The federal grants are to be used for programs and projects "to meet the special educational needs of educationally deprived children . . ." The House Labor Committee in reporting this legislation emphasized that "to the maximum extent possible, this legislation gives encouragement to local school districts to employ imaginative thinking and new approaches to meet the educational needs of poor children". The Committee listed a large number of suggested programs as "illustrative of the many possible uses of funds". Included were the following items of special interest to youth-work programmers: Remedial programs, especially in reading and mathematics; programs for the early identification and prevention of dropouts; work-experience programs; on-the-job training for high school students; supplemental health services; institutes and in-service training of teachers in special skills; increased guidance service. The Committee emphasized that the list was "not intended in any way to limit the possible uses of funds by the local school district . . ."[19]

It would appear that such wide latitude for use of this aid to education funds permits projects for high school drop-outs, particularly with remedial education for those participating in NYC or other work-training programs.

18 "Legislation will be recommended . . . to raise the low income criterion for special assistance from $2,000 to $3,000 for fiscal year 1968", **The President's 1967 Budget Message**, p. 131.

19 U. S. Congress, House of Representatives, Committee on Education and Labor, **Elementary and Secondary Education Act of 1965**, Report No. 143, March 8, 1965, p. 6-7.

This potential relationship to the development of a comprehensive program is also indicated by the Act's requirement that to receive a grant under Title I, "wherever there is . . . a [OEA] Community Action Program, the programs and projects [must] have been developed in cooperation with the public or private non-profit agency responsible for the Community Action Program . . ."

The federal government pays all the costs for programs set up under the ESEA. Its administration is in the U. S. Office of Education of the Department of Health, Education, and Welfare. Local school agencies apply to the U. S. Commissioner of Education for Title I funds through the state education agency whose approval is required.

A further section of the Elementary and Secondary Education Act of interest to youth-work programs is in Title III — "Supplementary Educational Centers and Services". One hundred million dollars was authorized for this title in fiscal 1966. These funds are to go to local school districts for special projects of supplementary educational services and activities such as "Comprehensive guidance and counseling, remedial instruction and school health . . . services designed to enable and encourage persons to enter, remain in, or reenter educational programs, including the provision of special educational programs and study areas during periods when schools are not regularly in session".

In regard to Title III, as with Title I, the House Education and Labor Committee stressed the legislative purpose in ESEA to permit wide latitude in the funded programs. The Committee report stated that "In this Title the Committee has made use of the language 'centers and services' in order to provide local public educational agencies with the greatest flexibility possible within which to exercise local discretion and judgment with respect to the types of projects which will best serve the educational needs of the community".[20]

Title III funds are processed in the same manner as Title I funds, by local public educational agency application to the U. S. Commissioner of Education transmitted with the approval of, and by, the state education agency.

CIVIL RIGHTS ACT OF 1964

In the Civil Rights Act approved by Congress on July 2, 1964 there are two sections relevant to the problems of the employment of disadvantaged youth. These are Title VI — NonDiscrimination in Federally Assisted Programs and Title VII — Equal Employment Opportunity.

20 U. S. Congress, House of Representatives, Committee on Education and Labor, Report No. 143, op. cit., p. 17.

Title VI — NonDiscrimination in Federally Assisted Programs

The sweeping injunction of this section directs that there shall be no discrimination against any person on the grounds of "race, color, or national origin" in any "program or activity receiving Federal financial assistance". Such assistance means grants, loans, or contracts. Compliance is to be enforced by the federal government through "termination or refusal to grant or to continue assistance . . ."

Title VII — Equal Employment Opportunity

This title of the 1964 Civil Rights Act makes it unlawful for an employer, because of "race, color, religion, sex, or national origin . . . to fail or refuse to hire or to discharge any individual or otherwise to discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment". It further outlaws such discrimination "to limit, segregate, or classify . . . employees in any way which would deprive or tend to deprive any individual of employment opportunities". A similar mandate is directed to employment agencies and labor organizations.

By "employer" is meant anyone, or the agent of anyone, engaged in "an industry affecting commerce". During the first year of the law's effectiveness (until July 1966) the law applies to employers with one hundred or more employees; for the next year it also applies to those with 75 workers; from July 1967 until July 1968 the application limit is employers with at least 50 workers. After July 1968 all employers with 25 or more employees are covered by the law. It is estimated that this means 29 million workers hired by 259,000 employers will be covered.

An Equal Employment Opportunity Commission of five members is created to effectuate the law. Regional or state offices of the Commission are authorized. Charges of violation of Title VII may be made either by the aggrieved worker or by a member of the Commission. Investigative and enforcement procedures by the Commission, the Attorney General, and the federal courts are provided.[21]

21 On April 27, 1966, by a vote of 299 to 94, the House of Representatives passed HR 10065, the Equal Opportunity Act of 1966, which aims to strengthen the 1964 legislation. Congressman John Dent (D-Penna.), Chairman of the House Education and Labor Subcommittee handling this bill told Congress, "Three major weaknesses exist in the present law. It is limited in coverage to only 8 percent of the employers in the United States. It is devoid of the typical administrative enforcement provisions. it is inadequate in its treatment of apprenticeship and training programs". To meet these defects, HR 10065 would apply the law to employers of 8 or more workers after July 2, 1967 (adding about 10 million workers to the law's coverage); would give the Equal Employment Opportunity Commission more direct powers of enforcement; and would require a continuing survey of minority participation in apprenticeship and on-the-job training programs. See **Congressional Record,** April 27, 1966, pp. 8691-8726.

Juvenile Delinquency and Youth Offenses Control Act:

This pioneer legislation authorizes the Secretary of Health, Education, and Welfare to fund projects to develop and evaluate new techniques and programs for the reduction of juvenile delinquency.[22]

The target population of this legislation comprises both actual and potential delinquents, "school dropouts, unemployed youth faced with limited opportunities and with employment barriers, and youth in deprived family situations".

Since enactment of this law in September 22, 1961, the Office of Juvenile Delinquency and Youth Development in HEW has developed demonstration projects which have emphasized youth-employment programs and the coordinated enlistment of all segments of a community as effective means of combatting juvenile delinquency. These presaged the youth-work and Community Action Programs of the Economic Opportunity Act which have begun to assume responsibility for the continued operation of some of the original demonstration projects initiated under the Juvenile Delinquency Act. Also under this law, special projects for training personnel to be used in delinquency control efforts, for the preparation of training and curriculum materials, and for provision of technical assistance have been developed and funded. A special demonstration project in Washington, D. C. was set up in 1964.

The Juvenile Delinquency Act in 1965 was extended to June 30, 1967 and $6.5 million dollars was authorized for fiscal 1966. For fiscal 1967, $10 million was authorized. The President's budget for fiscal 1967 requests new obligational authority of $8,207,000 to "initiate 13 new demonstration projects, continue to support the special project for the Washington metropolitan area, and 15 existing projects, and train 10,000 individuals (2,000 more than in 1966) who will work to prevent or control juvenile delinquency".[23]

22 According to Bernard Russell, Director, Office of Juvenile Delinquency and Youth Development, Welfare Administration, Department of Health, Education, and Welfare, "There are rough estimates that there are 1.2 million or more delinquent children arrested every year. There are further estimates . . . that there are at least an equal number or more who were never actually adjudicated delinquents, but who indulged in some delinquent behavior". U. S. Congress, **Departments of Labor and Health, Education, and Welfare Appropriations for 1966,** Hearings before a Subcommittee of the Committee on Appropriations, House of Representatives, Feb. 3, 1965, p. 1156. The estimated annual cost to society of juvenile delinquency is estimated "as high as $2.6 billion". U. S. Congress, House of Representatives, Committee on Education and Labor, Report No. 1139.

23 **The Budget of the United States Government, Fiscal Year Ending June 30, 1967,** U. S. Government Printing Office, 1966, p. 260.

Important Related Legislation

Public Works and Economic Development Act of 1965.

Appalachia Regional Development Act of 1965.

Housing and Urban Development Act of 1965.

These laws are not directly related to the employment problems of disadvantaged youth. But they have a very real potential relevance. Addressed to special areas of economic development and need for assistance, this legislation opens up special opportunities for coordinated relationship between the programs it establishes and manpower programs seeking employability and employment of youth. For the most part, these possibilities remain to be explored and developed.

Public Works and Economic Development Act of 1965

This law provides $760 million dollars annually in financial grants, loans, and technical assistance to communities and regions of excessive unemployment to aid in the creation of new jobs. "Redevelopment areas" eligible for assistance are defined as those where the jobless rate is "substantially above the national rate", where average family income is low, or where other special "depressed area" characteristics predominate. The Secretary of Commerce is responsible for effectuating the Act. A system of federal-state Regional Action Planning Commissions is created to administer the program under the coordination of the Secretary.

The grants for public works and development facilities are directed to projects which will, besides aiding the economy of the area generally, "primarily benefit the long-term unemployed and members of low income families or otherwise substantially further the objectives of the Economic Opportunity Act of 1964". The Secretary of Commerce is authorized to consult with other persons and agencies "who can assist in meeting the problems of area and regional unemployment or underemployment".

Appalachian Regional Development Act of 1965

This law establishes a unique joint federal-state program for economic development in the Appalachian area from Alabama to New York. The Act authorized a $1.1 billion six-year program. Congress appropriated $350 million for fiscal 1965 and 1966. The main component of the program is for highway construction, with federal funds of $840 million to cover about 70 percent of a $1.2 billion construction program over six years. Regional health centers are provided, with $41 million authorized to cover 80 percent of the construction costs. The federal government is authorized to spend

$28 million for the operation of these centers, 100 percent of the total costs for the first two years and 50 percent for the next three years. Sixteen million dollars is authorized for the construction of vocational educational facilities.

The Appalachian region as defined in the law includes all of West Virginia and portions of eleven other states: Pennsylvania, New York, Maryland, Ohio, Virginia, Kentucky, North Carolina, South Carolina, Georgia, and Alabama. Seventeen million people live in the area. The Governor of each state involved is a member of the Appalachian Regional Commission, while State Regional Representatives designated by each Governor conduct the regular business of the program.

The Senate report on this legislation stated, "Though the Committee acknowledges that the primary purpose of this bill is resources development and not the creation of immediate employment opportunities, we would urge the Secretary of Commerce, implementing the highway and other construction programs, to promulgate regulations which will assure the maximum feasible employment of local labor".[24]

Housing and Urban Development Act of 1965

A wide variety of federal assistance is established in this law to assist in providing housing for low and moderate income families, to aid in urban redevelopment, and to improve living conditions and community facilities. In general it is required that all labor hired by contractors and sub-contractors under this program must be "paid wages at rates not less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis-Bacon Act".

Section 703 and 708 authorizes $50 million a year for neighborhood facilities that are "necessary for carrying out a program of health, recreational, social, or similar community service" (including a Community Action Program approved under Title II of the Economic Opportunity Act of 1964). Such a facility should be "consistent with comprehensive planning for the development of the community" and available for use by a large part of the area's low or moderate income population. It is specifically required in Section 703 (e) that "The Administrator shall give priority to applications for projects designed primarily to benefit members of low-income families or otherwise substantially further the objectives of a community action program approved under Title II of the Economic Opportunity Act of 1964".

24 U. S. Congress, Senate Committee on Public Works, Report No. 1383, August 13, 1964, p. 10.

CONCLUSION

The legislative base — at least in outline — for a comprehensive youth-work program has been created. It is true there are gaps and inadequacies, particularly in available funds. Much of the law is vague and will require time and experience in application to gain precise meaning. There are serious difficulties and complications in putting some of the legislative intent into practice. Above all, there is the lack of integrated coordination and direction which unfortunately characterizes all federal manpower policy and practice.

But there is much legislation to be utilized by the enterprising official shaping a program to increase employability and employment for disadvantaged youth. The experience of applying these laws will not only serve the youth-work program, but will doubtless develop the most constructive basis for legislative amendments and additions in the future.*

VT 004 269
Keim, Walter G.
Proceedings of Interstate Conference on Labor Statistics, (23rd, Storrs, June 15-18, 1965).

Bureau of Labor Statistics (DOL), Washington, D.C.
Connecticut Dept. of Labor, Hartford
Connecticut Univ., Storrs
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 268p.

CONFERENCE REPORTS; *LABOR ECONOMICS; DEMOGRAPHY; ECONOMIC RESEARCH; *RESEARCH NEEDS; *DISADVANTAGED GROUPS; LABOR FORCE; *EMPLOYMENT STATISTICS; RESEARCH METHODOLOGY; MEASUREMENT; RESEARCH UTILIZATION; UNEMPLOYMENT; FEDERAL LEGISLATION; EMPLOYMENT OPPORTUNITIES; POVERTY PROGRAMS; GOVERNMENT ROLE; COMMUNITY ROLE; SAFETY; ECONOMIC DISADVANTAGEMENT; BUSINESS CYCLES; AUTOMATION; PRODUCTIVITY; STATISTICAL DATA; *PROGRAM PLANNING; INJURIES; EDUCATIONAL PROGRAMS
*INTERSTATE CONFERENCE ON LABOR STATISTICS, STORRS, CONNECTICUT, JUNE 15-18, 1965

The major focus of the Conference was on the statistics needed for effective government and local community cooperation in programs to meet the needs of disadvantaged groups. Ten speakers presented papers and each was discussed by selected panel members or other conference participants. The topics were: (1) "Provisions for Job Opportunities and Employability in Manpower Legislation" by Louis Levine, (2) "Government and Community Participation in the Program of Economic Opportunity," by Hyman H. Bookbinder, (3) "Yardsticks for Counting the Poor," by John G. Myers, (4) "Community and Government Cooperation for Disadvantaged Groups," by Raymond F. Male, (5) "Current Economic Situation and Outlook," by David Pinsky, (6) "Developments in State and Federal Statistics and Research Roundtable," by Carl Cabe, (7) "Productivity and Automation," by a panel of five, (8) "Statistics for Industry and Government Safety Programs," by Robert H. Ferguson, (9) "Manpower Information Needed for the Planning of Training and Education Programs," by Robert E. Johnson, and (10) "The Last Five Years: Economic Expansion and Persisting Unemployment," by Ewan Clague and Robert A. Gordon. Delegates included state and federal government administrators, economists, and statisticians, as well as representatives of universities, labor, and business organizations. (ET)

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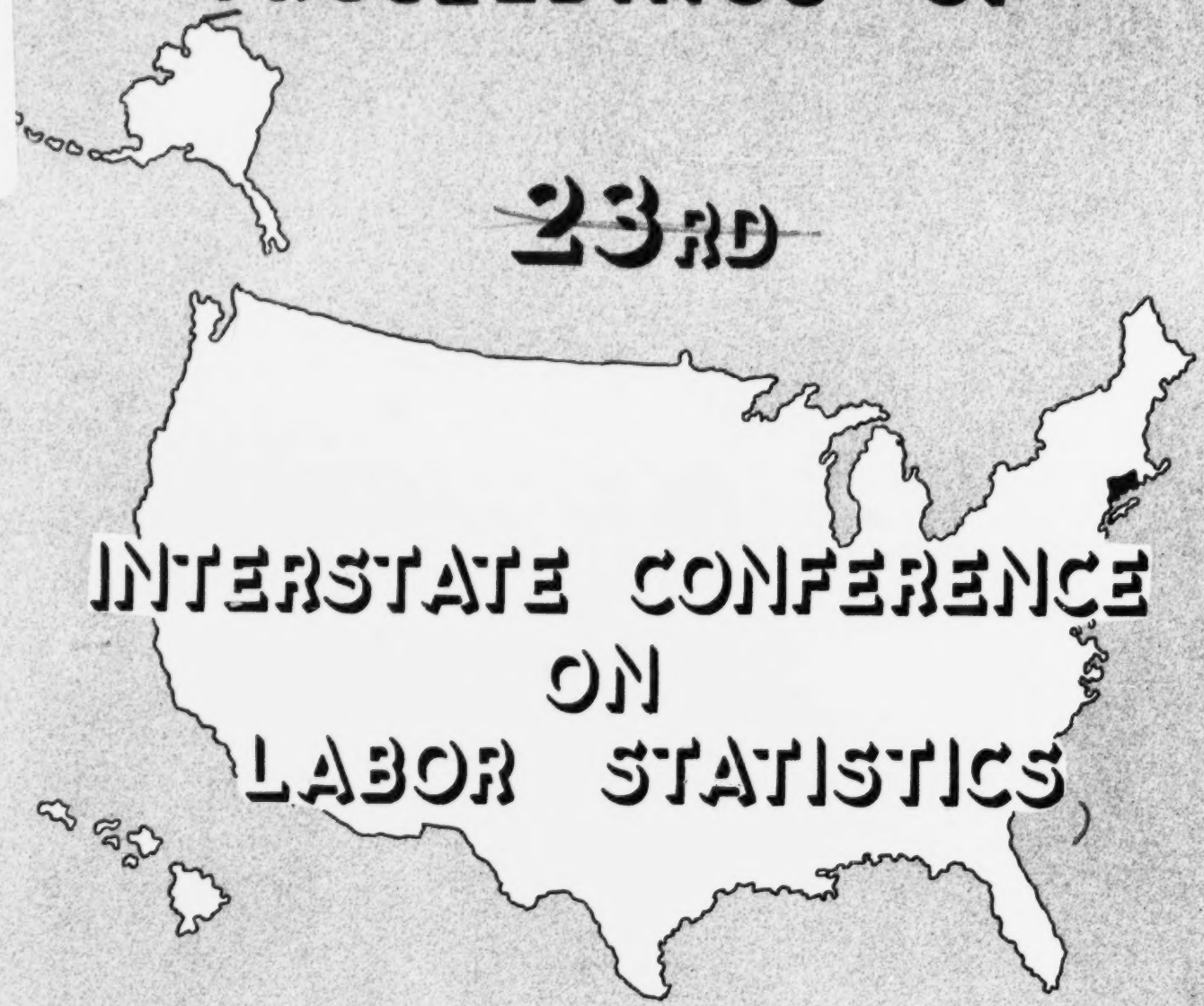

~~23RD~~ INTERSTATE CONFERENCE ON LABOR STATISTICS

JUNE 15-18, 1965

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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VT004269

U.S. DEPARTMENT OF LABOR
Bureau of Labor Statistics

STATE OF CONNECTICUT
Labor Department
University of Connecticut

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INTRODUCTION

The 23rd Interstate Conference on Labor Statistics was held June 15-18, 1965, on the campus of the University, Storrs, Connecticut. The Connecticut Labor Department and the University of Connecticut served as cosponsors with the Bureau of Labor Statistics of the U.S. Department of Labor. The conference was attended by representatives of 38 States and Canadian Provinces. Delegates included State department of labor administrators, economists and statisticians, representatives of universities, State bureaus of economic security, State workmen's compensation agencies, and officials of labor and business organizations. Department of Labor AID trainees from Algeria, Ethiopia, Indonesia, Iraq, Liberia, Pakistan, Panama, South Viet-Nam, Thailand, and United Arab Republic were among the delegates.

The major emphasis in this year's program was the statistics needed in community and government cooperation for disadvantaged groups--how State and Federal statistics and research are used in community action programs. One of the highlights was the session on Yardsticks for Counting the Poor, a discussion by governmental and university experts of the level of income to be considered as a base for identifying the number of persons with inadequate incomes. A session considered applications of Federal and State research statistics in the administration of poverty programs. The discussion included the research needs of the OEO and Appalachia programs. There was much interest and audience participation in the symposium on the current economic situation and outlook. The annual roundtable of developments in State and Federal statistics and research included papers on the program of economic indicators, regional business cycles, and interpreting economic statistics, implications of automation and impacts on employment, labor education programs in universities, and a special analysis of New England collective bargaining agreements. Another highlight was the session on manpower information needed for planning training and education programs. The discussion included U.S. and Canadian experiences and State programs.

Dr. Robert A. Gordon of California presented a most stimulating paper in the final session. He analyzed the economic expansion and persisting unemployment over the last 5 years. After several days of intensive consideration of specific developments and uses of labor statistics, the delegates felt that this excellent analytical treatise on the economic health of the nation was an ideal subject on which to conclude the conference.

These proceedings provide a ready reference for those who attended the conference and will be of interest to others working in the field.

Walter G. Keim, Executive Director
Interstate Conference on Labor
Statistics

ADDRESS OF WELCOME

Renato E. Ricciuti, Commissioner
Connecticut Labor Department

I am very pleased and happy to welcome you to the State of Connecticut this morning. I think all of us owe thanks to the people who have arranged this program. It is a very interesting program, and we are going to get started very quickly.

If there is anything that the Labor Department, or the people here representing the Labor Department in Connecticut, can do to make your stay more enjoyable please do not hesitate to call on us.

To give some greetings to you from the University and for some comments on the program, I would like to introduce to you John J. Glynn who is the Director of the Labor Education Center of the University of Connecticut.

John J. Glynn, Director
Labor Education Center
University of Connecticut

I would like to extend a hearty welcome to all of you on behalf of the administration of the University, on behalf of the faculty of the University, and more particularly on behalf of the staff of our Labor Education Center which is part of the Division of Continuing Education Services here at the University.

President Homer Babbidge regrets that he could not be with you this morning to extend these greetings himself, but a previous commitment in Syracuse keeps him away today.

We are happy for several reasons that you have decided to meet here at the University of Connecticut, through the services of our Connecticut Labor Department. For many years the University has been fortunate in obtaining professional assistance, in giving courses and lectures, from many officials of our State Labor Department, none the least of whom is our good friend, the Commissioner, who was an early lecturer in programs in industrial relations, labor relations, and other problems of the State in our Extension program. Other officials of the Bureau of Labor Statistics have regularly lectured in programs offered by the University, and we feel that there has been a contined, warm, and constructive relationship between the State University and the State Department of Labor.

The administration has been working to expand and extend the academic strengths of the University, both in our undergraduate program, in our graduate program, and in our Extension services that are available to all citizens in this State.

We are proud of this growth, and we hope that you sense some part of it in your stay here.

Members of our faculty are sitting in and will be sitting in on your meetings. One that is possibly known to many of you was to take part in the program, but a last-minute decision in Washington sent him to the Far East where he has been consulting with the government in Lebanon. I am referring to Dr. Philip Taylor who would like very much to have been here during this conference and taken part in it and picked up some old friendships with several of you.

Incidentally, you are here in Connecticut and opening your conference on a rather historic day for this State. We are balloting up and down the State today for delegates to a State Constitutional Convention which will convene in July, and at that time--for the third time I believe in Connecticut history --representative delegates from both parties are going to take a real look at our State Constitution, are going to amend it in such a way as to make re-apportionment legal and constitutional, and otherwise strengthen, we hope, and update our State Constitution. So today many of us will be going to the polls, not as many as we would like because there are no contests, but that is another story. At least, things are happening and happening rapidly in Connecticut in the political field as well as in the field of labor statistics, industrial relations, and economic growth.

This has been a venture as far as we are concerned in three-way planning, and we were very happy to be accorded the privilege and the opportunity to work with Walter Keim and his staff in Washington at the same time that we were able to work with the Commissioner's staff in Hartford and particularly with David Pinsky and the people in his Department. We will do the best, from the point of view of the University, to go along with the Commissioner's suggestion of doing everything that we can to make your stay an interesting, stimulating one and a memorable one.

MR. RICCIUTI: I am sure most of you know the next speaker very well, and I will not presume to give a long introduction. It is too bad that Ray Male does not get here until this afternoon because I am sure he would have relished introducing Mr. Clague himself.

Ewan Clague, Commissioner
Bureau of Labor Statistics
U. S. Department of Labor

Mr. Glynn's opening address reminds me that I first got into statistics on the general subject which Connecticut is voting on here today. I was a young student of political science out at the University of Washington in Seattle. We had not had a redistricting of our State in the previous thirty years, so a Professor of Political Science suggested that I might take up that subject and find out what the general pattern among the States was.

It happened that a war broke out at that time and I joined the Army, but I had about two or three months at the University campus before I was actually called away. So, apart from drill, I was comparatively free for the next two months.

I wrote to each of the State governments and collected information on the districting of their legislatures. Then I assembled the population statistics by counties from the latest census. So I plunged into statistics without ever having had a course in the subject. I worked up the balance of representation in nearly every State in the Union. I turned that in for my term paper in political science. That is how I received my start in statistics.

I recall a more recent example of the importance of statistics in the modern world. In September, 1946, there was a world conference of statisticians in Washington, D. C. At this conference of statisticians, with delegates coming from all over the world, there was a good deal of concern about conditions not only in the U.S. but throughout the world. There was a newspaper somewhere in this country--I never found the original--in which there appeared an editorial about as follows: "Look, this is the gang which supports government controls; they are the backers of rationing; and they are the fomenters of Communism; this would be a very good place to use the remaining atomic bombs to blow up the whole batch of them."

There was another editor who took a different view. He commented on the first one by saying, "Don't shoot the statistician; he is your friend; he makes it possible for the free enterprise system to work." I got hold of that editorial; it is in my files for my memoirs.

Last Monday morning I received a call from an economist of a business concern in New York, who said, "When are those employment figures coming out--the employment, hours, and earning statistics; we're going to have a board meeting tomorrow, and I would like to get the figures; we're going to put them on charts to show them to our board." So I said, "Well, the press conference is at 2:00 o'clock this afternoon; my staff will be alerted; if you will call such-and-such a number at 2:00 o'clock they will give you the figures for your meeting."

That is an illustration of the importance that is now attached to these figures of employment and unemployment. Of course, we are still getting some of the criticisms that we have always had for the last four years, such as the following: "You shouldn't be counting the teenagers as unemployed because they're all babysitters anyhow, and it doesn't matter whether thev sit or not.

On the positive side, I might point out to you that the entire youth program now in operation in the Federal Government (and in the States and localities) is the direct result of our statistics on the unemployment rates. These rates have clearly demonstrated where the problem of unemployment lies.

There is another field (prices) in which we have received many criticisms: "Your indexes are all too high; the cost of living is actually declining; you have failed to allow enough for quality improvement. At the same time we get a lot of letters from women shoppers, who claim that the prices we get are much too low; that they do not find the prices that we seem to be quoting.

There are three separate investigations of price indexes underway. I must remind you that there are still millions of workers whose wages are escalated by the Consumer Price Index. I reminded you last year that all Federal retirement annuities are escalated by the Index. All military pensions are escalated by the same index. We in the Federal Government, at least, are protected against inflation when we retire, as long as this law operates and as long as our index is produced.

Last Thursday I appeared before the House Post Office and Civil Service Committee to explain our statistics on wages and salaries in private industry. By a law of the Federal Government these wages and salaries in private industry determine the salaries of Federal employees, and Congress is now considering a raise in Federal salaries based upon our findings.

That is one statistic that nearly everybody loves. I had a wonderful time, and my heart was warm with the fine appreciation that the Congressmen expressed for our figures.

When I testified, we got into a discussion of State and local government employment. There is some question about State and local government salaries. Some of the people in Washington want us to survey State and local government salaries on the ground that they, too, should be taken into account by us "Federals," when we fix our salary scale.

On the other hand, there is another school of thinkers who say, "State and local salaries are so low that they should not be used for the comparison; in no case should they be collected or averaged." I do not know how that contest is coming out.

The Council of Economic Advisors has worked in the last annual average of output per man-hour for private industry and is using the trend as a guide post for settlements of wages and salaries. That, too, means a lot of debate and discussion concerning our statistics of productivity: Are they accurate; could we make them better; did we take into account all the factors?

Then there is the Automation Commission, which has been set up by the Congress and the Administration, which is reviewing the whole subject of automation and its effect upon our economy: Is it a promise or a menace? On the one hand, we have some people talking about the 4-hour day and the 4-day week while others are arguing that we are losing out to Communist countries in the expansion of our production.

Even in the field of work accidents, with which you people are especially familiar, a new debate is breaking out. There is a debate about whether traffic accident statistics are worthy of the name, and whether something should be

done to produce better traffic safety. This is leading to a discussion of automobile excise taxes and whether or not certain safety devices should be standard equipment on cars.

In our Bureau and in your work, you are immune from that particular statistic, but you and we are directly involved in the statistics of industrial accidents which are under discussion, both in the Federal Government and in industry itself.

Finally, in the international field, we have a Division of Foreign Labor Conditions, which we call upon to make a good many comparisons of international statistics. We are continually on the spot in comparing our statistics of unemployment with those in other countries, the question being raised as to whether ours are not too high, because we gather them in a different way; whether we should readjust theirs upward or ours downward to make them more comparable. We are getting continual questions from Congress about wages in foreign countries and what effect they have on international trade.

There is much discussion about prices: Are we pricing ourselves out of world markets? We had requested a small appropriation this year to start an index of international prices in order to compare prices in the United States with those of other countries. But, we did not get that money.

In the field of productivity, there are arguments as to whether our workers are as productive as they should be compared to foreign standards, whether high productivity in this country is sufficient to balance the high wages that we have.

In all these fields, statistics are at the forefront of discussion, including statistics of other agencies, such as the Census, the Bureau of Employment Security, the Bureau of Mines, the Department of Agriculture, and so on, which I shall not take time to discuss.

John Maynard Keynes, the great economist, commented in writing almost thirty years ago about as follows: "You must not overlook the great influence of economists; whenever you find some ambitious politician coming out with some new idea which he is plugging very strongly and stirring up the populace, you will usually find somewhere in the background an obscure economic scribbler who thought up the idea."

What Keynes was pointing out it that economic theory is very important.

I would like to point out that the possibilities now are that when a politician is advancing some spectacular program, there is some anonymous statistician with a computer who is feeding him a statistic.

So I welcome you to this conference on statistics, a conference of statisticians.

ORGANIZATION OF THE CONFERENCE

Walter G. Keim, Executive Director
Interstate Conference on Labor Statistics

I certainly underscore everything that Mr. Clague said and that Commissioner Ricciuti, David Pinsky, John Glynn, and the other fine folks for this cordial welcome to Connecticut.

It is quite pleasant to look out over the group this morning and to see so many delegates from the West and the Midwest, the South, Harold Roberts here from Hawaii, Mr. Nazario of Puerto Rico, and to greet, for the first time, you new members from Connecticut and the East.

I am especially pleased this morning to see the large representation from New York and Pennsylvania. They always make a fine contribution to our Conference.

As in other years, all the States and Provinces were invited, and more than 40 are represented here. The attendance includes officials from State Departments of Labor, Federal agencies, Workmen's Compensation Boards, Bureaus of Employment Security, municipalities, State Education Departments, universities and labor, and industry organizations and business concerns.

We are very pleased with the representation of universities at this Conference. About 25 are represented here, which is a fine turnout.

To the many delegates who are with us today for the first time, we try to arrange the program to cover a cross section of interest of our membership, which represents a wide variety of subjects. We want to provide interest and stimulation to the many types of users of labor statistics, educators, research economists, and statisticians. The Conference is, in effect, a professional society of producers and users of labor statistics. The steering committee each year considers the suggestions that you send in, you are very prolific with ideas, and we certainly thank you for your interest, and the significance of certain types of data relative to the current economic situation.

The committee this year included David Pinsky, Charles Pearce, Maurice Gershenson, Harry Stark, Esther Espenshade, and Wendell Macdonald.

When there are new developments in Washington and in the States and Provinces, in major economic series, research programs, or statistical techniques, we consider them for our agenda. We want our Conference to serve as a medium for communication and for the exchange of experiences in the preparation and uses of the data.

As most of you know, we always have on hand 4 to 6 invitations for the Conference site, and it isn't any easy matter to make the selection each year. Our principle is to move around to different regions, California to Florida, and then North, and perhaps next year the Midwest or to Puerto Rico.

The oldtimers in these conferences have fond memories of other meetings held in New England at York Harbor, Maine; Newport, Rhode Island; Amherst, Massachusetts; and here in Hartford in 1952. Now, after 13 years, we return to Connecticut.

The Connecticut Labor Department has one of the very best programs in the country. They know how to produce labor statistics and use them effectively in the administration of their broad legislative program. Moreover, as you will observe as we move along through these sessions, the Connecticut Labor Department is one of the principal agencies--if not the foremost one--in the preparation and dissemination of economic information for the State.

As you will see, statistics are treated as important tools for planning economic policy, measuring the economic health of the State, and for administrative purposes.

The Commissioner and Mr. Pinsky and members of the staff will be available throughout the Conference for consultation. In addition, they will welcome your visit to an open house which will be held Friday afternoon at the sparkling, new Department of Labor Building.

The program opens on a high note this morning with our two keynoters, Hyman Bookbinder, Assistant Director of the Office of Economic Opportunity, and Louis Levine, Director of the United States Employment Service, setting the stage for the principal programs to follow. Mr. Levine is a basic part of the Conference family, along with Mr. Clague and Mr. McElroy. Louie is traditional here and an invaluable contributor to our program each year.

Similarly, we are grateful to Mr. Bookbinder for taking the time from an extremely busy schedule as Mr. Shriver's assistant to join us here this morning.

This afternoon, we present a definite first in the session on "Yardsticks for Counting the Poor," the first time experts will appear in public forum to discuss differing views on how to count the poor.

Also this afternoon, a panel discussion on "Community and Government Cooperation for Disadvantaged Groups," applications of Federal and State research and statistics in the administration of the poverty programs.

Mr. Male, Commissioner of the New Jersey Department of Labor and Industry will share this program. I don't think we can hold a conference without this gentleman. He is a staunch friend and supporter of all of our meetings and a man dedicated to helping youth and the underprivileged.

To bring my little statement to a close, I want to remind you of Assistant Secretary Moynihan's remarks at the Miami Conference. Economic statisticians have played a strategic role in stimulating decisions and molding public policy; particularly since the 1930's. Those involved in the statistics of labor and income, many of you here today, have applied a wealth of imagination to the development of rich detail and ingenious techniques that provided information

on unemployment for example by age, sex, skills, and duration. By such efforts, manpower policy has been vitally influenced. We are now aware, because of these data, of the scope of youth education and employment problems. At the same time, we know that we need further information about them and about other employment and manpower questions. Only people like you can supplement these achievements. Think now about how we can defeat poverty and measure its defeat, or positively how we can assess the American level of living. Your statistical sophistication is adequate for this task. It has kept up with the cybernation age. The principal lack is new thought about what can and must be fed into the data processing machines, appreciation of the interdependence of social and economic factors, and awareness that people and the economy do not live by bread alone.

This is a challenge to all of us to make our statistics work in really productive ways. We are providing much useful data and consultation to labor, industry, and the public generally in such fields as safety, industrial peace, productivity, cost of living, prices, manpower employment, wages, and labor turnover. We have a wealth of data at national and local levels, but we can do much more in working with local groups on socio-economic matters than we now do. We can bring to bear much local data on occupational skills to be fostered, reasonable rates of pay, appropriate job-counseling information, and the criteria to be used in assessing community needs in terms of youth unemployment.

You can help communities direct their young people into the most effective programs particularly those among the most needy groups. Your data and advice about ways to use them will be invaluable to the community action phase of the President's program. If we want to be of the greatest aid, we must be flexible and adaptable in our application of data to specific purposes.

Yes, this effort will require the best we have to offer with a flair for innovation and creativity.

Mr. Chairman, thank you for inviting us to Connecticut.

MR. RICCIUTI: You know, when Mr. Martin was talking about the similarities between our present prosperity and the fabulous Twenties, he said in part that most governmental officials were comforted that a new economic era had opened, an era in which business fluctuations had become a thing of the past, in which poverty was about to be abolished.

A contrary view to Mr. Martin's has been presented by the President's Council of Economic Advisors in a recent report. This report, in commenting on the fact that the present economic expansion has lasted 51 months from early 1961, said:

> It is premature to say business cycles have been eliminated, but we now know there is no necessary reason why an expansion must end in 36 months, in 50 months, in 80 months, or any other arbitrary length of time. Prosperity is determined not by the record of employment, but by the actions of business, labor, and government. So long as these actions remain responsible and constructive, prosperity will endure.

I have long felt that the Employment Service should be the mainspring in the fight for full employment. Connecticut has opened recently a new apprenticeship information center in Bridgeport, and just last week a Youth Opportunity Center in Hartford. I know that our speaker feels much the same way about the Employment Service.

Formerly Director of the Division of Research of the Bureau of Employment Security in Washington, a graduate of Ohio State University, a Doctor of Economics, the present Director of the United States Employment Service and the Bureau of Employment Security in the United States Department of Labor, it is a pleasure to present to you Mr. Louis Levine.

PROVISIONS FOR JOB OPPORTUNITIES AND EMPLOYABILITY IN MANPOWER LEGISLATION

Louis Levine, Director
United States Employment Service
Bureau of Employment Security
U. S. Department of Labor

Thank you Commissioner Ricciuti, Commissioner Clague, Walter Keim--who never fails, or seems never to fail, to invite me to be with this group. It is a distinct pleasure for me to come here to see these people whom I have come to know well over the years and come to respect for the major contributions they make to economic development and the formulation of policy and legislation in the field of human resources.

This meeting in 1965 at the mid-point of the decade of the Sixties should provide an excellent occasion to take stock of what has been happening in the field of manpower and human resources, and of what might lie ahead. Just before the beginning of this decade people were forecasting what this decade would be like. We have now reached the half-way point. What do we find? Well, for one thing, I think all of us would agree that perhaps never in the entire history of the United States--even including the depression of the Thirties with its New Deal legislation--has there been such a concentration of manpower legislation and programs in such a brief period of time. This emphasis is especially significant since we are not endangered by a major depression nor does it seem likely that we will have one.

Already people are coming to refer to this as the period of the "Manpower Revolution." I will not burden you with recounting all of the manpower legislation which has found its way to the statute books since early 1961. Here are a few of the highlights: The Area Redevelopment Act, with the manpower training provisions now transferred to the Manpower Development and Training Act; the amendments to the Social Security Act for the rehabilitation of public welfare recipients; the Manpower Development and Training Act, which in its brief history has already been significantly amended twice (the last amendments were only a few weeks ago); the overhaul of vocational education undertaken for the first time since 1917 in the United States; the Civil Rights Act of 1964,

which I count as a very important part of manpower legislation and the manpower revolution; the Economic Opportunity Act of 1964; and the Elementary and Secondary Education Act of 1965. One can just go on citing one piece of legislation after another, dealing with education, training, retraining, and occupational rehabilitation of the human resources of the United States.

This legislation did not come about by chance. The labor statisticians of the United States made a major contribution in providing the basis for this legislation. There can be no doubt that during the last decade the United States developed an awareness and a sensitivity to the importance of manpower resources. There have been some important developments in manpower legislation within the last 4 years that I would like to call to your attention. I think they are significant to all of us concerned with the collection of data bearing on manpower problems. You may well remember that the earliest manpower legislation, in the first part of the Sixties, came at the tail-end of the recession of 1960-61. Much of the justification for that manpower legislation was on the basis that it was an anti-recessionary measure.

That was only 3 or 4 years ago. We have already forgotten this because the philosophy and the rationale for the justification of manpower legislation has moved far beyond that of anti-recessionary measures. Now manpower legislation is recognized as a response to developments that have been taking place in this country between the end of World War II and the end of the decade of the Fifties. You know better than I the experience with respect to unemployment rates, the duration of unemployment, and postwar recessions.

The growth of significant manpower problems in terms of the youth of this Nation and particularly the relationship of education to employment is important. We are aware of the truly unfortunate, tragic experience of those people in the Fifties. Through the entire postwar period, as we look back now, we find that the social and economic institutions which were most firmly established, which were among those most respected in the United States, were frequently the institutions most distantly removed from some of the more important manpower problems that were emerging. I do not exclude the Employment Service, it belongs together with those other institutions such as the schools, high schools, colleges, and our vocational educational facilities. We were concerning ourselves in the Fifties with how we could keep abreast of an avalanche of human resources hitting the elementary schools, subsequently the high schools, and now the colleges. The problem seemed to be sheer numbers, how to mobilize resources for school teachers and school plants and equipment.

With the launching of Sputnik, there was a great awareness of the importance of educated human resources. Our concern was for talent in science and in engineering. You may well remember that in the mid-fifties the concentration of the educational institutions in this country was on seeking out the gifted and talented youth. It was not enough to deal with the middle class or the average youngster. We were even going to put them aside to search out the talented and gifted youth; thus,we were far removed from the disadvantaged youth. We were far removed from those sectors of our population which we pretended did not exist. Yet they were becoming increasingly evident

in the statistics of crime and juvenile delinquency. The problems of the masses in the slums of our larger areas could not be ignored. There are problems equally serious perhaps in our rural areas, but not as dramatic. Such were the developments of the mid-Fifties.

By early 1960 we were becoming increasingly concerned with the problems of malutilization of human resources. The problem not only reflected unemployment, but also the training of people so that they can make a greater contribution to the welfare of this Nation. You may remember that the Manpower Development and Training Act of 1962 was justified in Congress on the basis that it would provide retraining for the heads of families who were unemployed. It was that kind of immediacy which Congress accepted in the passage of this Act.

Because of some problems between the House and the Senate, there was considerable delay in financing the Manpower Development and Training Act, until about September or October of 1962. So nothing really happened under the Act until the close of 1962 and early 1963. Yet, by October, 1963, President Kennedy, in one of his important messages to Congress, dealing with Civil Rights, devoted a great deal of emphasis to the needs for amending and revising the Manpower Development and Training Act. What was the direction in which those amendments were to go? They emphasized the needs of disadvantaged youth and were designed to overcome the lack of literacy skills which resulted in failure to pass tests given in local employment offices. The objective was to increase selection and referral of disadvantaged youth to training programs. The ones who needed training most were being denied training. Congress had previously emphasized assistance to unemployed heads of families but it required that there be a reasonable prospect for employment before selection of individuals for training.

The message delivered by President Kennedy in October 1963 laid the ground for the term "employability." This term is not the same as "employment." In employment offices, our schools, and in other institutions we need to learn the meaning of this concept. We must become concerned with more than short-run considerations which do not solve basic human resource problems. We need to emphasize basic, fundamental types of services for human beings which will prepare them, which will develop in them those traits and capabilities needed for success in a modern day economy. In other words, we must improve employability, and this means more than occupational training. It can and does often mean social services of various kinds, family services, mental health services, as well as the building of literacy skills and occupational capabilities. This represents a major turning point in manpower resource programs in the United States.

Most government agencies providing services to people are accustomed to dealing with large numbers. The statistics in the annual reports of each employment agency point to millions of people who were served at this small cost. Congress has become accustomed to this and the people have become accustomed to providing services to large numbers of people.

In the field of employability, costs rise very sharply. It is an individualized service and, therefore, it is a high-cost service which has to be continued over a long period of time. How are we going to acquaint the American public with this concept? How are we going to orient Congress, accustomed as it is to working on an individual fiscal year basis, to evaluate manpower services that extend over long periods of time?

In the field of employability achievements will not come easily or quickly. We are dealing with the segments of the population, a portion of our manpower about which we know very little. We statisticians, just like the rest of the society, have defined them away as if they did not exist. Ewan Clague referred to the unemployment figures and their significance, particularly for teenagers. There is no doubt that these figures have tremendous significance, but we understate the real volume of teenage unemployment because to be counted as unemployed, one must be able to work; one must be looking for work; and one must not have worked in the week preceding the survey.

Employability then, is a concept which will grow in the United States. It will have increasing significance, much broader than we traditionally thought that it would. This does not mean that we can escape responsibility for employment. Employability is a step toward employment and ultimately there must be employment for these people. I do not want to get involved in the argument between the aggregate demand school of thought and institutional schools of thought as it relates to displacement and technological change which may account for or create unemployment.

We still are living with the tradition that people on public payrolls are suspect. This is in part a heritage of the Thirties. Then such projects were thought of as shovel-leaners, tax-eaters, make-workers and leaf-rakers. We must not forget that public employment in the United States is growing more rapidly than any other field of employment, at State and local levels.

There is no doubt that hiring specifications in the private sector of the economy have become more demanding, more exacting, and more rigorous. Fundamental to this is the need for a higher level of education, greater skill and technical know-how than is presently being provided by our society. There may be limitations in the capabilities of some people to meet all of these requirements. There is a very real question whether the private sector will absorb these so-called marginal people in the work force, even under conditions of full or near full employment.

One of the great tests that lies ahead for us in the field of employability is absorption by the private sector. It may well be that the Appalachia Act, a forerunner I think of other legislation for the Ohio River Valley and the Upper Great Lakes, may provide public employment as a part of regional economic development. Such employment on a long-term basis may develop sections of the country which could become leisure-time and recreational and tourist, areas for our expanding population.

We must break with the traditional and narrow concepts influencing our economic and structural thinking and think more broadly in terms of emerging manpower implications. This means for us in the field of manpower statistics and economics some reassessment and reappraisal of traditional definitions and measures. For example, in the Employment Service, where traditionally we have focused attention on the local labor area, we must start to think in terms of the regional area, and in terms of the interrelationship between manpower resources and manpower requirements. I only cite this as one example of the necessary changes in thinking. For those sectors of the population about which we know very little, we are going to have to learn a great deal more. Some of the higher educational institutions which prepare the nation's professional manpower are farthest removed from some of the major problems of these sectors of the population. The University even including its departments of sociology and social work is far removed from the slums of New York, Chicago or other cities. Often the faculties of these institutions went directly from graduate work into teaching. They may have only a slight relationship and involvement in the manpower problems of poverty and people in poor neighborhoods.

The same kind of problem confronts us for economics and statistics in the manpower field. We need to reassess the information we are getting and how we are getting the data. Many of the techniques and tools that we have used are not applicable. We cannot rely on mail questionnaires and schedules, obviously, for the disadvantaged sectors of the population. And I am not sure that the usual kind of personal interview will yield the necessary information. It may be necessary to develop specially prepared interviewers, not just statisticians.

I said a few moments ago that employability is only a step toward full-employment. Our greatest concern once we get started, will not be just to attract considerable numbers of youth into education, and into training and retraining programs. The problem will be more difficult as we reach toward the really hard-core of the poverty-stricken, culturally-deprived, economically and educationally deficient groups of our population, but I think they, too, can be brought in. The question already raised is whether traditional education and training is adequate for these people. Returning youngsters to the very school environment which they left with disgust or were pushed out of is no solution.

Obviously, we are going to have to reexamine our educational goals and programs. I am optimistic. I believe education is alive and sensitive now to the requirements of the times in a way that it has not been in this country for many years.

Thus far in manpower research we have concentrated on the supply side of the equation. We have concentrated on the numbers and the characteristics and the means of education and training, preparing and developing people. I submit we know relatively little about employment opportunities despite the mass of statistics that we have in the manpower field. The simple truth is, we have not exploited and analyzed the statistics we already have. Consequently, there is a need for much more data and analysis with respect to the demand side of the job market equation.

We are now hopefully in the final stages of completing the revision and shortly issuing the Dictionary of Occupational Titles (DOT) in the U.S. Employment Service. This work has been going on with staff located in eight major occupational field centers. The people are competent State personnel, working under national direction. Although their activities have been directed to the national objective of getting out the Dictionary, in the course of their work, they have visited thousands of occupations. They have observed the change in content of the skill level, the obsolescence of certain kinds of skills, and the emergence of new occupational requirements. We have been experiencing difficulties in keeping pace with the changes that are taking place in our occupations. There is need to enlarge our understanding and knowledge of occupational descriptions, definitions, and classifications. As in any field of science or knowledge, descriptions and definitions are the basic tools for any diagnosis and action depends on diagnosis.

Now that is one aspect of demand. We have made tremendous progress in the field of employment statistics for geographic and industrial breakdowns but we lack such information by occupation. I do not know whether we can get information on employment by occupation on a regular recurring basis but we need it more than once in every 10 years. I would like to get this information from employing establishments. To obtain consistent occupational employment information from employing establishments requires special care in formulating terminology and definitions.

We need information on hiring experience--on the occupational ports of entry. I speak with some feeling on this having just completed conducting a graduate seminar on contemporary manpower policies and programs. I had occasion to review in the literature, an article by Clark Kerr, written some 20 or 25 years ago. It dealt with ports of entry into an establishment. Hiring processes differ from establishment to establishment according to size, to existence of a personnel office or lack of it, and to the composition of its work force and its skill levels. Today there are too little data on the means by which people really obtain employment and how they acquire skills. We need to know more about the requirements of employers.

We have concentrated a great deal on the 5 or 6 percent of the unemployed of the work force and have deemphasized somewhat the 95 percent employed in the United States. Yet the latter constitutes the real manpower resource of this Nation. We know too little about those who are employed.

We talk about training, largely institutional training, and too little about on-the-job training. We have not adequately examined industry's responsibility for the development of skills. How can it open up the ports of entry for some of the disadvantaged youth I have been talking about who are difficult to place. We have not gone into that enough.

The field of job vacancy information has not been adequately explored. A great paucity of such information exists in the United States. Our need for such information for operating purposes outruns statistical considerations. Unfortunately there is confusion between the use of job vacancy data as an index of the level of economic activity and the use of such information for

manpower operations. Perhaps the way to advance the job vacancy program is to obtain the data in order to help people get jobs. Eventually this would produce the statistics. The importance of job vacancy data as an economic index of level of economic activity in the United States cannot be denied. Such data are needed to understand market processes, manpower failures, and accomplishments by area and by establishment and by occupation. There are, of course, difficult problems now in terms of definitions, concepts, and obtaining information.

Another aspect of the demand side of the equation in the job market to which we have given too little attention is the kinds of jobs and the openings and the duration of those openings and what happens when they are filled or go unfilled. When the employer cannot fill a position, he lowers his hiring specifications and makes adaptations, or he breaks up the job duties in some way through job dilution. He may even undertake training of personnel.

We are very conscious of the importance of job advancement in the United States, but we still know too little about the basic elements which are controlling in many occupations.

It seems to me on the demand side of the job market, the whole aspect of the employment process, employment, promotion and training within the employed sectors of the work force requires more attention from the manpower statisticians.

Another aspect of the manpower legislation and programs dealing with job opportunities and employability is the need for economists, statisticians, and manpower specialists to recognize our dependence upon other disciplines and and specialities. This may be in social work; it may be in social psychology; it may be in sociology; it may be in some aspects of vocational education. The interchange and communication of experience and ideas can only be obtained through an interdisciplinary approach. Such an approach requires the development of terminology which can be understood by the whole group. We must have a common language if we are to deal effectively with other specialists. In our youth opportunity centers now being established in various parts of the United States as part of the public Employment Service, it is tremendously important that many disciplines be represented. These centers will have to draw on medical and social services, family care services, psychologists, psychiatrists, vocational rehabilitation and occupational training specialists. Diagnosis becomes extremely important. In fact, it becomes necessary--in some ways, more necessary--to concentrate on diagnosis than to concentrate on service provided. To make such diagnosis will require more than the specialized knowledge of a manpower statistician or economist.

The manpower legislation will continue to put pressure on us to enlarge our vision, our concept, our perspective of human resources, the job market, and the economy of the United States.

I would say that on the basis of what we have been able to do in the last 20 to 30 years, I have every hope, every belief, that we are competent to measure up to that task.

MR. RICCIUTI: Well, it is very easy to see that Mr. Levine has kept in touch with our problems while he has been away at school. I want to thank him on your behalf for his very thoughtful and provocative talk. I agree particularly with his point on on-the-job training, which I think provides a great challenge to industry and for all of us, and represents the main opportunity to solve many of our manpower problems.

And now to speak to us on "Government and Community Participation in the Program of Economic Opportunity," Mr. Hyman H. Bookbinder, who has served as Deputy Assistant Administrator of the National Production Authority, worked for the CIO and the AFL-CIO, was an economist for the Amalgamated Clothing Workers of America between 1940 and 1950; and, except for the time he spent in the Navy, served as the first Director of the Eleanor Roosevelt Memorial Foundation. Prior to the passage of the Economic Opportunity Act, Mr. Bookbinder served as Executive Officer of the President's Task Force on Poverty, and now as the Assistant Director of the Office of Economic Opportunity.

GOVERNMENT AND COMMUNITY PARTICIPATION IN THE PROGRAM OF ECONOMIC OPPORTUNITY

Hyman H. Bookbinder, Assistant Director
Office of Economic Opportunity

I am an enthusiastic participant in and supporter of the War Against Poverty. I think it is just about the most exciting thing that has happened in this country since the early Thirties. I think it has already done magnificent things and promises to do many other magnificent things.

This does not mean I am blind to the problems that we face and the problems created by having the War Against Poverty. It does not mean that I am unaware of the defeats we are suffering in this war as well as the great number of minor but cumulatively very significant victories that we can already point to. Defying all statisticians, mathematicians and logicians, I really believe, in this case that the total is substantially greater than the sum of all of its parts. That is what I think is the nature of the War Against Poverty.

It has already, in the few months that it has existed, shaken up just about every establishment in the country. That does not mean we get a psychological kick out of just shaking up people, but precisely what we have shaken up needed shaking up, and that means the government itself, not just other people; it means us. We have shaken ourselves up. Yes, we have even shaken up the BLS and the BES and the Employment Service. They tell me--I do not think it disastrous--but we have shaken up the social workers; I am told the educational community does not like us. Nobody seems to like us, but everybody invites us to come make keynote speeches.

The War Against Poverty is a challenge to the conscience of America which has been generally very well received. We in O.E.O. are aware that it is not we alone who have wisdom. I know our people at times may get a little overenthusiastic. Those of us who wear an O.E.O. hat know we do not really have

any more wisdom than others. In fact, we probably have less on each of the specific things that needs to be understood, but we are new, we are young in terms of agency, we have a certain kind of spark.

As long as we do not do it too "wise-guyishly," I think it is good to point out failures because the fact is that in these last 30 years there has been a basic failure in American life in which we all collectively join and share.

During my lifetime I remember at least three important socio-economic revolutions in American political thinking. One was, of course, the early New Deal days. I think that whoever was elected in 1932 would have had to do at least some of the things that were done in the New Deal.

But, there was a recognition that the economic system was not working well enough, that the depression and the recessions preceding were just intolerable. Certain changes were needed, and certain changes were made through a whole series of legislative measures, social and economic. These measures certainly represented a basic commitment, and served up to a point. Many things were improved; many things happened; new trails were blazed. That was one revolution in my lifetime. Part of this revolution took form in employment security programs.

The second one, as I measure revolutions, occurred in 1946, when we said that, as a matter of national policy, we cannot just provide for people's individual security so as to minimize their difficulties in a time of economic collapse. We have got to do more than we have done to see that there is not economic collapse, and so at least we committed ourselves to this belief. Some people say we never really carried out the full purpose of the Employment Act of 1946, but the important thing was there was a commitment. And the fact is, despite the fact we can all make criticisms and express our regrets about things that have happened, in these last 20 or 30 years since the Great Depression, we have never had a real fear that we were going to get into another prolonged depression. And, in this period, by all of the traditional standards, this country has bloomed economically.

Measure it by GNP, average wages, national income, whatever you want, we did pretty well. Not as well as some would like, but we have done reasonably well.

But then came 1960, the Sixties, and we look back over this period and say, "Something is fundamentally wrong."

The thing that was fundamentally wrong was that despite the earlier revolutions, despite the greater stability in our economic life, despite the aggregate improvement, despite average wages, and so forth, somehow this economic progress did not have very much meaning for a significant number of Americans--one-fifth roughly.

Roughly a fifth of the American people by any reasonable standard of poverty certainly are so far away from and below what we call the prevailing American standard of living, that they must be considered poor. One-fifth of the American families, the most important single number, live on an average annual income of about $1,800. These are the "below-$3000," group. I have stopped using the phrase, "Below $3,000," because people hear it as $3,000. You do not hear it as "below $3,000." Roughly 35 million Americans are living at that level.

This was the challenge to President Kennedy, and is the challenge to President Johnson, and the country as a whole. What has happened? What is wrong basically? Why is it that so many people do not share in this prolonged economic growth?

We did not invent poverty. That is, the government did not invent the concept of poverty or the need to fight against it in 1963 or 1964. In a sense, The War on Poverty has been going on for a long time. All the things you have talked about, all of the programs you have worked on, the manpower training, the vocational education, ARA, all of these things obviously contribute to a program aimed at the causes, the basic causes of poverty. But, the difference is that for the first time, beginning in the last year, we identified poverty as the focus for our concern and required that almost every program take account of it. I say "almost" because obviously some do not apply. Whenever it can possibly apply we measure the effectiveness of a program to a large degree in terms of what it can do to contribute to the elimination of the causes of poverty.

The new emphasis is not what are average industrial wages in America, what is total GNP, but what have we done about bringing some more families out of the ranks of poverty.

What we have done in the War Against Poverty is to give very, very important meaning to those words of President Roosevelt, spoken, I think, back in 1938 when the Wage-Hour Law was signed. I know very few quotations by heart, but this one I know by heart. He said, "The test of our progress is not whether we add more to the abundance of those who already have much; it is whether we do enough for those who have too little." That is the test of our progress.

And, by that test, we have not done well enough. So we are seeking explanations for the failures in our social and economic life, for those who have been, in effect, "drop-outs." I am not talking of school drop-outs, but social drop-outs, drop-outs of our society measured by the tens of millions in this rich country of ours.

Well, this is our commitment. This is our concern, and like in any other wars, people do not understand it all, we have conscientious objectors, we have armchair generals and Monday morning quarterbacks.

Some say, "You are using old-fashioned weapons; you will never win the war that way." The same words can be applied about the Viet Nam war and the War on Poverty. "There is no will to win," et cetera, and some people say, "you have got to escalate the war or you will never win it." And, they are talking about the War on Poverty. Well, we get advice from all over and some of it is sound advice.

I would like to give you what I think is the basic flavor, the basic idea behind the things that we are doing that constitute the War on Poverty. To do so, I must tell you first the two things that the Economic Opportunity Program especially is not.

First, it is not a welfare program. It is not another program to make poverty somewhat less intolerable. Obviously this does not mean as a humane, civilized society, we are unconcerned about welfare. We need better, improved, perhaps bigger welfare programs, but the poverty program is not a welfare program. The purpose is simple. I have already alluded to that. It is to get people out of poverty.

Secondly, it is not a full employment program. I think it is terribly important for people to understand that unemployment and poverty, while related in important ways, are not the same problem. Poverty and unemployment are not identical problems. Obviously, full employment in the country (or, as a matter of fact, any improvement in the employment outlook) is a contribution towards solving the poverty problem. So we desire to decrease unemployment, and we work on that front in other connections.

But, even if we could eliminate unemployment as you folks measure it, if tomorrow morning we could wake up and find we have reduced unemployment to 3 percent, we would have made only a tiny dent in the poverty problem?

Look at Mollie Orshansky's figures on the statistical profile of poverty. Relatively few of the heads of poor families are unemployed people. A whole range of things can and must be done to guarantee full employment, but we would still have a serious poverty problem.

What, then, are some of the things we do? What is the purpose of the Economic Opportunity Program and speaking of it more broadly, the Poverty Program?

If the purpose is to get people out of poverty, we have to find out why they are in poverty. There is no ultimate wisdom in this area, but certain things are beginning to become apparent, Two or three things are rather self-evident. Certainly, one is the number of old people who probably will never go back into the labor force. Then there are young people who start raising families at 18 or 19 and who are so completely lacking in skill and confidence that they do not even try to get jobs.

All of these facts suggest rather obvious things. We have started to do a few things about this. We do these things out of recognition that the most important single factor about poverty--I did not say the only important

factor--is that the great bulk of our people who are poor today have been poor since the day they were born.

There is no other fact that I think begins to be as important as this fact: that people who are poor today have been poor since the day they were born. This is what we refer to when we say the "cycle of poverty," the "culture of poverty." It is terribly important to understand it, and a child who is born into that poor family and is poor from that first day begins to have a mentality and an attitude and an absence of skill and an absence of motivation, all of which makes it difficult--not impossible--but very difficult for him to ever escape from poverty.

That is why you will find that there is an emphasis in our program--not to the exclusion of other things--but an emphasis on the very young. This project Head Start, for example--which I am sure has affected every one of your communities--is an exciting thing. This fall, 530,000 children will have the first opportunity to be exposed to the kind of influences that are just taken for granted in the typical nonpoor family.

They will get health care; they will get an appreciation for learning, and an exposure to books and crayons; they will get the first exposure to conversation. For the first time, many of them will hear a sentence spoken slowly enough with correct enough diction that it begins to have meaning and importance to the child. What is perhaps most important is that we are going to start a program and a system in the communities that will pay off later for these young people in their lives and for society in general.

Obviously, in 6 to 8 weeks during the summer, you are not going to make up for 5 years of neglect, for 5 years of hardship, and as Mr. Levine has already suggested, if the child goes back to the same home environment where there is not that square foot of clean space for doing homework, where there is a loud television blaring all of the time, or an angry parent, blaring all of the time, that child is not going to be in a particularly new situation of hope, but every little bit is going to help.

I just came back from Berea, Kentucky, where I was able to bring good news about a project. You know, we always think so globally about the hundreds of millions of dollars we are spending and the 35 million poor people. I get lots of satisfaction out of the small things we do, because they are all going to begin to add up.

I was able to inform Berea, Kentucky, that we have reached the first goal in a drive called "Books for Appalachia." We announced a campaign working with the Council of Southern Mountains and the Appalachian Volunteers through the P.T.A.'s of America to collect 1 million books for Appalachia so we can fill the libraries of these 1- and 2-class schools in all the poorer counties of Kentucky and West Virginia. The first part of the million are to go to 44 counties in eastern Kentucky. Just the day before I left for the commencement address in Berea I received word we reached the 500 thousand mark.

Some people will say, "What are you getting so excited about books for, books for these small schools?" We have some reports back from our Vista volunteers in Kentucky; one wrote back saying she found in four schools of a county that all the children were sharing one copy of Mother Goose. That is 1965, U.S.A.

Just this last week we made a grant of over $100,000 to college volunteers in that area who will sort the books and start reading the books to children in these eastern Kentucky counties.

You simply cannot exaggerate, you cannot overstate what it means to start exposing children to a friendly voice, to a colorful book, to things that we have taken for granted all our lives. This is the kind of thing that is made possible.

Let me quickly run through the basic components of our program and where we are. The papers are full of the problems, and we have got them. We work around the clock, working on the problems, but some things have already happened, giving us cause for hope for the future.

One major component that we operate ourselves is The Job Corps. Some people think the Job Corps is the War on Poverty. In the Job Corps, we have an extremely difficult task and we are not sure it is going to work for enough children to warrant all the effort. We are not sure, but we are willing to try it; we are willing to work hard and spend money because the objects of that program are some of the most difficult children in our society, and we have made it a matter of policy, a policy of which I am very proud, that we are not only going to take the "cream" of the young people of this country, but also those with social and economic limitations. We are even taking some children with criminal records but not the worst criminal records; we are not a mental therapy institution, but we are dealing with the kinds of children where it is rare that they have never been arrested.

We are taking children who dropped out of school at third grade, fourth grade, fifth grade; children who have been smoking the kind of things they should not be smoking; we are getting them into these Job Corps centers. I am conceding the fact that we have problems in the Job Corps, but it is worth having these problems.

When the Congress was debating this, one of the major arguments we had to contend with was that we are smoking marijuana or something worse than that if we think that the children toward whom this program is aimed really want to leave their communities and help themselves. They will not want to do this. Well, we surprised them and ourselves, I do not mind confessing, because almost 300,000 young men and women have said they want to be in the Job Corps. Now, they will not all be in the Job Corps. Some of them probably thought it was just a job they were applying for, but at least several hundred thousand of these target children did fill out a postcard, did do something else to say they want to help themselves.

Also, we have the Vista Program. I think this program, also, is exciting. Already some 20,000 said they would like to be in Vista, but only about 2,000 of those will qualify because we have rigid requirements; for example, those who are married must bring their spouse, and when they find that out, some of them drop out. It is noteworthy that we have challenged the people of this country, just as we have in the Peace Corps, and that people say they do want to serve without the glamour of going to Afghanistan or India or that kind of thing; they are going to work--and they already are working--in the hollows of Appalachia; they are working on Indian reservations; they are working in migrant labor areas, doing rather unglamorous work, and we are not talking about just volunteers every Tuesday and Thursday evening. That is important; we are going to have to have millions of them before we are through. We are talking about full-time, Vista volunteers, working around the clock and away from home for a whole year, and if they want to they can work a second year.

The third program that we run directly is Community Action. You have read about the nine-million-dollar grants to New York and about the difficulty we are having in Chicago. We are having some difficulty in certain places, but in the aggregate we are showing signs of success.

We allocated one million, two hundred thousand dollars last week for an Appalachian health program to enlarge and improve a group of hospitals in Appalachia.

Next a half-million dollars went to Detroit, Michigan, part of which will go for a project you would never imagine as part of the War on Poverty. It is a program to train policemen who are assigned to slum neighborhoods. Sound unusual? It did to me at first until I read why it is being done. In one sentence it was noted: "Officials hope that the course will replace poor people's traditional mistrust and fear with a constructive relationship that will encourage them to seek help from the police."

The North Carolina Fund was given a half-million dollars last week to evaluate programs that we fund. Maybe we will talk about this this afternoon when we have a more directly related subject for discussion.

In Shannon County, Missouri, we made a small grant of eleven thousand dollars to finance remedial education for 120 adults of low income with less than 12th grade achievement. This is the first time in that community that any program of this type was ever funded.

Migrant grants, Indian reservation grants, special summer programs are taking place every single day. This is Community Action.

Just a word about Community Action in terms of concept. This is not just an experimental program, you understand; it is an action program, but in a sense the whole Community Action Program is one great social experiment, the greatest we have ever had. Hundreds of millions of dollars will be spent to try out all kinds of new ideas about social organization, about special programs to reach the previously unreachable. You show me any laboratory where

every item that you try is a success. We are going to have failures, but I think we are going to have a substantial degree of success, also.

Well, we do other things in this program. The Labor Department has the Neighborhood Youth Corps called "work training" in the legislation. Already some 200,000 are either on the job or to be employed in their local communities.

Finally, work-experience programs administered through HEW take the most difficult cases, hard-core unemployed, fathers of children receiving ADC and give them extensive assistance; counseling, work training, placement, services, etc.

In concluding let me go back to what I just said much too briefly earlier, It is especially important that we spend a few minutes on this group.

I said, "This is not a full-employment program." That does not mean that the Administration or the OEO is not vitally concerned with the unemployment problem, but we are impressed with the fact that about 9 or 10 months ago, for example, we read a story which I think emanated from the local BLS people in New York, that there were at that moment some 50,000 jobs in New York City; identified jobs in a city where 300,000 people were unemployed.

We are not talking about scientist jobs; we are not talking about greatly sophisticated jobs; but you did have to know how to write or count to be an elevator operator. Despite all of the automated elevators, I am told that one of the important groups of jobs in that 50,000 were unfilled elevator operator jobs. You have got to be able to see what the number on the floor is. To be a waitress, you have got to be able at least to check the right box, if not write down, "Ham and eggs." And there were not 50,000 people available for those jobs, and so we say in the programs we are participating in that we have got to do what we can; we have got to do what we can to get at least those jobs that are available.

I have just this final thing to read because I think it says everything we are trying to do, and it comes now not from a poverty pamphlet or poverty speech. It is the final page of the manpower report of the President. The manpower statement of the President himself, issued several months ago: He says,

> In the Great Society, work shall be an outlet for man's interests and desires...We will have to try, adapt, try anew, and adapt again, but always on to this goal, always on until what is now too often only a dream, but no human talent shall go to waste, that each man shall have full opportunity to be all he can be, that this shall be a reality for all. 1/

The War on Poverty does not guarantee riches, nor guarantee success, but hopes that the under privileged can reach most of his potential, and this, I submit is what the War on Poverty is really all about.

1/ Manpower Report of the President, U.S. Department of Labor, March 1965, p. XVII.

YARDSTICKS FOR COUNTING THE POOR (Teach-In)

Chairman: John G. Myers, Economist
National Industrial Conference Board

This topic, "Yardsticks for Counting the Poor," is apparently arousing a great deal of interest, and we have excellent speakers here who are authorities on various aspects of the problem.

I think we can consider this problem under three general headings. One is level of the yardstick, the consistency of the yardstick; two is persons in different situations: family, location, occupation, and the like; and finally a very important problem that has interested many people is the question of variability of income, whether it is a long- or short-term problem, whether people below the yardstick at one point are people likely to remain in poverty over a period of time.

Our first speaker is Mollie Orshansky, Economist of the Division of Research and Statistics of the Social Security Administration, who has written a great deal on this subject.

Mollie Orshansky
Division of Research and Statistics
Social Security Administration
U.S. Department of Health, Education and Welfare

I notice we are to discuss counting the poor. Since I have been inadvertently responsible for proliferating some of the numbers, I think I should pull back a little and say that perhaps we should spend more time thinking about the methods that will show who is poor, and what kinds of people are poor, rather than concentrate so heavily on the specific number. Certainly, for the Social Security Administration (SSA) and for myself, we disclaim any guarantee that goes with the number 34.6 million, 35 million, or 50 million. Such a figure is a way of defining in the aggregate a short-range answer to a long-range question. We are trying to delineate and identify the groups in the population that are vulnerable to a risk, the risk of poverty, which in itself has no unique description or series of symptoms.

Just to give you a little bit of the background: you heard some of the numbers used this morning which have become quite the thing. Until recently, the under $3,000 a year figure, which the Council of Economic Advisors (CEA) in heralding the War on Poverty used as a delineator was the official dividing line between poor and nonpoor for families of 2 or more.

As things go, this was a device to present a number which could both dramatize and also, what is more important, indicate the degree of concern which we wished to demonstrate. The poverty in this country is not, as some of our not-such-good friends would like to indicate, a symbol of failure. It is a symbol of our success. We can have as a nation and for a long time have had a

society which in the aggregate offers more than a struggle just to keep alive. We have got to the point where we feel we ought to and can make this kind of life possible for all among us. But this also means that the definition to decide who is poor is a very difficult one to make.

When all you are worrying about is sheer subsistence, staying alive, as is true in so much of the world today, you have a somewhat easier statistical problem. Just figuring out who does not have enough calories to stay alive or who does not have enough clothing to stave off the elements gives a workable definition of poverty, but we are not in that state.

There may be, unfortunately, some people in this country who are perilously close to the subsistence level. Even for them, we do not assume that the only remedy required would be to make it possible for them to just stay alive. Once you get past the absolute subsistency level--and it would be difficult to define this level for things other than food and perhaps clothing--you get out of the area of sheer physiological need, and you are in an area of choice: What do you think, what do I think, and when does poverty become a public issue? Most important what do we as a nation wish to accept as the level or the magnitude of the problem to which to address ourselves? The Council of Economic Advisors by the figure they chose indicated that this was a level of about a fifth of the population.

Now, this did not mean that the nation intends to do or can do something for everyone thus identified. It might not even mean that we would like to, but it did mean we wanted to identify the kinds of households that are worse off than others, the population groups who find themselves in our economy left behind while the rest of us move ahead.

Then in terms of the level which the Council used, and bearing in mind that it is an arbitrary level, a rationalization was applied to indicate its reasonableness. One rationalization used was that in some earlier work attempting to identify the kinds of families with children that might be living in poverty, the SSA had worked out an ad hoc relationship between income and food expenditures which we felt implied some concept of adequacy. With the rough demographic characteristics and other data then available to us, we have said that for a family of a husband and wife and two children, and the two-tenths additional relatives which they would have on the average, a minimum poverty line would be around $3,160. But we were varying the line for family size and composition.

The Council, unfortunately, did not have the data with which to do this for all households. The data the Bureau of the Census provides on income distribution does not cross-classify families by many important characteristics simultaneously.

The SSA felt that if you assume, for example, that an aged couple with $2,900 was poor and a family with six children with $3,100 was not poor, that you would be understating the relative dimensions of the poverty problem with respect to young children and large families as opposed to other households.

I, myself, was not going to settle for this rigid definition. So we worked out a family size and composition scale, pivoting roughly about $3,100 as the required minimum for a family of husband, wife, and two children, tapering it downward for smaller families and upward for larger ones, and came up with a new set of estimates which had approximately the same proportion of the population as indicated by the Council, but a different cross-section. We felt it was a fairer way to see that all families who might be subject to economic pressure got a chance to be included under this search-light being flashed on the lowest fifth of our population.

I mention this bit of background because I agree, as our Chairman said, the discussion of the poverty count should clearly separate what we can do, what we must do, and what we have not yet been able to do. You pick the level. This is arbitrary, or at least in SSA we feel it is. Do you want to concern yourself about the lowest third or the lowest fifth or the lowest sixth or the lower half? This is a choice that we must make. There are very few absolutes in this game.

Of course, you like to have a rationale for what you do. We in SSA postulate with the Department of Agriculture that there is a low level of expenditure for food which could if wisely used permit adequacy on an average. We calculate that such expenditures should come to no more than a third of family income, a rate which for a four-person family with children yields a threshold figure of roughly $3,100--an income which no one can say provides for riotous living.

There are some who think this figure is still too high; there are others who think it is too low. But, the important thing is the scaling for differential needs. I think it is true of the various poverty criteria which have been used that if you apply the proper scaling, you do not get very different relationships in the way that the home economics people in Agriculture measure the relative needs of families of different sizes from what Mrs. Lamale and others in the BLS do, from what we in SSA do, and what others do.

I think the persistence or temporary state of low income is one factor we have to struggle with still. We are hoping we will get some numbers in the next few months which will help, but at present there is little to go by.

Whether in defining poverty there are other resources you should consider in addition to income is actually not a "whether." Everybody would agree that you should. It is how much data is available and how to apply it that is the issue. We do find that when you move away from the rather unrealistic single income approach which the Council used, you eliminate some of the problem of the poor having assets which could bring their consumption above the poverty level. It is mainly the aged with low incomes who tend to have assets, yet not even all of them do as opposed to newly forming households.

By eliminating many of the aged couples with such asset holdings from your poverty count, you change the picture considerably. We found from earlier poverty counts that with the criterion we were using--which is a little less than $2,000 for an aged couple and about $1,500 for a single person--even if

you estimate the effect of prorating any assets the aged have over the rest of their lifetime and adding them to current income, you would still count as poor 90 percent of these now considered in poverty solely on a current income basis. From everything we know this 10 percent is the greatest reduction you will make in the poverty count for any age group.

Next, I want to move away--even though it is not strictly in the topic--from counting the poor to talking about who is poor.

We are interested for this purpose in an aggregate. We are not assuming that for eligibility for particular programs, for assessing the plight of an individual family the way a social worker does, that any criterion you would pick to define a level would be inevitably accurate. We do believe this would require additional facts. I do not think anybody quarrels with that.

We all know that even for purposes of deriving a crude leveller, we need much more basic research than we have. We would like budget yardsticks or some other measures which seem more objective. We should remember, however, not to be fooled by the label. There really is very little in the way of so-called scientific objective evidence we yet have, or perhaps ever can have in a rapidly developing economy, which would enable one to say for categories of living other than food what is an essential and what is not. And I think even Dr. Clark will tell you that we sometimes have our doubts about food. What we do think is important, while we are waiting for basic research to bring forth some more powerful discriminant, is to look at the composition of the group we identify.

When you have differentials in economic welfare so great as we do so that families with five or six children are three or four times as likely to have incomes below this very low poverty level than families with one child or families with no children; when you see that 60 percent--and I call this an immoral figure--60 percent of nonwhite children are growing up in families with incomes below this threshold, indicating a poverty rate four times the rate for white children; when you see that although there is unemployment among our poor we find even among white men that the families of 6 percent of those who have worked all year at a full-time job in 1963 are poor, and over a fourth of the families of non-white men who have worked that much are poor; when you see that a very large proportion of the children growing up in homes with a woman at the head are poor whether or not she works--and most of the time she cannot; when you see that for some of our non-white population there is very little difference in the kind of living a man can offer his family when he works as opposed to when he does not work; when you see this, that the differential risks of poverty for some population groups are twice, three times, or four times the rates for others, you know--or at least I think we should know--that even if we could adjust the measure, even if we had a better device, we could only narrow the differentials. We could not wipe them all away. For the purposes of the Economic Opportunity Act, and some of the programs that are going on in other agencies, we are not counting the poor as a hostess counts guests when she plans a dinner party, setting out exactly enough plates: We are not even trying to have half enough. If we can identify some of the vulnerable groups, we can then think of the kinds of programs which to institute. We can delineate in

very broad terms the numbers of people whom we might reach if we wish to take the effort and the time, and then I think we are concentrating on what is the real problem.

How you should best count the poor and who has the best count depends first on the assumptions you wish to make and eventually on the basic research which all of us should be doing. I find--as I said to Mrs. Lamale and Dr. Clark, and I think they would agree--that we are all currently struggling in an area where we are asked to give answers to impossibly difficult questions in an impossibly short time. You cannot beat that kind of rap because if you say you have no answer then you have failed at a crucial moment when action is contemplated. If you produce an answer which is acceptable in an interim sense, then you often find it gets frozen into the mythology and you are not given an opportunity to complete or amend it.

Though this is supposed to be a panel on the different methods of counting the poor, I would like to end plaintively: I wish we could concentrate on thinking up the solutions and dreaming the big dreams that we need to have in order to solve the problem of poverty, even if we cannot yet agree on the one and only perfect way to measure the poverty level.

DR. MYERS: Our next speaker is Helen Lamale, Chief of the Division of Living Conditions Studies, Bureau of Labor Statistics. She will discuss what variations of family characteristics and locations should be taken into account in counting the poor and how this should be done.

Helen Lamale, Chief
Division of Living Conditions Studies
Bureau of Labor Statistics
U.S. Department of Labor

What has been disturbing me in most of the discussions on yardsticks for counting the poor, is that it seems to me what we need for measuring poverty is not yardsticks but sliderules. The measuring of poverty in a statistical sense is matching family needs against family resources. Persons who have struggled with a loose or an inaccurate sliderule know that when you have errors in either scale you get some very peculiar answers. The estimates which Miss Orshansky has made in refining the original Council of Economic Advisors' count demonstrated how important it is in the needs scale, to distinguish different needs for families of different age, size, and composition. She indicated, also, in the adjustments of the resources scale, the importance of making an allowance for the value of home-grown food for farm families.

My concern has been in all of the debate that has been going on about where the poverty level is, or where it should be placed, that the limitations of using current money income as a measure of family resources will be disregarded as unimportant or overlooked. I think there is a tendency when statistics are used for them to become frozen. Assuming that the original use of Census money income as a measure of the poverty level was justifiable, since

it was the only available statistic for the Council to use, the danger is that the appropriateness of its basic definition and its limitations for measuring poverty will never be re-examined, but in the future will become increasingly accepted as an adequate definition.

On the needs side another area of concern is that, having now made allowance for differences in the needs for various family sizes, compositions, etc., place-to-place differences in living costs will be overlooked or disregarded. So I feel that the challenge to statistician and analyst is primarily not to keep polishing, refining, and arguing over what has been recognized as stop-gap measures which were necessary to launch programs and to define the broad dimensions of the problem, but to look behind these arguments and try to define the basic research needs. This is essential if we are going to come up with some improved measures of poverty.

The limitations of current money income measurement are of two dimensions. The first is a well-documented fact that the Census definition of the income-receiving unit, i.e. the family as it must be used for a variety of purposes is not necessarily the correct incoming-receiving unit to use against family expenditures, or family budgetary needs. These Census definitions and procedures were developed in the postwar era. They were developed as a part of the labor force and population surveys, and are essentially demographic definitions of families and individuals. While this has relatively little impact on the measurement of average family income and its trend, it has a very large margin of error in the extremes of the income-size distributions. The net effect of these definitional and procedural limitations is an overstatement of the low end of the Census current money income distribution which is more significant for the single consumer living alone than for families.

The other aspect of the limitation of current money income as a measure of resources in defining poverty is the different resources that are now available to a family over and above current money income as presently defined. Much of the discussion of this point--and I think Miss Orshansky raised this issue--has had to do with the use value of the home or assets of the elderly. This is an important consideration as you go down the current money income scale, but, more importantly, across the whole income distribution our consumer income and expenditure studies have shown that families have a variety of receipts of goods and services without direct expense--for example, the receipt of medical care under policies paid for by employers under contract bargaining agreements. Some nonmoney income, of course, is received in connection with assistance programs, e.g., medical care, as well as through food stamp and the various food programs.

Another important resource of families is the use of credit. In an income classification, we find at all levels of income families do have credit available to them. This reflects the fact that, at a given time, there are both transitory and permanent income components in the low-income groups.

So I think that what has to be recognized is that families with low incomes, on the average, spend or consume in excess of current money income in sizable proportions.

In 1960-61, the current consumption expenditures of U.S. nonfarm, 4-person families, with incomes below levels equivalent to $3,000 to $4,000 exceeded their current money income by 50 percent; their total value of consumption--expenditures plus goods and services received without direct expense--exceeded current money income by 70 percent.

Two- to five-person families had expenditures for current consumption from 20 to 25 percent in excess of current money income, and total value of consumption, 35 percent in excess. For the very large families with equivalent incomes (these were, of course, at a higher current money income level) there was a 9 percent excess of current consumption expenditures over income and 16 percent excess of total value of consumption.

The problem is not so much of a problem when talking about the current overall dimension of poverty but it becomes very much a problem when establishing levels and procedures for measuring improvements because many of the improvements contemplated under the Economic Opportunity Act will provide nonmoney income benefits, e.g., medical benefits, educational benefits, etc., and only at a considerably later stage, if at all, will such benefits be reflected in current money income.

The other aspect of this is the great fluctuations in the composition of the families in low income groups. This has generally been attributed to transitory versus permanent aspects of low income--families are found in the low income classes one year, and the next year they are not there. Herman Miller has estimated something like 40 percent of the families found in the under $3,000 income group in one year were not there in the following year.

I think a much more serious consideration for research persons is the fact that the actual composition of the families, the families themselves change. Families with very low economic status are very unstable, and so the composition of the family is changing as well as the income status of the families that do remain stable.

There certainly is need for a lot more research on this. The BLS has proposed the use of the consumer expenditure survey data as an approach to this, but has not carried through any analysis. This is a little ironic. The general purpose tabulations of the 1960-61 survey, in accordance with the usual procedure, have been designed for measuring trends, paying attention to the averages and evaluating them as to whether they add up to the U.S. aggregate, but the original purpose of consumer expenditure-income studies was for social welfare uses. It was the distribution rather than the averages and the aggregates that made them a valuable research tool, particularly in the Thirties when emphasis was centered on poverty analyses.

The other aspect of concern to the analyst that I mentioned is the problem of the place-to-place differences in living costs. The adjustment which was made in the Social Security Administration analysis of poverty levels, in effect, allows for the nonmoney income of farm families in terms of goods and services the farm produces for family use, as apart from business, but this is not the same as allowing for place-to-place differences in living costs.

On the needs side, there can be no question if the aim is to measure the cost of basic needs, that they vary from place to place. Now, conceptually and policywise, there is a question of whether for a national program you need a single standard, and many of our programs--as Miss Orshansky will be the first to point out--do not allow for variations due to place-to-place differences in living costs.

On the other hand, many of our programs have taken account of such differences, particularly in the housing area. The basic research is very weak, or, I should say, the basic data are very weak at this point in terms of place-to-place differences in living costs. We have a City Worker's Family Budget which was priced in 20 very large cities in 1959 and has not been priced since. The overall difference in cost was about 20 percent from the lowest to the highest cost city. These cities were all over a quarter of a million in population. I have many telephone calls such as the following: "We understand you did a survey back in 1959, and you find that living costs did not differ substantially from place to place, or significantly from place to place."

Well, what is "significant" in terms of living cost differentials? Is 20 percent a significant difference? Probably not in terms of aggregate estimates and aggregate counts of the poor because they in part balance out when applied against the income figures for individual localities, but when the data are used for deciding eligibility regulations and for evaluating programs and the magnitude of programs in particular locations, then a 20 percent differential is pretty high. I do not want to stop here with the implication that if we had a really good program for measuring differences in living costs that 20 percent would be the maximum. The housing differentials, the largest differentials among the 20 large cities, would probably be greater if we had appropriate living cost indexes for small urban places or rural communities because housing is the one thing which varies most across various areas and regions.

Three years ago, the City Worker's Family Budget--in fact, our total standard budget research program--was reviewed very carefully by a non-Federal government user's advisory committee which recommended that budgets be developed not only at the "modest-but-adequate" standard for these two family types (the city worker's family and the elderly couple) but also at a higher and a lower standard, and that these should be priced in the 23 largest metropolitan areas, and in a sampling of middle-sized and smaller communities.

They also recommended--and the present audience I think is particularly interested in this recommendation--that a budget be developed for a single working woman which could be used as a national benchmark for the states to work with in developing their own minimum wage budgets. The committee recognized that this did not relieve the individual States of their responsibility for developing appropriate deviations from the national benchmark budget, but would provide guidelines to the States in their work.

Another recommendation of the advisory committee--and certainly this is an area where we need a lot of research--calls for a review of the family-size scales that have been in use for estimating budget costs, particularly with respect to their appropriateness at the lower end, or extreme ends, of the

income distribution. Thus, I think all of us who have been struggling with the problem of poverty measurement would say what is really needed now is not arguments on how to embellish the stop-gap estimates and efforts to decide about who is right and who is wrong, but to get ahead with this long-run and basic program of research.

This is the point at which national, state, and local groups have an amazing amount of information available, and certainly as a part of the Office of Economic Opportunity and Community Action programs, a lot of information will be coming available at the local level which will need analysis. For example, the urban medical study in New York City is doing a lot of work in terms of the value of medical care provided in relation to income and family composition. They are coordinating this with some of our consumer income and expenditure reports, and I think will be coming up with some very valuable benchmark statistics from which to measure the future progress of providing better medical care for a local group.

DR. MYERS: Thank you.

I will ask Faith Clark to speak next. She is Director of the Consumer and Food Economics Research Division of the Agricultural Research Service, United States Department of Agriculture. Her topic is "Where and How Do You Draw the Line for Nutritional Adequacy?"

Faith Clark, Director
Consumer and Food Economics Research Division
Agricultural Research Service
U.S. Department of Agriculture

In the Department of Agriculture we have had a long history of work with food budgets and food consumption surveys and are, of course, concerned with nutritional adequacy. Our food budgets have been widely used in setting some cut-off points for the poverty line. As a matter of fact, Miss Orshansky started with what we call our "economy plan" and also used our "low cost plan."

Now, these food budgets, that the Department has and keeps up-to-date, were first developed at the beginning of the depression as a means of helping families get the most from the money they had to spend. It was recognized that there were a great many people with very low incomes and in very bad shape, and so these food guides were really devised to try to help families do well nutritionally with the money they had.

They were used then quite extensively and are still used very extensively by social workers in developing their public assistance standards.

We realize that they have many limitations. We do have the advantage in the food budgets of starting out with something that is scientifically--I hate to say "determined"--but a set of nutritional standards. The National Research Council has a committee of nutrition scientists who every five years publish "recommended daily dietary allowances." These are in terms of calories, proteins, minerals, and vitamins. This is a joint committee effort representing

the judgment of a group of scientists. They recognize that there is no one minimum amount of any of these nutrients. That is why they insist they be called "recommended" dietary allowances, and they do change.

In developing the food budgets, we use these recommended dietary allowances as our nutritional criteria. We also take into account the relative economy of foods; that is, we know from our studies of the nutritive value of foods and the prices of foods, which are the cheapest foods for the amount of money. We know, for example, that grain products provide quite a goodly supply of protein and minerals and some of the "B" vitamins for the money spent. Meat items are higher. Milk is a very economical source of calcium, and so forth. Then it is possible to use these two sets of criteria to develop the quantities of foods that we might suggest be used in low-cost budgets, but note that it is still necessary to translate nutritional standards that is, calories, proteins, minerals, and vitamins into foods. And this can be done at a variety of cost levels.

It is important if these budget plans are going to be useful recommendations that they conform in some part to people's normal food habits; otherwise, they are not going to be followed nor are they going to be realistic.

It would be possible, of course, to develop a food budget using just five or six foods, which would be a nutritionally adequate diet, but it would be the type of food that nobody would eat. It would not be the kind of thing that would be helpful either as guidance material or for use as any kind of minimum standard for budgeting purposes. So we use data from our food consumption surveys as a basis for translating these nutrient allowances into foods. For the low cost food plan we make this judgment on the basis of the food consumption patterns of low income families.

This is the basis, then, for costing the food budget. We get the weights we use in costing the low-cost food budget from the food habits of low income families, and then we use the food habits of moderate income families for costing the moderate cost budget, and so on. This in effect does lead to a circularity because we are starting with food patterns of a particular income group. Yet all our budgets do provide for nutritionally adequate data.

If the low-cost budget is used in determining what the total cost of a market basket of all goods and services needed by families might be, there is some circularity in the total process.

We are able in the food area to judge the suitability of the budgets by estimates of how many families spend enough to obtain the economy food plan or the low-cost food plan, and how many of these might achieve nutritionally adequate diets. We know that not all families are going to be able to obtain adequate diets on these rather low amounts. Social welfare workers frequently say that it takes an experienced nutritionist or home economist to do this. We realize that families do need counseling and do need help. We are able, however, to give some estimates of what the likelihood is for families spending specified amounts of money on food to have nutritionally adequate diets.

We know that if families spend the amount of money we estimate is needed to buy our "economy food plan," only about 10 percent of them are likely to get nutritionally adequate diets. The corresponding figure for the low-cost plan is 25 percent. Thus, it is true that it is not likely that very many families will make the choices needed to obtain an adequate diet with these low amounts of money for food.

On the other hand, many people who spend a great deal for food do not get nutritionally adequate diets, so that you cannot use these figures without comparison with families throughout the entire income scale.

We have also attempted recently to develop some clothing budgets. In clothing, we do not have the basis of any kind of physiological standards that we have for food. The only thing that we have been able to find to check the estimates we are working up are some data on the growth of children's feet and, thereby, getting at some sort of reasonableness of whether or not we are allowing enough for shoes in the budget. Otherwise, almost all of the determination of clothing needs must be based upon what people customarily do and there, again, we get around to the problem of whose customary patterns are we going to choose? We just cannot make them up out of whole cloth; you have to have some data. Fortunately, we do have consumer expenditure data, but the problem here is to get away from the circularity of reasoning of taking the patterns of a particular income group and saying, "This is a clothing budget."

For other items in the family budget there is really much less to go on than we have for food and perhaps even for clothing. There are some standards that have been developed for housing, but it is, of course, a very difficult problem to translate those standards into a specified dwelling unit which you can go out and price.

I might just close my remarks by saying that in the food consumption area we are expecting to have a wealth of new data on which to base a revision of our food budgets and do additional analyses on dietary adequacy and food economics. We are in the process of making a nation-wide food consumption survey which will provide us with the opportunity to judge trends in food consumption of different economic groups in different elements of the population. This survey will parallel surveys that were made in 1955 and 1942 and in the 1930's, so there will be some interesting trend material. This kind of material provides a useful measure of trends in well-being as we can estimate the percentage of families who have nutritionally adequate diets. It will be interesting to see in the 1965 survey whether there has been continued improvement or a retrogression in the line of improvement that we have been seeing in this country over the years.

A Pie-In-The-Sky Yardstick

Eugene Smolensky, Associate Professor
of Business Economics in the Graduate School of
Business, University of Chicago

Well, I agreed to come, and then I sat and wondered why it was that anybody would want an academician at these meetings, especially when these ladies

were going to be here, because of course this field belongs to these ladies of the Federal Government, not only the ones who are here, but you know all the names: Faith Williams, Lenore Epstein, and Margaret Stecker, and Eleanor Snyder, and the woman who taught me everything I know in this area, Dorothy Brady.

I can only conclude that what you really want from an academician then, given the fact that the field belongs to these ladies who have done such an eminently successful job, is that Mr. Keim wanted someone to compare them with. You get all the sensible observations of all the sensible people doing the sensible things, and from an academician you get some ivory-towered nonsense that makes the other look as good as it really is. I thought that was a great challenge and that I would rise to it and see how far into the clouds I could get.

What these ladies do, obviously, is eminently sensible: they draw a poverty line; they try to establish some kind of minimum income on the basis of some kind of definition of need. The problem is not uniquely theirs. It's really, I think, quite analagous and a little bit simpler than the problem of trying to establish, say, adjusted gross income classes for the income tax. When we establish these classes, when we establish adjusted gross income for tax purposes, what we're trying to do is pigeon-hole people in a way, in such a way that if we take a dollar from any two people in the same pigeon-hole we'll inflict the same amount of pain. So what you want is some kind of way to equate people by the degree of satisfaction they are achieving, only the tax people have a harder job, they have to move from income class to income class and still cause the same amount of pain.

I think that all of the quibbles with the poverty line are quite the same as the arguments over adjusted gross income and all the same arguments come up on what to do with transfers, what to do with permanent versus transitory income, what to do with the price level, what to do with assets as apposed to income, what to do with age and disability, and so on. And I think that the place the tax people are driven to is that we shouldn't be using income at all, but we should be using consumption as the tax base, and I think probably the same thing applies to poverty, and when and if we get a consumption tax instead of an income tax, as all the pie-in-the-sky academicians are urging, then we will finally have the data to do a sensible job on the poverty line, also.

Now, there is an alternative, and the alternative is what makes the poverty line so sensible. The alternative in the measurement of poverty is to talk not about need, but about the distribution of income. What we could be talking about instead of how many people are below a poverty line and how this changes over time is what has been happening to the share of income going to the lowest, say, ten percent of the population, something like that. That's the most common measure. It is an unbearably hopeless measure. I hope none of you will ever use it. It yields untenable results. For example, it says that poverty is today as serious a problem as it was in 1900, since the data show that the share of income of the lowest quintile of the population has not changed since 1900.

The share of the lowest quintile doesn't take account, of course, of the changing socio-economic characteristics of the lowest quintile; it doesn't allow for the fact that they are increasingly outside of the labor force; it doesn't account for the fact that they have increasingly smaller families. It just is hopeless, but you must be prepared for it: Those people who are the most severe critics of our mixed economy's ability to deal with poverty commonly take as their measure the share of the income going to the lowest quintile. That's what Kolko does, and that's what Harrington does sometimes, but not all of the time.

On the other hand, if you decide that the poverty line is a meaningful concept, then I think you are immediately driven to some conclusion about what that poverty line ought to say about the distribution of income. Assume there really is a poverty line. If there is a poverty line, then poverty is something different from low income; that is, there is some abrupt change from being in poverty and not being in poverty. We now say that that occurs at $3,000. I'm sure Miss Orshansky never dreamed that that line would get canonized in this way, but it has happened, and I for one am prepared to accept it or some other line or at least a notion of a line or at least a notion that there is a difference between having a low income and being poor or being in poverty.

I can think of a sharp break of two kinds occurring. I think what we want the poverty line to do is to say that if people earn less than this amount, then not only do they have troubles and not only are they of low income, but that they also create social problems and inefficiency for society as a whole, and that for that group it would be cheaper for us to do something than to do nothing, and that's what I think the poverty line ought to strike at.

One way that this might happen is that the people who are below this line will take some kind of defensive measures when they might not otherwise. The most likely defensive measure, of course, is to raise the participation rate in the family; that is, to send either mother or the kids to work. The consequences of sending mother or the kids to work are these: If they send mother to work, then we generate social problems that are quite expensive right now. If they send the kids to work and thereby forego income, then they consign those kids to poverty in the future. We want our line, then, to tell us when it is that people who are below that line are going to take defensive measures that are going to be expensive to the society and which can be solved more cheaply than doing nothing at all.

So the kind of inefficiency I have in mind is this: suppose the poverty line is, in fact, $3,000; suppose that a family earns $2,600. As a consequence of being $400 short in income, it decides that the sixteen-year-old boy must go to work and give up an education. Well, suppose the consequence of that is the foregoing of a 30 percent rate of return per year. (In fact, some estimates of the University of Chicago suggest that it is a foregoing of something close to 38 percent per year.) Suppose, however, that the government can raise these funds at a cost of 15 percent per year, or something less than 30 percent--it doesn't matter--and as a consequence of transferring this $400 to the poor, this young man would be kept in school. In that case, the economist would say it is

clearly optimal for us to arrange some kind of system of transfer payments to keep the kids in school.

I can think of another kind of inefficiency that might be generated if the poverty line were accurate and if there were a growing number of people beneath that line. This one affects the upper end of the distribution, not the lower. Suppose as a consequence of increasing poverty--poverty now being defined in the right way--people who are not poor begin to take defensive measures. Suppose they fly from the center of the city to the suburbs, for example, because of fear or unsightliness or whatever it is that drives "respectable" people away from the poor. Well, then, in this circumstance it might be that the cheapest way for any single family to meet this fear is to move to the suburbs. On the other hand, if all of the non-poor want to move to the suburbs that solves the fear problem, but it is obviously much cheaper from society's point of view to arrange for transfer payments, to arrange for police and fire protection, to arrange for an Appalachia program, than to lock the poor in someplace and not let them out. There are lots of different ways by which it would be cheaper to meet this problem.

What I am suggesting is that it might be nice if we discussed the Poverty Program in terms of efficiency and not in terms of equity because we might get some agreement on efficiency, while I think we might not on equity.

Now, if you really believe that the poverty line tells what's happening to the proportion of people under it, how they are going to behave, then I can tell you that I don't know what that line is, and that's what I want these ladies to do: tell me what that line is. But I can tell you how it must behave over time. I know that it must rise over time, and I know that it must rise reasonably fast.

There are, it seems to me, three kinds of forces that must push that poverty line up over time. I have given them very loaded names. I call them bias, envy, and egalitarianism, but now as I explain them they will lose all their glamour.

By bias, I don't mean anything more than statistical bias, and the fact that this society seems to grow by generating an increasing proportion of intermediate products that must be consumed by households: credit costs, transportation costs, urbanization costs, and the like. Social accountants are all agreed that the growth statistics of the United States, or any developed country, are biased upward by the fact that we include some portion of these intermediate products as final products. Well, the significance, of course of the bias problem is that these are things that must increasingly show up in household budgets of the poor, and there must be an increasing allowance for them. Of course, these ladies are not unaware of this fact. The transportation component, for example, of the minimum-decency budget has been rising at a very rapid rate. We are not at all sure, however, that all of the elements of statistical bias are indeed covered.

Now, there are two other types of things represented in those two examples I gave. One was envy; that is, if you are poor and everybody else's income is

going up and yours is not, as a consequence of this you feel a reduction in utility and you take defensive measures. That's envy. All of us feel envy. The only difference is that if you define the poverty line right, the response of the poor to envy will be anti-social behavior, expensive behavior, behavior which the rest of society would want stopped. This wouldn't be true for all the rest of us middle-class folks who are as envious as anybody else.

Now, when you get to the other, the egalitarian motive, it is intended to take up this matter of hiding from poverty that Mr. Harrington has made us all so aware of. If what we will do in the face of poverty is to hide from the poor, to make expenditures to get away from the poor, how will it be done, and what kind of magnitudes can we expect, and what kind of empirical results might we expect? Well, I should think that we can't say much about this, but you should be able to expect that the income elasticity of demand for egalitarian expenditures, that is, the loss in my utility due to the growing poverty among others must increase with my income.

Well, if you assume, as seems reasonable, that the income elasticity of demand for the egalitarian sentiment, so to speak, is unity, then I would think that this egalitarian motive, this egalitarian aspect would be larger than and encompass the other two, bias and envy, so that my expectation is, or my feeling is, that while I don't know what the poverty line is, the line as a standard measuring device ought to rise at least as fast as the gross national product per capita. Otherwise, we will get the kind of expenditures that are wasteful as we try to avoid seeing and coming into contact with poverty.

Now, the fact of the matter is that the persons engaged in measuring poverty have not raised the poverty lines as fast as the increase in per capita gross national product, and in fact that's the reason why we have been able to claim a decline in proportion of families in poverty since 1947. If you take and investigate a time series poverty line, as I have had occasion to do recently, (take for examples the National Resources Committee's $750 for 1935, take the 1947 figure which underlies Mr. Lampman's statistics to $2,500 in 1947, and take the current $3,000 line) what you find is that this line is moving up much more slowly than gross national product per capita since 1947, so that from 1935 to '47, we have had a decline in families in poverty as measured this way from 35 to 25 percent of families and since then from 25 percent to about 20.

Now, the 35 to 25 drop, would hold up if the poverty line were defined in terms of gross national product per capita, but the last 5, the decline from 25 to 20 would not have, in fact, occurred. I think the ready acceptance of the $3,000 line stems in part from the fact that we have been busy spending the last decade and a half finding ways to isolate ourselves from poverty, to make the poverty problem less serious and less important to us as individuals, and that's why our income elasticity of demand for a poverty line has been less than one.

I think it is clear enough what I would like. I would be satisfied to take the $3,000 line or any line on which we have a consensus. I wouldn't worry so much about trying to measure calorie content and food requirements and clothing requirements and counting the toilets in houses. All of these things seem to me not very relevant any more to the poor in this society. What we need is a

poverty line that tells us when it is that people above and below that line will be driven to behavior which is not socially desirable.

Now, how do you get that? Well, obviously I don't know. That's why I accepted the invitation here, so that I could pose the problem and hand it on to the people who have to work with it.

DR. MYERS: Well, now, the discussion between the panel members should begin at this point. Would one of the ladies like to take on Mr. Smolensky at this point?

MISS ORSHANSKY: I don't know whether you could call this taking on Mr. Smolensky, but I have something to say in reference to the last remark he made.

I have to confess to you, if it wasn't obvious from my remarks before, these are not just numbers to me. They are people; they talk. Although intellectually and professionally I worry about all of the limitations and why we aren't allowed to wait until we have something good before we must have something to say, the numbers won't let me wait. I'll try to race through some numbers which I think are relevant to the points that have been raised, so fasten your sliderules.

Mr. Smolensky stated that if we raise the poverty line, and I am glad that he asks that we do, he would want to raise it parallel to GNP. I still have a little bit of feeling left in me that the poor should not do quite as well over time relative to the rest of us, so I would raise the poverty line a little less than the GNP and not have people say we are making it possible for somebody not to work and still live as well as those who do.

But if we say the poor, unless we do something, may end up in anti-social behavior, let me tell you, that going by the numbers, they already have. We look at numbers and we don't know whether we see cause or effect, but I think it is effect, that something has happened. Mr. Levine this morning talked about the problem of employability. I sit here and gasp at what I see when I compare poor and unpoor families. I don't like to think people are poor because they are lazy--I don't believe that is true. But I see that in the poor families compared with the non-poor, first of all, there are fewer people who can work. Half of the people in the poor families are children compared to only a third of the non-poor and in the main they are younger children. Many more of the members of poor families are women.

Even when you allow for this, age for age, man for man, and woman for woman, the proportion of members of poor families who are not even in the labor force, who don't even say they are looking for a job or presumably would take one if offered, is higher, much higher than in the non-poor families.

Even if this only means--and I wish it only meant--that people who have no hope for a job no longer say they are looking for one, it is a problem, and it isn't explained by disability.

I see that among teenagers, who stay in poor families--and a lot of them leave because they're not going to school and they're not going to work, so they might as well go off and maybe start their own poor family--we have a much higher proportion of drop-outs than among the teenagers in non-poor families. For this group the unemployment rate is high, but it would be higher if we could count in some of the ones who don't even say they are in the labor force.

We have a much higher proportion of broken families, families with a mother and young children, among the poor. We know from other research that it is low wage-earners who tend to have larger families, and that mothers in broken families have had more children than women of the same age and race still living with their husbands. I wonder if these families are poor because they have no husbands, or if they have no husbands because they are so poor. Maybe one of the reasons they have no man around now is because when he was there, the family was poor and the problems of a family with too many children and too little income became just too much for him.

When you want to take cognizance of differential economic status by family size--I am sure others have noted this--we now know it isn't enough to just classify families by number of persons. You have to find out how many of those are children because the income distribution for families with several adults is quite different from that for families with several children.

For example, for families of five persons with a husband and wife if there are no children under eighteen in the family, the median income, the income which is above what half of them had and below what half of them had, in 1963 was $12,560. For a five-person family of a husband and wife and three youngsters, the median was $6,900.

You can't put all of these dissimilar situations together in a family size cluster and not come up with findings on assets holding and values of consumption which may be completely wrong. I am concerned about the children in the low-income families. These are the ones who may grow up without any hope at all.

You will find in your unemployment statistics that the number of currently unemployed family heads among the poor was only 10 percent in March '64. But if you look back at their work experience during the previous year, a fourth of the men who were in the labor force in 1963 and were the heads of poor families, were unemployed at sometime during that year.

You have cases among our Negro families where a man out of the labor force because we have programs for such a contingency, does almost as well for himself and his children as when he tries to find a job.

I don't think we have to speculate about the possibilities of poverty causing anti-social behavior. I think we already may be looking at such behavior and not recognizing it as such because we're thinking of it as the cause of poverty rather than its result.

I want to say just one more thing about the persistence of low income. We do need to learn more about it, but even what we now know indicates we are comforting ourselves too much if we think that many of our poor are only temporarily so. Even with the flat $3,000 line, and even omitting the poor families that might have disintegrated because a man died or ran away and the family broke up, a survey of all families reporting for two years found 70 percent of those having income under $3,000 in one year had no greater income in the second year. Moreover, for the families headed by a man with less than eight years education who worked all year, 80 percent of those poor the first year were also poor the second.

Of the families with an aged head, 80 percent remained poor over the two years. What we have to do is to disentangle the statistics, to disaggregate them, but at the same time not to forget that we cannot tell from a snapshot whether it is a beginning, an end, or just an ongoing problem.

Dr. Myers: Is there another comment at this point?

Mrs. Lamale: This is in connection with how you measure envy.

Dorothy Brady, I think, is the one who made famous the fact that keeping up with the Joneses isn't something to be ashamed of if you can be sensible about keeping up with the Joneses. She pointed out the fact that the advertisers, and so forth, would lose a very strong appeal, and our consumption expenditure changes would have been quite different over the last fifty years if there hadn't been a strong appeal among Americans to keep up with the Joneses in a very real and constructive way. So our problem, I think, is finding out from sociologists and the motivational research people how to set the point where envy takes over and the desire to keep up with the Joneses becomes a destructive force.

The other point that I think we might make, Faith Clark talked about the clothing budgets and the circularity of income. Originally in the City Worker's Family Budget Dorothy Brady introduced the concept of income elasticity in terms of developing standards for goods and services where there were no scientific objectives, or whatever you want to call such standards as the nutritional standard for food. So there are basic techniques which have been applied to consumption data which would lend themselves to this kind of approach.

We found in 1959 when we analyzed the 1950 data, as compared with the analysis of 1934 data, that the income elasticity points for clothing had changed quite appreciably. Now, there are some methodological problems, but the elasticity points for clothing were much lower in the 1950 data in terms of the income distribution and much more comparable to the basic food elasticities discovered in the mid-1930 data.

Mr. Smolensky: Helen, I think if you kept using the inflection points and logistic functions, that what you would find is if you accounted for everything, the poverty line would rise proportionately with income.

Mrs. Lamale: Not completely; if my memory serves me you don't give them quite as much.

Mr. Smolensky: Well, I don't know why you are giving them quite as much. I wasn't saying anything about levels. I was only saying things about rates of growth rather than about levels, but I think that those inflection points must be very closely related to permanent income, and I think that anything you get, any shifts you get away from a rate of growth that went along with income, probably has to do with the transitory components of income, so that if you really wanted to get something that would guarantee that the poverty line rose with per capita income, I think that those inflection points would get pretty close to it.

Mrs. Lamale: It introduces the preference patterns associated with the discretionary income in this, and the inflection points are quite different for the basic commodities, basic goods and services, than when you get into discretionary spending because then the dispersion becomes so great that you can't really measure the trend.

Miss Orshansky: What Mr. Smolensky says leads me to say that if we unfroze our thinking a little bit and began going in a sense outside a single consumption category to seek the combined inflection points for all the consumption categories, or for two or three, that we might do better. We would then say that food competes not only with food, but perhaps with, let's say, a car or a vacation; or buying a fur coat, which is part of clothing, may compete with a trip to Europe or having a maid.

When you have a developing economy and a rising personal income, you are then moving into discretionary spending to such a degree that you can begin pairing and choosing between unlike things. If you do this, not all--but maybe some of what Mr. Smolensky is concerned with would wash out.

Dr. Myers: I would like to ask Faith Clark a question about adequacy of diets.

As we read all the materials produced by the Department of Agriculture and see sometimes the rather small proportion of people who have sufficient income to purchase or spend, have sufficient spending to buy adequate diets, the small percentage that actually do, and I would like to ask her what research and what the future seems to hold for the possibilities of education. It seems like a weak tool perhaps for raising incomes, but I don't think we should neglect this problem.

Miss Clark: Do I get your point that you are concerned only because a small proportion of families are spending enough for adequate diets?

Dr. Myers: No. Of those who spend enough, 100 percent don't have an adequate diet. I was wondering, one, whether we know about the improvement of this knowledge and, two, what you think the possibilities of education are.

Miss Clark: Well, I think that the big improvements that we have seen over the years in the adequacy of diets have been at the lower end of the income scale, which does point out that more money results in better diets. The improvement at the higher end has to come from educational efforts. We work along these lines all the time. Much of it is a problem of food faddism and notions about food, at which we have to plug away. We hope that there is some progress here, but I think it is a harder thing really to get at perhaps than getting more food money to the families at the lower income levels.

The food stamp plan is proving to be quite an effective way of getting additional purchasing power to families. The evaluation studies that were done at the beginning of the program did show that with additional food money there was considerable improvement in diet.

At the higher end of the income scale, it is a matter of convincing people that there is something to nutrition and that all of us ought to do something about it.

I would like to go back if I may and direct a question to Mr. Smolensky and Mollie. He says he is going to leave the settling of what the exact poverty line is to us girls, and us girls don't really know very much about how to do it in any kind of objective way, or at least we haven't discovered any. Actually, I think we agree that the settling on what might be the poverty line is more or less a political decision, something that we as a nation do agree upon.

I am going to ask Mollie: Suppose in your arithmetic a couple of years ago when you started all of this on a poverty yardstick you had come out with something which was only, say, two thousand or twenty-five hundred for a family of four, instead of three thousand. Do you think actually it would make any difference? In your looking at the population mix and finding out who is below the line, wouldn't it come out just about the same? There would be plenty of people for OEO to work on, whether or not it was at two thousand or three thousand. It is always a relative matter, isn't it?

Miss Orshansky: I think that is true, Faith, if we remembered to taper, if we didn't say that two thousand dollars was for everybody. I believe that's right.

I think what Faith says is true. The only way I want to differ is, to beg out, I don't think that the three thousand dollars became the standard as a result of what SSA did. The CEA and the politicos in their infinite wisdom were looking around for a dividing line which would result in a target not so big that everybody would say, "Oh, go on; you're nuts," and not so small that everyone would say, "There's nothing to it." They could have picked under two thousand; they could have picked under four thousand; they did pick under three.

I would like to think that maybe the reason they chose under three was because some special tabulations were available on the characteristics. For these, of low income families, the Bureau of the Census had earlier settled on three thousand dollars partly because some of the government ladies said that that

might be better than some other cutoff. But once the CEA picked the dollar line they looked around for a rationale, and we just happened to have one. I would be willing to bet that maybe they would have picked three thousand dollars anyway, but whatever standard you pick, if you taper it for size, I think you would get more or less the same kind of population mix.

Mr. Smolensky: The thing that seems to wobble quite a little bit as a consequence of the definition is the proportion of aged versus the number of children.

Miss Orshansky: Yes, that's right.

Mr. Smolensky: I have another hobby-horse I would like to ride. Let's see if it's a good time to ride it. I really find it very hard to pay any attention to socio-economic characteristics that one derives from these kinds of tabulations. I don't like this idea at all. I would like to see aggregates mainly used because I think the proper policy response is really an aggregate one, and what I want is for us to get to full employment and stay there for five years and see if that doesn't wash away a lot of what we have or almost all of what we have.

I realize I am in an unpopular position, but I think that the thing to remember about these socio-economic characteristics is that they are very poor predicters of poverty. There is only one socio-economic characteristics apart from poverty itself for which the expected income, the median income, is less than three thousand dollars. That is, most non-whites are not poor. A vast majority of the non-whites are not poor; the vast majority of the aged are not poor.

You take the median income of those who have a disproportionate part of their population in poverty, and the median is far above three thousand dollars. You can get very close if you take non-farm, non-white, then you get very close to fifty percent being in poverty, but you need some kind of characteristic like that.

The predicter that does get into poverty, the one for which the expected income is far below three thousand dollars, is "less than an eighth grade education." Now, for those with less than an eighth grade education, there obviously is a hidden mix of poverty related characteristics because those who have less than an eighth grade recorded education--never mind eighth grade knowledge--less than an eighth grade recorded education must, generally speaking, be the aged or at least older people and migrants.

Now, if you took those all out--actually, I tried to take those people out, and I still find that less than an eighth grade education is the only indicator of poverty apart from poverty itself, and that's what leads me to the notion that we really don't know what causes poverty at all, but these socio-economic factors are certainly not causes.

I walk around, very dangerously, with sort of a virus theory of poverty in my head. I say I don't know what causes poverty just as I say I don't know what

causes a cold, but I know that you are more likely to get the disease if you are non-white or if you are a non-white farmer, but I don't know what causes the disease. Therefore, I am driven on the prescription side to think that since we don't know what causes the disease and we can't design a cure for a virus that we can't identify, then I want to hit with the broadest spectrum antibiotic I can find, and that is very rapid growth.

Dr. Myers: Mrs. Lamale?

Mrs. Lamale: What disturbs me about that is, that we are talking about an either/or kind of evaluation of the problem, and it isn't an either/or problem.

Mr. Smolensky: Yes, it is.

Mrs. Lamale: We should move on all fronts, and I think this is what Mollie and I were saying at an earlier date. The decision as to levels which would be at three thousand, twenty-five hundred, or thirty-five hundred has one set of significance if you are using it for aggregate evaluation, and so forth. It has quite a different set of significances if you are going to use it to describe what are the problem areas. Certainly, I think there is value in the use of a discriminant--whatever it is, a poverty level, a series of criteria on participation rates or envy motivations, or what-have-you--which distinguishes those groups in the population because, as I think it was brought out this morning, no matter how much you increase the employment, there are certain very important groups that never will be touched.

If we have full employment, it may make the rest of the groups able to provide better for those with lower incomes, but there is a sizable group in our population among those who have been called poor who will not benefit by straight growth.

Mr. Smolensky: There are 40 percent of the poor not on the labor force, and for that 40 percent of the poor who are not on the labor force and who we don't want to be, this aggregate description doesn't work.

Dr. Myers: We will now take questions from the audience. Would you please state to whom the question is addressed and say it as loudly as you can? Yes, sir?

Mr. Don M. Soule: Mr. Smolensky, what would this high rate of growth do for the man who is employed at $1.25 an hour, forty hours a week?

Mr. Smolensky: Raise it to $1.35 probably or more.

If you are asking how rapidly would incomes rise among the low income population, I think the answer is pretty clear. We have an historical precedent. We know what happened the last time we had five years of continuous growth and low unemployment levels, and that was during the Second World War. If you insist with me that you really will be very skeptical of any poverty line that doesn't rise with gross national product, then you are going to be insistent

with me that there isn't going to be any lessening of the poverty problem unless there is some reduction in income inequality.

We know from endless statistics and different kinds of income distribution measures what happened to distribution of income from 1941 to 1946 in the United States. Convergence was rapid; nowhere in the statistical records can we find anything like this kind of closing of distribution at any other time, and I should think that if we get that rate of improvement in the poverty problem now, we will all be out of our minds with joy.

Mr. Soule: I don't think you answered the question.

Mr. Smolensky: Well, if you want me to say at $1.26 or $1.36, how high that wage is going to rise, I can't give it to you. I can tell you that workers in hosiery mills in the South had more than a 50 percent rise in income in those five years.

Mrs. Lamale: Isn't that terribly low?

Mr. Smolensky: Well, of course, it is terribly low, but the 45 cents an hour or the 35 cents an hour that you started with as the base in 1939 is not significant now in terms of the kinds of shifting of wage rates.

Dr. Myers: This gentleman on the right, would you state your name and then the question?

Mr. John L. Koch: John Koch.

This can be discussed between Mollie and Faith. Some years ago, I sat on a panel with a number of welfare officials. This question came from the floor, and this one question particularly was one that I would like to throw to the two ladies.

This man here said that there were three families that had applied for relief and had received relief. One family came from a so-called above standard method of living; one was a standard; and one came from a below standard type of living; and, in a period of one year each receiving the same welfare allowance, the person who was from a below standard, so-called below standard manner of living had been able to save in a bank some $250, and the question he raised is one that I ask and that is:

How can we determine by incomes the type of budgets and the type of food allowances that should be given to any family, say, man, wife, and two children of the same age and who are in need of assistance?

Miss Clark: Are you raising the question of developing a budget to fit a particular family size and compositional group because, of course, the size of the food budget and the size of the total budget should be geared to fit the size and composition of the family?

Mr. Koch: You can use that as an example. He said that in each one of these cases that the family was of the same size.

Miss Clark: I see.

Mr. Koch: Man, wife, and two children of ages comparable to one another and that in giving this food allowance, which is a standard food allowance, that the family that they considered to be below standard in their living habits was able to save some $250 within that period of time.

Miss Clark: Well, some people eat more than others and there are, of course, variations in needs even within a given family size and composition that I suppose could account for some of it and some of the know-how of purchasing. I don't know what else, Mollie; do you have any other ideas?

Miss Orshansky: Well, I don't know. We do find sometimes in medicine and economics that people who have lived at sub-standard levels--either nutrition-wise, health-wise, or anything else--sometimes, such people are better able to weather a storm than a person who has been in better shape. That is, the acute crisis may hit someone harder who hasn't learned, the ropes or how to make-do. It's the only explanation I can think of, but I don't quite know if that's what the tenor of the question is.

When we give relief allowances we try to determine on an average for a given type of family what the requirements are and what its resources are, and see if we can make up at least part of the difference. But then we don't--and I think most of us wouldn't want to--go in to see just exactly what the family does with the money. Otherwise, following up on your story you would be penalizing somebody for being able to manage a little bit better than somebody else.

Those of us who are above the poverty line don't all spend our money equally efficiently, and I don't know why you should assume that those below would. We know that they have much more limited choice. With the lesser education that they have some of them will do far less well than we, although I am amazed at how much better some of them do than I think I could!

Mrs. Lamale: Since this isn't a public welfare group, I guess I can illustrate this point without embarrassing anybody. There is a famous case in New York City where an old gentleman who was ill in about 1940 and had been a financial investor and had lost his money applied for assistance and was granted the usual amount for public assistance. He was completely eligible at that point.

Over the years, he got what most people in New York thought was a meager amount, but he had a good suit of clothes which he carefully preserved; he lived in a room which had some hotplate facilities, and at the beginning of the week he bought some potatoes and meat and made himself a stew which lasted a week, and he bought some apples, and so he had a very limited diet. His one form of recreation was investing in the stock market, and, in 1954 or thereabouts, they discovered he had increased his holdings to $50,000. He was still living on

his assistance payments, but he had been living in a way that very few other Americans would have been willing to live, and his one form of recreation had been very profitable.

Of course, the question came up--was he guilty of defrauding the government? I think he was taken off the assistance rolls and asked to replace the funds that he was given after he became eligible. This was a situation where he was getting the average payment that had been developed from averages for large groups of families, but he was apparently willing to live at a scale that was less than the average. The concoction that he developed, while it was considerably lower than the economy food plan, was nutritionally adequate for him.

I think that this is the error of application in an average.

Dr. Myers: Another question? Yes, sir?

Mr. Bruno Stein:

What I am missing in this discussion is a definition--with the exception of Mr. Smolensky who has given us a definition of some unfortunate overtones, which operationally puts a premium on anti-social behavior. The ladies who were counting have not defined--they have given us some indices such as $3,000 with or without a sliding scale, and so forth--but I wonder if any of them have given any thought to defining the problem first and then attempting to make an account because it is clearly not an economic problem but a sociological one.

Mr. Smolensky: May I answer for the ladies?

I don't think I have unfortunate overtones in my definition, but I got to this definition of the problem by asking myself what I want my poverty line to do, and I think that's necessary. What you want to ask is what policy decisions are riding on this definition and then come up with a suitable definition.

I think what the conversation just before, among these two ladies, was that given the kinds of policy decisions we are making now, you don't have to do any better than the three thousand. I am suggesting that maybe we should be making better policy decisions, some that will have to answer questions which attempt to isolate sources of inefficiency.

Dr. Myers: Any other questions? Any other questions from the audience? Yes, sir?

Mr. Alfred M. Skolnik:

Purely statistics. I want to know what is being considered as a poverty line from year to year to provide a measurement as to how well the government programs are coming along. It sounds to me this is done every three or four years. Have we got anything in the material on that?

Miss Orshansky: We have controversy, which is always good. There is not an unanimity of opinion on whether or how one should change the poverty line. You can get a little more agreement, but not unanimity, among some that you should at least adjust for price change. This is reasonably simple.

Then you have people, for instance, like Robert Lampman who has done a great deal of work in this field who feels you shouldn't change your poverty line. You can adjust the prices, but otherwise keep it unvarying. In a way--although I don't agree with it--it is an easier position to take.

Mr. Smolensky: And hope the problem goes away?

Miss Orshansky: And hope the problem goes away. If you look at the figures for 1964 income, the number of persons with incomes below the poverty line is smaller than it was in 1963 even though the war on poverty wasn't started yet. So obviously if we did absolutely nothing but just sit still, in fifteen and a half years--no poverty. We don't believe this, so then the question is how should you relate gross national product to average earnings. Perhaps it would be even harder if we added government programs which gave the equivalent of services to low income families because then we would really have to put something in for this.

All I can say is people are thinking about it and working on it, but it is a question.

Dr. Myers: I think we will have to stop here except to say just a couple of words to summarize perhaps.

I think there is a great deal of agreement on the specialties. That is, the process of counting has made people find out the areas where the problems are; that is, it indicates what groups are disadvantaged and where remedial action should be taken.

One disadvantage these ladies have is since they work for the government, they can't come out and make policy speeches. Generally, they have to only indicate what should be remedied and how it should be done, but certainly the type of research which is going on on the measurement of the poor and discovering the characteristics of the poor regardless of the precise level at which the budget is set should certainly contribute to useful programs of attacking the problem of poverty in the United States.

COMMUNITY AND GOVERNMENT COOPERATION FOR
DISADVANTAGED GROUPS

(Application of Federal and State Research and Statistics in
the Administration of the Poverty Programs)

Mr. Keim: This is the session on "Community and Government Cooperation for Disadvantaged Groups." This panel has been meeting for an hour or more, and I understand that they have pretty well settled many of the serious policy problems of the economy and they are well prepared to come before you at this time.

Let me introduce and turn the meeting over to Mr. Raymond Male, the Chairman, Commissioner of the New Jersey Department of Labor and Industry, who really needs no introduction to our group.

Mr. Male: There is another report from Hyman Bookbinder, Assistant Director of the Office of Economic Opportunity (OEO). He is going to wear a different hat for the next few minutes and he is going to talk about OES's research program.

We are going to change our ground rules here, since he may have to leave for his plane sooner than we would like. Mr. Bookbinder would like to speak briefly and then open the floor to the audience for questions. Mr. Bookbinder.

The Office of Economic Opportunity Research Program

Hyman H. Bookbinder, Assistant Director
Office of Economic Opportunity

Let me just talk very briefly and in a nontechnical way to some extent, because I don't handle the research for the organization. We have a wonderful man Dr. Joseph Kershaw who looks after the more technical research work. However, I studied statistics and was a research director for many years, so you've got a friend here. More than that, I want to tell you with all the sincerity I can muster that everybody in this program that I know from Mr. Shriver down to the agencies and up to Mr. Humphrey who looks upon us from the outside, approves of the emphasis that is being placed today on the full utilization of all information that can be made available.

A significant percentage of our resources is going into this operation. As an indication, incidentally, we have now made the punchcard profession in Washington one of the tightest areas in the country. I am told that resulting from our program alone, some 2 million cards have been punched in the last 6 months. Anyway, we are going to have our own computer soon because there's lots of information that we are entering, the input is tremendous, and we hope that soon the output also will be pretty good.

For example, I told you about the 530,000 children who are going to Head Start. Well, obviously, as Mollie so eloquently suggested at the end of her talk, it's the youngsters that count, but we are going to do the counting, also, and we are going to use this as one, great, massive operation to tell us things about the children, about their backgrounds, about their parents, about what the program is doing for them, whether the 75,000 out of the 500,000 will get reading glasses. Just remember that little footnote. We expect that 75,000 out of the 500,000 will be found to need glasses.

In the normal course of events, among kids from this kind of a cultural background, maybe out of those 75,000, 5,000 might have been getting glasses. We want to know, what impact better reading ability has on reading skills. A lot of things like this can be examined.

We expect to follow these children, not by name, but by serial number. There are problems of confidentiality--with which you are not unfamiliar--but we shall watch out for things like that.

We are going to evaluate our programs. I have already indicated one research project we funded. We are going to fund a lot of groups, universities, research organizations, and local groups, to do this evaluation. We do not intend to duplicate or to replace the thousands of people throughout this country in the various disciplines who have for years been producing invaluable material as a guide to poverty programs.

Much information already is available from other agencies, private and public. What we intend to do in the research area is precisely what we intend to do in the action area. Two things: First, to help get the most out of existing programs. That goes for such regular action programs as HEW programs, U. S. Department of Labor programs, and Small Business programs. We shall try to get the most out of these programs focused on the problem of poverty. Secondly, we shall try to fill identified gaps with the money that we get from the Congress.

Both of these things apply to research as well as they do to action in the Proverty Program.

We are putting together an excellent group of some 30 to 40 people from the various disciplines to work right in OEO, in the Office of Research, Evaluation, Programs, and Planning. We expect to have in the Job Corps a research operation looking at the Job Corps particularly. In the Community Action Program, there are people looking at the Community Action Program.

Secondly, we recognize that there are many pieces of information and many programs available to communities which aren't being fully utilized today. One of the greatest wastes in this country today is information that isn't being used intelligently.

For example, Federal action programs are available to people, organizations and communities that need them most, but lack information and knowledge about such programs. Now, you will find some compendia of programs: HEW has one, ARA has one, the U. S. Department of Commerce has one; they are useful, but we intend

to have a compendium of compendiums before we are through. We intend to take every government program that has an impact on poverty and put the whole information together in a useful way so that groups in every Community Action Program can use it, so that private organizations seeking to combine items and develop an intelligent, rounded program on poverty have something to refer to.

The first draft is a pretty thick book. It is not just intended as a listing, but as an intelligent compilation. This is a very fundamental thing. You do not have to be very sophisticated to know that you need such a compendium. We don't have one today in a good enough form, but it is our intention that we shall.

It is important that we do it, for in many respects, one of the really most significant things we are doing in the Poverty Program is to get people involved in it who never before have been involved in social operations and social organizations. The phrase is "the involvement of the poor." There are problems in that and difficulties; but there is also great promise in this concept of involving new people, for they especially are going to need tools, information, but drafted in such a way, formed in such a way that it is useful to them. One of our jobs is to transmit information and knowledge to people so they may become more effectively involved in this War.

There are many questions for which we have to find answers. Some of the answers are available now in Ph.D. theses, some of them are available in esoteric studies that nobody knows about, and much will have to be done anew. We intend to help get the answers. For example, we have been trying to teach adults for a long time, yet, nobody in this country is satisfied that we really know how to teach adults.

We talk about job requirements, job information. Well, the Ewan Clagues of this country are going to solve that problem. They already have solved parts of it. We hope we will not do it arrogantly, but we are going to raise the questions because we will know perhaps more -- by "we," I mean the whole Poverty Program; I don't mean just OEO. We are going to have identified to us in thousands of communities, in hundreds of Job Corps camps, just what the gaps in information are, and if we can find answers through one of your activities or private research groups, fine. If we can't, we may have to do it ourselves.

Finally, we are interested, of course, in the statistics of poverty. However, sometimes I wonder whether we really are and should be. I heard the last part of your discussion. It was interesting, but I can't say I am excited by that kind of discussion. What difference does it really make? I think Mollie was suggesting this: What difference does it really make if we decide that we count only those under 2,500 or under 3,000 or under 4,000? What difference does it really make how we think we are going to count it 5 years from now?

When you are dealing with 36 million people under that level -- and we ta-talked about $3,100, $3,000 -- the important thing is that we have been alerted. We know there are things that have to be done. The idea is to start these programs and reach as many people as possible, and if you help a family with a $4,000 income to get into a $6,000 class, so what? I'm not going to worry about that.

The important thing is that the programs are really designed for the $1,000, $2,000 and $3,000 income families.

This sounds like anti-statistics. I close by just reminding you that while we sometimes ignore statistics and even ridicule its importance, the fact is th-that statistics started this War on Poverty. It was a few statistical studies that got Jack Kennedy to say, "I don't believe that we have to have a country with so many kids being rejected by Selective Service or so many kids in poor families." These aggregate statistics have meaning, but we also must get the other kind, the individual data.

I'm ready for your questions.

From the Floor: I was just wondering if you could give any clues as to the kinds of research in Community Action Programs that you are more interested in. Are there possibilities that you see of using psychologists in learning studies, are there possibilities of using educational people in less exact kinds of study?

Mr. Bookbinder: I happen to have here a very brief release on a research grant made last week to the Bank Street College of Education in New York, a grant of $151,000 to conduct an intensive analysis of programs training teachers to deal with poverty-stricken children. Of course, this is an evaluation of programs that teach training for this work. There are organizations doing it; there are training programs. This grant is for the purpose of evaluating all of these approaches to tell us which seem to be the best. That's one illustration of a grant.

Let me tell you a little bit more about the North Carolina fund that I mentioned earlier today. This fund is for in-depth research surveys to evaluate and improve several types of current Anti-Poverty Programs. One study, which is focused on 11 North Carolina communities with existing CAP organizations, will closely examine local leadership, the types of problems which concern the community, and the way the residents deal with these problems.

By the way, I said something about the difficulties in the involvement of the poor. We have got to learn more about this. The objective is clear; the intent is serious, but we have to know how to involve them.

Did any of you hear about the Philadelphia elections of a month ago, the elections of the poor? Well, some of my colleagues have said they are delighted with the results. I am not. I say this frankly, that in an area of 500,000 potential voters in this election, 13,000 voted, and I'm not satisfied. I think we ought to be ready to fund a grant for this thing, or do something, to find out why with all the publicity, all of the attention, did only 13,000 turn out. I think we can learn a lot in that kind of an inquiry about how you reach the poor; what the problems are; whether it is fear, whether it is embarrassment, whether it is just illiteracy that kept them away from the polls. I think we have to know more than we know now about the reasons for this kind of turnout.

Mr. Sidney Hatkin: This War on Poverty can go on continuously; it can improve conditions until we might reach what we consider Utopia. Under what circumstances would you consider this War on Poverty to be off to a very good start and where we might be winning the War on Poverty?

Mr. Bookbinder: Well, this is really more for a philosophy class, in a sense. I don't really know. I do know that for as many years as I shall be around, I don't have to worry about that problem. Certainly, for the next 5 or 10 years, we don't have to worry about it.

I think there are ways of measuring success that go beyond looking at the distribution of income and seeing how many million families are out of poverty. That's one way, and some people will do that inevitably.

I think it is enough to know that so many hundred thousand fewer youngsters have dropped out of high school in the next 10 years than in the last 10 years. To know that so many kids who were in the obvious target area have now moved out of it; that so many mothers are now doing half-time work; that in this first year alone we have put about 100,000 poor people to work as staff participants in the War Against Poverty, giving them not only an income, but that important sense of participation that they are "government" workers, that they are working on behalf of other people. I think we are going to have to be satisfied for quite a number of years to measure our success that way, rather than in this straight macro way or so many million people out of poverty.

From the Floor: There must be some correlation between domestic efforts against poverty and the overall aid program. Would you outline some of those interrelationships? I mean foreign aid. I wonder whether there is anything we can learn that has an overseas application.

Mr. Bookbinder: Well, there are some things; I am glad you said that. Israel, for example, has invited some of us to come and take a look at some of their training programs, their own Job Corps programs. Certainly, there are some things we can learn from this, but there are other kinds of relationships that are less tangible than that, I suppose, or less direct.

First, politically, I think the American people are able now to say, "Well, we poured billions of dollars to help the poor overseas; it's about time we are doing it for our own people." There's that kind of relationship, but there is another kind that I think is more significant. Every now and then somebody gets up very knowledgeably and arrogantly, too, and says, "Now, what do you mean "poor," three thousand dollars; why, the average family in India has an income of $200; or in Brazil, so much." We need to do a great education job along the lines I hope I was doing 2 or 3 minutes ago, that poverty isn't measured that way; that when you are in a society like ours where the average person has an income of about $7,000, the poverty of the family with a $2,000 income is more onerous, more difficult, more depressing, than the poverty of the Indian family in the midst of general poverty. He hasn't got that feeling of his having been left out; so, there isn't too much relationship really as to the nature of poverty in our case and in most cases overseas, but politically there is some connection.

A Voice: Supposing you said most people who are poor today have been poor since they were born; their children were born in poor families; they themselves are poor. Now, we stand off as statisticians and say they are poor people, but do they feel they are poor people, and are they interested in being anything else other than poor people?

Mr. Bookbinder: Well, I think that is one of the myths -- that most poor people don't even realize they are poor, don't care about being poor. There obviously must be some people like that, but we already have indications that they don't want to remain that way.

I talked about the 300,000 young people who want to be in the Job Corps. You have no trouble getting youngsters to apply for the Neighborhood Youth Corps jobs. Have you had any difficulty? I doubt that you will have any difficulty. All of these programs are available, and they are being used. I commented on the failure of some people to vote, but I don't think that goes to the heart of your question.

It is just a myth that people don't mind being poor. It's not unrelated to the civil rights question. Many people argued, of course, and some still do that troublemakers got the Negroes unhappy; they were very happy until some people told them they were unhappy; and that they never really minded being treated the way they were, but that's also obviously a falsehood, just not accurate.

There is a very important relationship between the civil rights problem and the poverty problem, and I would like to end on that note. The President made, I think perhaps, his most important speech of his career at Howard University about 10 days ago in which he made this very significant analysis of the relationship between discrimination and poverty. As he said, while we have made remarkable gains -- not finished yet -- we have opened up the doors to opportunity in many ways, legally, through legislation, through executive action, through private action, the time has now come to make it possible for people to walk through those doors. Until they can walk through those doors, the fact of open doors isn't going to solve their problems.

It is only through programs like the ones we are involved in now, that we can improve the living conditions of the poor. In many ways, the Negro problem, the minority problem, is the same as the poverty problem. Don't for a moment think that the two are identical in terms of size, because three-quarters -- I think that's the figure -- of all poor people are white people simply because approximately 90 percent of the U. S. population is white. While the percentage is much greater among Negroes, there are plenty of poor white people, too.

Well, I think I have made enough random observations. Thank you very much.

Projected Research on Levels and Standards of Living

Arnold E. Chase, Assistant Commissioner for
Prices and Living Conditions
Bureau of Labor Statistics
U. S. Department of Labor

There are some questions that I think we need to ask ourselves about our social and cultural goals. We now are able to meet the basis needs of most of our families and still have from a third to a half of our income to spend in more or less of a discretionary way. This segment must expand if we are to maintain a growing economy. I don't think that many of us know how to evaluate this segment of our consumption, our social and cultural activities in the broadest sense, including education, training, and retraining and the services of public officials.

I'm not saying that we have to expand public employment as a means of maintaining a growing economy, but there are many other kinds of activities in the private sphere that fall in this broad, general category of social and cultural activity. It is of great importance for us to be giving some thought and study to the evaluation of this aspect of our national life and the setting of our national goals.

We should now begin thinking about this business of allocation of consumer expenditure. We were not thinking just about the disadvantaged groups at the inception of the Poverty Program. We drew up a comprehensive program of study, called "Living Condition Studies," which we had hoped would be implemented at sometime. We haven't been able to get very far with this, but I think that many of you may have the opportunity to proceed with this kind of analysis of our society and by doing so will provide the leadership that is needed in local communities. I don't think this is the kind of activity that the Federal government can do alone. I think it is a matter of community interest and leadership of our community institutions.

So I would like to suggest that we should think of this in broader terms than just in terms of the disadvantaged groups, primarily for the benefit of the economy as a whole.

We have absorbed a great deal of statistics. This being a statistics group we are bound to spend much time talking about statistics, but our Secretary of Labor keeps reminding us that people are not statistics, that they are more than statistics. Much of the program that we have developed recently is an attempt to suggest ways of evaluating, through statistical analysis, our progress in alleviating or eliminating poverty. I will make no apology for the analytical approach before this group and, in fact, many authorities readily admit to a further expansion of the mathematical approach in the social sciences.

Dr. George Stigler, past-President of the American Economic Association, said in one of his essays that by the year 2002-03 -- notice the precision -- not the year 2000, but the year 2002-03, that the science of economics will be entirely mathematical.

Can you imagine picking up the President's Economic Report and from the first to the last page you have nothing but mathematical formulas and statistical tables?

He may have exaggerated a little, but at any rate there is a need to quantify as many of these social and cultural aspects of our society as possible. That is what is involved in all of the discussion that has been going on here. Everyone knows that statistics will not solve the problem of poverty or the question of economic growth, but we use statistics to quantify the problem, to identify it and to suggest alternative approaches. Thus, we think more and more in terms of statistical-analytical programs.

I was glad to hear Mr. Bookbinder say one of the things they plan to do is to make much greater use of the existing statistics. We all know there are many statistics in the public assistance records, in the unemployment compensation records, in the OASDI records, and in many other places, that are not being used now.

I am not going to spend much time on the need for establishing standards; it was discussed at length in the earlier panel this afternoon. Mr. Bookbinder said a few minutes ago that he thought we had adequate information on this. There are some of us in government who question whether it is unimportant that a family with a $4,000 income might have its income raised to $6,000 through poverty program assistance. If this happens in a few families, it isn't terribly important from a social point of view; but the political facts of life are that if anyone opposed to this program can find examples of this kind, he will make the program look much worse.

What concerns the statisticians about this question is that when that time comes, there will be a very great drive to have something better in a hurry. This has happened so often that it worries us, so that our emphasis now on doing a more precise job is to try to avoid having this kind of pressure placed on us at a later time. We urge looking forward to the need for establishing much more precise standards for defining poverty, and the "poor," than are available now.

When this comes to the local community, the problem is even greater than at the national level, where we can deal more in aggregates -- especially when you begin to get criticism about the eligibility of certain families for participation in a given program.

There are two other aspects of the need for information about the problem of poverty, who is poor, and the causes and effects of poverty, which I think need mentioning here. One of them is that too much emphasis is being given to the income of families, and to their assets or levels of consumption. Poverty is much more than this, as Mr. Bookbinder mentioned in his remarks a few minutes ago. Because poverty is much more than a matter of inadequate income, it is going to be difficult to reach many of the poor families.

The programs that are now in operation, I feel sure, will not reach a fairly considerable segment of the total number of poor families. Those responsible for the programs may find that the enemy in the War on Poverty is fully as elusive

as the enemy in Viet Nam, because many of these poor families will not come forward and participate in the programs voluntarily.

It will be necessary to get information to understand the attitudes and the motivation of these people so that we can devise ways of reaching them, and once they have been helped out of poverty, to find out if we can learn from the causes of poverty how to keep them out of poverty.

This is more than just having a job. A man may get a job, and he may be above the poverty line for a while; but if there is a downturn in the economy and he becomes unemployed, it will be easy for him to slip back into the attitudes that he had before he got out of poverty. That's one aspect.

Another important aspect is that a control group is needed. The Job Corps, for example, has taken a certain number of young men and is training them, giving them jobs, and re-educating them in many instances. Their progress will be followed -- according to Mr. Bookbinder -- to find out whether they get jobs and how long they hold them. Maybe not all those young men were lost to the economy in the first place. Perhaps a fairly significant percentage of them would have gotten back into the mainstream of the economy without having this kind of help. We need to find out, if we are going to measure the effects of the Anti-Poverty Programs, how the job experience of these people is different from that of their counterparts without this job experience.

There have been several programs proposed in this connection. There is one that I know of only vaguely. I think it is probably the broadest proposal that has been advanced so far. Herman Miller is working with the Census Bureau, I understand to have a fairly large-scale survey of households or families made in an attempt to find out their income and their family characteristics and to follow these people from time to time. Longitudinal surveys are needed, and This sounds like an excellent idea, provided that it is implemented and followed through.

We have suggested that we need to have surveys of consumer expenditures and income on a more or less continuous basis so that we can cover not only the population in general, but supply from a panel as a part of the survey the longitudinal kind of figures needed to determine the dynamics of poverty, who gets out of poverty, and who falls back into poverty; what these people's characteristics are, and how these characteristics affect their getting out of poverty or their falling back into poverty.

Well, Mr. Chairman, I have sketched these suggestions very briefly, but I would like to close by saying again that we don't think statistics will solve the poverty problem, but they will help to quantify and identify the problem in sufficient detail so that programs can be designed which are not yet devised. Then progress can be measured and we will have a better basis for knowing whether new programs of specific kinds are needed.

The West Virginia Appalachia Program

Richard H. Slavin, Area Director
Appalachian Center
West Virginia University

At West Virginia University, the War on Poverty started 3 years ago when Paul A. Miller, a West Virginian, became president of the University. He introduced a new concept in land-grant education by creating an organization dedicated primarily to the development of West Virginia. This new organization, "The West Virginia Center for Appalachian Studies and Development," is a unique, dramatic and yet highly practical dedication of the University to public service. The Appalachian Center is rooted in every school and college and every division and department of the University. In other words, President Miller mobilized the entire University for involvement in the specific problems and opportunities of West Virginia and of Appalachia.

One of the concepts that came out of this development was the "data bank." Obviously, a State, a region, or a local community in the modern day world is an extremely complex mixture of political, social, and economic forces. State and local governmental agencies, industrial developers, planning organizations, and private businesses will be successful only to the extent that their final product reflects a knowledge of these forces. The degree of analysis depends on the sophistication of the available data.

In West Virginia, researchers recognized existing shortcomings in the available supply of State, regional, and local statistics. Until remedial action is taken, important decisions concerning the growth of West Virginia industries, the development of comprehensive community planning, and the prosperity of its citizens will continue to be made on the basis of inadequate, inaccurate, and incomplete statistical data.

Also, during the past few years, two developments have caused State and local governments, like businesses, to become increasingly interested in improving their data-processing operations: first, rapid growth in the activities of these governmental units requires the handling of expanding volumes of data; and second, major technological advances have been made in data-processing equipment.

For the past decade, the professionals have suggested that the "computer revolution" is upon us. We have all been warned, moreover, of the dramatic effects to be expected of this revolution, not only in clerical activities but, increasingly, in the managerial realm. The impact of the computer in the Federal Government and industry is well documented, but there has been a dearth of information on computer applications in State government.

Unfortunately, data systems in West Virginia have exhibited a lack of conformity, coordination, and cooperation. With few exceptions, expensive duplication and costly competition have been commonplace in the development of the tools so necessary for processing the mounting load of paperwork and data. Within the rapidly advancing science of cybernetics, the State of West Virginia

has been caught up in the backwash of technological development and now, as many other State governments, is coming to a direct confrontation with the complex, fast paced field of automatic data processing.

Thus, State government has witnessed piecemeal computer development; applications in various departments have grown up unrelated to one another. There is very little compatibility to permit information from one department's files to be readilyfed to another department. These failings mean duplication in the use and storage of data, and less than maximum benefit from the State's data processing resources.

Concurrently, there has been a remarkable development in cheaper and more powerful hardware. For the first time, it is now possible to have extremely rapid access to all relevant data necessary for control in a large organization. New communications equipment developed by the telephone companies makes remote input and output possible: for example, an engineer 100 miles away from a computer can send in problems over telephone wire, and have the computer return the answer within seconds. Bell Telephone has developed systems that use telephone connections at night to send and receive data.

Keeping pace with this development in hardware has been an equally striking development in software. For example, "COBOL" (Common Business Oriented Language) is a common programming language for business applications, which closely approximates ordinary English. In addition, all manufacturers maintain libraries of "canned" computer programs, which a State may use with little or no modification , at tremendous cost savings.

Interchange of knowledge among States is another way to hasten efficient computer applications. Today, when a State wishes to computerize a particular application, it will often visit centers in one or two other States which it knows to have progressed in this area. A more formal system should be establi specifically to facilitate this interchange. This is one area where the State's Department of Labor Statistics can play a major role. This interchange could also incorporate the counterpart agencies at the local and Federal level, since in many cases, their operations have a very important effect on State agency procedures. Standardization of data elements and codes among State agencies and their counterparts at the Federal and local level could prove of enormous value in data interchange.

Researchers also realize that the cost both in time and money of using secondary data can be reduced if a single agency were available to do statistical work now carried on independently with considerable duplication by different ivate and public organizations within the State. One realistic solution to some of these problems has to be the establishment of an area or State data service commonly known as a "data bank."

The general purpose of this proposed data bank would be to provide systematic current data on pertinent economic and social activities and other significant phenomena in West Virginia as a central service to business firms and public agencies in the State. Here are some examples of the data that we hope might be made available for sounc and knowledgeable decision making by organizations in planning their future programs: data on change in population size and

composition, personal and family income, agricultural and mineral production, residential and other construction, consumer expenditure and employment, and other statistical series widely used by firms or agencies. Of course, a data bank can be used for many other areas or objectives.

To be effective, the data bank would be concerned with correcting weaknesses in the present information base. For example, uniform standards and definitions would have to be developed for use by data collectors. The ultimate objective would be to obtain agreement throughout the State on the procedures to be used in obtaining a body of data of generally recognized value. Thus, one objective of the data bank would be to strive to have the data collected in a manner that would make the greatest possible contribution to improving the State information base. Another objective would be to facilitate the more economical use of existing data. This could be accomplished by centralizing, and thus reducing, the cost of performing data-oriented tasks now being carried out with unnecessary duplication by a number of firms and agencies.

The data bank would give technical assistance to collecting agencies when such action is consistent with the goals of improving the information base. Intercensus estimates of population, housing, income, and other key variables could be made available and a program designed to make census data and census operations more useful to the community. The development of a publication program that would disseminate this statistical data economically would also be of great service, but these services are in the future.

Although future costs and benefits can only be estimated, the savings associated with the availability of better data and the centralized performance of data-related activities appears to be greater than the expenses that would be incurred in operating the proposed data bank and improving the stock of secondary data.

At first glance, it would seem that the growth of the data bank concept must mean the development of centralization. This is not necessarily so, however. There are obstacles in the path of computer centralization, primarily the existence of computer organization in the various agencies. I am sure some compromise will be reached so that it will be possible for the information in several computers to be accessible to all other computers.

Premature centralization of data-processing equipment (total or partial), prior to completion of a detailed analysis of the opportunities and problems, could result in the disruption and impairment of State governmental services.

Additionally, and what is perhaps more serious, experienced administrators are often reluctant to learn the rules of EDP control, and may be unable to detect misuse or to direct younger administrators who acquire expertise in the new technology.

Also, circumstances peculiar to State and local government need to be recognized by the EDP specialists -- involving areas which are materially different from those found in private industrial organizations. In my experience, most departments do not see the full value of electronic data processing, except

as it might apply to specific operations. This failure is due to a basic weakness, in this field, of many public administrators. The majority of department heads are unaware of the many areas in which they need data for making major policy decisions. This lack of awareness is the main reason why such facts are not available to them under their present system.

Unless the State and local government executive can be convinced of the need for facts in making policy decisions, we cannot expect him to be enthusiastic about equipment that can produce facts. The potentials are there, if we only apply ourselves jointly to their solution.

Mr. Male: The next topic is "Community Action in Hartford." John McLean is Director of the Community Renewal Team which is, I believe, in the greater Hartford area. He will talk to you about some of the data needs at an important level in the War on Poverty, at the constituent level where you meet the poor eyeball-to-eyeball -- not on charts and not in Congressional committees.

Community Action in Hartford

John McLean, Director
Community Renewal Team
Hartford, Connecticut

The use of data in a Community Action Program of the Poverty Program gets down to three things: what you are going to do, what you are doing, and whether it was a good idea to have done it.

Of those three, I suspect that most of the communities in the Nation are most concerned with what they are going to do and, particularly, how to prove to Mr. Bookbinder and others in his shop that it might be worth doing.

I would like to side with those who say that poverty statistics go a long way beyond level of income. To the extent that eligibility for the Poverty Program may begin at levels of income prevalent through large communities, cities, counties, States, and so forth, we have a rather strange situation. Taken on a flat income basis, presence of elderly persons in a family would qualify you to conduct programs for the young, who may be unqualified because in our so-called poverty areas the latter tend to be grouped in very large families where welfare payments alone may put them above the poverty level.

This has not actually happened so far. It is what could happen if we are held too tightly to a flat-income basis. I can best illustrat this by telling you a little of our experience as we prepared the first statistics to support a Community Action Program.

The obvious source for most statistics, a beginning source, is the United States Census. It gave us certain problems. Constitution Plaza, which some of you have seen in Hartford is universally heralded as a national model of physical urban renewal. If any of the various bank presidents whose offices are there would like to call that their domicile, eventually, then their children

could attend Poverty Programs because as of the time of the 1960 census, that was a beautiful example of a poverty area. It no longer exists.

Another poverty area in Hartford has been completely torn down and is being replaced with luxury apartments, probably aimed at people without children. As long as the 1960 census is taken as a guide, that still would be a lovely poverty area. In every metropolitan community, poverty moves around all the time. Therefore, we would have some problems using the 1960 census if that were all that we used.

Another problem is that while the census may tell you whether there are people poor enough to justify a program, it won't tell you a great deal about what kind of program to have.

Some of the more unusual figures that we used came from sources other than the census. We were particularly delighted that our submission followed by about 1 month the development of a manpower monograph on Hartford by the State Labor Department. Dave Pinsky, the Labor Department's Research Director, made a significant contribution to the Hartford Community Action Program via this approach. Of the 40 tables that we included, I think at least 10 of them relied on material State Labor Department's monograph.

Welfare statistics begin to show how, in a well-to-do metropolitan area such as ours, poverty will tend to cluster in the core city and then within particular areas of the core city. Sophisticated break-downs of welfare statistics show the number of people on welfare rolls who are deemed to be employable. The figures, by race and length of time in the community, gave us some idea of the extent to which poverty was a factor of in-migration and the extent to which we perpetuate the farmer in Hartford.

Some of the most interesting figures we found ourselves using were statistics on unwed mothers. An exhaustive study by the Hartford City Health Department showed something that not too many people have observed elsewhere, although there is no reason to believe it does not exist in every community of the country. The study showed that in 1950 4 percent of the children born in the City of Hartford were illegitimate; by 1963 the figure was 13 or 14 percent, and in some of the census tracts within our target areas, it was up to 25 and 30 percent.

Judging by flat income per family, a family with six illegitimate children is not likely to be poor if the State happens to have a reasonably generous welfare program. However, getting at the real causes of poverty, certainly sociologists and many others would agree that certain circumstances, such as children born into a family where no work is performed, into families where no father is present, and where the family is grouped together in sub-standard housing, all contribute to the so-called "cycle of poverty."

Perhaps the most important statistics is that comparing educational achievement among different neighborhood schools. Here, I think, you begin to get the basis for your educational and post-educational programming, in Community Action and free education programs. In one sense, defining education very

broadly, most of the proverty program is education. Either it is adult job training, perhaps to make up for deficiencies in schooling, or it is a program like Head Start or our year around child development day care, and homemaker-teacher programs, which focus on preparing children for school.

In Hartford, the gap at grade 2 in reading achievement between the six lowest and six highest schools placed the latter schools a year and a half ahead of the former group; in the 6th grade there was a gap of 3 years.

Now, if a child is behind other children in the same city 3 years at the 6th grade level, we all know what his chances are of competing economically when he gets beyond school.

The finest anti-dropout program might keep him off the streets during high school, but he has already given up a very precious competitive factor toward getting work later. As a result of this, we are now, in our latest submission to the Poverty Program, proposing extension of target areas on the basis of educational achievement, for several reasons.

One is, of course, that we can obtain much more up-to-date figures from the school system, which runs national tests every year, than from the 1960 census figures. Secondly is the close correlation between educational achievement and all the other poverty indices. The fact that this correlation not only tells you something about where you have a poverty potential if the children are not poor already, but also tells you where you want to put programs aimed at increasing the children's capabilities. Of course, the whole purpose of the Poverty Program is to increase the people's capabilities. We have many data needs, some basic to program management. You have to know how many Neighborhood Youth Corps kids you have at the moment, otherwise you wouldn't know whether you were still recruiting or whether you were turning people away. You have to know who those kids are--what neighborhoods they come from, and you have to know something of their educational experience. We do not test Neighborhood Youth Corps kids at the time they come into the program, because part of the advertisement to them is that they can get in without tests. We have kids with police records, and we do not pay any attention to their educational background; however, we test them as they go on, as a way of knowing which of them has the potential to move to more advanced training, and so forth.

Evaluation is a complicated subject, one which I cannot examine closely at this time because we are just arriving at this stage. Even this week our key committee meets to discuss progress on our evaluation plan. I will say that it involves the University of Connecticut. Many sessions have been held to try to figure out which of the things you wish to know can be quantified and which cannot.

We know that with 1,060 children scheduled in our Project Head Start, given that kind of universe, a lot of things can be quantified such as have been mentioned here by previous speakers. It's a broad enough universe for almost any kind of research.

In a program for unwed mothers, with 40 people in it, there is not going to be a research universe as such that amounts to very much. If you accept the standard that 50 is all right, but 35 is a little small, the sum of your evaluation must be purely subjective, in a situation where independent, professional opinion is to say how well a program did compared to how well it might have done. However, there will be a great demand, as every speaker here has said, to quantify everything that we can. We will need to stretch our imaginations to arrive at meaningful conclusions.

I think our neighborhood workers will throw up their hands and say, "I've got to get all these numbers for all these people; it's hard enough to get in the door, as it is, without trying to come up with quantified social tables."

We are a large Nation; we are going to need many statistics; and I know those of us who are basically involved in action programs must continually seek out more sophisticated approaches to the War on Poverty.

Research Services for Community Action

Herbert Bienstock, Regional Director
New York Regional Office
Bureau of Labor Statistics, U. S. Department of Labor

The information contained in your handout, "Some Uses of Statistics for Action Programs," is census material reinforced with current statistics from the Bureau of Labor Statistics, some of which was in connection with the youth program in New York City. We helped the New York City Youth Board work up some census data which resulted in a figure of about 72,200 out-of-school, out-of-work youngsters in New York City.

This is where the danger began. For about 5 straight years, everybody who made a speech in New York City about out-of-school, out-of-work youth said, "And today there are 72,200 out-of-school, out-of-work youth in the City of New York." After a while, no one really cared very much, because obviously this wasn't a developing problem--there wasn't any increase in the out-of school, out-of-work youth.

Other information proved quite useful, also. I call your attention to page 4, where there's a little front cover called "The Facts of Poverty in New York City" and some sample tables from a presentation that was made on that subject. The two columns in the center relate to the 400 of the 2,000 neighborhoods in New York that house 20 percent of the city's total population--the lowest 20 percent in terms of income. The population of these neighborhoods is 42 percent white, 21 percent Puerto Rican, and 36 percent Negro.

Now, look at the column on the right, the other 80 percent, a real tale of two cities. The other 80 percent of the population is 93 percent white, only 4 percent Negro, and 2 percent Puerto Rican.

While these data are 5 years old, basically the kind of relationships that develop or that have motivational value in terms of leadership for community

action are the same. You know, the statistician has always had the problem of how to get across to the policymakers the meaning of statistics, and now we are dealing with an entirely different group of policymakers. Community Action people are not people accustomed to dealing with data, but I want to call attention to the challenge that the statistician is faced with in this connection--to bring some meaning to the statistics, to seek out the patterns. After all, we are most qualified to do that perhaps, and in connection with Community Action and other programs, there is going to be a tremendous need for information that motivates people and, of course, information for program evaluation, but I am not dealing with that.

I was asked to talk at the Regional Plan Association, last November 9th, on the job picture in New York and northeastern New Jersey. We had a real slowing up in growth in the New York area over the 5-year period, 1958 to 1963. Out of every 100 new jobs nationally, we had only 1 in the New York-northeastern New Jersey area; prior to that period we accounded for about 1 out of every 10.

Most of us in the audience that day agreed that these figures were significant because, while poverty and unemployment are not synonymous, certainly unemployment is one aspect of poverty.

However, the data as presented roused little local interest, so we reworked it into the report you see here, Regional Report, Number 3. Basically, it contains information on structures, trends, and the like. This report provided the desired stimulus. The Chamber of Commerce, and the Commerce and Industry Association appointed a group of fourteen top industrial people who decided that perhaps New York needed to pay a little attention to industrial development. You will see that H. C. Turner of the Commerce and Industry Association attributes industry's support and enthusiasm in part to the recent report by the U. S. Department of Labor's Bureau of Labor Statistics which brought to light much of the relevant data.

"Profile Ninety," which is simply another regrouping of the census tract material, has had use and application in some of the job development programs in New York City; and Bob Johnson recalls that he sent these data to his people around the country with some suggestions as to how they might use similar local material.

Broad data on consumer spending which are not developed for specific purposes, can be useful for focusing attention. For example, families with an annual income of under three thousand dollars are spending 18 percent of their total consumption expenditure for things other than food, housing, and clothing. Incidentally, another 7 percent--although you can't see it here--went for medical care.

Census material, although it is 5 years old, does help to underscore some of the problems faced by a big city. In terms of occupational group distribution, 24 percent of the professional people and 30 percent of the managerial group who work in New York City do not live there, in contrast to the operatives, the semi-skilled workers, and laborers, about 94 or 95 percent of whom work and live in New York City.

The table on unemployment rates for non-white boys and girls shows us the kind of thing that people take for granted--that Negro youngsters have unemployment rates two or three times higher than white youngsters. But, if you look at these data, which come from our special labor force report, you will notice during the period 1948 to 1953 that the four sets of lines were relatively equal and in 1953 and beyond--actually more so beginning in 1957 when the shrinkage in the operative, the blue collar type of job began to set in--that's when you really get this spreading apart in the sense of unemployment rates for Negro and white youngsters.

Page ten presents data for social purposes that we have worked on in New York. I feel if we statisticians look at some of our products, we can find a lot in there that helps the policy people think. I guess that's our basic job in a way.

Mr. Male: Any questions?

From the floor: I have a question for Mr. McLean. What part does your agency play or what liaison do you have with the Hartford revitalization? Is that connected with your group at all?

Mr. McLean: We know of them, but we don't have any contract relationship.

Mr. W. T. Hughes: I would like to ask the panel, what method are you using to curtail drop-outs in your schools?

Mr. Bienstock: I think the panel members should answer that, especially Hy Bookbinder, because I can't think of a more effective method than the Operation Head Start; yet there isn't a school teacher in the country who won't tell you that you can identify a high school drop-out in the first or second grade because they have started a year or two behind, and particularly in terms of their reading ability. That's part of my answer to it.

Mr. Slavin: You are in a very good area. I think this is one of the great advantages of the Economic Opportunity Program because right now in West Virginia there is a tremendous battle developing over what we call "vocational education," and we have the Department of Education, the teacher's colleges, and so forth to hear on this issue.

In terms of the future and the occupations of the future, we haven't faced up to this at all, and I think that the OEO programs are going to bring this to a head much faster. We personally feel that there is going to have to be a significant change in this area of vocational education.

Mr. McLean: In Hartford we now have 269 in-school youth in our Neighborhood Youth Corps receiving $1.25 an hour for up to 14 hours a week. Certainly, this is effective in discouraging youth from leaving school for purely financial reasons, because they are making money while they are in school right there.

Then we have another 100, which I believe will be 200 this fall, in a program in which they go a half day to school and work in companies a half-day.

The companies pay the bill; all we do there is help somewhat in staffing the program.

Mr. Slavin: This type of program puts the economic incentive on staying in school, but all of the educational considerations still have to be met. Certainly, the Neighborhood Youth Corps is one of the strongest parts of the whole Poverty Program.

Mr. Hughes: In Oklahoma we don't have much trouble with drop-outs. We in the Department of Labor don't enforce the school attendance law, but we aid in its enforcement by requiring every boy or girl who works and who has not graduated from high school to have a certificate issued through my office. Then the employer violates the law and not the parent or the child.

When the parent signs an application for a child to work, that certificate is issued through the high school, and the hours of work must be shown on it. They must not conflict with the hours of school work, and the employer must have the certificate on file when my inspectors check his establishment.

We don't enforce the law, as I said; but, the fact that children must have that employment certificate before they work keeps the boy or girl in school, because the high school won't approve anything that conflicts with school hours.

A similar certificate is necessary to work during vacation time, so we don't have much trouble with drop-outs.

Mr. Male: I thank Mr. Bookbinder for putting the emphasis first on the evaluation of what they are doing, not only so they will be able to account for the money they are investing in the Poverty Program, but so that we can make changes in direction as those seem indicated, and for his pledge, secondly, that he hoped there would be no duplication of existing facilities. I would hate to see the poverty fighters at any level trying to duplicate or triplicate or go beyond the work being done by the Clagues and all of the agencies of government.

Mr. Chase reminded us of the need for longitudinal surveys. Certainly, this has become increasingly important to us. I hope that you will keep reminding us of it, as well as your call for the continuing census. I shortened that down to a two-word thing, but in the era of the computer, I see no reason why it cannot keep more than decennial check on where we are once every bit of our lives--at least our earning lives--is reported to Baltimore for social security and we have all been numbered.

Mr. Slavin reminded us and I think it is important for this audience, to think of the crucial role of our universities, and particularly of our state universities, in the research and statistics picture, not only in poverty but in all these great human interest areas of government.

Mr. McLean underscored, and underscored again, the human side of this business. I see nothing inconsistent in being concerned about the numbers and the data bits, while at the same time remembering that many of them represent something much more important, the bits and pieces of humanity that are our civilization.

CURRENT ECONOMIC SITUATION AND OUTLOOK--SYMPOSIUM

Chairman: David Pinsky, Director
Research and Information
Bureau of Labor Statistics
Connecticut Labor Department

CHAIRMAN PINSKY: The conferees have done a wonderful job, as you will see particularly this afternoon when we have a roundtable on developments in statistics and research. I know the Connecticut Labor Department has benefited tremendously from the Conferences. This afternoon Harry Stark will tell you about some of the effects on our economy, illustrating from economic indicators developed at the State level.

Why are State Labor Departments so vitally concerned with the economy of the State or the Nation? Nothing affects a worker as much as the level of the economy; it affects his job and welfare. In our society today, there is nothing as traumatic as being laid off without income, particularly for a long time. The long-time unemployed were discussed yesterday in reference to the Poverty Program. The state of the economy has a serious effect on anyone, and, certainly, what farmers are doing has a serious effect on everyone.

The Labor Department in Connecticut, as well as others, is vitally concerned with workers. The State Labor Commissioners study conditions and make recommendations for the physical, moral, and economic well-being of the workers of the State. Through this Conference we have been able to move in that direction quite a bit.

What is the level of our economy? We talked to our panel and more or less said this, "We will get Ewan Clague to describe the current condition of the economy and outline its problems." I do not think he is going to discuss future developments but, of course, Ewan is pretty much unpredictable anyway.

The three other panelists may agree or differ with Ewan and, naturally, they are free to say what they wish--but we hope they will outline not only the problems, but some solutions.

We will start off with Ewan Clague, an old friend of the Conference. Ewan has performed outstanding public service in the Federal Government. He is recognized as a leading national economist, but because of the U.S. participation in world development, we do not see too much of him. He has been all over the world for the United Nations.

The sad point of it is, I have been miscast over all of these years in connection with the year 1929. Let me tell you what I did in 1929.

I worked for the Federal Government a few years, 1926 to 1928. Then the part of the Department of Labor that I worked in ran out of money, so I got a job at the Metropolitan Life Insurance Company. My mother's brother, my uncle, was Treasurer of Sun Life of Canada for many years, and my mother was happy that her son was in a good, sound place.

In December of 1929, I gave up that permanent job to take a 1-year assignment at the Yale Institute of Human Relations, to study unemployment. It just did not occur to me that the world was on the verge of a great depression. My decision shows I am not a congenital pessimist.

As it turned out, that move launched me on the problem of unemployment with which I have been connected ever since. My study concerned the shutdown of the U.S. Rubber Plant, an old plant 75 years old. They laid off 800 workers, and my study was one of the earliest studies of what happened to people laid off after a shutdown. The title of our book was,"After the Shutdown."

At the end of World War II, I was still an optimist. Mr. Woytinsky, one of the great analytical economist of this country and one of my colleagues at the Social Security Board, predicted that only 3½ million workers would be out of work in the postwar readjustment. Woytinsky and I preached that doctrine in Washington at a time when many other people thought we would have 8 or 10 million out of work. In actual fact, we did not reach 3½ million. So, I have not always been a pessimist.

The year 1965 has brought record levels of prosperity in the U.S. The Gross National Product in the first quarter of 1965 was $40 billion higher than in the first quarter of 1964, showing an annual growth rate of well over 6 percent, or nearly 5 percent, when allowance is made for price increases. If we do not do any worse than that in the future, we will have a very wonderful economy.

In the first 5 months of 1965, the civilian labor force has increased by 1.1 million over the corresponding months of 1964. By the same comparison, the number of employed has increased by 1.5 million, thereby reducing unemployment by 400,000.

In other words, industry employment is growing faster than the rate of growth in the labor force. Of course, we never escape criticism. I read in a newspaper column recently that our figures are not valid because we do not count everybody.

Is the current estimate of unemployment scientifically accurate? Is avoidable unemployment being created by our own national policy? Is unemployment endangering the entire economy by building up a huge, inflationary potential?

The fact is that our data have been proven valid, although they can be improved in certain details if we have sufficient funds. The testing is now going on. I can tell you that the figures are basically sound within the limits we have described.

Here is another important point. In May, for example, the unemployed amounted to 3.3 million in comparison with total employment of 78.4 million. However, only about 1 million of those unemployed were men 25 years of age and over, the prime workers in the labor force, the full-time workers. The second million was adult women, 20 years of age and over. The third million consisted of teen-agers under 20 years of age; while the remaining 300,000 were men 20 to 24 years of age, who have a rather high unemployment rate, although they are above teen-age level.

What stands out clearly in the figures of the unemployed is the high unemployment rate among young workers. The rate for teen-agers in May was 14.5 percent and the rate for men 20 to 24 years of age was 6.9 percent.

Still another statistic of interest is that married men presently numbered only 800,000 or less than one-fourth of the unemployed in May. The unemployment rate for married men was 2.5 percent. All men over 20 years of age had an unemployment rate of 2.8 percent.

Generally speaking, the improvement in unemployment took the form of providing full-time jobs to workers. In May, 18 percent of the unemployed were seeking part-time jobs. This proportion was about unchanged from May of the previous year. Therefore, the entire reduction in unemployment over the year was among full-time job seekers, while part-time seekers are as numerous as last year.

The employment picture is equally strong. One of the best evidences of this is in the widespread expansion of overtime. The average weekly overtime hours of factory work in the spring of 1965 reached the highest level which has existed since figures were first compiled in January 1956. In durable goods industries, the overtime hours in May 1965, amounted to 3.5 hours, on a seasonally adjusted basis.

That means that among 13.3 million production workers, factory workers, each had nearly a half a day average overtime per week; and that means a good many 6-day weeks for some workers.

Another statistics that is of great interest today is labor turnover. When the quit rate runs higher than the layoff rate, it indicates that we are in a time of prosperity. The voluntary quit rate in this spring 1965 is exceeding the layoff rate, which means that the worker now finds that the job market is such that he can voluntarily give up his job with good prospects of finding another. This is a good indication of the high level of prosperity.

We should not overlook the fact that we do have a serious unemployment problem in this country among youth. Young people constitute the new expanding factor in labor force growth. You have heard me give the statistics many times. Young people--teen-agers as well as adults under 25 years of age--increased only 3 percent between 1950 and 1960. We went through the entire decade of the fifties with almost no expansion of young people in the labor force.

During the Sixties, however, we will have an expansion which should give us very nearly a 50-percent increase in young people under age 25 in the labor force by 1970. We have a large--unusually large--number of young people who are now becoming job seekers.

Between May and July 1965, we shall have nearly 3 million additional youngsters, 14 to 25 years of age, seeking jobs. That includes the 20 to 24 year-olds, who are of college age. In recent years about two-thirds of such youngsters found employment by July, while about one-third did not. If we do as well this year we should have a rise of 2 million jobs and a 1 million rise in unemployment. When you see our seasonally adjusted figures for July, you will see how well we make out with these nearly 3 million entries.

Now, let us turn to prices. For the past 7 years, the U.S. has established a record for price stability. In all other industrial countries, prices are rising. I have some tables which were published in Labor Developments Abroad, a publication of our Division of Foreign Labor Conditions in the BLS.

The table shows wholesale prices in the U.S. as compared to about a dozen other countries. Using 1958 as a base (100), what is the price level at the end of 1964? The answer is 100.4 in the U.S., a little under a 0.5 percent increase from the year 1958, 7 years ago.

Here are the figures for the other countries; Germany, 107, Canada, 108; the Netherlands and Switzerland, 109; Italy, 111; United Kingdom, 113; Sweden, 120; France, 121. You can readily see the countries more or less have a degree of inflation in wholesale prices at home.

Again using 1958 as 100, we had about 108 for consumer prices, a rise of about 1.2 percent, or just about one-tenth of a percent each month. Canada, 109; Belgium, 113; Switzerland, 115; Netherlands, 120; Sweden, 121; Denmark, 127; Italy, 130; France, 130; Japan, 135. These are price rises. Their prices are rising 2, 3 and 4 percent a year, whereas ours have been rising a little over 1 percent a year.

Not all these indexes are strictly comparable, but they provide a reasonably accurate picture of the international situation. The U.S. has been getting into a more solid position from the point of view of prices, while other countries have been entering into inflation.

We are still not out of the woods, however. During 1965, the Wholesale Price Index has begun to creep upward for the first time since 1957. Our index for the month of May was 102.1. It has broken out of a range that has persisted for the last 7 years.

However, I would like to call your attention to the fact that the biggest part of the rise has been due to the recovery in the prices of farm products. In June 1964, the index for meat prices was 89, 11 percent lower than in 1958, and farm products as a whole were 93, 7 percent below the index for 1958. Both of these have risen to a little more than 100, or back to their 1957-59 level. So in some respects this recent rise in the Wholesale Price Index has been due to a recovery from price declines among farm products.

All other prices, except farm products and foods, rose from about 101 in June 1964, to 102.3 in June 1965, a little more than 1 percent.

The Consumer Price Index, generally speaking, has remained quite consistently on its long-term trend upward of 1.2 percent a year or slightly more than 0.1 percent a month. The first significant rise occurred in April 1965, when it went up by 0.4 percent or four-tenths of a point. Percentage and points are about the same when the index is around 109.

This recent rise occurred mainly in fruits and vegetables and in meats. From now through the month of June there will be a generally upward tendency in farm prices, which will make the index move up more than usual. Do not misinterpret that. It is not a trend. Fruits and vegetables usually rise substantially in price during the spring months, when the new crops come in at peak prices. As compared to the low prices the previous September, these spring prices are always high and, of course, this continues during the months up until we finally get the harvests which come in July, August, and September. This year meat prices are firming up very substantially, including pork products and even chickens, which have been cheap for years. Do not convert this short-run rise into a long-run trend, however, until you see how we are doing in September and October.

Next, what are the factors making the economy strong in 1965? One is the tremendous boost in consumer spending. Wages and salaries normally rise between 3 and 4 percent a year on the average (some more, some less). The Consumer Price Index has been rising only about 1.2 percent a year. Thus, our purchasing power generally goes up from 2 to 2½ percent per year. But last year, we got an exceptional boost in our purchasing power. Instead of higher taxes on higher income, this year we had a reduction in taxes. That is, we expanded the net spendable earnings. For the first 5 months of 1965, the real purchasing power of take-home pay of factory workers averaged about 3-percent higher than in the corresponding months of 1964. The consumer benefited from two factors: the rise in money wages and the decline in tax rates. The expansion of the economy in 1965 is undoubtedly due in part to this consumer spending.

Now, the Administration's tax proposal for 1965 is for a substantial reduction in excise taxes on consumer goods. We in the BLS have calculated that under the President's proposal, this would reduce the Consumer Price Index about a 0.5 percent, with about 0.3 percent occurring in the next month or so. We might even get a flurry in the month of June, because of preliminary reductions by merchants rushing to take advantage of the reduction in advance. Certainly, in the next couple of months we should get about a 0.3 percent decline in the index due to this factor, then another 0.1 percent in January, 1966, and the remaining 0.1 percent later on.

There will be an important additional stimulus to consumption, which will come through the rise in Social Security payments this year of 7 percent, retroactive to last January. There will be a flurry in the expansion of consumer buying power. However, on January 1st next will come the increase in the contribution rate for Social Security in order to cover the cost of Medicare and the normal rise of Social Security taxes. So, beginning in January of 1966 the expansionary factors in consumption will be to some extent reversed again by an increase in the taxes coming out of consumers' pockets.

My last point concerns productivity. The factor that really determines the position of the American economy, both at home and abroad, and in moving the standard of living higher in this country, is productivity, output per man-hour; in other words, how well are we doing in producing goods at lower cost? Our statistics for 1964 show an increase in output which was about 3 percent. That is about in line with long-run trends. For the period 1961 to 1964, the average increase has been about 3-1/3 percent, although allowance must be made for the fact that this was a period of recovery from a business recession. Thus, there is as yet no evidence of any spectacular productivity break-through for the economy as a whole. Of course, there are spectacular developments in individual plants, processes, and industries. As a whole, we are doing well, but nothing spectacular.

A lot of West European countries attained increases of 5 or 6 or 7 percent a year, while Japan's was 10 percent a year. But you must remember that they are recovering from war destruction; they are recreating an economy which was once quite high and fell drastically low. They are still in the process of catching up with us.

Don't be mistaken, however. In some industries, they have a higher output per man-hour with lower wages per man, in which case they are certainly producing a lot more cheaply. In the long run, our great problem is to insure that our productivity continues.

We have made a study of this. We have put out a little pamphlet on technological trends, in which we have analyzed the trends of production, employment, and productivity in the postwar period. From these figures we have tried to project probable employment prospects 5 years ahead, to 1970. Our analyses indicate that in a significant number of industries, employment is likely to increase, regardless of the technological changes which are in prospect in those industries.

On the other hand, there are other industries in which productivity may climb about as rapidly as production and, therefore, no increase in employment will take place. Finally, there are some industries in which productivity will rise faster than output and the prospect is for a decline in employment in those industries.

In closing, let me emphasize again that as far as the U.S. is concerned, if we keep our productivity going, we will not have too much trouble on other fronts.

Frazier Wilde, Chairman
Committee on Economic Development
and
President, Connecticut General Insurance Company

It was a pleasure for me to be asked to come before this Conference because one of my weaknesses is to try to tell the other fellow how to run his business. The most important business in this country is to find out how we can make our economy run better because we have great ambitions, and we should continue those ambitions.

I have had mixed experiences in this work, with the management sector of our business and partly with the outstanding economists I have met on the research side. While we do not always agree on either side, I respect other viewpoints, particularly coming from Stanley Ruttenberg and Nate Goldfinger with whom I argue profoundly on practically every occasion.

Today, we hesitate to talk about affluence because the country was recently confronted with a statement by really the most sophisticated and the most learned man in a practical sense who is prominent in economics and monetary matters, Bill Martin, He was badly served by another American tradition of headlines and headline readers--rather than people who read the whole story. You must always remember that Bill is one of those people who has proved he knows something about the stockmarket. After all, he did extremely well by himself when he was a private operator in the stockmarket, and when he says something, we had better listen and not write him off as a pessimist or a theorist or an administrative inside-man in Washington.

If you read Bill's views as a whole, he was quite objective. He was quite objective. He was answering the question which has come up both here and abroad; are we indulging in a little more optimism than we are entitled to, under the theory that we have completely controlled the business cycle? Many of us can hope this could be so, but are doubtful about it. However, I am not going to get into the role of Bill Martin and, furthermore, I do not think it is particularly relevant to think only in terms of short-term forecasts.

I want to discuss with you the longer future and to look at some of the broad problems which in one sense are broader that ever before.

Before doing so, let us try to estimate where we are today. Some of my remarks, even though without collaboration with the previous speaker, may parallel his. Today, we should observe that we have more people at work with the highest rate of pay in the history of our country. Our standard of living is so much higher than that of any other country that sometimes statistics run off the page. In the good American tradition of wanting to beat previous records, we tend to minimize our achievements and our progress and talk about our failures.

Our present situation reflects a successful partnership between business and government. Naturally, in talking about business, I am using an all-inclusive term; I am including labor. I do not regard labor as a commodity; I regard

it as a part of the whole, free, capitalist society which historically has been guided largely by the market-place and which today has surpassed any other society in the world. The great risk that this country faces in the future is that we will forget about this partnership which has been the basis for our progress. This is not idle theory, but it is demonstrated by many foreign examples.

We know statistics are not precise, but they are a good guide, and a commonly used figure for our employment level is 94 percent--not that this is a perfect answer and not that this solves the social problem of unemployment. However, it is a figure that is related to the probability of successful growth without inflation, as the modern term is used. So, we are very close to a goal which accomplishes much, but it would be a tragedy if we do not find ways in the future to come as close as we can to finding a job for everybody who, as stated in the Employment Act of 1946, is able and willing to work. I do not believe we can do it in the next year or perhaps the year after.

In a discussion of the problems before this country, it would be appropriate to discuss the deficit in the balance of payments if we had the time. Unfortunately, we do not, but we should say this much: The current situation requires a change for the better. This is most important because our leadership in the free world depends in large part upon our success in maintaining the value of our money and its availability to help ourselves and the rest of the world.

This balance of payments is a very involved situation, but it is not just a theory which does not affect you and me and our families. Its potential risk, as you know, comes about largely because of our help to other nations militarily and economically, and in part because of the differential rates of money. But, if we were to fail in this regard and our gold were taken away or completely revalued, we would feel it in our economy.

I remember very well--and many of you do, too--the period from 1931 to the next decade when our relationship to the world was upset because there was a lack of balance in the monetary relationship between countries. This related, of course, to our domestic problem of maintaining a stable dollar, restoring high employment, and continuing growth and output.

When we deal with unemployment, we run some risk of getting the cart before the horse. In other words, if we are going to find jobs for the unemployed and add steadily to our standard of living, we need to generate more output. This is fundamental, and it is not arguable: We have to produce more to divide more. How are we going to do it?

We continue to give priority to encouraging growth in the private sector. We should then complement what the private sector does and does not do by appropriate governmental spending.

In the private sector, the evidence shows that the tax structure--while not the whole story--is the single most potent factor stimulating production and growth. The role of monetary policy is important, but not as important as

frequently claimed. Easy and ready availability of money at rates not excessive, along with a stimulative tax policy, produces a combination of production and growth.

Another area, which I will not go into at length, is that shadow-land of regulation of labor, business, and management. Such regulation is best exemplified by the present chaos in the banking field, but it applies to the whole regulatory system in Washington. This must be present at all times, but at the same time we need to turn it around to be more constructive. How can we legislate so that these different components may do a better job in a more positive manner?

In the government sector, the most valuable public expenditures are those which will produce high future dividends. Those which may or may not add to current activity may be useful, but not as valuable as those in the first category.

Clearly in the first category are continuous strengthening of the dollar, strengthening the total educational system, strengthening the health resources of the nation, and urban and transportation renewal. Programs such as the Appalachia Bill are in the second category.

A money rate fluctuating around 5 percent combined with an ample money supply is a much sounder thing than a lower rate produced by excessive generation of credit through the banking system.

Recently, a new price rise has started. From 1958 to 1964, we had virtually no change in the wholesale price index. However, from the end of 1964 to the present, wholesale figures are up close to two points. We know the cost of living went up 1.2 percent. This, happily, does not seem to have changed much, but there may be--and I hope not--something significant in the wholesale price change. Of itself, it is not large enough, but if it indicates a trend, it is not good. There is nothing which poses a greater threat to our future than the possibility of large-scale inflation.

Generally, prices will go up when costs have out-paced productivity. After price increases, we can still achieve higher market sales for a time, particularly if the price increases are supported by a larger money supply. The old rules, of course, always has been inflation: Price changes are due to too much money and too few goods. I do not think the situation is quite that simple, particularly today, because we have had two changes at least.

We have had a technological revolution which tends to keep output high, but we cannot solve it just by that device. We must watch costs. If we get into an inflationary spiral, we will approach what has been aptly described as the most unfair tax of all. Few escape.

There is a theory that if you do certain things like buying stocks, and so on, you will not be hurt. But all of us suffer from inflation both in terms of our domestic economy and in terms of our success in the world. I am strong on the subject because I am an economics student and because I suffered it

myself, coming back from the war in 1920. I could not buy enough goods and services to give my family a fair break.

Although it has not been entirely avoided, inflation has not been a serious threat recently because our productive capacity has increased in most industries. We started with an excess of productive capacity, but a good deal of it was obsolete. Remember, high rates of production are needed if optimal production levels are to be maintained. This is why the Administration wants to allow sufficient tax cuts to stimulate greater purchase of capital goods. Even with excess capacity, we have had continuous pressure on the price structure. This is the fundamental reason we have had increases in wage rates and in other costs.

Total corporate profits are at a new high and they look astronomical when you look at General Motors, for example, but you must remember this is due to large-scale economies and not because of an excessive rate of return. The rate of return is liable to turn down, but if there is anything that makes a Board of Directors expand a plant and give more employment, it is a good profit ratio.

Profits are the basic stimulus to growth in our society, and corporate profits do not remain with the company--something the man in the street seems to forget. Companies are owned in increasing volume by the man in the street. This is unlike Europe, where a few families own many of the great enterprises. In this country, those who run businesses are trustees and paid managers for millions of people who own the businesses.

If you have profits, you can do two things. For one, pay out more to multiple owners. For another, you can increase the size or efficiency of your plant. So we should never worry about the headlines concerning General Motors and American Tel & Tel's profits. They will come back to you and the public for the most part.

Today, the corporations are fearing possible reductions in profit rates, because of rises in costs and many of them seem determined to increase prices. If we can avoid inflation through wage adjustments related to productivity and a middle-of-the-road monetary and fiscal policy, I see no reason why the present success of our economy will not continue and do so on an upward path. This is not to say we can expect a straight upward path. There are certain to be setbacks.

I think, for example, you see it in the statistics on installment payments. They have been rising. Installment debt has been rising higher than it should relative to our total growth, so I cannot agree with the theory that there is no natural law that causes fluctuations. I feel it is based on human behavior. I do feel that through government control and fiscal and monetary management we can succeed in substantially reducing the magnitude of the fluctuations, and that will be a great victory for a free society.

If we can maintain a program of growth in real goods and services of around 4 percent, we will beat our historical record of about 3 percent by a wide margin. This is not one per cent, but 33 percent--something which people forget. When people talk about going forward at 5 or 6 percent, they are talking about doubling our record.

We are more efficient and more optimistic, but we cannot go ahead at that pace. We have not learned how to move forward that fast yet. If we can keep this progress around 4 percent, we will be increasing our standard of living, and we will be in a position to carry on our heavy responsibilities throughout the country and the world.

Philip Taft
Economics Department
Brown University

When Ewan Clague finished his talk, I did not believe there was much to add. He gave his optimistic picture, and I think it is true that the country is more prosperous, more people are working than ever in history, but perhaps it is in times of prosperity when we should seek out the places of trouble.

It is also true that the fate of the free world depends upon the economic and military power of the U.S. I do not think that there can be any question that without the assistance of the Marshall Plan and foreign aid Europe would not have recovered nearly as quickly, not only economically, but perhaps the entire political configuration would have changed.

The maintenance of a high level of prosperity is desirable. It enables more people to enjoy leisure, to enjoy a standard of living which we hold is desirable. Also, there are important political and social considerations. In other words, aside from the desirability of economic progress in itself, it is important for social reasons.

The Great Depression of the Twenties was among the circumstances leading to the rise to power of the Nazis and eventually the Second World War. If you examine the rise of Naziism in Germany, you find that it is positively correlated with the increase in unemployment. The first large expansion of the Nazis power began in 1926. Al Pearce and I listened to Schact when, speaking at the University of Wisconsin--I believe in 1930--, he said that the Nazis were not likely to gain power.

Schact was the monetary genius of Europe. He had been instrumental in restoring the mark after the great inflation.

The threatening aspect of our present unemployment--as Ewan Clague so well indicated--is that it affects the young in a large measure. Fifteen percent of the young people are unemployed. Irrespective of the level of prosperity, as long as that figure is as high, I submit that the country cannot be satisfied with its achievement.

This situation is not only a painful experience for the young, but it is something I believe that no society can afford. First of all, it means that the young people are not given an opportunity to learn a skill. It means that the young people who are unemployed for long periods of time not only lose the opportunity of the present, but they are likely to be relegated to the levels

of the unskilled in the future. In an economy where skill is becoming of increasing importance, the opportunities for these young people in the future are going to be severely diminished.

Also, these young people contain a large proportion of minority groups, young Negro men and women. Irrespective of whether we have an unemployment rate of 3, 30, or 1½ percent, as long as it is concentrated in the young, we must not be satisfied.

The possibilities of nationalization or government control are diminishing in importance not only in the U.S., but outside of the Iron Curtain countries, even Europe. I recently read an article about nationalization, and the writer said that most European countries want to de-nationalize. Some economists back of the Iron Curtain would like to do so also, at least partially, if it were politically feasible.

I do not think there is any question in this country about government control of industry. There is less sentiment for it than at any time I can remember. Even if you pick up the press, such as The New Republic, The Nation, you scarcely find any reference to the desirability of nationalization even of public utilities. I think that this issue--at least for this generation--no longer exists, but the question of the role of government in economic life certainly is an important one.

Mr. Wilde made some references to the dangers of inflation. Well, this is a matter of choice. If we could reduce unemployment by 1 percent, I would take some measure of price increase. I do not think wage and price stability should be a fetish that overrides other considerations.

The first consideration in my opinion should be employment; the employment of as many people as possible and certainly the young. If that means some price rises, the rises might be acceptable at least to some.

In the Twenties, the great fetish was the gold standard. I recall that in 1931 England's unemployment fund reserves were being exhausted and had to be replenished through contributions from general taxes. In 1931, Ramsey MacDonald--who was then Prime Minister of England--appointed a commission headed by a retired gentleman, George May. The committee reported that in order to save the gold standard, it would be necessary to cut social services and teachers' salaries. The unemployment benefit was cut, people were taken off the rolls in order to retain the gold standard--and the gold standard did not last for very long.

I am not necessarily advocating price increases but I would like to suggest that alternative. In other words, our primary purpose should be to try to reduce unemployment. I think that the worst thing that can happen to any society is a division between generations, a feeling by the young that they have been betrayed. I do feel this is an important problem, a more important problem than the problem of the balance of payments, which so far has been manageable--and at least many experts tell me it is not nearly as serious as it is made out to be.

John J. Driscoll, President
Connecticut Council of AFL-CIO

I work in the field of collective bargaining, and only now and then do I get a chance to stand back and look at the effects of the labor movement in recent years. Of course, we have a great many critics who are ready to ridicule the work of the labor movement, but in listening here to the speakers, it occurred to me that when Sam Gompers answered "More" to the question, "What does the labor movement want?", a lot of people thought this answer rather crude and unsophisticated. Some people are inclined to criticize the labor movement somewhat, because it asks for more. Actually, though, I think my comment on our economic outlook is: unless we do get more of the things that people need for a better standard of living, we cannot afford to be complacent about the present outlook.

I agree, Mr. Clague's statistics are on the optimistic side; they show we are better off, as Mr. Wilde said, than we have ever been. Nevertheless, I do think Professor Taft's comment is extremely important. You find a wide variety of attitudes in the labor movement, but I think people today would feel the 15 percent figure for unemployment in the teenage group is not merely a present threat but a growing threat to the whole social fabric.

Then, if you look at this 15 percent figure and realize that among Negro boys it is 22 percent, and that among Negro girls it is 32 percent, you have a literal build-up of social dynamite which we cannot afford to ignore.

The present outlook, it seems to me, should not leave us at all complacent. The figures that Mr. Clague brought out on productivity leave out one important factor. We have now had about 3 years of capital investment in the latest equipment to increase productivity, starting with the tax credit passed during President Kennedy's Administration. Management has been given the opportunity to invest in the most modern labor-saving equipment, just now coming on line. The rate of productivity which we had seems due for a very steep rise. If you couple that with the sharp increase in the labor force, the very great increase in the number of young people coming into the job market, you could have shortly a most critical situation.

Some of the factors which have not been mentioned about the economy deserve attention: the down-turns in residential construction, the fairly certain eventuality that the rate of automobile production will slope off for the remainder of the year, and that unless the steel dispute is settled without a strike, the output of steel will drop. Together, automobiles and steel represent 10 percent of our national manufacturing production. If that decline is added to the downturn in residential construction, we could have a growing problem, something that should not make us optimistic as far as the economic outlook is concerned.

Well, what about employment? Mr. Wilde has emphasized the fact that we are approaching a goal of 96 percent employment, and this sounds very good, but what about the wages of those who are employed? What about the wages of people

in the industries and fields where employment is growing? Is it growing very fast in manufacturing and building construction, in high-wage industries?

I think you have heard the reference to the areas where employment is growing. It is growing in the service trades, the retail trades and in government. Some of the people here probably can tell me about the inequity of wages of government employees, but the fact is that the economy is affected by the great number of people working at $1.25-an-hour jobs, and not necessarily just young people.

Professor Taft might be interested in my experience recently with a fairly large metal-working in this State. They lost a big order, an auto supply order, to a smaller firm in another Connecticut city. They had analyzed all of the competitive factors involved, equipment and production techniques and they also had the competitor's method of operation. They found out that there was only one real basis for the competitor's ability to underbid them about 10 percent; the competitor was hiring retired people, people over age 65, who had retired with some skill in their own trades and who were willing to work at $1.25 an hour, whereas the company of which I am speaking had an average rate of pay of something like $2.75 an hour.

So we have to look carefully at the wages of those who are employed and see whether they are enough to sustain this tremendous productive force that is the American economy; that is, to buy all of the goods we are able to produce.

It seems to us in the labor movement that Mr. Gompers cry of, "More," is something that should be heeded as far as wages are concerned. To have a great many of the employed people earning enough to buy the goods we are able to turn out, each State will have to substantially increase its minimum wage.

What else should be done? What else do we need in the way of "more" to help the economy?

Very often the newspaper headlines express glee in the fact that the labor movement is not growing, or is not growing as fast as somebody thinks it should. If labor is not making progress in organizing this or that field, some editorial writers express pleasure. These people forget that the historical function of the labor movement has been to provide a stimulus to the economy by attaining a greater share of the national productive capacity for workers. In this area, the present ability of the labor movement in a great many fields is limited by the fact of competition from low-wage plants and low-wage industries, especially in mainly unorganized parts of the country. These editorial writers should be critical of employers who do little or nothing about training people for the skills that are needed now.

The way management has been meeting the need for skilled employees is not to train additional people, not to take some of the young people coming into the job market and train them, but to pirate skilled people from other employers. This seems another area where the economy runs into a serious danger of slowing down if there is not enough training to provide the skills needed.

This is disgraceful when one considers how much money is available right now under the Manpower Development and Retraining Program and in programs for apprentice training to subsidize on-the-job training activities. Nonetheless, my experience has been that the major employers--at least in this State--are utterly opposed to undertaking this kind of a program. I do not know whether it is an objection in principle, but it seems a shortsighted and very dangerous point of view, as far as the manpower needs of the State are concerned.

Another thing the labor movement feels would be very helpful, especially as far as relieving the pressure of the teen-age newcomer to the labor force is concerned, is to increase the length of free public education. I find it disheartening, for example, to see that our Legislature in Connecticut recently wound up with a total spending figure of 1.6 billion dollars. Of course, this is not very much when you are thinking in terms of the figures that have been mentioned before, but it was 1.6 billion for a 2-year period. Yet, in terms of what was appropriated for scholarships for Connecticut high school graduates, there was only $550,000.

If Connecticut spent at the rate of Rhode Island, for example, it would be spending something like 4 million dollars a year for scholarships.

There must be 2 additional years of free public education beyond high school. This would be one way of providing additional training in the skills, in the job requirements that are going to be needed for the future.

We think that another way that jobs could be provided or work conditions spread would be to make overtime work less profitable to management; or to put it another way, to penalize management by having a much steeper overtime rate. That is why labor is interested in having the law provide that overtime should be paid for at double time rates.

Tomorrow morning, I have an early meeting with a local union which wants advice on how they can get around one of our State laws here so as to work 7 days a week. Seemingly, the employer wants them to work 7 days a week, and they want to find out how they can do it. Well, of course, they are not going to find that out from me. I will show them a way to handle the situation, but I will not show them a way to work 7 days a week continuously. This is the kind of pressure, the kind of problem we run into in the labor movement and one which is not being met by present laws or by present economic planning.

I think that Frazar Wilde's idea that we can solve these problems by cooperation between government, business, and under the heading of "business," he included labor, is certainly an excellent one. I would join in hoping that more and more managements would share his point of view.

We are in a society which has shown the real benefits of free enterprise and free competition by the kind of cooperation Mr. Wilde mentioned. We can make that society bear even greater fruit and make this country a bulwark for all peoples who want to join us in a measure of prosperity as well as freedom.

CHAIRMAN PINSKY: We will now open the panel to questions, but first I would like to ask any of the panel if they wish to comment on any of the other speakers.

MR. WILDE: I hope no one, of course, would think I am not interested in the 15 percent rate or any important percentage of young people not employed but I think that to rely on creation of job opportunities through what the economists call "rapid increase in aggregate demand" is completely unrealistic. These young people can be served best only by specialized training. We ought to do a lot more of it, and I am always troubled--along with Mr. Driscoll--over management's attitude toward furnishing apprentice training.

What Professor Taft is saying, to put it bluntly, is that because there are 1.3 million unemployed teen-agers out of a total unemployed of 3.6 million persons of all ages, we ought to expand aggregate demand that much faster in order to reduce unemployment in the lower age groups.

I cannot see that it equates at all. To me, it is completely untenable, but beyond that, inflation always leads to more inflation and a collapse, and nobody has a job, so this is one point which may need further clarification.

PROFESSOR TAFT: I was not advocating inflation, Mr. Wilde. I simply said that we should not make price stability the overriding goal to the extent that, for example, in order to prevent some price increases we would not raise the discount rate. I do not think anyone advocates inflation just because it represents a tax. Even if it were a tax, we pay other kinds of taxes. It is an unjust tax and a random tax; it hits the just and sometimes rewards the unjust. I know what the difficulties of inflation are, and I do not advocate it, but I do feel that making stability the prime objective--for example, in the whole discussion of the balance of payments--is largely the result of our political policies.

I am not arguing that we ought to change our commitments abroad, but really, is not the balance of payment problem the result of our political commitments? When we examine the balance of payments we are doing pretty well as far as our balance of exports is concerned. So I am not advocating inflation. I do not think anyone does, but I do feel that the excessive concern with stability may prevent us from doing certain things which may reduce the level of unemployment.

I agree with what you have said, that a great deal of the problem is to train these young people. I think one of the most creative programs that has been effected for the last 30 years has come from this Administration's effort at least to train and try to fit the young into the labor force.

Sometimes our memories really do us a disservice. I recall two things. One, I recall the whole series of articles that came from some very distinguished economists and other that the gap in productivity between the American economy and the non-American would widen. Also, the discussion in 1961 was that nothing could be done through fiscal or monetary policy to reduce unemployment, that we had a problem of structural unemployment.

James Mills, in my opinion, wrote an outstanding analysis of this problem of structural unemployment and the impact of aggregate demand on employment. He did not need to convince me, but he certainly provided additional evidence that much could be done by other methods, that the unemployment was not only the result of lack of skill or exhaustion of raw material, but it was also an aggregate demand problem and it could be met by proper government policy.

I am not advocating any policies here. I do not know whether you can reduce the level of unemployment below 4.0 or 3.5 percent. I do say, again, that if we could, we would be rewarded. As a matter of fact, we might suffer from price rise, but our Gross National Product would rise.

MR. JOHN W. LEHMAN: Mr. Wilde, in light of the increase in Social Security taxes, of which Mr. Clague has reminded us, and the kind of drags Mr. Driscoll suggested in changing inventories, is there a possibility of some other drags on the economy occurring? Do you think we should now in some way be contemplating and planning for a further reduction in the income tax rate to take effect next year?

MR. WILDE: I do in this way: I am an advocate of the Congress adopting a formula of tax changes up or down with the timing of their application left to the President. I think that this is the simplest way rather than deciding now on the timing.

If we gave the President within limits the right to change the tax rate, I think it would be a very wise move. I have been in this field a long time. Under Eisenhower in 1958, I was one of a small group in the Treasury working on this project. I do not claim expertise in the tax field, but I have been at it a long time, and hope I have some understanding.

MR. DRISCOLL: If you are thinking of providing jobs, I think it would be much better to have the Federal Government increase its expenditures. The level of Federal expenditures, as I understand it, at the present time is also leveling off. If the Federal Government increased the kind of expenditures Mr. Wilde talked about earlier, in the fields of education, health, and also in the field of public works, the number of jobs that would be provided--especially in the unskilled area--could be substantially increased.

So rather than having a tax decrease, it seems to me that we should more properly be thinking about an increase in Federal expenditures.

As a result of the tax decrease of last year, I saw some figures which indicated that we have dropped down from something like $650 per capita spent by the Federal Government in 1954 to something like $520 per capita this year. So we are not splurging by any means, and there is some danger, it seems, in a further tax decrease when there are so many unmet needs and so many ways the Federal Government could be spending money that would put people to work.

MR. CHARLES BULLOCK: I would like to address a question to Ewan Clague. You did not mention the housing construction segment. In view of the fact that

the question has been raised as to whether or not this is declining, do you have any final figures on the construction sector up through April? Has there been a turn upward?

MR. CLAGUE: You are talking about unemployment?

MR. BULLOCK: Either about employment or construction outlays, but I meant employment from your point of view.

MR. CLAGUE: Employment has been better in this last month or so than it was a little earlier in the year. There is some problem concerning home building and housing vacancies in some areas.

My understanding is, for example, that in New York City there is a rather unhappy development of vacancies in higher rent apartment buildings, which may have some bearing on mortgages and values. There is a small cloud as yet on the horizon, and it may be one that would bear some watching. That is about all I know concerning it.

MR. SIDNEY HATKIN: Professor Taft, I do not know if you purposely avoided going into specifics or not, but if you were the Chairman of the Council of Economic Advisers and you had it within your power to put some policy into effect for employment of teen-agers, how would you distinguish between summer employment and full-time, regular employment of teen-agers?

PROFESSOR TAFT: I do not believe that you can distinguish. There are some jobs that are peculiarly teen-agers' jobs, but many jobs that are done by teen-agers are done by people of other age groups as well, so I do not think you can do that.

Then you asked me about distinguishing between summer jobs and others. I suppose summer jobs may be to some degree created both by private and public agencies in order to employ teen-agers because of the large numbers that depend upon summer work; but I think this is a problem of much smaller significance. While it is unfortunate and certainly should be regretted, I do not think that this is really a type of major problem that we are discussing. The summer employment of young men and women who go to school is not the major problem, but rather those who have left school and are now in the job market should be the focus of our concern. As Mr. Wilde said, we should endorse better programs of vocational education or the financing of vocational education by the State or by the Federal Government. Some of the programs that are now being formulated, it seems to me, would be a good step in that direction.

As you undoubtedly know, the number of youthful unemployed is a proportionately large percentage of the total unemployed. The young have always had a larger percentage because they are inexperienced, they have no skills in most cases, but the unfortunate part of the present situation is the tremendous increase in their percentage, which is something quite new, something that has developed within the last few years; that is, it has been rising since World War II. I think this requires changing.

On the other hand, if we could get the economy expanding at a slightly higher rate, we might be able to pare that number down. I cannot provide you with a detailed blueprint, but it seems to me this is the way I would answer.

MR. CLAGUE: I think that I might give you a few facts in connection with this because it differs from the adult picture.

In the first place, let us remember that during the winter a great deal of teen-age employment is part-time; the young people are seeking part-time jobs to enable them to stay in school. In that sense, the Neighborhood Youth Corps Program will serve a great need. Shortly, they expect to have 100,000 actually on the rolls, and the program is to provide for at least 200,000.

This means Federal money, for the most part. It is a kind of isolated employment in the sense that the jobs are supposed to be outside the competitive system. The payment of wages is not supposed to be so high as to lead workers to favor this system over a full-time job in private industry. If it puts a quarter of a million or more youngsters to work during the upswing of the winter months, this certainly will affect the unemployment figures.

This is a way of reducing unemployment by a form of community employment, and it is part-way between what Mr. Wilde and Mr. Taft were talking about. When I was a boy on the farm, we used to get out of school in May to cut the hay. Now, we do not hay any longer, so this is an institutional obsolence. It is not needed and there is no reason why the schools should not run most of the year round.

MR. HAROLD HEINTZ: Mr. Driscoll proposed and advocated a policy of extending public education by 2 years. I wonder if Mr. Taft and Mr. Wilde could comment on that?

MR. WILDE: I, of course, have no firsthand experience, but I have just served on the legislative committee for higher education for this State, and I am completely convinced that the State is derelict and should do more. An opinion on the particular facts of how you do it, through scholarships or more free schools and what their curriculum should be, I would leave to Professor Taft. In substance I agree this State should provide more.

PROFESSOR TAFT: Being a teacher, I suppose I ought to say it is a wonderful idea. The fact is a lot of that has been going on and, of course, the problem is that school enrollment has been stimulated both by the rise in income of the general population and also by the baby boom of the postwar period. Many States are trying to meet that problem by expanding their facilities. This, I think, is a very difficult problem, not only from the point of view of State budgets, but also from the point of view of staff and provision of student facilities.

I do not want to sound smug, but a great deal has been done along this line in areas outside of New England. Ewan Clague and I attended the Univeristy of Wisconsin, and at that time it had eight or nine thousand students, and anyone who graduated from an accredited high school in the State could go to the University, and he would be flunked out if he did not do well.

Now, California spends about 300 million dollars a year on its university system, and it has a State college system, two systems of higher education, and other schools. Michigan has four large universities. Illinois has several. Many of the cities do; New York City several colleges, and others are in the process of being built.

I think that many States have done a great deal, yet the burden has been very heavy. I do think that the bottleneck is going to be the demand for college teachers. People who are retired have offers to teach, and it is really wonderful for the first time to be a college teacher. You are going to run into a problem there, so I do not want to give any categorical answers, but I think we should recognize it is a very expensive problem for the States and communities. There are problems of staffing, recruiting and maintaining colleges that are not easily solved.

MR. ROBERT H. FRANKLIN: Commissioner Clague, what sort of techniques do you suggest for reconciling the conflict between those political leaders who wish to be able to continue to predict rosy economic conditions and the technicians and experts who are in a position of having to make a forthright evaluation of statistical trends, economic effects as they see them? I am thinking particularly in terms of the States which have been doing some work with economic indicators and who perhaps may be faced in the future with this problem.

MR. CLAGUE: I have had to reflect on this a great deal during my career, and not just recently, because we try to foresee the future. As a matter of fact, my wife often says she wishes I would come back from the future.

At any rate, we are always planning. My old techer, Professor Collins, always used to say, "Our existence lies in the future; live for what you are going to do next."

In that sense, at times we forecast in order to be wrong. I mean by that, we are talking right now about young people for the next 5 years, and as Phil Taft said, this year is only the beginning. We are going to have three million more next year, so this is going to go on through the early Seventies.

If we predict trouble in relation to that and call attention to the difficulties arising--as Mr. Martin was doing perhaps--and something is done about it, then our predictions will be wrong.

In that sense, we forecasters serve a valuable purpose, even when we are completely wrong--and I am not sure I did not serve a valuable purpose: We got a tax reduction last year.

DEVELOPMENTS IN STATE AND FEDERAL STATISTICS AND RESEARCH

Chairman: Carl Cabe, Commissioner
Kentucky Department of Labor

CHAIRMAN CABE: We tried to select some of the more important topics on State and Federal Social Research programs for the roundtable discussion, apart from the symposium, and have chosen three major ones dealing with economic change, productivity, and education.

First, to discuss measuring economic change is Harry Start, Executive Director of the Bureau of Economic Research at Rutgers, the State University.

MEASURING ECONOMIC CHANGE--A PROGRAM OF ECONOMIC INDICATORS

Harry Stark, Executive Director
Bureau of Economic Research
Rutgers--The State University

During the session on the War on Poverty, I heard several speakers refer frequently to the uses and abuses of data in relation to aspects of the anti-poverty war; suddenly, it occurred to me why I find statistics and bits of economic data and information so comforting and useful. What occurred to me is that there is safety in numbers.

If we take a lot of data in aggregate or disaggregate, the very numbers concerning the poverty-stricken individuals cause these persons as individuals to recede into the background. It is much easier to cope with these problems when we can look at numbers rather than face real people.

The involvement of the Conference with economic indicators began when Gerhard Bry read his paper on "Business Cycle Indicators for States and Regions" at the 19th Interstate Conference at Bloomington, Indiana. Subsequently, Commissioner Clague appointed a committee to develop the indicator project. I had the privilege of serving on this committee which was chaired by David Pinsky of Connecticut, and included a number of our colleagues in the U.S. Department of Labor, as well as Gerhard Bry. Murray Dessel of the Census Bureau, Hyman L. Lewis of BLS, and Sidney Feldmann and H. Daniel Darling of BES were members of the group.

Data for a number of key economic time series were collected with the co-operation of several States and used as a basis for a further, more detailed paper by Gerhard Bry and Charlotte Boschan at the 21st Annual Conference in San Francisco. By that time, California, New York, Texas, Florida, West Virginia, Michigan, and Pennsylvania had contributed information and had worked cooperatively with the project, as had New Jersey and Connecticut. By that time, also, New Jersey, and shortly thereafter Connecticut, were ready to issue monthly sets of economic indicators patterned after the work of the National

Bureau of Economic Research and available for the Nation in the Census publication, Business Cycle Developments.

With the format and the practicality of economic indicators for States having been demonstrated, and with several State publications being issued regularly, the Indicator Committee decided at the San Francisco Conference that at least a certain phase of its basic work had reached completion. A summary report was made at the Miami Conference last year.

The project proved to be a good demonstration of effective Federal-State cooperation involving the BLS, BES and the Census Bureau with State labor departments, employment security agencies, and, at least in New Jersey, with a State university.

In several States, the development and publication of economic indicator information provided an impetus and focus which enabled State labor departments to fulfill the useful function of broadening understanding of the economies of their States and regions and in supplying State officials with information needed to develop effective public policy. You will hear shortly a detailed account of the development of the Kentucky economic publication as an example of one State's experience.

It would be well to establish a registery or clearing house so that such experience could be shared among the several States already involved. The experience could also be made available to those in which similar projects may be undertaken. We have kept in touch informally with interested parties, but this may not be sufficient.

We can take advantage of the fact that in a number of States economic information has long been organized and published regularly by university bureaus of economic and business research. It seems logical that a State labor department and a State university would find an economic indicator project to be a mutually advantageous subject for collaboration.

Significantly, the several illustrations which we have of State economic indicators developed as part of this project and the numerous examples of economic time series published in many States around the Nation show that each jurisdiction develops the kinds of material, information, and frame of reference which are useful for its own purposes. Although a standard format of economic time series set graphically against a background of the reference business cycle has come to be identified with indicators of the type to which we are referring, the method of presentation can and does vary broadly.

This variation brings me to a major point that I would like to use as a way of turning our discussion away from indicators as such and on to economic change. We are trying to measure changing economic conditions. It is obvious that the economic indicator format with which we have been concerned over the last several years has primarily been intended as a means of identifying changes in the business cycle, and making comparisons among regional or State cycles. Later, Professor Bourque will give you an excellent illustration of the use of employment data as a device for comparing State and regional cycles.

However, it is clear that we must ask ourselves what kind of change we are trying to measure and keep track of.

A look at the program of this present Conference shows that the business cycle remains significant, but it does not receive the central attention which it may have had in 1961, at the time of the Conference in Bloomington. This is partly a matter of timing and partly a matter of evolution in our concern at the State level with social and economic problems. We are now concerned with the causes and effects of the maldistribution of income, and there are many facets of our economy that we would like to measure from this perspective. In my opinion, it will be most useful if the several economic indicator projects, as they develop, can include information which illustrates these and other aspects of economic activity. Income data increasingly are becoming available for States and regions. The Department of Commerce will soon publish a quarterly estimate of personal income, by States, seasonally adjusted, which will include county detail.

We have added to the New Jersey Economic Indicators a time series showing the number of persons receiving general public assistance. This is a useful cyclical measure having a lead-lag pattern. The series calls attention to the volume of welfare activities in such a way, we think, as to heighten an awareness of its relationship to other movements in the economy. The job openings series, added to the Connecticut and New Jersey indicators, may be useful for manpower retraining efforts, especially if area detail can be provided.

Increasingly, the kind of economic change that we must be sensitive to and use our data to illustrate, goes beyond the business cycle. Federal Reserve Chairman Martin warned that business contractions have not necessarily been made obsolete. Thus, it would not be desirable to dismiss cyclical analysis completely. However, it is clear that changes in structural employment, income and population, and shifts in location are the kinds of dynamic activities which our data must be organized to reflect, if economic reporting at the State level is to be useful.

The incongruity of poverty in wealthy States as well as in poor States, requires that we modify our approaches in both data collection and analysis. Connecticut and New Jersey were happy to become involved in the indicator development at an early date and they share the distinction of having the most favorable family poverty indexes in the Nation. Yet, in both States there are major metropolitan areas such as New Haven and Newark where the acute problems of poverty are being faced, and where experimental programs in the war against deprivation are being carried out. We must use our economic information to reveal the relative differences among sub-regions within States. Clearly, the major economic areas closely related within States may have widely different characteristics and problems.

Labor statistics provide a wealth of information which can be used to illustrate these differences and changes in their magnitudes over time. I am thinking particularly of structural changes in employment which can be measured at various time intervals. The comparison of structural distributions through time might show how a State's economy is evolving; this evaluation

perhaps could be demonstrated rather simply in chart form to the readers of conventional cyclical indicator publications.

Fundamentally, we must be concerned with regional growth and development, and with demonstrating the differences and similarities among regions and subareas. Devices of regional analysis other than cyclical indicators will have to be employed if we are to understand these processes. I am not simply advocating cyclical indicators for all Standard Metropolitan Statistical Areas or counties. We do need regular indicators of economic change by area, and we will have to experiment to find the most concise and useful presentation format.

We must try increasingly to identify the components and causes of change. Useful illustrations of devices for such analysis appear in two Survey of Current Business articles. The April 1964 issue contains an analysis, by State, of changes in personal income attributed to national growth, industrial mix, and regional share. This analytical technique can be used for showing comparative changes by regions within States, also.

The same technique is used with employment data in the October 1964 issue. The same three measures--national growth, industrial mix, and regional share --are identified by States on the basis of employment data. A number of articles using this technique of analysis for States and local areas have already appeared. Some of the results can be shown graphically and used to broaden the understanding of fundamental movements in local economies.

The importance of employment and income data is critical in this illustration. In the War on Poverty, we are concerned with income. Data on income distribution are exceedingly difficult to obtain except in census years; however, perhaps a relationship between employment and income can be established for specific regions. Structural and secular movements in employment can be traced for major metropolitan areas and, in many instances, for other county and municipal divisions on the basis of covered employment information. It may be possible to understand and follow the evolution of employment patterns and from this information derive some indication of changing income patterns in the major urban regions of this country. The wage data collected as part of the current employment statistics program is a critical element in many other calculations and may provide another link with income data for the purposes of area analysis.

I realize the complexity in matching household and establishment data concepts, but experimental analysis will be necessary for any State labor department which is trying to enlarge understanding of the economy of its own region and to make an effective contribution to the War on Poverty.

In summary, what I am suggesting is that the central issue with which the indicator project was concerned at the outset--that is, the business cycle --is only one of the economic phenomena which we must try to discern and measure. Also, that the proper function of State labor statistical agencies should be to enlarge the evidence and improve the presentation of economic data so that business cycle changes can be kept in perspective with other critical changes of increasing concern.

We must relate labor statistics, particularly employment and wage data, to changes in income, population, and location for States and regions, so that the changing character of the economy can be understood and so that the impact of various programs for affecting income distribution may be discerned and evaluated. This will require more analytical study and interpretation. Simple presentation of data in graphic or tabular form will not do the job, even though current seasonally adjusted data are made so conveniently available by computer. I realize that resources for extending this work are costly and scarce, but I respectfully submit to State labor commissioners that this work must have a high priority if labor statistics are to have any practical applications to program planning and policy formation at State level.

Don M. Soule, Director
Division of Research and Statistics
Kentucky Department of Labor

Development of the Kentucky economic indicators, early in 1964, was relatively easy, mainly because of prior work by Harry Stark, David Pinsky, Gerhard Bry, and others. Of course, the seasonal adjustments were performed in a matter of minutes with Abe Rothman's computer programmed method. The data sources were cooperative and, in all but one case, free.

Some inportant results can already be credited to the Kentucky Economic Outlook, a publication which contains the economic indicators. We discovered, for example, that Kentucky's nonagricultural employment was nearly constant from mid-1963 to mid-1964. The original data showed increases, and even the seasonally adjusted figures showed some increase, but, when plotted on the chart in seasonally adjusted monthly amounts, a clear plateau in employment could be seen. This plateau in nonfarm employment had received no mention in the press and probably would have gone unnoticed publicly had it not been for the Kentucky Economic Outlook.

The 13 economic indicator series also disclosed a mild recession in Kentucky in 1962. Of course, it was not news that individual series had their ups and downs over the years, but the decline in most of the series during 1962 indicated a mild downturn. That downturn might not have been identified as a recession had there not been a publication showing economic indicators for Kentucky.

The main result, aside from the specifics mentioned, has been to emphasize several elementary, but nevertheless basic, needs in presentation of economic data. Seasonal adjustment of monthly data, as we all know, is very useful, even essential; but many otherwise informed people do not understand the necessity of seasonal adjustment.

There is also the need for viewing monthly economic data over a period of years, rather than merely compiling the current month's figure and comparing it with that for the previous month and the year before. Analysis of changes in the economy becomes more meaningful when many economic indicators are

viewed together, with each one presented in seasonally adjusted monthly data over a period of several business cycles. Publication of our indicator series, plus the accompanying commentary, has stressed the advantages of this type of analysis. Composite indexes and separate series presented merely in tables do not give an adequate picture.

The several problems encountered in publishing Kentucky Economic Outlook could perhaps also be viewed as opportunities for education. For example, labor union officials have from time to time informed me that they cannot understand the indicator charts because the charts are too complicated and too numerous. There seems to be a widely held belief among union people that a State labor department exists almost solely for labor and should provide service only to labor; but here we are spending money to issue a report which they cannot understand and which mainly businessmen read.

It has been difficult to answer their complaints adequately. Of course, they are told of the various advantages already explained.

Maintaining reader interest was anticipated as a problem, and the solution has been to include a special article nearly every month. Special articles have concerned a variety of subjects, including: a geographical comparison of work stoppage data; employment changes between 1950 and 1960, by industries; work injury statistics, by types, sources, industries, etc., with emphasis on how to interpret these data; types of jobs obtained by minors as evidenced by work permits issued, accompanied by a brief explanation of child labor and related work laws; and a description of several work accidents--how they could have been avoided, their cost to both worker and employer, and how treated statistically. We have several times featured employment and unemployment statistics and emphasized how to avoid misinterpretation and misuse. Our mailing list, from which you can obtain these studies has remained constant in size for the first year of publication. These are free, but obtainable on request only.

After several more years and with continued good luck, we will have sufficiently made known the do's and don'ts of statistical presentation and analysis that more of our information will be recognized as the truth. This much-to-be-hoped-for result could trace its beginning to our effort to present economic indicators for Kentucky.

REGIONAL BUSINESS CYCLES IN THE UNITED STATES
(An Empirical Study)

Philip J. Bourque
University of Washington

Central to the concept of business cycles is the notion of concurrent fluctuations in the rate of economic activity among most of the major components of a nation's economy. The pervasiveness of periods of expansion and contraction at about the same time in diverse activities is basic. In this respect, factual investigations of fluctuations in the industrial components of the national economy provide no doubt as to the generalized participation of production, employment, income and spending in a pattern which gives content and reality to the abstraction called the business cycle.

"National" business cycles may be viewed as a weighted aggregate of specific cycles in various sectors of the economy with a given pattern emerging because of the preponderant weight of processes with roughly equal time spans. The sectors of the economy whose cyclical characteristics have been studies in detail have been mainly the industrial components, commodity groupings, income classes, or production stages. Much less attention--certainly much less than contemporary discussion of depressed areas of the economy warrants--has been given to cycles in regional components of the American economy.

If we wish to establish the variant and invariant characteristics of cyclical behavior, a regional appraisal is certainly a plausible dimension in which to view the aggregate. Mitchell observed 2/ that in no country is the development of the business economy uniform over all sections and that this uneven development influences the course run by business cycles in different areas. Because of regional specialization, reflected in the differing proportions of industries and occupations, and because of divergencies in the business cycle hazards to which various activities are subject, regional differences in cyclical fluctuations are to be expected.

Such regional differences have become increasingly important for policy as particular areas of the nation have shown a stubborn reluctance to respond to national growth policies. The jargon of the economist reflects increased concern with regional differentiation in the labor areas of the nation: lagging sectors, distressed areas, localized unemployment, depressed areas and impacted communities are part of the lexicon. This heightened concern for regional dissimilarities suggests it is worthwhile to examine business cycles for spatial characteristics.

2/ Mitchell, Wesley C., Business Cycles, The Problem and Its Setting. National Bureau of Economic Research, Inc. New York, 1927, p. 174.

This paper reports the findings of an examination of cyclical fluctuations in the continental States of the United States during the interval 1947-1960. Specifically, the study pinpoints the timing and amplitude of cyclical fluctuations in employment. Establishment of the cyclical behavior of employment among States in three postwar business cycles leads to a consideration of several aspects related to interstate differentials, particularly (a) lead-lag evidence, (b) comparative amplitude, and (c) the relation of State cycles to income and growth.

Scope and Method

Monthly reports of the levels of total nonagricultural and manufacturing employment as reported by the employment security agencies of the 48 continental States and the District of Columbia are utilized in this analysis. The seasonally adjusted monthly data for each of these series and for each State were analyzed for specific cycle peaks and troughs following the techniques developed by the National Bureau of Economic Research. 3/ According to this approach, cycles are defined in terms of periods of expansion and periods of contraction without relation to a trend.

On the whole, specific cycles in the two employment series for each State stand out with reasonable clarity and with fairly good correspondence to the postwar reference cycle chronology of the NBER. But there were several States in which the cycle turning points were quite weak relative to trend and irregular movements and, therefore, difficult to identify. The two parameters of specific cycle movements--the dates of peaks and troughs and the levels on these dates are hardly ever defined with the desirable degree of certainty. 4/ Of these two values, the dating of the turning points is least certain since some sideways movement near a turning point might suggest dating a reversal in the series at any of a number of different adjacent months. 5/ In such cases there is usually little difference in the measured amplitude as a result of choosing one turning point date rather than another, but there is potentially considerable difference in the numbers of months of duration of expansion or contraction. For this reason, analysis of duration and of lead-lag relationships are less certain than amplitude comparisons.

3/ Burns, Arthur F. and Mitchell, Wesley C., Measuring Business Cycles. National Bureau of Economic Research, New York, 1947, pp. 56ff.

4/ An average of the 3 months centered on the peak and trough dates was used to designate the level of the series at the turning points.

5/ If the sideways movement was judged to be a plateau, the reversal was dated the last month before the pronounced change in direction. If the sideways movement involved a slight shift in direction, which after a few months was followed by a pronounced movement, the dating of the turning point depended on the strength or weakness of the initial decline as compared with the cliff. No mechanical rules were established as criteria.

During some national reference cycle contractions no corresponding specific cycle contraction could be identified in a few States because of overwhelming trend or irregular movements. 6/ For the most part, however, State cycles were associated fairly closely with the reference cycle chronology. The major exceptions were as follows: (1) the specific cycle movements of Idaho nonagricultural employment appeared so out of phase with those of the nation that they could not be matched with the reference cycle, and (2) a number of States had an "extra cycle in 1951-52, a period in which the Korean War military remobilization of resources generated a short but decisive slack period in production and employment.

The Timing of Regional Employment Cycles

Charts 1 and 2 show the number of States reaching peaks and troughs in nonagricultural employment and manufacturing employment in each month of the 1947-60 period. The shaded areas in each diagram indicate periods of contraction in the corresponding national series.

It may be seen that specific cycles in State employment have turning points which cluster around the turning points of their corresponding national aggregate. This is, of course, what is anticipated since the national movement is

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6/ The States for which no corresponding specific cycle could be detected may be of interest. Highly irregular movements in Idaho nonagricultural employment made identification of the cycle movement unsatisfactory. In addition, the following States did not have contractions in nonagricultural employment during the national downturns indicated:

Florida		1953-54	
Montana		1953-54	
New Mexico	1948-49		1957-58
North Dakota	1948-49		
South Dakota	1948-49	1953-54	

No cycles were identified for manufacturing employment in the following States during the contractions indicated:

New Mexico	1948-49	1953-54	1957-58
Florida		1953-54	1957-58
Nevada		1953-54	
Utah			1957-58

Every State participated in expansions during business cycle upturns. In the analysis of amplitude changes, the rise in States not having preceding contractions was measured as the change in level between NBER reference cycle dates.

the weighted aggregate of individual States. 7/ But there is also considerable variation among the State turning points from turning points of the national aggregate. This means that, even though the national series under discussion possess specific cycle peaks and troughs roughly coincident with the NBER reference cycle, the individual State series are not necessarily coincident with the NBER reference cycle. The lower turning points in State series of nonagricultural employment vary from as much as 9 months before to 8 months behind the national series. At peaks the range is even greater--from as much as an advance of 17 months to a lag of 9 months. The mean deviation of State turning points from the national series at the troughs of nonagricultural employment is 2.2 months in 1949, 2.6 months in 1954, and 2.4 months in 1958. At peaks the mean deviation is quite variable, being as little as one month in 1960 (when the turning points in 28 States coincided exactly with the national series) to as great as 4.0 months at the 1957 peak.

Although one might expect that State manufacturing employment, both because of its more homogeneous classification and because of its more pronounced cyclical sensitivity, would show more uniformity with the national aggregate than the nonagricultural series, such is not the case. As shown in Table 4, the State variability for manufacturing employment about the national total is somewhat greater than that of nonagricultural employment.

What is the significance of the dispersion characteristics? There is sufficient bunching of State turning points for us to be satisfied that national business fluctuations are geographically pervasive. However, there is also sufficient spread to indicate that all regions are not affected simultaneously. Some States even reach troughs while others are at cyclical peaks. Local circumstances (including industry mix) must command the situation. There is no significant association between the degree of clustering of State turning points and the severity of national cycles.

Lead-Lag Characteristics

In view of the wide range over which State turning points are found, it is natural to ask if some States, or groups of States, are typically leaders or laggards at business cycle turns. The few cycles covered by this analysis allow for some persistent leaders and laggards on the basis of chance alone, of course; the results, therefore, must be considered tentative.

7/ This is so in principle, but in fact the sum of the State series does not equal the national aggregate either on an original or seasonally adjusted basis. We are cautioned by the BLS that ". . . the sum of the State figures may differ slightly from the equivalent official U.S. totals because of differences in the timing of benchmark adjustments, slightly varying methods of computation, and, since January 1959, a different classification system."

The lead-lag possibilities were sought by the following procedure. The States which were consistently leaders or laggards at each of the three troughs were identified. Since there are four peaks and only three troughs in the period covered and hence the criterion to be met is somewhat more severe for peaks, those States which consistently either led or coincided with the peak in the national series were identified as leaders. The analysis of lags at the peak was relaxed also to include coincident timing occurrences. The results of this screening are shown in Tables 5 and 6. The rankings of these States in respect to severity during expansions and contractions, and in respect to growth rates, are also shown.

In view of the incorporation of the trend during intra-cycle phases when using the NBER method of identifying cycles, we might expect that States with strong rising trends would tend to lead at lower turning points and lag at cyclical peaks. We might also expect that States with strong cyclical expansions and weak contractions would lead the troughs and lag at peaks.

The States lagging at the trough of nonagricultural employment--Pennsylvania and West Virginia--meet the expected conditions. Both States have strong contractions, weak expansions, and weak growth rates. The two States which tend to be precursors of cyclical downturns--Maine and Rhode Island--also meet the expected conditions in that they have severe contractions, weak expansions, and weak growth rates.

The States which lead at the troughs of nonagricultural employment--District of Columbia (DC), Tennessee, and Mississippi--have relatively weak contractions and fairly strong expansions, but their growth characteristics range from weak (DC) to strong (Mississippi). While these two Southern States and DC show an upswing in nonagricultural employment earlier than the national series, they do not lead at the downturn. It would appear that no strong case for systematic regional timing differences can be based on the nonagricultural employment series.

The evidence of some States regularly leading and lagging in manufacturing employment series is stronger. The most pertinent observation to be drawn from Table 6 is that Southern States tend to be dominant in a rather lengthy list of those which consistently lead the recovery in manufacturing employment. These 11 States that regularly lead at the trough include five in the South, three in the West, two New England States and one Plains State. Most of these have above average growth rates, fairly strong expansions, and weak contractions.

These findings partially support the Vining thesis that the South, the Great Plains, and Rocky Mountain States ". . . appear to be the lead-off group when a shift takes place in the direction of change of the rate of change in national income." 8/ However, the Vining thesis implies that the predominantly

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8/ Vining, Rutledge, "Regional Variation in Cyclical Fluctuation Viewed as a Frequency Distribution," Econometrica, Vol. 13, No. 3 (July, 1945), p. 209.

agricultural and raw material oriented States also lead a cyclical decline; the analysis does not support this conclusion. On the contrary, the leading States at the peaks of cycles are Rhode Island, Illinois, Wisconsin, and Kentucky. Southern States are found among the laggards at cyclical peaks. This behavior is consistent with a hypothesis that Southern States are more recession proof; that their oscillations are more limited. If any region can be considered as the impulse-generator or breeding-ground for cycles, this evidence should rule out the South.

Aside from the impression that Southern States tend to lead a recovery, and perhaps even have somewhat more sustained advances frequently terminating only after the national downturn has begun, there is little further in the form of a spatial configuration. In view of the small number of States identified as consistent leaders and laggards--and our screening test cannot be judged very severely--we must conclude that if a further pattern exists it will take more experience and/or more sensitive measuring instruments to identify it. Even the few States that have shown uniformity in lead-lag relations in the 1947-60 period may fail to continue to do so.

Amplitude of cyclical change in the identified cycles for State nonagricultural and manufacturing employment has been measured as the percentage decline and the percentage rise in the respective series, measured from peak to trough ($X_p - X_t / X_p$) and trough to peak ($X_p - X_t / X_t$). The few States whose points do not correspond to the three national cycles under study have been included for the sake of completeness by measuring their percentage changes between reference cycle dates of the NBER. The supposition is that the several States not experiencing cyclical declines during national contractions do experience lesser rates of expansion. This procedure allows comparisons to be made among all continental States (except the nonagricultural series for Idaho, in which the variations are so erractic as to be unrelated to business cycles).

The results of the statistical analysis are presented in Tables 7 and 8 for nonagricultural employment, and Tables 9 and 10 for manufacturing. There is wide divergence among States in the amplitude of cyclical change. Because cycles of different magnitude as well as different States are being compared, the rank standing of each State during periods of expansion and contraction are shown. Such rankings show the relative position and change in standing of each State during each of the postwar business cycles.

No one could expect that each State would maintain its precise rank position in each business cycle. Each experience has its unique properties, and this distinctiveness alone would lead one to expect that the cyclical rank of a given State would vary. In addition, States are changing in industrial composition; therefore, their responses to exogeneous factors would likely differ even if the character of the forces exerted upon them was unchanged. The rankings of States do indeed show variability. But this should not conceal from our attention a fairly good persistence of position. In order to summarize, for each of the three expansions and contractions, the standing of States over the whole period 1947-1960, the average rank during cycle phases has been computed.

Since many States show considerable variability in ranking, it seemed worthwhile to provide a statistical test to determine if there was such great variability in rank position that the results could be ascribed to chance. The result was clearly negative--the rankings were significant on a statistical basis. 9/

The much greater severity of cyclical contractions in Northeastern States is obvious. Rhode Island, Michigan, Pennsylvania, Ohio, Indiana and West Virginia take top billing as crisis States during recessions, as judged from changes in nonagricultural employment. The manufacturing series, which shows greater amplitude changes, also clearly identifies the Northeastern States as especially sensitive to cyclical declines.

A further impression of the severity of State cyclical movements can be shown by simply averaging the percentage changes in each cycle phase. Charts 3 and 4 present these results graphically.

The principal conclusion offered from the present study regarding the severity of regional business cycles in the United States is that contractions are most severe in the industrial Northeastern States--specifically the lower New England States, the Middle Atlantic and East North Central regions, and the border States of West Virginia and Kentucky. Measured in terms of percentage changes in employment, these areas are most sensitive to business cycle contractions. These States, of course, are heavily populated and, therefore, carry especially heavy weight in moulding the course of national business cycles. The States throughout the South (excepting Alabama), the Southwest, and most of the Western States have contractions of much milder amplitudes.

Comparison with Previous Studies

These findings are not in close general agreement with earlier studies. Frank Hanna, in his State Income Differentials, presents "sensitivity" indexes indicating that New England, Middle Atlantic, and Southern States have cyclical swings greater than the national average, while he reports the North Central, South Central, and Western States have narrower cyclical movements.

9/ The average rank is defined as the ranking of the sum of the ranks of each State during the three periods of expansion, and the three periods of contraction respectively. A test of the significance and stability of rankings was taken from Moroney, M. J., Facts from Figures, p. 337ff. The coefficient of concordance, W, for each series was as follows:

	Nonagric. Empl.	Mfg. Empl.
Contractions	0.623	0.625
Expansions	0.551	0.650

With the degrees of freedom (3 cycle phases, 48 States) the F values are all significant at better than the .001 level.

Rutledge Vining drew still different conclusions. He found the South, the Plains, and the Mountain States to be exposed most to cyclical hardships. He concludes:

> "The poorer regions within the nation make up the bulk of the areas exhibiting more violent cyclical fluctuations. The reason for this, however, is not hard to find. These less wealthy areas happen to be 'colonial' stretches that yield up the extractive raw materials that are processed in the manufacturing areas. They are also highly specialized in their production so that imports and exports represent relatively high proportions of total income."

According to his measures, the Northeastern States are quite stable cyclically:

> " . . . these populous areas are economically relatively diversified and self sufficing and produce externally marketed products with income elasticities that are low relative to the elasticities characterizing the agricultural and mineral raw materials. All of this means a milder business fluctuation."10/

While Vining and Hannah have both marked the South, the Southwest, and the Plains States as manifesting severe cycles, Simpson reports he could discern no particular pattern in the severity of cycles among States; and that ". . . if there is any simple dividing principle, it is that of growth . . ."11/ Setting aside for the moment the correlates of severity, I find my measures at considerable variance from those of Simpson. For example, his "index of recession severity" would place five of the New England States on the fortunate side of the record, while my rankings suggest all of them experience rather sharp recessions.

The measures of business cycle severity used by Vining, Hannah, and Simpson differ significantly from those employed in this study. Vining, Hannah, and Simpson measured fluctuation in income; their evidence is based on annual data; their measures are either trend corrected or ratio-to-prior year relatives; except for Simpson, expansions and contractions are averaged. These techniques of measurement differ from the typical NBER approach, and can plausibly produce significantly different conclusions.

10/ Hanna, Frank A., State Income Differentials. Duke University Press, (Durham, N.C.), 1959, O. 64pp.

11/ Simpson, Paul B. "Post War Recessions and State Income Variations," unpublished paper presented at a seminar at the University of Washington College of Business Administration in 1961.

A study that adheres more closely to the results shown in Tables 9 and 10 is the NBER study of George Borts.12/ His material dealt with cycles in manufacturing employment in 33 States for the period 1914-1953. For the most part he relied on annual data, but followed NBER cycle concepts. When adjusted for coverage, the State rankings in this study are fairly close to those of Borts, with a coefficient of correlation of +.61. This agreement is appreciated more when the rankings in this study are compared with those of Hannah; my rank indexes of recession severity in nonagricultural employment are inversely related to Hannah's indexes of personal income sensitivity (a ranking coefficient of .33 NEGATIVE).

Correlates with Business Cycle Amplitudes

Relation between magnitudes of contraction and expansion

In view of the widespread belief that ". . . the bigger the boom, the worse the bust . . . ," it seemed worthwhile to make a comparison of the average magnitude of State expansions compared to amplitude of contractions. In Chart 5, States are arrayed according to average severity in decline together with their average rise during expansions. It seems fair to conclude that the magnitude of expansions is not closely associated with the severity of contractions; other factors than expansion rates need to be examined to account for wide differences in the amplitude of cyclical declines.

Growth factors

Economic growth is closely related to business cycles. It is important to ask whether the differential amplitude of contractions and expansions can be explained by differing growth rates among States. One view, expressed by Steiner, is that rapid population growth, speculative investment, and excessive optimism in rapidly expanding areas produce an environment which is especially sensitive to business cycles. On the other hand, Vining argues that fast growing areas exhibit less sensitivity to the downward swing because of their preponderance of growth industries, their more technically and economically efficient new equipment, and more progressive outlook of new firms.

To test the relationship between growth and recessions, I compared the ranks of State growth rates in nonagricultural employment between 1949 and 1959 with their average rank in cyclical contraction. I found that States having strong contractions generally have low rates of growth (R = -.54, significant at .001 level); States having strong expansions tend to have high growth rates (R = .50, significant at .001 level). Table 11 identifies the 12 fastest and and slowest growing States and their ranks in cycle phases. It is evident that

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12/ Borts, George H., Regional Cycles of Manufacturing Employment in the United States, 1914-1953. Occasional Paper 73, National Bureau of Economic Research, Inc. (1960).

faster growing States achieve the rates of growth they experience not only through the more rapid gains made during periods of expansion, but by doing better in holding on to what they have during periods of contraction.

Income levels

What kind of relationship exists between income levels and business cycles? Dr. Vining explained the alleged greater cyclical sensitivity of the South-Plains-Mountain areas by their low average income and very high marginal consumption propensities. Hannah, too, found that States having higher per capita incomes tend to be less sensitive to cyclical change than low income States. The present findings are quite the opposite--as might be expected because of the conflicting amplitude rankings earlier discussed. The relationship between the ranks of States during contractions and the ranks of States on a per capita income basis is inverse (R = -.31, significant at .01 level); that is, states with higher levels of income tend to have relatively more severe contractions. These States also tend to have milder expansions, though the strength of this relationship is very weak (R = .08).

Industrial composition

Industrial composition is a significant factor in the explanation of business cycle behavior. To test the hypothesis that regions specializing in the production of investment goods are more sensitive to declines, I ranked States according to the proportion of manufacturing employment in durable goods industries during the years 1957-59 average. These rankings were then correlated with the ranks of States in declines and expansions. As might be expected there is a significant relationship between the severity of contractions and the proportion of manufacturing employment in durable goods; R = .46. The relationship to expansion ranks is even stronger, with R = .55.

Another test was made to ascertain the relationship between industrial diversity and cycles. No measures of the relative diversity of States in respect to manufacturing composition being available, I concocted a rough measure based on the proportion of manufacturing employment accounted for by the four largest two-digit SIC industry groups in each State; States were then ranked according to these proportions. The rankings place South Dakota as least diversified, with 89 percent of its manufacturing employment accounted for by its four largest two-digit industries. The most diversified State by this criterion is Delaware with but one-third of its manufacturing employment found in the four largest SIC groups. No allowance has been made for the size of the States in these computations.

Perhaps a more carefully constructed index of diversity might modify the conclusions, but on the basis of the diversity measure used it appears that the more diversified regions tend to have somewhat more severe contractions. The East North Central, Middle Atlantic, and New England States are fairly diversified, yet have sharp recessions. On the other hand, there seems to be little association between diversity and the strength of cyclical expansions. (The values of R are .24 and .02 respectively).

Conclusions

The major conclusions drawn from this empirical examination of State cycles in employment follow:

1. Business cycles are spatially pervasive in the United States, with almost all States having specific cycles roughly corresponding in time to national business cycles.

2. The distribution of State turning points about the national average, while showing a decided clustering, also indicates that some States have specific cycle turning points quite a number of months ahead of or behind the national turning points.

3. Only a few States regularly lead or lag the turning points in national cycles. Southern States manifest a tendency to lead a recovery and to lag at downturns, suggesting that this region has peculiarly strong stabilizing tendencies during national business cycles.

4. Decided differences exist among States in respect to amplitude changes experienced during specific cycles, and these differences persist from cycle to cycle.

5. Contractions are most severe in the industrial Northeastern States--the lower New England States, the Middle Atlantic and East North Central regions, and the border States of West Virginia and Kentucky. The States through the South, the Southwest, and most of the Western States have contractions of much milder amplitudes.

6. States having more severe contractions are not strongly correlated with those having strong expansions. Most of the Western States and a scatter of contraction-prone States in the North Central region have strong expansions. South and Southwestern States, distinctive for the mildness of their contractions, are found in the middle of an array when all States are ranked by increase during expansions. Factors other than the strength of a boom are needed to explain the severity of a contraction.

7. States having more rapid growth rates tend to have strong expansions and weak contractions; States having slow growth rates have weak expansions and severe contractions.

8. Diversification in terms of 2-digit SIC manufacturing groups is no shield against severe contractions; by this criterion, the industrialized Northeast is highly diversified but has more severe recessions. There is no statistically significant association between diversity and expansions.

9. There is a significant relationship between the severity of cycles and the proportion of a State's manufacturing employment devoted to the production of durable goods.

10. Finally, the test of the relationship between income levels and cyclical behavior indicates that States having above average income per capita have more severe contractions, while the economically poor States tend to have mild contractions. Although there is a slight tendency for States having high income to experience greater expansions, the relationship is not statistically significant.

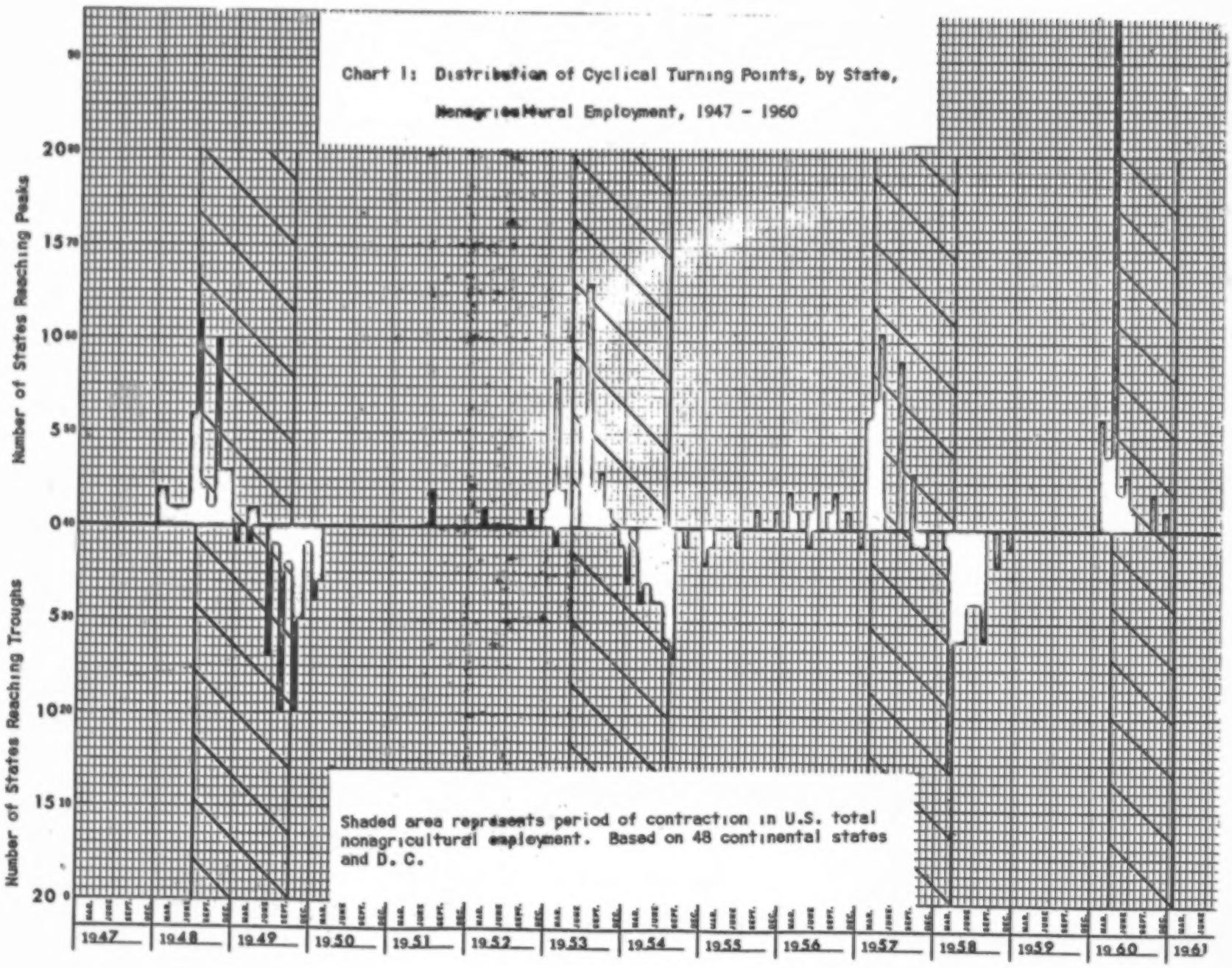


Chart 1: Distribution of Cyclical Turning Points, by State, Nonagricultural Employment, 1947 - 1960
Number of States Reaching Peaks
Number of States Reaching Troughs
Shaded area represents period of contraction in U.S. total nonagricultural employment. Based on 48 continental states and D. C.
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961

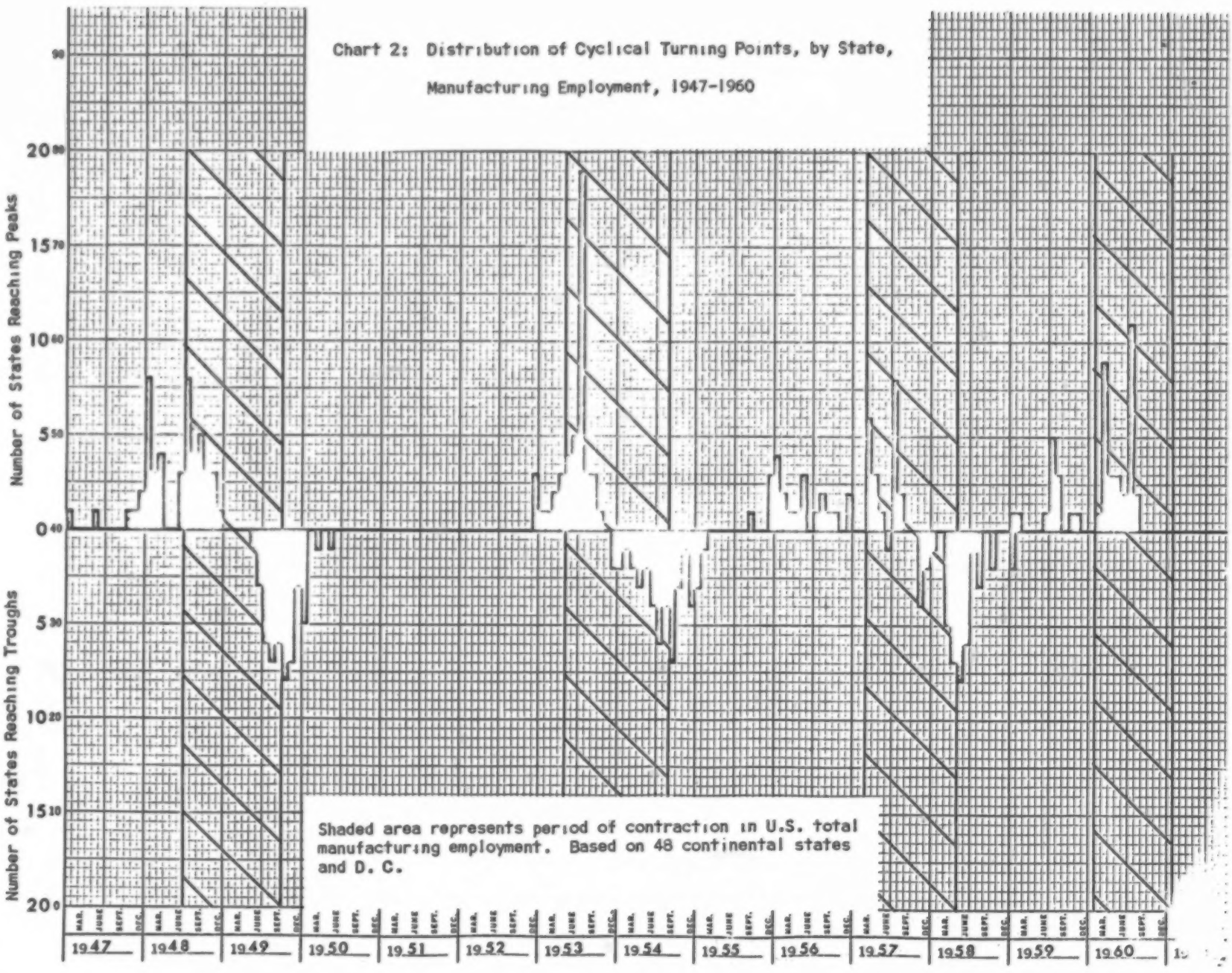
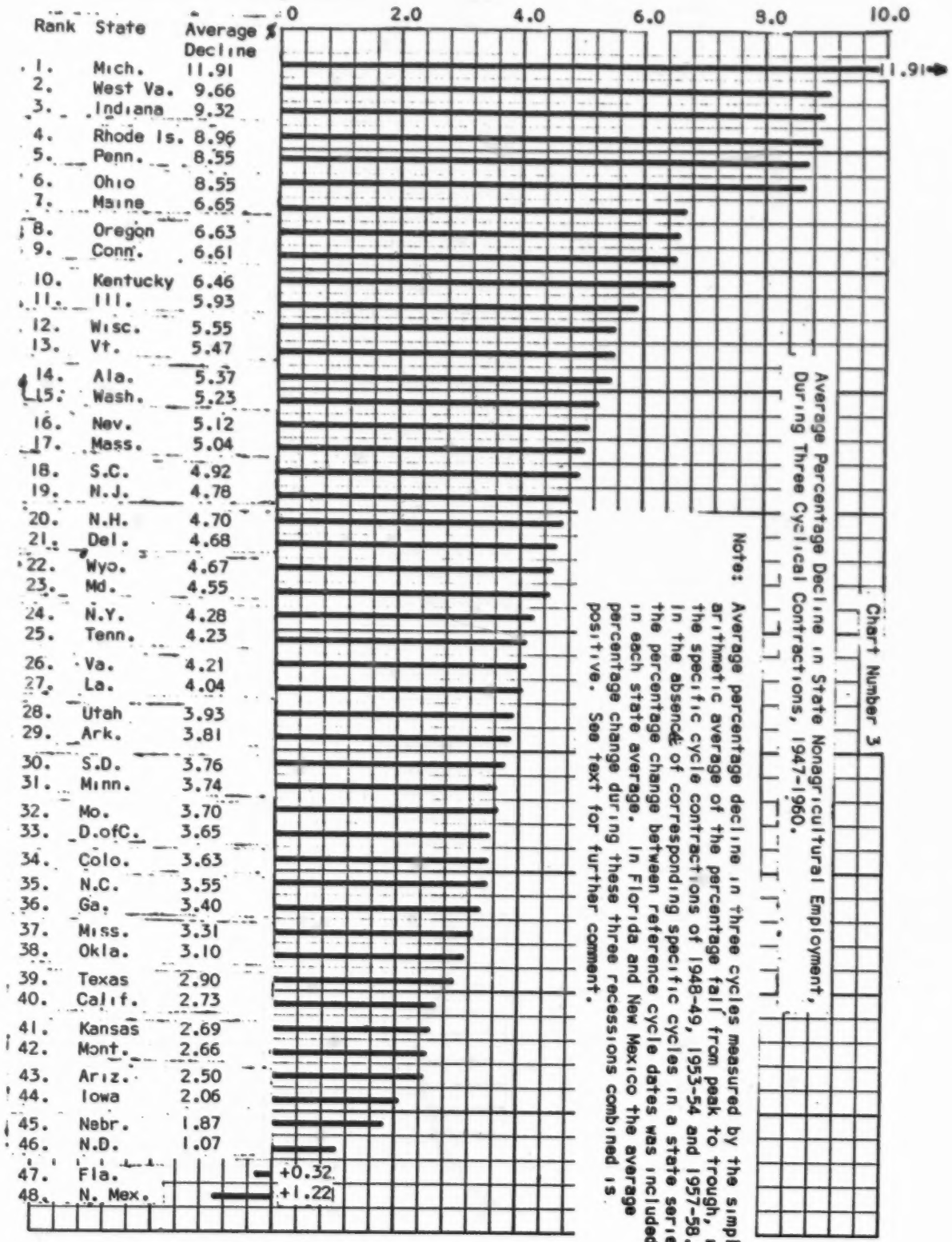


Chart 2: Distribution of Cyclical Turning Points, by State,
Manufacturing Employment, 1947-1960
Number of States Reaching Peaks
Number of States Reaching Troughs
Shaded area represents period of contraction in U.S. total manufacturing employment. Based on 48 continental states and D. C.
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960

Chart Number 3

Average Percentage Decline in State Nonagricultural Employment, During Three Cyclical Contractions, 1947-1960.



Rank	State	Average % Decline
1.	Mich.	11.91
2.	West Va.	9.66
3.	Indiana	9.32
4.	Rhode Is.	8.96
5.	Penn.	8.55
6.	Ohio	8.55
7.	Maine	6.65
8.	Oregon	6.63
9.	Conn.	6.61
10.	Kentucky	6.46
11.	Ill.	5.93
12.	Wisc.	5.55
13.	Vt.	5.47
14.	Ala.	5.37
15.	Wash.	5.23
16.	Nev.	5.12
17.	Mass.	5.04
18.	S.C.	4.92
19.	N.J.	4.78
20.	N.H.	4.70
21.	Del.	4.68
22.	Wyo.	4.67
23.	Md.	4.55
24.	N.Y.	4.28
25.	Tenn.	4.23
26.	Va.	4.21
27.	La.	4.04
28.	Utah	3.93
29.	Ark.	3.81
30.	S.D.	3.76
31.	Minn.	3.74
32.	Mo.	3.70
33.	D.ofC.	3.65
34.	Colo.	3.63
35.	N.C.	3.55
36.	Ga.	3.40
37.	Miss.	3.31
38.	Okla.	3.10
39.	Texas	2.90
40.	Calif.	2.73
41.	Kansas	2.69
42.	Mont.	2.66
43.	Ariz.	2.50
44.	Iowa	2.06
45.	Nebr.	1.87
46.	N.D.	1.07
47.	Fla.	+0.32
48.	N. Mex.	+1.22

Note: Average percentage decline in three cycles measured by the simple arithmetic average of the percentage fall from peak to trough, in the specific cycle contractions of 1948-49, 1953-54 and 1957-58. In the absence of corresponding specific cycles in a state series the percentage change between reference cycle dates was included in each state average. In Florida and New Mexico the average percentage change during these three recessions combined is positive. See text for further comment.

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Rank	State	Average % Rise
1.	Nev.	33.93
2.	Ariz.	32.10
3.	Fl.	26.33
4.	New Mex.	19.49
5.	Calif.	19.14
6.	Colo.	18.67
7.	Mich.	18.20
8.	Utah	17.06
9.	Ind.	16.55
10.	Del.	16.33
11.	S.C.	15.06
12.	Ga.	14.97
13.	N.C.	14.79
14.	Ohio	14.67
15.	Texas	14.34
16.	Md.	14.20
17.	Va.	14.16
18.	Miss.	13.69
19.	Ala.	13.60
20.	Ore.	13.54
21.	Ken.	13.36
22.	Conn.	12.93
23.	La.	12.90
24.	Ark.	12.56
25.	Tenn.	12.48
26.	Wyo.	12.39
27.	N.J.	12.36
28.	Wash.	12.34
29.	S.D.	12.01
30.	Wisc.	11.63
31.	Okla.	11.37
32.	Kan.	11.35
33.	Minn.	9.81
34.	N.Y.	9.59
35.	N.H.	9.51
36.	Penn.	9.42
37.	Nebr.	9.13
38.	Mo.	8.97
39.	Maine	8.90
40.	N.D.	8.80
41.	Mass.	8.76
42.	R.I.	8.60
43.	Vt.	8.27
44.	Mont.	7.61
45.	D. of C.	7.46
46.	West Va.	7.18
47.	Ill.	6.92
48.	Iowa	6.92

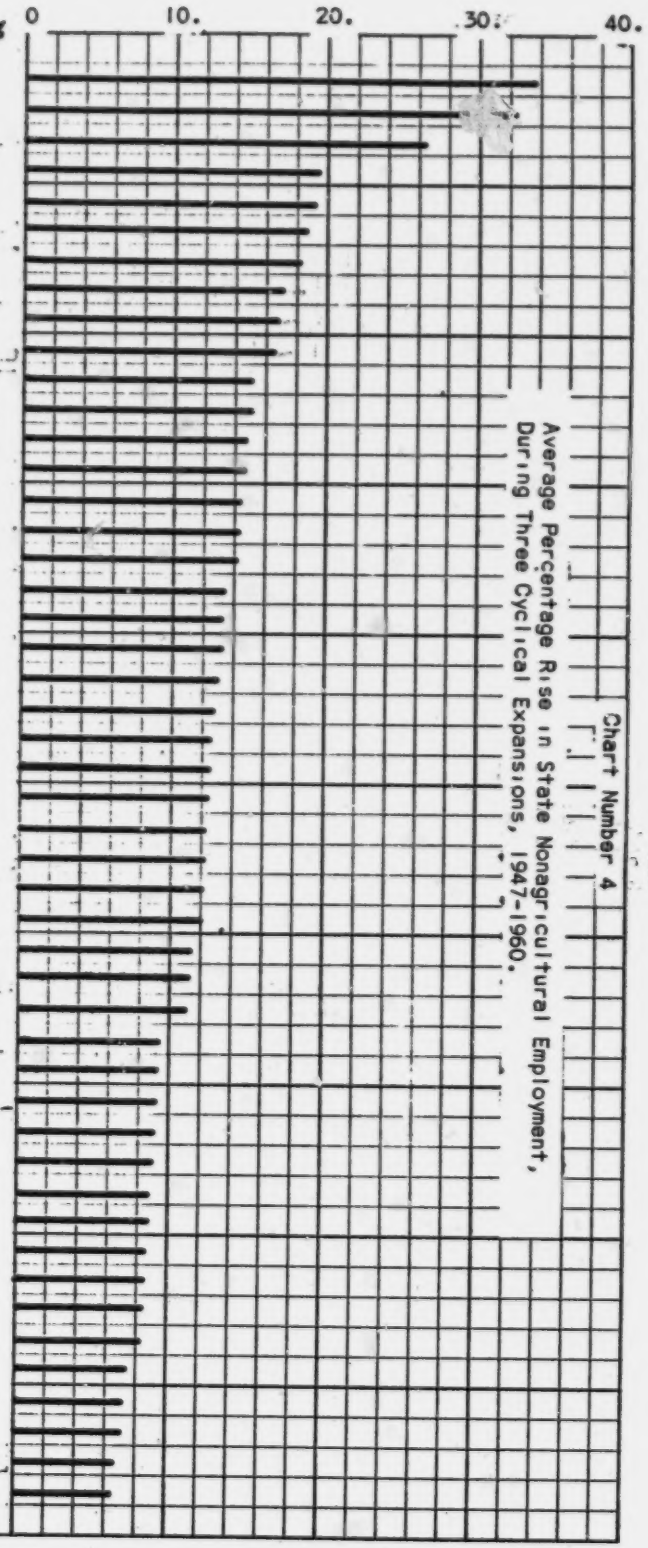

Chart Number 4

Average Percentage Rise in State Nonagricultural Employment, During Three Cyclical Expansions, 1947-1960.

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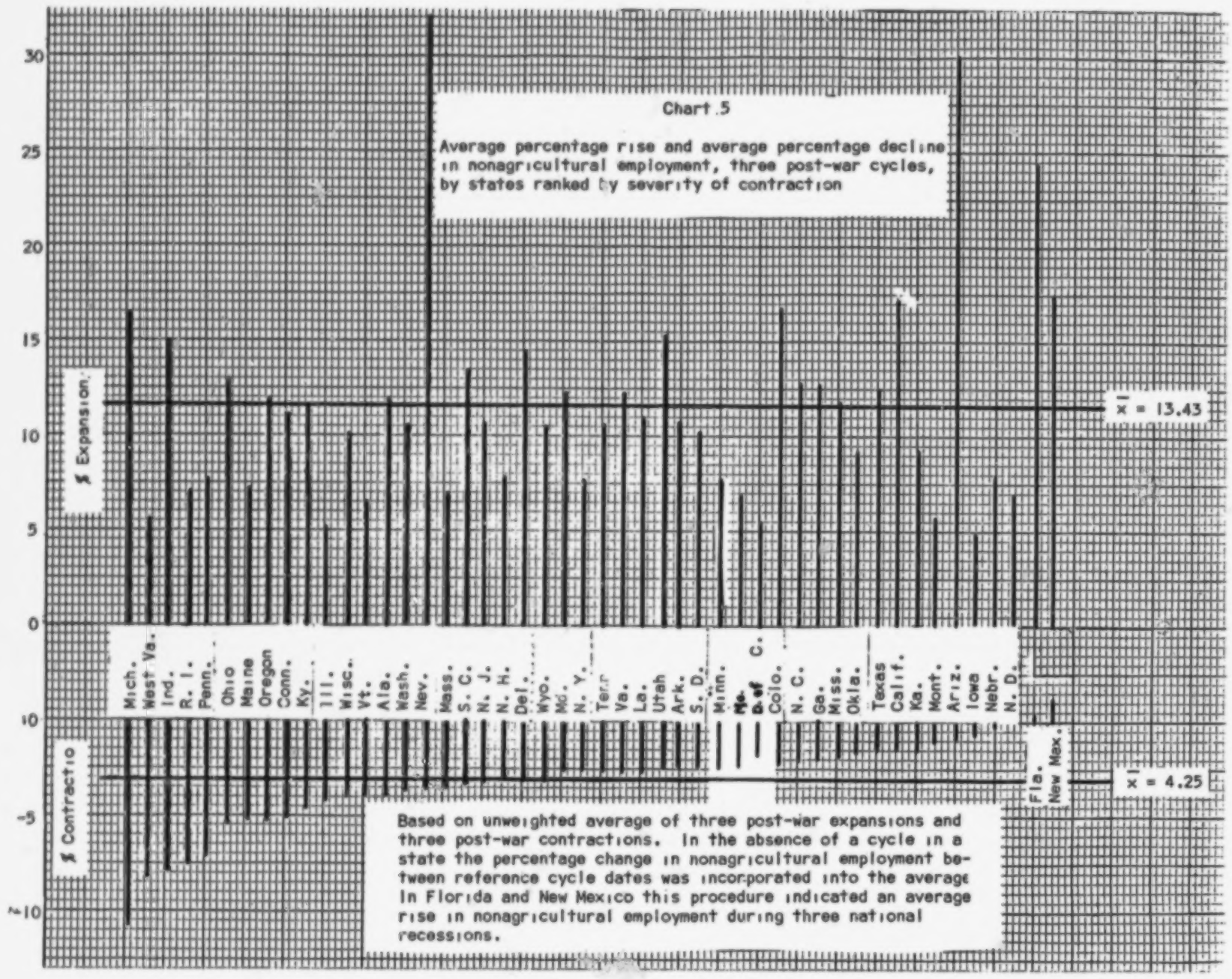
Chart 5
Average percentage rise and average percentage decline in nonagricultural employment, three post-war cycles, by states ranked by severity of contraction
% Expansion
% Contraction
30
25
20
15
10
5
0
-5
-10
Mich.
West Va.
Ind.
R. I.
Penn.
Ohio
Maine
Oregon
Conn.
Ky.
Ill.
Wisc.
Vt.
Ala.
Wash.
Nev.
Mass.
S. C.
N. J.
N. H.
Del.
Wyo.
Md.
N. Y.
Tenn
Va.
La.
Utah
Ark.
S. D.
Minn.
Ga.
D. of C.
Colo.
N. C.
Ga.
Miss.
Okla.
Texas
Calif.
Ka.
Mont.
Ariz.
Iowa
Nebr.
N. D.
Fla.
New Mex.
$\bar{x}$ = 13.43
x = 4.25
Based on unweighted average of three post-war expansions and three post-war contractions. In the absence of a cycle in a state the percentage change in nonagricultural employment between reference cycle dates was incorporated into the average. In Florida and New Mexico this procedure indicated an average rise in nonagricultural employment during three national recessions.

Table 1

Distribution of Cyclical Turning Points, by State, Nonagricultural Employment, 1947 - 1960

(Based on 43 continental States and D.C., by inspection of seasonally-adjusted series)

Number of States reaching troughs

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Reference Cycle
1947													
1948													
1949	1		1			7	1	10	2	10	5	1	10/49
1950	4	3											
1951													
1952													
1953		1										1	
1954	3		4	3	4	4	6	7	6	1			8/54
1955	2	1				1							
1956					1								
1957	1								1	1	1		
1958		1	13	6	6	4	4	6		2		1	5/58
1959													
1960													

Number of States reaching peaks

1947													
1948	2	2	1	1	1	6	11	2	1	10	3	3	11/43
1949			1	1									
1950													
1951							2						
1952			1							1		1	
1953	2		3	2	1	6	13	2	3	1			7/53
1954							1						
1955									1			1	
1956		2	1		1	2		1	2			1	
1957		6	7	11			9		3				7/57
1958													
1959													
1960		6	4	23	2	3	1			2		1	5/60

Table 2

Distribution of Cyclical Turning Points, by State, Manufacturing Employment, 1947 - 1960

(Based on 48 continental States and D.C., by inspection of seasonally-adjusted series)

Number of States reaching troughs

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Reference Cycle
1947													
1948													
1949					1	3	6	7	6	8	7	3	10/49
1950	5		1		1								
1951													
1952													
1953													
1954	2	1	2	3	2	4	6	3	7	3	1	4	8/54
1955	3	1											
1956													
1957						1					4	2	
1958	1		5	7	8	6	1	3		2			5/58
1959	2												
1960													

Number of States reaching peaks

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Reference Cycle
1947	1				1					1	1	2	
1948	8	3	4			3	8	4	5	3	3	1	11/48
1949													
1950													
1951													
1952												3	
1953	1	1	2	3	4	5	19	3	3	1			7/53
1954													
1955									1			3	
1956	4	2	1	1	3		1	2	1	1		2	
1957			6	3	1		8	2					7/57
1958													
1959	1	1				1	5	3		1	1		
1960		1	9	3	3	2	11	2					5/60

Table 3

Dates of Peaks and Troughs in National Cycles, United States, 1948-1961

	Reference Cycle Dates of NBER	Nonagricultural Employment	Manufacturing Employment
Peak	November, 1948	July, 1948	July, 1948
Trough	October, 1949	October, 1949	October, 1949
Peak	July, 1953	May, 1953	May, 1953
Trough	August, 1954	August, 1954	September, 1954
Peak	July, 1957	March, 1957	March, 1957
Trough	April, 1958	April, 1958	May, 1958
Peak	May, 1960	April, 1960	February, 1960
Trough	February, 1961	February, 1961	February, 1961

Sources: Peaks and troughs of NBER reference cycles from Business Cycle Developments, p. 61.
Turning points in employment data determined by inspection from seasonally adjusted series published in Employment and Earnings For the United States, 1909-60, Bulletin No. 1312, Bureau of Labor Statistics, p. 474-475.

Table 4

Distribution of the turning points in
State cycle from the national cycle (in months)*

Nonagricultural employment

Troughs	M.D.	Range	Peaks	M.D.	Range
1949	2.2	14	1948	2.6	15
1954	2.6	13	1953	2.3	12
1958	2.4	23	1957	4.0	18
			1960	1.0	12

Manufacturing employment

1949	2.0	13	1948	3.3	15
1954	3.0	15	1953	2.2	10
1958	2.3	16	1957	5.8	19
			1960	4.0	20

* Dispersion (mean deviation, range) measured from the peaks and troughs in the national cycles cited in prior table.

Table 5

Leading and Lagging States in Nonagricultural Employment

Rank of Growth Rate*	Rank of cyclical severity in: Expansion	Rank of cyclical severity in: Contraction	TROUGHS	1949	1954	1958	
				(Lead (-) or lag (+) in months)			
			States leading each trough				
46	48	34	District of Col.	-7	-2	-2	
20	23	26½	Tennessee	-4	-2	-1	
10½	18	39	Mississippi	-2	-7	-5	
			States lagging each trough				
47	42	3	Pennsylvania	+4	+1	+3	
49	45	6	West Virginia	+1	+5	+2	
			PEAKS	1948	1953	1957	1960
			States leading or coincident at each peak				
45	44	8½	Maine	0	-1	-13	0
48	43	1	Rhode Island	-2	-7	-13	0
			States Lagging or coincident at each peak				
40	47	14	Vermont	0	+4	0	+2
42½	32	24	New York	0	+1	+1	+1
17	17	12	Alabama	+3	+1	+4	0
38	28½	20½	Wyoming	+2	+5	0	0

* Rank of percentage increase in nonagricultural employment, 1949-1959 (1 = most rapid growth).

Table 6

Leading and Lagging States in Manufacturing Employment

Rank of Growth Rate*	Rank of cyclical severity in: Expansion	Rank of cyclical severity in: Contraction	TROUGHS	1949	1954	1958
				[Lead (-)	lag (+)	in months]
			States leading each trough			
34	28	15	New Hampshire	-3	-5	-1
48	44	4½	Rhode Island	-4	-4	-1
36	33	40	Iowa	-3	-5	-2
37	29	26	North Carolina	-3	-4	-5
16	37½	41	South Carolina	-3	-2	-5
9	22½	36	Georgia	-3	-2	-1
20	17	32	Tennessee	-2	-3	-1
10½	10	25	Mississippi	-2	-3	-6
22	11	29	Idaho	-1	-7	-6
1	1	22	Arizona	-3	-10	-6
5	5½	44	California	-1	-2	-2
			States lagging each trough			
33	26	13	Wisconsin	+2	+3	+1
12	16	14	Delaware	+1	+4	+3
15	47½	21	Louisiana	+3	+4	+8

PEAKS	1948	1953	1957	1960
States leading or coincident at each peak				
Rhode Island	-4	0	-13	0
Illinois	-6	0	-14	-7
Wisconsin	-5	-2	-6	-1
Kentucky	0	0	-4	-7
States lagging or coincident at each peak				
Delaware	+3	+3	+4	+5
Maryland	+3	+2	+4	+3
Alabama	0	+1	+4	+2
Texas	+5	+2	+2	+2
California	+2	+4	0	+1

* Rank (1 = most rapid growth) of percentage increase in nonagricultural employment, 1949 - 1959.

Table 7: Cyclical Variation Study

States	(1) Percentage decline in non-agricultural employment			(2) Rank order of severity in percentage decline			(3) Average rank
	1948-49	1953-54	1957-58	1948-49	1953-54	1957-58	Three contractions
NEW ENGLAND							
Maine	9.4	4.3	6.2	4	23	11	8½
New Hampshire	7.3	1.7	5.2	11	42	18	22
Vermont	7.0	4.7	4.8	12	17	22	14
Massachusetts	4.9	6.4	3.9	26	11	26	16
Rhode Island	9.8	7.8	9.3	1	7	3	1
Connecticut	8.8	4.4	6.7	5	22	10	7
MIDDLE ATLANTIC							
New York	3.8	3.4	5.6	35	29	14	24
New Jersey	5.7	3.1	5.6	20	31	15	18
Pennsylvania	9.6	9.0	7.0	2	4	8	3
EAST NORTH CENTRAL							
Ohio	9.6	7.1	0.0	3	9	4	4
Indiana	7.6	11.6	8.8	10	2	5	5
Illinois	6.5	5.1	6.2	13	13	12	8½
Michigan	7.7	9.9	18.1	9	3	1	2
Wisconsin	5.0	4.6	7.0	25	18	7	13
WEST NORTH CENTRAL							
Minnesota	4.5	3.2	3.5	28	30	32	32
Iowa	2.6	0.3	3.3	41	45	34	45
North Dakota	+2.9	4.0	2.1	47	26	43	43
South Dakota	8.1	+0.7	3.9	7	46	28	26½
Nebraska	1.1	1.0	3.5	45	44	33	47
Missouri	3.6	4.6	2.9	36	19	35	32
Kansas	1.4	2.8	3.9	44	35	27	40
SOUTH ATLANTIC							
Delaware	3.2	4.8	6.0	39	15	13	19
Maryland	5.6	3.8	4.2	21	28	24	23
Dist. of Col.	0.35	8.5	2.2	46	5	41	34
Virginia	4.6	3.00	5.0	27	33	20	25
West Virginia	4.2	14.2	10.6	31	1	2	6
North Carolina	5.7	2.8	2.2	19	36	40	36
South Carolina	5.4	7.2	2.2	23	8	39	20½
Georgia	3.4	4.6	2.3	38	20	38	37
Florida	2.2	+4.2	1.1	43	48	46	48
EAST SOUTH CENTRAL							
Kentucky	8.3	6.9	4.3	6	10	23	10½
Tennessee	6.3	2.7	3.8	15	37	29	26½
Alabama	6.4	4.7	5.1	14	16	19	12
Mississippi	5.5	2.5	1.9	22	38	44	39
WEST SOUTH CENTRAL							
Oklahoma	2.8	1.1	5.4	40	43	17	38
Arkansas	5.3	5.0	1.2	24	14	45	28½
Texas	2.3	2.9	3.5	42	34	31	41
Louisiana	4.1	3.0	5.0	32	32	21	30
MOUNTAIN							
Montana	3.5	+3.0	7.4	37	47	6	32
Wyoming	6.1	3.9	4.0	18	27	25	20½
Colorado	3.9	4.3	2.7	34	24	36	35
New Mexico	+5.2	4.0	+2.5	48	25	48	46
Idaho							
Nevada	6.3	2.3	6.8	16	39	9	17
Utah	4.3	5.4	2.1	29	12	42	28½
Arizona	4.3	2.3	1.0	30	40	47	44
PACIFIC							
Washington	7.8	4.4	3.6	8	21	30	15
Oregon	6.2	8.2	5.5	17	6	16	10½
California	3.9	2.0	2.3	33	41	37	42
United States							
Unweighted $\bar{X}$	4.95	4.28	4.69				
Weighted $\bar{X}$	5.11	3.52	4.60				
Med.	5.2	4.2	4.1				

Table 8: Cyclical Variation Study

States	(1) Percentage expansion in nonagricultural employment			(2) Rank order severity in expansion			(3) Average rank
	1949-53	1954-57	1958-60	1949-53	1954-57	1958-60	Three expansions
NEW ENGLAND							
Maine	14.5	4.9	7.3	34½	42	35	44
New Hampshire	9.5	8.5	10.5	46	26	21	33
Vermont	12.4	5.8	6.6	40	39	39	47
Massachusetts	11.1	7.5	7.6	43	31½	31	38½
Rhode Island	12.9	4.7	8.2	39	43½	28	43
Connecticut	24.2	7.3	7.3	13	34	34	30
MIDDLE ATLANTIC							
New York	10.2	7.5	11.0	45	31½	16	32
New Jersey	18.4	7.7	10.9	24	29	17	22
Pennsylvania	15.9	6.5	5.9	32	36	41	42
EAST NORTH CENTRAL							
Ohio	26.2	9.1	8.8	9	23	26	14
Indiana	28.9	10.6	10.1	5	18	23	9
Illinois	14.5	7.9	4.3	34½	27	47	41
Michigan	29.5	12.2	13.0	4	15	6	5½
Wisconsin	14.0	10.6	10.3	38	19	22	27
WEST NORTH CENTRAL							
Minnesota	15.9	8.7	4.8	31	24	46	35½
Iowa	12.0	0.2	8.6	41	48	27	46
North Dakota	10.5	6.4	9.4	44	37	25	40
South Dakota	17.9	7.3	10.8	25	33	18½	25
Nebraska	14.1	4.0	10.8	37	45	18½	34
Missouri	17.6	4.7	7.6	27	43½	32	37
Kansas	24.6	3.7	5.8	12	47	42	35½
SOUTH ATLANTIC							
Delaware	25.9	17.3	5.8	11	5	43	16
Maryland	23.4	12.4	6.7	16	13	38	20
Dist. of Col.	11.3	3.8	7.2	42	46	36	48
Virginia	20.5	13.9	8.1	20	9	29	15
West Virginia	6.6	11.5	3.5	48	16	48	45
North Carolina	21.5	10.4	12.5	19	20	8	10
South Carolina	27.3	6.8	11.1	7	35	15	13
Georgia	23.5	10.3	11.1	15	22	14	11
Florida	31.1	31.8	16.1	3	2	4	2
EAST SOUTH CENTRAL							
Kentucky	22.6	11.1	6.4	18	17	40	24
Tennessee	20.2	5.9	11.3	21	38	13	23
Alabama	17.8	13.5	9.4	26	11	24	17
Mississippi	20.1	10.3	10.6	22	21	20	18
WEST SOUTH CENTRAL							
Oklahoma	18.4	7.6	8.1	23	30	30	31
Arkansas	15.7	7.9	14.1	33	28	5	19
Texas	23.6	13.7	5.8	14	10	44	21
Louisiana	17.4	15.8	5.5	28	7	45	28½
MOUNTAIN							
Montana	6.8	8.6	7.4	47	25	33	38½
Wyoming	14.2	5.4	17.6	36	41	3	28½
Colorado	26.5	17.1	12.4	8	6	9	4
New Mexico	26.1	21.0	11.4	10	3	12	5½
Idaho							
Nevada	71.7	5.5	24.6	1	40	1	8
Utah	23.1	15.5	12.6	17	8	7	7
Arizona	36.7	35.4	24.2	2	1	2	1
PACIFIC							
Washington	17.4	12.5	7.1	29	12	37	26
Oregon	16.6	12.4	11.6	30	14	11	12
California	27.4	17.8	12.2	6	4	10	3
United States							
Weighted $\bar{X}$	16.84	8.98	6.18				
Unweighted $\bar{X}$	20.17	10.32	9.98				
Median	18.2	8.7	9.4				

Table 9: Cyclical Variation Study

States	(1) Percentage decline in manufacturing employment			(2) Rank order of severity in percentage decline			(3) Average rank
	1948-49	1953-54	1957-58	1948-49	1953-54	1957-53	Three contractions
NEW ENGLAND							
Maine	13.4	11.4	9.1	16	12½	17	10
New Hampshire	14.1	7.1	9.3	14	34	14½	15
Vermont	18.1	12.8	19.3	5	7	3	2½
Massachusetts	8.5	11.0	8.7	34	16	18	18½
Rhode Island	17.5	15.7	15.8	6	6	5	4½
Connecticut	19.5	12.1	13.0	3	10	7	7
MIDDLE ATLANTIC							
New York	9.3	8.6	4.2	31	28½	34	38
New Jersey	11.8	9.4	6.8	19	22½	26	17
Pennsylvania	19.2	16.2	10.8	4	5	10	6
EAST NORTH CENTRAL							
Ohio	17.0	32.8	15.6	8	1	6	2½
Indiana	15.2	18.8	16.5	10	3	4	4½
Illinois	11.4	10.9	11.7	21	17	8	11
Michigan	15.0	20.8	28.6	11	2	1	1
Wisconsin	11.1	11.2	8.4	23	14	20	13
WEST NORTH CENTRAL							
Minnesota	8.8	9.8	3.1	32	19	37	33
Iowa	5.4	9.7	4.5	44	20½	33	40
North Dakota	8.1	4.6	+ 3.1	37	43	45	46
South Dakota	4.3	8.9	+ 2.5	45	27	44	43
Nebraska	5.5	7.4	+ 3.7	43	31½	46	45
Missouri	7.0	2.5	5.6	41	8½	30	24
Kansas	3.4	9.1	11.4	46	24	9	23
SOUTH ATLANTIC							
Delaware	8.0	11.4	9.7	35	12½	13	14
Maryland	11.3	9.0	7.7	22	25½	23	20
Dist. of Columbia	3.0	8.6	15.0	48	28½	49	47
Virginia	14.0	7.0	2.5	13	35	38	31
West Virginia	16.8	11.1	9.3	9	15	14	9
North Carolina	27.4	4.9	2.4	1	41	39	26
South Carolina	8.1	5.0	3.4	37	40	35½	41
Georgia	9.7	5.2	7.3	29	39	25	36
Florida	7.6	+ 3.3	+ 4.9	39	48	48	48
EAST SOUTH CENTRAL							
Kentucky	9.6	8.2	8.2	30	30	21½	27
Tennessee	11.0	7.4	4.8	24	31½	31	32
Alabama	17.4	6.7	8.4	7	37	19½	16
Mississippi	22.6	5.3	2.2	2	38	40	25
WEST SOUTH CENTRAL							
Oklahoma	8.8	4.5	9.2	33	44½	16	38
Arkansas	13.9	4.8	6.1	15	42	28	30
Texas	3.2	11.6	3.4	47	11	35½	38
Louisiana	11.5	9.0	6.3	20	25½	27	21
MOUNTAIN							
Montana	7.4	10.0	7.6	40	18	24	28
Wyoming	7.8	7.3	1.5	38	33	42	42
Colorado	14.4	9.7	8.2	12	20½	21½	12
New Mexico	+ 7.7	0.0	+ 4.8	49	47	47	49
Idaho	10.1	2.5	9.9	28	44½	12	29
Nevada	12.1	+ 15.9	23.3	17	49	2	18½
Utah	10.3	9.4	+ 0.5	27	22½	43	35
Arizona	10.7	12.5	1.7	26	8½	41	22
PACIFIC							
Washington	10.9	6.8	6.0	25	36	29	34
Oregon	11.9	16.7	10.2	18	4	11	8
California	5.8	2.2	4.6	42	46	32	44
United States							
Unweighted $\bar{X}$	11.04	8.74	6.77				
Weighted $\bar{X}$	10.95	10.30	11.06				

(1) Based on percentage decline from specific cycle peak to trough, seas. adjusted State manufacturing employment.

(2) Ranked by magnitude of decline. States not participating in contraction had amplitude of change measured from the reference cycle dates.

(3) Average rank is defined as the ranking of the total of the three ranks shown in (2).

U.S. weighted mean is the percentage decline in Goldstein's U.S. manufacturing employ. series.

Table 10: Cyclical Variation Study

States	Percentage expansion in manufacturing employment			Rank order severity in expansion			Average rank
	1949-53	1954-57	1958-60	1949-53	1954-57	1958-60	Three expansions
NEW ENGLAND							
Maine	16.2	4.3	6.8	40	45	38½	45
New Hampshire	15.1	10.3	3.1	43½	21	17	28
Vermont	18.6	9.0	22.0	37	27	8	21
Massachusetts	13.4	6.0	8.6	46	36	34½	43
Rhode Island	15.1	3.6	10.0	44½	48	27	44
Connecticut	37.5	6.9	8.9	13	34	31½	26
MIDDLE ATLANTIC							
New York	18.2	3.7	2.2	38	46½	47	49
New Jersey	23.8	5.0	6.3	27	40	42	41
Pennsylvania	36.0	7.0	10.3	15	32½	25	22½
EAST NORTH CENTRAL							
Ohio	81.2	9.5	12.5	2	24	18	12
Indiana	45.3	13.4	16.0	7	16	13	9
Illinois	21.8	7.9	7.3	33	30	37	39
Michigan	40.0	19.3	16.3	10	7½	12	8
Wisconsin	23.0	8.5	10.9	29	28	24	26
WEST NORTH CENTRAL							
Minnesota	23.9	9.3	12.1	26	25½	20	20
Iowa	21.9	5.7	11.9	32	37½	21	33
North Dakota	14.0	4.8	6.0	45	41½	43	46
South Dakota	11.7	4.4	12.4	47	43½	19	42
Nebraska	30.0	3.7	18.6	19	46½	10	24
Missouri	29.4	5.7	6.4	20	37½	41	37½
Kansas	66.3	5.2	8.3	3	39	36	25
SOUTH ATLANTIC							
Delaware	33.7	13.8	8.9	16	14½	31½	16
Maryland	30.4	9.3	5.6	18	25½	45	32
Dist. of Columbia	6.7	4.4	6.8	49	43½	38½	47½
Virginia	20.5	8.0	8.7	35	29	33	36
West Virginia	16.0	7.0	11.1	41	32½	23	35
North Carolina	20.4	9.6	10.1	36	23	26	29
South Carolina	16.7	7.7	9.5	39	31	28½	37½
Georgia	26.4	10.7	9.5	24	20	28½	22½
Florida	37.4	28.3	22.2	14	2	7	3
EAST SOUTH CENTRAL							
Kentucky	26.6	14.5	8.6	23	12	35	18½
Tennessee	26.9	10.2	11.3	22	22	22	17
Alabama	26.3	11.6	5.9	25	18	44	30
Mississippi	38.6	13.8	15.6	12	14½	14	10
WEST SOUTH CENTRAL							
Oklahoma	39.5	11.3	6.6	11	19	40	18½
Arkansas	23.5	13.1	22.4	28	17	6	13
Texas	44.7	4.8	3.9	8	41½	46	34
Louisiana	20.7	1.7	2.1	34	49	48	47½
MOUNTAIN							
Montana	8.6	24.0	2.0	48	4	49	40
Wyoming	15.2	6.3	16.7	42	35	11	31
Colorado	42.4	14.2	24.8	9	13	4	7
New Mexico	47.3	24.2	28.6	6	3	3	2
Idaho	22.4	17.1	31.6	30	11	1	11
Nevada	51.7	17.6	19.6	5	9½	9	4
Utah	30.8	20.4	28.7	17	6	2	5½
Arizona	107.0	56.8	23.5	1	1	5	1
PACIFIC							
Washington	28.3	19.3	9.1	21	7½	30	15
Oregon	22.4	17.6	15.2	30	9½	15	14
California	53.3	20.6	12.1	4	5	16	5½
United States							
Unweighted $\bar{X}$	30.34	11.66	12.40				
Weighted $\bar{X}$	27.53	8.92	8.97				
Median	26.3	9.3	10.3				

Table 11

Rank of Cyclical Decline and Cyclical Expansion of the 12 Strongly Growing and Weakly Growing States, 1947-60

Strong growth States	Rank in Declines (1 = strong decline)	Rank in Expansions (1 = strong expansion)
1. Arizona	44	1
2. Florida	48	2
3. Nevada	17	8
4. New Mexico	46	5½
5. California	42	3
6. Colorado	35	4
7. Utah	28½	7
8. Texas	41	21
9. Georgia	37	11
10. Mississippi	39	18
11. Missouri	32	37
12. Delaware	19	16
Average rank	35.7	11.1
Weak growth States		
38. Wyoming	20.5	28½
39. Michigan	2	5¼
40. Vermont	22	47
41. Illinois	8½	41
42. Massachusetts	16	38½
43. New York	24	32
44. Montana	32	38½
45. Maine	8½	44
46. D. C.	34	48
47. Pennsylvania	3	42
48. West Virginia	6	45
Average rank	14.8	37.8

Growth rates defined in terms of percentage increase in nonagricultural employment 1949 - 1959.

The rank averages reported by Borts for manufacturing covering 1914-1953 were

	Decline	Expansion
Growth States	17.7	12.0
Weak States	16.1	23.2

INTERPRETING ECONOMIC STATISTICS
CONNECTICUT LABOR COMMISSIONER'S ECONOMIC ADVISORY GROUP

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My task today is to talk about what we consider to be a rather unique group --namely, the State Labor Commissioner's Economic Advisory Group of which I have the privilege of serving as Chairman this year. As in anything else, the group was formed to satisfy particular needs--in this case the need for economic intelligence on the part of the members, as well as the needs, we feel, of the State Labor Department itself. For the next few minutes, I would like to relate some of the developments that led to formation of this useful association of economists and business analysts, then a little bit about what our function is.

One of the frustrations of a business analyst or economist concerned with the study of economic developments in his own State, or in the market area served by his company, is the lack of a single source of comprehensive economic data offered on a continuing basis which lend themselves to sophisticated analyses. While data are often available in considerable detail at the national level, too seldom are they available in useful form at the State level; and when they are, they are often difficult to reconcile with national or regional statistics.

Labor Department Source of Data

Here in Connecticut, as in any State, the private economist, in his attempt to satisfy the requirements of his own company, is posed with the problem of gathering a host of diverse statistics on income, output, and employment. While much of the data were available, they were available only from a variety of sources, seldom compatible with other reporting methods, were either on an annual or monthly basis (but not both), seldom seasonally adjusted, and hardly ever useful in tracing meaningful trends or projecting future developments. About the only economic facts readily available on a monthly basis which lent themselves to reasonable analysis were employment statistics compiled by the State Labor Department. And so, in any attempt to paint a picture of the domestic economy, we in private business found ourselves compelled to use this information as the best and most comprehensive available on the local scene.

Economic Indicators

Naturally, we were delighted when the State Labor Department adopted new methods and techniques developed by the National Bureau of Economic Research and decided to publish a monthly release called "Connecticut Economic Indicators? --and to present both actual and seasonally adjusted data in order to enhance their usefulness in analyzing cyclical expansions and contractions and to facilitate their comparability with data compiled by other States and for the nation as a whole. These indicators were expanded after 1963 to include not only employment information, but figures for new incorporations, manufacturing output, bank debits, life insurance sales, electric power sales, new car registrations and personal income on a comparable reporting basis.

The number of different series reported was based upon data which were available, but previously not reported publicly, since there had been no well defined evidence of regular need or use. The new data, however, permitted appropriate seasonal adjustments and reasonably accurate analysis. It was only natural, therefore, that the State Labor Department, which published these data monthly, simultaneously with historical trends, would become the prime source of regular intelligence concerning economic trends within the State. And I might add that we in private business found ourselves calling the State Labor Department regularly for information in hopes that we could relate these data to the development of trends in our own business.

Informal Group

There is, as you know, often a wealth of information compiled at various sources, but not widely used. As a result, David Pinsky, who is the guiding force behind the development of the Economic Indicators in Connecticut called together a group of private economists whom he felt were making regular use of the information being assembled by the State Labor Department in hopes of getting our ideas on how this information might be used, how it might be analyzed or how it might be improved or expanded. For several months this group met informally at the Labor Department to discuss amongst themselves what these figures indicated for the future of the Connecticut economy as well as for certain areas of Connecticut, and attempted to relate them to trends at the national level. At the close of these sessions we were almost always in agreement about what the figures indicated and we felt that it might desirable to put our opinions on a piece of paper as an expression of a consensus amongst economists representing various aspects of the Connecticut economy.

Quarterly Meetings

It was then suggested that we submit our views on a quarterly basis to the State Labor Commissioner for his consideration and disposition. We felt that the Labor Commissioner might welcome an outside interpretation of the data and a comment on the business outlook suggested by the figures. The response has been gratifying and we are confident that the interchange of analytical knowledge from those who compiled the numbers and those who make considerable use of them has been mutually beneficial. The Labor Commissioner has indicated that he finds these reviews submitted by private business to be of considerable use of them has been mutually beneficial. The Labor Commissioner has indicated that he finds these reviews submitted by private business to be of considerable value and of useful guidance. Our group continues to meet quarterly, and, to our knowledge is not only unique among the States, but happens to be the first informal association of economists in Connecticut. I might add that the economic indicators published by the State Labor Department each month, together with historical data, are as valuable to me in analyzing the local scene as the economic indicators published monthly by the Department of Commerce are in painting a picture of the national scene.

Use of Data

This leads me to a brief word on how we in the business community utilize the statistics provided by the State Labor Department, which relates back to a statement I made earlier that there is a myriad of information compiled in various sources which is seldom put to good use. As a banker, I can assure you that every single series which now comprises the Connecticut Economic Indicators is particularly useful to me in assessing and projecting our own growth--projections which are necessary in order for us to make appropriate future plans. But these same statistics are equally useful to others.

We are fortunate to have both a series of coinciding indicators--those which tend to relate current developments--and a series of leading indicators which tend to foretell economic trends over the near future. I will not belabor you with a lot of unnecessary comment on what the coinciding indicators tell us, because I think they are self-explanatory. The coinciding indicators include such things as: nonagricultural employment, the rate of unemployment, the manufacturing output index, bank debits, life insurance sales, new car registrations, electric power sales and personal income.

Reliance on Leading Indicators

Although we are concerned with the recent and present profile of Connecticut business, we are always mindful of what the future holds. To that end, we place considerable reliance on six important leading indicators. One is the average workweek in manufacturing. As you know, many factories, even before cutting back on the number employed, tend to reduce the number of hours worked by its production line personnel. This generally would suggest, assuming the downward trend persists for 3 or 4 months even while your coinciding indicators were still rising, that new order volume might well be diminishing. Movements in the average workweek are generally followed by--or associated with-- movements in the number of weekly claims for unemployment insurance and in the new hiring rate in manufacturing, as well as movements in the number of job openings reported by the Labor Department--each of which is also classified as a leading indicator and all of which have tended to move up or down in the postwar period in advance of similar movements in the roughly coinciding indicators. In fact, over most of the postwar period, a drop in the leading indicators has proceeded by 6 months or more a noticeable decline in those indicators which best describe current economic trends--particularly employment and factory output. Moreover, these indicators have tended to level off well in advance of the low point in the postwar business cycles and were subsequently followed, in a few months, not only by an upward movement in the leading indicators themselves, but also by a general business recovery on the broad front. In short, while these indicators have only been published now for about 2 years, we in the business community have seen evidence of their forecasting powers and tend to watch them very closely when making projections for the performance of our own particular businesses and for the Connecticut economy as a whole. And because Connecticut is a highly industrialized State whose business swings are more promounced than those at the national level, we are even more mindful of any movement whatever in the leading indicators.

Anyone familiar with what leading indicators are supposed to do might suggest that what I have been talking about for the past few minutes or so might be somewhat academic--particularly if you have been following business cycle developments set forth by either the Department of Commerce or the National Bureau when reporting national trends. The important point here is that a useful service is now provided to the business community by our State Labor Department--a service which is gaining wider acceptance and more frequent use by the private sector.

Commissioner's Mandate

Most of you here at this conference are concerned primarily with the gathering and disseminating of labor statistics for your respective States. You have probably often wondered to what use your fact gathering has been put, aside from the requirement that labor statistics must be kept in compliance with certain legislation or directives. I am sure you will all agree that labor statistics are often a reflection of developments in other areas of economic activity and that in isolation can be useful in telling only part of the economic story. But adopting indicators of business activity other than labor statistics per se--and particularly the adoption of leading indicators--can be a useful mechanism for anticipating trends in the labor statistics themselves. Clearly, a reasonable examination of the future based on existing facts has immeasurable value whereby foreknowledge might well bring about a smoother application of stand-by assistance programs. And this type of complimentary fact gathering seems consistent with a legislative mandate of 1885 which says "The Labor Commissioner shall collect information upon the subject of labor, its relation to capital, the earnings of laboring men and the means of promoting their material, social, intellectual and moral prosperity."

In the process of complying with that mandate, the Connecticut State Labor Department has provided an invaluable service not only for the Connecticut business community, but for the State as a whole.

Economic Advisory Group Report

In return, we feel that our Economic Advisory Group here in this State also provides a service to the State Labor Commissioner. For one thing, he has the benefit of independent thinking, substantiated by a written report every 3 months which is submitted to him by the Chairman of this group. These opinions concerning the business outlook are not seriously circumscribed or inhibited since we in the private business world have more license to make public statements about business conditions than is generally granted to government agencies.

I have implied that this group is always in agreement on what the indicators show with regard to current trends and what they imply with respect to future prospects for the Connecticut economy. While this may be an oversimplification, we have, I think, been more unanimously in agreement on these matters than would ordinarily be the case for most groups who represent varied sectors of the economy. I suspect that, in large part, this agreement--thus far at least--reflects the value of the statistics themselves, the patience with which

they are collected, the straightforwardness with which they are presented and in the knowledge of the manner in which they are gathered. For the most part, this has resulted from the close working relationship and free interchange of ideas between the State Labor Department and the Labor Commissioner's Economic Advisory Group. If such a useful association has not been initiated in other States, then I would strongly urge that it be done. The benefits to be derived from this mutual exchange are manifested in a better knowledge of the economy in which we live and will ultimately lead to more intelligent proposals to make it even better.

CHAIRMAN CABE: We have a few minutes available for questions to any of these people on the rostrum; would you like to address your questions?

MR. BOURQUE: I have a question of the other speakers who mentioned the use of State leading indicators, and it is a question of the State leading indicators being better indicators of economic change in the State than the national leading indicators or a national forecast viewing of the State as part of the national economy.

Do the leading indicators in a State, for example, for the average workweek, lead the national leading indicators, and might these then be useful for forecasting what the national forecasting indicators are going to do?

MR. STARK: I would like to make a comment on it.

As far as I know from observation, the thing we have failed to do is analyze the data sufficiently to permit a good answer to your question.

Secondly, when you pick hours as the measure, I think the structural changes in the economy, and other changes that I cannot pretend to understand, suggest that hours may not be as sensitive in many respects as we had formerly thought. There are frequently changes in the economy that hours do not reflect as well as they used to. There is something going on about the character of hours that might make that particular illustration difficult to answer.

The point that you raised is exactly the one that I think motivated Gerhard Bry's original report. He wanted to find out whether certain States, or data in certain States, give an advance indication of the national movement. That was what he was looking for, and thus far we have not found it. I would say that probably the answer is no.

But, more importantly, I would say that the justification for those in the State and particularly for the State labor departments is we are not tring to anticipate national movements. What we are trying to do, is understand the economies of particular States.

It is much more important than an academic study of business cycle analysis as far as the organizational aspect for State labor departments. In this sense, I would say both answers would be "no."

MR. SABATELLA: You have to analyze national as well as State. After all, the national figures are much more than a reflection of the developments in regions. I think there is sufficient difference in the timing of troughs and peaks; I do not know whether we hit the low point at the same time.

The national indicators are nothing more really than a conglomeration of all the various statistics gathered over all parts of the country, so I think that the State figures offer a degree of refinement in the locality which you have under close consideration. I know in private business here in Connecticut and in most other States we are keenly interested in not only what the national figures show, but what the State figures show to the extent that they might tell us something about our area in advance of what the national picture might be leading to. More importantly, it is not always the case when the country is in somewhat of a recessed business cycle that a particular area or State necessarily has to be.

Here in Connecticut, as many know, we are more responsive to changes in cycles. Our upswings are sharper and our downswings are sharper in private business. The BLS and the Department of Commerce perhaps are somewhat less interested in reporting or analyzing it quite that way; I am not sure.

MR. SOULE: I do not know how appropriate this is, but when we say there was a national recession, say, in 1960 and 1961, I believe we are referring mainly to Gross National Product.

We do not have these for the States. When we say we have a leading indicator for the State, we mean that that leads the national recession. We do not have the vaguest idea whether it leads the State of Kentucky's recession because we do not have a measure of that. I would like to point that out.

MR. CHARLES A. ROUMASSET: I realize that this may be a bit unethical, but I would like to have Dr. Bourque answer his own question.

As I gathered it, you made a study of the coincident indicators. I would like to ask if you have ever done anything with the leading indicators on the same basis?

MR. BOURQUE: The answer is "no." We have chosen to analyze the manufacturing series and the nonagricultural employment series because these are both coincident indicators nationally.

One of the questions we sought to find an answer to is even though these are coincident indicators nationally, are these on a State basis coincident with the national indicators? That is, are business cycles, national business cycles, universally shared among States? Are they approximately of the same amplitude or different amplitudes, and if so, how different, and if their timing is different, how different is the timing?

We did find that there are a number of States that do have consistent turning points in nonagricultural employment, in manufacturing employment, and are in advance of the national turning points so that these States may be of some value in forecasting nationally as well as being of value for analyzing the position of the individual States themselves.

But, our concern was mainly with what is the ongoing structure in the diversified economies composed of many States?

Mr. Sabatella was quite right, that national business cycles are a composite of behavior in many different areas. It is pretty important to know what the composite looks like in understanding the meaning of the national aggregate.

MR. LEROY DUNN: A study some years ago on postwar business cycles seemed to demonstrate that the major destabilizing influence in the postwar cycle certainly was the military component.

You come from a State that is rather heavily reliant on military contracts, and Charles Thibeault of your own university, I know, is working on the regional cycle and the impact of disarmament on that cycle.

Here in the State of Connecticut, we are similarly concerned. I think one-third of the manufacturing employment is in defense-related industries, and I wonder whether you in your own investigation had examined some of these quotations from Hickman, and if so, could we learn something about the source of the cycle?

MR. BOURQUE: The State of Washington and the State of Connecticut have a good deal in common. We produce aircraft, and you produce engines, and I imagine there is a good deal of similarity in the irregular fluctuations that occur.

The State of Washington has irregular movements, that is, noncyclical type movements, that are related to government defense spending. At several times, this has resulted in good fortune for the State, but by and large the State still has ups and downs that conform to the national business cycles, and I am not quite suggesting that one could look at the series in the State of Washington and conclude what the national business cycles were by looking at the State of Washington alone, but there is a pretty good concurrence in the fluctuations despite the fact that the military expenditures in the aircraft industry play such an important part in the State of Washington.

MR. LEROY DUNN: Have there been any similar studies done on behalf of the State of Washington? I do not want to prolong this, but subsequent to the one that come out a year or so ago?

MR. BOURQUE: As far as I know, there has been no detailed study of the business cycles in the State of Washington or business cycles in the State of Washington related to defense expenditures. Hickman touches, of course, most generally upon it without getting into regional considerations. I think it would be a most interesting study to relate our cycles in Federal spending to specific areas, but perhaps one of the reasons that it is not done is our individual areas experience cycles that are in conformity to the national cycle.

Even in the State of Washington, I think a very substantial portion of the labor force is engaged by Boeing Company. This does not provide a shield, nor does it make a decisive difference. It makes a difference, but you can still pick out the cycles that correspond to the national cycles. Even in the northwest corner, we are still very much interested in the national cycle because we feel a part of it.

Productivity and Automation

Comments on Current Situation and Outlook

John W. Kendrick, Professor of Economics
University of Connecticut

I was pleased to hear Mr. Soule mention Wesley Mitchell, the godfather of the National Bureau of Economic Research, with which I am at the present time associated. Back before World War I, Wesley Mitchell developed a theory which later has been more or less confirmed by statistics and has since been developed. I would like very briefly to outline Mitchell's approach which I think is quite helpful as a framework for looking at the current economic situation, with particular respect to productivity.

In this theoretical framework, productivity is one of several variables which are quite important in determining the turning points of the business cycle. The first part of Mitchell's approach was his hypothesis, later confirmed by Thor Hultgren and others at the National Bureau, that productivity--defining for the moment productivity as output per man-hour--tends to rise rather rapidly in the early phase of expansion of the business cycle as fuller use is made of productive capacity, and as we approach more closely an optimum combination of resources; but in the latter phase of the business cycle, the advance of productivity tends to slow down as bottlenecks develop when production exceeds the most efficient rate of utilization of capacity in some industries. In early recession, productivity advances even more slowly and sometimes declines, but in latter recession, with strong incentives for increasing efficiency, productivity tends to start rising more rapidly again before the lower turning point.

The second variable that one has to link with productivity to get an idea what is happening to labor cost per unit of output is the wage rate or, more broadly, average hourly earnings. This development in expansion is more or less the reverse of the movement of productivity; that is, wage rates or average hourly earnings tend to rise more slowly in the early phase of expansion but, as unemployment is reduced and as labor is in a better bargaining position, average hourly earnings tend to rise more rapidly in the latter phase of expansion and in the early phase of contraction. With rising unemployment, wage rate increases tend to slow down in the latter phase of contraction.

Now, unit labor cost, as we all know, is merely the quotient of average hourly earnings and of output per man-hour, so what happens to unit labor cost is already implied by what I have said: It actually falls in the early phase of expansion or goes more or less sideways as productivity advance exceeds or equals the increase in wage rates. However, unit labor cost tends to rise in the latter phase of expansion as wage rates go ahead somewhat faster and productivity begins to slow down.

This more rapid increase in unit labor cost continues into the early phase of contraction and then sloughs off in the latter phase, with possibly an actual decline in unit labor cost as productivity advance picks up again and increases faster than average hourly earnings. I am referring to the average, typical business cycle.

The significance of all of this is in the relationship of unit labor cost to prices. In the early phase of expansion with possible declines in unit labor cost as volume increases, profit rates and total profits go up, but in the latter phase of expansion with unit labor costs rising more than prices, obviously profit margins begin to get squeezed.

This is, of course, where the significance of Chairman Martin's remarks comes in. If the monetary authorities begin tightening credit, making it more difficult for cost increases to be passed on through price increases, it is probable that there will be some squeeze of profit margins. The National Bureau has found that profits tend to be a leading indicator; that is, the profit ratio either to sales or to assets (the rate of return on investment) tends to turn down before the peak of the business cycle. This leads to a drop in new orders for equipment and in construction contracts with a later decline in investment outlays, actually pulling down total demand through its multiplier effect on consumption.

Conversely, the improvement of profit margins in the latter phase of contraction tends to foreshadow some increase in new orders and construction contract awards, which lead to an increase in investments which by their multiplier effect increase income, and the ground is laid for a new expansion.

With this analytical framework which I think is very useful in looking at the current business situation, let me say a few words about where we seem to stand at the present time, although it is difficult to know the position of some of these variables. I was telling Jerry Mark, before the meeting, that one thing I would like to see is the development of quarterly figures on productivity. I think that with our increased ability to adjust for seasonal fluctuations we could get a meaningful series. Nevertheless, despite the lack of official statistics, I did the best I could with real GNP, total employment and hours figures for the economy, and for manufacturing.

It appears that whereas productivity has increased from 1960 to 1964 at pretty much the postwar trend rate of around 3.2 percent or so, in early 1965 there are definite signs of productivity advances slowing down. On the other hand, there are indications that the rate of increase in average hourly earnings and wage rates is beginning to pick up somewhat. The U.A.W. contract and some of the other recent labor contracts suggest that there is some acceleration in the rate of gain in wage rates.

It has not shown up yet in Business Cycle Developments, but I would not be surprised if the figures for the second quarter, which are not yet available, will show some tendency for unit labor costs to begin to increase faster than prices. We already know that price rises are beginning to accelerate somewhat; this is one of the reasons for Martin's concern and the concern of the Council of Economic Advisers.

I think the thing to look for over the rest of the year is whether this increase in unit labor cost develops and continues and whether the Federal Reserve Board tightens credit further--we are already down to a point of no free reserves. There are indications of tightening bank rates here and there, so it seems to be quite possible that there will be a general tightening, although this will depend on the outcome of the dialogue within policy councils in Washington. If there is credit tightening, and if the price increases do not keep up with increase in unit labor cost (which in the economy as a whole is the largest element of cost), I think that later in the year we could get some squeeze on profit margins, some reduction in rate of return, which with some lag would tend to be followed by a reduction in new investments, assuming profit margins are reduced below the point at which new investment is as attractive to business as it is presently.

So far, there are just very early indications of this type of development. I think it is quite possible that things develop in this way as they have in many previous past cycles, and it is quite possible that we will have a mild contraction some time in 1966. However, no one can forecast this, particularly in the face of substantial increases in defense spending. Definitely, at this point, the leading indicators do not indicate a recession in the near future. It is just a distinct possibility, as I see it.

I certainly do not share the optimism of the 1965 Economic Report of the President that the cycle may be a thing of the past. I agree with Chairman Martin that we must be alert to possible unfavorable developments. However, I do think that his statement that there are important similarities with 1929 should not be interpreted to indicate that we are in for a severe recession. We all know the great differences in our economy now as compared with then. If a recession develops during the coming year and a half, I think it will be mild like most of the postwar recessions. Then we will start another expansion, in the later 1960's, which I believe will be a very strong expansion, propelled by the rising tide of family formation.

CHAIRMAN CABE: Jerome Mark, the Deputy Assistant Commissioner for Productivity and Technological Developments for the BLS is here, and he will talk about the impacts on employment. Actually, I should say he is going to be talking about the productivity program of the Bureau of Labor Statistics.

DEVELOPMENTS IN FEDERAL STATISTICS AND RESEARCH ON PRODUCTIVITY AND EMPLOYMENT

Jerome A. Mark, Deputy Assistant Commissioner
for Productivity and Technological Developments
Bureau of Labor Statistics, U.S. Department of Labor

I would like to talk to you about some of the work of the Bureau of Labor Statistics on the relationship between productivity and employment. In describing this work, I would like to approach it from two angles: First, our work in trying to assess what has been happening; second, our work on what we think is likely to happen in the next few years. The two are closely related, but for convenience of presentation, since the emphasis differs, I will make the distinction.

First, on productivity measurement itself, the basis for ascertaining any relationships between productivity and employment: earlier this year we extended the measures of output per man-hour for the private economy and major sectors through 1964. In this extension, we also revised and reintroduced the measures for manufacturing and nonmanufacturing, which had not been published for several years. The figures show that we have been maintaining an annual rate of growth in output per man-hour of 3.3 percent for the last 5 years and 3 percent for the entire postwar period. Both manufacturing and nonmanufacturing have shown significant gains over the last 5 years. Manufacturing experienced a rate of 3.2 percent per year over the last 5 years in contrast to 2.5 percent for the whole pastwar period. These rates for nonmanufacturing were 2.9 percent and 2.5 percent, respectively.

We also develop measures for selected industries, some of which are not published because of data limitations, although still used for analytical purposes. Our plans are to develop for publication measures covering all industries with 50,000 or more employees. If necessary, because of limitations in annual data, some of these might have to be restricted to years of economic censuses.

These two sets of output per man-hour measures form the basis for analytical work on the relationships between productivity, output, and employment. We recognize these measures have limitations as indicators of technological change alone, since they are affected by other factors such as scale of operations, rate of investment, quality of raw materials, etc. They are, nevertheless, heavily affected by automation or technological change, and some of the other factors, such as organization of work, are often directly tied in with the introduction of new equipment and new technology.

Overall Analysis

On an overall basis--for the private economy and major sectors--we have been examining productivity and output relationships in order to derive some of the implications for employment. As have many others, we have found that little or no correlation can be derived directly between annual changes in employment and productivity. We have, therefore, been asking these questions: Has productivity been increasing relative to output, so that it is resulting in decreased or smaller increases in employment? If there is a relationship, it is stable for long-run or short-run periods; and does the change in productivity bear a constant relationship to the change in output, no matter how large or how small the output change?

The various measures we have for the private economy and major sectors over the past half century have been examined and relationships over selected time periods such as 1909-47, 1919-47, 1947-63, derived. The findings from this work were presented in Leon Greenberg's paper for the OECD Conference last December on Manpower Implications for Automation. I will not go into all of them here except to point out that one of the findings was that although the rate of increase in productivity in the postwar period 1947-63 was higher than in the long-term period 1909-64, there does not appear to be a substantial difference in terms of relationship between productivity and output for the

private economy as a whole. Because of the similarity of these relationships, employed man-hours changed at about the same average rate during both periods. In contrast, within the earlier period, during the decade of the 1920's, when the rates of productivity gain in the private economy were about as high as for the postwar period, output went up at a much faster rate--so that man-hours of employment rose at a much faster rate in that decade than during the postwar period.

We are currently extending this work using indexes of year-to-year changes in output per man-hour, output, and employment, but reconverted to 3-year and 5-year moving averages in an attempt to eliminate some of the effects of random year-to-year fluctuations. We plan to cover all possible combinations of years in the period 1909-64. We hope this will provide a more generalized and complete picture of any relationships.

Disemployment Analysis

This aggregate type of analysis does not cover the impact of technological change on worker displacement. Actual job displacement, as distinct from employment, depends on the extent to which productivity gains are or are not matched by output gains at the lowest level of activity. Consequently, a more detailed type of analysis is called for here.

A few years ago, Commissioner Clague and Leon Greenberg presented a paper for the American Assembly in which they attempted to assess the employment affects of technological change as reflected through productivity measures. In their analysis, covering over 200 industries within manufacturing they related unit man-hour changes and employment changes. They estimated what was termed a disemployment figure (the decline in employment associated with the increase in productivity) to separate the employment decline associated with output declines from that associated with productivity increases. Separate analyses were conducted for all employees and for production workers.

This analysis was extended and included as part of the paper by Mr. Greenberg before the OECD Conference last December to cover periods which were characterized by different overall employment and output movements; periods, for example, when overall output per man-hour increased at about the same rate, but output moved differently (such as 1947-57, 1953-59, 1957-62). For the periods when output rose more than productivity, the disemployment associated with productivity increases was less than for the periods when output went up less than productivity. The disemployment figure for all employees was less than that for production workers alone in the period 1953-59, when overall employment decreased. The two figures were approximately equal in the period from 1957-62, when employment increased.

Currently, revised productivity (output per man-hour) indexes using new industry price deflators are being developed for several hundred industries in manufacturing. These measures will be useful to reevaluate the earlier estimates, which were based on less complete deflators. In addition, these indexes will be used for computing 3-year and 5-year moving averages of productivity, output, and employment over the whole postwar period. This would permit analysis of these relationships under varying conditions of productivity and output

change and result in a large body of information on disemployment by industry.

We recognize that this type of analysis is limited in several ways and, in fact, is only an interim step in trying to assess the displacement effect. The figures reflect only net disemployment between industries. They are the net result of changes in employment occurring among many plants--some with increases, others with decreases; and may not reflect the sum total disemployment which took place among all plants. For example, in those industries where employment increased, there were probably plants in which employment declined with productivity increases.

Moreover, in another sense, the analysis may be incomplete because employment declines associated with industry output declines may be in part a reflection of technological substitution of products from other industries. For example, the substitution of natural fibers by synthetic fibers, metals by plastics, etc. This kind of change does not show up in the productivity figures for the industry. As yet, the effect of this change on output and, hence, employment cannot be separated from other factors involving output declines.

In an attempt to meet the first problem, we are currently extending the analysis of disemployment relationships to individual plants. We are using individual establishment data from the Bureau of the Census. Specifically, we are utilizing data which has been assembled by the Bureau of the Census for its "Time Series Project for Manufacturing and Mineral Industries." For this project, the Census Bureau has prepared individual establishment records with basic data on employment, man-hours, value of shipments, value added, etc., for each year for 25 industries carefully matched from 1954 through 1961 and for plants in 15 industries from 1947. We are conducting a pilot investigation of these 15 industries. This work is being done for the National Commission on Technology, Automation, and Economic Progress (the President's Automation Commission) and if successful will be extended to other industries within manufacturing.

Disemployment analysis extended to the plant level can result in an overall disemployment greater, the same, or less than that at the industry level. Work on one of the industries already has shown how important the time period and overall output changes are in this analysis. In this industry, for example, when overall output increased, the between plant disemployment was less than the industry disemployment. When overall output decreased, it was greater.

What this work is showing is that the job of trying to assess the displacement effect of productivity changes on employment is a complicated one. At the same time, it is an important one--to attach some magnitude to the relationship between technological change and employment or disemployment.

The plant data are being explored for another type of analysis--to examine the productivity levels of leading plants in each industry and their relationship to the average productivity of the industry. For this examination, which we call the "best plants practices" study, we rank the plants in each industry by their base year productivity, group them into deciles, and observe which deciles predict future industry productivity levels over time. If this method

proves satisfactory, it will provide, in conjunction with the results from our studies of technological developments, better indications of industry productivity growth and employment implications. In this work, we also try to identify the productivity leaders in the industry to see whether they remain leaders or are replaced by newer plants.

In describing our best plant practices study, I have already touched somewhat on our work with regard to what is likely to happen. I would like to refer now to our two major activities in this area. First, in connection with the Interagency Economic Growth project, we have developed a set of projections of output per man-hour trends for most of the sectors of the economy. This project, as you may know, is to provide a comprehensive framework for analyzing the implications of long-term economic growth for a number of economic problems, such problems of manpower utilization. One element in this framework is productivity change in the various sectors. When related to generated levels of industry output, these productivity projections provide the employment implications of the model by industry. These projections were to the year 1970 and were based on all available data (both published and unpublished) on productivity measures which we could develop. We also attempted to take into account, insofar as possible, the technological outlook in each of the sectors. When tied in with the other elements of the Growth Model, the projections will furnish another aspect of the productivity-employment relationships.

Finally, in order to provide a broad overview of significant technological trends in the economy and their manpower implications, our office prepares a summary report on new types of machinery, processes, and products in key industries which are believed likely to have an important effect on manpower needs over the next 5 to 10 years. The emphasis of the report is on technological developments within each industry in an early stage of commercial use, i.e., the period after introduction on the market but before widespread adoption. This report includes, insofar as possible, estimates of the extent of use today and projected use by 1970 and its importance in terms of the proportion of total man-hours affected and skills and training required.

The first version of this report entitled Technological Trends in 36 Major Industries was issued last year by the President's Advisory Committee on Labor-Management Policy. We are currently revising the report to cover about 40 industries with updated and expanded information. The report will provide information on three important areas about which Department of Labor and the Automation Commission are concerned--the extent and pace of technological change, the kind of occupational and employment changes that may be implied, and the nature of manpower adjustments that are being made.

Some technical innovations have applicability in many industries. Among these are such developments as computers and numerical control of machine tools. Because of their far-reaching impact, in addition to the separate industry analyses, we also develop special studies on the nature of these innovations, dates, prospects for adoption, and implications for labor requirements.

In this resume, I have summarized some of our work on productivity and employment. All of this work in one way or another is aimed at placing the technological change-productivity-employment relationship in a realistic perspective.

MANPOWER IMPLICATIONS OF AUTOMATION--SUMMARY OF CONFERENCE BY ORGANIZATION OF ECONOMIC COOPERATION AND DEVELOPMENT

Howard S. Carpenter, Chief
International Economic Organization
Bureau of International Labor Affairs
U.S. Department of Labor

I believe it is rather unusual to have one Conference hear about another conference, but you can relax a minute and hear how other people have looked at some of the problems we will discuss today.

This is a condensation of a conference sponsored jointly by the OECD, the Department of Labour of Canada, and the U. S. Department of Labor, held at the State Department in Washington in December, 1964.

The speakers and discussants came not only from the U.S. and Canada, but also France, West Germany, Italy, the United Kingdom, and all of the Scandinavian countries. It was a tri-partite conference, with labor and management having an equal share of the program with governments, which were backed up by universities and the research community generally.

A complete analysis of the conference has just been prepared by Professor John Crispo of the University of Toronto and will be available shortly in paperback form published by the OECD and McGraw-Hill.

The U. S. Department of Labor is going to publish next month the papers that were presented by U. S. Department of Labor staff members, and some of the speakers at that conference are present at this one, Dr. Clague, Dr. Francis, Dr. Levine, and some of the others here also attended and participated in the discussions from the floor that enlivened the December meeting.

The purpose of the conference was to range over the entire socio-economic consequences of automation with the greatest emphasis on the impact of automation on job content, working conditions, and broad occupational trends. From this emerged some conclusions as to what can be done both publicly and privately to facilitate manpower adjustments.

Almost every speaker voiced the same concern we heard yesterday morning from Louis Levine, that there is too little information, too few data for the policy-maker to make up his mind on what to do about this. Policy-makers, therefore, all the speakers complained, are being forced to make decisions about automation's impact and what to do about it largely on intuition. The same lack of information, interestingly, applied also to the persons who delivered presentations.

The conference had three main topics, the first was the economic setting for automation.

The pace of automation is quickening and may soon be even more rapid. In one of the most controversial papers presented, Leon Greenberg of BLS examined the rates of productivity changes from 1909 to the present, and I think you might be interested in getting his statement when it gets published next month by the Department of Labor. I might add to what Jerry said that he pointed out that our increasing appetite for services rather than more goods may be one of the important factors holding down increasing productivity rates.

Other speakers and discussants brought up the fact that Mr. Greenberg's paper did not sufficiently dramatize the impact of the drastic effects that occur in those industries where productivity rises are sudden. The great increases in agricultural productivity, for example, they pointed out rendered surplus many members of our farm labor force. Similar increases have drastically cut manpower needs in the oil and chemical industries.

Dr. Clague pointed out, also, that sometimes occupations are hit right across the board, and he pointed out posting clerks and some eighty other declining occupations, some of which are declining because of changing buying tastes of the public rather than for technological reasons.

The second topic covered was collective bargaining and employer personnel policies.

There seemed to be general agreement on the role of collective bargaining in helping to facilitate the adjustment process, particularly in helping preserve the existing jobs temporarily so that time can work its magic. It was felt, however, that collective bargaining could do little to create new job opportunities. Public policies concerning stimulation of demand, occupational retraining, and so forth, must help carry the load that collective bargaining was once able to do.

The structure of both U. S. and Canadian trade unions came in for criticism in respect to their ability to handle the impact of drastic technological change. According to some when an enterprise is being automated, the many craft unions operating within it may not think in overall terms, either in terms of their relations with management or their relations with their own members.

At this point, the Swedish delegation made the point that since both Swedish workers and trade union officials are first of all members of the central L.O., which is equivalent to AFL-CIO headquarters, and only incidentally members or officers of a particular industrial union, neither the workers nor union officials care whether adjustment to automation involves transfers to other industries or other unions.

The conference also brought out the fact that big technological improvements require a change in collective bargaining techniques. No longer can there be last-minute deadlines with confrontations lasting up to midnight, since the tentatively-negotiated accommodations technically require months of preliminary testing before they can be judged and accepted.

Professor Arnold Weber of the University of Chicago pointed out that only after a union has accepted the inevitability of automation can management afford to work with it on the adjustment problems. Conversely, he said, only when management has agreed to write off the costs of employee adjustment against the great gains of introducing automation can unions afford to work with management.

He pointed out also that only when employers agree to give adequate advance notice of their intention to automate, can there be rational negotiations.

Mr. Brooks, of the new Manpower Consultative Service of the Canadian Department of Labour, presented a paper on how his government is now offering facilitating services to aid the collective bargaining process when automation is the subject of negotiations.

Finally, the last topic was facilitating worker adjustment to technological change. Some of the barriers to worker adjustment that were discussed there were mentioned here yesterday by Mr. Bookbinder in the context of anti-poverty programs: lack of basic education and its implications for the inability of persons to face up to the need to accept retraining for new occupations late in life. This was noted as the number one barrier to worker adjustment. This psychological insecurity, which lack of good basic education breeds, also prevents greater geographical mobility in this country.

The question of overcoming these barriers brought a multitude of suggestions from the conference, mostly along the line of a closer mix of academic with vocational training. Professor Charles Myers of MIT stated that every North American from laborer to professional must be inculcated with the idea that he may--and probably will have to--change his occupational career several times during his life. Dr. Dymond of Canada amplified this with a plea for a vocational counselling set-up that would serve everyone from childhood to old age.

This all led the conference into the same recommendation that every conference on automation or manpower that I have attended in the past 25 years always winds up with: that what we need to do is strengthen employment

RESEARCH AND LABOR EDUCATION PROGRAMS IN UNIVERSITIES

John J. Glynn, Director
Labor Education Center
University of Connecticut

I would like to talk very briefly with you about what has been happening in labor education programs in universities and the increase in interest in research in those programs. I am talking now about university labor education in the year 1945. Then we could find in this country only one such program, and that was the well established program at the School for Workers in Madison, Wis. at the university there. But, if we move ahead from 1945 to 1955 and take a look at a very comprehensive study that was done by Joseph Mira, entitled,

"Labor Education," through the National Institute of Labor Education, we found that 15 universities were actively engaged in labor education programs. Many of you here are from some of those States and are quite familiar, I am sure, with those university programs and no doubt are working and have been working with them in one way or another during the 10 to 15 years that they have been in existence.

The original group included Alabama, University of California at Berkeley and also University of California at Los Angeles, University of Chicago, University of Connecticut, Cornell University, Harvard University, the University of Illinois, Michigan State University with Wayne University, Minnesota, Pennsylvania State University, the University of Rhode Island, Roosevelt College in Chicago, Rutgers State University in New Jersey, and the School for Workers at the University of Wisconsin.

So, in 10 years from 1945 to 1955, we saw one university labor education program expand to the point where it had 14 brothers and sisters, and then in 1959, according to a subsequent report by Dr. Mira at a conference in Wisconsin --which incidentally commemorated the 35th anniversary of the School for Workers --there were 7 new university labor education programs which had been established in the interim since 1955. They included the University of Indiana, the University of Iowa, the University of Michigan, Ohio State University, Southern Illinois, the University of Tennessee, and the University of West Virginia.

From my own research during this past year, I found that in the 6 years since 1959, at least 6 new university programs on labor education have been launched; these include one at the University of Colorado, one at the University of Massachusetts, one at the University of Missouri, and two in Puerto Rico--one at the Interamerican University in Puerto Rico and one at the University of Puerto Rico.

In addition, I am told by our good friend, Dr. Roberts from Hawaii, that they are expanding the activity there at the Univeristy of Hawaii and are planning to engage in an extended program of labor education in the industrial relations section.

In 20 years we have seen the birth of at least 27 new-type departments, on university campuses, that are generally known as labor education programs. Some of these did develop in, and were part of and still remain part of, the more traditional industrial relations center or section in the universities that I have cited. Others have sprung up full-born from seed, have been created as departments with no relationship to other departments in the university; some have evolved through extension services. Whatever their history, there are definite trends of development within these programs that are of interest to many of you.

Five years ago, at a meeting in Washington, D.C., we formed a University Labor Education Association with representatives from most of these universities that I have mentioned. They have been meeting annually since and have quite an active and growing organization, but in no way should this be confused with the older, better established, and better known Industrial Relations Research Association.

The function of these labor education programs in the universities where they have been developing varies somewhat, but essentially they have a tri-partite base of responsibility and function. The first is that of service, or educational programs for the labor movement and its many elements. This takes the form of extension programs in the field which include formal course work; also, conferences, institutes, and summer schools for labor organizations.

In addition, an interest in research has developed within these programs. Those of us who have been doing this kind of teaching in a field that does not emanate from a traditional discipline have found that for both teaching and curriculum to be effective, we must be doing applied and intensive research in the areas of our curriculum. Ours is an extremely general one and runs across the board through all the social sciences and beyond, so that as these programs have grown in numbers, so have they grown in depth. The original programs that I mentioned were in existence 10 years ago in 1955 today have staffs about double the number of professional people that they had then.

Newer programs are coming into being, with improved budgets that allow, if not for adequate staffing, at least for minimally adequate staffing in order to meet their functions.

The third development that has been taking place within these labor education programs is that the regular curriculum of the university, both undergraduate and graduate, includes more labor education personnel teaching the regular undergraduate and graduate courses.

Essentially perhaps--I oversimplify this--we could say that the labor education program, as contrasted with the industrial relations center, tends to be labor-oriented rather than interdisciplinary or tri-partite-oriented. The program starts with the fact of the union and the role and impact of the union in our modern and contemporary society. It then develops its programs and interests and directions from the fact of the union and the direction that the union is taking in its varying roles in societal decision-making.

To illustrate this I might read briefly to you the functions that the Labor Education Center at the University of Connecticut is charged with. These functions would relate, in most cases, to the other kinds of programs which I have identified.

Our first responsibility is to determine the needs in our State for labor education services that the University can appropriately render through the Center and to provide educational courses, conferences and institutes for union officers, members, and other employee organizations as requested.

The second function: to initiate and conduct research in all relevant phases of industrial and labor relations and to publish materials related to such research.

Third, to maintain informational and technical services through periodic newsletter and other publications designed to promote a wider understanding of

union, administrative, and industrial relations problem areas for all citizens in the State; and, fourth, to cooperate with the appropriate schools and departments in the University in the development of labor studies; upon request by these schools and departments to assist undergraduate and graduate students preparing for careers in union functioning or industrial relations to plan courses and to become familiar with the literature, techniques, and opportunities in these fields.

This will serve as a set of guidelines to be used in these programs and, again, will be found at least in part of the other labor education programs to which I have referred.

ANALYSIS OF COLLECTIVE BARGAINING AGREEMENTS

Paul Mulkern, Assistant Regional Director
for Wages and Industrial Relations
Boston Regional Office
Bureau of Labor Statistics, U.S. Department of Labor

I would like to describe briefly in about five or six minutes a new program that the BLS has recently started.

The development of collective bargaining in the United States has brought about many far-reaching changes in traditional employer-employee relations. By 1962, there were over 17 million workers in the United States belonging to national unions affiliated with the AFL-CIO and to unaffiliated unions. However, the impact of bargaining is much greater when we consider the fact that union agreements often cover non-union workers as well as union members and secondly that patterns established through collective bargaining are often followed by non-union firms.

Along with this growth in union membership and the increasing importance of collective bargaining, has come a corresponding interest in the wide variety of ways in which unions and management have tried to resolve their problems. Recognizing this, the Bureau recently commenced a new and comprehensive series of studies analyzing the entire scope of the collective bargaining agreement. Over the next few years this series of studies is expected to result in the publication of some 30 to 40 bulletins. This series will be known as the "Bulletin 1425 Series." You may recall an earlier counterpart, shortly after World War II, which was referred to as the "Bulletin 908 Series," published during the period 1946 to 1950. This was largely a compilation of sample clauses on specific subject areas to show how labor and management in many situations had met and coped with particular problems. Of course, the 19 reports that comprised that series have been out of date for years and out of print, also. However, in its day, the series proved to be very popular and useful in collective bargaining, to arbitrators, universities, and labor and management generally.

I recall that on many occasions representatives of unions and companies visited the regional office to check on one of these particular bulletins

because they wanted to find out just how companies and unions in similar situations had drawn up a clause to cover a particular problem in seniority, promotions, transfers, or what-have-you.

The new 1425 Series will differ from the earlier series in several important respects. First, it will cover a substantially wider range of subjects and practices in illustrating the various types of clauses upon which the parties have reached agreement and, second, and more important, it will measure the prevalence of practices and illustrate those which are most common.

The old series listed sample clauses, but it was difficult to discover the predominant practice, the most common way of writing a seniority clause, or promotion clause, and so forth. The new series, in addition to providing sample clauses, will provide, also, information indicating what represent the most standard practices in regard to these particular matters.

The studies in this series will be based on a union agreement file which the BLS maintains in Washington. This is a file covering 1,000 workers or more, exclusive of railroads, airlines, and Federal Government agreements. We estimate that there are over 1,700 agreements in the United States within these particular guidelines and that they cover approximately seven and a half million workers, or almost half the total agreement coverage in the United States outside these excluded industries. About two-thirds of the agreements are in manufacturing, and the remaining third are in the nonmanufacturing group.

The agreements include individual company agreements ranging from the minimum size of 1,000 workers up to those in the steel and automotive equipment industries, which cover approximately a quarter of a million employees. In addition, master agreements are included, covering groups of companies in local, regional, and industry-wide bargaining situations. An example of these would be agreements in building construction, which cover members of a particular trade in a metropolitan area, agreements in the apparel industry, the ILA agreements in longshoring and, finally, those which tend to be more industry-wide in nature.

To date, two bulletins have been issued, 1425-1 on grievance procedures, and Bulletin 1425-2 on severance pay and layoff benefit plans. It is expected that the other studies, the remaining studies in this group of 30 to 40 will be coming off at regular intervals in the near future.

I would like to outline in a very brief fashion some of the subject areas which will be studied in this series. According to major subject headings, I would say they fall into eight groups.

The first group, on the administration of the agreement, will cover the union security clause, the checkoff, questions of arbitration and mediation, and strikes and lockouts.

The second broad area, on union management rights and responsibilities will cover the questions of subcontracting, plant removal, adjustments to and introduction of technological change and other questions of that nature.

In the area of wage determination, there will be a bulletin on incentive systems, rate structures, wage differentials, general wage adjustments, and subjects of that type.

The fourth broad heading will relate to the job security issue. This will go into the subjects of hiring and transfer, layoff procedures, questions of seniority and recall, and questions of training and retraining.

Fifth, a group under the broad heading of plant operations, will include the subjects of hours of work, scheduled work week, premium shift pay, hazardous work, and questions of discipline and discharge.

The sixth broad group on paid and unpaid leave will cover the general area of fringes, vacations and holidays, sick leave, military leave, jury leave and so on.

Seventh, the employee benefit plan area will cover health and insurance plans, pension plans, and the ways in which the parties treat these particular subjects.

Finally, a general category will cover such subjects as the older worker group, the question of nondiscrimination, and questions relating to the employment of particular groups of workers.

When this series of studies has been completed, several years from now, it is planned that all the bulletins will be combined into several volumes and accompanied by a comprehensive cross-reference index.

It is hoped that the studies will furnish a valuable insight into the complex problems confronting unions and management and the wide variety of ways in which they have attempted to work out these problems.

CHAIRMAN CABE: We do have some time left for questions.

MR. DAVID MANN: I am with the President's Committee on Equal Employment Opportunity.

Except for a slight reference made to disadvantaged persons in the Poverty Program, there apparently is nothing being done, on gathering information on minority group persons in the labor force, by various State labor oganizations. There is a desperate need for this kind of information, as you well know. There is a Civil Rights Act which will become effective on July 2nd.

The Act provides for record-keeping by employers subject to the Act. There is the possibility of employers reporting to the Commission their employment by race, occupation, and so on. To what extent, then, have the States been gathering this information about minority group employment?

We in the Federal Government have attempted to do this, but there are limitations on the kind of data we have collected. There is not a State represented here today that is not going to have a significant minority group

population. I am sure the statistical-gathering mechanisms of the various States here could place much more precise emphasis on the problems of minority group employment that we can do at the Federal level.

For instance, there are several States here that could do a very good study of nonemployment of Negroes, of the employment of Negroes, or unemployment of Negroes. These are three interrelated problems. There is not a State that escapes the stigma of having within its boundaries several large employers who have yet to hire their first minority group person. This is true despite the fact that the population make-up and the labor area make-up consists of a significant number of minority group persons qualified to work, eligible to work, employable, and who do not have to go through a retraining period in order to qualify for certain types of jobs that might be available.

Consequently, I am addressing myself to this group here to find out what they are doing to develop this kind of information that would help the States assume a better position to withstand the problems of minority group employment than possible heretofore.

CHAIRMAN CABE: I do not know whether anyone on the panel feels competent to answer that; maybe someone from the audience. This is one of the things that Louis Levine has mentioned on several occasions in the past. For the past 2 or 3 decades, we have been spending all of our time getting rid of any kind of data or information that tells us about minority groups, and now we are suddenly confronted with the fact that we need to know. This is showing itself in terms of employment; it is showing itself in terms of apprenticeship, for instance, where we have no records or where we have been saying for the last couple decades that this is information that should not be used. Now, in an attempt to get rid of discrimination, we find that we do need the information.

Would someone in the audience like to speak to this point?

MR. CHARLES A. PEARCE: I think that you have described the general situation very well. We have been inhibited from identifying this particular segment of the labor force and have found as a result--at least in New York--in the last several years that we have had emergency needs for quick estimates. We have had to put together quick estimates based on such benchmarks as the Census affords and such benchmarks as fragmentary sources and the judgment of informed people can give.

For example, we in New York have had to put together estimates on the number of nonwhite apprentices. That was based on a wide assortment of sources and represents nothing better than an informed guess. We have had to put together information on nonwhites in our public works projects. Again, the informational sources were spotty.

We have plans for research--I shall describe these in somewhat more detail tomorrow--which I think will get into the subject of the nonwhite worker in the skilled crafts, his opportunities in the skilled crafts. This particular project is not underway, but this aspect is very much a part of our concern in that study.

Of course, in New York we do have a Commission on Civil Rights which conducts investigations of particular situations on complaint, but now it may do so on its own initiative. Because now it may proceed on its own initiative I would expect that it will be making more investigations which will yield quantitative information with some comprehensive significance.

MR. CLAGUE: I think this gives me an opportunity to point out the difference between statistics, statistical purposes, and administration.

One of the reasons why the emphasis on color was lost is that in the operation of the Employment Service in the early days, with which I was connected, the feeling was that if you identified the person, then administratively he would suffer from discrimination.

On the other hand, when you collect data for purely statistical purposes where none of this is disclosed, you can get adequate information. As you know, in our monthly reports on the labor force, we always have statistics of color, whites, nonwhites, various groups of nonwhites, et cetera, because that does not go down for administrative purposes; it is confidential information.

This does not mean that we should not proceed in that direction, the more you do proceed in that direction, the more you run into the problem of the administrative use of data as distinguished from purely statistical use. It may be that the States should also take account of that and the variety of ways you can get information which, in turn, would not be used against an individual but would give you a statistical report.

FROM THE FLOOR: I would like to add to what Mr. Pearce said. Since 1940, we have broken down our statistics on labor activities by "white" and "nonwhite." Throughout the years we have found this kind of a breakdown useful, not only for public information but also for administrative purposes.

MR. MANN: The original FEPC which went out of business in 1945, predicted in 1945 what is taking place today, because of lack of information and the tendency for employers to discriminate. They predicted that something had to be done with poverty. The old FEPC predicted that there would be this national unrest, that there would be more or less of a revolution on the part of the Negro to rebel against the limitations of opportunities that have worked against them.

I do not know to what extent they have prevailed upon the statistical resources available to them in the State to develop the kind of information which could be put to great use.

We collect information, but of a very limited nature. We can make some projections. We talk about productivity. We talk about the results of automation as if it has a definite relation to the dislocation which might take place subsequent to its introduction. A good segment of the Negro population--90 percent or better--is in blue collar jobs. The dislocation that takes place among the Negroes will be consequently much greater than among the other employees who are dislocated by automation.

Therefore, we must know much more about the industries that are prone to technological advances; those industries could represent the largest concentration of Negro employment. There are certain types of industries where Negroes are highly concentrated in semi-skilled jobs. As a consequency, States faced with this problem are going to have to find something to do with respect to the relocation of minority group persons who are affected by technological advances.

I am not talking about Negroes only. I am talking now about 22 million Americans in minority groups. We are talking about three and a half million Spanish-Americans; we are talking about the American Indian; we are talking about the Oriental; and we are talking about the Negro, and we make the further distinction between Negro and other nonwhites. There is a vast difference between the utilization and the employability of other nonwhites in comparison with that of Negroes. There is a great variation from place to place. The other nonwhites dominate the better types of jobs more than do the Negro. In certain cities you would never expect this to happen, but it does happen--the key jobs, the better paying jobs, are not necessarily identified with Negroes or occupied by Negroes when you are talking about nonwhite. They are associated with other than Negroes.

FROM THE FLOOR: Mr. Carpenter, you mentioned the interest which some of the OECD countries have in automation. Yet, the statistics reported by your section seem to indicate that most of these countries in Europe have hardly any unemployment at all. Have they found a solution for this problem, or are they just lucky, or hasn't automation arrived yet in countries like Sweden?

MR. CARPENTER: Oh, yes, automation has arrived in some of the countries, and it is welcomed very much, because of the fact that they do have labor shortages. The trade unions of Sweden, for example, cooperated very much in setting up an automated shipbuilding plant but generally speaking, automation has not arrived to great extent in Europe.

STATISTICS FOR INDUSTRY AND GOVERNMENT SAFETY PROGRAMS

Chairman: Robert H. Ferguson
Assistant Director of Industrial Relations (Ret.)
Republic Steel Corporation

In the years that I have been associated in the safety activities through the length and breadth of this land, of course, all of us that are dedicated in this field have written millions of words, and we hope some of it has not fallen on deaf ears. The only time that we know that it has not fallen on deaf ears is when we kick someone or somebody makes a terrific mistake and then we hear about it.

When Frank McElroy indicated that this subject had been on the programs 23 times, I think it is an outstanding tribute and an outstanding compliment. This is a subject, true, that seldom makes the mastheads; it seldom makes the marvelous news; and, yet, when a State or the Federal Government or a growing business begins to look at cost pictures to find out what the story is, it goes back and looks at what it is doing with the personnel on this particular subject.

It is fundamental in a case like this, because in my whole business career of almost forty-five years I have always found that the individual at the top is vitally interested in the people that work in that organization. I do not want to say "work for the boss-man," but I mean work for the good of a company or the good of a community.

Nevertheless, this whole safety picture today is in a period of change. In fact, never before in my life have I experienced anything like we have experienced for the last ten years. It is almost an about-face, and too often--when Mr. McElroy made that comment--this kind of a story does not make the mastheads until we start looking down the road to see where we are going.

We have some very able speakers with us this morning. We are going to reach into some of the detail involved in this picture, and I think you are going to enjoy it.

The first man to appear before you this morning is Dr. William E. Tarrants, who is now Assistant Chief of the Division of Industrial Hazards of the Bureau of Labor Statistics. I would like to comment on Bill Tarrants for just a minute, if I may, please. He was formerly Assistant Professor of Research and a Research Associate at the Center of Safety Education at New York University. He has taught courses in safety engineering and industrial engineering at Ohio State University and has held the positions of Instructor of Industrial Engineering and Research Associate in the Opinion Research Group.

Why Injury Statistics?

William E. Tarrants, Assistant Chief
Division of Industrial Hazards
U.S. Department of Labor

As you will see, I believe that injury statistics are extremely important, although I must admit to a positive bias in the beginning. Let us ask outselves that question again and try to be as objective as we can with our answer.

Why do we need injury statistics? I hope I am not over-stating the case when I say in a rather far-reaching manner that the entire safety movement was born, grew in stature, and lives today because of statistics. Furthermore, the safety movement as we know it would most surely die if statistics were not available to provide the nourishment, the energy, and the guiding force in support of the nation's accident prevention efforts.

This concept may seem incredible to some of you, but let us take a look at a few points in fact. Isn't it true that your acceptance and industry's acceptance of the need for occupational accident prevention programs is based upon evidence that accident problems exist and that their existence is of some vital importance?

I am sure you have all heard the basic facts of the problem. Each year in the United States, over 14,000 workers are killed in industrial accidents and over two million others experience disabling injuries while at work. It is widely publicized that these injuries cost industry approximately five billion dollars per year, and that most of these costs ultimately fall upon the consuming public.

Furthermore, the frequency and severity of these injuries are identified and used as an index of accident problems which exist within various industries throughout the country. The thoughts and actions of countless individuals and organizations are strongly influenced by these figures. They show conclusively, that accident problems do exist, and that their existence has a profound influence on the nation's human and material resources.

Now, ask yourself for a moment, "What if these figures--these statistics that we talk about--were not available?"

It seems quite reasonable to speculate that in the absence of a means of identifying the accident problem, your interest, the interest of industrial managers, and the interest of the general public in accident prevention would be greatly reduced, possibly non-existent, unless perhaps by chance somebody close at hand, close to you, suffered a serious accident or maybe you yourself were injured by accident.

Actually, when we look at the real world facts in this case, we find that occupational injuries are relatively rare events in the life of any given individual and that few persons can form any clear understanding of their

importance as a social and economic problem solely from their own experience. Statistics of the kind I have just described expand the scope of accident knowledge and create a realization that there is a problem in urgent need of solution. The occupational safety movement began with statistics developed to identify the problem, grew as statistics provided the basis for accident prevention decision-making activity, and lives today because statistics have shown the positive results of these prevention efforts and have created and stimulated the urge to action.

Let us take a backward glance at the occupational safety field for a moment. This places the present, I think, in a little better perspective. The occupational safety movement, as we know it in the United States, began only seventy-three years ago when the Joliet Works of the Illinois Steel Company established a formal safety program for its employees. Several States were early in recognizing their responsibilities in this field. Massachusetts led the way by establishing a safety inspection program in 1867 and an accident statistics program in 1869. This was due largely to the humanitarian and social arguments voiced by the clergy and the press.

In 1877, the Massachusetts legislature voted to compel employers to put safeguards on hazardous machinery. Then, in 1887, Massachusetts passed an employer's liability law which made the employer liable for damages whenever the worker was injured.

These laws contained numerous loopholes, including adherence to the three common law defenses of contributory negligence, assumption of risk, and negligence of the fellow workers. In each of these three cases, if it could be shown that the common law applied, the employer was no longer liable.

General dissatisfaction with the employer liability laws finally resulted in the enactment of State Workmen's Compensation laws beginning around 1911. The passing of the Workmen's Compensation laws marked the real beginning of the organized safety movement in the United States. Under these laws, employers were required to pay the injured worker's medical and hospital expenses, plus compensation intended to furnish him and his dependents at least a minimum subsistence during the period of disability. The important point was that these benefits were provided regardless of who was at fault in the accident. Thus, the question of fault was eliminated and the only requirement for payment was that the injury occurred while on the job.

These laws, by making worker injuries immediately and directly expensive to employers, had perhaps the greatest single effect on the promotion of safety interest and accident prevention efforts in general. Employers were financially motivated to establish safety programs, and for their own financial protection they began to learn how to prevent accidents.

About this time a number of people entered the safety movement directly. They practiced accident prevention and began calling themselves "safety engineers." A group of employers banded together around 1915 and organized the National Safety Council for the purpose of collecting accident statistics and formulating a collective effort to combat work accidents.

This group based its efforts on the basic doctrine that all accidents have causes, that these causes can be identified and corrected, and that by this process accidental injury and property damage losses can be prevented.

Today, the occupational safety movement is big business--how big, no one really knows. We see concrete evidence of its size in the thousands of people who attend the National Safety Congress, the President's Conference on Occupational Safety, and the many State and local safety conferences conducted annually throughout the country.

Many colleges and universities have established courses in safety engineering, and they have integrated safety into the various subjects contained in their curricula. In fact, five universities now offer a degree specialization in safety engineering or industrial safety, and degree programs are available at both the graduate and undergraduate level.

Plans are currently in progress to expand this number.

Large companies were quick to recognize the need for internal safety programs, and today it is rare to find a plant with over two hundred and fifty employees that does not maintain a formal safety program, although the smaller plants lag rather seriously in this respect. It is significant that the American Society of Safety Engineers now has over 7,500 members, and that they are moving to establish standards of practice, education, and certification which will give their members true professional status.

It is important to observe that woven throughout the historical development of the safety movement has been the thread of statistics, providing cohesion and structural strength for the dynamic progression of the field. These pioneers were spurred to action by early statistics describing injury occurrence. These data were used to interest others, and it was quickly recognized that a continuing flow of statistical information was essential to sustain that interest.

Statistics provided proof that management's efforts in reducing accidents were productive, and in fact should be intensified. Measures of progress became important tools for the safety engineer. Similarly, records describing how and why accidents happened became important factors in planning safety programs and in teaching people to recognize and avoid unsafe practices and hazardous conditions.

Statistics in the form of injury frequency and severity rates and accident factor analyses served their purposes well. Most importantly, the practitioners of the safety art recognized that the flow of these statistics must be continuous if meaningful measures of progress were to be maintained. Only current facts can sustain interest and keep the safety movement viable. Their importance is evident at every turn, for without meaningful statistics, it would be very difficult to rationalize any accident prevention program.

If we accept the premise that the safety movement must have injury and accident statistics, the next question we might ask is, "What responsibilities do the State and Federal governments have for providing such statistics?"

I am sure the answer is obvious to all of you. Only governments have the resources to produce the comprehensive basic statistics needed to identify meaningfully the problems and measure progress toward accident reduction.

Outside of government, there are, of course, many special statistical activities, some of a continuing nature, which serve particular purposes and are most useful to the safety movement, but these sources provide limited information and the data are usually collected from a relatively narrow segment of the population.

State and Federal labor departments all have a statutory duty to foster and promote the welfare of all workers, and keeping the occupational safety movement alive and vigorous is of the essence in such a responsibility. Unfortunately, only a few State labor departments have been given adequate resources to do properly the task that should be performed in this area.

A second question we might ask ourselves is, "Given adequate resources, how can we best achieve our statistical service objectives?"

Progress evolves from a restless discontentment with even the best of what is currently practiced. It is not enough just to pull ourselves up to the currently acceptable level of performance. If we are to achieve more effectively the objectives of accident prevention, we need to appraise continually our present statistical methods with a view toward their improvement.

The answer to the question, "Why Injury Statistics?, takes on new dimensions when we also ask, "Where do we go from here?"

A close examination of our present activities in the injury statistics field reveals several areas where improvement might be introduced. First, we need to improve the validity and reliability of accident data.

Statistics has been defined as a body of methods for making wise decisions in the face of uncertainty. The quality of the statistics and ultimately the quality of the decisions made from them is dependent upon the quality of the information from which they are derived. Some go so far as to state that there are no bad decisions, only bad information, because if all the facts are known, the solutions and decisions often suggest themselves. I think this statement requires serious thought.

In the area of accident prevention, wrong or inadequate information about accident causes leads to wrong decisions about which prevention programs to recommend. Let me give you an example which I often use, and yet I think it very forcefully illustrates this problem.

We had a very serious accident while I was associated with the Ground Safety Program at an Air Force installation in Europe. A jeep accident occurred in which two people were killed and two others were rather seriously injured.

During the course of the accident investigation, we asked the driver "What happened?"

The driver gave the following story:

> I was driving down the road at night when all of a sudden an owl dropped out of an overhanging tree and struck the windshield in front of me, causing me to lose control of the jeep. We left the road, rolled down a bank and overturned. The next thing I remember I was waking up in the hospital. The Stars and Stripes, a daily newspaper for the U.S. Armed Forces in Europe, picked up the story and printed it for distribution all over the continent. The headlines read "Falling Owl Causes Fatal Accident." The story identified falling owls as a rather serious potential accident problem for all automobile drivers. The drivers were instructed to take certain defensive actions to avoid being struck by a falling owl. Certain other actions were suggested in order to minimize the severity of this kind of accident and prevent a recurrence of the fatal results previously experienced.
>
> Fortunately, our investigator became a little suspicious of this story and began to probe further into the evidence. When several inconsistencies were pointed out, the driver finally broke down and described what really happened. The men were driving down the road at night when they suddenly observed an owl lying in the middle of the road ahead. The owl was already dead. As they passed the dead owl, one of the men in the jeep said to the driver "I would like to take the owl back with me as a souvenir. How about turning around so I can pick it up? I will take it back to the barracks, stuff it, and hang it on the wall." Well, they turned the jeep around, went back and picked up the owl, and proceeded toward their destination. After a short time they decided to stop at a pub and have a few beers. As they drove on, the beer combined with fatigue from a busy day made the men drowsy and soon everyone was fast asleep except the driver. Finally he dozed off and lost control of the jeep. The vehicle rolled down the bank and overturned. This is how the accident really happened. It had nothing to do with falling owls.
>
> The point of the story is this: you can develop the best accident prevention program in the world based on how to stop falling owls from causing accidents, but if falling owls are not part of the problem, then all of this work is meaningless. I have encountered the difficulties of misinformation in accident investigations so often, I have come to call this problem "the falling owl syndrome," borrowing a term from the physician. I define "the falling owl syndrome" as a constellation of false events which results in an erroneous causal conclusion.

The problem of inadequate data or the lack of good, valid data--data that measures what it is supposed to measure and tells what it is supposed to tell--

is a never-ending one. But, we must work toward increasing or improving the validity and reliability of our accident data because we find that the validity of decisions we make in accident prevention is a direct function of the validity and reliability of the information upon which these decisions are based.

Our accident statistics will improve as we develop better data-collection methods, improve our population sampling techniques, establish more precise causal classification categories, and improve our system for checking the validity and reliability of reported accident information.

A second area where improvement might be introduced is this: We need to present additional decision-making information along with instructions concerning its meaning and use.

Statistics serve in at least two capacities. First, they give us methods for organizing, summarizing, and communicating data. Second, they provide methods for making inferences, beyond the observations actually made, for large classes of potential observations.

The set of methods serving the first of these functions is generally called "descriptive" statistics. Most of the accident and injury statistics presented by State and Federal governments are descriptive in nature, but if we wish to generalize from our knowledge of a sample to the entire population of which the sample is only a fraction, we need a body of methods which will enable us to arrive at conclusions extending beyond the immediate data. The techniques that enable us to draw inferences about populations from our knowledge of samples are called "inferential" statistics.

Our ability to make objective decisions is greatly enhanced when techniques of inferential statistics are introduced. They not only aid us in determining what inferences we can draw, but they also tell us how safe we are in drawing them. The addition of this new decision-making information to our body of accident and injury statistics will tell us our margin of error when we predict some population measure such as average injury frequency rate and enable us to test hypotheses about various measured relationships within the population.

Actually, the purpose of description is to prepare the way for inference. In practice, inferential statistics is perhaps much more important than those of a descriptive nature. We must study samples, but we are seldom interested in the samples themselves. Inferential statistics permits us to go beyond our data and tells us how much risk we take in doing so.

Additional information which would enhance our inferential capability and greatly aid the user in making decisions include measures of dispersion such as the standard deviation, the variance, and the range; and procedures for testing hypotheses such as the t-ratio, the chi-square text, and the analysis of variance.

Three, we need to provide better information by improving and expanding our data analysis procedures. This point ties in closely with the presentation of additional decision-making information. In analysis work, we need to apply

the techniques of inferential statistics to put new meaning in the data interpretation process. Data analysis is probably the weakest link in the injury statistics development system.

It is important to keep in mind that statistical data have to be interpreted. They seldom, if ever, "speak for themselves." Statistical data in the raw simply furnish facts for someone to reason with. They can be extremely useful when carefully collected and critically interpreted, but unless handled with care, skill, and above all objectively, statistical data may seem to prove things which are not at all true.

It is sometimes said that statistics are used the way a drunk uses a lamppost, for support rather than for light. Special care must be taken in analysis not to bias the results because of personal interpretations and conclusions that are unwarranted by the nature of the data itself.

The frequently heard comment that statistical conclusions are wrong is often supplemented by the view that when they are not wrong, they are self-evident and trivial. In fact, I have heard it said that a statistician can be defined as "a person who draws a mathematically precise line from an unwarranted assumption to a foregone conclusion."

Misuses and misinterpretations in the analysis of statistics are probably as common as valid uses. One way to misuse statistics is to ignore all data that do not support your preconceived hypothesis. This simply means if it does not prove it, forget it.

I recall an example of this from my own experience. I was working as a safety officer on the staff of an installation commander in the Air Force. One day he called me into his office and said, "Tarrants, I have got to talk to the General about accidents; we want to look good to the General; I want you to draw for me all of the charts on accidents and injuries that you can possibly think of; we will pick out those that make us look good and throw the rest away."

And so help me, this is what happened!

Darrell Huff is his interesting book entitled How to Lie with Statistics and Allan Wallace and Harry Roberts in their book entitled Statistics: A New Approach, have made excellent presentations of statistical fallacies and errors in data analysis. When you first read them, they strike you as being kind of humorous, but then when you start noticing evidence of these fallacies all around you, and observe that people accept them as facts, they become rather tragic.

These authors describe errors in the use of basic definitions underlying an investigation, in the application of these definitions, in the measurement or classification of individuals or objects, and in the selection of individuals for measurement. They also illustrate errors in the use of the resulting data by making comparisons improperly, by failing to allow for such indirect causes of differences as heterogeneity of groups with regard to important variables,

by disregarding the variability that is usually present even under apparently constant conditions, by technical errors, and finally by misleading verbal or graphical presentations.

The final area of improvement I would like to mention in connection with injury statistics is the need for a better understanding of the field within which our results are applied.

Statistics is a tool which can be used in attacking problems that arise in almost every field of empirical inquiry. The statistical approach, though universal in its underlying ideas, must be tailored to fit the peculiarities of each concrete problem to which it is applied. It is dangerous to apply statistics in "cookbook" style, using the same recipes over and over, without careful study of the ingredients of each new problem.

We may be especially interested in statistical methods, but it is important to recognize that statistics cannot be used to full advantage in the absence of a good understanding of the subject to which they are applied. Not only must we have a good understanding of the subject ourselves, but the persons or groups with whom we are communicating must have an equally good understanding of both the subject area and the terminology we use before we can effectively convey information.

I recall as story which will serve to illustrate this problem. The first time I heard it, the author professed to its truthfulness, but I began to doubt its authenticity after I heard it repeated two or three different times. I will try to describe it as I first heard it, because that version has perhaps the greatest chance of being the true one.

It seems that a safety director of a corporation was presenting material on the accident picture in the plant to the plant manager and his staff. The plant manager, being rather new on the job, listened very carefully to what was said. Previous to the presentation on safety, he had heard a presentation on the progress in sales and one on the favorable profit trend. Now the safety director had his turn. The plant manager listened carefully, and at the end of the presentation he felt compelled to make a statement that showed how much he was in favor of accident prevention. He wanted to demonstrate that he was really in support of the safety program. He got up and said, "Gentlemen, I want you to really push this safety program. During the succeeding months when we look at these charts, I want to see that frequency rate going up and up and up."

Well, I am sure he had in mind the sales and profits frame of reference. He had been looking at charts showing the rising trend of these items and he thought everything else ought to go up too!

The problem, of course, is that he did not really know the meaning of the frequency rate. He was looking at the problem from one frame of reference, and the safety direction who presented the information had a completely different idea in mind.

Successful statistical work depends greatly on knowledge of subject matter--knowledge on the part of those who work in it, and knowledge on the part of those who receive the information and make use of it. Mere manipulation of figures or preparation of standard tables and graphs is seldom fruitful. This is very important. I think we are perhaps more guilty of this error than any other of the errors I am discussing. Mere manipulation of figures or preparation of standard tables and graphs is seldom fruitful unless guided by a clear conception of the subject matter and of what relations would be worth looking for.

To a considerable extent, statistical application in a particular field is an art rather than a science. As with other arts, however, there are certain basic techniques whose mastery is necessary though not sufficient for success.

As a final thought, I would like to quote from a recent article on statistics in general by George Hagedorn, Director of Economic Studies of the National Association of Manufacturers. He says:

> "People who really understand the figures, their virtues, and their limitations are a small minority. The great majority who do not understand the statistics are divided into two classes. First, there are those who have an exaggerated respect for government data. They assume that if only you put the right statistics together, there will emerge from this compilation of facts the right answers to any given national problem. The second group is composed of those who have an exaggerated suspicion of published government statistics. In this view, since government officials frequently cite statistics in support of their partisan and questionable proposals, there must be something wrong with the statistics themselves."

I think we have seen many examples of both these views. People often quote selected statistics which support their views and ignore all data in opposition to their particular position.

Mr. Hagedorn continues:

> "The truth lies somewhere in between. The figures published by old-line statistical agencies are generally prepared in an honest and competent manner, but no matter how honestly and competently the figures are prepared, it is a mistake to imagine that government statistics are facts which speak for themselves. They speak clearly only to those who have taken the trouble to investigate the definitions on which they are based and the techniques used in preparing them. They give answers to economic questions only when they are combined with a good measure to common sense, knowledge of non-statistical facts, and a basic understanding of what makes our economy work."

To government statisticians, this means that not only must we produce the most valid and reliable statistics possible, but also that we must make sure that we follow standard procedures in compiling the figures, that we properly apply our professional competencies to the analysis of data, and above all that

we must fully explain and be willing to defend our data development and analysis procedures. We must be humbly conscious of the fact that we do not know all the answers. When these principles are put into practice, we can feel confident that we are doing our part to keep the occupational safety movement vigorous and successful.

CHAIRMAN FERGUSON: Bear with me while I comment on a few of the things our speaker touched on. These are yardsticks: Where are we going, where have we been? In terms of fatal injuries in the manufacturing operations, 14,000 people died in accidents last year. That figure has been pretty stable for a number of years, but 25 or 30 years ago that figure was 23,000 or 24,000.

The thing you are primarily interested in comes down to the enforcement of workmen's compensation acts and the relation of statistics to this particular field.

We do have an obligation, and that is to prevent injuries to the man on the job, to his co-workers, to his family while at home. Injuries are costly to those directly involved and to the community in terms of lost services.

I cannot stress this point too strongly; but, the thing that we have always been very interested in, particularly in the last 5 or 6 years, is the number of States that are involved in special studies by the U.S. Department of Labor of certain facts and figures that are being developed properly. They are fundamental. In our work in the Business Research Advisory Council on work injury statistics, I cannot stress too strongly the special studies. Every time we have come through and developed one of these, we find that the accident curve drops in that particular industry when all of this material is called to the attention of the proper people. Are there any questions?

MR. CHARLES A. PEARCE: I agree with you about the importance of special studies. I think this is one of the most useful products of the BLS program. Is there a hope that that special study program will be stepped up in the near future?

MR. McELROY: I think all of you who are associated with State or Federal programs know that the answer to this is the difficulty of obtaining the necessary funds. We have been most anxious to expand this program. We have requested funds each year for about 8 or 10 years, to expand the special studies program. We have not reached first base yet.

Actually, at the moment, things are looking up a little. We have received some very substantial support from outside the government and from industry. We do hope that the program is on the verge of being expanded; perhaps not expanding as much as we would like, but nevertheless moving forward.

I would like to comment on one or two points of Bill Tarrant's presentation. He mentioned that the estimated cost of work injuries in the United States approximates five billion dollars. It was very interesting to hear that the Federal deficit was reduced to approximately four or four-and-one-half billion dollars last year. If we could prevent these accidents that occur in industry, we could almost wipe out that Federal deficit with the savings.

The four or five billion dollars that accidents cost usually comes out of corporate profits. This is something to think about, but more seriously, the five billion dollars that industry pays is only a small part of the true cost of occupational accidents to the nation as a whole.

I think Mr. Skolnik indicates in his findings that not over two-thirds of the loss to the injured person is really covered by compensation payments. Unfortunately, compensation payments generally have a cutoff point. They do not last the rest of the life of the individual who has experienced a serious or permanent impairment: However, the loss of possible earnings may last the rest of his life.

We have heard a great deal in the last couple of days about the Poverty Program. One of the sources of poverty but not necessarily the greatest, is in families of bread-winners who have been killed on the job or so seriously injured that their income has been drastically reduced.

We could make a good dent in poverty if we could eliminate these accidents. The people in the States and we contribute toward this objective by preparing and presenting the statistics that keep the safety movement alive.

CHAIRMAN FERGUSON: Thank you very much, Frank. Any other questions?

MR. ARTHUR LENZ (New York): One of the fundamental problems in workmen's compensation statistics is the diversity in the laws throughout the States. We who work actively in the field only learn about statistical techniques that are being used in other States at meetings such as this or through correspondence. Would it be possible for the Federal Government to act as a clearinghouse to disseminate more widely statistics in the field of work injury?

The only uniformity we have in this field is in the basic injury frequency and rate program, but in terms of workmen's compensation statistics, resources are limited, and publication is not very extensive.

We will hear today about costs; we will hear about an injury program; but, at each of these meetings, we hear very little and very infrequently about developments in statistical techniques in the field of workmen's compensation itself. I refer to the whole gamut of what happened to the fellow--what his occupation was, what his industry was, how the accident happened.

I think what is lacking here is not knowledge, but publicity, and a little light on the knowledge that we each have. I again suggest that perhaps this is a function that you might consider in the Federal Government, that of acting as a clearinghouse.

The more difficult matter, traditionally, is trying to develop these diverse statistical programs on a comparable basis. As a concrete illustration, we have had a conflict in the definition of what, in the various States, constitutes a week of lost time. Wisconsin uses 6 days; New York speaks of a calendar week; Illinois speaks of a week. I think we all speak of something quite different.

MR. McELROY: I do not like to monopolize the position here, but Mr. Lenz has raised a question that is very close to my heart.

In 1912, when the International Association of Industrial Accident Boards and Commissions was organized, their first order of business was to establish a committee on workmen's compensation statistics. That committee prepared a report, which was submitted at the 1913 convention recommending that the Department of Labor establish a clearinghouse for workmen's compensation statistics and that the Department take the lead in introducing standardized methods of compiling workmen's compensation statistics.

At that time, the Commissioner of Labor Statistics accepted the challenge, but he had to qualify it. He said, "We shall do what we can, but unless we get the necessary funds, it may be a while before we can get the program going." We are now in 1965, and the program has not been started yet, but the IAIABC has repeatedly adopted an identical resolution. The desire is there, the need is apparent, but the resources to do what Mr. Lenz suggests have never materialized.

When Max Kossoris was with the Industrial Hazards Division, he prepared a manual on industrial injury statistics which outlined the desirable types of workmen's compensation statistics that could and should be prepared by the individual States. This manual was one of the most popular of the Bureau's publications up to that time. I believe it was published about 1940. We still receive a fairly substantial number of requests for it from all over the world, but our progress in this field stopped with that particular bulletin. It is no longer available, unfortunately; it has been out of print for a long time, largely because it contained several chapters on accident analysis and on the computation of injury rates, the procedures for which have been modified substantially in subsequent years. The basic concepts of statistics of workmen's compensation that were contained in that manual are still valid; however, as far as putting into effect the recommendation that a clearinghouse be established, at this moment we are perhaps as far from achieving it as we were in 1913. I do not see any prospect in the near future of developing this sort of approach.

MR. LENZ: We appreciate the leadership, and we are all familiar with the excellent manual Mr. Kossoris put out. We still use it: However my point is that without the necessity of developing a special program, the BLS might take some of our published material which we cannot disseminate as widely as we would like to, make it available elsewhere, and provide us with material from other sources. When I say "clearinghouse," I do not suggest that the work be done by BLS. I suggest that when a technique is developed in one area, enough publicity should be made available so that other people will be able to evaluate that technique and decide whether they might be able to use it.

What I am suggesting is a much less expensive program whereby, if something is developed in California, people in New York and Wisconsin and throughout the country should have some idea what this is.

MR. McELROY: In answer to that particular point, when we receive a request from any of the States for specific information about a particular type of problem, we try to round up all of the available materials from the other States and to see that they are provided to the State having the problem.

The difficulty, of course, is that frequently the States will develop new aspects of their program, and we will not know about it. Sometimes we hear of these developments only through organizations and meetings like this. In the International Association of Governmental Labor Officials meetings, the States do describe what they are doing. This morning we will hear what Wisconsin is doing, and we will hear about a very interesting development in Illinois.

Unfortunately, we simply are not staffed to a point where we can send people to visit the different States and by that means actually keep track of what they are doing in the field of workmen's compensation statistics. This is one of the things we would like to do, but there are limits to how many areas one small staff can cover.

MR. WALTER KEIM: Frank, suppose they send this information to you for your use in your shop? Would it be possible for you to pass it on to other States you think might be interested?

MR. LENZ: Instead of attempting to cover the waterfront, why not pick out interesting developments in some of the States and review them in an annual article or monthly report, describing interesting developments during the past year?

MR. McELROY: To answer Walter, we do try to be placed on the mailing lists of all of the States to have them send us their materials.

When we have a report that is particularly significant and represents a new venture or an unusually good presentation of materials, we always write to the authors and suggest that they transmit the report to all the other States. We haven't the facilities to reproduce it ourselves, but we do encourage its distribution.

MR. KEIM: What I had in mind was something similar to the arrangement we have on Mr. Pearce's retail trade study. He advised us of the availability of this study. We, in turn, advised the other State statistical officials of this study and suggested they contact you for copies. Did you get any requests, Mr. Pearce?

MR. CHARLES PEARCE: We have had a number of requests. I do not know how many were as a result of your particular circulation since we have a mailing list of our own.

I think, generally, that States who are really interested in developments elsewhere find ways to get in touch with other States. Whether or not it would be worth the trouble and expense, it would be a great convenience to have an updated record of significant developments that are taking place in the various

fields, certainly in the field of workmen's compensation. We probably know less about what other States are doing in this field than in almost any other field I can think of.

MR. LENZ: I think the problem is that Workmen's Compensation agencies are not basically research agencies. They are not operating a business in the publishing or printing of manuals.

A State Injury Rate Program

Henry J. Gmeinder, Chief Statistician
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The year 1960 marked a turning point in our injury statistics program in the State of Wisconsin. The Wisconsin Council of Safety, in its 1960 Annual Report, noted that the leveling-off trend in Wisconsin's workmen's compensation injury cases indicated "the need for a new approach" in further reducing occupational injuries. This need triggered Wisconsin's work injury rate program.

The inauguration of our work injury rate program coincided with the 50th Anniversary of our Industrial Commission. The information gathered from this program was intended to complement our workmen's compensation injury statistics.

We began by surveying manufacturing establishments in 1961. In 1962, we added construction. The information for these two major divisions of industry are collected in cooperation with the Division of Industrial Hazards of the Department of Labor.

A standard work-injury rate program covering State of Wisconsin employees was started January 1, 1964; and now, in 1965, we have also asked private self-insurers to give us information so that we can compute standard injury-frequency rates. Now we are compiling and publishing standard injury-frequency rates for manufacturing, contract construction, State governmental employees, and non-governmental self-insurers. Additionally, last year we asked Mr. Forrest T. Moyer of the U.S. Department of Interior if he could give us standard injury rates for certain portions of the mining industry.

Information on standard injury rates is compiled in accordance with the American Standard Method of Recording and Measuring Work Injury Experience, Z16.1. Standard injury rates are based on all disabling or lost time injuries and are not limited to those with 4 days or more of disability, as the Wisconsin workmen's compensation statistics are.

On our injury rate surveys, we code the industry and employer file number. The place code tells us the location of the establishment. Other types of information compiled under this program are (1) exposure data, which include the average number of employees and total hours worked by all employees,

(2) number of deaths incurred and time charges assigned, (3) number of permanent impairments and corresponding time charges assigned, (4) number of temporary disability cases involving one or more days of disability, and, (5) number of medical treatment cases (where this information is available).

It is my understanding that only 12 of the 50 States have a cooperative arrangement with the U.S. Department of Labor for the collection of work-injury rate data. Ten of the States, including Connecticut and Wisconsin, participate in an annual survey. Two States participate in a quarterly survey. The purpose of this survey is to provide information that will stimulate interest in accident prevention and provide the safety movement with a measure of its problems and accomplishments.

The one report submitted to the State furnishes both the State and the Department of Labor with information they need to compile their respective summaries and, thus, avoid duplication. Data reported are held in confidence, and are not published in any form that would reveal the figures of any individual establishment or company. To avoid duplicate requests for the same information, however, the report may be made available, upon official request, to other governmental agencies having authority to collect similar information.

Under the cooperative agreement, the State agency provides and maintains a mailing list, addresses and mails the schedules, and maintains the necessary contacts with the cooperating establishments. After review and editing by the State agency, and after extraction of essential information by the State agency, the reports or listing tabulations are forwarded to the Division of Industrial Hazards for use in national injury rate compilations.

The Bureau of Labor Statistics supplies the schedule forms, letters of transmittal, and postage-paid envelopes. It also furnished supplementary letters and notes in connection with the editing of the schedules. One person in the State is officially designated as the cooperating representative.

The Division of Industrial Hazards and the State agency arrive jointly at technical decisions, and the Division of Industrial Hazards normally provides an annual work injury conference for the participating States. Each State issues its own releases and reports based on the data compiled.

Standard injury rates constitute the basic measure of work injury occurrence in the United States. They permit direct comparison of the incidence of disabling injuries and of the resulting losses per million man-hours of exposure in different industries, in different areas, and in different categories of plant size. In year-to-year comparisons, they indicate the basic trends in injury occurrence, as well as the industries and areas in which accident prevention needs to be intensified, and measure the success or failure of existing State- or industry-wide safety programs. Most important, they provide the norm, or basis of comparison, against which management can evaluate disabling injury experience in individual establishments.

Another major program of the Wisconsin Industrial Commission is the preparation of workmen's compensation statistics for accident prevention purposes.

Together, these two programs have been useful in setting up safety programs for trade associations and have led to the creation of special committees to study safety problems of certain groups and hazardous industries.

I like to think that everyone in Wisconsin has benefited from the injury rate data: labor, management, and the public in general. Safety or the lack of safety, of course, affects everyone. More specifically, what have we accomplished and what do we intend to accomplish in the near future.

First, through our work-injury rate program, we are giving Wisconsin manufacturing and contract construction industries an indicator or measure of the problems and accomplishments in terms of standard work injury rates by industry, area, size, and so forth.

Second, we have provided the Industrial Safety Steering Committee of the Wisconsin Council of Safety with a comparative work-injury rate record. Incidentally, the manufacturing establishments belonging to the Council have been experiencing an injury-frequency rate about half as high as those which do not belong. We have pointed out to nonmembers that assistance on safety programs is available from the Wisconsin Council of Safety.

Third, we like to feel that our special injury rate statistics and workmen's compensation statistics reports motivated the formation by our Commission of various special committees, most notably a special committee for the construction industry, and another for logging. Labor is also represented on these committees.

Fourth, the idea of working through trade associations is not new. The Industrial Commission and the Wisconsin Council of Safety are working with an increasing number of them. This seems to be an exceptionally good way to reach the largest possible number of employers and employees with a minimum of effort. The Wisconsin Council of Safety, a few years ago, set up a Steering Committee for trade associations as a division of its Industrial Safety Steering Committee. If an association desires to start a safety program, the Wisconsin Council of Safety arranges for a safety institute. Our Statistical Division then prepares and presents a special study of the accident problems and costs in this particular trade group.

Since July 1962, we have also issued special injury reports for the following industries: printing, publishing, and allied industries; lumber and wood products, except furniture; retail hardware, farm equipment and garden supply stores; mining and quarrying of nonmetallic minerals; manufacture of dairy products; local government; State government; contract construction; and various other manufacturing industries.

Tabulations and listings are now being run off by data processing for: State government; hospitals; special governmental districts; county governments; city and village governments; town governments; school districts; logging; dairy products; and primary-metal industries.

You will notice a preponderance of governmental agencies. These reports are in addition to our usual Statewide reports on occupational disease, disability, source of injury and accident type, violations, hearings, and amount of first payment.

The University of Wisconsin also uses our data. The School for Workers, which is a part of the University Extension Division, is very interested in work injuries. Our basic data were made available to the University for research and for various studies, including a special study of work injuries related to several hundred occupational classifications. We also prepare special reports for industrial safety management institutes conducted by the University extension program.

To round out our Wisconsin Industrial Commission's statistical yardsticks, we measure first the results of accident prevention programs in dollars and in humanitarian and performance standards; second, the adequacy of compensation for those who have sustained injury or diseases and for their dependents; third, the degree of physical restoration of the injured; and, fourth, the rate of return to employment.

Our Statistical Division would very much like to undertake new programs, if and when time and budget will allow. For example, we would like to compile standard injury rates for all industries in Wisconsin. We would like to determine the costs of accidents occurring either on or off the job. At the President's Conference on Occupational Safety, in June of last year, the workshop on improved cost data concluded without any expressed doubts or opposition that accident costs are essential elements to consider in effective management planning of safety programs. We would like to analyze information on file and that being generated through quality control and other statistical techniques. We would also like to maintain more adequate administrative statistics. Our Director of Workmen's Compensation and our Commissioners must have adequate administrative statistics for continuity of service, to provide the basis for self-appraisal and to answer inquiries from various sources.

We are already compiling some of the statistics, but we need to know more to do a better job in administering our workmen's compensation law--through the different stages from the filing of first reports to the closing of the case in our files.

Finally, we would like to analyze rehabilitation cases. Here, too, we are derelict in our evaluation of net results. We must certainly try to set up some statistical guide. The past is prologue. Past experience properly applied, of course, is the guide to future safety and administrative activities.

We are fortunate in Wisconsin because our Industrial Commission and the Wisconsin Council of Safety, over the years, have appreciated the value of statistics in planning for accident prevention work and in using such data for delivering messages on safety. Out of 19 improved service goals of our present Wisconsin Industrial Commission for 1965-67, four are directly or indirectly intended to stimulate improved results in accident prevention, through injury records or statistics.

First, extend specialized aid in the area of reports on injury frequency and frequency reduction to additional trade associations and specific industries. Favorable results have been obtained in the canning and logging industries through this service.

Second, establish a more active and effective State employee safety program. At the present time, accidents to employees of the State of Wisconsin will cost the State about half a million dollars in the next 2 years.

Third, emphasize research and statistical data. Collect and analyze only those statistics that can significantly add to the effectiveness of State service.

Fourth, identify companies with poor accident records and interest them in participating actively in safety programs. At present, the people who are most active are the ones with the best records. We need to interest and help the companies with the poor records.

On the national level, the President's Conference on Occupational Safety, held in Washington, D.C., last June underscored the importance and use of accident records, accident cost figures, and safety standards, to reduce the human and economic waste of needless on or off-the-job work injuries. I think the President's Conference has a special message for us here at the 23rd Annual Interstate Conference on Labor Statistics.

It was pointed out that human safety is of prime concern and part of the overall War on Poverty. We need to mobilize leadership in injury and accident statistics. This is especially true when we consider the implications arising from some of the observations made at our 19th Interstate Conference, on which occasion it was stated that workmen's compensation--the original social security program is the least served by statistics of any of the social and welfare programs in the United States, and that this should be a matter of deep concern to the States.

What has been our progress since then, and are we doing the job we should?

One of the principal objectives underlying workmen's compensation, just like our cooperative work injury survey, is the reduction of work injuries. We have goals and objectives. We have them on the national, State and divisional level.

FROM THE FLOOR: To what extent are the safety engineers on the Commission using the workmen's compensation reports for their contacts with the employers to educate them?

MR. GMEINDER: Of course, the people in our Safety Division automatically receive all of the information we put out, and they make individual requests for particular data, but how they are using these data, I just do not know.

FROM THE FLOOR: What cost factors are you using in your program? You touched on that, but could you expand your comments?

MR. GMEINDER: The cost factors we use are primarily these: We tabulate compensation costs, what the indemnity amounted to, and what the medical aid amounted to in compensable cases. These data are transferred to punch cards and, of course, normally printed in many of our tables. We have made "guesstimates" of total direct and indirect costs recently, of nonfarm, nonfederal major industry groups.

FROM THE FLOOR: Have you made any efforts to explore the area of wage loss or anything like that, in addition to those two factors?

MR. GMEINDER: No, sir. However, we have average weekly earnings, and time loss figures. So the potential is there, but that is something we look forward to as our budget will allow.

MR. ROBERT HAGOPIAN (American Insurance Association): In your work with trade associations, have you found these people receptive to the idea of getting into the safety program; and do you have any suggestions as to how the State agencies could help other organizations working in this field--for example, the Associations Committee of the National Safety Council, which I believe has been very active in Wisconsin?

MR. GMEINDER: I personally feel that the various trade associations have been very receptive to our information. As I noted, the Canners Association has used such information for 20 years in connection with their annual meeting. Construction trade groups, the Creamery Association, and other groups have been very receptive. Of course, now the Wisconsin Council of Safety is comprised of private as well as government organizations, so this is one of the reasons that we stress coming to the Wisconsin Council for Safety for assistance. We thus have two sources of help and service.

CHAIRMAN FERGUSON: I am happy to present Miss Esther Espenshade, Chief of the Division of Statistics and Research for the Illinois Department of Labor. Miss Espenshade is a graduate of the University of Chicago and is working toward her Ph.D.

Estimating Work Injury Costs

Esther E. Espenshade, Supervisor
Division of Statistics and Research
Illinois Department of Labor

Injury rates, which have just been discussed, are being used today rather widely in industry and government safety programs.

Also I want to add my endorsement to Mr. Tarrants' remarks on the need for applying methods of inferential statistics to injury rate data.

Although computation of the frequency rates for all disabling injuries or injury rates per 1,000 workers furnish valuable indications as to injury

incidence by industry, firm, and area, the failure to apply the techniques of inferential statistics to injury rate data is limiting their value and perhaps even misleading us because we are ignorant of their reliability. Injury rate data should include at least calculation of such measures of reliability and variance as the standard deviation, standard error of estimate, and the Chi-square test.

In 1949, I was invited by the American Statistical Association to present a paper at their annual meeting on Compensable Work Injury Statistics--the first, and, I believe, the only time that work injury statistics were discussed at a National American Statistical Association meeting.

As I had just begun to work with State injury statistics at that time, my paper treated work injury data in a purely descriptive fashion. Perhaps if we applied techniques of inferential statistics to the analysis of work injury data, work injury data would again become a subject of discussion at an American Statistical Association meeting and perhaps provoke discussion and research which would open new frontiers of knowledge and new avenues for controling occurrence of work injuries.

Although work injury rates are being used today rather widely, we still have need to explore their meaning and reliability, and their significance in safety programs.

Work injury costs, on the other hand, the subject of my discussion, are in the infancy of their development.

As I see it, the estimation of work injury costs has three aspects:

One, the macro--the aggregate or total cost of the universe of work injuries and industrial accidents in a state (or other area). More specifically, my interest was in estimating the cost of all work injuries and industrial accidents occurring annually in Illinois.

Two, the micro--or unit cost of separate or individual injuries. This second phase requires accounting type methods to establish actual records of the cost of individual injuries or accidents occurring in a plant or in other types of business establishments. This is an area of injury statistics that is still largely undeveloped or overlooked in the study of work injuries and as a method for improving industrial safety through explaining their cost factor.

Three, injuries are classified into groups or types primarily according to degree of severity, and securing the incidence and cost of each group or type based on recording the occurrence and the cost of individual injuries of each type. Then, relative incidence of the different types of injuries and their average costs can be used in making over-all estimates of total work injury and accident cost.

Frequently, persons associated with administering State Workmen's Compensation laws and others in industry when thinking of work injury costs often

look at the compensation indemnity or the medical cost (or, in other words, the direct cost) and think of these as a cost figure for work injuries. Many people who realize that indemnity and medical costs are only a small part of the total cost of accidents still use the famous Heinrich 4:1 ratio of indirect to direct cost to get a representation of total injury cost.

The cost of work injuries may be thought of as an iceberg--with compensation (indemnity and medical) payments or the direct costs comprising the visible portion, and with the many indirect costs and the cost of numerous categories of injuries which are not compensable in most States, comprising the submerged portion of the iceberg. Total Cost of Work Injuries in United States is estimated at $5 billion.

By comparison, the Illinois estimate of the total cost of work injuries and industrial accidents was in excess of $600 million. Since Illinois accounts for between 5 and 6 percent of the number of workers in the nation (i.e., non-agricultural employees), we would expect the work injury cost for Illinois to approximate $300 million, whereas our current estimate is $600 million or about 10 to 12 percent of the current national estimate of work injuries. Our proportionately larger estimate of work injury cost does not mean in any sense that work injuries and industrial accidents in Illinois are costing more than in other parts of the United States. Because the Illinois estimate takes into account various ratios and assumptions as to average cost of different types of accidents it is on a different basis than that being used in the national estimates prepared by the National Safety Council.

Comparison of the currently used national estimate and our estimate for Illinois indicates the need for more adequate data on the unit cost of different types of injuries and their frequency of occurrence since we lack complete reports for all types of work injuries. Having these data, we would be able to prepare estimates of work injuries and industrial accident costs, not just "guesstimates" or rough approximations. The importance of the Estimate which we have made for Illinois is that it furnishes the beginning framework or model for building more complete and accurate estimates.

One of the purposes of estimating the cost of work injuries and industrial accidents is to ascertain their economic cost to industry. The $646 million annual cost of work injuries and industrial accidents estimated for Illinois represents about 3 percent of the $20.6 billion paid out as wage and salary disbursements in Illinois in 1963, or about 4 percent of the $15.5 billion paid out to workers covered under our State Unemployment Compensation Act (four or more workers). In other words, a total cost of between $3 or $4 per $100 payroll is involved. This compares with the direct charge of between $1 to $2 per $100 a payroll which is the manual rate for Workmen's Compensation premiums for many of the industries in Illinois. Compensation Indemnity and Medical Expenses were $78.5 Million in Illinois in 1963.

Our estimate of accident cost in Illinois starts with the compensation indemnity and medical expenses, or losses, reported to the Illinois Department of Insurance by all insurance companies writing Workmen's Compensation insurance in Illinois--direct losses totaled $65,130,292 in 1963. Of the $65

million paid in losses by Illinois insurance carriers for Workmen's Compensation in 1963, it was estimated that 71 percent or $46,242,507 was for compensation indemnity, and 29 percent or $18,887,785 was for medical expenses covering both compensable and non-compensable cases.

The Illinois Department of Insurance does not show losses separately for indemnity and medical expenses. Therefore, in order to allocate losses as to indemnity and medical expenses, we used special data furnished by the National Council on Compensation Insurance which showed 183 companies writing Workmen's Compensation insurance in Illinois who are either members or subscribers of the National Council. Data for these insurance companies indicated that for the three latest insurance years medical expenses for both compensable and non-compensable cases (i.e., where no indemnity was paid) was 28.5 percent of the total losses. This gives our ratio of 29 percent for medical, and 71 percent for indemnity.

In addition, there is compensation indemnity and medical expenses for injuries paid by self-insurers. Since compensation indemnity paid by self-insurers was 20.6 percent of that paid by insurance carriers in claims closed in Illinois in 1963, we estimated compensation indemnity paid by self-insurers as $9,506,072, and medical expense as $3,882,762, or 20.6 percent of the amounts shown by insurance carriers, giving a total of $13,388,834 for self-insurers.

Thus, the sum of compensation indemnity and medical expenses for injuries insured by insurance carriers and by self-insurers totaled $78.5 million--$55.7 million for indemnity, and $22.8 million for medical. The total estimated indemnity paid for compensable injuries in Illinois, or $55.7 million, compares with $43.3 million in compensation indemnity reported paid in the claims closed in Illinois in 1963 (i.e., the total amount of indemnity paid for the 40,810 Workmen's Compensation claims in which the final payment of compensation was made during 1963, and in the 1,874 reopened claims).

Thus, the total amount of compensation indemnity estimated as paid on the basis of insurance losses ($55.7 million) was nearly 30 percent greater than the compensation indemnity reported paid in claims closed in Illinois. This illustrates how using State Workmen's Compensation indemnity payments as an indication of total indemnity payments underestimates the actual payments.

The word, "compensation," as used here means the sum of indemnity and medical payments as adopted by a standard definition by the International Association of Industrial Accident Boards and Commissions (IAIABC) and published in 1954 by the U.S. Bureau of Labor Standards. Too frequently in State reports it is impossible to determine what is meant by the term "compensation"--whether it is indemnity alone or indemnity and medical payments. State statisticians should be particularly careful to use the term "compensation" in accordance with the standard definition adopted by IAIABC and the International Association of Governmental Labor Officials.

In the Illinois estimate indirect costs were estimated as twice the direct costs of compensation indemnity and medical expense or twice the $65.1 million paid in direct losses, giving a total of $130,261,000 as the indirect cost.

Similarly, the indirect cost for injuries occurring under self-insured employers was estimated as twice the sum of $9.5 million for compensation indemnity benefits, and $3.9 million for medical expenses, or a total of $26,778,000.

The use of a 2:1 ratio of indirect to direct costs in the Illinois estimate was adopted as a compromise since injury cost studies made in the 1950's indicated that the Heinrich 4:1 ratio was perhaps too high. More recently, cost studies indicate that even this 2:1 ratio is too high. As additional studies are made and data on injury costs are compiled, it is hoped that more accurate data can be substituted for the arbitrary ratio of indirect cost to direct cost.

In our estimate for Illinois, it was indicated that there was a total of of about 50,000 compensable work injuries for which the sum of compensation indemnity and medical expenses (direct costs) totaled $78.5 million, or an average of about $1,500 per injury. Thus, our 2:1 estimate of indirect cost indicates an average cost of $3,000 per injury. This seems to us upon reflection an excessive item. However, indirect costs of injuries can be very substantial.

The terms "direct" and "indirect" costs have more recently been abandoned in favor of the precise terms "insured" and "uninsured" costs. The "uninsured" cost, as listed by Simonds in his study and used currently by the National Council, comprise ten items:

1. Cost of wages paid for working time lost by workers who were not injured.

2. Net cost to repair, replace, or straighten up material or equipment that was damaged in an accident.

3. Cost of wages paid for working time lost by injured workers, other than Workmen's Compensation payments (included as wage loss in Illinois estimate).

4. Extra cost due to overtime work necessitated by an accident.

5. Cost of wages paid supervisors while their time is required for activities necessitated by the accident.

6. Wage cost due to decreased output of injured worker after return to work.

7. Cost of learning period of new worker.

8. Uninsured medical cost borne by the company.

9. Cost of time spent by higher supervision and clerical workers on investigations or in the processing of compensation application forms.

10. Miscellaneous unusual costs. This includes less typical costs which vary widely with individual injuries. Among such possible costs are: public liability claims; cost of renting replacement equipment; loss of profit on contracts cancelled or orders lost if the accident causes a net long-run reduction in total sales; loss of bonuses by company, resulting from delays in work; cost of recruiting and hiring new employees; cost of excess spoilage (above normal) by new employees; and demurrage.

In preparing similar estimates of injury costs in the future, we would recommend that indirect costs be reduced substantially from the 2:1 ratio. Perhaps it would be better to use an average cost in the range of $200 to $400 per injury. Simonds suggests that if a fixed ratio is to be used, it should be a one-fourth to one ratio. He says that "a one-fourth to one ratio would be much more accurate for the uninsured cost of lost-time cases." These elements of uninsured costs can be very substantial. A few hours of lost work time by employees in a department can easily amount to as much as $100; spoiled equipment frequently as much as $100 or more; delays in production schedules and their consequences such as cancelled orders and contracts can be extremely costly and difficult to evaluate, so that an average cost in the neighborhood of $500 could easily ensue a great many injuries, with more in exceptional cases.

Premium expenses or insurance overhead in our estimate was the difference between $105,710,327 direct premiums written and $65,130,292 direct losses paid as reported to the Illinois Department of Insurance, or a total of $40,580,035--a known expense, not an estimate.

Administrative expenses of self-insurers was estimated at one-fourth the compensation indemnity paid by self-insurers, or $2,376,518. This figure is an estimate, and further study should be made of the cost of administering payments for injuries by self-insured employers in order to secure a better estimate of these administrative expenses of self-insurers.

In addition, there is the cost to the State in administering the Workmen's Compensation Acts in Illinois. This was estimated at one-half the Biennium appropriation, to the Industrial Commission, or $803,548.

Not only do employers have costs in connection with injuries, but employees have a substantial stake in the cost of injuries--in the form of wage losses. Loss in wages by injured workers compensated under the Illinois Workmen's Compensation Acts was estimated at $231,544,000 for injuries occurring in 1963. This includes both actual wage loss for time lost due to temporary total disability, and probable future loss of earnings resulting from permanent impairments and a consequent reduction in earning power.

For workers compensated under the Illinois Workmen's Compensation Acts who suffered permanent impairment and fatal injuries, we used the American Standards Association's method of evaluating injuries in terms of time charges, which were the aggregate for all injuries, reduced to a weekly basis, to give the weeks lost or charged. As a result of estimated time losses, we assumed workers injured in 1963 would lose for the weeks charged, the 1963 average

weekly earnings of $108.71 of manufacturing production workers; from this gross wage loss, compensation indemnity paid was subtracted to give net earnings lost of $231.5 million for injuries compensable under the Illinois Acts.

The loss to workers in actual and future wages of $231.5 million is almost half the estimated total cost of all compensable work injuries. Cost to employers, which makes up most of the remainder of the cost, totaled $236 million for injuries insured through insurance carriers, and $42.5 million for injuries occurring under self-insured employers. When the cost to the State of $800,000 is added in, this gives an estimated grand total of $511 million. Even if our estimate for indirect cost is as much as $100 million too high, the total cost of compensable work injuries is in the neighborhood of $400 to $500 million.

Returning to the analogy of the iceberg, the direct cost of compensation benefits as reported for compensable claims closed in Illinois was $43 million (or $55.7 million in indemnity indicated as paid from our estimate using insurance loss data)--the visible portion of our iceberg is only about one-tenth of the total cost. Too often the compensation indemnity costs are the only costs considered in connection with compensable injuries.

Non-compensable injuries under employers covered under Illinois W. C. Acts, were estimated at a cost of $23.7 million. These are the injuries involving lost time of from one to seven days. Since in Illinois only compensable work injuries are required to be reported, and only injuries with temporary disability of more than one week of lost time are compensable, we do not know how many one to seven days of lost-time disabling injuries occur in Illinois.

There is reason to think that injuries involving one to seven days of lost-time bear a relationship to the number of injuries with one week and longer lost time. Most State departments of labor or Workmen's Compensation agencies have recently received inquiries from us in the Illinois Department of Labor for information as to what reports they have on all disabling injuries, and particularly on whether they have a breakdown of the frequency of one-day to one-week injuries, particularly compared to the incidence of temporary disability with more than one week of lost time. Data we have accumulated from the States which have replied indicate that this is roughly a 1:1 ratio, but there is substantial variation indicated between the States.

Therefore, in our estimate, we assumed that there was one non-compensable (i.e., one to seven days) lost-time injury for every temporary disability with one week or more lost-time. Thus, since there were 18,774 compensable temporary disabilities (one week or more lost-time) in Illinois for 1963, we estimated that there was the same number of non-compensable injuries involving a loss of one-day to one-week. Earnings lost for these 18,774 non-compensable lost-time injury cases were estimated at a loss of about $21.74, and assuming an average of three days' disability, totaled $1,224,440 in earnings lost.

Indirect costs were computed for the 18,774 non-compensable lost-time injury cases at an average cost of $100 per case, giving a total of $1,877,400. The $100 average cost was based primarily on Simonds' studies in which he concluded. "There are a number of reasons, however, for thinking the $100 average uninsured cost figure for lost-time injuries is pretty typical."

No lost-time injuries (first-aid and doctor cases) were estimated to be 30 times as numerous as estimated lost-time injuries--also based on the findings in Simonds' studies. Thus, we calculated 30 x 68,774 (sum of 50,000 compensable injuries and 18,774 estimated non-compensable lost-time injuries) giving 2,063,220 no-lost-time injuries--about one injury for every two persons in the employed labor force of the States. These no-lost-time injuries were estimated to have an average cost of $10 per case, giving a total of $20,632,200.

This estimate of over 2 million no-lost-time injuries seemed to us fantastically large. However, Simonds in his book said, "There is no question but that 30 to 1 is too low a ratio to cover the total of both doctor's cases and first-aid injuries in industry in general in comparison with the number of lost-time cases." Simonds also quotes a study made by the Michigan State University Bureau of Business Research; questionnaires returned from companies in eight of Michigan's major industries suggested that there may be 150 to 175 first-aid injuries for each lost-time case. These studies indicate the 30 to 1 ratio is not too high.

At any rate, an improvement in our estimating technique would be to estimate separately doctor's cases and use an average cost for this type of case; then to make a separate estimate of the number of first-aid cases which have generally a much lower injury cost.

In the case of injuries to Non-Covered Employees and the Self-Employed, we estimate a cost of $98 million.

Here we attempt to estimate the cost of injuries to employees not covered under the Illinois Workmen's Compensation Acts. Most of this estimate is derived by securing the ratio of employees and self-employed persons who are not covered under the Illinois Acts, and assuming that these workers were injured in the same proportion as were the workers employed by employers covered under the Workmen's Compensation Acts. However, separate estimates were made for the items compensation, medical, and administrative expenses of employees insured under Federal Compensation Acts such as employees of the Federal Government, interstate railroads, and longshoremen.

The total Illinois employed labor force for 1963 was estimated at 4,221,700. Of these, 3,399,900 were in industries within the scope of the Acts. Employers of about 95 percent of these workers were insured either by insurance carriers or by self-insurance under the Acts, thus bringing about 3,229,900 employees or 76.5 percent of the State's employed labor force under the provision of the Acts. The remaining 23.5 percent, or 991,800 employed persons (chiefly self-employed, agricultural workers, employees of interstate railroads, and the Federal Government) were not covered under the Illinois Acts. Thus, since the 991,800 non-covered workers are 31 percent of the 3,229,900 employees of employers insured under the Acts, the injuries under covered employers were raised by 31 percent to get the estimate of 21,320 disabling injuries to non-covered workers. For these non-covered workers, accident cost comprises wage loss and indirect costs. Except for Federal and for interstate railroad employees there were also compensation, medical, and administrative costs which were estimated independently.

In Simonds' study, he indicates that the number of no-injury accidents may be estimated by applying a 1:1 ratio to the number of lost-time cases. In our estimate, this is the ratio we used. Therefore, with 90,094 lost-time injuries (50,000 compensable injuries plus 18,774 non-compensable, one to seven days, injuries under covered employers plus 21,320 disabling injuries to noncovered workers), and assuming one no-injury accident for each lost-time injury, this 1:1 ratio gives 90,094 no-injury accidents which were estimated at a per case cost of $150 amounting to about $13.5 million.

The cost of no-injury accidents vary widely. For instance, for some years I kept a file of clippings reporting accidents in Illinois. In many of these, the cost ran into millions of dollars--as, for example, a railroad wreck where trains were derailed, tracks torn up, and all railroad travel had to be diverted for a period of days, as well as the loss resulting from damaged merchandise. One such wreck alone could cost millions of dollars. Thus, although our estimate of $150 is only an approximation, the total estimate of $13.5 million is certainly a very small estimate for all no-injury industrial accidents in the State. To this estimate probably should be added a sum for fire damage.

Workers and employers share almost equally in injury costs. When the various elements of accident costs are separated as to cost to employers which compensation indemnity and medical expense, premium and administrative expense, indirect cost of lost-time injuries, and the cost of no-lost-time injuries, our estimated cost for employers totalled $326.5 million for injuries occurring in 1963. The total wage loss to workers was estimated at $319 million. Of this amount, $231 million was the net earnings lost by workers who were compensated under the Illinois Acts; $1.2 million was for earnings lost in lost-time injuries for non-compensable injuries occurring under employers covered under the Illinois Acts; and $86 million was the wage loss for the 21,320 non-covered lost-time injuries. Thus, employers and workers both have a major stake in reducing work injuries and industrial accidents as both bear almost equally the brunt of their cost.

Since most of this conference is centered on the theme of "War on Poverty," and to quote Mr. Hyman H. Bookbinder of the Office of Economic Opportunity, "Everybody wants to get in"--perhaps we should add studies of the effects of work injuries and their cure (i.e., safety programs) as one of the many facets of the "War on Poverty."

Certainly, we need to improve our studies on the cost of individual injuries and to record these findings in such a way that we can secure better data for making over-all estimates, and to establish some more meaningful averages to use for the different types of injuries such as quoted in my study.

I can scarcely close without offering some suggestions which may improve the statistics relating to work injuries:

1. A resumé of what statistics (i.e., types of injuries) are reported, state by state.

2. Comparison of injury rates by industry, from State to State--to answer such questions as: Are injury rates constant year by year; do they show definite trends; are variations random? With the calculation of standard deviations and standard errors of estimate, at what point do changes in injury rates in each industry become significant?

3. Correlation of injury frequency rates, compensation indemnity, and losses paid by industry, and manual insurance rates.

Putting Injury Statistics to Work

Asa Lombard, Safety Director
Bullard Company

I was asked by Dave Pinsky of the Connecticut Labor Department if I would talk to you people. We, in Connecticut, are very fortunate to have Dave as our statistician. He does an excellent job, and industry enjoys cooperating with him.

The only way that we in industry can prevent injuries is to prevent their occurrence, and this is what we want to do. You have often heard about the man falling off of a three-foot stepladder. He picks himself up, and he is not hurt. The next man lands on his head, breaks his neck; this you cannot control.

A good safety man, in my opinion, should not be interested in severity because if he does a preventive job, if he reduces the occurence, the severity and cost will take care of themselves.

I have passed out some charts which may be of some assistance in explaining our safety program to date. I think you will realize that our company hired many new people to meet war demands during the 1940's. Such an influx will affect any statistic, of course. This chart is typical of many companies in the country that I know of--and Bob Ferguson will substantiate that this is typical of what happens when an industry gets interested in a safety program. It gets results.

We use statistics of lost time with the aim of getting the most out of them. You will find, as your lost time declines, the number of injuries will also decline. As you improve your lost-time frequency, then you discover that the number of cases requiring the care of a doctor will drop. We have a high number of doctor's cases in our industry because so many cases require some type of medical assistance.

I would like to tell you a story about an employer that to my way of thinking has probably done one of the outstanding jobs in the country, and this is the approach that the safety man used.

The plant manager had a monthly meeting of all persons under his supervision; they started on a program to reduce minor injuries; and this company got to the point where they wanted to try to prevent unsafe practices that employees commit. They instituted a program where supervisors spend part of their time every day, looking for unsafe acts that employees might commit. It was a pain in the neck to supervisors; they did not like it. At one safety meeting management asked, "How is it working," and the supervisors replied "It's not working." No unsafe practices had been found.

All of supervision was ready to drop the program. Finally, Griffin, who was the plant manager, asked my opinion. I replied that I was probably going to be unpopular, but this was still a worthwhile program, i.e., to get supervision to look for unsafe practices. He decided to continue the program.

This plant went on to establish the present world's safety record in their industry, and I doubt if they average a quarter of an accident a year that results in lost time.

Some of the other charts that we have which you might be interested in present a break-down of the day-shift and the night-shift. We build a ratio of the number of employees to the number of doctor's cases that they have, trying to get the last bit of ammunition that we can use in a preventive program.

Sometimes in order to alert a supervisor, we will compare the number of cases he has against the total for the plant. We point out to him that with his employees he had 24 percent of the first aid visits in the plant, and this was a high ratio.

I was interested in the cost figures that were mentioned by the previous speaker. I, for one, do not know whether or not Heinrich is right. Bill and I used to have discussions about his 4:1 ratio. I do not know the right way to compute these figures.

I have recently come up with an idea of my own, and here again because we have some new people coming into the plant, we are pushing for additional observations as to the cause of accidents. I took the total number of doctor's cases, the two lost-time accidents we had last month, the actual time lost; lost time from work including time spent at the doctor's. I took the total number of first-aid cases and averaged them out on a half hour basis. This meant the Company had lost the production of eight people for a month. If we had 40 people out for a week with our average weekly wage at $150 a week-- the loss of productive wages was $6,000 for the month, or $72,000 for the year.

Now if we take Heinrich's indirect ratio of 4:1 for the indirect cost, this means $288,000 for the year. This is hard to sell in your own plant; you have got to do better than that.

I took machine time, as an alternative. Our machine costs runs from $15 an hour to $30 an hour and if you take $20 an hour as an average; this means the figure was $32,000 for the month, or $384,000 for one year.

In an attempt to develop improved statistics, we have used occurrence charts. We have a casual type of occurrence chart for all injuries, not just lost-time cases. We break this down by type of machine: milling machine, drilling machine, horizontal boring mill, turret lathe or hand tools. Also, we determine the type of injury incurred as well as the extent of the injury.

I said it was a little difficult to make sure whether the statistics we are working with are valid or not. Industry has been criticized and the finger has been pointed at them since there has been little progress made in the last fifteen years in the reduction of accidents. For your information there is a loading factor in the figures which maybe you are not aware of; there is a deductible amount the employee would have to pay if he took care of a non-occupational injury. Instead he comes in on Monday and says, "Last Friday when I was going out the back door, I slipped over the step and I sprained my leg." and you may suspect that the employee was working around in his backyard when the injury occurred.

Now this is what I would like to point out as one of the problems that we as safety people have and one of the things we do in the use of the statistics that you people put together. I do not know how we can arrive at a weighting for some of these problems we have.

Industry on the whole is doing a better job; it is not good enough; we are not satisfied.

CHAIRMAN FERGUSON: I would like to open the program for discussion at this time.

MR. ABRAHAM J. BERMAN: This is more of a comment than a question.

For somebody who has struggled with over-all cost estimates for the State and somebody who does not do it on a more or less regular basis the way Esther Espenshade does, but on an urgent demand for a government safety conference or this kind of thing, I can probably appreciate Esther's problems with this thing better than a lot of the rest of you. It is a job which is extremely difficult because of what I feel is the jungle of workmen's compensation and accident statistics.

You have got to try to put together a lot of bits and pieces coming from many different sources. Esther indicated some of the sources. One source she did not indicate I might mention, is data from the National Council on Compensation Insurance.

MISS ESPENSHADE: I used that. That is how we got the breakdowns.

MR. BERMAN: The National Council has some other data. They are in New York, so I can go up and talk to them. It is not as easy for Esther to do it.

The key point, though, is that when you get all through with this process, you get a big figure. In New York, we ended up with 750 million; it could have been a billion if you add in other factors.

I would like very much to commend this work of Simonds and Grimaldi and any of you who get into the cost estimating business should certainly get hold of that report; it is excellent. The only trouble with it, as Esther indicated, is that it is based on extremely small samples, and a lot of these massive relationships end up with adding a hundred million here and a hundred million there; so your estimate might actually be based on, twelve cases, fifteen cases, something like that, where you get an average cost on a particular kind of industry.

CHAIRMAN FERGUSON: How many cases did you have? Do you recall what you had?

MISS ESPENSHADE: You mean in my data?

MR. BERMAN: Simonds and Grimaldi.

MISS ESPENSHADE: Simonds refers to only about a thousand cases in the industry, and I think the Navy Yard cases were larger.

In regard to Mr. Berman's remarks on this point, the kind of material which has just been claimed company by company for these relationships can be very useful. We can build up tremendous experience if we have records for a number of years on the relationship between doctor's cases or lost-time cases, and this information could be brought together easily by the cooperation of a large number of companies. If we had a thousand or so, we would have a million or two accidents immediately to analyze for these relationships.

MR. BERMAN: Simonds and Grimaldi did a terrific job; it is probably the best piece of research in the field and what everybody has to use when you are doing cost estimates today because it is the best job done, but a great deal of additional information is certainly needed on this point; also, some information on how some of these basic relationships change.

Mr. Lombard interested me, also, in terms of a good safety program. The question remains, however, what are the cost of accidents in his company? It might surprise him, because as a matter of fact in a company like his with a very low frequency rate, that is where the other things begin to mount up, and when he had to he used Heinrich's 4:1 ratio.

MR. LOMBARD: No, I only used that as an example. My figure was higher.

MR. BERMAN: And do you have records?

MR. LOMBARD: Yes.

MR. BERMAN: Good.

MISS ESPENSHADE: This is what we need to bring together.

MR. BERMAN: If more companies did this kind of thing, it would certainly shed a good deal of light on this cost estimating business.

As I said to begin with, cost estimates can be a tenuous proposition. It is costing New York State employers and employees three-quarters of a billion dollars for accidents, a large figure, but then somebody may say, "Look here; nationally, they say it is five billion dollars and New York accounts for 15 percent of the nation; you have only got 10 percent of the labor force; what is the matter with you?"

You may take the whole thing and call for some kind of consistency in estimation by State, but here again it appears difficult to do.

CHAIRMAN FERGUSON: Any other questions you want to ask on this cost picture or any comments you would like to make on it?

MISS ESPENSHADE: I would like to ask how the five billion national estimate was derived.

MR. McELROY: I, of course, cannot give you all of the details of that estimate because we did not make it. It is a National Safety Council figure.

The important element that makes it seem inconsistent with Abe's figures and Esther's figures is the fact that they use a 1:1 ratio for indirect costs. In other words, they compute their direct costs from the compensation material available from the insurance companies and from the various States, and then they estimate the indirect costs as being equivalent to the direct costs.

MR. BERMAN: Is this based on anything, Frank; is this based on anything that we can use as a guide?

MR. McELROY: They are basing their procedures on the findings of Rollin Simonds.

Rollin Simonds was financed by the Council to do the original research. The essential thing to take into account in evaluating the Simonds approach is that he does not feel that there is a universal ratio.

The ratio varies widely from company to company. This is quite understandable, but in any event, in all of his research he found to his own satisfaction--if not to everyone else's--that the 4:1 ratio was out of line. He felt that this was exaggerating the indirect costs substantially.

The Council in the absence of any other evidence finally accepted a ratio of 1:1. They admit right from the start that this is arbitrary. They have not got any widespread or comprehensive figures to support it, but there is such a tremendous demand for figures on aggregate costs. Every speaker in every safety conference we hold in the country wants this figure and as you say, he wants a big figure.

MR. BERMAN: Frank, is this method of the National Safety Council written up; in other words, what they actually did to get their estimate so that if we wanted a State estimate comparable to the national, we could just simply go ahead and use 1:1?

MR. McELROY: I have not seen it published, but I think Gene Miller would be the one to ask on this.

MISS ESPENSHADE: Since the source of this estimate is quoted nationally, I have got a U.S. Department of Labor estimate because it is in their safety bulletin material; it is the National Safety Council estimate, and I have discussed this with Gene Miller.

There is another difference which Mr. McElroy did not indicate, which I did not discuss in any great detail in my report, and that is the wage loss. As you will notice, in the estimate we prepared, it is about 50:50 between the cost to employers and the cost to workers on wage loss. Now, the method we use of putting the time charged on it is, in a sense, tied up with the wage loss in the future for the future value of the man in the reduction of earning power supposedly as a result of his permanent injury, which may or may not occur. He may go back to his old job, even though he has an award for a partial loss of use or loss of use of a member or of a back injury.

There again we ought to look at what type of wage loss we want. Now, whether mine is the right approach or not, I do not know, but certainly the workers in a large State have a large wage loss that is non-compensated, and how much of it is actually represented by this amount, I do not know, but it does get attention of workers when they realize how little the compensation is paying out of their potential and even their current work loss. With Workmen's compensation payments averaging less than 50 percent of earnings in Illinois and about 62 percent nationally, the workers on a temporary basis have a very large stake in the injury program.

CHAIRMAN FERGUSON: Asa has something he wants to add here.

MR. LOMBARD: When I spoke of forty people or eight people being out for a month, this was for cases requiring medical treatment for lost-time and for first-aid. During this time, such people were not productive, so I said that we had a loss of wages, or productive hours on the job, this is a loss in services since the worker was not producing anything, which is a cost of $6,000 for the month or $72,000 for the year for these forty people that were not producing. I said that would be $288,000 for the year. Then I went on to say that our machine time is another loss; when that machine is not working, it is an overhead expense; it is between $15 and $30 an hour because of the cost of this equipment. I said that that amounted, if you took an average of $20, to $384,000 lost production because the machine was down.

MR. BERMAN: This 4:1 ratio, as I recall, is supposed to include the loss of the machine, isn't it?

MISS ESPENSHADE: This is exactly what we should have documented. It would be simple enough in the framework of Simonds' analysis, which I think is good, to build up enough samples to get some real facts on which to make our estimates. It is ridiculous for us to try to make conclusions out of a study as fragmentary as numbers of injuries, with all of the injury records that are kept throughout the United States. If we could just bring this information

together, we would have something that we could feel more assured of. At least Simonds, I think, has done a good analysis of the types we should look for and the problems.

MR. ARTHUR LENZ: I appreciate the need for the speakers to talk in terms of billions for safety programs and accident prevention and for its public relations value, but what I found intriguing is the build-up of that estimate.

The kinds of things that we are presented with in a Workmen's Compensation agency is the legislature coming to us and saying, "If we lower the waiting period from seven days to three days, how much would it cost industry," when we have no information on the numbers involved, so I also am an advocate of more information on doctor's cases, first-aid cases, and in the area where the law does not compensate; in some jurisdictions, the first three days; in others, the first week.

I would like to see more attention paid not to an estimate which we all agree is very flimsy and which as statisticians none of us would accept, but to more discussion about how the data were developed.

I would like to see attention given to those areas which will assist us in answering our legislatures and labor and industry in our own States when it comes to a question of modifying or increasing benefits. I would like the statistical attack to be with a rifle and one that will be directly useful.

MISS ESPENSHADE: Where we have Workmen's Compensation data, why don't we tabulate some of this information for some of the areas anyway on the number of days lost per injury as a distribution? There is hardly a single tabulation that shows any distribution breakdown between the States, so those that have the information and reports should certainly run some distribution studies.

MR. BERMAN: This is probably one of the most useful jobs you can do in terms of pin-pointing the cost of accidents. This is dollars and cents; this influences industry; this is how much it is costing you; it is not just costing you the cost of Workmen's Compensation; it is costing you the cost of machinery that is down; it is costing you many other things.

MISS ESPENSHADE: I would like to ask one question of the man from Pennsylvania on their reports. Pennsylvania has an interesting situation because they have injury rates per thousand workers by industry for compensable injuries and the standard injury frequency rates by industry.

I took a rough check of those, thinking the compensation rates per thousand are roughly two million man-hours against the frequency rates per million. Now, this is one thing on which we can make a comparative study industry by industry that might help the basis of frequency rates in standard.

CHAIRMAN FERGUSON: Can you answer this?

MISS ESPENSHADE: Do we really need two kinds of rates? Does the Workmen's Compensation rate per thousand give us any better information than the frequency rates, or vice versa?

FROM THE FLOOR: As a safety man, we do not particularly care for either one of them. We are going to get cost figures and other factors with which we can impress management or impress employers that there is a problem that needs to be tackled. Rates do not mean much when you are talking to top management. We have got to get this whole field moved into something along the line that Mr. Lombard was talking about.

MISS ESPENSHADE: When you get to the cost rate, take the annual rates given in Skolnik's article as 40 cents per hundred dollars as compared to the four-dollar rate that is the actual cost per hundred dollars of payroll. Take our cost estimate now and relate it to the 15 billion dollars; the total wages in Illinois. Using Skolnik's wages covered, you get the aggregates again.

MANPOWER INFORMATION NEEDED FOR THE PLANNING OF TRAINING AND EDUCATION PROGRAMS

Chairman: Robert E. Johnson
Economist and Actuary
Western Electric Company

There is always one risk that you run when you pick a chairman. He is liable to deliver a speech and take all of the time. I promise that I will not do that, but rather only introduce the subject briefly.

I think we need to take a look as to why we are where we are. Some figures are circulating that today's population has more than a billion man-years more than the same population would have had at the turn of the century, as a result of what medical science has done to prolonging life. About half of these years are in the so-called working age years, with the remainder, of course, in the so-called senior citizen years. I suggest we look at these figures; perhaps they will help us understand some of the problems that we see.

Let me say that for the first time in a number of years the business sector of our society has recognized, too, these problems. Let me tell you about a few events. The National Industrial Conference Board conducted an all-day meeting on public affairs; they discussed poverty, education, civil rights, and unemployment. They set up a division under vice president--Martin Gainesborough, one of the most active economists that we have--just to try to pull together the figures in these fields. You often hear of business leaders, presidents of companies such as General Electric, and Westinghouse, taking an active part in such discussions.

The National Association of Manufacturers is setting up a similar program, to learn what they can do in some communities on the unemployment problem.

The U.S. Chamber of Commerce set up a committee of a hundred businessmen, most of them presidents of major companies in this country, to produce a series of 11 pamphlets, hopefully this year, on the Poverty Program. The first one is available, and I recommend that it be considered as time allows. The Chamber of Commerce is looking to leaders of the academic world to prepare position papers, which will serve as a basis of discussion. So it seems to me that here is another large potential ally in the War on Poverty.

A year ago last May, the President of my company held his annual conference. We asked people from the academic community and some of our own people to discuss the unemployment problem. When the session ended, the President got up and said, "Look, we've got 6 percent unemployed in this country; any time we can solve a problem in the Western Electric Company within 6 percent, we'll get the rest of the way; I want you fellows to get out into your communities and find out what is going on and what we can do to help lower this 6 percent figure."

The backdrop to this program this afternoon is that we have a number of new Federal laws that attempt to assist in this problem of education and training.

We still have, of course, a debate as to what is the scope of unemployment, the 4.6 percent rate, as Otto Eckstein told us may not be a true rate; when another month comes along, it may be 4.8 or even 5 percent. The general opinion, as I hear it among economists, is that it will take a consolidated effort to get to an interium rate of 4 percent.

We have with us today to start the program two gentlemen who will discuss "Research Programs of National Resource Agencies." The first gentleman is from the Office of Manpower Analysis and Utilization in the U.S. Employment Service, Bureau of Employment Security, U.S. Department of Labor; he is Vladimar D. Chavrid.

RESEARCH PROGRAMS OF NATIONAL RESOURCE AGENCIES

Vladimir D. Chavrid, Office of Manpower Analysis and Utilization,
U.S. Employment Service, Bureau of Employment Security,
U.S. Department of Labor

During the last several years, perhaps as never before, there has been wide recognition of the manpower problems in America as they relate to the under-privileged, the under-employed, and minority groups. Not since the 1930's, when much of the pertinent legislation was passed, has so much progress been made in this direction.

If you were in a communist ruled country, one of the most difficult questions you could be asked is, why a Nation as affluent as the United States could consistently have a segment of its population in unemployment and poverty.

I was exposed to this sort of a thing in 1959 in Moscow for about 6 weeks, and in 1961 for about the same duration in three other large cities in Russia. Had the programs existed then that we now ha it would have been so easy to answer many of the questions. It is in this last several years that there has been much attention paid to this problem. Of course, there was the Employment Act of 1946, but it really was no more than a statement of principle which created the Council of Economic Advisors. In terms of the direct manpower programs, the first legislation was the Area Redevelopment Act, followed by the Manpower Development and Training Act and shortly by the Vocational Education Act of 1963.

The Vocational Education Act of 1963 specifically provides that there must be an agreement between vocational education people and the State Employment Service for provision of job market information and other things before money is allotted to the State vocational system by the Office of Education.

There is a need for a closer tie, with those who are responsible for the educational system, for the curriculum, for the kind of courses that are given, and the manpower agency, to assure that the educational programs provide the skills that are needed both currently and, especially, in the future.

As you are aware, there has been a great emphasis on the Youth Program, on providing the needed training for youth. To meet these needs, it is important

to have an adequate supply of information on which to base effective training under the Vocational Education Act, the Manpower Development and Training Act, and the Economic Opportunity Act.

This is so because meaningful training programs must be based on realistic examination of prevailing and future occupational needs in terms of national programs. I will cover this particular subject very briefly and this in terms of the Dictionary of Occupational Titles. As you know, the first dictionary came out in 1939, there was another revision in '49, and a third revision is coming out within a few months.

In the new dictionary, the kind of information that will be provided will be very useful in many ways that were not used before. It will be divided into two distinct parts. The first will be an arrangement of occupations in the order pretty much the way we now have; although there are slight differences, basically it is the same. The second part of the dictionary will be arranged by occupation in terms of worker trades. This would include such things as the amount of training time needed in a given occupation; the needed aptitudes, interest, and temperaments, and the physical demands of the occupation. This has been based on the research that started many years back under a sizable grant from the U.S. Department of Defense.

Also, we are trying to undertake research aimed at the ultimate development of the non-reading test. We have found that it is very difficult to discover individuals aptitudes if they do not know how to read or write, to begin with. You cannot give them a reading test, so we are trying to develop the kind of test that will determine the individual's aptitude through pictures, through a variety of other things other than his ability to read.

Perhaps the subject that is of greater interest to you is job market information, the kind of program that we now have. Several important tools have been developed to provide occupational job market information to meet these and other needs. As a matter of fact, what I will describe has been presented here, before. One of these is the area skill survey. Others are the training service, occupational guides, and industry manpower surveys, and more recently experimentation on job vacancy studies.

Many of these surveys attempt to provide both the current picture in individual occupations, and communities, as well as the future outlook. Area skill surveys deal with a forecast of 4 years hence. This forecast is not only a projection of the demand for workers, but it also relates to the supply of workers that are available now and will be available within the next 5 years or so. Currently, 2 years and 5 years are the longest periods in the forecast.

A determination is made as to whether there will be a shortage or surplus in any given occupation. There have been about 150 such surveys made. They are, to be sure, of different quality and different coverage. Some of them have been used most successfully in developing state programs. For example, an area skill survey in North Carolina has provided the basis for establishing the entire vocational and technical education system.

When the Manpower Development and Training Act was passed, the area skill survey, which takes quite a bit of time to prepare, was supplemented by what is known as the training need surveys. There were approximately 4,000 such surveys made throughout the United States. These have a short-range forecast of 1 or 2 years, and they are done by individual occupation. There may be a half-dozen occupations thought to be shortage occupations based on the data already available in the Public Employment Office.

By the way, I should mention that the demand information for these studies is obtained basically from the employers. Usually, it covers all of the large employers and a sampling of the small employers.

In other kinds of studies we deal with a specific occupation or group of occupations; for example, the North Carolina studies in medical occupations. Right now one is going on in South Carolina, and there are a few others where you select a particular field of work and go into a particular industry to develop occupational information on either State or area bases.

The third kind of information developed for vocational education, is what is known as individual job guides. This program has been in effect for quite a number of years. In terms of the numbers developed and the quality of work, perhaps the greatest effort made so far is in the State of California, under the supervision of one of our panelists, Margaret Thal-Larsen.

The long-range forecasts have developed quite a bit of interest in providing information on current job opportunities. About a year ago, we began to work on this program jointly with BLS so far as the Washington operations are concerned. With the President's and the Secretary of Labor's blessing, we began to see what could be done in developing data on current job vacancies.

Studies have been made twice in 16 areas. The first round of studies was completed quite a few months ago; results of the second round are about ready to be analyzed.

The initial effort in this direction is very encouraging so far as employer response is concerned and also in terms of some of the operational uses of these data. In quite a few areas thus far, a training program has been instituted, based on these data. This has provided some informational tools in some of the shortage occupations for which training can be provided under the existing legislation, especially the MDTA.

We have learned one other thing from this program that is quite encouraging in some ways. In some of the larger areas, the unfilled job openings at the end of the month are very much of the same kind--though not in the same numbers--as those that are showing up in this unfilled job vacancy study; there is a very close resemblance, in terms of the kind of occupations that we now have in the Public Employment Office.

To be sure, the relative numbers are only about one-third, but this reveals more can be done as of now with the existing data in this general area of the occupational job market information, using our existing records.

To this end, we are considering establishing a regular reporting program of unfilled job openings by occupations and the reason for the existence of those unfilled job openings at the end of the month. While we don't know what the national job vacancy figures would be, there is no question if a better measure were available, that unemployment could be reduced and I think it could be a very significant reduction.

We have found, for example, in terms of the mobility of labor that in some occupations, in the same occupations in different areas, you find vastly different relationships between the number of job vacancies as reported in this survey and the number of people registered with the Public Employment Service.

In some of them, if you could just relocate these people immediately, you could achieve a balance in quite a few areas. But in terms of the total, it would not reduce unemployment by one-half, or anywhere near that. Some of the surveys that have been made would provide good clues on the kind of training that can be carried out in individual areas, however.

What are some of the major problems and some of the solutions that we are looking for?

One, in some way we would like to consolidate, and formalize the gathering of information on a systematic basis so that there would be as little duplication as possible. While we have advocated this for some time, we have never received enough funds to proceed along these lines. Consolidation would help some. Hopefully, there should be one of these overall assessments of manpower needs--projections, if you will--in the current employment and the future outlook in individual areas, once every 2 or 3 years.

This information should then be kept on a current basis by such means as job vacancy surveys or in the absence of that, some reporting of unfilled job openings in individual communities so you would be assured that whatever you projected could be corrected if necessary. If you projected a shortage and suddenly something develops and a surplus results in that occupation, you would call it to the attention of the people using this information.

Now, this current assessment can be made every 3, 4, or 6 months. Similar information should, of course, be developed, but perhaps not in the same detail, for the State as a whole. Many of the programs, vocational education and other educational programs, are administered in most States on a school district or area basis rather than a state-wide basis.

There has been some criticism--perhaps rightfully so--of the inability of the employer to project future requirements. We hope to develop a program, jointly with the Bureau of Labor Statistics, whereby the national figures can be translated into local figures as a check on some of this information that is obtained from the employer. Or, we may have the opportunity to discuss this information with the employers, to give them the national viewpoint and thus make it easier for them to make the projections.

This may be accomplished when the Bureau of Labor Statistics develops its national projections. Then the Bureau of Employment Security will try to develop a manual for State use explaining the use of these data. As I understand it, the projections that would be available through the Bureau of Labor Statistics would be to 1970 or 1975.

Hopefully, something like that can be done in terms of using these data for local projections. One other thing is now going ahead. We are making a survey--I won't say a "re-survey"--in several areas which made this long-range projection 2 years ago or 5 years ago. We have engaged an outside group to go to the employers to examine how accurate these projections were and what resources the employer used in making these projections for their individual establishments.

I might say, however, that if these projections were to materialize as forecast, it could either mean that all of the programs that were commenced have taken place, or none of them has taken place. Suppose you are projecting a shortage in any one occupation of a thousand people. The occupation has ten thousand now, and you say that 5 years from now the need is for 11,000, or 1,000 more. If the employer's projection was correct, if the local educational vocational system began training, if the employers realizing that there would be this kind of a shortage began their own training programs, then perhaps 5 years later you will have 11,000 if it were a real projection.

If none of these things has taken place, then you may have at the end of 5 years the same 10,000 that you now have with a shortage of a thousand workers. The question is: Has the projection been accurate or not? That it has been useful goes without saying--if the problem remained the way you forecast it but no action was taken.

Of course, there are many other things that can take place that will change this kind of a forecast, so that if the forecast doesn't materialize, it does not mean that the forecast did not serve a useful purpose.

One other thing that I would like to mention, and this is very important because many statisticians like to make projections. A manpower policy projection of this kind may not serve a useful purpose. When we ask the employer, "What are your shortages now; what do you think you will need in the fugure," we also ask him to assume that there will be available manpower to fill those needs. We are not asking him for a forecast of his employment; we are asking him for the need. Unless you do that, you will never know what your manpower program should be, especially so far as training is concerned.

I will go back some 20 years. If during World War II we asked the employer about the number of workers on the payroll several months hence, he would say, "The same number as I now have; this is a labor shortage area; I probably will not be able to get these additional workers."

We didn't ask them: "What are your needs; how many additional people do you need in order to fulfill your contract working at the same standard work-week."

The point I am trying to make is that there are two kinds of forecasts. There are forecasts of what actually will happen; thus hiding the problems; and there are forecasts of the actual need which would reveal the problems and help those who are responsible for these programs to find some solution.

So far, we have been talking about the need for these data in education. We have recently made a survey of State agencies, State employment services, to find out what kind of requests they have received from the vocational education people under the Vocational Education Act of 1963. We discovered that about two-thirds of the States need a great deal more information than is currently available. So we are faced with this kind of a problem. There will be increasing pressures for this type of information; there will be increasing pressures for both current and future outlook data.

In this sort of work and in any of these programs, one of the things making it extremely difficult is the sort of skepticism and the reluctance of the statistician to provide this information to an individual who will make certain, very specific use of it. The statistician fears that the data may not be accurate. Now, I am sure that the judgment of the individual who gathers these data will be far better than the judgment of the individual who has very little and few dealings with this kind of data. I often feel that the amount of information that is available now in the Public Employment System can provide answers to many of the questions that come up in terms of shortage and surplus occupations, if it were utilized in the way we hope, within the next year or two, when and if we can develop a much better reporting program.

I have covered quite a few areas dealing with this one subject of occupational job market information. There is a great deal of work that needs to be done--Seymour Brandwein and I just came from a conference dealing with this subject. A vast amount of educational work needs to be done both ways. We, frankly, are not always too sure what the conference participants need, and they are not too sure what they want. Much work would need to be done by the educators, the statisticians, and those who are responsible for manpower programs in a locality.

I think that a great deal has been done with the enactment of the Manpower Development and Training Act, which forced the vocational education people and the Employment Service people to get together and work. With the Vocational Education Act, the same thing will occur. However, a close relationship has developed both at the State level and especially the local level. The amount of influence the manpower people will have on a kind of training that will be provided will not be too significant. This in turn means that there could be and will be many people who would be trained in occupations that may be in a surplus supply, and more criticism and talk of the structural imbalance would result.

Research Programs of National Resource Agencies

Harold Goldstein, Assistant Commissioner for Manpower and Employment Statistics, Bureau of Labor Statistics, U.S. Department of Labor

I am also going to talk about the same subject, but perhaps with a little different approach.

My approach to this question of manpower requirement projections for planning training programs stems from years of experience in the occupational outlook research program conducted in BLS. I would like to recount a story that may not be very well known.

We had a postwar labor problems program. One of the main things that we were really concerned about was what would happen after the war; would we be plunged into another serious depression? We hired a staff composed of distinguished college professors to discuss this problem with leading people in industry. They tried to cover all the major industries, all the major companies, to try to find out what was going to happen to employment after the war.

The conclusions were never published, and I think this fortunate, for the reputation of the Bureau of Labor Statistics as well as for public policy in the United States; fortunate, because what they found by talking to these hundreds of big companies about what their employment was going to be several years later was that the companies saw the future in terms of their past experience. If you added up all these forecasts by these companies, we would have been in one winding of a depression right after the war.

We embarked on a somewhat different approach, after that, and I think an approach that makes sense. I will talk about that in a moment, but I am concerned--and I think a lot of us are concerned--that now 25 years later, we are still depending on employers' forecasts or statements of their future manpower needs arrived at by asking them and adding up the results.

If you examine these forecasts carefully, I think you will find that they fall short of being as good as you could want for a number of reasons. One of them is that many employers, most employers, simply do not know what their business is going to be like 5 years or 10 years in the future. They haven't conducted any studies; they may not even have any time to spend answering your inquiry. So they give you any answer that occurs to them.

Any tests, any studies that have been made of what has happened afterwards have shown that no sound agreement whatsoever exists between the projections made by employers and the actual events that occur.

A second thing that makes these types of forecasts less useful in terms of saying something about the future is that each firm is treated as a separate entity. Each firm is treated as if it were in a vacuum, unconnected with the rest of the industry in which it lives and with which it competes, unconnected to the economy and the rest of society. All of the information that we have or that relates to what is happening in that industry goes by the board; it is not consultedat all, unless the employer happens to have been reading studies or to have been making studies himself--and most of them have not.

The third problem is that it costs a lot of money to go around interviewing and polling numberous people, so we cannot repeat these surveys as often as we ought to in order to see what the future is going to bring. Conditions do change and you have to check your forecasts frequently.

Finally, one other comment--and I think Bill Chavrid addressed himself to this--when you go around asking people what is going to happen in the future, you don't know what you have; you don't know what assumptions he made; you don't know whether the assumption that this man made is consistent with the assumption that the other man made down the street. Unless you are very precise, as Bill pointed out, you don't even know whether he is giving you a forecast of how many employees he thinks he will have, or an estimate of his needs.

This is very important. What we should be dealing with is not forecasts of what will happen, but estimates of manpower requirements. I don't believe we should be forecasting at all; I don't believe we should be forecasting the supply of labor in any occupation except for illustrative purposes. The whole purpose of this activity is to try to adapt our manpower supply to our needs by training programs, and by vocational guidance; if we can't get enough people through increasing our training to meet the need, then maybe pointing this out to industry, will lead them to make better utilization of the people they have, and thus modify their manpower requirements.

The minute that you contaminate the information that you are getting by considerations of supply, you are losing the value of this information as a guide to policy programs and action.

If we set aside an attempt to discover future manpower requirements, for the purpose of basing training programs, by polling employers for their judgments, what do we do? The Bureau of Labor Statistics and the Bureau of Employment Security are working together, as Bill has said, toward what I would call a more analytical approach.

Some of the hallmarks of this analytical approach are these: First of all, we assume that there is an interrelated economy in the United States. This seems like a pretty obvious assumption to make, but if you are getting an atomistic response of employers, you are not really making that kind of assumption; you are not putting the correct assumption into effect.

This assumption means: For those industries which sell to a national market--and this means most manufacturing industries, the transportation industry; national industries like the insurance industry; wholesale trade; mining--for those industries that sell to a national market, their employment and manpower requirements are going to be determined by the whole national market for their product. You then can comprehend this problem by studying the potentiality of this national market.

For those industries that are not related to a national market but to the local population and its consumption, for example, retail trade, State and local governments, school systems, construction, and a number of others, you have

to look at the local population and its growth, the amount of income that will be available in the community and changes in those, to get a clue as to the future manpower requirements.

Now, whether the industry is national or local in terms of its market, it has certain other characteristics in common with plants in that industry in other communities. For one thing, each industry has its own technology, whether it is a steel plant in Youngstown, Ohio, or in Baltimore; it has a common kind of technology; therefore, all of the technological changes going on in the steel industry affect all of those plants. If you can get a handle on that problem, you have insight into the problems of steel plants in each community.

Another thing that every plant has in common with other plants in its industry is, of course, the occupational composition which is related to technology. The steel industry uses certain kinds of workers; the restaurant industry uses quite a different group. Information collected in one community can help you in another community.

A third major assumption that we are making concerns the U.S. population as a whole. This sounds self-evident; but it is important in this respect. I have just illustrated how local population growth can be very important in making local projections. Each State has to make some assumption about its population growth and about the effect of migration--whether there will be net in-migration or out-migration--and what the age and sex composition of those migrants will be. Clearly, we get an education program in the United States that would be incoherent and inconsistent if different assumptions were made by the different States, by the different communities as to their population growth and migration picture; for example, if California assumed that all the migrants would be coming to California and the State of Florida assumed that all the migrants would be coming there. Again, national studies of population growth and migration can shed light on the problems of each community.

This is not to say that local people do not have a great deal of information that would be helpful to you, nor is this to say that somebody sitting in one place, whether Washington or New York or any other place, can make or has the omniscience to make all the projections of population change, all the projections of employment requirements by industry for the country as a whole. This is obviously wrong.

The problem is to put together--as Bill Chavrid has said--information and judgments that you can bring from the locality with what you can learn at the national level and by analysis of national trends.

The way we propose to move ahead to make it possible for the States, the regions, the local areas, to project their manpower requirements as the basis for estimating training needs, is to prepare two kinds of information for them. First, information collectible nationally or analyzed nationally which may be useful to them as background for their work in the region, State, or area; and, second, suggestions and ideas on how to do this.

These are some of the things that we are thinking about bringing together as a publication of the U.S. Department of Labor for this purpose.

First, projections of the population of the United States published by the Bureau of the Census both for the country as a whole, by age and sex, and also by State will be used.

Second, projections of the labor force made by the Bureau of Labor Statistics for the Nation as a whole and projections for the various States consistent with the Bureau of the Census population projections will be added.

Third, projections will be included of employment by industry to 1970 and 1975, made in the BLS by a variety of techniques with as much emphasis as possible on getting industry detail in those industries which I characterized earlier as depending on a national market for their growth.

Now, in making projections by industry, a number of resources are available to us. First of all, we have something like 20 years of experience in the occupational outlook research program in which we have been doing this. Second, there are a great many new developments in analytical techniques, projection techniques, developments by university people, by private research organizations, which we hope to draw on. There is a lot of this work going on in foreign countries.

One of the most significant new techniques and one of the most promising is the interindustry analysis approach which provides a sophisticated technique for moving from projections on consumption for each product to projections of the amount of production in each industry that is required in order to meet aggregate demand for the product in question.

Let me illustrate by saying that if you can project the number of automobiles purchased every year by consumers, on the basis of the number of families, the average number of cars per family, rising income levels, trend toward more and more people moving out to the suburbs, and the patterns of consumer credit, you can use the interindustry input-output technique to estimate how much steel will be needed to produce those automobiles, how much rubber, how much coal, how much railroad transportation, all the way down the line, so you can use this approach as a powerful tool to analyze production requirements in each industry.

These industry projections will require more work on the part of the BLS especially with the changing technology in each industry and factors affecting technological change. We hope to be able to use all this information. These studies show, for example, what happens when automation is introduced into a plant and how fast automation is being introduced, and so forth. We hope to draw on this information, too.

A fourth thing that will be included in the publication is projections of employment in each occupation nationally. These projections are especially important for agencies like the Office of Education which has to make some appraisal of the whole picture. Are we training, are we educating enough people in each occupation through the work we are doing?

It is also important to provide information for appraising the output and the manpower requirements in many occupations which have a national market, particlarly among the professionals. You cannot look at each community; you cannot expect each community to train its own engineers and physicians, and so forth. They don't do it. The engineers and physicians and the other professional people move from one area to another. They go to school here, and they work there, and in this case you need nationwide projections of manpower requirements as a base for your training programs.

A fifth type of information that we will be providing in this publication is occupational composition patterns for each industry. We have these patterns developed for about 130 different industries with a good deal of occupational detail based largely on definitions in the Dictionary of Occupational Titles. We are now working with funds provided by the Office of Manpower, Automation, and Training, to develop estimates of these occupational patterns for 1970 and 1975 on the basis of all of the information we have been able to get on the changing occupational compositions in each industry, how technology affects it, and so forth.

These will be rough projections, but I think they will be useful in arriving at projections of employment for occupations. If we can project employment by industry and the occupational composition patterns for future years, we can make estimates for employment for occupations across the board.

These occupational composition patterns will be useful, as I suggested earlier, in the locality and in the State. I think that, for most industries in any locality, occupational composition is going to be just about the same as it is in that industry nationally. Therefore, I think, it would be wasteful to go around to all of the laundries, all of the cleaning and dyeing places, all of the restaurants in the community and laboriously collect information on their occupational composition when a national pattern would give you a pretty good estimate of how many waiters, how many cooks, how many laundry operators, how many truck drivers, you have in the community.

I would suggest that the collection of occupational employment data locally should be centered on those occupations and industries which are important and significant in the local community. When you do that, you will be able to cut down your work load by more than half, I would guess.

Finally, one other very significant type of information we hope to put into this publication would be tables of working life which we have developed at a national level. These tables can be used to estimate the number of people in an occupation dying or retiring, withdrawing from the labor force, over the next 5 or 10 years, on the basis of the age composition of the members of the occupation.

These tables need some further refinement. We use them now, but it would be very important to refine these on the basis of research on the differential occupational death and retirement patterns in the various occupations.

This last comment, the need for refinement and improvement, applies to everything I have been saying.

To summarize, then, we are moving toward a more analytical approach, making it possible for States, areas, regions--for many manpower studies you need regional summarizations--to take advantage of national information to develop their projections of local information. I think that anything we put out in the next year or so will have to be subject to frequent revision, but it will be a step forward. I am very glad to see recognition of the need to move ahead in this direction, on the part of a number of the State people, the State Employment Security people. I know that the State of New York and the State of California have both done a lot of serious work in this type of analytical projection method, and I am very delighted to see that they are represented on the program today.

Chairman Johnson: Thank you, Harold, for giving us some interesting insights. I think you could have added that the packages that our two previous speakers have been alluding to will be helpful to those of us in industry, too. It doesn't stop with the State and county. We are struggling with the same problems. We also would like to know, and sometimes I have as many as five different estimates of the number of employees of the Western Electric Company five years hence on my desk with management asking me which one they should bet on when they are setting up training programs, recruiting programs, et cetera. Much of this material will be helpful to some of us.

The Canadian Experience

Jack P. Francis, Director
Economics and Research Branch
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In Canada, as in the United States and many other countries, there has been a tremendous expansion of education and training programs in recent years for young people, and for adults. This expansion has generated an urgent need for research and information which will provide some guidance for policy decisions about the kind of training which should be provided, how different types of educational and training programs should be related, and the effectiveness of the total effort. I shall mention some of the work which is being done in Canada.

In talking about the kinds of research needed to support decisions about training policies and programs, it is important, from an economic point of view, to distinguish between two rather different objectives of educational and training policy. The first objective, long-run in nature, concerns the amounts and kinds of education and training which should be given to young people so as to maximize their chances of surviving in a rapidly changing and relatively unpredictable labour market.

The important feature of this situation is that considerable expenditures have to be made far in advance of the returns that can be expected. This is basically an investment type of expenditure and its primary concern, again from an economic point of view, is to contribute to and facilitate economic growth. Here we need to know how much investment in education and training is necessary

and what kind of investment it should be, in terms of the broad structure of the educational and training system. Answers to this kind of question require assumptions about the goals of economic growth and development in the period with which one is concerned.

The other major objective of training policies and programs is relatively short-run in nature and is concerned with the functioning of the labour area. In this case, the primary concern is to provide the kinds of training needed to help workers change, modify, and improve their skills and knowledge as employment and job requirements vary. Here, the problem is basically one of mobility rather than growth, and the task is to facilitate the process of occupational and industrial mobility by providing the required amounts and kinds of training at the right times for the right people in the right places. This kind of training is an instrument of labour area policy and is primarily concerned with adult workers.

Education and training is growth-oriented and primarily concerns youth; therefore information is needed on the broad characteristics of future manpower requirements of the economy. The task of providing such information in Canada has recently been helped significantly by the newly formed "Economic Council of Canada," which has just published its first Annual Review entitled Economic Goals for Canada to 1970.

The Council examined the problem of simultaneously achieving the goals of full employment, a high rate of economic growth, a reasonable stability of prices, a viable balance of payments, and an equitable distribution of rising incomes over the next 5 years. Given the population and labour force expansion likely in Canada over this period, the Council estimated annual growth rates for total national production and productivity, and set forth its view of the structure of the demand for goods and services which it judged would exist in 1970 if the goals were realized.

This analysis, apart from providing a broad framework for the development of economic and social policy, has provided the basic information needed for a picture of future manpower requirements in the nation as a whole. Within this framework, we are now engaged in working out manpower requirements data consistent with the projections of the Economic Council of Canada.

The task consists of converting the projections of gross national product by sector to estimates of employment by industry and, then, to estimates of employment by occupational groups. Of course, it will also be necessary to develop estimates of potential replacement needs on a comparable occupational basis, thus making it possible to assess total potential manpower requirements between 1965 and 1970. To complete the picture, estimates of probable new manpower supplies for the same occupational groups will also be developed on the basis of population growth and the size and character of the educational and training system as extrapolated from past trends. My description of the task to be accomplished has been greatly simplified, but this groundwork will make it possible for us to set forth the implications of the trends in requirements and supplies for earnings, for education and training, for immigration, and for mobility.

This key project, which will be based on a very rudimentary model of the economic system, will be a continuing and, we hope, an increasingly sophisticated on, as time goes on. To improve out techniques, we are trying to build a series of specific research projects which will provide more information and help to improve the reliability of the conclusions.

One of the basic needs, for example, is to develop an occupational classification system which is training-oriented rather than job-oriented. Such a classification system needs to relate occupations on the basis of their education and training requirements, so that the occupational categories used in a manpower forecasting model of this kind may be as meaningful as possible in relation to the structure of the education and training system. Here we will be relying heavily on work which is already going forward in the United States.

Another important need is for an up-to-date input-output matrix of the Canadian economy. Such a matrix is a basic tool for this type of analysis. Important work on this task is already in progress in the Dominion Bureau of Statistics in Canada. We also need to know much more about the rate at which capital is likely to be substituted for labour and about the substitutability of various kinds of manpower. Much work has yet to be done in this latter field, but it is an essential area of research from the viewpoint of training policy.

The second major objective of training policies and programs, as previously mentioned, concerns the functioning of the labour area. The essential task here is to provide the kinds of retraining, further training, and basic educational upgrading which will, on a least-cost basis, make it possible for existing labour supplies to move into vacant jobs. The perspective here is relatively short-run, and the need is to have advance and current information on the kinds of manpower which are or may be unemployed, and on current and emerging job opportunities.

This is the matter of labour area information, and discussion, to be realistic, must recognize the important role of the employment service in the development of such information. In Canada, the National Employment Service has just recently been transferred to the Department of Labour (it was formerly part of an independent Unemployment Insurance Commission), and important steps are now being taken to strengthen and develop its great potential for providing information on labour conditions. One of the priorities here will be to develop a system whereby disruptive labour shortages can be anticipated so that training authorities can be alerted and the appropriate training courses initiated as early as possible.

There has been some discussion in Canada about the possible need for comprehensive job vacancy statistics. Our feeling, at present, however, is that there are unsolved problems of definition and of objective reporting which do not make the development of any broad statistical program in this field worthwhile at this time.

The basic problem with labour area information on the demand side, it seems to us, exists at the level of the individual company or establishment. Generally, employers in Canada have made considerable efforts to anticipate their

markets and to plan their capital investment; they have done very little to anticipate and plan for their manpower needs. Until the calibre of information which is available at this source is greatly improved, public efforts to strengthen labour area information services will be operating under a handicap. In this connection, the Economic Council of Canada is studying the amount of work done by a selected number of large companies to anticipate their manpower requirements and the methods employed by them in doing so. One of the purposes of this study is to accumulate information on how this can best be done by individual companies so that the techniques employed can be brought to the attention of other employers throughout the country.

It is important to have detailed information on the characteristics of those who are unemployed (and ideally on those who are threatened with unemployment in the near future) so that training courses can be designed with regard to the educational and training levels of those individuals. Much information of this kind, of course, comes from the regular operations of the employment service; We are also planning to deepen this knowledge by carrying out, on a sample basis, a national survey of the characteristics of the unemployed. The first of these studies will be made this fall, when unemployment is seasonally low in Canada, and the second this winter, when unemployment is at its seasonal peak. We hope these surveys will be carried out from time to time, so that we have periodic information in considerable detail regarding the identity of the unemployed. Thus, training policy could be formulated not only in relation to forthcoming job opportunities, but also by taking into consideration as fully as possible the characteristics of those who are to be trained.

It is also important to develop a method of evaluating training policies and programs. Obviously, if we can find out how successful current training policies and programs are in helping people to survive more successfully in the labour market and to improve their incomes, then we are in a better position to make the whole training effort more successful.

This is a difficult field of research because it almost always involves longitudinal studies extending over considerable periods of time. There is, however, one project now going forward in this field which we call "The Career Decisions of Canadian Youth." In this study we are attempting to identify and measure the influence of the school system--in terms of kinds of schools, course programs and curricula, types of teachers and teaching arrangements, and the kinds of vocational guidance, counselling and other services which are available to high school students. Briefly, what effect, if any, is the school system having on the vocational and educational goals of young people? Is it contributing to their vocational maturity in a realistic way or not? Is it doing a better job for some kinds of students than for others? What are the different effects, if any, of vocational and technical course programs as compared with academic ones?

This study will be a large one for our country. It will be based on a sample of between 350 and 400 schools and 125,000 to 150,000 students. It will include the administration of a number of questionnaires to each student, (a basic

questionnaire on socio-economic characteristics and attitudes, plus two psychometric tests), and a questionnaire to each teacher, guidance counsellor, and principal. Enumeration will take place twice, first this fall and again next spring, so that changes over the school year can be measured.

Since this study will give us a basic sample of the present high school population, we also intend to follow the individuals in the sample after they leave school and enter the labour force. This, of course, is an extremely difficult undertaking, but we hope to accomplish it by arranging for the advance assignment of a social insurance number to those in our sample. In this way, information on their future employment and unemployment experience can be secured automatically from our social security records. Such information will be invaluable for future follow-up and evaluation studies.

I have mentioned some of the needs for information to plan training and education programs, and have indicated a few of the steps being taken in Canada to meet these needs. There is a growing awareness and concern throughout Canada about the development of information of this kind, and both provincial and Federal governments are responding to this concern by shifting research activities in this direction and expanding their total research expenditures. As this happens, it will be important to establish some mechanism which will provide a picture of all the research activities and plans which are under way or being developed. Such a mechanism will serve an important purpose in helping to avoid duplication and in providing a basis for greater co-ordination of the total effort. In fact, a clearing house of this kind is being established by a Federal-provincial statistical and research committee of the Canadian Association of Administrators of Labour Legislation. This committee is also helpful in identifying basic research needs that are of common interest, and in proposing action, to provincial and Federal government authorities. These are important developments in a situation where needs are many and urgent and where competent resources are scarce.

Mr. Chavrid: Mr. Goldstein, in your projection for 1970 and 1975, what will be the base year from which the projection will be made?

Mr. Goldstein: 1964 or 1965.

Mr. Chavrid: I think there was some misunderstanding as to what I said.

When we ask the employer about his anticipated employment need, we ask him for needs, not levels. At all times, the instructions to the employer are very specific. The question is whether we get the information back in those terms.

Right after World War II, if we had taken the employer forecasts of requirements, we would have come out with much the same kind of unemployment figures that developed in 1946-47. Employers had a difficult time in recruiting and keeping workers on the payroll during World War II; they were continuing to keep them on the payroll even though there was no actual work for them. Economists, on the other hand, thought that the employers would be more rational and would lay off those workers they didn't need; thus, they estimated a much higher rate of unemployment.

Of course, had the employer forecasts been taken, there would not have been the Employment Act of 1946, because the levels of unemployment would have been relatively low; however we started this program, and I think that gave us the real reason for the passage of the Employment Act.

Mr. Hyman Alterman: Bill has suggested that we ask the employer about his future employment needs. This may give the impression that in each organization visited there is only one individual who can supply the information we are after. If we are to ask an economist from within the company as a representative of the employer, he might make an estimate based upon general estimates of growth rate for the industry and perhaps for the country. If we ask the responsible person, who in this case happens to be the personnel director, he might project his immediate needs. If the person answering for the employer also happens to be responsible for sales, he might project his sales quota which is set for him as a matter of company policy. If we ask an executive of the company who has in his mind hopes for future automation of his operations, he might give a different estimate.

I venture to suggest that all of these people within one company sitting together at an informal conference would not be likely to agree with the same estimate of future growth, particularly if they are separated into as small a unit as an occupational group. What we are really getting in our answers is a mix of different opinions from different people representing the employer. If at all feasible, we could make it part of our policy to try to seek out a specific type of responsible person, so that if nothing else, we would be able to understand the underlying bias inherent in these particular estimates.

Mr. Chavrid: There have been surveys made sometime ago on this kind of projection of total employment, and as I recall, the best projections that were made in these individual companies were not by the top executive, nor by the

lower executive, but by a junior executive who took it upon himself to seek out the information from all those concerned from different departments in the company.

We are now conducting studies specifically on employee projection by occupation, and we hope to find out who has been making them, who is making them, and where the best sources of information are in the establishment.

Mr. Seymour Brandwein: The point you make is sound. It indicates one of the obstacles still to be overcome in turning to employers for the development of projection data.

I think you will realize that, despite the limitations of turning to employers, there is an additional function involved. Part of the purpose of government as an employer is to encourage the development of manpower planning within each company and to raise the degree of attention and concern in an area which--with many notable exceptions among larger companies--has attracted little attention. One has to go back only 10 or 12 years to recognize there were no comprehensive and reliable data on forecasts of capital expenditures. It was only by working with a cross-section of representative employers that attention could be drawn to projections in their own organizations that would lead to responsible findings. Hopefully, over a decade, we might reach the point where each company would take account of some centralized or standardized approach to manpower projections.

Mr. David Mann: Do your manpower forecasts and projections of manpower needs and training contain indices with respect to minority group training or minority group employment by occupational mix?

Mr. Goldstein: We are not trying to make any projections of requirements by race or age or any personal characteristics for very good reason.

I do not believe there is a viable concept in a democracy of requirements of workers by race, but we are trying to get some line on a question that is bothering a number of people.

It has been observed that the trend in employment in some of the farm and low-skill occupations has been downward. Many of the projections that have been made call for a further decline in the proportion of low-skill jobs, particularly in areas of employment for Negroes.

The question is: to what extent would a further decline in the proportion of jobs held by Negroes create further employment difficulties for them? I think an illustrative projection could be made, assuming the same proportion of whites and nonwhites in each occupation as now exists. What would happen to total employment of whites and nonwhites? Would there be a gap in jobs for nonwhites or Negroes?

This kind of an illustrative projection will be made, and I think it will show us if indeed there would be a decline in job opportunities for Negroes.

It will indicate, among other things, the need for opening avenues to other kinds of employment opportunities for Negroes through education and reduction in discrimination.

Mr. Charles A. Roumasset: Mr. Francis, regarding your survey of the influence of the school system on occupational choice, I do not see quite how, in the period of 8 months or a year, you can determine the influence of a whole set of forces which have extended over the entire life of the student. I do not know what you can accomplish with a complex questionnaire. A simple one addressed to the young man in the labor force asking "Why and how did you make your choice?" would suffice.

Mr. Francis: The independent variable is the school system with its various characteristics. The universe of schools will be sampled on a stratified basis. We will pull out and analyze data obtained for different types of schools, different types of course programs, for teachers with different backgrounds and different types of training, and schools with various kinds of vocational guidance services. All of the other variables, such as the individual student's background and the type of family and community from which he comes, will be regarded as constant in the study. We recognize that what we are dealing with is a phenomenon that is the result of a great many factors, but we want to look at only one of these.

The set of factors we want to know about are those in the school system; therefore, these are the ones we will concentrate on; the rest, we will hold constant. To do this, the usual approach would be to take a group of students at the beginning of whatever school program you had in mind--in this case, high school--and follow them through to the end of the program. This is a 4 or 5-year operation, so we plan to telescope this period into a year by measuring the progress of students in all grades of the high school over the period of 1 school year. Our analysis will then link together these changes for grades 9 to 10, grades 10 to 11, grades 11 to 12 and so on. Thus, we hope to telescope 5 years into 1, and in doing so focus on just one set of variables. We plan to focus on the school system because it is something about which we can take action most directly.

State Needs for Manpower Information in the Field of Occupational Training and Education

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This afternoon I want to look at some of the needs for information in the field of manpower training and education that are suggested by our experience in New York State. In doing so, I'll disregard the need for data on job vacancies and job openings, of the sort required by the Manpower Development and Training Act and related short-term training programs, and concentrate on broader and longer-range needs, particularly requirements on the manpower demand side.

The first is a general need: one should have data that give an orientation--a perspective--on the kinds of skill required for future public and private employment. The data called for consist of projections of the number of jobs by occupation, including, as an intrinsic element, estimates of the impact of changing technology on skill needs.

Estimates of this sort--both Statewide and for areas within the State--are very high on New York's priority list for research. In 1960, we published Statewide estimates covering the period 1960-1970. A revision and extension of these estimates, and local area estimates, is being prepared now.

The orientation function of demand data is important, because the impressions that governors, legislators, department heads, budget planners, school officials, lay education groups, and industry and union officials have about future skill needs help to shape the magnitude and kind of educational programs that are proposed, adopted, and financed at Federal, State, and local levels.

If there is one thing we can be certain of, it is that almost everyone speaking about manpower training and education will make some assertion about the kinds of job skills needed in the future.

The impressions people have about occupational education and training are important; therefore, it is necessary that we provide them with good projections and sound interpretations. If good estimates are not available, poor estimates or vague and superficial generalizations will be used and repeated until they take on the appearance of authority, or, it will simply be assumed that the future will be like the present.

Misinterpretation concerning future skill needs can easily result not only from poor projections but also, as frequently happens, from publicizing projections without benefit of the kind of realistic interpretation that the manpower statistician or economist can give the data.

An example of inadequate reading of the data is found in assertions that automation, space-age technology, and so on, are rapidly carrying us into a situation where a high-school education will no longer suffice as preparation for a job; that practically everyone will need some sort of post-secondary education or specialized, protracted job training.

One cannot talk with any assurance about the situation 50 or even 25 years from now, but insofar as we can glimpse the picture of the next 10 years, this view is not realistic.

Actually, we estimate that jobs of higher skill accounted for about one-third of the employed labor force in New York in 1964, and probably will not exceed 38 percent, or thereabouts, in 1975. I include here professional, technical, managerial, and craftsman jobs. The situation in the nation as a whole probably is not much different.

The relatively lower-skill jobs, such as those held by clerical workers, sales people, operatives, service workers, laborers, and farm workers--jobs that usually do not require post-high-school education or protracted job training--will continue to account for the majority of positions. We estimate that, including both replacement and expansion needs, up to two-thirds of all jobs to be filled during the next decade will be in this lower-skill category.

Especially important to proper orientation about job needs during the next 10 years is the expected increase in jobs in the service category--domestic workers, hospital attendants, practical nurses, waiters, kitchen workers, janitors, and also protective service workers such as policemen and firemen. The rise in these service jobs can be attributed in large part to population growth, urbanization, and higher living standards.

Some persons have the impression that modern technology will require a vast expansion in technical manpower, especially at the technician level. It is true that job needs in technical occupations will increase more than in other fields; but this does not mean that technical occupations represent a large demand for manpower or a field of many employment opportunities.

Our recently completed New York State survey of technicians and technical specialists shows them to be only about 2.5 percent of the total employed labor force. Even when professional engineers and scientists were included with technicians, their combined number was only about 5 percent of the total. Despite the increase that is expected to take place (over 50 percent in the case of technicians and technical specialists, somewhat less in the case of engineers and scientists), at the end of 10 years, total employment in these technical fields will fall considerably short of 10 percent of employment in all fields.

I suspect that this kind of misinterpretation of the manpower situation may be resulting, not in overemphasis on technical education, but in inadequate attention to meeting manpower needs in the lower-skill categories (especially in service occupations); and also perhaps in a failure to recognize that for many persons, in the labor force, there is little prospect of obtaining jobs above the lower-skill levels.

Another use of data on manpower requirements is to help identify the need for vocational, technical, and professional education facilities at the State and local level.

Almost any statement justifying or favoring an expansion of educational facilities will include some kind of manpower projection. Thus a report made several years ago on the demand for higher education in New York State cited the manpower projections of the State Labor Department to support the statement that there would be a demand for all the highly trained manpower that would be turned out following an enlargement of the State University--an enlargement needed to accommodate the vast increase in the number of young people.

This kind of statement is not an easy one to document, since it requires a matching of projected needs and projected graduations on a field-by-field

basis. What may be true in one job area may not be true in another. But outside the occupational fields of teaching, engineering, and science one does not often see careful comparisons of this kind.

When a proposal is made to expand facilities for vocational and technical education, manpower-requirement data are regularly referred to. However, it is my impression that such data do not figure in any primary way in reaching conclusions concerning the need for educational facilities; rather, they serve in a secondary role as points for checking other indications of need.

This, at least, is my impression of current studies and recommendations for establishing vocational and technical education facilities in 24 areas (mostly multicounty areas) throughout New York State. These studies, which were sponsored by the State Education Department, were carried on by local groups, usually with the help of a consulting firm or of university personnel. In each case it was concluded that new facilities were needed.

An examination of half of these reports showed that -

...Each included some kind of estimate of current employment by occupation.

...Some, but not all, included or referred to long-range projections of manpower requirements. Several cited the State Labor Department's Statewide projections, made in 1960.

...One cited figures from the projections in Manpower Challenge of the 1960's, by the U.S. Department of Labor's Bureau of Labor Statistics.

...Two developed local projections based on a simple extension of 1950-60 occupation trends, as shown by the Census.

...A few referred to the 1963 or 1964 manpower reports of the President but included no figures from this report.

...One attempted a more sophisticated projection, utilizing a Statewide industry-occupation matrix, along with local industry projections.

...All gave figures based on surveys of local employers. Some gave employer-reported figures as to the number of workers now employed, by occupation, and the number that employers said they would employ 3 or 5 years from now; sometimes replacement needs were included. Other reports simply cited employer opinions about shortage occupations and growth occupations in the area.

...In addition, employers usually were asked to indicate what subject fields the vocational-education program should cover, with respect to training for entry jobs, for upgrading, and for retraining persons with obsolete skills.

...Some reports also included opinions of officials of unions, of employer associations, and of local employment offices as to manpower and training needs and as to the value of vocational education.

...All the surveys projected the number of students who would not be going to a regular college. They also ascertained from 10th to 12th grade students, and from recent dropouts, their interest in vocational education, and the subject-matter fields, if any, in which they would like to take vocational courses.

...All the studies also canvassed parents to find out whether they approved of their childrens' plans and interests, and to ascertain the parents' own interest in taking vocational-education courses.

From a reading of the reports and talks with some of the people involved, I gather that the material on student needs and interests constitutes the primary basis for findings concerning the need to expand vocational-education facilities. These findings may then be modified to bring them in line with the views of key employers, vocational educators, and other persons in the community.

To the extent that they figure at all, statistical projections of manpower requirements serve as check points to confirm conclusions already reached or to play up some areas of occupational emphasis in the proposed program and play down others.

Perhaps, the lack of quality projections for local areas has something to do with the fact that projections are not used more in planning facilities. But it seems clear that the studies have placed primary weight on estimates of the number of students and on students' preferences and have done so because these are directly translatable into estimates of needs for facilities. Translating manpower requirements into facilities is a much more involved matter, among other reasons because it means taking other sources of supply, such as industry training and upgrading, into consideration in reaching a decision about the number of students to be trained.

As far as the check-point function of projections is concerned, it is important for us to realize that Statewide and national projections, as well as projections for the specific local area, are relevant to local determinations of educational needs. The fact that little or no need for electronic technicians is seen in an area should not rule out electronics training if State and national projections show electronics occupations due for substantial expansion.

If I may presume to speak for them, vocational educators consider that their primary responsibility is to meet needs as expressed by their students and the students' parents, but to meet them in a way that is oriented to trends in job opportunities either in the area where the students live or in areas to which they can be expected to move to obtain jobs.

This manpower orientation is an especially important supplement in view of the fact that student views about job opportunities are likely to be uninformed.

Projections of occupational requirements are used by the guidance and counseling officials of high schools, of employment offices, and of other agencies that have job-placement and job-advisory functions. These officials constitute a bridge between the lack of accurate information among young people about job opportunities and the more or less solid ground of what is known about prospects--both short-range and long-range prospects--on the basis of job projections and judgments derived from nonquantitative information. BLS occupational outlook publications have been the main source of data to fill this gap.

Ideally, for guidance purposes, projections should be available for both the local area and for broader areas--regional, State and national. The guidance perspective should not be restricted to the immediate locality.

Actually, as we all know, comparatively few local areas are blessed with good projections, and prospects are not especially bright that many will have good projections in the foreseeable future.

We in the New York State Department of Labor have just completed 10-year projections of manpower needs for technicians and technical specialists for major labor areas in the State, as well as for the State as a whole. We included replacement as well as expansion needs, and data on how many jobs could be expected to be filled by upgrading, assuming a continuation of past practice.

Estimating how many jobs there will be in the future in various occupational fields is only one of the functions of manpower research in helping to guide vocational and technical education planning. Another is to help in planning and evaluating the structure and content of the program and curriculum.

Among the kinds of relevant information the manpower researcher can supply are -

...Employers' education and experience requirements in the different occupations.

...Kinds and level of subject matter knowledge and technical skill that are utilized in performing the jobs.

...Kinds and level of schooling, job training, and job experience that have contributed most to developing skills utilized on current jobs (that is, education, training, and job histories of workers).

...The extent and character of manpower training carried on by employers, the frequency of upgrading, and employers' views concerning the respective roles of the schools and of industry in manpower training.

Our survey of technical manpower in New York State was designed to help answer some of these questions so far as technicians and technical specialists are concerned. The results of the survey have been presented in our forthcoming publication, Technical Manpower in New York State.

Similar studies are needed of the skilled crafts in relation to high school vocational-education programs, and apprenticeship training. We know from our own studies of the metal trades in New York State, and from Federal studies (such as the BLS studies of mobility among tool and die makers and certain other crafts, and especially, OMAT's noteworthy monograph no. 2, Formal Occupational Training of Adult Workers, 1965) that many persons become craftsmen without the benefit of either formal high-school vocational education or apprenticeship training. We also know that apprenticeship-training programs in many instances disregard and give no credit for related vocational course work received in high school.

In New York, we feel we should have a good deal more information than we do concerning the significant skill-development processes of education, training, and work experience in the skilled crafts. We expect to point some of our research in this direction.

Manpower Program for a State

Margaret Thal-Larsen, Executive Secretary
California Commission on Manpower,
Automation and Technology

I believe that if I fail to give you any background whatsoever, you will end up wondering why I am here. Why should I, the representative of the so-called "Automation Commission" be talking to you labor statisticians and administrators, about a manpower information program that is meant to serve as a basis for a manpower training program?

This would be a good question.

Also, if I give you no background, I think you will not have the perspective against which to judge this program, including the fact that it is the product of essentially a lay group, a group that is not a Bureau of Labor Statistics or an Employment Security agency, but a group of outsiders. This fact, I believe, gives the program much of its significance and its interest.

The Commission on Manpower, Automation and Technology was set up by act of the California legislature in June, 1963, and it has been operating actively since about March, 1964. There are certain aspects of this Commission that I believe predisposed it towards developing a manpower information program, although this never was at any time its specific goal.

One of these is the fact that this group of men tends to think of itself, I believe, as a means of communication in the economic sphere. I have heard them call themselves "insiders" and "outsiders," and the outsiders outnumber the insiders. The outsiders are the laymen. They are the appointees of the California Governor and the legislature. Three of them are public members and as you might guess, all three of these are college professors: of industrial engineering, of industrial relations, and of law.

Six of the men represent the leadership echelons of labor, all different types of unions from different parts of the state. Six represent large employers, one of them an agricultural employer, and eight are from the legislature; four from the Senate, four from the Assembly.

Now, we come to our "minority group," our "insiders." These are State agency chiefs from the Departments that are most concerned with manpower programs: the Department of Employment, of Industrial Relations, the Superintendent of Public Instruction and the heads of Agriculture, Social Welfare, and the Economic Development Agency.

So, as you can imagine, a group intensely interested in communicating, representing such diversified fields, would quite likely--and they did--stress the importance of an adequate information program.

Another feature that pushed them in this direction was the fact that when thirteen of these twenty-nine men wear their other hats they become California's Manpower Advisory Committee for purposes of M.D.T. and other training programs. In their search--and this has become more pointed in recent months than it was originally--for an over-all training policy for the State, they have come more and more to a realization that such a policy must rest upon an adequate manpower information program.

A third factor pushing the Commissioners in the direction that they have gone has been their manner of operation. I would be inclined to characterize this as one of interminable talk. They have conducted public hearings; they have held numerous meetings of the Commission itself and of its committees; they have sponsored technical institutes; they have worked with a large number of volunteer consultants. In the course of all of this talk, they have often asked, "What do you need for more effective operations," and the answer has almost always been, "More manpower information." So, it was inevitable that they should go down this path.

I have been talking about a "program." I have been using that word because it was the word I found on the agenda. Possibly, I should mention in what sense I am using this word. I mean by program a proposal or a recommendation because I am talking to you about a proposal that has been made to the Governor and the legislature of California. It is not a program that we have in effect at this moment. However, just to prove to you that it is impossible to say anything about the California Commission without getting into some kind of discussion, I should also mention that there are those who say there is nothing new about this proposal, and in a sense they are right.

You will recall that Mr. Goldstein complimented California by saying that a great deal of analytical work has been done there. In the sense that many persons like yourselves have already amassed an enormous body of manpower data in California, the Commission's proposal is not a new program. But, it is a new program in the sense that it is more comprehensive, more coordinated, and certainly more centralized than anything that we have at this time. Also, it has several new elements of input-output and of control and feedback--you can

tell that I have been associating with engineers as well as college professors--that we do not have in the State of California at the present time.

This brings me to the question: precisely how did this Commission that was charged by the legislature to appraise, continuously, the impact of automation on the labor force and to suggest adjustments, get into the manpower information business?

This rather cumbersome charge from the legislature has been expressed much more succinctly by certain prominent officials in California. They have said, "The task of the Commission is to solve automation," so I can answer the question very easily as to how they got into the business of manpower information. It was in their efforts, curiously enough, to solve automation.

It came about in this fashion: At a meeting of the Commission, one member decided that a very fine way to solve it would be to develop a system of education and training--and here I quote--"which would fit the California's labor force to the needs of the modern technological economy." To devise such a system is surely a task about as large as the original one of solving automation.

So the Research Committee was asked to submit a plan to the full Commission for developing a system of education and training that would do just exactly this, solve automation. The Research Committee was somewhat stupified by the magnitude of this instruction, but hopefully it called a meeting to start out on the task. It took the Research Committee no time at all to decide that this large order simply had to be broken down into smaller, bite-size pieces that would be manageable.

To this end, the Research Committee appointed some sub-committees, one of which was on vocational counseling, a subject in which the Commission has had a tremendous interest from the start. The Commissioners have regarded the vocational counseling system as our line of communication in the world of work. Counselors are the ones who must assist people to get the proper form of education for the jobs they can expect to find. So are these lines of communication properly staffed; are these people expert enough in the techniques of counseling?

While considering problems of this sort, someone asked the eminently sensible question, "Counseling for what," and this turned out to be indeed the key question, and we were back once more to where we had been in the very early days of the Commission, looking at job market information, this working capital, you might say, that the counselor needs.

Then there were still more meetings. Mr. Goldstein kindly came out and helped us with one that was held with the American Statistical Association. A demonstration project was launched with the California Department of Employment to learn what it would cost to expand the production of labor information along certain fronts.

At last, after all of this talk and this experimentation, one comparatively brief Commission recommendation emerged. What I want to discuss is this recommendation which has come from a lay group that is, in a lay fashion, talking about matters with which you have spent your working life in a professional capacity. For that reason, I think it will interest you to learn what a group of essentially outsiders thought should constitute an adequate state labor area information program.

At the outset, the Commission called on the legislature and the Governor to create a comprehensive and coordinated manpower information program. The emphasis on these two words is very strong, and I find that some of the Commissioners in alluding to the program tend to add a third word, "Continuous." Generally speaking, these men are more interested in setting up a structure of government that can attract and retain well-trained people and turn out this work on a continuous basis than they are in the production of any specific reports.

Next, the responsibility for a major part of this program is centralized under one man. One agency is directed, in cooperation with the Commission, to carry on this program, and this one man is the Administrator of Employment Relations which, in the State of California, means the man who reports to the Governor for both the Department of Employment and the Department of Industrial Relations. We do not have a labor department in California.

It is this man who is to have final responsibility for most of the components of a manpower information system. The first item of output that is stressed is labor projections, short-, medium-, and long-term projections on a coordinated basis for the State as a whole, for the standard metropolitan statistical areas in California, and where necessary the smaller communities. Mr. Pearce has talked to us quite a bit about projections. I can say on an empirical basis that in all of the hearings the Commission has held, it has had by actual count more requests for information on future labor needs than any other area.

Currently in California, we have no such projections by occupation for the State as a whole. Where projections by industry have been made--and some very fine ones have been made--they are now obsolete.

I would also like to say that the Commission did not spell out the methods it would like to see used in the making of occupational projections. This has been left wide open because a general belief exists that there should be much more exploration of various techniques. Depending on circumstances, an area skill survey might be the answer in one case. An occupational matrix applied against a judgment estimate of future employment in a given industry might be the answer in another. Or there may be cases where an input-output study is available to provide the estimates of future employment upon which occupational projections can be based.

In fact, the reason why we gave our institutes in cooperation with the American Statistical Association was not to drum up any additional enthusiasm

for the production of labor force or occupational projections, but rather to instill in some of the very articulate persons demanding information a greater respect for the technical difficulties of making such estimates.

The next item of output asked for in the Commission's program is an expansion of intensive studies about industry. This is a type of report that exists today in California and has a considerable usefulness just as it stands. It is believed that expanding the production of these reports would bring into the hopper more data that would be useful for occupational projections. There is also a requirement for a stepped up production of occupational guides.

When we asked the school district heads what they wanted by way of manpower information, they asked for about a four-fold increase in the production of occupational guides. They also wanted a great deal of additional information which could be used for the long range planning of curricula and facilities.

The next major category of data finding its place in this program is job vacancy data. You probably know that Los Angeles was the site of one of the pilot projects conducted on job vacancies. It is the Commission's hope that we will develop these data on a State-wide basis and for all of the State's major metropolitan areas.

One rather unusual item in the Commission's program is a continuing household sample survey. This, too, sprang out of our public hearings. The Commission has believed from its inception that we possess insufficient labor supply information. We do not know enough about total unemployment, particularly youth unemployment. We had no way of keeping up on the occupational changes in our employment. Further, the population forecasters tell us that they are greatly hamstrung by the fact that there is no source of data to show how California's population is changing in its socio-economic characteristics to aid them in making future population forecasts. Consequently, the Commission came up with a recommendation for a quarterly household sample survey in California, both for the State and local areas. We have just been informed that $350,000 is what an economic model of such a survey would cost.

The Commission's program also calls for a step-up of special labor force studies in order to determine what are the characteristics of our present labor supply, particularly among the disadvantaged groups, so we may have more data for special programs where these are needed.

The recommendations of the Commission also include what is called a manpower research program unit. This unit--brought under the direction, again, of the Administrator of Employment Relations--has been placed in California's Department of Industrial Relations. This agency, in California, has the C.E.S. contract. Thus it was believed to constitute the best channel for pioneering occupational research carried on by the B.L.S. at the national level and by the Department of Employment locally.

There are a few elements in the system proposed by the Commission which are not directly under the Administrator of Employment Relations. One of these

is conducting industry manpower conferences. A great deal has been said today about getting employment information from employers; a great deal has been said before the Commission, and that body has come to certain conclusions. One is that employers are not as reluctant to give this information as has been frequently alleged. So far as their ability to give accurate information is concerned, there can be some doubt however. This doubt is no reason for failing to go to employers to learn as much as they can tell us. The word "conferences" can mean "conferences" in one instance and "consultations" in another, whichever is the best method for a particular situation. In any case, the proposal is to resort to the representatives of the employers to learn their views on future developments in their industries. Determining the proper approach has been left to the Economic Development Agency because of its particular prestige with employers.

One matter that may emerge from these conferences is that it is much easier to get from an employer an estimate of his future production whether it be in terms of so many feet of plywood or so many passenger miles than it is to learn the occupational composition of the future workforce producing these units. The problem is a matter of translating units of production into people. This is the area where the employer is deficient and the one where such agencies as our schools demand information.

Employers need--and it may be that this responsibility falls on government where the need is greatest--to develop a new breed of expert who can take what we may be able to get from the employer as to future production levels and turn this into occupational projections. We don't know, but we have asked for studies that may furnish needed insights as to future occupational patterns at given levels of technology. Some interesting work of this type is being done in California at the present time.

Studies on technological change have been assigned to the Administrator of Employment Relations, but it is quite possible that his responsibility should be only to see that studies are carried on in State universities or that those prepared at the Federal level are utilized.

Another element in the Commission's program is the holding of annual statistical resources and requirements conferences. This is an effort to get the users of the data into contact with the producers of such data. For this, the Department of Finance was made responsible. On June 25th, we will have our first complete report from California's Superintendent of Public Instruction.

In conclusion, I would like to say that the total output of this system I have been talking about forms the crux of what the California Commission feels is necessary for training and education. In fact, the Commission would say this output is necessary not only for training and education, but also for the efficient administration of an employment service, for the knowledgeable conduct of labor-management relations, and for all the other adjustments to technological change that we have been told must be made.

Research Under the Manpower Development and Training Act to Improve and Extend Manpower Information

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David Bushnell and I have just come from a two-day session at the University of Wisconsin on manpower information needs for educational planning. I want to touch on just three things. One is to note a new aspect of the OMAT research program. Two is to tell you about the debate at the Wisconsin meeting from which I have just come, since it is significant for all of us. Three, I want to offer a reminder that the information needed is hardly of a statistical nature alone.

The Department of Labor has an appropriation administered by OMAT to supplement and go beyond the BLS and BES manpower research activities; these funds are used largely to tap and stimulate academic and other research resources outside the Labor Department, including possibly State agencies.

I want to cite one new development, however, which bears on shortages in our own field--the shortage of good manpower researchers and the shortage of competent people in related fields: psychologists, sociologists, those who devote attention to manpower problems. Under this year's amendments to the Manpower Act, we will be getting some funds to use for small research grants to attract and support promising graduate students to train them for work in manpower research; we are looking ahead to strengthening our relationships in this respect with universities. Hopefully, we will be able to provide grants for perhaps three or four dozen persons a year initially, and thereby start building an enlarged pool of persons with some ability, preparation, and interest to draw on for manpower research.

Now as to the conference in Wisconsin, it brought together a couple of dozen top-flight academic economists, several educators and a number of manpower experts to consider what sorts of occupational information are needed to help plan for training and education for work. Remarkably, about half of those at the meeting took the position that we already have about as much data as we need, that particularly on occupational projections it would be a waste of time and money to do any more, and that anyone interested in training and education should worry about problems other than projection information--which they would not know how to use anyway.

I have over-simplified this, of course, but it is a fair description of their reaction, at least in the early part of the conference. I am speaking about the academic economists and they, mind you, are able, technical, analytical men who are not frightened by statistics and whom you would expect to be prime supporters of efforts to improve and enlarge manpower information.

As they expressed skepticism about occupational data and projections, several things became clear, which should offer some guide to us. One is that they really did not understand what was available, how it was developed, how it was used, and how it could be used. They did not understand because they had not really worked with the data; time and again they would say, "We do not know anything about this area," but then launch into strong criticism. They had some misconceptions, and for this I am afraid, the producers of the data may be as much to blame as the critics are, because the data quite often are presented cold with only limited interpretation or guides as to their usefulness and recognized limitations.

Secondly, they were so worried about the misuse of projections that they were unwilling to consider their good use. They may have a point here.

Thirdly, there were assorted comments about needing less statistics and more facts. The point that there are a lot of competitive, overlapping and non-comparable data which only a technician or analyst could rationalize could be a point to consider.

Also--and this is critical--they felt the use for which the data was intended was not given enough attention, that is if the data are to be used for planning, the data developers must be more specific about planning for what, for whom and by whom, and for what time span, and so on, since different objectives and different settings require quite different types of information. It is beyond dispute that they have a good point here too.

It is easy to get annoyed at these reactions and attempt to make some sophisticated reply, "but you do not understand,"--and we did--however, there is more to it than that. I will not go into detail but on the plane flying here I tried to crystallize some of the implications for us.

The central one--it is hardly new, but it is critical--has been emphasized by Mr. Pearce and Mrs. Thal-Larsen, that too many of us, in devoting our attention to the collection and reproduction of data, are not doing as much as we should on dissemination, on interpretation for policy and program needs, on getting the information used where it should be used. This means more than putting a bright cover on top and it means more than enlarging the mailing list.

Mind you, I am not opening now the question of whether we are gathering data that is needed or necessary or whether what is available is as reliable as we would like.

It is clear to me that the pace at which we proceed to the enlarged and improved programs discussed at this Conference will be shaped significantly by how well and by how much better we do the following: One is how well we pull together, synthesize, or--if you will--digest the information which the non-technician too often sees as scattered miscellany. Two is how well we distribute and advertise our research.

I think some of that task may be beyond us but it does present a challenge in trying to identify and to present differently to various people the types of data relevant for different objectives, rather than relying as heavily as many of us do on the time-honored tradition that "we get the data and it is up to others to figure out how to use it."

It means we have to do more to translate and interpret the information, to explain how it can or should be used and how it should not be used. Of course, all these directions for needed action mean that labor statisticians really have to do more homework on things other than statistics. It means learning more about other institutions, how they operate and what problems confront them.

Now, since my topic on the program is "Needs in Adult Training," I will close with a brief illustration of the too-often overlooked fact that training for employment often requires many types of manpower information other than employment, unemployment, and occupational data. This is true particularly in efforts to train some of the most disadvantaged, under-educated groups for whom cultural and other problems beyond lack of skill bar the way to reasonable and regular employment.

For this, I will simply list some of the distinctive needs and information-seeking objectives set forth by just one of the special demonstration training projects financed by OMAT. This particular project is being conducted by an organization called Action for Appalachian Youth and its efforts focus on rural young people in the West Virginia mountain areas. The first question is how to get such youngsters to respond to training opportunities. The project will try to visit and counsel with them in their native "hollows" rather than merely issue a general call for interested youth to come to some central location.

A second question is how to determine potential for training. Since this is a relatively uneducated group it is necessary to use non-verbal tests to determine aptitudes and capacities, so the project will use job tasks as a measure of capability.

A third problem is that most of these youngsters need a great deal of preparation even before they can be started on any sort of skill training, and the project plans to provide literacy and other types of basic and disciplinary skills required before specific occupational training can be absorbed effectively. Also, since many of these youngsters have found it difficult to function in a traditional school setting, the project will try to provide the training in a work setting.

Finally, assuming these youths can be reached and can have occupational skills developed, can they effectively move into and hold on to a job? The prospects are dubious because there are other obstacles, so the project will try to prepare them for an urban setting by providing the training and a period of adjustment at a residential center. Since adjustment to urban life will often present other problems which may bar their way to continuing employment, the project will also experiment with a period of follow-up counseling after the youth gets placed in a job.

We could cite many other training problems confronting particular disadvantaged groups. Various experimental and demonstration projects are seeking information and insight on how to identify and best meet these problems. This concern should be part of the province of labor statisticians and not alone a responsibility left to other social scientists. I look forward to increased participation of labor statisticians in the measurement and solution of these problems.

Research Needs in Education

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When Harold Goldstein and Commissioner Clague invited me to talk on the occupational information needs of education, I was very pleased because I knew this conference followed immediately on the heels of the conference held at the University of Wisconsin on the same subject, and I could borrow from that some of the ideas offered to us. We were co-sponsors of the conference, and I think Seymour mentioned that the answers were few and the questions were many, so what I brought with me are questions.

I am going to tell you just two things, leave two messages with you that are relatively simple. The first is to describe briefly a new research program which has been established in the Office of Education. As I do that, those of you who are not interested in doing research or perhaps getting money for research can just rest your ears until I get to the second topic. The second topic will be to talk about some of the research needs that we do have in the Office of Education on which you perhaps can give us some help.

Just last fall, Congress in its wisdom, saw fit to institute a research program under the new Vocational Education Act of 1963. They earmarked ten percent of the vocational education appropriations for research, an amount in excess of $50 million through the fiscal year 1967. This portion of the annual appropriation for Federal support to vocational education will be used by the Commissioner of Education for grants to colleges, State departments, public or non-profit private research agencies and, with State board approval, to local education institutions. Further, each State is required to allocate at least three percent of its annual Federal allotment for activities and services designed to improve its vocational education program. Such ancillary activities include research and development. From the scope of this effort, it can be seen that research and development will have a major part to play in adapting vocational education and occupational preparation to the dynamic pattern of our economy.

The ability of our public school system to adapt to national and local needs has been studied carefully by many task forces and associations in the past decade. The question of how to prepare youth and adults for continuing

employment has been the subject of attention by twenty-five Federal agencies. The relationships between these agencies and State and local authorities is a subject worthy of study itself.

What are effective vocational guidance and counseling procedures, and what techniques and materials need to be developed for the non-academically bound youngster? These are but a few of the questions to be attacked with the support of the Occupational Research and Planning program (ORP).

In staffing and implementing our program we hope to attract research personnel from each of the major disciplines--psychology, sociology, economics, anthropology--to devote their best research resources to the planning needs in vocational education. Three Review Panels, composed of leaders in these related disciplines, have been established to review and recommend action on all proposals submitted for funding. ORP intends to offer the following services to the research community:

1. Stimulation and implementation of research and development projects through contractual arrangements with appropriate institutions.

2. Consultation in the preparation of research proposals, with special emphasis on assistance to institutions, school districts, and community colleges not experienced in the planning and writing of proposals.

3. Sponsorship of seminars, conferences, workshops, and institutes for present and prospective vocational education personnel, with attention to the development of educational research talent.

4. Assistance in the expansion of State and regional research and development capabilities.

5. Dissemination of research and development results in effective and understandable ways, augmented by the establishment of several centers to serve as clearing-houses of information in the area of occupational education.

In addition to these functions, the staff is in the process of implementing a small grants program aimed at developing promising ideas, supporting feasibility studies and library research, or planning of larger research programs.

Training proposals concerned with the updating and upgrading of vocational educators and administrative personnel will not be subject to panel review and can be negotiated more rapidly. Experimental, pilot and demonstration programs should serve to support innovative and applied efforts which warrant dissemination to other institutions faced with similar problems. Each application falling into this category should make adequate provision for careful evaluation of the proposed projects.

Let's take a look now at the types of proposals received and projects soon to be funded under this new research authority. During our first six months of

operation, we have received more than 500 proposals. Most have come from colleges and universities, but there are a few from local school districts, State offices, and non-profit organizations. In general, these proposals can be classified in one of three major categories:

1. The identification of current and future employment opportunities and related skill needs. Such studies propose to examine the range and type of employment opportunities available in our economy. Assessment of the competencies individuals need to enter into and progress in such opportunities are also being proposed. New methods for conducting regional job surveys, the identification of skill clusters associated with a variety of occupations, and the development of counseling and guidance data appropriate to the local level illustrate other types of applications.

2. The development of human resources. Many researchers will focus on the individual needs of students, improved ways of teaching culturally-deprived youngsters, developing aptitudes and cognitive skills, motivating students to pursue appropriate courses and careers at relevant age levels. Some have sought to conduct studies on how to provide youngsters from deprived backgrounds with the opportunity to develop their reading, writing and reasoning skills before they become overwhelmed by secondary and post-secondary school programs.

3. The development of educational resources and training programs. A large number of investigators are exploring these problems. We expect to spend a considerable amount of money this year on improving vocational education curricula, on developing new patterns of organization for vocational and technical schools, and on devising appropriate roles for community and junior colleges to play in post-secondary and continuing or adult education programs. A number of pilot and demonstration programs currently underway at State and local levels will be evaluated and written up for circulation to other appropriate institutions. Improved guidance and counseling procedures, greater use of new instructional technology, improved instructional materials, teacher training, design and development of residential schools are all projects which fall into this category.

Please recognize that this program has been in existence for only six months, and it would be foolhardy indeed if we thought that we had successfully identified all of the problems associated with our field of interest. We hope to screen selectively and fund those studies which will contribute to the achievement of the objectives specified under the new law. It is our earnest desire to encourage all institutions, who have something to contribute to an effective research program, to submit their ideas for our consideration. Through your cooperation, research and development in the preparation of youth and adults for gainful employment will help to shore up the nation's economy, just as research and development in industry has helped to insure the continued viability of the modern industrial enterprise.

Chairman Johnson: There is one question I would like to ask of Mr. Russell. Have we come anywhere near the problems that you suggested in your letter?

Mr. Wendell H. Russell: Yes, I believe we did. I am very glad that I attended this Conference. I have already made contact with many people from the fifteen southern States that we are surveying this summer and if there are those with whom I have not yet talked, I will be glad to see them. I will be around for the rest of the Conference.

Chairman Johnson: Do we have any questions?

Mr. Brandwein: I thought it might be useful to pose for Dave Bushnell a question which we brought up recently in Washington. In identifying the financing of studies, I know that you had some specific things in mind; but it would be useful to sketch out where the dividing lines come in terms of where you can allocate your funds, as against where the Labor Department should be allocating ours so that we don't develop waste.

Mr. Bushnell: It is a difficult question because there are some gray areas.

I think we would be principally concerned with what kind of skill needs we ought to be identifying and relating training to. This means that we would like to get from three- to four-year advance projections at the local level which would relate the vocational training then to the local manpower requirements.

I do think that with the Department of Labor--and I know we talked about O M.A.T. working on better models for projecting job opportunities, and the B.L.S. is doing some of this also--there ought to be a viable connection between the vocational education people and the State Department of Labor people and the Employment Security people so there is better integration of this information with their planning for vocational education.

Mr. John W. Lehman: Another question that comes to my mind relates to the need to translate information for its use by the policy person; also, in regard to the technician, when are we going to start to form relationships with the pursuers of the data in order to give them the reasons they need to provide these translations because that, too, requires reasons, and it seems to me this is a key point we have missed over the years. What can we do about this?

Mr. Brandwein: I think you are right, and I should make it clear that although the resources which have been appropriated for O.M.A.T. to use in supporting research are not yet of the magnitude which Dave Bushnell is struggling with, we have deferred some of them.

Mr. Bushnell: We haven't had any trouble. Let me say that we have deferred some of these funds to support the fields of activity which I think would encourage experimentation. There is no question if you do not do this effectively that one time in three you are going to put your foot in your mouth, and even if you do an effective job, you are going to find yourself in the middle of some scalding hot water, but the contribution is something that will be worthwhile.

Any time you are ready to try a new tack with some of the data and you need to have help, we will consider the possibility of financial support for it.

The Last Five Years: Economic Expansion
and Persisting Unemployment

Chairman: Ewan Clague, Commissioner
Bureau of Labor Statistics
U.S. Department of Labor

Robert A. Gordon, Professor
Department of Economics
University of California

MR. EWAN CLAGUE: In 1961, there was an article in the Reader's Digest which summarized their views on the subject of unemployment and employment in the United States, and it ended up with the assertion that the figures were being juggled in order to get more budget for the Bureau itself and other parts of the Department of Labor. Furthermore, the article suggested repudiating the BLS and the statistics associated with it.

It was this situation that prompted President Kennedy, at the suggestion of Secretary Goldberg, to appoint a special expert committee to review employment statistics. I might say, by the way, that one of the problems we faced at that time was that the Reader's Digest never prints any letters from its readers, so even Secretary Goldberg couldn't write a letter to the editor, commenting on this article. I tried in my way, and I couldn't either, so in some respects the situation was serious enough that the President felt it was essential to do something to meet this basic challenge to our facts as well as the insinuations in the article.

A committee of six members was appointed to appraise employment and unemployment statistics. That committee was headed by our speaker this morning, Professor Robert A. Gordon of the University of California. He assembled his committee; they came down to Washington and worked for a period of a year--not he himself, but working with staff assigned to work with the Committee--reviewing our statistics, and those of the Bureau of Employment Security.

The Committee published a report which at that time and still today represents substantially the last word on employment and unemployment statistics. The Committee completely exonerated the BLS from any charge of juggling figures in its published report.

The Secretary of Labor accepted these findings, and since that time, the various departments have been trying to put the recommendations into effect. We haven't gone as far as we would like, but some things have been achieved.

We have had the good fortune to be able to capture Professor Gordon on his way back from a conference where he spoke on this general subject, and for that reason we are able to have him here this morning. This conference took place earlier this week, overlapping our own, so we asked Professor Gordon if he would be willing to give us a talk on the general subject of economic expansion and what interpretation of this we can offer to the public.

I give you now Professor Gordon.

PROFESSOR ROBERT A. GORDON: Thank you very much, Ewan.

At some time during his life, one begins to look back at his career and pick out some crucial point in it. In the field which is certainly one of the most technical ones in the aspects of labor statistics, I was a babe in the woods that day in late 1961 when a call came in from the White House. I tried to consider why this happened during the 3,000-mile trip to Washington, and it was obvious that it was not because of any expertise or competence on my part but the fact that a few of my good friends in Washington who were there then decided to get even with me for some imagined wrong. Suddenly, I became an expert to deal with manpower and employment statistics.

With your permission, I am not going to talk this morning about manpower statistics directly. Rather, I am going to talk about what has been happening during the last 4½ years, which constitute perhaps the most remarkable period of cyclical upswing and expansion this country has ever experienced; and we still have an unemployment rate above 4½ percent.

Although output has been expanding for more than 4 years, and the preceding recession was both brief and mild, unemployment has remained at an unsatisfactorily high level. The unemployment rate did not fall below 5 percent until November 1964, and it has remained in the range of 4.6 to 5.0 percent during the first 4 months of 1965.

The cyclical upswing has been unusually steady and moderate. While the rate of expansion compares favorably with that of past upswings, prices have been exceptionally stable; inventory accumulation has been kept at a minimum; profit margins have been maintained unusually well; few supply bottlenecks have developed; the supply of money and credit has continued to expand at an unusually steady rate; and, with perhaps a few exceptions, there has been little evidence of the sort of exaggerated short-term expectations that a prolonged boom usually engenders.

These features of the current upswing raise two questions. First, why have we not been able to achieve a closer approximation to full employment after 4 years of steady expansion? And, second, would an expansion rapid enough to have brought the unemployment rate down to 4 percent by now have been undesirable for other reasons, either because it would have brought about an unacceptable rise in prices, or because it would have set in motion forces that by now would have led to another recession?

This last question is not asked as often as it should be.

Let's gain some perspective on the present upswing by comparing the present business cycle with the several that preceded it. We have already noted that by past standards, the pace of advance in the current upswing has been relatively moderate. The rate of advance has been slower than during the 1949-53 or the 1958-60 upswing, although more rapid than in the 1954-57 expansion. However, the 1960-61 recession was one of the mildest on record,

whereas the total amount and rate of decline in the 1957-58 decline were among the most severe--actually the most severe--of the postwar recessions.

If we compare average rates of change in gross national product (GNP) between cyclical peaks, thus combining each cyclical expansion with the preceding recession, we find that the most recent period from the peak in 1960 through the first quarter of 1965 gives a very good account of itself. The average annual rate of growth in GNP since the 1960 cyclical peak has been 4 percent, much more than during the interpeak intervals 1953-57 or 1957-60, although still considerably less than during 1948-53.

Let us examine the changing patterns of growth and the major components of what we call "aggregate demand"--consumer expenditure, private investment, and government expenditure, both Federal and State and local, on goods and services. When we do this, the retardation in growth which occurred between 1953 and 1960 stands out, as does the acceleration in growth that has occurred in the last 4 years. The reasons for the retardation in 1953-57 were different from those that explain the slow growth between 1957 and 1960, and this contrast is of considerable significance in understanding the reasons for the high level of unemployment that came after 1957.

The period 1953-57--what we loosely call the "boom of the Fifties"--was actually a period of retarded growth which culminated in the investment boom and inflationary price rise of 1955-57. The drag on the economy during these years came entirely from the Federal Government, whose expenditures on goods and services declined sharply between 1953 and 1957. The rate of growth in private investment during this period was moderate, about 3.1 percent per year, but the increase in investment between 1953 and 1955, the first part of this boom period, was at the rate of no less than 6 percent per year, and gross capital formation then remained virtually constant at this high level through 1956 and 1957.

This horizontal movement during the prolonged investment boom of 1955-57 brings down the average rate of increase for the entire period 1953-57, and the moderate average rate of increase for the entire 4-year period does not fully reflect the magnitude of the investment boom that occurred during the mid-1950's.

The effect of the decline in government expenditures during this period was to hold back the expansion of total output, and the unemployment rate rose from 2.9 percent in 1953 to 4.3 percent in 1957. Paradoxically, wholesale prices were relatively stable in 1953, a year presumably of full employment, but rose sharply in 1956-57, when unemployment was above 4 percent.

Then came the end of the investment boom and the sharp business contraction of 1957-58. Recovery from this recession was sluggish. The explanation for this sluggishness clearly lies in the combined behavior of Federal spending on the one hand and private nonresidential investment on the other. Although total output continued to grow at a modest pace between 1957 and 1960, both nonresidential construction and expenditures on producer's durable goods showed net declines between 1957 and 1960.

The Federal Government sharply decelerated the rate of decline in its expenditures after 1957, but there was still some further net decrease in Federal Government spending on goods and services between 1957 and 1960. The one type of nonconsumption expenditure that showed marked acceleration and growth between 1957 and 1960 was residential building. The average rate of increase in this type of investment jumped from 3 percent during 1953-57 to 6 percent during 1957-60.

But even with this housing boom, the average rate of increase in total gross private domestic investment amounted to only 1.2 percent a year. If we take out inventory change, the rate of increase in private investment was only four-tenths of a percent a year. With total government expenditures rising at a rate of less than 2 percent a year, it is not surprising that the growth in total output averaged only 2½ percent between 1957 and 1960, somewhere between 1 and 1½ percentage points less than the rate needed to maintain full employment--and you know the result. The unemployment rate rose from 4.3 percent in 1957 to 5.6 percent in 1960.

I don't think it is putting matters too strongly to say that what the American economy had to recover from when expansion began again in 1961 was not the mild recession in 1960-61, but the relative stagnation of the late 1950's, particularly in the period 1957-60. This stagnation was associated with an absolute decline in private nonresidential investment that the Federal Government made no attempt to offset either through increased spending or a cut in taxes.

As has been increasingly recognized in the last few years, the tax reduction that was eventually made in 1964 should have been made in 1958.

Now, I will return in a few minutes to talk further about stagnation in private investment after 1957, but I should like now to take a further look at the current upswing. As we have already seen, the net rate of growth in real GNP since the 1960 peak has been much higher than during the two preceding peak-to-peak periods. Indeed, the growth rate of 4.1 percent achieved during 1960-64 is one on which we would ordinarily congratulate ourselves. It has, however, had only a modest effect in bringing down the unemployment rate, in terms of annual averages from 5.6 percent in 1960 to 5.2 percent in 1964. Then the accelerated expansion in the first 3 months in 1965 brought the seasonally adjusted quarterly average to below 5 percent for the first time since the last quarter of 1957.

Accelerated growth since 1960 has been stimulated particularly by the marked and widespread revival in private capital formation. The 1960-64 rate of increase in gross private domestic investment, both inclusive and exclusive of inventory change, has been by a considerable margin the largest of any peak-to-peak period since the revival of private investment immediately following the end of the war.

The marked change in the trend in Federal expenditures is also to be noted. For the first time since 1963, Federal spending ceased to be a net deflationary force during the interpeak intervals that I am examining. The acceleration here

considerably more than offset the modest retardation in the rate of growth in State and local government expenditures.

So far, I have been leaving out the consumer, who had a very important tole to play, but I shall save a discussion of his role until a little later.

We have been tracing the changing rate of expansion in total demand during the postwar period. It is now time to take a look at the supply side of the picture, where we get into some of the manpower aspects of the problem a little more closely.

We can do this most conveniently by examining the course of what has come to be called potential output or potential GNP at full employment. Now, what potential GNP would be at full employment boils down to assessing the combined effect of the growth in the labor force and the net increase in labor productivity that have been going on, and this latter--growth in labor productivity--is particularly difficult to measure, as you know, and represents the net effect of a variety of forces: Growth of capital stock, change in the composition of capital stock, shifts in the industrial and occupational pattern of employment, changes in the intensity with which factors of production are being used, net changes in the quality of the labor force, primarily through education and training, and a residual set of influences that are loosely referred to as the course of technological change.

Under Walter Heller, the Council of Economic Advisors from 1961 through 1964 continued to estimate that the potential output at full employment was growing at the rate of 3½ percent a year. This 3½ percent figure represented roughly a 1 percent rate of growth in the labor force and a net increase in labor productivity of 2½ percent. Some economists have been urging that this estimate was too low, even for the period before 1964, and that it is considerably too low for the rest of the 1960's.

There is some evidence that the upward trend in productivity in the early 1960's has been higher, than the Council has estimated, and since the early 1960's, a sharp acceleration in the growth of the labor force has been under way. This acceleration in the rate of growth of potential output is recognized, albeit somewhat belatedly, in the January 1965, Economic Report of the President. In this Report, the Council offers the following statement:

In its past three Annual Reports, the growth of potential GNP since mid-1955 has been approximated by a trend line rising at a rate of 3½ percent a year. It now appears that the growth of potential has recently stepped up: A real growth rate of actual GNP somewhat greater than 3½ percent has been required to prevent a rise in the unemployment rate. 13/

13/ Economic Report of the President, January 1965, p. 81

The Report goes on to state that "The best estimate of recent potential growth must be placed somewhat above $3\frac{1}{2}$ percent and below 4 percent." 14/

It then proceeds to portray "growth rate of potential GNP at $3\frac{1}{2}$ percent from 1955 through 1962 and 3 3/4 percent thereafter." 15/

Having made this concession and recognizing the sharp acceleration in the rate of growth in the labor force that is now occurring, the Council then goes further:

> The prospects for growth of the labor force and productivity suggest that the increase of potential GNP in 1965-70 will exceed the $3\frac{1}{2}$ percent annual rate of the 1955-62 period and even the 3 3/4 percent rate estimated currently. Indeed, over the next 5 years it is likely to average about 4 percent a year, a rate approaching that of the early postwar period. 16/

The Secretary of Labor in his latest Manpower Report of the President goes further:

> If we assume no more than a continuation of the long-term productivity trend, and no significant changes in the workweek or the work year, the combined requirements for additional real gross national product...imply the need for an average annual increase well above 4 percent between now and 1970. 17/

> Taking into consideration the need to create jobs to reduce the unemployment rate from the current level of 5 percent to a more acceptable level, it will be necessary to sustain an annual average rate of increase in real GNP about equal to this year's high rate of growth for the next half dozen years. 18/

This implies the need for a growth rate of about $4\frac{1}{2}$ percent a year for the rest of the 1960's with no letdown at all.

Let us accept for the moment the Council's estimate that potential GNP in 1964 was about $27 billion higher than the GNP actually achieved. That is, to have had a 4 percent unemployment rate, GNP would have had to been about $27 billion higher than it actually was.

14/ Ibid.

15/ Ibid.

16/ Ibid., p. 92.

17/ Manpower Report of the President, March 1965, p. 47.

18/ Ibid.

This is the level of GNP that would have been required to bring the unemployment rate in 1964 down to 4 percent. For this level of GNP to have been achieved by 1964, starting from the actual level of output in 1961, we would have needed an annual rate of increase in GNP between 1961 and 1964 of better than 6 percent a year and an annual rate of growth since the cyclical peak year of 1960 of about 5.1 percent.

This would not have been an unprecedented performance. The economy expanded this rapidly from 1949 to 1953, but it took the stimulus of the Korean War to do it. Various European countries have been able in the postwar period to maintain such high rates of growth for a considerable period without being interrupted by a serious recession. But I have doubts that the American economy could have maintained such a rate of expansion during 1961-64 without, by last year, running into some combination of the following difficulties:

Prices certainly would have risen faster than they did during the last year and a half. In the absence of earlier and stronger measures to curb the outflow of capital than were in fact taken in 1964, the balance of payments situation would have been worse than it was. Such balance of payments deterioration combined with the speed of the expansion, rising prices, and the approach to full employment almost certainly would have led to the Federal Reserve authorities adopting a moderately tight monetary policy in 1964, and very probably the rapidity of the expansion and the faster rise in prices would have generated considerably more inventory accumulation and led to other stresses and strains that in the past have typically developed in the late stages of a prolonged growth.

As a result, I think it is likely that had we achieved a 4 percent unemployment rate by 1964, a cyclical contraction would today be much more imminent than seems to be in fact the case.

To achieve an average unemployment rate of 4 percent, say, in 1967, the rise in real GNP between 1964 and 1967 will have to be at an average annual rate of virtually 5½ percent, considerably higher than the rate achieved during 1961-64. To achieve this goal, not only must the recent rate of expansion in aggregate output be accelerated, but of course, we must avoid a recession for another 3 years. Even with the new sophistication now being shown in Washington in the use of fiscal and monetary policy, one does not have to be much of a pessimist to express some doubt that unemployment can in fact be brought down to 4 percent by 1967.

And, as for Senator Clark's goal of 3 percent by 1968, more than mild skepticism would regretfully seem to be in order. This is apart from the structural problems involved in achieving and maintaining an unemployment rate as low as 3 percent in the United States.

Let me turn now to examine in greater detail the behavior of each of the main components of aggregate demand that I have mentioned. Let us begin with private investment.

I have already commented on the stagnation in private investment that occurred after 1957. Until 1962, total fixed investment in constant prices remained below the peak reached in 1956. Thus, we went through a 5-year period with no net expansion at all in private capital formation. In the absence of more aggressive action by the Federal Government, it is no wonder that growth was slow and unemployment rose.

Let us look particularly at the period 1956-60, the interval between two successive cyclical peaks in gross capital formation. Including change in inventories, gross investment in constant prices showed a small net decline. Excluding inventory change, total fixed investment was virtually the same in 1956 and 1960. The record would have been much worse except for a $2 billion rise in residential building and a significant increase in private nonprofit institutional investment.

Plant and equipment expenditures by business showed a net decline of nearly $3 billion between 1956 and 1960. In real terms, plant and equipment expenditures remained significantly below the peak reached during 1956-57 until last year, and even after the leap in expenditures in plant and equipment between 1963 and 1964, the net increase in plant and equipment expenditures between 1956 and 1964, an 8-year period, averages out at an annual rate of not quite 1 percent a year.

Given this behavior of private business investment, it is hardly surprising that aggregate demand has not risen rapidly enough since 1956-57 to keep the unemployment rate down to 4 percent.

As I see it, at least three sets of forces were at work by the mid-1950's to bring about a marked retardation and even absolute decline in private business investment. First, there were underlying forces at work to reduce the overall marginal capital output ratio and, therefore, the ratio of gross investment to GNP at any given rate of growth in total output.

Second, the investment boom of 1955-57 rested in part on the satisfaction of pent-up demands: the constriction of capacity to meet the pent-up demands for consumer durables, and more generally, accumulated demands for expansion and modernization of capacity, which had been held back by the Korean War.

Third, expectations were too optimistic in 1955-57. Investment in some lines generated a larger capital stock than was warranted, given the level and underlying trend in demand, and as a result, considerable excess capacity resulted. The capacity utilization rates achieved in manufacturing in 1955 and 1956 have not been matched since, even in 1964. According to the latest McGraw-Hill survey, the rate of operation in manufacturing in December 1964 was still below the preferred rate, although considerably closer to this preferred rate than a year earlier.

The expansion in plant and equipment expenditures accelerated markedly in 1964. In terms of 1954 prices, the rate of increase in such expenditures between 1963 and 1964 was a bit above 12 percent, and for manufacturing alone, the increase between 1963 and 1964 was about 16 percent. A comparable rate of

increase now seems very likely for 1965, with a larger fraction than in recent years going for capacity expansion rather than replacement and modernization.

Similar acceleration, however, is not evident in the other types of fixed investment, which add up to about half of gross capital formation, exclusive of inventory investment. Indeed, this other half of fixed investment, of which residential building alone constitutes two-thirds, showed little change between 1963 and 1964. As a result, total fixed investment rose by 6.3 percent in 1964, or only about half the rate of increase in plant and equipment alone.

This is still quite a respectable figure. Along with the tax cut, it helped to generate a 4.7 percent increase in GNP between 1963 and 1964. As we have seen, however, it appears that even this rate of increase in GNP would hardly be enough to bring the unemployment rate down to 4 percent in the next 2 or 3 years.

The probability that a rate of expansion in total fixed investment of better than 6 percent can be maintained for many years strikes me as being rather low, even with good economic management in Washington. The outlook for much expansion in residential building in the next few years is not promising, and this increases the need for very rapid expansion in plant and equipment expenditures, conceivably at a rate that may not be sustainable for very long. But, this remains to be seen.

I have already referred to the shifting trend in Federal Government spending during the postwar period, and, indeed, it is not unfair to say that at least until recently the Federal Government has been one of the major sources of instability in the American economy. In real terms, Federal Government expenditures on goods and services expanded rapidly between 1960 and 1962, rose very little in 1963, and showed a modest net decline in 1964. Thus, on the side of expenditures on goods and services, the Federal Government has been a drag on the economy during the last 2 years.

This has come about, of course, through a moderate cutback in defense expenditures, which in 1964 still accounted for more than 80 percent of total Federal spending on goods and services. State and local government expenditures, however, increased more rapidly during the last 2 years than between 1960 and 1962, although the average rate of increase over the 4 years, 1960 to 1964, was noticeably lower than during the preceding decade or more.

To evaluate the Federal Government's total effect on aggregate demand, we must look at more than just its direct expenditures on goods and services. We must take into account not only the behavior of tax receipts, but also the rapid expansion of transfer payments and their effect on private income and spending.

In current prices, GNP rose at an average rate of 5.1 percent between 1960 and 1963, accelerating to 6.6 percent in 1964. The rate of increase in disposable income after taxes between 1960 and 1963, a figure of 4.8 percent, was slower than GNP. Between 1960 and 1963, personal disposable income after taxes was rising more slowly than GNP, suggesting that the net effect of leakages and transfer payments was to hold back moderately the rise in consumer incomes after taxes.

Then, as a result of the tax cut, this relationship was reversed in 1964, even though the rise in GNP accelerated. In current prices, GNP rose by 6.6 percent between 1963 and 1964, but the rise in disposable income was significantly larger--7.3 percent. This change to a more rapid rise in personal disposable income than in GNP is entirely accounted for by the substantial reduction in personal income taxes resulting from the tax cut.

But we should not confine our attention only to the Federal income tax. As you know, Congress is well on its way toward a substantial reduction in Federal excise taxes. Sometimes, some of us are inclined to forget that State and local indirect taxes are far more important than those of the Federal Government, and they have been increasing faster than GNP; this continued to be the case in 1964.

A moderate acceleration in the rise of such tax revenues was another reason why personal income continued to grow less rapidly than GNP.

A further reason is to be found in the behavior of Government transfer payments, which also decelerated their rate of increase in 1964. The rise in Federal transfer payments to individuals in 1964 was only about 60 percent as large as the increase that took place in 1963. On the other hand, there continues to be a strikingly rapid increase in Federal grants in aid to State and local governments, permitting the latter to continue to increase both their expenditures on goods and services and State and local transfer payments.

Let us take a closer look at the 1964 tax cut. There is no question that this action had a strong expansionary effect on the economy. In the face of a continued rapid rise in personal income, the Federal Government collected 5.6 percent less in personal income taxes in 1964 than it did in 1963. If we take the five calendar quarters from the fourth quarter of 1963 through the first quarter of 1965, we find that disposable income increased at the striking rate of 7.2 percent per year. With a decline in the rate of personal saving during this five-quarter period, personal consumption expenditures expanded even more rapidly.

In other words, the tax cut obviously was a big shot in the arm to consumer spending.

Further fiscal stimulus is scheduled for 1965. First, there is a second and smaller installment in the reduction of income taxes enacted in 1964. In addition, a liberalization of social security benefits retroactive to the beginning of the year and a substantial reduction in excise taxes will very soon be passed by Congress. A substantial offset, however, will be the sizable increase in social security taxes beginning in January 1966. Medicare payments presumably will not begin until July 1966.

On balance, the net additional fiscal stimulus from these sources in the calendar year 1965 will be significantly less than that resulting from the tax reduction effective in 1964. Some moderate deflationary pressure will be exerted in the first half of 1966 on the side of the Federal Government, since

the rise in social security taxes will be considerably greater than the second reduction in excise taxes scheduled to become effective in January 1966.

Fiscal policy should probably be given a good deal of credit for the rapid expansion in private investment that has occurred during the current upswing. The new depreciation guidelines and the investment tax credit enacted in 1962 undoubtedly provided an additional stimulus to plant and equipment expenditures. At the same time, particularly the more generous depreciation allowances as well as the continued rise in profits helped to generate additional cash flows available for investment.

At least for the time being, it seems to be clear that Congress and the Administration have chosen to apply an expansionary fiscal policy as needed primarily through tax reduction rather than through accelerated increases in Federal spending, particularly on goods and services. Transfer payments to persons will continue to expand, particularly in the near future, as a result of liberalized social security payments and Medicare, and the trend in grants in aid to State and local governments is still strongly upward, but the tendency seems now to be toward reducing the Federal Government's share of the GNP, including the share that it diverts through cyclically sensitive income taxes. Continuation of this trend will weaken somewhat the effectiveness of the Government's automatic stabilizers and place increased responsibility on private spending and on the expenditures of State and local governments, both to maintain a satisfactory rate of growth and to avoid the sort of cyclical instability which private spending has been prone to in the past.

Now, finally, I come to the consumer. In the last Annual Report, the Council of Economic Advisors referred to the dependable consumer who could be counted on year in and year out to spend from 92 to 94 percent of his disposable income after taxes on goods and services. In this respect, consumers have been behaving in this upswing as they have behaved in previous postwar expansions, but a couple of differences are worth pointing out.

In the first place, consumers seem to have been even more dependable in this upswing than in the preceding expansions. Over the 16 calendar quarters beginning with the second quarter of 1961 and ending with the first quarter of 1965, consumer expenditures varied between only 92.0 and 93.4 percent of disposable income, or, turning this around the other way, the personal savings rate varied between 6.6 and 8 percent of disposable income. This range was somewhat wider both in 1954-57 and 1958-60.

Also, on the average, consumers have been saving a somewhat larger fraction of their disposable income in the current upswing, an average of about 7.3 percent since this expansion began, compared with averages of 7.0 and 6.9 percent of their disposable income during the two preceding upswings.

Interestingly, the rate of personal savings averaged just about the same both for the period from the second quarter of 1961 to the fourth quarter of 1963 (before the 1964 tax cut) and for the period from the first quarter of 1964 to the first quarter of 1965, which includes a full year's effect of the

tax cut as well as the effect of the automobile strikes in the last quarter of 1964 and the surge of pent-up demand for automobiles in the first quarter of 1965.

It should be noted, however, that there was a fairly steady decline in the savings rate during the first 2 years of the upswing. For about a year from the fourth quarter of 1962 through the third quarter of 1963, personal savings remained in the narrow range of between 6.6 and 6.8 percent of disposable income. The savings rate then moved to a higher level from the fourth quarter of 1963 through the year 1964. It then fell to 6.8 percent during the booming first quarter of 1965.

It remains to be seen whether it will rise again. It is not likely to fall much, if any, lower.

I have compiled some additional material for judging the effects of the 1964 tax cut, and this material also provides a perspective on the continuing boom in automobile sales. I have tried this experiment. I have divided the period since the beginning of 1962 into subperiods in order to average out some of the erratic fluctuations we get when we take quarter-to-quarter changes. I have then computed average disposable income after taxes and average expenditures for each of the major categories of consumer expenditures, including automobiles, for each of the following periods: each of the two halves of 1962 and of 1963, the first three quarters of 1964, and the fourth quarter of 1964 combined with the first quarter of 1965.

Combining the first three quarters of 1964 picks up most of the effect of the first installment of the tax cut, in particular the substantial reduction in payroll tax withholding. Combining the last two quarters--the fourth one of 1964 and the first one of 1965--permits us to allow for the effects of the automobile strikes. I then computed the ratio of change in consumer expenditures to the change in disposable income as derived from these subperiod averages I have just described.

The rise in consumer expenditures was greater than the rise in disposable income in the second half of 1962 and again in the first half of 1963. In this early part of the upswing, for a given dollar increase in disposable income, consumers were increasing their spending more than a dollar.

Relative to the continued rise in disposable income, the rate of expansion in consumer spending then tapered off after the first half of 1963. I have suggested that taking together the first three quarters of 1964 might help us to assess the effects of the tax cut on consumer spending. The rise in total expenditures relative to disposable income during this period--these three quarters--compared to the second half of 1963 was not much different than the ratio of increase in spending to increase in income which occurred during the preceding half year. It would appear that the accelerated rise in disposable income associated with the tax cut went particularly into consumer durables, especially automobiles, and interestingly also in nondurables, but the incremental ratio of spending to income fell off sharply in the case of services.

A further substantial rise in disposable income occurred in the next 6-month period, covering the fourth quarter of 1964 and the first quarter of 1965. The incremental ratio of consumption to disposable income also rose, from 0.85 in the first three quarters of 1964 to 0.91, but the incremental ratio fell off sharply in both durables and for automobiles, with more than offsetting increases for nondurables and services.

The decline in the incremental ratio for other durables was even sharper than for automobiles.

Can we say anything about the prospective relationship between consumer spending and disposable income in the months ahead? While prediction is no part of the purpose of this paper, a few further comments might help to put recent developments into perspective.

The relatively high savings rates from the fourth quarter of 1963 through the fourth quarter of 1964 suggest there may still be some pent-up demand and the savings rate may possibly remain below 7 percent for a while longer. The incremental ratio of total consumer spending to disposable income has shown rising tendencies since the beginning of 1964, but there is no assurance that this ratio will rise much further.

It would also appear that expenditures for services have been responding relatively sluggishly to the rise in income since the beginning of 1964, and a change toward a somewhat more rapid expansion may be in store here.

The dependable consumer, to use the Council's phrase, has indeed done a good job in helping support the current expansion, but he is by no means an automaton, responding in completely predictable fashion to every change in his after-tax income. His rate of personal saving has varied, and some of the changes in the patterns of his expenditures have been quite dramatic. It would appear that he is likely to continue to give strong support to expansion in the months ahead, and this will be particularly the case if he can be induced to keep his savings rate down below 7 percent.

I should like now to offer a few observations about some other characteristics of the current business expansion, particularly those aspects of the behavior of the economy that have contributed to the duration and the steadiness of the upswing.

Indeed, it can fairly be said that this has been a remarkable expansion in the degree to which various types of excesses and maladjustments have been avoided. We can begin with the behavior of prices, about which there has been much discussion.

As is generally known, wholesale prices have been remarkably steady, although there has been some inching up in recent months. The index of industrial materials prices was no higher in mid-1964 than at the beginning of the upswing, but there has been a significant rise in the last 9 months.

The rise in the consumer price index has been quite moderate, with as yet no clear tendency toward acceleration in the rate of increase, although some disturbing increases have occurred, particularly in food prices in the last couple of months.

Behavior of prices reflects in part the behavior of labor costs, which in turn depend on changes in hourly earnings and in labor productivity. Labor costs per dollar of real corporate GNP declined during 1961 as is typical in the early stages of recovery and have shown surprisingly little increase since then, much less than during the latter part of any previous postwar expansion.

Indeed, labor costs per unit of output in manufacturing have actually drifted downward since mid-1962, and this tendency toward decline was still apparent in the early months of 1965.

It finally needs to be added that the excess capacity carried over from the boom of the 1950's has contributed to the good behavior of prices and probably also to the continued rapid rise in labor productivity.

It has been typical of past cyclical expansions that eventually, as the boom continues, costs begin to encroach on prices and profit margins begin to fall. This happened in each of the postwar expansions preceding the present one. But it has not happened in the current upswing.

The ratio of price to unit labor costs in manufacturing was still rising in early 1965, and so was the ratio of profits to income originating in the corporate sector as a whole. The rise in total corporate profits after taxes accelerated in the latter half of 1963 and then, after a more or less horizontal movement during 1964, accelerated again in the first quarter of 1965.

Another feature of this expansion has been the close control of inventories and orders. Stock-sales ratios for manufacturing and trade have tended downward through the entire upswing, and at the end of 1964 were at their lowest level in 10 years. As the Department of Commerce has pointed out: "The downward drift in the ratio in 1963 and 1964 has been quite different from the increases during the advanced stages of previous upturns." 19/

There was a substantial increase in inventory investment in the fourth quarter of 1964 and the first quarter of 1965, but this was presumably temporary, associated with stockpiling in anticipation of the steel strike and restocking of cars after the automobile strike.

Not only private business but also the monetary authorities have behaved well. The rate of expansion in the money supply both excluding and including time deposits has been unusually steady. Despite concern over the balance of payments, the Federal Reserve authorities have carefully avoided putting

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19/ Survey of Current Business, January 1965, p. 9.

monetary obstacles in the way of expansion. While Treasury bill rates have been forced up to minimize the outflow of short-term capital, long-term interest rates have held remarkably steady during the entire upswing. Indeed, corporate municipal bond yields as well as mortgage yields were generally no higher in the early months of 1965 than at the beginning of the upswing in 1961, and in some cases they were even a bit lower; this is a remarkable performance over a long and vigorous upswing.

Corresponding with this behavior of interest rates has been a steady advance in the volume of bank and nonbank credit. If we have failed to achieve full employment after 4 years of rising output and employment, the blame can hardly be put on the monetary authorities. This is in contrast to the monetary tightening that occurred in 1959-60.

I shall make no attempt to deal at length with the balance of payments problems that have beset the United States in recent years; except under the most skillful management, these difficulties can seriously interfere with the rate of domestic expansion that we need to get closer to the full employment goal. I shall limit my comments to the following points:

First, during the current expansion, exports have risen more rapidly than imports with a consequent improvement in our balance of trade on goods and services account. The improvement was particularly marked in 1964. Domestic expansion had not led to a deterioration in our balance of trade in goods and services. This good performance is due to the rapid expansion of our exports, which more than offset the increase in imports induced by the continued expansion in domestic output and spending.

The second point: The most important reason for this improvement in the merchandise trade balance is undoubtedly the improved competitive position of the United States resulting from the relative stability in the American price level combined with the continued rapid growth of our principal customers.

Third, given the need to continue governmental aid abroad at something like the present level, our balance of payments problems stem primarily from the large outflow of American capital. The outflow was particularly heavy in the fourth quarter of 1964.

Against this background and given the official assumption that the present gold value of the dollar must be preserved, the monetary and fiscal authorities have acted with skill and circumspection to achieve the twin goals of not interfering with domestic expansion while at the same time seeking to reduce the balance of payments deficit. The chief measures have been tie-in arrangements to direct the proceeds of foreign aid toward the purchase of American goods; the interest equalization tax passed in 1964; the new set of measures announced by the President in February 1965 primarily, but not exclusively, aimed at securing voluntary restraints on the outflow of capital; and the wage-price guideposts so far as they can be said to have had some effect in holding back the rise in wages and prices.

The answer to our balance of payments problem is not yet in sight, although it may be surmised that the deterioration in the latter part of 1964 was only temporary. Fundamentally and in the long run, assuming stable exchange rates at present levels, the answer must be found in two directions.

First, continued improvement in our competitive position, resulting from a less rapid rise in American than in foreign prices, and second, the development of more adequate sources of capital abroad.

We can also count on a steady increase in the income on American investments already made abroad, and, of course, we must maintain profitable opportunities for a steady expanding volume of domestic investment so that not too much American money will go abroad in the first place.

In the last Economic Report, the Council of Economic Advisors predicted that the GNP in 1965 would be within a $10 billion range centering on $660 billion. The figure of $660 billion was widely accepted both in and out of Washington as a reasonable forecast for this year's GNP. If prices rise this year at the same moderate rate as they did in 1964, this implies and increase in real GNP between 1964 and 1965 of about 4.1 percent. Potential output has now begun to grow at 4 percent or better, so the Council hardly did full justice to the problems still facing us when it said cautiously that: "The increase in output is likely to exceed the growth of potential, reducing the gap moderately." 20/

The reduction in the gap and in unemployment will be very moderate indeed.

GNP rose unusually rapidly in the first quarter of 1965. The rate of increase for the remainder of the year, will be much lower. Indeed, expansion in real GNP during the final three quarters of this year, at an annual rate of not much over 3 percent if prices continue to rise at their recent rate, would yield a GNP for all of 1965 of just about the predicted $660 billion. In other words, we can grow at an annual rate of 3 percent, maybe a little better than 3 percent, for the rest of the year and achieve the predicted annual figure of $660 billion.

The sharp rise in GNP in the first quarter of 1965 brought the seasonally adjusted unemployment rate for the first quarter down to about 4.8 percent. Unless the expansion in output for the rest of the year is more rapid than is now predicted, unemployment in the fourth quarter of 1965 will not be much lower than 4.8 percent.

This brings us back to the dilemma which I suggested at the beginning of this paper. We must run awfully fast these days just to stand still. Rapid growth at the rate of 4 percent or better per year is needed to prevent unemployment, open and disguised, from rising. Yet to expand still faster in the next several years, fast enough to bring the unemployment rate down to 4 percent or below, greatly increases the probability of accelerating price and

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20/ Economic Report of the President, January 1965, p. 85.

wage inflation and eventually of another business recession. Constructive fiscal and monetary policies in the last 4 years have helped us to achieve substantial gains. Still further advance toward the goal of full employment while at the same time avoiding the conditions that might bring on another recession will be increasingly difficult from here on. It will call for much wisdom and imagination in Washington and for cooperation and constructive long-range planning by business and labor.

Annual Percentage Rates of Change in Components of GNP, in 1954 Prices, Selected Intervals, 1948-64

	1948-53	1953-57	1957-60	1960-64
Total GNP	4.71	2.58	2.49	4.05
Personal Consumption Expenditures	3.36	3.64	3.20	3.91
Durable goods	6.11	3.85	3.11	6.41
Nondurable goods	2.39	2.89	2.17	2.93
Services	3.76	4.57	4.58	4.13
Gross private domestic investment*	0.32	3.52	1.19	4.21
Residential nonfarm construction	3.59	2.99	5.96	4.01
Other construction	4.57	4.19	-0.61	2.09
Producers' durable equipment	-0.27	2.26	-2.64	6.13
Net exports of goods and services				
Exports	2.21	10.44	.68	7.29
Imports	6.21	4.46	4.04	5.46
Government purchases of goods and services	14.90	-2.72	1.91	3.84
Federal	20.76	-7.42	- .70	3.32
State and local	5.84	6.01	5.30	4.36

Source: Calculated on the basis of data in Economic Report of the President, January 1965, p. 192

*Total gross investment includes net change in inventories, but percentage changes in the latter are not shown here separately.

MR. SAMUEL D. ARONS: Professor Gordon, would you comment on your appraisal of the effectiveness of the contribution that the various manpower programs in the Poverty Program have made in the recent period and what contribution you feel they will be making to the outlook for the next year or so.

PROFESSOR GORDON: You are all familiar with the old argument that has now been going on for a half dozen or more years between the so-called "structuralists" on the one hand, and the "deficient aggregate demand" people on the other. I, in one sense, have always labeled myself a "deficient-aggregate-demand person:" given enough demand for goods and services the jobs will be there, and the people will go to work. This is still my basic position.

But unlike a few of my extreme "deficient-aggregate-demand" friends, I have always felt there is a crucial place for manpower policy. The way I would like to put the structural unemployment problem and did put it in an article about a year and a half ago is that the problem is not that structural unemployment has gotten worse significantly but that we have always had it and it has always been a problem. We have always had high teenage unemployment rates, we have always had a disgraceful situation with respect to nonwhite unemployment rates, and unskilled common laborer rates have always been extremely high. In this sense, we have always desperately needed a manpower policy, and it has taken us over a century to develop one.

We are concerned to the extent that we can develop a manpower program that will make it easier to absorb particularly the new entrants into their first jobs, and to that extent we can expand aggregate demand a little more rapidly with less risk for inflation and accelerated price increases. A manpower policy won't remove the inflation problem, but it does help in holding back the amount of wage and price inflation that you get with a given rate of rapid increase in aggregate demand.

Now, on the Poverty Program, to the extent that it is in effect a random collection of little pieces of manpower programs--that's what a fair amount of it is--what I have said holds. Beyond that, I would like to go much further than the Congress has been so far willing to go. I would like to see a massive expenditure program directed toward some of our most urgent social needs and in which we could directly put to work many of the people it is going to be difficult to place even with an elaborate manpower program.

MR. HAROLD GOLDSTEIN: You did not seem to be very hopeful of a significant reduction in unemployment in the next few years. Assuming that we can employ effective manpower policies, assuming we can lick the inflation problem, how would you suggest that we move ahead toward a lower unemployment level? Do you think that further tax reductions beyond what is contemplated now may be a useful appraoch?

PROFESSOR GORDON: I start with the fact that from what we can make out about the prospective increase in the labor force and if present productivity trends continue, we are going to have to run fast just to stand still. Even Gardner Ackley in a recent speech said that it looks as if prospective growth in full employment potential will be better than 4 percent, and when I challenged Otto Eckstein with this last Monday he said, "Did he really say that?" It apparently got through without one of the staff taking a look at it.

To bring the unemployment rate down further, we have got to expand in real terms at the rate of something like 5 percent, and keep it up, not just this year but next year, 1967, and so on.

One of my problems is that I have spent a good part of my adult life studying something which an economics department and the business world would call "business cycles," and I do not think the business cycle is dead in the United States, although the European countries have done a pretty good job of practically attenuating it out of existence.

Unless the Government is prepared to go beyond anything I think Congress will accept, we are, during the next several years, going to rely uncomfortably heavily upon this boom in business plant and equipment expenditures, and it cannot last forever.

At the same time, the American people through the Congress seem to be making a basic policy decision, and that is to take any reductions we get in defense expenditures, to the extent the world situation permits, in the form of tax cuts rather than a substantial increase in nondefense expenditures.

As I said in my paper, we are moving back toward increased reliance on private spending by a tax-cut policy. The net effect of the tax cut is very stimulating, as was evidenced in 1964, but over the next 5- to 10-year period, it is going to be more and more necessary for private consumers, private business, and State and local governments to do two things: To expand total spending to increase jobs at the rate of better than 4 percent a year, or better than 5 percent if we are to move back to the 4-percent unemployment rate, and to avoid a recession.

I am all for American business, and it has learned a tremendous amount in the way of long-range planning, avoiding speculative excesses, and controlling its inventories, but I am not yet optimistic enough to believe that without powerful countervening action by the Federal Government, through the kinds of monetary-fiscal policies we have had in recent years, we can both maintain an adequate rate of employment and avoid recession. From this point of view, I am not as optimistic about the next few years as I would like to be.

I think it is going to be awfully tough to get down to that 4 percent figure. Here is where the manpower part comes in again. I think Gertrude Bancroft at our meeting in New York indicated that a 4 percent unemployment rate a decade ago, with the present composition of the labor force, means something like 4.2 percent today. If you take the structure of unemployment in 1956 and 1957 and adjust for the increased importance of the high unemployment groups--teenagers above all--this means that to be where we were in 1957 --or whenever we had 4 percent, we did not have quite 4 percent in 1957--we would have something like 4.2 percent today. There has been structural worsening, if you want to put it that way.

Here is certainly one crucially important role for manpower policy. Spending on manpower and poverty programs will generate jobs and also make the labor force more adaptable to the jobs that are already there.

MR. CHARLES A. PEARCE: Dr. Gordon, would you say anything about the influence of wages on employment? I understand this was discussed quite a bit at the conference you referred to a little while ago.

PROFESSOR GORDON: George Hildebrand and George Delehanty presented a very interesting paper at the conference, reporting on what is to be a longer range project. It is clear that Hildebrand believes that wage levels and wage differentials do affect the level and pattern of unemployment, and this is my view, also.

I came out in the conference and said flatly that I was in favor of whatever it is called, a differential or multiple minimum wage law, not a single minimum wage but one geared to the difficulties we have in getting new entrants into the labor force. I do not think it is realistic politically to talk about reducing the present minimum wage for certain disadvantaged groups. But in further increases in the minimum wage that will almost certainly take place, I would like to see the present rate continued, let us say, for teenagers or certain types of new entrants or other particularly disadvantaged groups.

I think the kind of minimum wage law we have does affect our ability to absorb new entrants into the labor force and the ability of those who lose jobs because of obsolescence of skills to get rehired. Just a personal anecdote--I have had a little experience with our local high school in Berkeley in recent months, trying to find jobs for underprivileged kids both while in school and when they graduate from school, and we keep running up against that minimum wage. Our employer community in Berkeley is a pretty enlightened one; we have got a good deal of cooperation from them; we have something we call a work-creation program which they contribute mone to; they are making jobs available as part of the summer employment program. But, in terms of taking a good many of these boys and girls on at marginal types of jobs which the employer would almost create for the purpose, which would not hurt their pocketbook too much, what the boys and girls would be willing to do at $1.00 an hour, they are not willing to do at a $1.25 or $1.40 an hour.

I think there are other problems. There is no question in my mind that certain unions have seriously hurt employment opportunities in their trades in this country. I am not going to fight with them about the wages they can extract from the labor area but, for instance, an awful lot of amateur plumbing and electrical work is done around the house these days which, at a lower or differential rate, would certainly get done with employed labor.

While I cannot undertake to report in detail on everything that Hildebrand and Delehanty said in their paper, they do say that in the preliminary statistical work they have done there is some evidence that wage differentials have affected employment, and there were a fair number of people at the conference who felt--not everybody, but some--that we should be more discriminating in the way we apply our minimum wage regulations.

MR. PEARCE: Would you care to comment on the proposal to increase the overtime rate?

PROFESSOR GORDON: I have always thought of myself as a liberal, But as a professional economist, I have a good deal of respect for the play of market forces; I always want to stop and think before we start tinkering with prices any more than we already do. Where we fix overtime rates is a part of that tinkering with labor and the price of labor. On the whole--without having thought the matter all the way through--I find myself opposed to further increases in the differential. I do not think that I would enjoy starting an argument on that subject this morning because I have to confess I have not thought through my own position in a great deal of detail.

Something that came up in casual conversation this past week made me think about the possible desirability of taking a look at our differentials on second and third shifts and of asking what are the possibilities of getting more people into more jobs by having rates that would make second shifts more attractive--relative to overtime on the first shift--to both workers and employers. Again, that is something that I have not thought through.

While, generally, American industry is not working at overcapacity levels, we are beginning to hear scattered reports of plants that cannot expand output --and thus employment--any further without putting in more work stations. They go as far as they can with overtime on one shift, but it is a one-shift operation. To the extent that workers are more willing to take second shifts and to the extent that the overhead is not too high for employers to go ahead with it, we might be able, as we expand demand, to get some more elasticity in the system through wage differentials that encourage the use of second shifts.

Again, I am speaking off the top of my head in an area in which I am no expert.

FROM THE FLOOR: You mentioned here the matter of a tendency toward reduction of the Federal share of GNP. Would you care to speculate or consider what might be the future potential of the State and local share of GNP growth given the trends that are now in process like reapportionment, possibly an urban Cabinet post, and so on, with more urban problems involved?

PROFESSOR GORDON: I mentioned briefly in my paper that the trend in transfer payments from Federal Government to the States is still markedly upward, and this is likely to continue.

As most of you probably know, there were a set of task forces at work on national policy at the time of the election, the idea being that the recommendations that came in from these task forces would help to shape the legislative program that the President submitted to Congress.

At the time of last year's election and the months immediately before, Walter Heller had begun talking privately about using some part of the prospective tax cuts that were ahead of us for remission to the States instead of turning it back to the taxpayer directly and then having the taxpayer spend it.

The Federal Government would collect it and then on the basis of some formula pass on what the Federal Government did not need to the State and local governments, presumably through the States.

A major problem facing State and local governments is the relative income inelasticity of their major sources of tax revenue. They do not rely anywhere nearly as heavily on the income tax as does the Federal Government. The Federal Government has largely preempted that major source of revenue, although many States do have a moderate but not highly progressive income tax and some sort of corporate income tax.

To me, a major constructive fiscal program could be laid out whereby as income continues to rise, Federal tax revenues would be permitted to rise more than in proportion because of their progressiveness. We would then lay out a program in which some part of this increase would be remitted directly to the States according to some reasonably fair formula.

Now, I gather that part of the problem is getting an agreed formula. The States that pay most--States like New York, Pennsylvania, and California--pay a lot of income taxes, and when there is going to be a remission to the States, they want to get their slice back. On the other hand, where the money could do some of the most good is in some of the States that pay relatively little income taxes to the Federal Government. How are you going to lay down conditions? What kinds of formulae would be used? It is going to make this a very difficult thing to work out, but I think, in the long run, we have got to come to it. If we do come to it, this then meets part of my problem. I see two problems in that dimension. One is this fact: To put it bluntly, one reason the European countries have done so much better than we have from the point of view of growth and stability is that the Government plays a more important role in the economy.

The second thing is this business of the automatic stabilizers. We have several automatic stabilizers in this country, of which unemployment insurance is one. When unemployment goes up, so do unemployment insurance payments; people have money automatically from that source, an offset to the decline in their wage income, and spending stays up in part.

Two other powerful automatic stabilizers are, first, corporate undistributed profits. When profits go down when business goes down, dividends stay up at least for a few years and, therefore, dividend receivers have a relatively small decline in their incomes and spending stays up.

Then the other is the personal income tax. Because it is so progressive, when our income before taxes goes down, our income after taxes goes down much less; the Government takes it on the chin relatively more than we do; hence, the huge Federal deficits we get in recessions.

Now, to the extent that we cut back on Government spending relative to total GNP and cut back on the personal income tax, to that extent we are removing that automatic stabilizer.

MR. WALTER PESTKE: There has been some discussion of the fact that one of the problems in the unemployment rate is the lack of knowledge about the availability of jobs, and I think many of the agencies here have been involved in trying to identify the unfilled vacancies and the like. Do you believe this is going to have some effect in reducing this unemployment rate?

PROFESSOR GORDON: We have got a whole chapter in the so-called "Gordon Committee Report" on the desperate need for job vacancy data, and we do not have them yet, as you all know. There is a test survey going on in the Bureau of Employment Security right now through the State employment offices, experimenting with what we can get. As you probably also know, the request for a substantial appropriation to enlarge on this has been turned down by the House Appropriations Committee.

In the meantime, there is widespread interest in the need for vacancy data. You probably also know that the National Industrial Conference Board has a grant from the Ford Foundation to carry on a test survey of the willingness of employers and ability of employers to supply vacancy information. The sample city is Rochester, and they are getting an extremely good response from employers. They have conducted a survey twice now; the results on the first are out, and they are just tabulating the second. The response rate on the first was, I think, something like 95 percent from employers; it was almost that good on the second.

There was a job vacancy conference in New York a few months ago. Interestingly, I suppose the organized group which is the most strongly opposed to the collection of vacancy data is the AFL-CIO. You have to fight with them in part in order to get Congress and those that are sympathetic toward labor to be more favorably disposed to spending large sums of money on vacancy data, but you are not going to get any fight from me on the need for it.

MR. CHARLES A. ROUMASSET: I would like to ask Dr. Gordon to expand on the suggestion or reference he tossed out on the manpower implications in a shift from consumer durables into services.

PROFESSOR GORDON: There are two aspects of that I had in mind. You all know how worried we were at the beginning of this upswing about the supposed deterioration in the blue-collar worker situation and in that of semiskilled operators. As my wife pointed out in the paper she gave at this conference in New York--and most of this information is already familiar--there has been a very encouraging improvement in that situation and a very rapid rise in employment in the blue-collar categories and particularly among semiskilled operatives, although the unskilled common laborer still is in fairly bad shape.

Unquestionably, the tremendous rise in durables, both plant and equipment, and the rise in consumer durables have been responsible for this. To the extent that we are now going to have to look forward to a shift in the composition of spending, let us say, away from consumer durables toward the nondurables and the services, this will change the pattern of employment and job opportunities. You can think of it in two ways.

We keep saying that productivity increases in the service industries are less than in the goods industries and particularly in durables; therefore, presumably, a dollar increase spending in the services will create more jobs

than a dollar increase on automobiles or other durables. So from that point of view, a change in pattern toward services might help the overall employment situation. But it also raises questions as to whether if there is going to be some flattening out or even cutback on the durable goods side, whether the people who will be released from jobs or will now not find jobs in the durable goods industries will be able to move over into the service industries where the jobs are. This kind of structural problem, of course, is one that we have been worrying about and is partly responsible for the efforts now being made through the Manpower Program.

MRS. DOROTHY K. NEWMAN: You spoke of the importance of capital expenditures in the whole picture. In recent years, government policy and programs have been buttressing the private business sector. What do you recommend for private residential building in the way of public policy?

PROFESSOR GORDON: I have a hunch--and this seems to be the view of a fair number of experts--that we are in for no rise and possibly a modest decline in private residential construction for 2 or 3 years. We are at a particular demographic stage where the baby boom of the war and immediate postwar years is generating an awful lot of people just coming into the job market, giving us our teenage unemployment problem. They are beginning to get married, but as they get married, their first demand is for a small flat or apartment and for consumer durables in the way of equipment for the kitchen and furniture and what not.

It is assumed that these demographic factors will not generate a new, big upsurge in single family dwelling demand until the very end of the 1960's. In the meantime, there is evidence--at least in some areas--that there has been overbuilding in multifamily dwellings, apartment houses, and there have been some cutbacks here and there.

Data from the Department of Commerce on spending on residential construction, if I recall them, showed a decline from the fourth quarter of 1963 through the fourth quarter of 1964 and then rose again in the first quarter of 1965. Somebody--was it Harold Goldstein?--said that you need at least two quarters or 2 months to make a trend, and we only have one here. I do not expect any serious decline, but I do not expect any boost to the economy from a substantial expansion in residential building for, say, the next 2 or 3 years. That puts that much more emphasis on government spending and private business spending if we are to get expansion.

MISS DOROTHY BARROW: Do you think the total program for education and the subsequent rise in taxes on households throughout the United States may be having a tendency to depress residential building? In other words, are we moving into rental areas rather than maintaining our thinking about buying a home as a result of this increase in taxes?

PROFESSOR GORDON: Well, you started out, if I recall, by referring to Federal aid to education, did you not?

MISS BARROW: Yes.

PROFESSOR GORDON: Well, I think that is one of the most important things that has happened in the last year, the final break-through of this log-jam on making Federal financial aid available below the college level to local school districts. Now, to the extent that this will be followed by more money from the same source in the same direction, it is going to ease the tax burden on the local school districts because they can look forward to more Federal aid; they can go ahead with the improvements in education that are called for and not have to stick the property holder with as rapid a rise in property tax rates as would otherwise occur. Certainly, this is a problem which I suppose every school district in the United States has, the enormously increased number of children, the rising standards of education, the recognition that we have got to do a wide variety of things, particularly for children from underprivileged families and neighborhoods which we had not even begun to think adequately about 10 or 20 years ago.

This is going to cost a frightful amount of money. We are still far from catching up with the cumulative needs for new school buildings. Again, to get personal for a moment, I have gotten to know moderately well the new Superintendent of Schools, Neil Sullivan, whom we were fortunate enough to attract to Berkeley this past year. I have talked to him a good deal about Berkeley school needs. Now, we think Berkeley is somewhat of a superior city; our schools are supposed to be very good and even upper middle-class families send their kids to the public grammar schools and high schools and then they go on from there to the best colleges in the country. There is not the same feeling of need here for private prep schools that you get in the East; at least in the Northeast, we think we are pretty good. But, when he got through going over an inventory of just the physical state in which some of our schools in the less-privileged parts of town were in, I was horrified. Had we been letting this go on?

We have had the usual experience. We have had one big school bond issue turned down recently, we had to work hard to get another one through, and it is not halfway near enough. For us, chiefly, the property tax and some miscellaneous sources of revenue are what we have got to finance our schools with, plus an occasional bond issue, which the voters are very reluctant to approve.

I am sure there are some people here who are already concerned about the encroachment of the Federal Government on the traditional provinces of the State and local governments, but I must confess that my diagnosis is that these needs in the long run can be met only through Federal aid to the State and local governments. This is why I am particularly anxious to see an agreement reached between the Congress and the State and local governments that will call for a regular part of our tax system, a certain part of the Federal income tax, going back to the States and local governments.

MR. JOHN W. LEHMAN: We have heard, Professor Gordon, several times during this conference that one of the main reasons for turning to the tax cut rather than something else was the disenchantment of the economists with expenditures as a device for stimulating the economy. Is there some middle ground here that you are suggesting or some combination and, if so, would you elaborate on that please?

PROFESSOR GORDON: There is an interesting history to this. When the Keynesian revolution first occurred in the middle of the 1930's, beginning in this country with Alvin Hansen and the younger economists of that generation who are now in our Council of Economic Advisors and senior professors in our universities, the emphasis was heavily on Government spending as the way to use fiscal policy. In a recession, you would increase government spending as fast as you could, and we talked and debated and wrote about public works and that type of thing. In the last 10 years, the emphasis has shifted very heavily to doing it through tax changes.

There are two different issues involved here. There is one, the short-run flexibility issue, and then the other is the longer run question as to whether you want--or how much you want--the Government in the picture. So far as the short-run flexibility issue is concerned, I think most of us are agreed that tax changes take effect faster than proposed spending changes, particularly in a recession. Even having to argue something through Congress, once you do, the tax cut can be effective in terms of reduced payroll withholdings in 2 weeks, or in something of that order. But to get a large increase in Government spending going takes a longer period of time. Even after Congress approves it, there is a matter of getting specifications worked out; there is a matter of giving the contracts; getting the initial ground-breaking work done; and it is often said that you will get the bulk of the expenditure just when you do not need it. There is a good deal to this.

Some people have done a fair amount of work on the types of Government spending that can be increased and decreased relatively quickly, and there are categories of these things. A big hydroelectric dam is the kind you do not want if you want to do something quickly and shut it off quickly. Some road repair work or resurfacing an airport, these are things that you can do very fast.

I am more concerned with the long-run issue here; that is, I think that we will be playing dangerously with the chances of retaining rapid growth and stability in this country if we significantly cut back the fiscal role of the Federal Government, and cutting taxes is cutting back that role. I like to have a larger after-tax income so that I can make my own decisions about spending, also, but I think--and I am not arguing necessarily that the Federal Government should spend the money--I am asking that it keep its tax revenues up and work out a partnership with the State and local governments on joint expenditures of this money on a stable basis, rising with the rise in GNP and in the full employment potential over the long run.

APPENDIX

DELEGATES TO TWENTY-THIRD INTERSTATE CONFERENCE ON LABOR STATISTICS

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★ U.S. GOVERNMENT PRINTING OFFICE : 1966 O—222-652

VT 004 387

Stewart, Lawrence H.; Workmen, Arthur D.
Mathematics and Science Competencies for Technicians, a Study of the Training of Electronics and Chemical Technicians With Special Emphasis on Critical Mathematics and Science Requirements. Bulletin, Vol. 29, No. 12.

California State Dept. of Education, Sacramento
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Dec60 58p.

*JOB SKILLS; MATHEMATICS; *PHYSICAL SCIENCES; *CRITICAL INCIDENTS METHOD; QUESTIONNAIRES; CURRICULUM PLANNING; *CHEMICAL TECHNICIANS; *ELECTRONIC TECHNICIANS
CALIFORNIA

The objectives of this project were to demonstrate the usefulness of the critical incident technique for identifying mathematical and scientific skills essential to the electronics and chemical technicians' job performance and to explore problem areas for leads to more productive research and curriculum planning. Data were gathered from supervisors' reports, technicians' reports, questionnaires covering training and work experience, hiring specifications, interviews with personnel officers, questionnaires from and interviews with junior college instructors, and printed instructional materials. A total of 278 technicians and 94 supervisors from the San Francisco Bay Area were involved in the study. Due to the limited number of critical incidents reported and the elementary skills involved in job performance, high level mathematics and scientific skills did not seem essential for satisfactory performance. It appeared that hiring practices are established to use such skill requirements as a screening device rather than as an actual job requirement. Differentiation between required and desirable skills would help dispel confusion in curriculum planning. It was recommended that the critical incident technique be limited to individual or small group interviews rather than questionnaires in order to clarify and simplify response making. Samples of critical incidents as they relate to job performance are included. (EM)

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MATHEMATICS AND SCIENCE COMPETENCIES FOR TECHNICIANS

A Study of the Training of Electronics and Chemical Technicians with Special Emphasis on Critical Mathematics and Science Requirements

BULLETIN OF THE CALIFORNIA STATE DEPARTMENT OF EDUCATION

VOL. XXIX No. 12 DECEMBER, 1960

VT0043

MATHEMATICS AND SCIENCE COMPETENCIES FOR TECHNICIANS

A Study of the Training of Electronics and Chemical Technicians with Special Emphasis on Critical Mathematics and Science Requirements

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FOREWORD

The California State Department of Education has consistently encouraged as an essential prelude to sound curriculum planning and development the conduct of careful research and study. It is considered equally important that such study findings and conclusions be made available to those actively concerned in the improvement of California public school education.

The development of Technical Education curriculums in California is dependent upon the identification of the mathematics and science competencies needed in the occupation or cluster of occupations for which training is offered. In the spring of 1958, in co-operation with the University of California, Berkeley, this research project was begun. It was completed in early 1960. This study was made possible through Title VIII of the National Defense Education Act of 1958 Funds in the interest of providing highly skilled technicians for the national work force.

The material included in this bulletin reports the findings and conclusions of the authors as a result of the study. It is hoped that the information reported will be of help to those responsible for planning programs of Technical Education in California Public Schools.

Roy E. Simpson

Superintendent of Public Instruction

PREFACE

Industry's growing demand for personnel reasonably skilled in the many diverse and highly specialized aspects of applied technical knowledge has directed the attention of educators to certain obstacles in the way of more adequately designed pre-employment training programs. The question of how best to proceed in the face of these obstacles has been the object of considerable study and some areas of agreement have been reached.

It has been rather firmly established, for instance, that skills derived from the two broad fields of applied science and mathematics are the technician's most useful "stock-in-trade," and that junior colleges can adequately provide this required education and training.

Unanimity of opinion was not evident in attempts to explicitly define these skills, nor was the extent to which they are actually applied by industry in terms of equivalent training. Further advances in this area, as the author points out, are dependent upon a greatly expanded, carefully directed Technical Education Research Program.

The development of Technical Education curriculums in the junior college designed to adequately prepare the technician in the application of these skills, within limits normally essential to industry, must rely upon the acquisition of valid, to-the-point information. Among the best qualified and practical sources, obviously, are the working technician and his supervisor.

With the principal information sources thus generally identified, this study was undertaken to test, primarily, the Critical Incident Technique for providing data properly descriptive of those skills evidenced as critical to the technician's job performance in the electronics and chemical industries.

The strong points, weaknesses, and limitations of this technique, as demonstrated under the conditions of its employment, are objectively reported and discussed in the study report. The report also contains an analysis of data selected to portray the technician in terms of his most widely shared characteristics.

The conclusions and indicated trends presented herein strongly imply the advisability for re-appraising certain continuing practices and commonly held concepts, particularly in respect to trainee selection methods and practical levels of training. The contents of this report appear both meaningful and illuminating to any future exploratory effort directed toward better Technical Education curriculum planning.

A large measure of appreciation certainly is due the many whose assistance, both direct and indirect, has contributed so effectively to the development and publication of this report.

The ideas of a large number of persons have been incorporated into this report. Certainly the participation of the technicians, supervisors, and junior college instructors in both the electronics and chemical fields is gratefully acknowledged. It is impossible, however, to recognize, individually, all contributions. Acknowledgment can be made only to those who had major responsibility in this project.

The following companies and their representatives granted permission to interview technicians and supervisors and, in many instances, actually collected the questionnare data:

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Stanley Boydston, Contra Costa College, and William Huberick, Oakland College, helped classify the critical incidents. The staffs of the Bureau of Industrial Education, California State Department of Education, and the office of the Division of Vocational Education located on the Los Angeles and Berkeley campuses of the University of California provided valuable industrial contacts.

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Chapter I

THE PROBLEM

The scientific and technological developments of the past decade and the advent of the space age have necessitated some rapid industrial changes. New industries appear to spring up overnight, and establishments that have been in operation for many years are finding it necessary to change to new types of endeavors. Even those industries that are not directly competing in the development and production of new products growing out of the numerous scientific advancements are finding it necessary to install and use many new and very complex instruments requiring skilled operating personnel.

These rapid industrial changes have resulted in unprecedented manpower shortages, especially in the fields of science. One of the crucial shortages has been that of trained technicians who would provide services in the applied aspects of science. Some technicians are needed to work in research on the development of new products; others, in the actual production of new products; and still others, in the maintenance and operation of these products, especially those of recent development in the electronics field.

It would appear safe to assume that, should current expansion trends continue at the present rate, the supply of trained technicians will become quite inadequate. Already there is intensive competition within industry for the currently available supply. Even now, some apparently marginally qualified persons are being employed in technical jobs normally reserved for better-trained personnel.

Industry presently is recruiting technicians from many sources. Most of these technicians have received their formal training in secondary schools and junior colleges. The secondary schooling for many of these technicians has been supplemented by specialized training obtained during military service; this is particularly true for those in the electronics field. Although only a comparatively small number of industrial employees developed the skills required of electronics technicians by means of on-the-job training, this type of training is, at the present time, an important means of training industrial personnel to become chemical technicians. Former college engineering students who left school before they completed their programs and received their degrees are also potential candidates for work as technicians.

Certain problems may exist by virtue of the technician's highly specialized work and the varied sources from which he is recruited. It would appear that recruiting technicians from such widely differing training sources would necessitate, for certain groups, either costly programs of on-the-job training, tailoring the job for each individual, or both. Also, it is quite possible that technician job requirements are specialized to such a degree that there are but a limited number of skills that all individuals need and use in their work even though they all work in one field, such as that of electronics. Present research is inadequate to determine whether or not this is actually the case.

It is generally conceded that the training of technical manpower is an important functional responsibility of our educational institutions. There is no doubt that the accelerating need for technicians in many fields will result and is already resulting in demands on schools and colleges, particularly the junior colleges, to increase their offerings in technical education. It was recently estimated that there is a need for three technicians for each graduate engineer.[1] Of course, the number would vary according to the specific area under consideration. However, reports indicate that schools are graduating engineers at a ratio of two for each technician.[2] This imbalance has necessitated the use of engineering talent to carry out many functions which could be performed quite adequately by technicians—clearly a misuse of our highly trained manpower. Situations such as this have led to the observation that shortages in the supply of technicians are more serious than those reported to prevail among engineers.[3]

If the increasing need for technicians is to be met, what type of training must be offered? From all appearances, curriculums in the past have, like traditional course work in adjoining technical fields, simply *grown*—in most instances to meet the particular demands of a single plant or community. Obviously, more enlightened planning is needed to bring about significant improvement in training effectiveness.

There appear to be few guidelines to assist in the development of technical curriculums. Research on the topic is almost nonexistent. While there are ample opinions concerning appropriate general curriculum areas, these opinions are not sufficiently specific to be of great use.[4] There is fairly unanimous agreement, for example, that techni-

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[1] Edward A. Williford, "The Engineering Technician: His Role in Industry and National Defense," *Journal of Engineering Education*, XLVII (January, 1957), 436-42.
[2] Kenneth L. Holderman in *Gas and Oil Journal*, November 25, 1957, p. 63.
[3] C. J. Fruend, "The Technician and the Engineer," *Proceedings of the American Society for Engineering Education*, 1953-54, pp. 61, 108-9.
[4] Herbert S. Wood, *A Study of Technical Education in California*. Bulletin of the California State Department of Education, Vol. XXVII, No. 7, September, 1959.

cians should receive firm grounding in mathematics and science. The specific mathematics and science skills to be included or stressed, however, have not been indicated. Before meaningful guidelines for curriculum building can be developed or before the validity of existing guidelines can be established, a great deal of research must be devoted to the type of training required to perform the work of a technician.

The problem explored in this study is one of determining how the mathematics and science competencies needed by electronics and chemical technicians can be identified and of developing ways in which the necessary provisions for developing the required competencies can be made in the curriculums of training programs. The study project, then, has two main objectives: (1) to demonstrate probable usefulness of a particular approach—that of the critical incident technique—for identifying critical mathematical and scientific skills essential to the technician in the performance of his job; and (2) to explore problem areas for significant leads to more productive research and curriculum planning. Implications of the findings for technical training are indicated at appropriate points in this report.

Originally this study was concerned with the critical mathematics and science requirements for two groups of technicians—electronics and chemical. In the course of the study, however, several other factors were observed to be generally pertinent to the training and utilization of these two groups of technicians and possibly of significance to other types of technicians. These observations are presented and discussed throughout the report.

The exploratory nature of this study should be emphasized at this point. The lack of previous research in the area with which the study was concerned necessitated the use of a variety of approaches. Moreover, the lack of information concerning such essential data as who the technician is, where he works, what he does, and so forth, has made it impossible to devise really adequate sampling procedures for a more definitive study. This project, however, will have served its purpose well if it should stimulate interest in research for data more aptly descriptive of the technician, his personal characteristics, and his on-the-job requirements; and if it should assist in developing more effective designs for future studies in this area. In any event, the study has uncovered and pinpointed many problems in the development of training curriculums for technicians.

Chapter II

SOURCES OF DATA AND STUDY METHODS

Since this study was essentially exploratory in nature, it was impossible to foresee all the problems that would be involved in collecting the required data. The procedures utilized were therefore modified somewhat at various stages to surmount the obstacles that presented themselves. The more important modifications are described at appropriate points in this report.

SOURCES OF STUDY DATA

The data used in this project were obtained from the following sources:

1. Reports of critical incidents involving mathematics and science skills, such reports collected from technicians on the job and from first-line supervisors
2. Questionnaires that elicited training and work experience information from electronics and chemical technicians and supervisors
3. Hiring specifications obtained from personnel offices employing chemical and electronics technicians
4. Interviews with personnel officers in the industries participating in this study
5. Questionnaires mailed to instructors of electronics courses in California junior colleges
6. Interviews with chemistry instructors from junior colleges located in northern California
7. Printed instructional materials from the Air Force and Naval training programs in electronics, from the Northern California Electronics Apprenticeship Advisory Committee, and from apprenticeship training programs of two San Francisco Bay Area Naval installations.

Although the data obtained from these sources were analyzed primarily to identify critical mathematics and science requirements, much of the information had a bearing on general problems of selection, training, and utilization of technical manpower resources. The latter aspects of this information are included and discussed in the report

because of their important implications for many facets of technical training.

Two samples of technicians and supervisors were employed in the collection of critical incidents related to mathematics and science requirements. In the electronics field, data were obtained from 197 technicians and 62 first-line supervisors in 13 different electronics firms; in the chemical area, from 81 technicians and 31 supervisors in 7 different chemical companies. All of the firms participating in this study are located within the Greater San Francisco Bay Area.

The companies represented in the survey varied in size from those employing less than 20 technicians to those employing more than 500. The companies also differed as to the type of operations they emphasized. Some of the firms concentrated primarily upon research and development; others were primarily concerned with production. For this study, both the electronics and chemical firms were selected to provide, insofar as possible, a cross section of the industries involved and a cross section of the different types of technicians employed. Initial selection was based upon consideration of both size and operational nature of the various companies.

The selection of electronics firms to be surveyed was facilitated by the assistance of an officer from an organization comprising personnel officials from various northern California electronics firms. Since a similar organization did not exist for the chemical industry, the selection of chemical firms was aided by suggestions and recommendations offered by each company representative interviewed. The responses made by the industries were most gratifying. With but two exceptions, every company contacted showed an interest and willingness to participate in the study.

Though fewer in number than the electronics firms selected, the chemical firms included in the sample were considered fairly representative of the chemical industry in the San Francisco Bay Area. In fact, only one or two major chemical firms in this geographic area were not included in the study; in each instance another firm engaging in almost identical activities was sampled. It is thought that the sampling of both the electronics and the chemical industries was about as representative of firms in this region as could be obtained on the basis of the information available at the time the study was made.

PROBLEMS ENCOUNTERED

The desire of the investigators and of the participating companies to collect the study data with as little interference and expense to each

company as possible necessitated, for the most part, the selection of samples by personnel office representatives of each firm. Thus, for this and additional reasons, the adequacy of the sampling within the participating firms is difficult to determine.

One of the most trying problems encountered was the absence of available data for the defining and locating of populations to be sampled. It was found that even the California State Employment Service was unable to provide data that would assist in determining where electronics or chemical technicians might be employed. This situation is due, perhaps, to the relative newness of these occupational classifications. In general, the investigation was concerned with persons whose work and training would place them in an intermediate position between the skilled workmen on the one hand and the graduate engineer on the other. Yet hiring practices in the various industries were not sufficiently standardized to permit adherence to this distinction. It was finally decided to accept each company's definition of a technician. If he was listed as a technician, he was included in the sample.

Another problem in determining representativeness of the sample resulted from the procedure employed in soliciting reports of critical incidents. For example, in all instances in the electronics area, personnel officers preferred to contact the technicians rather than to have them contacted directly by the research staff. Moreover, except in one chemical company and in one electronics company, participation in this study by the technician was entirely voluntary. Undoubtedly the number of persons responding was related to the degree of enthusiasm evidenced by each personnel officer.

Still another problem had to do with the fact that there was no way of determining the per cent of technicians or supervisors responding from each plant. Factors such as plant expansion, labor turnover, and promotion prevented an accurate count of the total number of technicians. The number of questionnaires distributed in each plant represented only an approximation of the total number of men employed.

Nevertheless, in the face of these problems, there is some evidence that the sampling procedures produced a more adequate sample of the electronics technicians than might have been expected. The descriptive data from the questionnaire instrument—data such as those relating to age, experience, and training—were analyzed separately for one company that required all of its technicians and supervisors to complete the instrument. The results were found to be almost identical to those for the rest of the sample.

The sampling of chemical technicians did not pose so difficult an enterprise as that for the electronics groups. Typically, there are fewer chemical technicians employed in each plant and a smaller ratio of technicians to supervisors than in electronics firms. Thus it was possible to get fairly complete coverage of the chemical technicians in each plant because of the close contact between management and the men. Furthermore, the labor situation appears generally quite stable in the chemical industry at the present time.

With but one exception, an effort was made in each instance to cover an entire chemical company. The exception arose because of the preference of a large oil firm to restrict the sampling to a specific in-service training class. The plant officials reasoned that this method would provide the best cross section of employees in the absence of some random selection technique.

A further check bearing on the adequacy of the samples was available. After the descriptive data on the technicians were analyzed, the findings were discussed with personnel officials and members of supervisory staffs of a company employing large numbers of both electronics and chemical technicians. The company has plants in both northern and southern California. These persons expressed the opinion that the description of technicians provided in this study would apply, in general, to technicians employed in their plants.

All in all, knowledge regarding population characteristics as derived from these samples leaves much to be desired. Little previous research was of any value in designing this study. However, it should be remembered that this was intended as an exploratory study for ideas that could be followed up by more definitive studies. Although the samples are considered adequate for the purposes of this study, the reader is cautioned about the danger of overgeneralizing the findings described in this report.

STUDY METHODS

The methods employed to collect the data required for the study project were primarily (1) two questionnaire instruments; and (2) interviews.

One of the questionnaires was designed for electronics and chemical technicians and supervisors; the other, for junior college instructors of electronics courses. The questionnaire directed to technicians and supervisors was divided into two parts. The first section was designed to obtain a description of the technician or the supervisor—his work experience, his educational background, and his plans for future training. The second part was designed to elicit reports of critical incidents

in which reliance on the proper use of some mathematical or scientific skill is demonstrated as vital to the technician in a certain job performance. It should be noted at this point that the word "science" is used here and throughout the report in its general sense only and has no special or restricted meaning other than that denoted in the critical incident response classifications.

The critical incident technique developed largely by Flanagan and others at the American Institute for Research requires an "expert" qualified to judge the effectiveness of a particular type of behavior.[1] In this instance, the "experts" were technicians and their supervisors. Each of these "experts" was asked to render a specific description of a behavioral situation or incident designed to illustrate effective or ineffective behavior, as opposed to a vague description of an effective person or of his effective personal traits. The reports of incidents sought in this study were couched in terms of mathematics and science requirements.

The critical incident technique allows almost complete freedom of response. The individual is restricted only to the extent that he must report an actual incident, recently observed. The respondent is not restricted by a predetermined list of responses as in the case of the usual check-list type of questionnaire. Although it is quite possible that the critical incident technique may evoke responses rather similar to those elicited by a check list, the element of freedom in the use of the former is likely to encourage the production of a wider, more unique range of responses than is likely to be produced in the latter.

In general, previous research has indicated that the questionnaire approach to the critical incident technique is not quite as effective as the group interview approach.[2] More complete responses tend to be given in the small group situation, assisted by an administrator. Even so, the questionnaire approach appeared more feasible for this project in view of the desirability of collecting the data with a minimum of distraction and expense to the participating companies. The respondents, therefore, were asked to complete the questionnaire outside their working hours.

Technician's Questionnaire

Identical questionnaires were administered to both technicians and supervisors, except that each supervisor was asked for incidents drawn

[1] J. C. Flanagan, "Critical Requirements for Research Personnel: A Study of Observed Behaviors of Personnel in Research Laboratories." Pittsburgh, Pennsylvania: American Institute for Research, 1949.
[2] *Ibid.*, pp. 11-12.

from observations of men he had supervised. The technician's questionnaire is shown in the pages that follow.

Technical Occupations: Critical Mathematics and Science Requirements

The Bureau of Industrial Education of the California State Department of Education in co-operation with the University of California is making a study of the mathematics and science requirements for certain technical occupations. You as experienced personnel in these occupations are the ones who are best qualified to provide this information. Because of your experience, you have had many opportunities to observe situations in which the possession or lack of certain mathematical and scientific skills has influenced job performance.

Following are some questions the last four of which we would like you to answer by telling us of an experience or by describing a case that you have noticed within the *last six months*. In short, we want an illustration of an experience that has happened to you or of an incident that you have seen happen to someone else with your job classification.

Your co-operation is very important to this project in that the findings may suggest ways of improving the training for your type of occupation. Thank you very much for your co-operation.

Part I

Please read each question carefully and answer as completely as you can.

Name _____ Age _____ Sex _____

Address _____ Phone _____

Name of firm for which you work _____

Education (circle highest grade completed) High School 1 2 3 4; Junior College 1 2 3 4; College or University 1 2 3 4; Date completed _____

Current job classification or job title _____

What are your duties? _____

_____

How long have you been on your current job? _____

List the titles of your four most recent jobs _____

_____

How long have you worked as a technician? _____

Where did you receive specific training for your present job? (e.g., high school, junior college, armed forces, on the job, etc.) _____

How did you first become interested in this type of work? _____

_____

List below all of the formal courses in mathematics and science you have taken and then all those you plan to take (use back of this sheet if necessary).

COURSE	WHERE TAKEN (e.g., high school)	COURSE	WHERE TAKEN

Do you plan to take additional mathematics and science courses in the near future?

Yes____ No_____. If so, what do you plan to take?

Would you be willing to be interviewed at a later date if further information is needed for this project? Yes____ ; No_____.

Part II

1. **Suppose you were a member of a board that screens applicants for the type of job you have. What skills in mathematics and science would you look for?**
   Mathematics?
   Science?
2. **Think of an occasion, within the past six months, when your work, or the work of someone you know with the same job as yours, was made easier because of a knowledge of mathematics. *Describe the situation.* Tell what particular mathematical skills were involved. (Use the back of this sheet if necessary.)**
3. **Now think of an occasion, within the past six months, when your work, or the work of someone you know with the same job as yours, was made easier because of a knowledge of science. *Describe the situation.* What scientific knowledge was involved? (Use the back of this sheet if necessary.)**
4. **Think now of an occasion, within the past six months, when your work, or the work of someone you know with the same job as yours, was made more difficult because it required certain mathematical skills that were not known. *Describe the situation.* What mathematical skills were needed? How was the job finally done? (Use the back of this sheet if necessary.)**
5. **Now think of an occasion, within the past six months, when your work, or the work of someone you know with the same job as yours, was made more difficult because it required certain science skills that were not known. *Describe the situation.* What science skills were needed? How was the job finally done? (Use the back of this sheet if necessary.)**

Instructor's Questionnaire

Another questionnaire was submitted to all California junior college instructors of electronics courses. This questionnaire was designed to elicit information regarding the instructor's background, what mathematical and scientific skills he considered essential to technicians, his recommendations for screening students for technical training programs, and what he considered to be the major problems involved in training technicians.

Interviews

During the process of collecting data, the research staff had the opportunity to interview a number of persons involved in the training, employment, and supervision of technicians. The personnel director or his representative for every company participating in the study was interviewed, and frequently it was possible to question other management personnel. Although the interviews were used primarily for fact-finding purposes, occasionally the research staff was able to discuss tentative findings with the personnel being interviewed. This provided an opportunity to verify findings from one situation with those of another.

Interviews were also conducted with representatives of the chemistry departments of 12 junior colleges in northern California. The purpose of these interviews was to determine the attitudes of chemistry instructors toward programs for training students to become chemical technicians and to obtain the instructors' suggestions regarding the mathematics and science skills considered essential to such a program.

Chapter III

DESCRIPTIONS OF TECHNICIANS AND SUPERVISORS

Very little objective information that would have been of value in defining and identifying those characteristics most common to either the electronics or the chemical technician was available at the time this study was initiated. In view of this lack of essential information, it was deemed necessary to collect primary background data for the purpose of establishing general characteristics possibly distinctive of employees so classified.

FUNCTIONS OF BACKGROUND DATA

Used within limits imposed by certain previously explained sampling restrictions, the background data would serve two functions. First, they would provide descriptions of workers who become electronics and chemical technicians. Second, and perhaps more important, personnel training and work experience descriptions provided by this study would permit, indirectly, certain inferences relating to critical mathematics and science training levels. If, for example, a large number of technicians are shown to have had no formal training beyond high school, and if their high school training included no formal courses relating to their work as technicians, then the amount of formal mathematics and science training frequently suggested as critical for this level of work might be seriously questioned.

Of course, a lack of formal training among employees could reflect a lack of job definition, a dearth of fully qualified technicians, or both. Some indication of which alternative is true might be obtained by examining the differences between supervisors and technicians with regard to mathematics and science training. To pose a hypothetical example: a finding that shows supervisors to possess a greater amount of formal training in these fields than technicians might indicate more strongly that mathematical and scientific skills are essential to job success than a finding that shows both groups to possess similar types and levels of training. If the latter finding were true, then advancement on the job would have to be explained on some basis other than that of mathematics and science training.

TABLES AND COMMENTARIES

In the pages that follow, descriptive data derived from the questionnaires directed to electronics and chemical technicians and supervisors are reported in Tables 1 through 12. Each table is accompanied by analytical and explanatory comments upon those data considered most significant. To facilitate comparisons between the electronics and chemical technicians and supervisors, data from both groups have been combined and presented in identical classifications in each table.

Age Distribution

The distribution by age of the chemical and electronics technicians and supervisors is shown in Table 1. The mean age for the electronics technicians is 32.6 years. Approximately two-thirds (63.9 per cent) of these technicians are within the age range of 25 to 39 years; 17.3 per cent, below the age of 25. The electronics supervisor, with a mean age of 35.7 years, is approximately three years older, on the average, than the electronics technician. Almost three-fourths (72.2 per cent) of the supervisors are within the age range of 25 to 39 years; only 1.6 per cent are below the age of 25.

Chemical technicians and supervisors tend to be slightly older than electronics personnel. The mean age for the chemical technicians, 33.5

Table 1

AGE DISTRIBUTION OF ELECTRONICS AND CHEMICAL TECHNICIANS AND SUPERVISORS

Age range (in years)	ELECTRONICS		CHEMICAL	
	Technicians (per cent)	Supervisors (per cent)	Technicians (per cent)	Supervisors (per cent)
20-24	17.3	1.6	13.6	0.0
25-29	27.9	21.3	22.2	9.7
30-34	19.8	27.9	22.2	32.3
35-39	16.2	23.0	18.5	29.0
40-44	8.1	9.8	14.8	12.9
45-49	6.1	13.1	4.9	6.4
50+	4.6	3.2	3.7	9.7
TOTAL	100.0	100.0	100.0	100.0
Mean age	32.6 years	35.7 years	33.5 years	37.1 years

years, is, on the average, about four years below that for the chemical supervisors, 37.1 years. Although 13.6 per cent of the technicians are below the age of 25, no supervisor was found to be younger than 25.

Educational Levels and Differences

The educational levels for the chemical and electronics technicians and supervisors are shown in Table 2. The mean educational level is 13.1 years for the electronics technician and 13.9 for their supervisors. Approximately 56 per cent of the technicians have had formal education beyond high school, as have 59 per cent of their supervisors. Of the technicians receiving education beyond high school, more have attended junior colleges than have attended four-year institutions; and more supervisors than technicians have attended either junior colleges, four-year institutions, or both.

This educational difference between electronics technicians and supervisors does not appear great enough to indicate years of schooling as a major factor in advancement to supervisory positions. A possible explanation for absence of greater disparity between these two groups in the matter of school training might derive from the relative newness of the electronics industry.

Table 2

YEARS OF FORMAL EDUCATION OF ELECTRONICS AND CHEMICAL TECHNICIANS AND SUPERVISORS

Number of school years completed	ELECTRONICS		CHEMICAL	
	Technicians (per cent)	Supervisors (per cent)	Technicians (per cent)	Supervisors (per cent)
8	0.0	1.6	0.0	0.0
9	2.5	0.0	2.5	0.0
10	3.0	0.0	0.0	0.0
11	1.5	4.9	0.0	0.0
12	36.5	34.4	25.9	3.2
13	11.7	6.6	17.3	0.0
14	31.0	19.7	28.4	0.0
15	5.1	0.0	11.1	0.0
16	8.6	22.9	14.8	38.7
17	0.0	6.6	0.0	0.0
M.A. level	0.0	3.3	0.0	6.4
Ph.D. level	0.0	0.0	0.0	51.6
TOTAL	100.0	100.0	100.0	100.0
Mean educational level	13.1 years	13.9 years	13.6 years	17.2 years

It is conceivable that when the rapid expansion began in the electronics industry, few technicians qualified by virtue of formal training were available. Thus many high-ability secondary school graduates were hired, and these, over the years, have received sufficient on-the-job training to advance to supervisory levels. Now an increasing number of technicians are being prepared in various training programs; a large proportion of these are receiving the equivalent of junior college training. The technician's chances, therefore, of advancing to a supervisory position with less than a two-year junior college course would seem to diminish. This, of course, is a matter of conjecture, and further study is needed for more positive indications.

The mean educational level of 13.6 years for the chemical technicians is only slightly higher than that of 13.1 years for the electronics technicians. The chemical supervisors, on the other hand, are more highly trained than personnel in the other groups. More than one-half of these have completed requirements for the doctorate. Almost 97 per cent reported attendance at a college or university, but none indicated junior college work.

Differences in educational levels between the electronics and chemical supervisors reflect some very important differences in their types of work. The chemical technician tends to work under the direction of a supervisor who is most likely at least a college graduate. Further, he may be the only technician assigned to this supervisor. The electronics technician, on the other hand, may work under the direction of a lead man or foreman promoted from the technician ranks. One supervisor may be in charge of a fairly large number of electronics technicians.

Apparently the chemical technician is in a "dead end" occupation. Unless he obtains advanced degrees, his chances of advancement to supervisory positions are almost nonexistent. On the other hand, advancement opportunities for electronics technicians appear excellent because of promotions apparently based more on ability and experience rather than on formal academic training, at least at this time. However, an adequate supply of well-trained electronics technicians might change this picture appreciably in a relatively short while.

Length of Experience

Years of experience for both technicians and supervisors in electronics and chemical technology are shown in Table 3. The mean number of years of experience in electronics for the electronics technicians is 7.1 years. Approximately 42 per cent have less than 5 years of experience. Electronics supervisors have had, in supervisory experience,

a mean of 5.4 years. Their total technical experience could not be computed from the available response data.

The chemical technicians with a mean of 7.6 years appear, on the average, to have only slightly more work experience than electronics personnel. However, only 35.8 per cent of the chemical technicians have less than 5 years of experience. Their supervisors have a mean of 8.1 years of supervisory experience. Again this reflects, perhaps, the recent and more rapid growth of the electronics industry.

Table 3

ON-THE-JOB EXPERIENCE AS ELECTRONICS AND CHEMICAL TECHNICIANS AND SUPERVISORS

	ELECTRONICS		CHEMICAL	
Time worked (in years)	Technicians (per cent)	Supervisors (per cent)	Technicians (per cent)	Supervisors (per cent)
Less than 1	7.6	4.9	2.5	0.0
1–4	35.0	50.8	33.3	25.8
5–9	26.4	21.3	35.8	48.4
10–14	14.7	14.8	19.8	6.5
15–19	10.7	4.9	4.9	12.9
20+	3.6	0.0	3.7	6.5
None reported	2.0	3.3	0.0	0.0
TOTAL	100.0	100.0	100.0	100.0
Mean years of experience	7.1 years	5.4 years	7.6 years	8.1 years

Origins of Interest

As shown in Table 4, interest in the two technical occupations under consideration was found to stem from a variety of sources and motivational factors. The two sources mentioned most frequently by the electronics technicians were self-interest activities, such as hobbies and reading, and experiences in the armed forces. Few of the electronics technicians (14.7 per cent) listed school experiences as responsible for their interest in electronics.

Self-interest activities and school experiences were the two items most often listed by the chemical technicians as motivating their interests in chemical technology. For these persons, need for a job and financial opportunity were tied for third position on the scale of fre-

quency. For both groups, counseling apparently did not play a prominent role in the decision to enter these occupations.

Electronics and chemical supervisors were not asked to indicate sources of interest development in their respective fields.

Table 4

ORIGINS OF INTEREST IN OCCUPATIONS AS ELECTRONICS AND CHEMICAL TECHNICIANS

Origin of interest	Electronics technicians (per cent)	Chemical technicians (per cent)
Need for a job	4.6	14.8
Money and job opportunity	9.6	14.8
Information from relatives and friends	6.1	9.9
School experiences	14.7	21.0
Self-interest activities	35.5	29.6
Experiences in armed forces	29.9	11.1
None reported	8.1	3.7

Sources of Training

As shown in Table 5, the electronics technicians received their training from a variety of sources. Slightly more than one-fifth (21.8 per cent) reported that they received their training solely in schools, either in college or in high school. Military service schools provided training for 21.3 per cent. Only about 1 in 10 received his entire training on the job.

The proportions of the electronics supervisors receiving training from each of the various sources corresponded, percentage-wise, rather closely to those of the electronics technicians. A major exception, however, was the finding that fewer supervisors than technicians reported receiving their training solely in military schools. However, more of these supervisors than technicians indicated that they had received training from the combined sources of school, on-the-job, and military service.

The picture for the chemical technicians was quite different from that for the electronics technicians. Approximately 4 out of 10 (38.3 per cent) of the chemical technicians received their training on the job. Only about 1 in 20 received his training in military service. Except

Table 5

SOURCES OF TRAINING OF ELECTRONICS TECHNICIANS AND SUPERVISORS AND CHEMICAL TECHNICIANS

Source of training	ELECTRONICS		CHEMICAL
	Technicians (per cent)	Supervisors (per cent)	Technicians (per cent)
School	21.8	21.0	22.2
Military service	21.3	14.5	4.9
On-the-job	10.2	11.3	38.3
School and service	15.7	14.5	2.5
School and job	10.2	9.7	18.5
Service and job	9.6	8.1	6.2
School, service, job	8.6	16.1	1.2
None reported	2.5	4.8	6.2
TOTAL	100.0	100.0	100.0

for the preference of one major chemical company for hiring chemical technicians from among men trained as electronics technicians in military service schools, this ratio would be even more disproportionate. The rationale of this particular company is that persons so trained are more able to investigate and to solve problems than are chemical technicians trained in the junior college programs, i.e., the former generally know more about laboratory techniques than do the latter who take chemistry major transfer courses. The service-trained electronics technician, according to representatives of the company, is able to acquire needed chemical skills in a relatively short period of time.

Chemical supervisors were not asked to indicate the source of their training because of the large number of such personnel possessing advanced degrees.

Basis for Promotion

Both electronics and chemical supervisors were asked to indicate the basis on which promotions are made. Findings relevant to this question are shown in Table 6. The criteria for promotion most often mentioned by the electronics supervisors were personal qualities, leadership ability, and experience; those mentioned rather infrequently were formal education and training in mathematics and science. The criteria most frequently mentioned by the chemical supervisors were personal qualities and technical competence.

Table 6

ATTRIBUTES OR PROFICIENCIES CONSIDERED BY SUPERVISORS AS MOST IMPORTANT PROMOTIONAL FACTORS

Primary attribute or proficiency	Electronics supervisors (per cent)	Chemical supervisors (per cent)
Mathematics training	0.6	12.3
Science training	7.3	10.5
Training in electronics, electricity	5.5	3.5
Personal qualities	21.3	35.1
Leadership ability	26.8	3.5
Technical competence	7.9	26.3
Experience	27.4	1.8
Ability to verbalize	2.4	3.5
Formal education	0.6	3.5
TOTAL	100.0	100.0

The difference between the perceptions of the electronics supervisors and those of the chemical supervisors may reflect, to a large degree, the differing opportunities for promotion in the two fields. Advanced degrees, apparently, are almost always necessary for promotion to supervisory positions in the chemical industry. The chemical supervisors typically come from colleges and universities; the electronics supervisors are promoted most often from within the technician ranks.

Perceived Mathematics and Science Requirements

All of the technicians and supervisors were asked to indicate how much mathematics and science training they considered necessary to prepare a technician adequately for his job. Findings relative to perceived mathematics requirements are shown in Table 7, and those for science requirements are shown in Table 8.

Approximately one-fourth of the electronics technicians and more than one-fourth of their supervisors perceived training in elementary algebra as essential; 40 per cent of these technicians and over one-half of their supervisors favored mathematics training from basic courses through trigonometry.

On the other hand, the perceived requirements regarding certain mathematical skills for chemical technicians, as reported by these technicians and their supervisors, were quite different from those perceived for electronics technicians. Over 40 per cent of the chemical technicians

Table 7

TECHNICIANS' NEEDS FOR TRAINING IN MATHEMATICS: AS REPORTED BY TECHNICIANS AND SUPERVISORS

(not from critical incidents)

Mathematics needed (level of training)	ELECTRONICS		CHEMICAL	
	Technicians (per cent)	Supervisors (per cent)	Technicians (per cent)	Supervisors (per cent)
Trade mathematics only	6.1	1.6	0.0	0.0
Basic algebra	24.4	27.4	40.7	61.3
Geometry	2.0	4.8	3.7	6.4
Advanced algebra	5.6	1.6	4.9	3.2
Advanced algebra and plane geometry	1.0	0.0	3.7	0.0
Advanced geometry	0.5	1.6	1.2	0.0
Mathematics— basics through trigonometry	40.1	51.6	24.7	16.1
Mathematics— basics through calculus	6.1	1.6	6.2	9.7
Higher mathematics	0.5	0.0	0.0	0.0
None reported	13.7	9.7	14.8	3.2
TOTAL	100.0	100.0	100.0	100.0

and 61 per cent of their supervisors perceived simple algebraic skills to be adequate; about one-fourth of the chemical technicians and 16 per cent of their supervisors indicated mathematics training from basic courses through trigonometry as necessary.

A wide variety of other types of mathematics training were suggested for both the electronics and the chemical technician, but these were mentioned only a small number of times in each instance.

The perceived science requirements most often mentioned for the electronics technicians involved training in physics, in electronics, and in a combination of physics and electronics. For the chemical technicians, the most frequently mentioned essential science was chemistry or the combination of chemistry and physics.

Formal Training in Mathematics

Formal mathematics courses completed by electronics technicians and supervisors and by chemical technicians are shown in Table 9. Slightly more than 1 in 5 (21.3 per cent) of the electronics technicians reported having taken calculus; 28.9 per cent, training through trigonometry. Approximately 1 in 10 reported mathematics training of a type more

Table 8

TECHNICIANS' NEEDS FOR TRAINING IN SCIENCE: AS REPORTED BY TECHNICIANS AND SUPERVISORS

(not from critical incidents)

Science needed (level of training)	ELECTRONICS		CHEMICAL	
	Technicians (per cent)	Supervisors (per cent)	Technicians (per cent)	Supervisors (per cent)
Chemistry	0.5	0.0	35.8	45.2
Physics	18.2	12.9	0.0	3.2
Electronics	25.9	25.8	1.2	3.2
Other science	1.5	4.8	4.9	6.4
Chemistry and physics	6.1	11.3	23.5	22.6
Chemistry and electronics	0.0	0.0	0.0	3.2
Chemistry and other science	1.5	0.0	3.7	0.0
Physics and electronics	19.3	16.1	0.0	0.0
Physics and other science	1.5	4.8	0.0	0.0
Electronics and other science	0.0	1.6	0.0	0.0
Chemistry, physics, and electronics	2.0	4.8	7.4	3.2
Chemistry, physics, and other science	1.5	3.2	2.5	0.0
Chemistry, physics, electronics, and other science	0.0	1.6	1.2	0.0
None reported	21.3	12.9	19.8	12.9
TOTAL	100.0	100.0	100.0	100.0

Table 9

FORMAL MATHEMATICS TRAINING COMPLETED BY TECHNICIANS AND SUPERVISORS

Mathematics level attained	ELECTRONICS		CHEMICAL
	Technicians (per cent)	Supervisors (per cent)	Technicians (per cent)
Technical mathematics only	4.9	3.2	2.5
Algebra I, or more	11.7	8.1	19.8
Algebra and geometry	11.7	8.0	25.9
Mathematics— basics through trigonometry	29.8	30.6	25.9
Mathematics— basics through calculus	21.3	17.7	9.9
Mathematics above calculus	9.6	19.4	4.9
None reported	12.7	13.0	11.1
TOTAL	100.0	100.0	100.0

advanced than calculus. The major difference between electronics technicians and their supervisors in mathematical skills appeared in the field of advanced work. Almost 1 supervisor in 5 indicated formal courses beyond calculus, as compared to 1 technician in approximately 10.

Chemical technicians, in general, have had less training in mathematics than have electronics personnel. A relatively small per cent have had formal courses in calculus or in more advanced work. Analysis of the formal mathematics training for chemical supervisors was not considered appropriate because of the high educational level of these men.

Formal Training in Science

Classifying the reported science courses presented a much more difficult task than the classification of reported mathematics courses. Science, as it is now taught, does not fit into a neat hierarchial arrangement of courses. If an individual indicates the completion of science through physics, does this mean he already has had biology and chemistry? Some clues as to the possible sequence of courses might be obtained from the level of training indicated by the technician. If, for example, he had completed only high school and had taken only general science and electronics, then his training could be determined with fair accuracy. The science level of the college-trained technician, unless he indicated all of his courses, would have to be estimated. Thus, the data in Table 10 provide only a rough approximation of his science training.

The concentration in the physical sciences—electronics, chemistry, physics—is obvious. Electronics technicians and their supervisors appear quite equal in terms of science training. One major exception was noted in courses dealing exclusively with electronics. Here the supervisors report having taken fewer courses. Perhaps this indicates to some extent the lack of formal training courses available when the tremendous growth in the electronics industry started.

The chemical technician had, as might be expected, much more formal training in chemistry than had the electronics technician. Only a small proportion of the chemical technicians reported formal training in electronics. The electronics training obtained by this small group can be accounted for almost entirely by the previously noted preference of the particular chemical company for electronics technicians trained in the naval program.

In the context of this report it would not be meaningful to discuss the science courses taken by the chemical supervisors because of the advanced level of their training.

Table 10

FORMAL SCIENCE TRAINING COMPLETED BY TECHNICIANS AND SUPERVISORS

Science level attained	ELECTRONICS		CHEMICAL
	Technicians (per cent)	Supervisors (per cent)	Technicians (per cent)
Chemistry	1.5	3.2	13.6
Physics	3.3	3.2	1.2
Electronics	18.3	8.1	2.5
Other science	3.6	6.5	11.1
Chemistry, physics	14.2	11.3	14.8
Chemistry, electronics	1.0	1.6	3.7
Chemistry, other	0.5	0.0	16.0
Physics, other	2.5	1.6	3.7
Physics, electronics	5.6	1.6	0.0
Electronics, other	2.5	1.6	0.0
Chemistry, physics, electronics	8.1	11.3	0.0
Chemistry, electronics, other	0.5	1.6	1.2
Chemistry, physics, other	4.1	8.1	21.0
Physics, electronics, other	1.5	3.2	0.0
Chemistry, physics, electronics, other	5.1	11.3	1.2
None reported	22.8	25.8	9.9
TOTAL	100.0	100.0	100.0

Further Training Desired

Statistics reflecting the reported desire of both technicians and supervisors for further training are shown in Tables 11 and 12. Members of both the technicians' group and the supervisors' group plan to take additional mathematics and science courses. A much larger per cent of the electronics technicians than that of the chemical technicians affirmed this intent. Perhaps the desire for further training is prompted by the discernment of greater opportunities for advancement in the electronics field. Interestingly enough, more chemical supervisors plan to take additional formal course work than do the electronics supervisors, despite the showing, generally, of a much lower educational level among the latter group.

One implication readily apparent from these data is the need for educational institutions not only to offer training curriculums for new entrants into the technical field, but also to provide considerable advanced work scaled to the needs of technicians already on the job.

Table 11

RESPONSES OF TECHNICIANS AND SUPERVISORS REGARDING THE ACQUISITION OF ADDITIONAL MATHEMATICS AND SCIENCE TRAINING

Response	ELECTRONICS		CHEMICAL	
	Technicians (per cent)	Supervisors (per cent)	Technicians (per cent)	Supervisors (per cent)
Yes	73.1	24.6	39.5	51.6
No	18.3	11.5	43.2	29.0
Undecided	7.6	4.9	16.0	3.2
No response	1.0	59.0	1.2	16.1
TOTAL	100.0	100.0	100.0	100.0

Table 12

TYPES OF ADDITIONAL TRAINING DESIRED BY TECHNICIANS AND SUPERVISORS

General subject area preferred	ELECTRONICS		CHEMICAL	
	Technicians (per cent)	Supervisors (per cent)	Technicians (per cent)	Supervisors (per cent)
Mathematics	19.3	8.1	9.9	3.2
Science	2.5	3.2	8.6	22.6
Electronics	11.7	1.6	1.2	0.0
Mathematics and science	12.2	4.8	16.0	12.9
Mathematics and electronics	13.7	1.6	1.2	3.2
Science and electronics	0.5	1.6	2.5	3.2
Mathematics, science, and electronics	3.0	4.8	2.5	0.0
Undecided	15.7	3.2	12.3	3.2
None reported	21.3	71.0	45.7	51.6
TOTAL	100.0	100.0	100.0	100.0

SUMMARY AND IMPLICATIONS

In general, the data discussed in this chapter indicate that most technicians do not require high-level mathematical and scientific skills. There is some indication of the need for practically oriented skills, i.e.,

toward laboratory techniques rather than toward abstract theory. Furthermore, the data suggest that perhaps many technicians possess higher-level skills than are being tapped by their present job. The disclosure that a large number of technicians plan to expand their capabilities by taking additional formal course work portends a greater supply of more highly trained technicians. But there is some evidence that the skills already available are not fully exploited. Does this mean that there will be an even greater waste of manpower resources? This problem should become a matter of the most serious concern on the part of both training institutions and industry.

Chapter IV

REPORTS OF MATHEMATICS AND SCIENCE INCIDENTS

As previously explained, the major purpose of distributing questionnaires to technicians and their supervisors was to elicit reports of incidents concerning the possession or lack of certain mathematical and scientific skills as a critical factor in the technician's job performance. A junior college electronics instructor with previous experience as an electronics technician assisted in the analysis of the reports of incidents submitted by electronics technicians and supervisors. A junior college chemistry instructor quite familiar with the work of the chemical technician assisted with the analysis of the reports of incidents submitted by chemical technicians and their supervisors.

TYPICAL REPORTS OF CRITICAL SCIENCE AND MATHEMATICS INCIDENTS

In the pages that follow, sample reports of critical incidents, selected at random from among the reports received, are shown in the exact language of the respondents (1) to illustrate both the nature and quality of the responses; and (2) to suggest certain difficulties involved in the analysis and classification of the responses. The samples are grouped to exemplify, in order of presentation, science incidents reported by electronics and chemical personnel and, similarly, mathematics incidents reported by these two groups.

Sample Reports of Science Incidents from Electronics Personnel

Reports illustrating critical science incidents as they relate to the job performance of electronics technicians follow:

1. In laying out the point-to-point wiring and cables for a regulated power supply, a technician mistakenly cabled together grid leads and filament leads. He assumed that because the power supply provided DC voltage, he didn't need to take usual circuit layout precautions. Had he known that the regulating circuitry employs high-gain amplifiers, he wouldn't have made this mistake. The time lost in correcting his error would have been saved if the technician had a greater knowledge of basic electronics.

2. One was a technician who spent a day trying to measure AC voltage with a DC meter.
3. A man was applying a five-pound weight to a component for test purposes. He didn't know if he should put the fish scale between the component and the weight, or if the component should be installed between the fish scale and the weight. A fellow employee helped him.
4. Heat elimination became a problem in a seal can. Using the principal of black conducting heat more readily than a shiny surface, we had the can black-annodized and helped to correct the problem.

Sample Reports of Science Incidents from Chemistry Personnel

Reports illustrating critical science incidents as they relate to the job performance of chemical technicians follow:

1. One technician tried to electrolyze a solution containing hydrochloric acid when such solutions normally should take sulfuric acid. The result was the production of chlorine gas that filled the laboratory. From high school chemistry he should have known that electrolyzing solutions containing hydrochloric acid produce chlorine.
2. A man rested an unshielded permanent magnet ammeter on a steel shelf. He did not realize that the magnetic field of the meter would be changed by the steel shelf. He had no knowledge of magnetic fields' behavior.
3. It was necessary to wash an item until all salt was removed. The technician used his knowledge of chemistry to use silver nitrate as a qualitative measure of the amount of chloride ion in the wash water.
4. The technician did not know enough about physics and the flow of fluids to realize that the pressure drop across a filter can be used to measure the flow rate through the filter as long as the filter did not become plugged. In addition, he didn't know that at a constant flow rate, the pressure drop could be used as an indication of the plugging of the filter.
5. Ran out of .1 N HCl. How do I mix more? Borrowed some from another room.
6. A man working with Na. He did not know $Na + H_2O$ are explosive and can cause a bad burn. The job was completed by another man with this knowledge.

7. Recently, some bricks we were firing for testing were ruined because the technician on duty was not familiar with the detrimental effect of thermal expansion and contraction upon refractory brick. A new set of test specimens was fired and the technician was enlightened as to the importance of thermal shock.

8. I had occasion to react a solution of copper sulfate with potassium cyanide. Knowing that copper sulfate is acidic when in solution, and that acid reacts with potassium cyanide to form highly toxic hydrogen cyanide gas, I was able to take precautions such as using proper ventilation and providing myself with a gas mask.

Sample Reports of Mathematics Incidents from Electronics Personnel

Reports illustrating critical mathematics incidents as they relate to the job performance of electronics technicians follow:

1. Recently in a structure shop, measurement was given in degrees from a certain spot. The people engaged in this type of work had to ask the inspector to convert degrees of arc to linear measure.

2. A fellow worker had to scale a mixture in certain proportions given in decimal system. The scale measured ounces and pounds. It took quite a bit of computing to get the mixture right because of a lack of simple mathematics such as the relations between the decimal system and ounces.

3. In determining the dimensions for a piece of sheet metal which was to have four $2\frac{1}{2}$ inch sections, I found that $2\frac{1}{2} \times 4 = 13$. This error was caught by a sharp-witted mathematician who checked the dimensions.

4. Recently one man took more than an hour to pad a 330 range switch by trial and error. He could have come close to the right values in minutes by figuring per cent change after one trial reading.

5. Had a man who could not find the time between pulses when he knew the number of pulses per second.

6. I recently observed an "A" technician who was unable to test a unit in pounds per square inch because his equipment measured in inches of mercury and he was unable because of his lack of knowledge on the subject to convert his readings.

Sample Reports of Mathematics Incidents from Chemistry Personnel

Reports illustrating critical mathematics incidents as they relate to the job performance of chemical technicians follow:

1. There was an occasion where 53.3 per cent alcohol was added instead of 95.5 per cent. When the mistake was discovered, about 47 per cent of the 53.3 per cent had been added. We had to calculate how much more 95 per cent achohol it would take to bring the solution up to the required concentration.
2. There was a situation where a new man was making up a 10 M HAc reagent. In adding his acid to the H_2O, he spilled in too much (about three liters). Instead of using algebra ratios, he guessed blindly and sent a sample to chemical control. He had to repeat this three times until by chance he got the right molarity.
3. Recently, the engineer for whom I work was called away. During his absence some physical tests were completed and, knowing the urgency of the project, I used my knowledge of graphing to compile and consolidate these results to make them readily available to the engineer upon his return.
4. One technician was not able to carry out a simple algebra calculation because he did not know the rules for removing multiple brackets.

TOTALS AND TABULATIONS OF CRITICAL INCIDENTS

A total of 123 critical mathematics incidents were reported by electronics personnel and 80 by chemistry personnel. The critical skills needed in these incidents and the frequency of need reported for each skill are shown in Table 13.

Electronics personnel reported 101 critical science incidents; Chemistry personnel, 45. The critical skills needed in these incidents and the frequency of need reported for each skill are shown in Table 14.

In examining these tables, the reader should bear in mind that one critical incident might involve more than one skill. Thus, the number of skills exceeded the number of reported incidents. The reader is also reminded that the relative importance of a skill can be measured to some extent by the frequency with which it is mentioned.

A most suprising feature of the data was the small number of critical incidents reported in either mathematics or science. On the basis of the questionnaires returned, approximately 40 per cent ' the electron-

ics technicians and 26 per cent of their supervisors reported no critical incidents involving mathematical skills; 49 per cent and 28 per cent, respectively, reported no incidents involving science skills. In the chemistry sample, 27 per cent of the technicians and 13 per cent of their supervisors failed to report critical incidents involving mathematical skills; 27 per cent of the technicians and 19 per cent of their supervisors reported no incidents involving science skills.

Table 13

FREQUENCY OF MATHEMATICAL SKILLS IN CRITICAL INCIDENTS REPORTED BY TECHNICIANS AND SUPERVISORS

Type of mathematics skill	Frequency	
	Electronics	Chemical
Basic operations: adding, subtracting, multiplying, dividing	1	11
Fractions	4	--
Decimals	4	--
Percentages	1	8
Ratios and proportions	1	3
Use of tables	12	--
Measurement	1	--
Computation of square root	4	1
Use of slide rule	6	2
Simple equation manipulation	103	34
Converting problems to equations	4	4
Graphs and graphing	9	1
Conversions	11	1
Correlations	--	1
Intermediate algebra	--	16
Quadradic equations	1	--
Linear equations	4	2
Use of logarithms	7	--
Geometry	2	1
Determining radius	1	--
Simple trigonometry (vectors and angular functions)	24	--
Mathematics ability: basics through trigonometry	10	--
Mathematics ability: basics through calculus	8	--
Curve analysis	4	--
Boolean algebra	1	--
Binary systems	2	--
TOTALS	225	85

Table 14

FREQUENCY OF SCIENCE SKILLS IN CRITICAL INCIDENTS REPORTED BY TECHNICIANS AND SUPERVISORS

Type of science skill	Frequency	
	Electronics	Chemical
Basic chemistry	3	15
Chemical formulas	--	3
Chemical solutions	--	1
Chemical immiscibility	--	1
Acids and bases	1	3
Salts	--	1
Solvents	--	2
Solubility	--	4
Electrolysis	--	2
Molecular weights	--	2
Valences	--	2
Equivalents	--	1
Hazardous chemical reactions	--	4
Titrations	--	2
Distillations	--	1
Filtration	--	1
Filtering techniques	--	1
Testing and adjusting of Ph	--	3
Oxidation and reduction	--	1
Laboratory techniques	--	1
Inorganic chemistry	--	2
Chemistry of solder fluxes	1	--
Chemical coatings	1	--
Chemistry of plastics	1	--
Chemistry of lubricants	1	--
Organic chemistry	--	4
Hydrocarbons	--	1
Quantitative chemistry	--	3
Analytic chemistry	--	2
Chemical composition	--	3
Analysis for metals	--	1
Volumetric concentrations	--	1
Physics	12	4
Vapor pressure	--	1
Surface tension	--	1
Physics of inert gases	1	--
Thermodynamics	13	1
Thermal expansion	--	1
Thermal conductivity	--	2
Temperature effects	1	--
Heat transfer of metals	1	--
Melting point of metals	--	1
Magnetism	8	--
Electromagnetism	1	--
Electrostatic fields	1	--
Static electricity	1	--
Dielectrics	1	--
Light theory	1	--
Corona effects	1	--
Optics	1	--
Hydraulics	1	1

Table 14—Continued

FREQUENCY OF SCIENCE SKILLS IN CRITICAL INCIDENTS REPORTED BY TECHNICIANS AND SUPERVISORS

Type of science skill	Frequency	
	Electronics	Chemical
Aerodynamics	1	--
Metallurgy	4	--
Expansion of metals	1	--
Mechanics	2	1
Gears and levers	1	--
Torque	1	--
Basic electronics	13	3
Electronic circuitry	30	--
Electronic theory	2	--
Electronic troubleshooting	1	--
Resistance	3	--
Resistors	1	--
Microwaves	3	--
Transmission lines	2	--
Delay lines	1	--
Transistor circuitry	2	--
Capacitors	1	--
Capicitance	1	--
Conduction and induction	1	--
Frequencies	2	--
FM theory	2	--
Diodes	1	--
Servomechanisms	2	--
Insulations	3	--
Oscillators	3	--
Testing oscillators	1	--
Oscilloscopes	1	--
AC and DC current	2	--
Tape guide systems	1	--
Voltage	1	--
Voltage measurement	1	--
Voltage regulators	1	--
Phase relationships	1	--
Generators	1	--
Radio theory	1	--
Waveguide theory	1	--
RC networks	1	--
Electricity	1	--
Decibels	1	--
VTVM	1	--
Reading meters	2	--
Instrument calibration	1	--
Weighing	1	3
Keeping records	--	1
TOTALS	156	88

REPORTS AND TABULATIONS OF NONCRITICAL INCIDENTS

It was found that many of the responses concerning the use of mathematical and scientific skills in on-the-job incidents were too vague or too incomplete to be considered as reports of *critical* incidents; in general these reports were considered to represent noncritical ones. However, because such responses did report certain information involving mathematics needs, skills, and levels of training, they were analyzed and tabulated. This information in tabulated form is shown in Tables 15 and 16.

DISCUSSION OF CRITICAL INCIDENTS

The reasons for the small number of critical incidents reported are difficult to ascertain. Was there a real scarcity of reportable incidents?

Table 15

FREQUENCY OF MATHEMATICAL SKILLS IN NONCRITICAL INCIDENTS REPORTED BY TECHNICIANS AND SUPERVISORS

Type of mathematics skill	Frequency	
	Electronics	Chemical
Basic operations: adding, subtracting, multiplying, dividing	4	3
Fractions	4	--
Decimals	2	4
Percentages	2	--
Ratios and proportions	6	4
Use of tables	1	--
Measurements	1	--
Computation of square root	3	1
Use of slide rule	9	18
Simple equation manipulation	9	12
Graphs and graphing	--	5
Conversion	2	--
Advanced algebra	2	--
Use of logarithms	3	2
Geometry	--	1
Simple trigonometry	1	--
Mathematics ability: basics through trigonometry	8	2
Mathematics ability: basics through calculus	1	2
Use of calculator	--	1
TOTALS	58	55

Table 16

FREQUENCY OF SCIENCE SKILLS IN NONCRITICAL INCIDENTS REPORTED BY TECHNICIANS AND SUPERVISORS

Type of science skill	Frequency	
	Electronics	Chemical
Basic chemistry	10	10
Chemical reactions	--	5
Chemical solutions	--	3
Chemical immiscibility	--	3
Acids and bases	--	2
Chemical bonds	--	1
Solvents	2	1
Solubility	--	1
Molecular weights	--	3
Valences	--	1
Titrations	--	1
Testing and adjusting of Ph	--	3
Making up reagents	--	2
Oxidation and reduction	--	1
Laboratory techniques	--	2
Inorganic chemistry	--	4
Carbon compounds	--	1
Organic chemistry	--	7
Hydrocarbons	--	1
Analytic techniques	--	2
Spectograph	--	1
Spectroscope	--	1
Volumetric concentrations	--	1
Gravimetric determination	--	1
Physics	22	9
Thermodynamics	1	--
Electromagnetism	1	--
Magnetism	5	--
Attraction and repulsion	1	--
Fields of force	1	--
Hull ionization	1	--
Acceleration	1	--
Vibration	1	--
Lissajous patterns	1	--
Dielectrics	2	--
Light theory	--	1
Optics	1	--
Levers and gears	4	--
Torque	1	--
Virology	--	1
Tissue culture	--	1
Basic electronics	16	9
Electronic circuitry	10	--
Electronic theory	2	--
Resistors	1	--
Resistance formulas	1	--
Microwaves	3	--
Transistor circuitry	1	--
Capacitors	--	--
Conduction and induction	1	--
Semiconductors	1	--

Table 16—Continued

FREQUENCY OF SCIENCE SKILLS IN NONCRITICAL INCIDENTS REPORTED BY TECHNICIANS AND SUPERVISORS

Type of science skill	Frequency	
	Electronics	Chemical
Impedance formulas	1	--
Frequency drift	1	--
Electronic troubleshooting	1	--
Electronic test gear	1	--
Servomechanisms	1	--
Insulation	1	--
Multivibrators	1	--
AC and DC current	1	--
Thermal and sensing devices	1	--
Voltage formulas	1	--
Ohm's Law	1	--
Vacuum tube theory	1	--
Electricity	2	--
Amplifier distortion	1	--
RC networks	2	--
Decibel	2	--
Decibel meters	1	--
Analog computers	1	--
Reading meters	2	--
Tables of wire size	1	--
Special apparatus	--	1
Ability to read technical reports	--	4
Use of handbooks	--	2
Weighing	--	1
TOTALS	115	87

—or did many respondents prefer not to complete this section of the questionnaire? Undoubtedly, for some of the respondents, the latter question may be answered affirmatively. The investigators are inclined to believe, however, that the lack of response regarding critical incidents can be largely attributed to the relative infrequency of such occurrences —that the work of the technician is such that it does not, in many instances, demand critical skills. This conclusion was directly supported by explanatory statements from many respondents for their failure to submit reports of incidents. Their jobs were indicated to be strictly routine and not of the nature requiring either mathematical or scientific skills.

The failure of so many technicians and supervisors to report incidents might be explained also by the practice of assigning to positions in

which critical skills are utilized only technicians possessing advanced mathematics and science training. If this were so, then technicians with high-level training should be able to report more incidents than those with less formal training. The data were analyzed to check this possibility. It was found that there was no relationship between the number of incidents reported and the technician's level of training. However, this generalization should be qualified somewhat by pointing out that only a small number of chemical supervisors failed to relate critical incidents and, as it was indicated in Chapter III, the educational level of these individuals is very high.

Finally, certain observations expressed by various training directors and supervisors further substantiated the lack of critical requirements for many technical jobs. Their comments were generally to the effect that, while hiring specifications often prescribe certain mathematical and scientific skills, there is frequently little relationship between these requirements and the work actually performed by the technician.

It is readily conceded that all technicians do not function at the same level, that some technicians work mainly as mechanics while others are engaged to a considerable degree in research. Thus critical skills might differ for each type of technician. Unfortunately the size of the sample did not permit meaningful study of this possibility. However, the nature and extent of data obtained by this study failed to indicate that technicians at any level really use high-level mathematics and science skills.

CHAPTER V

TRAINING CURRICULUMS

In the course of the interviews that were conducted with personnel and training directors of various electronics companies, it was discovered that men trained in military schools were held in high regard.[1] It was also disclosed that the hiring preferences of some companies were linked with the junior college in which the technician received his training. It was therefore maintained that, in view of these preferences, attention should be given in this study project to the various training programs for electronics and chemical technicians.

Material on electronics training curriculums was obtained from the U. S. Navy and the U. S. Air Force. Program outlines of electronics apprenticeship training at the Alameda Naval Air Station and the San Francisco Naval Shipyard were studied, as were the recommendations of the Northern California Electronics Apprenticeship Advisory Committee. In addition, by means of questionnaires and interviews, data were collected from junior college electronics and chemistry instructors who submitted information and opinions regarding junior college technician training.

Although the primary concern in examining this material was to collect further information on critical mathematics and science requirements, certain additional information which was judged to have a significant bearing upon the development of sound training programs was obtained and is reported in this chapter.

SERVICE SCHOOL AND APPRENTICESHIP PROGRAMS

Mathematics and science courses provided in service schools and in apprenticeship programs appear to differ little in content from those offered in other technical training programs for electronics technicians. Moreover, the range of course work in mathematics rarely, if ever, extends above the level of trigonometry. On the other hand, the method of teaching mathematics and science skills was noted to differ from that employed in many of the junior colleges.

In the Navy system—and this can also be said of the Air Force and the Naval Shipyard apprenticeship programs—the "craftsman" method is used. The emphasis is upon the doing of a skill rather than the

[1] It should be borne in mind that generally military service personnel have had several years of practical work experience while many junior college graduates have not

teaching of abstract theory for the sake of knowledge alone. Personnel able to demonstrate skill and efficiency, soundly grounded in fact and practice, and only moderately tempered by theoretical considerations are desired for placement in jobs of a crucial nature.

The following statement from the Bureau of Naval Personnel would seem to express the philosophy of both the service school and apprenticeship training programs in the teaching of mathematics and science as integral parts of electronics course work:

> The material has been given as much of a non-mathematical approach as felt feasible at this level of training. Instruction in mathematics is to be given only to the extent needed for understanding the basic concepts of mechanical and electrical principles. The specific objective for teaching the mathematical computations is to enable the trainee to grasp a better working knowledge of the principles. All extraneous computations are to be omitted. The understanding and application of various formulas is to be combined with the theory and practical work as required. There are two methods of teaching mathematics, abstractly and functionally. The former employs the logic of mathematical processes with abstract numbers and the latter is used in practical work. By teaching mathematics with the mechanical and electrical principles, the instructor can make the mathematical computations grow out of shop activities or practical situations, which will be meaningful to the trainee. Mathematical applications to problems that trainees encounter in their daily work are more meaningful and as a result the trainees are going to take a greater interest in their work. In most cases, the common knowledge level of mathematics has already been attained. Many of the mathematical processes that are involved in solving problems in mathematics and electricity should be the subject of a review supplemented with drills for outside study. However, in some cases, it may be necessary to treat the processes as new material followed immediately with application of the principle involved. For meaningful learning, economy of time, and effectiveness of instruction, it is desirable that the practice of integrating the teaching of mathematics with mechanical and electrical principles be applied.[2]

Apparently the service electronics schools are able to teach all necessary mathematics and science skills to high school graduates having but few previous mathematics and science courses. Officers of the Navy's Class A School on Treasure Island indicated that previous courses in these two areas are not necessary for success in the training program. Such courses as high school physics and mathematics are weighted in student selection only as indicators of possible interest in the electronics field.

Of course, service schools are working with a more select group of students than are junior colleges. Naval Class A schools select from approximately the top 15 per cent of recruits. Therefore, the apparent success of the service schools may be due, in large part, to the higher abilities of admitted students. The relatively favorable position of the service-trained electronics technician in the ranks of industry also may

[2] "Schedule of Topics and Topical Outline for Electricity-Electronics Training Series," Part I, July, 1956. Washington, D.C.: Bureau of Naval Personnel, 1956.

be explained chiefly by these higher abilities rather than, primarily, by the two or more years of training he acquires prior to discharge.

The Armed Forces, by knowing the exact requirements of those jobs for which the trainee is to be prepared, have an apparently important advantage over the junior college. Training provided under conditions where job requirements are definitely known can be patterned to the specific job, the course requirements standardized, and the serviceman's assignments regulated accordingly. However, this advantage would appear to apply significantly only for the duration of the technician's military career. Perhaps, therefore, one implication for junior college training is clear: that only the abler students should enroll in technical courses.

The work of the industry-employed technician, in contrast to that of his military counterpart, appears to vary from plant to plant and from job to job within a plant. Thus, training offered by nonservice technical schools may have objectives that are rather ill defined. In most instances the necessary mathematical and scientific skills are not identified nor are they likely to be identified until the roles and the functions of the technician are specified in a more satisfactory manner. Such uncertainty as to training objectives conceivably could lead to overtraining through attempts to anticipate every possible job demand. It might be decided that calculus and advanced physics, for example, should be incorporated in the curriculum to provide added job insurance for the trainee. Training programs developed under such conditions might, it is believed, be heavily loaded with courses of no useful relationship to the technician's job and therefore be wasteful in time and money for both the trainee and the training institution.

JUNIOR COLLEGE TRAINING PROGRAMS

Information concerning junior college training curriculum for electronics and chemical technicians is reported in the pages that follow.

Opinions of Junior College Electronics Instructors

Questionnaires were submitted to instructors of electronics courses in the various California junior colleges. Responses were received from 38 electronics instructors who represented 21 colleges. Information regarding the viewpoints and attitudes of these instructors, on a subject-matter basis, was gathered by means of the questionnaires and is presented in the following summary and analysis.

Adequacy of high school preparation. The majority of the instructors were of the opinion that high school students entering electronics

programs were inadequately prepared. In order of frequency of response, inadequate preparation in mathematics was cited as the greatest handicap; next, inadequate preparation in both mathematics and science; third, inadequate training in science alone; and fourth, poor preparation in the field of written expression.

Perhaps these attitudes reflect one of the basic differences in types of training offered by junior colleges and by the service schools. Service schools build the basic mathematics and science background theory into their curriculums. Junior colleges build technical programs complementing formal course work in mathematics and science. As pointed out several times previously in this report, the validity of such procedures cannot be determined with certainty until the work of the technician is more clearly delineated.

Basic junior college training problems. The most frequently mentioned problems associated with technician-training programs in junior colleges were those involving the lack of time, money, and qualified staff personnel. Insufficient exchange of information necessary for adequately presenting industrial requirements to schools and for apprising industry of junior college training plans was cited as constituting the next most serious problem. Inadequacies in screening and selection, as well as in student preparation, were also frequently mentioned. The development of better methods for selecting students who apply for electronics courses appears to be one of the most difficult problems confronting junior colleges. Many instructors believe that their instruction is seriously impaired by the enrollment of low-ability students in such courses. This problem is discussed more fully later in this report.

Determining student selection criteria. Aptitude and interest were most frequently mentioned by instructors as factors that facilitate the selection of students for electronics courses. Other instructors, in order of frequency, cited level of mathematics preparation, intelligence and earned grades, personality factors, and level of science preparation as the most desirable means of determining student selection. Thus there would appear to be little agreement among instructors as to the most acceptable selection criteria.

Essential mathematics and science training levels. Basic algebra was cited as the branch of mathematics most essential to the technician. This finding was followed, in order of frequency, by recommendations for mathematics training from basics through trigonometry, and then by recommendations for training in basic mathematics only. Also men-

tioned, though less frequently, were courses in advanced algebra, calculus, plane geometry, analytic geometry, and Boolean algebra.

Physics was most frequently mentioned as the essential science. This was followed, in order of frequency, by choices for chemistry, electronics, general science, and biology.

One of the striking factors noted in the responses of the junior college instructors was the lack of agreement as to what constitutes adequate mathematics and science training for the technician. Perhaps this lack of agreement reflects again the lack of a clear-cut definition of the technician—who he is and what he does.

Mathematics and science teaching methods. Approximately 50 per cent of the electronics instructors responding to the questionnaire favored the teaching of mathematics and science in special courses for technicians. Approximately 30 per cent favored training for technicians in regular mathematics and science courses. Only 14 per cent expressed a preference for the Navy "craftsman" method, i.e., incorporating mathematics and science in electronics courses as the need arises.

Some attention to the objectives of mathematics and science courses would appear necessary to ensure that technicians from the various schools are somewhat uniformly equipped in terms of immediate usable skills.

Appraisal of Chemical Technician Training Programs

Since apparently no junior college in California had in operation a formal program for training chemical technicians, it was decided to interview personally representatives of chemistry departments of junior colleges in the San Francisco Bay Area and in the Sacramento area. Contacting these representatives was thought to be particularly pertinent in view of the fact that considerable interest in such programs had been expressed by chemical companies. In all, chemistry instructors in 12 junior colleges were requested to express their concepts regarding the chemical technician and his training. During the interviews the chemistry instructors signified what they regarded as necessary characteristics of the chemical technician and desirable levels of his training, especially the mathematics and science requirements of that training.

A summary of the interview findings follows.

Chemical technician training as a function of the junior college. Opinion appeared equally divided on the question of whether or not junior colleges should offer a special curriculum for chemical techni-

cians. The current absence of such a special program was attributed either to (1) lack of demand by industry or by students; or to (2) failure to recognize a program of this type as a proper educational function of the junior college.

Qualities of a chemical technician as perceived by instructors. Most chemistry instructors considered an intelligence level of merely "average" as essential to the chemical technician. Those who expressed this view stated that chemical technology is not challenging enough for the "bright" individual and that the more intelligent person should be guided toward advanced work and a professional degree in chemistry.

The next most commonly expressed view portrayed the chemical technician as one who had no pronounced ambitions, either for advancement on the job or for higher education. This viewpoint is perhaps a valid one in the light of the chemical technician's limited promotional opportunities, discussed in Chapter III of this report. The present situation in industry may exist, however, because better-qualified technicians are not available. Perhaps the chemical industry has been compelled to depend on "flunk-outs" for their technicians. If abler chemical technicians were generally available, the industry might readily place capable technicians in positions of greater challenge. Representatives of one company, in fact, expressed a preference for Navy-trained electronics technicians, apparently because their purported higher-ability levels enable them to learn rapidly, to work independently and, generally, to develop into excellent chemical technicians.

Other trainee characteristics frequently mentioned by the chemistry instructors as desirable included good work habits, dependability, interest and initiative, ability to get along with others, and good manual dexterity.

All points of view considered, the stereotype of the chemical technician as pictured by the chemistry instructors is not particularly flattering to the technician and is not one that is likely to encourage an able student to choose with enthusiasm the profession of chemical technician as his life's work.

Academic preparation. None of the junior college chemistry instructors professed to regard mathematical skills, beyond those taught in courses from the level of basics through the level of trigonometry, as essential to the chemical technician in his work. A large per cent, in fact, considered one or two years of algebra sufficient for the types of learning and work experiences demanded of this type of technician.

Many of the instructors recommended a basic course in physics and suggested that additional courses in physics would be "nice but not

necessary." A basic course in electronics was also proposed by several of the instructors because, in their opinion, it would give the students a better understanding of the many electronic instruments used in chemical technology.

The emphasis in science preparation, of course, was in chemistry. The majority of instructors would expect the chemical technician to include basic, organic, qualitative, and quantitative chemistry in his program. Some instructors saw no reason for the technician's training to vary from that received by other chemistry students; others contended that the nature of the technician's work warranted a different training approach. Those favoring separate course work for the chemical technician stated that his training should differ from that offered the transfer student to permit greater emphasis on the practical aspects and less on theory. This latter point of view is one that has been strongly expressed by representatives of companies employing chemical technicians.

Morale factor in chemical technician training. A problem of morale became evident in almost all of the discussions with junior college personnel who were concerned with the course training of chemical technicians. This problem appeared to take its rise from a tendency on the part of both staff and students to regard the potential chemical technician as a person having only mediocre ability. He is often regarded as a student who just can't "cut the mustard" in a professional program. Those students, therefore, who withdraw from engineering programs to enroll in courses for technicians tend to view themselves—and to be regarded by others—as "flunk-outs." A number of educators have cautioned that these technical programs must not become or be considered catch-alls or, in Conant's words, "dumping grounds"[3] for students who are thought to be unable to complete other programs. Such negative attitudes serve to discourage many qualified students from undertaking technical training. The result to industry is the loss of a large number of potentially promising technicians.

The military services appear to have avoided problems of this kind in the electronics area. By restricting their programs to students of high academic ability, admission to service schools has become something to be desired. Acceptance for technician training appears to carry considerable prestige value for the serviceman.

Certain junior colleges are presently according more attention to the student-appeal factor in their technical program planning. Technician students in some institutions have been encouraged to establish clubs

[3] James Bryant Conant, in "Education for the Atomic Age." *Collier's Encyclopedia*, New York, 1959.

similar to those formed by engineering students and by students in other groups training for professional careers. Many junior colleges are increasing efforts to keep students better informed of the nature, value, and opportunities of technical education.

It is not yet possible to evaluate significantly the effects of these morale factors on technical education. Additional study in this area might well assist the junior colleges that are engaged in technical education to recruit more effectively the technical student and to take practical steps toward solving his training problems.

Chapter VI

SUMMARY OF FINDINGS AND CONCLUSIONS

This study was designed primarily to illustrate a technique for determining the critical mathematics and science requirements for two groups of technicians—electronics and chemical. However, the technician's identity in the ranks of industry, even within particular companies, could not be conclusively established from the available data. The exploratory nature of this study, therefore, should be recognized and its findings and implications interpreted somewhat tentatively. On the other hand, despite the difficulties encountered in defining sampled populations, the consistency of data collected from the various plants and the rather clear picture that emerged in analyzing these data suggest that certain findings may be widely applicable.

EFFECTIVENESS OF THE CRITICAL INCIDENT TECHNIQUE

Since one of the major purposes of this study was to demonstrate an approach to the problem, a comment regarding the use of the critical incident technique should be in order. The technicians involved in the study project submitted some usable reports of incidents; and, although the number of the reports was quite small, the technique appears to be a valuable one for obtaining information of this kind. However, it is recommended that, in future studies of a similar nature, this technique be used only in an interview situation, limited either to individuals or to small groups of not more than 10 persons, rather than by means of a questionnaire distributed throughout the plant. In this way responses could be clarified and assistance given to those having difficulty in completing the questionnaire. This recommendation is in keeping with the findings reported earlier by Flanagan. (See Chapter II, page 8.)

ARE MATHEMATICS AND SCIENCE SKILLS BEING UTILIZED?

The data gathered in this study would, with few exceptions, strongly support the conclusion that high-level mathematics and science skills are not used by electronics and chemical technicians in the performance of their jobs. The wide variety of educational backgrounds reported,

ranging from high school training through four years of college preparation, would indicate that the need for advanced formal training in mathematics and science is not crucial. The limited numbers of critical incidents reported and the elementary nature of the skills involved in the incidents would also indicate that high-level mathematics and science skills are not essential for satisfactory performance as a technician. Moreover, the opinions expressed by a large number of training directors tend to confirm these findings.

The findings of this study suggest that industries are not fully utilizing the skills of the men who are available to them. Many technicians have had mathematics and science course work extending far beyond that required for their job performance. Interestingly enough, a large proportion of the technicians are seeking to improve their skills through additional course work. Thus industry would seem obliged to consider seriously whether or not more efficient use can be made of the technical skills available.

It may be readily inferred from a study of hiring specifications written by various companies that industry, particuarly in the electronics field, is seeking personnel with much higher mathematics and science attainments than the positions actually demand. Although no data explaining this practice were gathered, it appears likely that the prescription of these skills is intended, partially, as a screening device. It may be reasoned that an applicant, having successfully completed higher mathematics and science courses, has demonstrated that he possesses a fair degree of intellectual ability. If such a hypothesis is correct, it would seem appropriate to consider the use of screening devices other than those involving technical skills—tests such as those that measure scholastic ability.

The foregoing is not offered to imply the absence of valid reasons for seeking manpower skills in excess of job requirements. It might be shown, for example, that technicians possessing advanced formal training are more adaptable to rapidly changing conditions in the technological fields. Whatever reasons exist, however, should be declared. An open differentiation in terms of skills actually needed and skills of potential usefulness might possibly dispel much of the confusion now evident in areas of technological curriculum planning. It might be appropriate to add that difficulties created by the lack of such differentiation are by no means unique to the technical field. They are also characteristic of many professional curriculums such as medicine, engineering, and psychology.

RELATED PROBLEM AREAS

A number of other problems worthy of consideration, not only for their relationship to study objectives but also because they affect the nature of technician training programs, were discerned during the collection of the data. These problems are identified and briefly discussed here with respect to their more challenging aspects and probable future effects on the development of technical education.

Who Is the Technician?

The first of these problems concerns the need to define the technician. As indicated in various sections of this report, no one seems to know who the technician is or exactly what he does or should do. Consequently, he is the subject of a broad variety of descriptions among industries and even within particular plants. Inability to define the technician clearly is reflected in the failure of various committees to agree on apprenticeship requirements for the relatively new occupation of industrial technician.

How can training programs be realistically established under such conditions? It appears that, even though many of the technicians are not highly trained, the mathematics and science skills they do possess are often not fully utilized. Would the task of the technician be materially altered should he be shown capable of functioning at higher than present levels? If so, then is it the job of the junior college to determine the level of skills to be possessed by its graduates? For example, should the level of mathematical skills be raised by prescribing calculus as a graduation requirement for all technical students, with the expectation that industry will find a way to use such skills? Should industry define the levels needed to perform the job and expect the training institutions to conform accordingly? Or is there some logical basis, apart from job requirement considerations, for specifying certain skills?

Without doubt, this problem must be approached co-operatively by industry and by training institutions. Certainly the work of the technician needs to be specified before meaningful training curriculums can be devised. One of the major reasons for the success of military technical training schools was traced by the study findings to the practice of accurately specifying the nature of the job to be done, thus making it possible to custom-build a curriculum.

The investigators are of the opinion that, for the most part, training curriculums in the junior colleges have not been developed from job descriptions of either the electronics or the chemical technician. Indeed,

as already indicated in this report, sufficient information has not been available to permit a basis for curriculum development in this manner. Rather, a need is expressed and then a course is added, purportedly to meet this need. Apparently very little attention has been devoted to curriculums for the chemical technician. For the most part, he is limited to a program of courses designed, typically, for the college transfer student. Thus the would-be chemical technician knows a limited amount of chemical theory but very little about laboratory technique, which is usually offered in upper-division courses. It may be worth while seriously to consider adopting for both groups of technicians a more integrated approach to training, such as the "craftsman" method of the Navy Class A electronics schools.

Junior College Selection Difficulties

A second problem concerns the selection of students for technical training. Probably a primary reason for the success of service schools lies in the practice of admitting only top-level students, academically, to classes in technical course work. Junior colleges, on the other hand, have done very little preselection. This was reported as one of the serious shortcomings of junior college programs by instructors of their electronics courses. Apparently the difficulty lies partly in the necessity to have at least an assured minimum enrollment before a class can be offered. The consequent admission of low-ability students to meet initial enrollment quotas was reported, therefore, as seriously lowering the level of instruction. Perhaps some degree of specialization among junior colleges is necessary in order to assure an adequate supply of academically able students for the technical curriculums.

Morale Among Chemical Technician Trainees

Problems of morale and status, particularly in regard to the training of the potential chemical technician, appear serious enough to warrant consideration. The practice of encouraging able students to transfer to four-year colleges and counseling those unable to earn transfer grades to become chemical technicians seems to prevail among the junior colleges covered in this survey. Consequently, courses tend to parallel university offerings. According to representatives from the chemical industry, this practice contributes to a condition in which a considerable number of employees are both disgruntled with their lot and poorly prepared for the laboratory requirements of their work. A tendency among instructors to down-grade the status of students majoring in chemical technology must surely have an effect upon the way these

students perceive themselves. In contrast, the electronics student is encouraged by his instructor's enthusiasm and perception of electronics education as a proper function of the junior college.

As it was borne out earlier in this report, chemical technology jobs appear to be in a "dead end" category. Opportunities for promotion are limited. Contrariwise, the situation appears decidedly more attractive for electronics technicians. Jobs for those in the latter group are seen to offer many opportunities for advancement, and college electronics training courses occupy a higher status, relatively, than do offerings in chemical technology. Differences between the two occupations in opportunity and status suggest potentially serious job-adjustment problems.

Inadequacy of Chemical Technician Training

Industrial representatives interviewed in this study said that there is a definite need for a limited number of chemical technician training programs. Before adequate programs in chemical technology can be developed, however, a reorientation in the attitudes of junior college chemistry instructors may be necessary. That these instructors should perceive thorough training in chemical technology as a legitimate obligation of the institution appears necessary when one considers the vocational objectives of two-year technical programs offered by junior colleges. It is certain that the graduates of any junior college program involving training in chemical technology must know laboratory techniques and be reasonably skilled in applying them. At the present time, persons with only two years of preparation in junior college chemistry are thought to be so lacking in laboratory skills that one chemical firm prefers electronics technicians from Navy schools to junior college chemistry graduates. This firm reports that the Navy school graduates know laboratory techniques quite well and can learn the chemical skills necessary for company operations within a relatively short time. Here again, there is a need for close working relationships between junior colleges and industry if realistic training programs are to be developed.

Career Guidance Deficiencies

A last point concerns the need for career guidance in technical fields. The satisfactions to be realized by the technician from work in electronics, as compared to those in chemical technology, appear of widely differing character. Such a comparison suggests the desirability of fully apprising students who are ambitious for job placement of

the limitations currently existing in many chemical companies with respect to on-the-job opportunities for the chemical technician. Also there appears to be a need for a greater amount of valid information concerning the importance and the roles of technical occupations in our American culture. Much of the current literature on this subject has been developed mainly for recruitment purposes and, as such, frequently lacks the objective detail that is required to portray technical opportunities (1) in clear perspective; and (2) in proper relationship with other fields of endeavor.

There is no conceivable reason for either the student or members of the school staff to regard entry into a technical area of study as other than "respectable" when the student's decision is motivated by an anticipation of greater personal satisfaction from the applied aspects of technology than from the theoretical aspects of engineering. Unfortunately, unbiased information of the type permitting counselors to assist students substantially in making enlightened choices among the technical occupations is not now generally available. Perhaps studies such as this one will stimulate future exploration for the additional information that is so greatly needed to assess and to improve this very important segment of the occupational world.

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20692 6-60 6M

VT 004 399

Implications of the Richmond Plan, Pre-Tech Labs and the Comprehensive Secondary School.

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Educational Facilities Labs. Inc., New York, N.Y.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 64 42p.

*EDUCATIONAL FACILITIES; *COMPREHENSIVE HIGH SCHOOLS; *PRETECHNOLOGY PROGRAMS; SCHOOL PLANNING; GRADE 11; INTERDISCIPLINARY APPROACH; LABORATORIES; GRADE 12; PROGRAM DESCRIPTIONS
RICHMOND PLAN; RICHMOND; CALIFORNIA

The purpose of this report was to consolidate the experience and implications from the Richmond Plan into a recommended approach to planning physical facilities for a comprehensive secondary school. The Richmond Plan is an interdisciplinary approach to pre-technological education which has been in operation in 2 high schools since the fall of 1962. The Plan involves integrated study in English, mathematics, science, and pre-technical laboratory and is considered a third "educational track" or alternative to the traditional college prep or industrial arts curriculums. Facility recommendations are presented for space and equipment requirements, and the relationship of the Richmond Plan to the traditional comprehensive school is discussed. Schematic plans for an interdisciplinary comprehensive high school, a technology center, a family life center, a scientific center, and a large group instructional center are given. The concepts of interchange, input, output, focus of attention, withdrawal function, and vehicles of memory are discussed as they apply to facility planning. Background information on the Richmond Plan is also included. (EM)

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IMPLICATIONS OF THE RICHMOND PLAN,

PRE-TECH LABS AND THE COMPREHENSIVE SECONDARY SCHOOL,

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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INTRODUCTION

This report has been prepared for the Richmond Schools by Daniel, Mann, Johnson, & Mendenhall, architects, engineers and planners, for the purpose of consolidating the experience and implications derived from the Richmond Plan into a recommended approach to physical facilities in a comprehensive secondary school program.

Consultants contributing to the report are the School Planning Laboratory of the Stanford University School of Education; James D. MacConnell, Director.

The study has been financially assisted by a grant from Educational Facilities Laboratories, Inc. to the Richmond Schools. EFL has taken an interest in this program since 1963 in conjunction with its general interest in vocational and technical education. EFL represents one of the levels of interest in education, that of physical plant and equipment, of the Ford Foundation.

Material incorporated in this report is derived from material assistance and consultation from the Richmond School staff: Dr. James L. Merrihew, Superintendent; Dr. W. W. Snodgrass, Deputy Superintendent; Dr. Robert J. Griffin, Assistant Superintendent, Instruction; George F. Chambers, Supervisor, Industrial Arts.

Further invaluable assistance has been rendered by the Planning Project for the District, initiated under the auspices of the Cogswell Polytechnical College and continued by the Educational Facilities Laboratory. Serving on this Committee were William Plutte, Principal of De Anza High School; John Briscoe, Science, De Anza High School; Robert Craig, Pre-Tech, De Anza High School; F. Reginald Dunning, Pre-Tech, Harry Ells High School; Emmett O'Neil, Science, Harry Ells High School; and George Chambers, Coordinator.

PREFACE

The changes taking place in American Education today, and the even more dynamic changes that are appearing on the horizon, affect its housing to an extent that is stimulating educators, administrators and architects who feel a responsibility for better accommodating these curricular changes.

One objective of this project is to develop guidelines in the programming, planning and design of a special senior high school facility based on the Richmond Plan.

One of the most significant developments in contemporary education is the expanding utilization of new learning media, including the use of films, slides, tapes and miniaturized audio-visual equipment appropriate for individual instruction materials. The possibility of using these media as well as the encouraging of designing of new media equipment has real meaning for these educational facilities and buildings required for the Richmond Plan.

Another objective of this proposal is to highlight those facilities in which new and commonly used media are utilized for learning.

The majority of today's Secondary Schools seem to be constructed on the organization pattern of teaching 25-30 students in a group, under the tutorage of one teacher.

Current needs and innovations are not being reflected in current, as well as anticipated school buildings.

A third objective is to identify trends and anticipated needs in the utilization of media that will affect future school facility needs as outlined by the Richmond Plan.

As educators reflect on their past successes and failures in planning curriculum and facilities to accommodate these programs there is often a desire to profit from these experiences and build upon them. This in essence is the philosophy expressed in the Richmond Plan which exhibits a keen desire to better educate a group of students who have demonstrated achievement under a quite different organization pattern. It is hoped that these achievements demonstrated to date can be accellerated as tailored facilities are planned for, and constructed.

James D. MacConnell
Professor of Education & Director
School Planning Laboratory
Stanford University

SUMMARY

The Richmond Plan, a "third track" team-teaching pre-technology program for 11th and 12th grade high school boys, has been in operation in two high schools, De Anza and Harry Ells and has produced excellent results.

The plan has succeeded in motivating "average learners" who were having difficulty in traditional college prep curriculums and has graduated two classes of technicians prepared for advancement in technological fields either in industry or in technical schools or colleges.

The course is essentially an extension of a science curriculum which integrates the areas of mathematics and English as reinforcement to form a total educational experience.

The physical core of the plan is the Pre-Tech Laboratory, an area where students may explore physical principals by constructing practical examples demonstrating these principals. By necessity the program to date has had to use facilities borrowed from the industrial arts department for this purpose. These areas were not planned with any such interdisciplinary activity in mind and consequently do not provide the best facilities for such an integrated program.

The two years experience with the program to date has convinced the Planning Committee of the validity of planning a distinct Pre-Tech Laboratory complex which will reflect and serve the interdisciplinary nature of the plan. Such a facility would have value not only to the program itself, but to other departments as well.

This facility could be integrated in a comprehensive high school and planned so that its activities would include courses for girls as well as boys, such as courses relating to homemaking and foods, cosmetology, and other areas where women technicians are in demand.

In addition, as the number of high schools in the Districts increases, consideration should be given to a Pre-Tech Center serving many schools. This would permit expenditure in space and equipment which could not be justified in a single school.

Facilities planned for this purpose should have the quality and atmosphere of a modern industrial research and development center. Equipment and furnishings should likewise be of industrial quality. The facility should give first-rate status to the pre-tech program as clearly divorced from the traditional industrial arts track.

However, the strongest implication of the success of the Richmond Plan is that this application of interdisciplinary team teaching, combined with a technically oriented educational program and flexible plant facilities, leads to a reconsideration of the entire secondary school plant. Guide lines for a school which will implement this program are developed in this report.

THE RICHMOND PLAN

A. Background

The pre-technology program, which has become known as the Richmond Plan, was introduced as a pilot project at De Anza and Harry Ells High Schools in the Richmond Union High School District in the Fall of 1962, and is being expanded to the other secondary schools in the District.

The plan is the culmination of a series of study projects sponsored by the Richmond City Schools and the Cogswell Polytechnical College with the assistance of a grant from the Rosenberg Foundation of San Francisco, with later extended assistance by the Educational Facilities Laboratory.

B. Objectives

The objectives of the program are two fold:

1. To provide training which will prepare students for advancement in technological fields as technicians.

2. To provide motivation for "average learners" not eligible for or not thinking about university training.

Mr. Claude Segre, writing in the Wall Street Journal, states:

> "Educators here see this approach as a possible answer to two closely related national problems -- widespread unemployment among unskilled teenagers and a shortage of skilled technicians."

The objective is to create a "third track", an alternative to the traditional college prep or industrial arts curriculums. The plan is intended to avoid the pitfalls of many vocational tracks which concentrate on skills which often become technologically obsolete. It is also intended to give status to the program as an extension of physics and engineering and to avoid stigma of "second class citizenship" often associated with industrial arts.

C. Curriculum

"The plan is an interdisciplinary enterprise involving close articulation between subject matter content in English, algebra-trig, physics-chemistry and tech-lab. The teachers participating in the program are members of an interdisciplinary instructional team whose every activity in the classroom is also closely articulated with the activities of all other members of the team. Innovations to bring about the highest possible learner motivations are in constant use. Revisions of techniques and content are also being evaluated, developed and applied to the learning situation."

Thus, the De Anza team has described its activities to the Planning Committee.

The technical laboratory, by definition and function, is a testing area which illustrates the theories and principles taught in traditional physics and chemistry classroom presentation. It is not a duplication of the traditional scientific experiments nor is it skills course. The success of the tech-lab is developed through "support areas" in close proximity to the activity area. The tech-lab is in effect an applied science and mathematics laboratory providing facilities where demonstration apparatus, large scale "pilot plant" applications of scientific principles and studies in the nature of materials, mechanical systems and electricity may be conducted. The students are encouraged to demonstrate in greater depth the concepts covered in physics, chemistry and mathematics.

A simple example is study of the inclined plane. The tech-lab course would build the inclined plane. The physics class and the math class would develop the problems to be studied and their solutions. The English class would be involved with the write-up and documentation of all experiments and conclusions to be drawn from the exercises.

Another example quoted in the Wall Street Journal:

> "In a Physics class, for example, tech pupils study the laws of gravity and motion by observing pendulums which they built themselves in the lab. In Math they develop the equations and formulas which describe a pendulum's movements. And in English they write compositions and give oral reports on their lab reports."

The study of sound is practically related to the phonetic alphabet as well as to engine mufflers. The study of speech is analyzed by the use of oscilloscopes, with well prepared and well delivered short talks by the students as primary end requirements.

When a teacher needs new demonstration equipment, a new application or a new instructional system he is free to engineer it. If it is new he will submit it to the staff for program-wide screening. After the proposal has been accepted by the instructional staff, it becomes a common problem for all members to add details for articulation.

D. Achievements

To quote De Anza's principal Plutte: "When we pick these students we're not even sure if they'll graduate from high school."

Yet in the two years of operation of the plan there have been only 3 dropouts from the group of 60 students in the program.

Further there were 20 honor students at De Anza alone in four (4) semesters. To quote principal Plutte: "during the first year of the plan, eleven of the thirty boys made the honor roll, and I'll bet it's the first time for all of them."

Since this report is written less than one semester after the first graduating classes, it is difficult to make any long-range evaluation of results.

However, a representative graduating class, from Harry Ells School, showed that the first Richmond Plan graduates were distributed as follows in the Fall:

One (1)	-	Armed Forces.
Fourteen (14)	-	Junior College.
Three (3)	-	Polytechnic College.
Two (2)	-	In Universities.
Five (5)	-	Technical Employment.
Three (3)	-	Non-Technical Employment.
One (1)	-	Unemployed.

Students enrolled in schools are enrolled in the following programs:

Four(4)	-	Electronics.
Three (3)	-	Architecture.
Four (4)	-	Business School.
One (1)	-	Chemical Technology.
Six (6)	-	Engineering.
One (1)	-	Agriculture.

The results so far indicate an outstanding success in providing motivation to the Richmond Plan students and in developing students and citizens adaptable to today's social and economics needs.

The District is maintaining contact with these graduates and will make periodic evaluation of the results in order to guide the future course of the plan.

E. Method of Operation

There are slight differences in the method of operation of the Richmond Plan as applied in the two schools to which it has been longest applied. Plans of these schools and class schedules are illustrated for reference.

1. De Anza High School

The physical arrangement at De Anza High School lends itself well to adaptation for the program.

As shown on the illustrated plan, the school's industrial arts shops are located in the same building as the Science Rooms. By appropriating an end of the auto shop as a project area, and occasional borrowing of space and its equipment from the metal and wood shops, something approximating a pre-tech central facility has been created as far as this school is concerned.

The dynamics of the program are such that when all of these spaces are available they are frequently all used at one time by the pre-tech group.

The small classroom adjoining the tech-lab is of considerable value to the program in permitting small group instruction and individual desk space for report annotation and preparation and reference study.

The conduct of the program at De Anza has been very self-identified, almost approaching a school-within-a-school. The boys have blazers with a "tech" insignia. Their class stays together as a group for most subjects.

2. Harry Ells High School

The facilities at the Harry Ells High School are not so fortunately located as those at De Anza and whether for this reason or others, the program does not have the same intense identity. This, however, is merely a matter of degree, as objectives, curriculum procedures and results are identical.

In the non-tech classes at Harry Ells, the tech students are more dispersed.

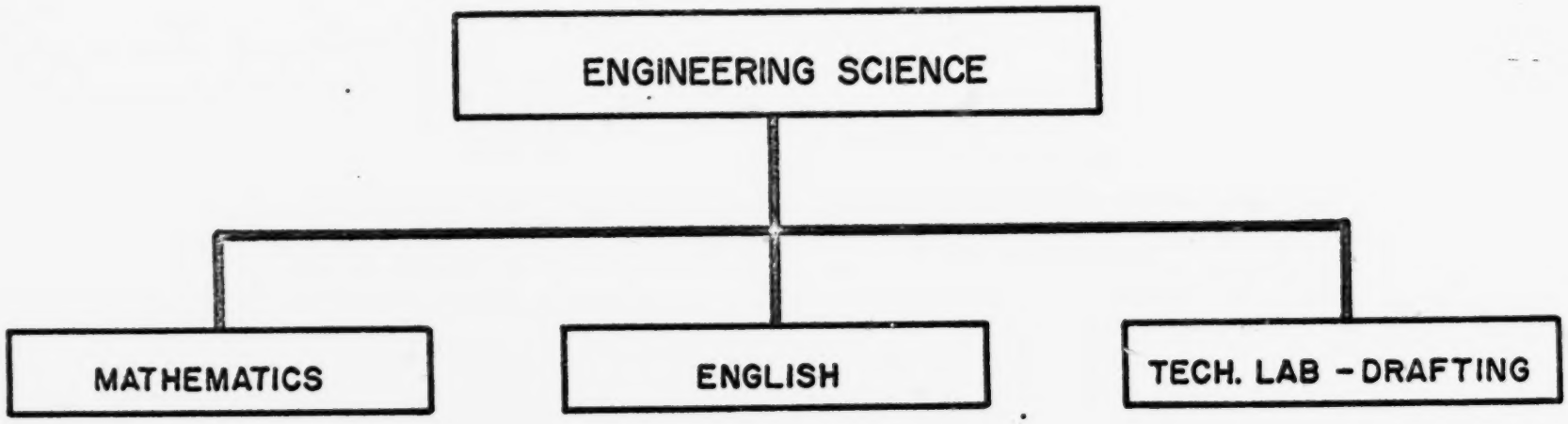
The tech-lab subjects at Ells are taught in the metal shop. This is a relatively spacious building and allows for special project construction and display which is distinctly related to the pre-tech program. Otherwise, classes are taught in conventional classrooms throughout the campus.

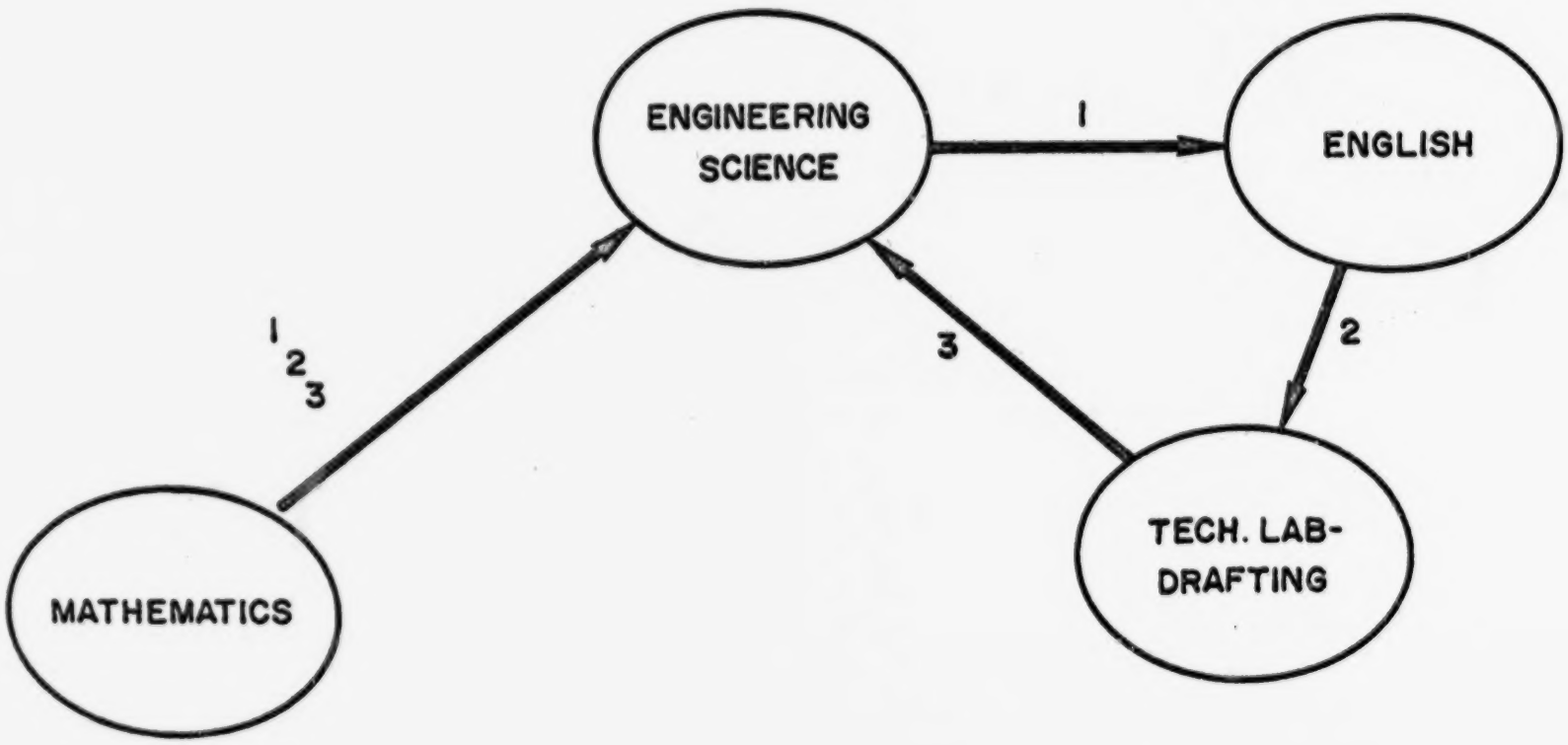
3. Other Schools

The program is presently being introduced in other high schools in the District. There has been little change made in physical plant. However, in the two new high schools being planned there is a sizeable space set aside in the Industrial Arts area for the pre-tech lab.

PROJECT FLOW CHART

RICHMOND PLAN





De ANZA HIGH SCHOOL
Pre-Tech Class Schedule 1964-65

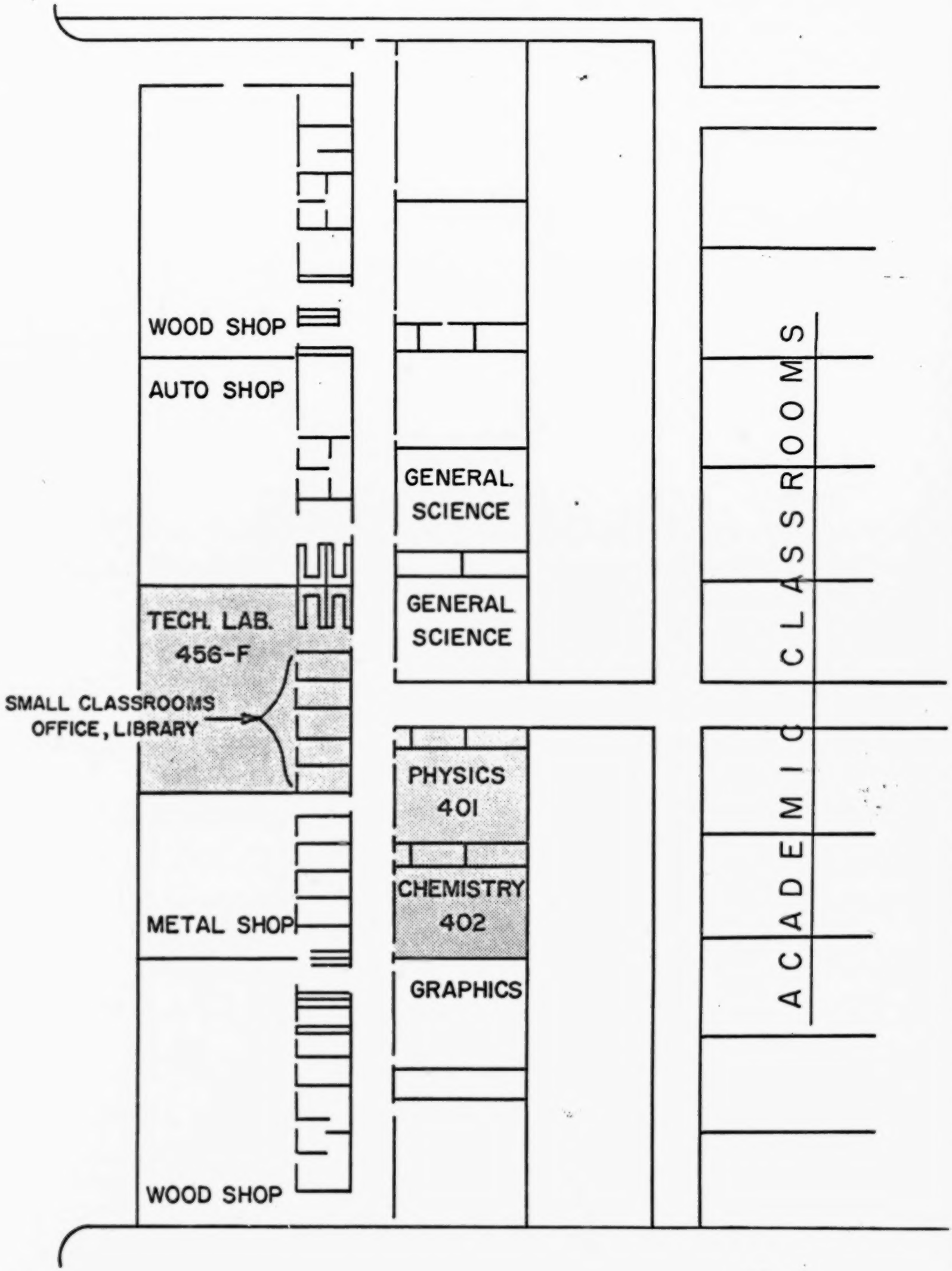
11th Grade

Period	Subject	Teacher	Room
1	Physical Education	Mr. Gruess	
2	Tech. Lab.	Mr. Craig/Briscoe	456-F
3	U. S. History	Mr. Hurley	104
4	Lunch		
5	Physics (T)	Mr. Agnello	401
6	English 3 (T)	Mr. Hurley	104
7	Algebra	Mr. Kelly	110

12th Grade

Period	Subject	Teacher	Room
1	Tech. Lab.	Mr. Craig/Briscoe	456-F
2	English 4 (T)	Mr. Howe	301
3	Chemistry (T)	Mr. Briscoe	402
4	Lunch		
5	Physical Education		
6	Trig (T)	Mr. Kelly	110
7	American Government	Mr. Evans	201

DE ANZA HIGH SCHOOL



HARRY ELLS HIGH SCHOOL
Pre-Tech Class Schedule 1964-65

11th Grade

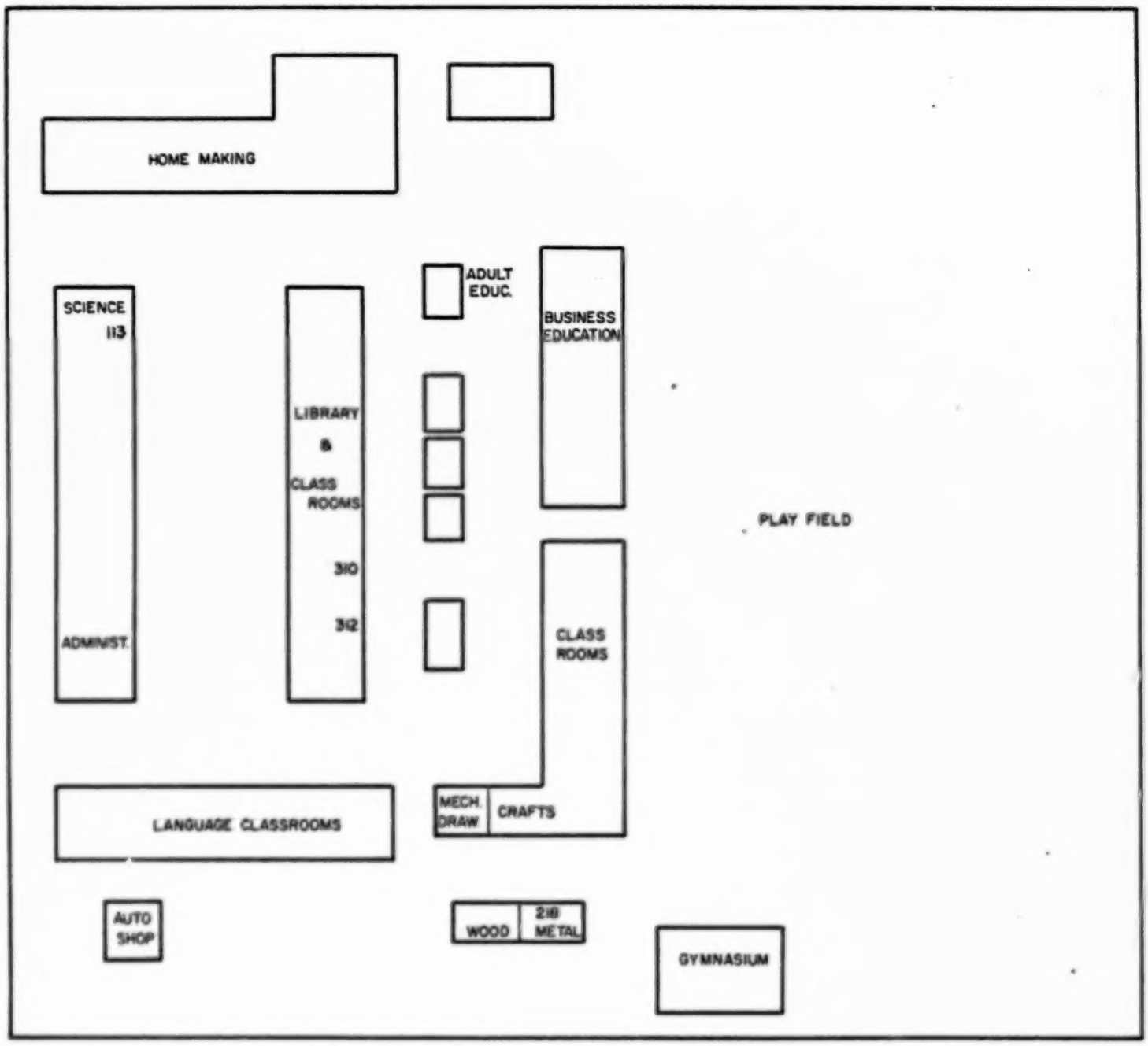
Period	Subject	Teacher	Room
1	Tech. Lab.	Mr. Dunning	218
2	English (T)	Mr. Woodson	312
3	*		
4	*		
5	Physics (T)	Mr. Yee-Lit	113
6	Algebra (T)	Mr. Baughman	310
7	*		

12th Grade

Period	Subject	Teacher	Room
1	English (T)	Mr. Dyers	211
2	Tech Lab	Mr. Dunning	218
3			
4			
5	Trig (T)	Mr. Baughman	310
6	Chemistry (T)	Mr. Yee-Lit	113

* Dispersed in Physical Ed and Social Studies Classes.

HARRY ELLS HIGH SCHOOL



RECOMMENDATIONS - CURRENT PROGRAM

The recommendations developed herein are based upon the minutes and reports of the Pre-Tech Facilities Planning Project, consisting of interested staff in the Richmond Schools and supported by an E. F. L. grant. They are based upon extending the present program into new and existing comprehensive high schools.

A. Space Requirements

1. Machinery Laboratory

The pre-tech lab functions as an extension of the Physics Lab where students may explore to greater depth those concepts covered in physics, chemistry and mathematics. Equipment usage andskills are learned on industrial type equipment rather than small unrelated laboratory type objects.

The machinery laboratory portion of the Pre-Tech Lab. contains areas for working in metal, wood and sheetmetal. These may or may not be separated shop areas.

2. Electronics or Systems Laboratory

This area, suitable for radio and television projects and for electronic study and testing may also contain hydraulic and fluid systems equipment. It would be desirable for this area to be sound isolated for audio scope use and electrically shielded as with copper screen, particularly from arc-welding equipment.

3. Science Laboratory

The science lab. should provide for basic demonstrations in Physics and Chemistry, with adequate space for material testing. It would be desirable for this area to be located close to or connected with other science areas.

4. Mathematics and English

Although the same type of space is required for instruction and practice in mathematics and English it is possible that conflicts in scheduling would make it desirable to have two stations for these purposes.

4. Mathematics & English (Continued)

The combination of mathematics with drafting and graphics appears practical. In effect this would lead to two areas, one for drafting tables and the other a lecture style space; spaces can be used interchangeably for all technical communications purposes.

5. Projects Area

The Projects Area, called by the committee by various titles, unifies the Pre-Tech Lab and is the working demonstration area where final projects are developed. This requires good access to material storage, delivery and outside yard area. It would be desirable to dramatize and emphasize the pre-tech program by relating this area to a display area in such a way that other students may "watch the projects grow" and remain informed of the pre-tech activities.

6. Library, Offices and Other Areas

Since team-teaching is of the essence of the pre-tech program it is desirable to have a meeting area large enough to accommodate the staff. This could probably double as a reference library.

Good washing facilities will be required and student material storage.

7. General

Visual supervision between areas should be provided as much as possible. Science and Communications areas should be windowless for audio-visual and light experiment reasons. Working areas where tools are used extensively should have wood-block floors. Some earth floor should be available in the projects area and the outdoor area.

However, carpeting and furniture designed for the real need of pre-tech students should be employed in the communications area, library and circulation areas. A well designed color relationship should be developed; the overall atmosphere similar to that of modern industrial technical laboratories.

B. Equipment Requirements

1. Machinery Laboratory

General machinery and equipment for metal and woodworking are required, mostly of industrial type. The quantity of lathes, sanders, shapers, etc. can be less than in specialized vocational shops since projects are more varied and machinery training routines less intensive than in vocational tracks.

2. Electronic or Systems Laboratory

A variety of testing equipment such as oscilloscopes and capacitor testers, and A.C. and D.C. variable power supplies will be required. Optical and photographic equipment and a fluid power hydraulic unit are recommended for this facility.

3. Science Laboratory

A general science demonstration station should be augmented by scales and testing equipment for non-destructive and destructive material testing.

4. Mathematics, English and Communications

Audio-visual aids such as motion picture and overhead projectors and screens should be readily available. Drafting tables may be desirable in the mathematics area, and demonstration slide rules.

Generous use should be made of chalkboard, tackboard and display devices. Of most importance is the adaptation of such space to advanced audio-visual techniques.

5. Project Area

This area is conceived as a pilot bay where varieties of projects may be constructed. It should be well supplied with power and other utilities yet be capable of conversion to accommodate work on automobiles, engines, pendulums, structural frames by individuals and small groups.

6. Library and Office Equipment can be minimum, but should include reference shelves, which can be locked, a typewriter and duplicating machine. Audio-visual equipment should be in a locked storage area, but readily available.

C. Relationship To the Traditional Comprehensive School

The Planning Committee for the Richmond Schools Pre-Tech Project involved representatives of the various academic disciplines in a consultative capacity. Almost unanimously, they felt that the subjects of English, physics, mathematics for the track should have instructional areas as a part of a pre-tech complex. Particular emphasis was placed on the program being essentially an extension of physical science.

Further it was felt that the academic disciplines could utilize the pre-tech facilities themselves to augment their programs. Equipment and demonstration facilities in the tech-lab would enrich the programs in science, mathematics and English.

It was recommended that there should be a close physical relationship between the pre-tech facility and both science and industrial arts areas. As the program is broadened this relationship can be extended to homemaking, business education, and many other areas.

In order to use the teaching spaces required for the pre-tech activity in an efficient way with respect to a comprehensive school it appears inevitable that a flexible scheduling technique be employed. This would permit longer laboratory periods when required by more complicated projects and encourage the use of the space and equipment by college preparatory, pre-engineering and other related classes. Also, as a pre-tech student develops academic confidence and satisfactory work habits the flexibility of scheduling can permit him to pursue individualized projects related to his personal abilities to a greater degree than would be possible under a rigid schedule.

THE INTERDISCIPLINARY COMPREHENSIVE SECONDARY SCHOOL

A CONCEPT

Extending the principles of the Richmond Plan into new fields and exploiting the many new devices and new educational trends to the utmost has led the Stanford School Planning Laboratory, the Richmond Staff and the Architects to a broader concept of a framework for a secondary school plant.

A school building is essentially an enclosure drawn around the people and the process it is to contain. There was a time when the task of designing a school was more simple than it is today. The world is changing rapidly, and the effect of those changes inevitably touches the nature of the education in a school and influences the people who teach and learn there. In recent years, the pace has quickened. The forces influencing education have proliferated so rapidly that many old formulas and old designs are no longer adequate.

The facilities can enable the functioning of an interdisciplinary enterprise involving close articulation between subject-matter content in language arts (reading, writing, etc.) mathematics (arithmatic, new math, algebra-trig, etc.), chemistry and physics and the tech-labs (manual applications of concepts). Close proximity should increase the above articulation. Flexibility becomes the key word. Flexibility which enables program changes. Instantaneous, hourly, monthly, or yearly flexibility will enable the members of the interdisciplinary instructional team to meet the short attention span, the necessary varied teaching techniques, etc.

Education involves people and things. The design of space in the pre-tech centers and the educational tools and furnishings in that space must be based on a knowledge of how these students and the things of pre-tech education relate to each other, and how they best function together.

If not identical, at least general patterns do exist in the relationship of the pre-tech student, interdisciplinary instructional team, and the comprehensive school:

First, there are patterns of groupings and movements of the students and teachers within the school according to the age and/or mental advancement of the student.

Second, there are patterns of teaching-and-learning techniques related to group sizes.

Third, there are patterns of space requirements directly related to the logistics of group sizes and furnishings.

The way these patterns are formed distinctly affects the facilities and design of secondary school to serve the pre-tech program and to accommodate the teaching - learning process.

Tomorrow's pre-tech program in the secondary school will take into account the current concern to increase student-teacher contact and student contact with the physical or applied applications of knowledge.

The student will carry more responsibility for self-initiative, as he will when he goes into industry. His motivation toward accepting this responsibility will be encouraged by increased success of applied knowledge, small group instruction or lecture, and counsel.

As has been demonstrated at Richmond by re-adjustment of the grouping pattern, the interdisciplinary instructional team will meet with more students and still have time for small group instruction and preparation of lessons. With the help of electronic devices, television, tape decks, etc., expert teachers will be shared by more pre-tech students.

Rooms equipped with many special teaching aids, for one or more subjects, will be used in each center as a base of operations for teachers and students. Specialized teaching equipment and spaces as well as more specialized teachers from industry on a part-time basis are more distinctly required at the pre-tech centers.

A limited evaluation of the Richmond project suggested an indication of greater success when the students were brought together and when the students could identify with the program (and through the program with the school).

This pre-technical program has been adapted to the comprehensive senior high school program and has identified such areas as similar to that of modern industrial technical laboratories. These pre-technical programs demand constant re-evaluation and new equipment which places a greater demand upon (1) the flexibility of the facilities to expand and contract and (2) the flexibility of the facilities to enable the instructor at a moment's notice to move from a lab. to a lecture and back again in order to encourage learning of concepts through physical contact.

The program planning requires:

a. Machinery Lab. (metal, wood and sheetmetal). Concepts in these practical labs are covered in physics, chemistry and math.

b. Electronics or Systems Lab. (arc welding, audioscopes, fluid systems and electronics). Concepts from math, language arts and science).

c. Business Education Lab. (common experience in business and merchandising).

d. Family Life Lab. (home living, child care, etc.).

e. Science Lab. (chemistry and physics). Practical science problems. Use common science project storage and supply.

f. Mathematics and Language Arts (drafting and graphics). Use practical math experiences and applications.

g. Project Area. (work demonstration area).

h. Offices, Library and Conference (joint-use possible).

i. General Areas. (large group instructional area).

An interdisciplinary approach of subject areas with laboratory experiences will increase the effectiveness of the program. A lecture/lab. approach is suggested to meet the short attention span for learning and to apply immediately the concepts to the concrete applications.

For Example:

Electronics may include math, language arts, science, radio and television, hydraulics and vacuum, micro-wave, computers (from simple to complex), fabrications (shared with machine shop and metals), chemical fabrications (shared with chemistry), assemblies (including chassis), and electrical engineering and electronics instrumentation (shared with chemistry).

From this example an interdisciplinary approach is possible. However, it places upon the facilities certain requirements as to function and form that should be considered in the programming, planning and design of these special and unique facilities.

These considerations have led all of those concerned to a concept of relationships which may be used as guide lines to expand the application of "Richmond Plan" thinking, educational organization and achievement to the Comprehensive High School as a whole.

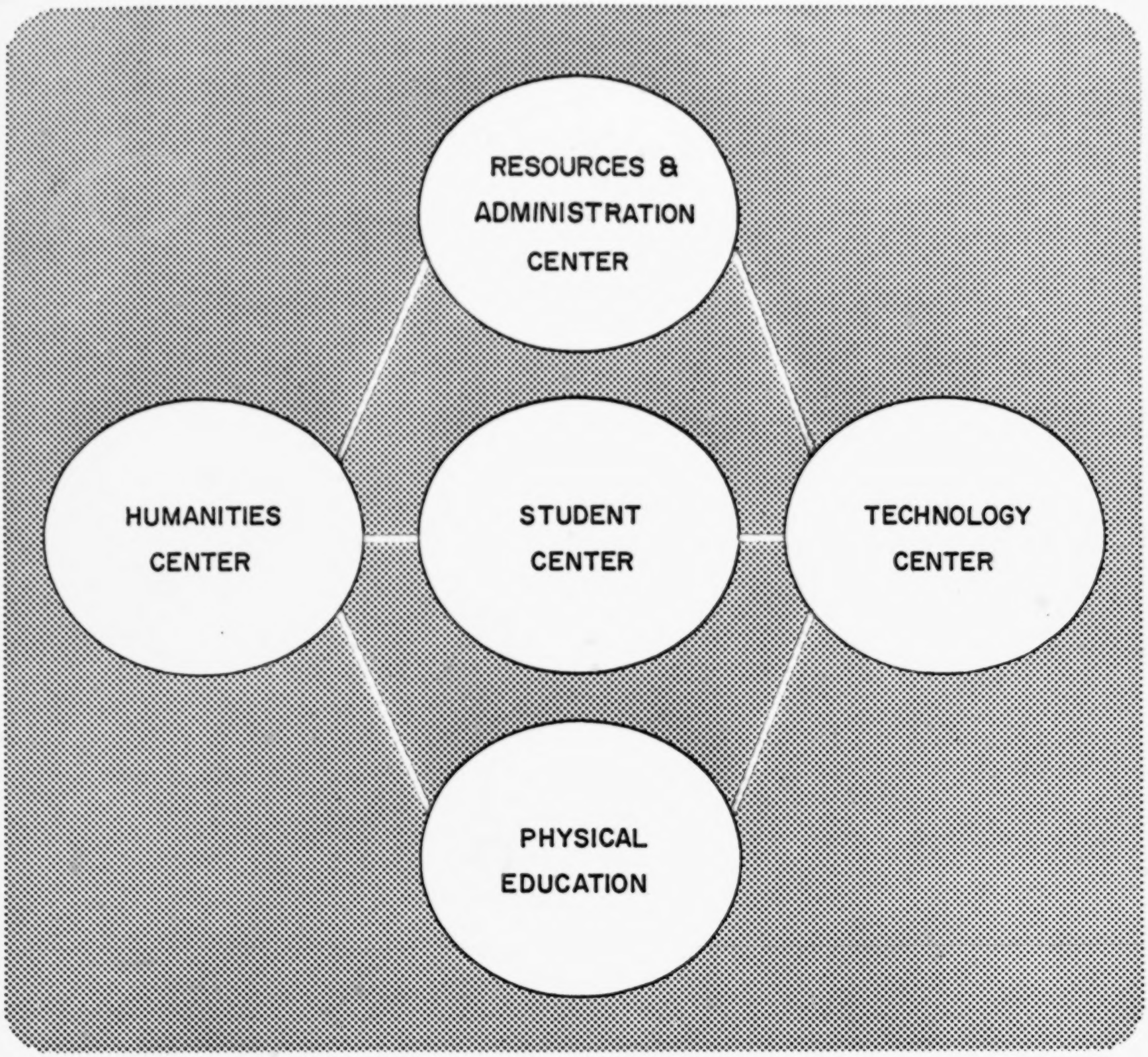
The plant gravitates about two courts or centers, the Technical Center and the Humanities Center. Each is flexible and interdisciplinary in character. Within the Technology Center science-based programs for boys and girls are developed around central project mock-up and display areas. The Humanities Center follows patterns already developed in team-teaching schools. The unique quality of this concept is the integration of the disciplines to achieve motivation such as that achieved by the Richmond Plan.

Following are suggested space relationships having as a central theme the Pre-Tech Lab.

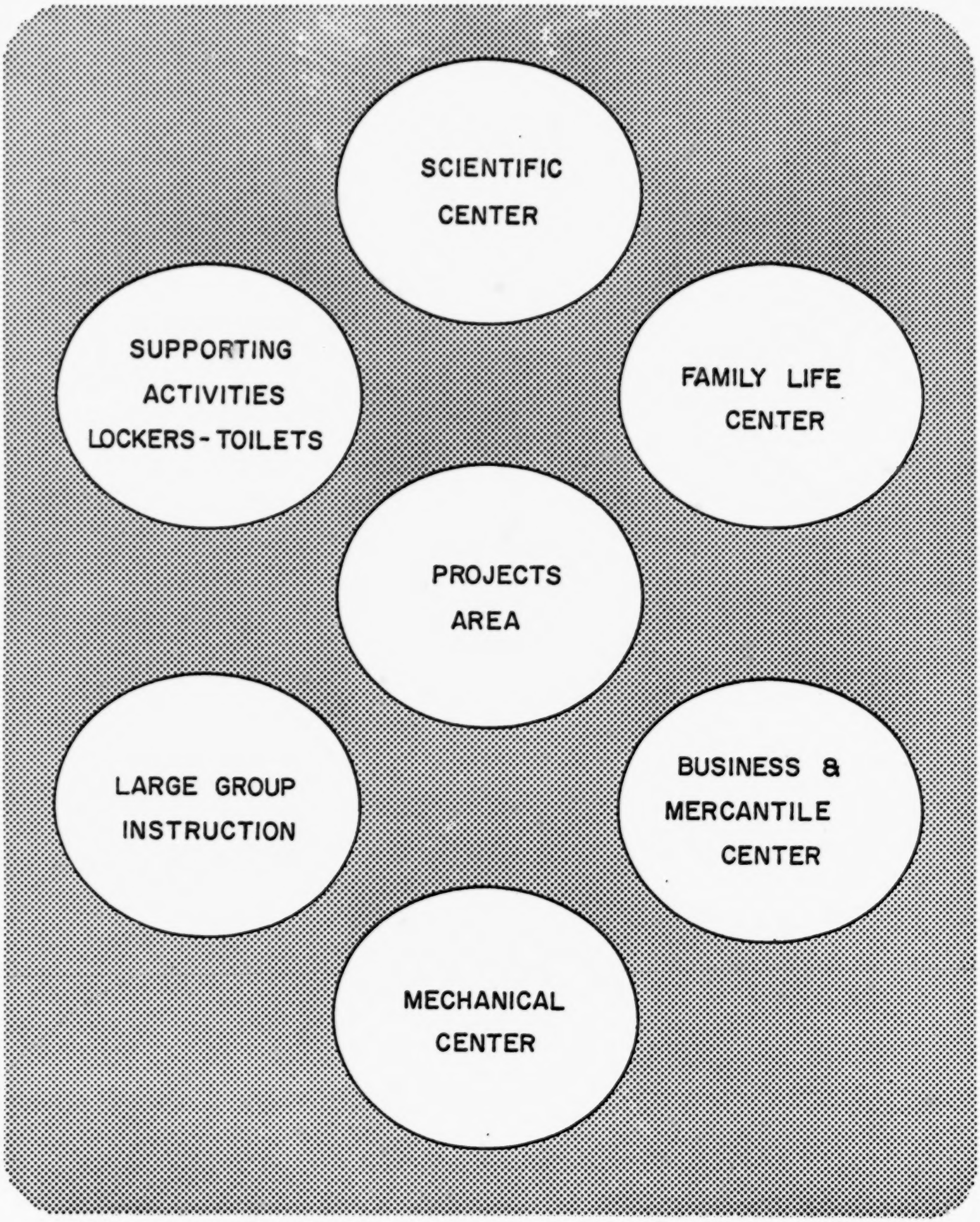
SCHEMATIC PLANS

1. Interdisciplinary Comprehensive High School
2. The Technology Center.
3. Mechanical Center.
4. Business and Merchantile Center.
5. Family Life Center.
6. Scientific Center.
7. Large Group Instructional Center.
8. One "Class" at Work in the Mechanical Center.

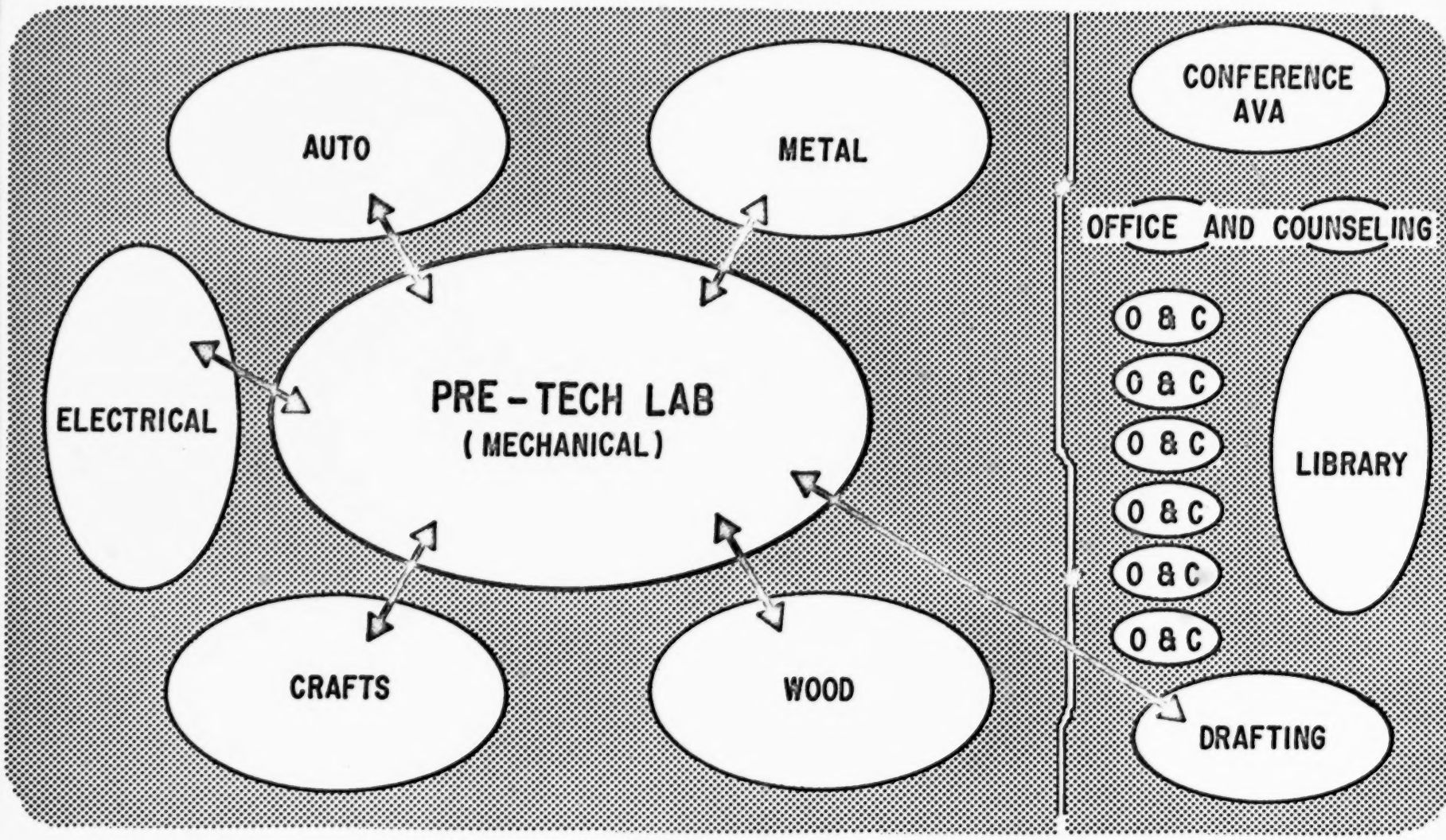
INTERDISIPLINARY COMPREHENSIVE HIGH SCHOOL



TECHNOLOGY CENTER

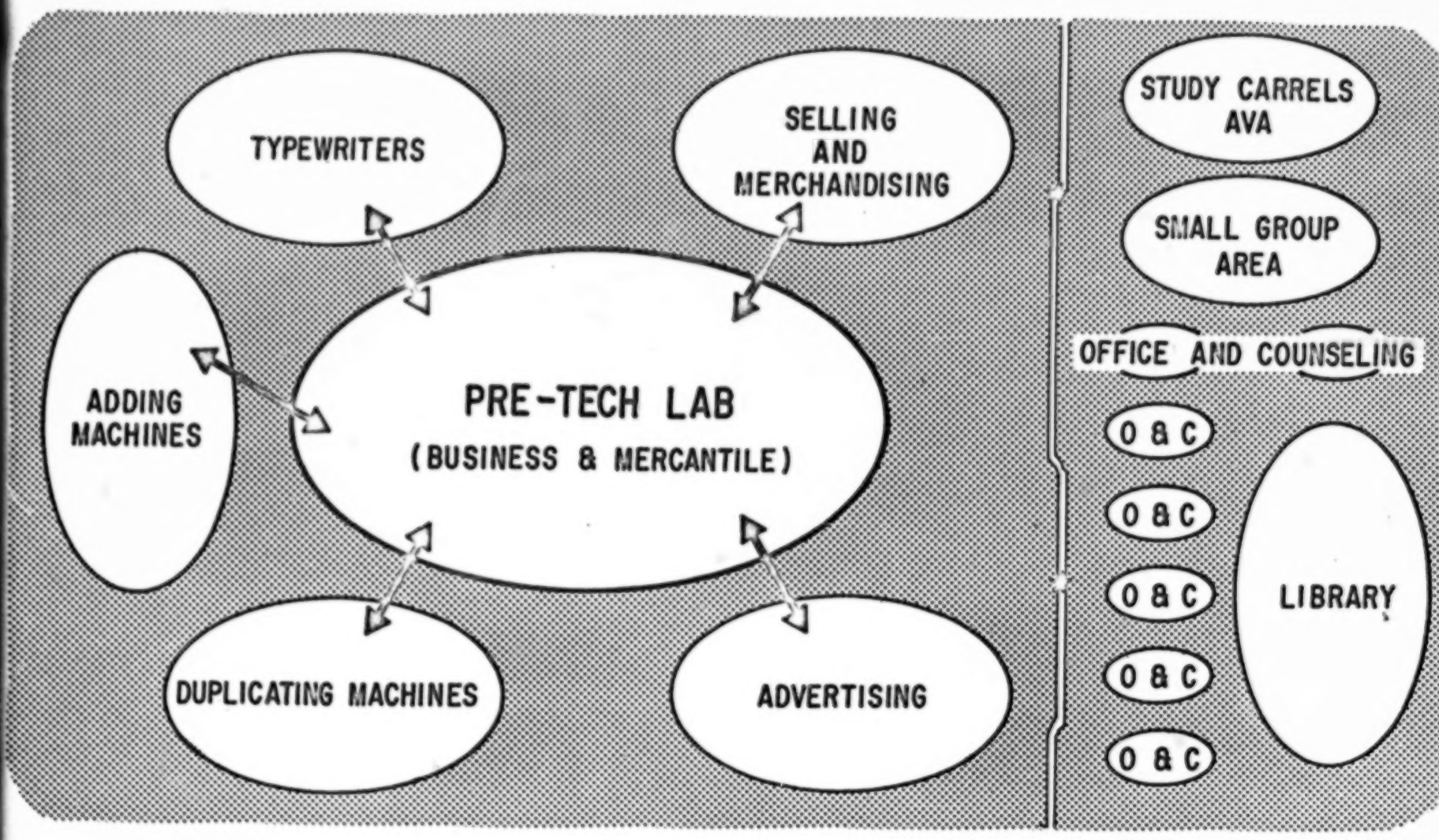


MECHANICAL CENTER



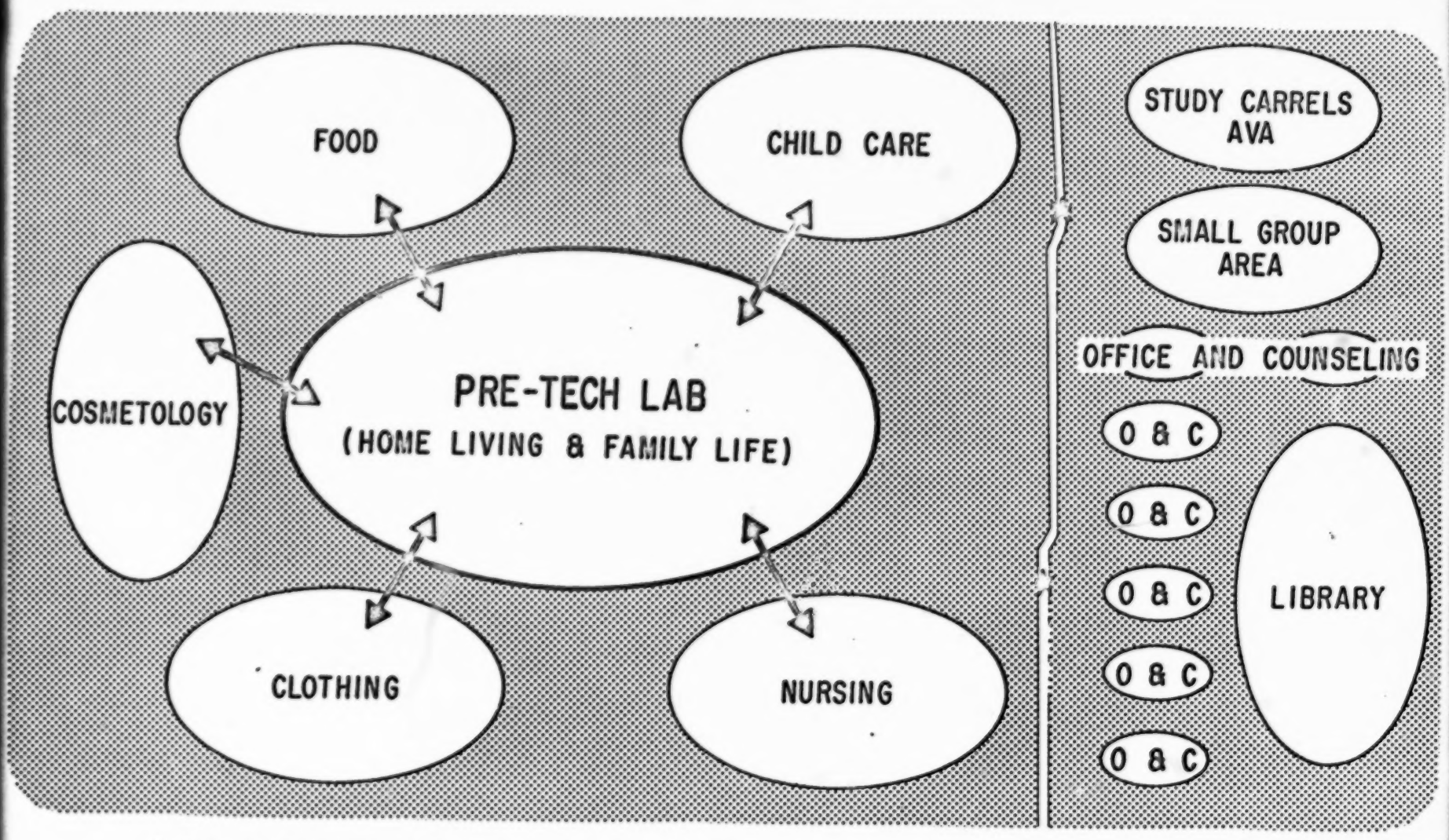
* PARTITION WITH FLEXIBILITY AND VISIBILITY

BUSINESS AND MERCANTILE CENTER



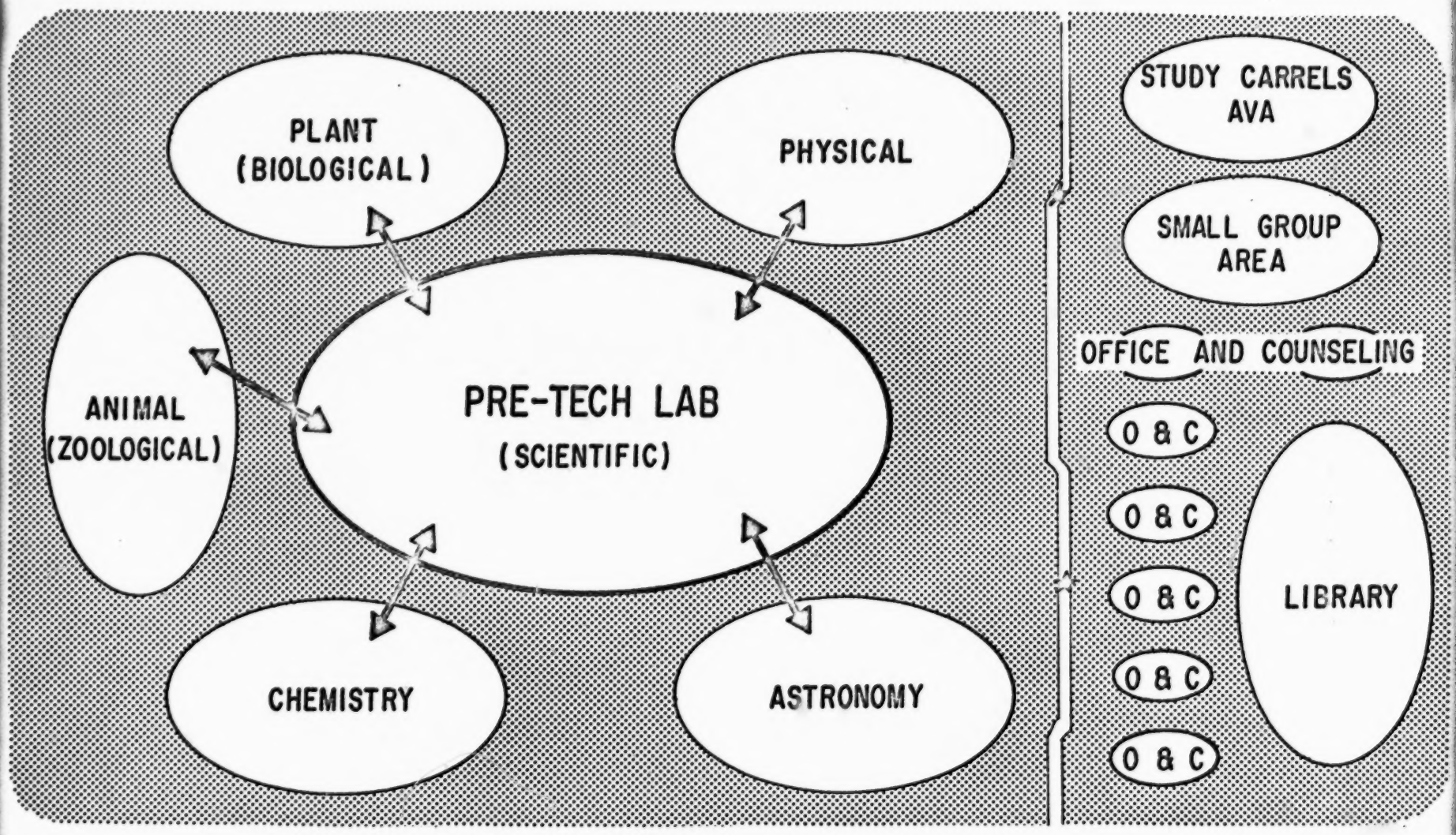
* PARTITION WITH FLEXIBILITY AND VISIBILITY

FAMILY LIFE CENTER



★ PARTITION WITH FLEXIBILITY AND VISIBILITY

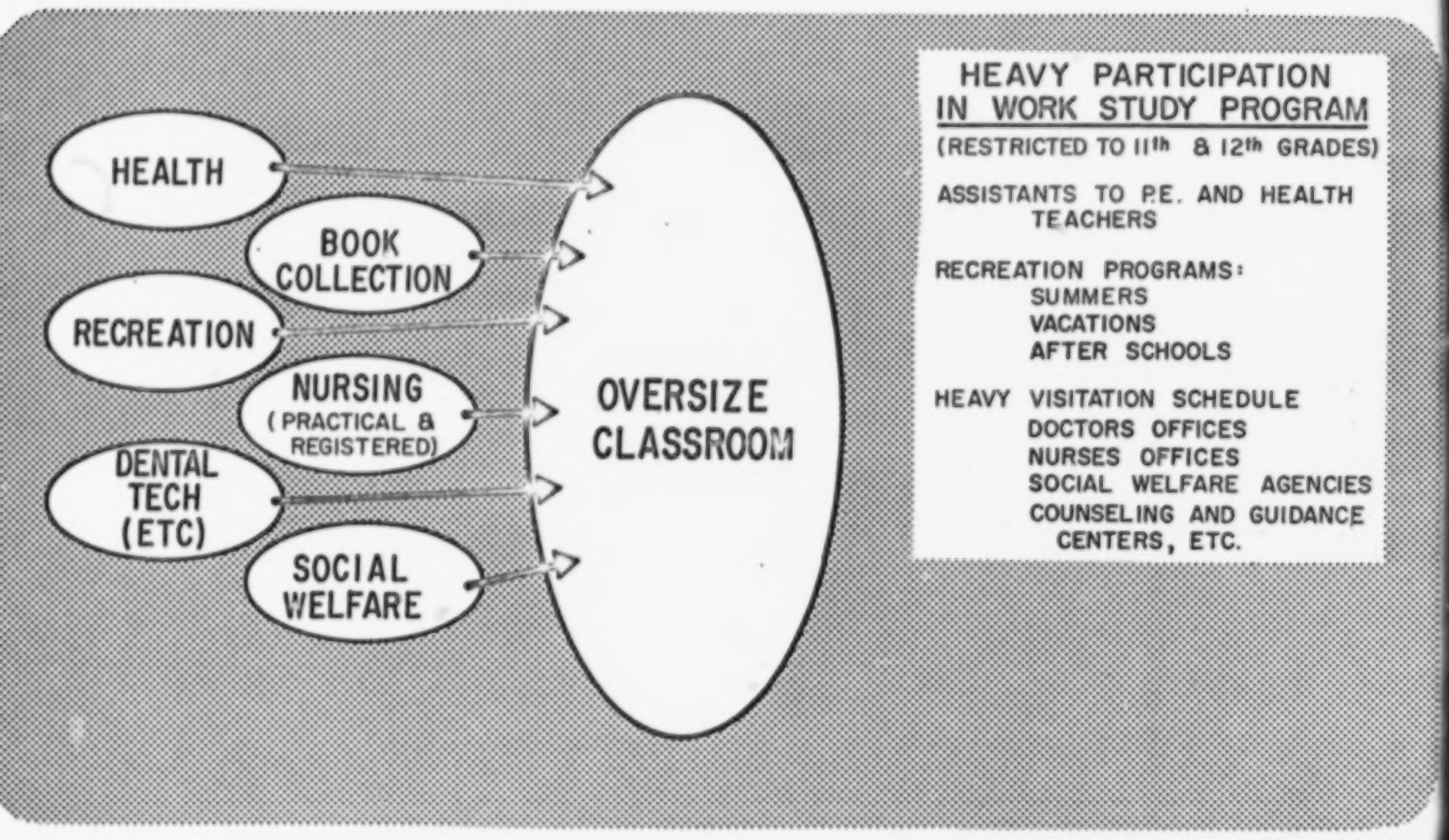
SCIENTIFIC CENTER



★ PARTITION WITH FLEXIBILITY AND VISIBILITY

LARGE GROUP INSTRUCTIONAL CENTER

(NEAR GIRLS' P.E. AND GYM AREA)



ONE "CLASS" AT WORK IN THE MECHANICAL CENTER AT A GIVEN MOMENT

A. In the Pre-Tech Lab. are recently completed project. In this illustration the subjects are welded space frames solving the problem of supporting a specific load.

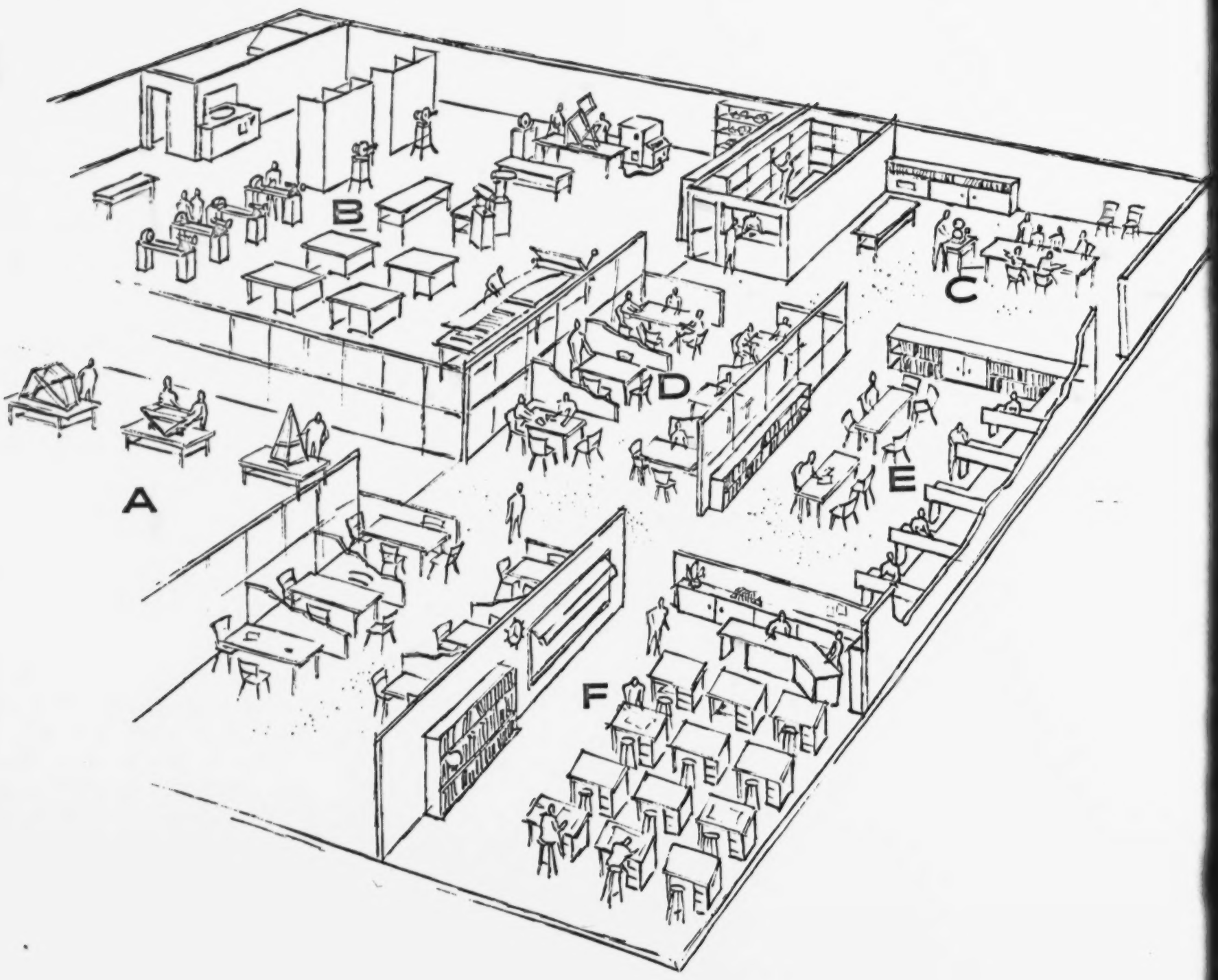
B. In the Metal Shop two pairs of students are working on the current project. They are machining brass weights in the metric system. At the right two students are modifying their space frame project in the welding area.

C. In the Conference and Audio-Visual Room a group of students is reviewing a film on the mathematics of weights and measures. Between the Conference Room and the Metal Shop is a Stock Room where a student is ordering the brass stock required for his weights.

D. In a Counseling Room two students are reviewing their order lists and the calculations used with the Industrial Arts Instructor preparatory to ordering their material. They are separated from the Metal Shop by a glazed partition. In another room a group of four students is conferring on an assignment given to them to prepare a comparative chart of metric and English weights.

E. In the Library students are working at carrels. Some are calculating the sizes of their weights prior to ordering material. Others are completing their reports on the space frame project. Some are reviewing "memories" from A-V tapes.

F. The Drafting Space, and other spaces in the Center, are being used by students in other "classes" on a flexibly programmed project oriented basis.


A
B
C
D
E
F

COMMENTARY

Creative educational planning demands an enclosure of space that is enormously "flexible". As educational jargon has it: Space that permits any number of things to go on inside and yet prescribes little or nothing definite.

What are the things that space should do? Ideally, teaching space should make these things possible:

Interchange: The teacher and students should be able to reach a chalkboard quickly if they have something to explain. The teacher should be able to shift the children around in groups which change size and composition from one minute to the next. Certainly it should be possible for the teacher and students to shove the furniture aside so that the shape of the group will flow from what it is doing.

Input: The space should facilitate the flow of information from teacher to students. There should be plenty of room and materials at hand for the teacher to make the presentation as visual and vibrant as possible. This would mean not only convenient (perhaps moveable) chalkboards, but also that screens, projectors, models or whatever the teacher might need could be available without timewasting and interest-destroying delay and fiddlings. The space should also be arranged so that two or more teachers could teach as a team without getting in the way of each other or of the children.

Output: The space should permit "lots of output" on the part of the students. There should be ample "room for the kids to do things," to work with models or teaching devices, things on which to write, and places to hang things up for everyone else to see. There should also be provisions for other kinds of output than a student's producing for a teacher -- that is, space for a smaller group of students to tackle a problem by themselves.

Focus of Attention: This should be variable, not always pointed in one direction. If someone speaks from the back of the room, all of the students should be able to shift their attention quickly -- without straining their necks. Similarly, they should be easily able to form a purely individual focus for their own project, or a smaller group focus for discussion.

Withdrawal Function: The space should also allow a student to withdraw completely from the rest of the group's activity and retreat into his own inner world of thought and speculation. This could be accomplished in individual carrel spaces or even by simply providing each desk with a chalkboard surface so that the student could work on his own problem paying no attention to whatever else was going on around him.

Vehicles for Memory: The space should contain places, devices, and the capability of reminding the students of what went on previously, what they discovered the day before or last week. It should be possible to leave things on the chalkboard for long periods of time, to have models or displays constantly about -- anything and everything that would serve to recall to the student's mind his past knowledge and suggest its application to present problems.

This would demand that a building could be committed in part or as a whole to a single system of education and retain a great deal of character in the process, but that it could also be altered and committed to new demands on the pre-tech program when necessary. This means not only that its outward shape and size can be re-arranged and reorganized, too.

The building could thus be committed at any given moment, but the commitment could be altered. The obvious answer is to make it as flexible as possible. Can the building get out of the way of changes, but still enable, encourage, permit or nurture change?

CONCLUSIONS

There are many directions in which "third track" pre-technical training might go, and the program for such training defined by the Richmond Plan should be considered no more than a firm beginning. As many other vocational areas might be included within a similar third track as there are vocational offerings in junior colleges and other post high school institutions. Even the pre-tech training in engineering technology offered by the Richmond Plan will be modified from one high school to the next according to the perception of the administrators involved, existing programs, equipment and facilities available, and local opportunities for articulation with post high school vocational programs. How the Plan may be adapted, or what might be added to it to increase the number of opportunities offered by a third track requires further investigation. The applications of new teaching media in the program and the potential advantages of flexible computer scheduling merit study.

Perhaps the most insistent demand at present, however, and that which defines the next logical step to follow Richmond's pilot program, is that having to do with facilities. The Richmond experience has shown that the third track alternative to college-prep and craft skills training need not, and indeed should not, wait upon new facilities. It also demonstrates that a successful third track program can be instituted in existing facilities, and at a cost not significantly greater than that of existing programs. Still, the structure of the pre-tech program is somewhat conditioned by the structure in which it must be housed, and this represents a restriction that should somehow be removed. Whether a third track plan shares facilities with the college-prep track or the industrial arts track is not important so long as the equipment and spaces available are of a kind that allow the third track to retain its integrity as a distinct alternative. In practice, existing facilities do not fully provide this opportunity.

The Richmond Plan and any similar program will demand facilities that encourage the interdisciplinary functioning of the technical training idea. In general this means spaces must be available that are highly flexible in terms of possible use, and yet that adhere to the principle implicit in the idea of the "applications laboratory" as a focal point for supporting academic areas. The third track may be housed in restricted existing facilities, or in a new facility built to serve the technical training function exclusively. In all cases, the use and arrangement of the spaces will have to further the unique objectives of a career oriented program based on "applications" learning and interdisciplinary instruction.

The success of the Richmond Plan in its so far-limited application, utilizing adapted physical plant facilities, suggests that it would be valuable to pursue its expansion into other vocational and academic fields by means of educational and architectural planning studies in depth. The objective of such studies would be to create a model of an interdisciplinary comprehensive secondary school. General relationships involved in such a school are indicated in this project.

There is every evidence that further collaboration of educators, educational planners and architects could develop definitive concepts of a secondary school educational program and plant which would permit the motivation of Richmond Plan attitudes to permeate an entire school.

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VT 004 913
Report to the Government of Libya on Vocational Training.

International Labour Organization, Geneva (Switzerland)
MF AVAILABLE IN VT-ERIC SET.
ILO-TAP-Libya-R-10
Pub Date - 66 47p.

*EDUCATIONAL NEEDS; *MANPOWER DEVELOPMENT; MANPOWER UTILIZATION; *VOCATIONAL EDUCATION; EDUCATIONAL FACILITIES; FACULTY; *DEVELOPING NATIONS; FEDERAL GOVERNMENT; FEDERAL PROGRAMS; NATIONAL SURVEYS; *PROGRAM PLANNING
LIBYA

The increased demand for skilled industrial manpower in Libya created a need for additional vocational education training facilities for youth and adults, an expanded training scheme for faculty and supervisory personnel, and greater coordination among administrative bodies responsible for training activities. Assistance in studying these needs was requested from the International Labor Office by the Government of Libya. An expert to advise and assist the Government was appointed and vocational training programs were studied. Some findings were: (1) The need for training is enormous, (2) New programs need to be established, and (3) Training facilities must be greatly increased and expanded. The principal recommendations were that (1) existing and future vocational training programs be coordinated, (2) pilot vocational training centers be used as the basis for program development, (3) inplant training programs be utilized, (4) adult basic education classes be established, and (5) a training program for vocational teachers be implemented. (WB)

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INTERNATIONAL LABOUR OFFICE

Expanded Programme of Technical Assistance

REPORT

to

THE GOVERNMENT OF LIBYA

on

VOCATIONAL TRAINING

VT004913

GENEVA
1966

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Expanded Programme of Technical Assistance

REPORT
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THE GOVERNMENT OF LIBYA
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VOCATIONAL TRAINING

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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I.L.O.
GENEVA
1966

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INTRODUCTION

A. Origin of Project

1. The increasing demand for skilled industrial manpower which has resulted from the accelerated tempo of economic activity in Libya has emphasised the need not only to extend the vocational training facilities at present available for young people and adults, but also to organise training schemes for instructors and supervisory personnel such as shop floor supervisors and foremen. Moreover, if maximum results are to be obtained from such efforts, an efficient system of co-ordination, designed to eliminate overlapping and duplication of functions among the administrative bodies responsible for training activities, is essential.

2. As part of its over-all programme to meet needs for trained manpower, the Government of Libya arranged for I.L.O. to provide the services of an expert, Mr. H.K.W. Baritsch of the Federal Republic of Germany, to act as vocational training adviser with the Under-Secretaries of Planning and Development, of Education, of Industry and of Labour and Social Affairs. This expert was on mission in Libya from August 1963 to January 1964.

3. In December 1963, the Government requested that an expert, if possible Mr. Baritsch himself, be provided for an additional two years for the purpose of advising and assisting the Executive Vocational Training Co-ordinating Committee and its secretariat, both of which operate under the direction of the Ministry of Planning and Development, on matters related to vocational training and its co-ordination. Mr. Baritsch was unable, because of previous commitments, to accept an extension of his mission and Mr. A. Figueroa-Colón of the United States of America was subsequently appointed by the I.L.O. to carry out the assignment. It lasted six months, from 13 March to 15 September 1965, and was carried out under the Expanded Programme of Technical Assistance.

4. The present report is concerned with the mission carried out by Mr. Figueroa-Colón.

B. Terms of Reference

5. The expert's terms of reference were:

General

(a) to advise and assist the Government of Libya on all matters concerning trade and industrial training, including the training of instructors, shop floor supervisors, and foremen;

(b) to assist the Government to co-ordinate vocational training activities with the Executive Vocational Training Co-ordinating Committee and its secretariat, both of which operate under the Ministry of Planning and Development;

(c) to act as Vocational Training Adviser and work in close harmony with the Under-Secretaries of State in the Ministries of Education, Industry, and Labour and Social Affairs.

Specific

(a) to advise on and recommend various vocational training programmes in the light of present and future manpower requirements;

(b) to advise on and recommend the development of entrance requirements for the various vocational training courses;

(c) to advise the appropriate ministries in the development of curriculum materials for various training programmes and the utilisation of modern instructional techniques including the use of audio-visual aids;

(d) to review vocational training facilities and programmes and advise on their development including, if appropriate, the financial aspects of such development;

(e) to advise on and recommend site locations for training facilities and requirements for physical plant layout;

(f) to train counterparts to continue with work upon conclusion of the project.

C. Acknowledgments

6. Grateful acknowledgment is made of the encouragement and courteous co-operation extended to the expert by the officials of the Government of Libya, both at the ministries and at the vocational training centres he visited, and by others with whom he came into contact during the course of his mission.

7. While it is impossible to record the names of all those from whom help was received, special mention should be made of the following:

Dr. A. Attiga, Under-Secretary of State, Ministry of Planning and Development;

Mr. I. Ghiblawi and Mr. A.B.A. El Sherif, Director-General and Assistant Director-General respectively of the Economic and Social Affairs Division of that Ministry;

Mr. B. Salama and Mr. M. Moghrabi, of the Social Affairs Planning Section of the Ministry, who were successively counterparts to the expert;

Mr. H. Shuweidi, Under-Secretary of State for Technical Affairs, Ministry of Education;

Mr. S.A. Salem, Secretary of Higher Committee for Vocational Industrial Education of that Ministry; and

Mr. M. El-Deen Said, Director of the Ministry's Technical and Clerical Training Centre (vocational trade school), at Sabratha.

PART I. TECHNICAL BACKGROUND

A. Vocational Training Co-ordination

8. Upon his arrival in the country, the Ministry of Planning and Development informed the expert of the Ministry's concern over the need for an improved system for co-ordinating the vocational training activities operated by various ministries, especially those being carried out by the Ministries of Education, of Industry, and of Labour and Social Affairs. Officials explained the difficulties which had arisen in assessing the structural framework of each Ministry, an action which had been undertaken in order to decide which Ministry should have final responsibility for the various vocational training schemes. They suggested that a study be made of the organisational structure of the ministries concerned, so as to determine the fields of competence of each Ministry in offering vocational training adequate to meet the acute shortage of skilled manpower from which Libya was currently suffering. The purpose was to prevent overlapping of activities and to ensure maximum results from the efforts of each Ministry.

B. Vocational Training Programmes in Operation

9. Details concerning steps taken by the expert to secure information on vocational training programmes in operation upon his arrival, and the results obtained, will be found in Part II.

PART II. WORK OF THE MISSION

A. Study of Vocational Training Programmes

10. In order to carry out the various assignments entrusted to him in accordance with his terms of reference, the expert proceeded to make a study of the vocational training programme then in operation in Libya. For this purpose he -

(a) drew up and sent a detailed questionnaire (see Appendix I) to the ministries concerned with training;

(b) discussed this questionnaire with the Under-Secretaries and Directors of Training of these ministries so as to obviate any misunderstanding as to the information requested by them;

(c) summarised the information supplied by the ministries in answer to the questionnaire, in order to present a clear picture of the vocational training activities being carried out at the time of his arrival (see Appendices II and III);

(d) examined contemplated vocational training programmes with a view to determining where duplication of effort might arise and to making projections of their future output in the light of the estimated manpower training requirements set out in the report on manpower prepared by Mr. Nair, I.L.O. manpower expert[1], and other documentation (see Appendix IV); and

(e) prepared a study of the proposed United Nations Special Fund project[2] in the field of vocational training to determine its potential contribution to meeting the country's requirements for skilled manpower for the purposes of its economic development.

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[1] A Survey of Requirements of Professional Technical and Skilled Manpower in Libya, October 1964.

[2] This project was approved by the Governing Council of the Special Fund in January 1966.

B. Visits to Training Programmes and Centres

11. In order to obtain factual information concerning the operation of the training programme which would enable him to offer recommendations for improvement, the expert visited the various programmes in operation under the Ministry of Industry at Tripoli, Benghazi, Derna, Misurata, and Homs; the Education Ministry's two technical and clerical training centres (vocational trade schools) at Sabratha and Benghazi, the civilian personnel training programme conducted at the Wheelus Air Base at Tripoli under the auspices of the United States Government, and the Islamic School of Arts and Crafts.

C. Suggestions for Improvement of Existing Programmes

12. During these visits the expert was accompanied by his counterpart and by a representative of the Ministry concerned. He discussed his observations with this representative and offered suggestions for the improvement of the training programmes involved.

13. As a result of the above visits, the expert visited the Ministries concerned and made a number of suggestions for the improvement of their programmes. A written report on a visit to the Sabratha technical and clerical training centre (vocational trade school) was also prepared and discussed with the appropriate officials of the Ministry of Planning and Development and the Ministry of Education.

D. Setting "Governing Principles"

14. During the visits to the various training centres the expert observed that the training schemes in operation were not sufficient to meet the acute shortage of skilled workers. He advised that the small number of existing programmes should continue to operate subject to their improvement in accordance with the recommendations he offered and provided they followed a set of "Governing Principles" prepared to this effect and which should be observed in the operation of all possible schemes to meet training needs. It is on the basis of these "Governing Principles" that the Vocational Training Co-ordination Executive Committee will establish regulations which will standardise procedures and thus avoid duplication of effort in the vocational training programmes conducted by the various ministries in accordance with the fields of competence which were to be approved by the V.T.C.E.C. at a meeting to be held after the expert's departure.

E. Co-ordination of Vocational Training Programmes

15. After preparing the set of "Governing Principles", the expert gave much of his time to the question of co-ordinating existing vocational training programmes.

16. A meeting of the Joint Planning Committee, at the level of the Under-Secretaries of State of ministries with training programmes, was held on 6 September 1965, under the chairmanship of the Minister of Planning and Development, to consider the recommendations which the expert had presented on 5 May 1965 concerning:

(a) the delineation of the fields of competence of the ministries with vocational training programmes;

(b) the organisation of the Vocational Training Co-ordination Executive Committee; and

(c) the establishment of a Vocational Training Co-ordination Executive Committee Secretariat to be attached to the Ministry of Planning and Development.

17. After some discussion, the expert's recommendations were approved (see Appendix V).

18. A meeting of the Vocational Training Co-ordination Executive Committee composed of the Directors of Training of the ministries concerned was to be held after the expert's departure to take action on the approval of the "Governing Principles" and on the organisation of the Committee Secretariat, which will have responsibility for the implementation of the decisions taken by the Committee.

F. Preparation of Technical Papers

19. In connection with the suggestions made for improvement of the vocational training programmes being carried out under the various ministries, the expert prepared several technical papers with a view to clarifying certain aspects of vocational education and training, confusion about which had contributed much to duplication of effort in the field of training. Copies of these papers were given to the ministries, whose officials expressed their satisfaction with this assistance.

G. Advice on Proposed Bilateral Training Programmes

20. At the request of the Under-Secretary of Planning and Development, the expert undertook a study of various vocational training programmes which it was proposed to establish under

bilateral assistance schemes. He recommended that the Government should accept the following:

(a) an accelerated training programme in Tripoli and Misura for the training of diesel mechanics, clerks specialised in materials control, inventory procedures and warehousing, shop supervisors. This programme will be carried out with the assistance of the American Friends of the Middle East, Inc.:

(b) an accelerated training programme in Sabratha and Benghazi for the training of electricians and electro-mechanics, with the assistance of the French Government;

(c) a long-term training programme for the training of young workers in auto-mechanics, machine-shop, electricity and welding in Derna and Misurata. The training centre in Derna will be organised and operated with the assistance of the Government of the Federal Republic of Germany.[1]

H. Activity Proposals submitted to Ministries

21. In an attempt to broaden existing vocational training activities, the expert prepared and submitted to the Ministry of Education for study proposals to establish a vocational diversified occupations programme[2] and a teacher education programme for vocational education teachers and instructors. The preparation of both programmes was solicited by the Under-Secretary for Education.

22. A proposal for an apprenticeship programme was sent to the Ministry of Labour and Social Affairs to serve as a basis for the establishment of the apprenticeship programme contemplated under the proposed Special Fund project.

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[1] Details of programmes (a) and (c) are given in Appendix IV.

[2] This type of programme provides on-the-job training for one half of the day and related and general classes for the other half.

PART III. CONCLUSIONS AND RECOMMENDATIONS

A. Need for More Vocational Training

23. The need for training Libyans to meet the acute shortage of skilled manpower is enormous. Training facilities must be greatly increased and extended, both qualitatively and quantitatively, if the economic development plan of the country is to be successfully carried through. In the present situation every effort, great or small, in the public or in the private sector, in the capital city or in smaller towns, is vital to the economic expansion of Libya. More vocational training programmes should be organised so as to obviate the necessity to import skilled manpower, which came formerly from Italy and is now brought in from Morocco.

24. The new programmes to be establlished should be such as to encourage young and adult workers to prepare themselves to obtain employment and to improve the skills they already possess, consonant with the new developments in industry. It is imperative to establish training programmes which can be geared to the immediate needs of industry and which will provide a reservoir for present and future needs in meeting the demands of the new technology and the rapid expansion of the economy created by the development of the oil industry and other industries following in its wake. However, great care should be taken to avoid duplication of effort in the proliferation of training programmes within ministries.

B. Co-ordination of Vocational Training Programmes

25. Duplication of effort can be avoided by the establishment of the Vocational Training Co-ordination Executive Committee Secretariat within the Ministry of Planning and Development as approved by the Joint Planning Committee on 6 September 1965. The major responsibilities of this autonomous body would be the co-ordination of the various vocational training programmes in operation and the setting of norms and principles governing the establishment of new vocational training schemes.

26. It is recommended that a meeting of the Vocational Training Co-ordination Executive Committee be held as soon as possible in order to organise its Secretariat, which will take action on the determination of the "Governing Principles" designed to standardise procedures in the operation of vocational training schemes and to maintain within the approved limits the respective fields of competence of the ministries with vocational training programmes and thus to avoid overlapping and duplication of effort. This will help to ensure the efficient implementation both of existing vocational training programmes and of those to be organised in the future.

C. Pilot Training Centres Envisaged under the United Nations Special Fund Project

27. It is recommended that the pilot vocational training centres envisaged for Tripoli and Benghazi under the project which has been approved by the United Nations Special Fund form the basis for the establishment of a sound, comprehensive vocational training scheme which, in addition to being recognised by industry, would attract the public's attention to the merits of such training. A scheme co-ordinated by the Secretariat, assisted by the Headquarters element of the Special Fund project, and including the new Directorate of Training envisaged by the project, would be an appropriate way of making modern training available to larger geographical areas, thus bringing together the resources of all the ministries concerned for the purpose of meeting the shortage of skilled labour in the country as a whole.

D. In-Plant Training Programme

28. Industry has an important role to play in skill development. Some industries, especially the oil industry, have their own in-plant training programmes but they are not sufficient to meet the demand for skilled manpower. Besides, many industrial plants do not have adequate facilities or the instructional staff to provide the training.

29. It is recommended that the Government should start a vigorous campaign to encourage labour and management to accept an appropriate share of the responsibility for training their workers, and should make provision for incentives to be offered to industry so that it may modernise and reorganise production shops and thus enable the Government to have at its disposal more adequate training stations for its on-the-job training programmes.

30. Specialised training courses in industry could be organised with financial or technical aid from the Government so as to promote this kind of training. This could be a significant step in closing the gap between industry's need for training and the nation's capacity to provide the training. In this work the assistance of the In-Plant Training Expert envisaged under the Special Fund Project would be most valuable.

31. In developing the in-plant training programme, care should be taken to ensure that on-the-job training is not employed as a means of obtaining cheap labour.

32. It is recommended that:

(a) trainees be placed under the direction and supervision of competent trainers, whose main duty will be to train

them in all the jobs specified in a schedule which should form part of the training agreement signed by the employer and the trainees concerned;

(b) trainees be given training only in those jobs which are included in the schedule;

(c) an individual progress record of each trainee be kept at the training station to ensure that training is being offered only as stated in the agreement;

(d) due consideration be given to the ratio of trainees to regularly-employed workers in any occupational field; the number of trainees in a given firm providing training should not exceed 25 per cent. of the total working force;

(e) steps be taken to organise, as soon as possible, the related instruction required by trainees;

(f) short-term instructor training courses be offered for the initial or refresher training of trainers, teachers of related theory, supervisors or co-ordinators of the in-plant training programme;

(g) trainees be visited at their training stations by the supervisors or co-ordinators at least once a week, to check on their progress;

(h) a study be made of the firms providing training to see that they have sufficient equipment and facilities to offer the required training;

(i) a formal system of placement and follow-up be established as soon as possible.

E. Need for Basic Education for Adults

33. In order to restore the hard-core unemployed to full productive capacity, it is considered essential that the Government create training courses tailored to their special needs in the context of the job market which they face. Basic education is needed to provide instruction for adults who are unable to read and write or who have not completed the equivalent of an elementary education, with a view to increasing their opportunities of training for productive and profitable employment. Widespread low levels of literacy have already created serious obstacles in imparting instruction, especially that provided by on-the-job training.

34. It is recommended that the Government start a broad literacy programme for adult workers by offering evening classes in reading, writing, and elementary arithmetic. This would make it possible for the unemployed and many employed workers to absorb occupational training for the job openings available to them. The ability of the adult worker to hold a job, or to find a new one when he becomes unemployed, would be greatly improved if he could learn to read, write, and add.

F. Up-grading of Workers

35. Modern technology requires that workers be trained in the new, advanced techniques and industrial processes if they are to keep their jobs and fill positions carrying greater responsibility. This training can be offered in evening classes for workers, which at present are not available to Libyan workers.

36. It is recommended that all possible training (and where necessary, educational) facilities be used in order to provide this much-needed training.

37. It is recommended also that the Government draw up a scheme under which industry would provide for workers to take additional technical training; for example, by offering them time off with pay to attend instruction, reimbursement of fees, travelling expenses, etc.

G. Need for a Functional Vocational Education Programme

38. A vocational and technical education programme, if it is to be effective and help to provide the skilled manpower required to improve the economy of the country, should operate under basic principles which will assist the schools to make a substantial contribution towards achieving the desired objectives. Because of their low output, the country's two technical and clerical training centres (vocational trade schools), as they operate at present, are not making a significant contribution to the reduction of the acute shortage of trained personnel for industry and for various government activities.

39. It is therefore recommended that action be taken on the recommendations which follow for the improvement of the vocational and technical education programme, so that these schools may have a greater share in the training of young workers for the nation.

40. It is recommended that the Sabratha technical and clerical training centre (vocational trade school) be transferred to Tripoli in order that its facilities may be used to capacity

by organising afternoon and evening classes for adult workers, supplementary extension classes for the trainees of the on-the-job training programme being conducted by the Ministry of Industry, and, pending development of the necessary facilities for this training under the Special Fund project, some accelerated training.

41. It is recommended that, in order to eliminate the erroneous concept that it is undignified to work with one's hands and also to make the community aware of the social and economic contribution which the vocational trade schools can make to the attainment of a fuller life, a publicity programme be established. This programme should make use of all communications media available and be designed to foster the idea that an individual may obtain as much benefit from the skilled manual occupations as from the clerical and administrative work which is more sought after.

42. It is essential that the Government be in a position to evaluate results obtained from the effort put into vocational education, bearing in mind the present and future needs of the country.

43. It is recommended therefore that a thorough survey be made of all graduates and drop-outs of the vocational trade schools during the last five years. This "follow-up" of the product of these schools will make it possible to study the difficulties which impede the progress of school graduates and drop-outs in their new posts and thus provide information for the revision of the curricula in accordance with the requirements of industry for skilled manpower and the needs of young workers.

44. It is recommended that there be established a series of advisory committees representing Government, employers and workers which would examine and advise on the various courses in the vocational trade schools. Such committees could also advise on the selection of pupils, assist in the placement of graduates and in the selection of equipment and supplies, and arrange for teachers and students to make periodic visits to industry so as to become aware of the criteria which the school instruction should meet. The functions of the committees would include the provision of advice and guidance aimed at improving and maintaining the quality of vocational education.

45. It is recommended that a thorough study of curricula be made to determine the texts and reference materials essential for the acquisition of the minimum knowledge required in each trade area and that these materials be translated into and printed in Arabic. This practice should be continued until such time as ways can be found to make it possible for teachers and instructors to prepare their own materials and thus avoid the time-consuming method of "dictating" lessons to students direct from a text-book.

46. It is recommended that for each school and for each shop, a continuous and systematic programme of maintenance of equipment be developed. In general, there should be planned replacement, and repairs should be made to all equipment that is not up to minimum industrial production standards.

47. It is recommended that a thorough study be made of the particular job skills needed in industry throughout the country in order to revise the curricula and courses of study accordingly where this is necessary. The newer techniques and trades such as air-conditioning and refrigeration, construction-drafting, diesel maintenance, etc. would have to be examined. The Ministry of Education, aware of this situation, has already initiated studies along these lines.

48. It is recommended that in the last year of training a specific period be allotted to practical training in appropriate industrial workshops so that when students graduate they will already have obtained some real work experience in an industrial atmosphere.[1]

49. It is recommended that the Ministry of Education engage in a building-renovation and re-equipment programme to bring up to date the Benghazi technical and clerical training centre (vocational trade school). This would help in meeting the requirements of industry and of new vocational training trends.

50. The great majority of students leave the vocational trade schools without completing their courses. Inadequate advice on selection of a career is considered to be one of the reasons for this. It is therefore recommended that a broad and comprehensive vocational guidance programme be established in the pre-vocational and vocational trade schools to provide an adequate orientation not only to students already enrolled but also to prospective students and to graduates.

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[1] The Vocational Training Recommendation, 1962, states that: "Practical training in training institutions should: .....

(b) if possible and necessary, include or be completed by periods of practical experience in an undertaking so that trainees may not only become familiar with a working atmosphere but are also enabled to acquire normal work speed and skill on the job." (Paragraph 27(2)(b)).

51. To a large extent the success of vocational education and its direct contribution to the economy of the country hinge on the qualities and fitness of the vocational staff. To qualify as a vocational instructor the candidate must be a master of the trade he will teach. He must then learn the principles of teaching so that he can be a successful teacher. Most of the teaching staff of the vocational trade schools lack qualification in these respects. It is recommended that every effort be made to implement as soon as possible the vocational school teacher-training programme which the expert submitted to the Under-Secretary of Education.

52. It is recommended that a certification system be established so as to set standards for the certification of teachers, instructors and supervisors of vocational education. A certification plan was included in the vocational school teacher-training programme mentioned above.

53. Incentives are needed to attract better prepared personnel into vocational teaching. It is therefore recommended that an adequate salary scale be established in order to attract well-qualified, fully experienced and trained personnel. The salaries payable should be commensurate with those which the same people would be able to earn in industry.

54. One of the most serious handicaps to economic and social development in Libya is the difficulty of finding people for jobs which in most other countries are filled mainly or in part by women. The expert observed that there were many responsible citizens who were anxious to see that women play a more prominent role in the life and economic development of the country. It is recommended that a study be made of the vacancies in industrial occupations which could be filled by women, and that appropriate training programmes for girls be established. A good start might be the organisation of vocational diversified occupations programmes for girls in the secondary schools of the country.

H. Industrial Training Centres

55. The Ministry of Industry has designed vocational training centres which will serve as nuclei of proposed industrial estates for the towns of Derna and Misurata and help to meet the need for skilled craftsmen which is foreseen in those plans.

56. The programme of training at these centres resembles the preparatory stage of instruction at the technical and clerical training centres (vocational trade schools) of the Ministry of Education at Sabratha and Benghazi. Although the Ministry of Education does not have any such centres in Derna

and Misurata, the Higher Committee on Vocational Industrial Education of the Ministry decided that the preparatory stage of instruction at their centres should "be frozen until the Vocational Training Co-ordination Executive Committee be formed and decide what Ministry should undertake its running". This was the first step taken towards the co-ordination of vocational training schemes in the country.

Industrial Training Centre at Derna

57. The vocational training centre in Derna was to start classes in October 1965, with the assistance of the Government of the Federal Republic of Germany. Training will be of three years' duration with basic training to be offered in the first year to 90 trainees from Derna and neighbouring towns. Courses will be offered in machine-shop, electricity, and auto-mechanics. A good feature of the centre is that trainees will be boarded with community families. This centre will also provide facilities for supplementary instruction to the trainees of the on-the-job training programme conducted in this community, and technical related classes for adult workers.

Industrial Training Centre at Misurata

58. A training centre similar to the one at Derna is being established in Misurata. The trainees at this centre will board in a hostel constructed in the school grounds. Training is expected to start in October 1966 and two-year courses of instruction will be offered in the automotive, machine-shop, electrical and welding/metal working trades; the planned capacity is 120, based on an enrolment of 60 trainees per year. On satisfactorily completing the course, the trainees will be placed with local private or Government enterprises for one year's practical experience, during which time they will continue to attend the centre weekly, on day-release, for related theoretical studies. This centre has at present no foreign or international agency support. The Government has made a request to I.L.O. for assistance only in selecting senior technical personnel to operate the centre. It is recommended that the selection of equipment and the preparation of instructional materials be started soon so that the centre may commence operations and produce skilled workers with a view to helping to match the expansion of industry in the area.

Carpet-Weaving Training Centre

59. A carpet-weaving training centre is in operation in Benghazi. Another was shortly to be opened in Derna. Six months' training courses are offered to girls over 12 years of age; no minimum requirements are laid down in respect of prior academic preparation. At the time of the expert's mission, 50 girls were

enrolled at the centre, which is equipped with wool-carding, spinning and washing facilities. The wool-carding and spinning section supplies the needs of the local market as well as those of the small-scale industries centre in Sebha.

60. Besides the carpet-weaving centre in Benghazi, two additional centres are in operation in the Fezzan Province. The main purpose of these centres is the manufacture of carpets and training activities are limited to the manufacturing needs and strictly geared to them.

61. No specific evaluation of these centres is made in this report inasmuch as an I.L.O. expert in small industries is assisting the competent authorities in the Ministry of Industry in improving the working and training conditions of such centres. He is at present working on their reorganisation.

I. Summary of Principal Recommendations

62. The principal recommendations in the light of the vocational training expert's mission are as follows:

(a) that existing and future vocational training programmes be co-ordinated through the Vocational Training Co-ordination Executive Committee Secretariat to be established within the Ministry of Planning and Development for that purpose;

(b) that the pilot vocational training centres envisaged under the Special Fund project form the basis of a comprehensive vocational training scheme for the country;

(c) that greater advantage be taken of the possibilities afforded by in-plant training programmes in accordance with the proposals made for improving these programmes;

(d) that a basic education programme be established for adults, as well as evening classes to enable adult workers to train for more responsible jobs;

(e) that action be taken to improve and reorganise the vocational education programme in accordance with the suggestions made by the expert or put forward in this report;

(f) that a training programme for vocational teachers and instructors be implemented at an early date and that an adequate salary scale for such personnel be established in conjunction with this programme.

APPENDIX I

Copy of Document used by the Expert during his Research

QUESTIONNAIRE ON INFORMATION ON THE VOCATIONAL TRAINING PROGRAMME CONDUCTED BY YOUR MINISTRY

1. What type of training programme do you operate?
2. What are the general and specific objectives of the programme?
3. What is the duration of training of each programme?
4. Give the location of training centres (place of meeting).
5. What are the occupational objectives for each training centre?
6. Describe the curriculum - subjects offered and number of hours per week, etc.
7. What are the entrance requirements - age, academic preparation, etc.?
8. Give the enrolment per group - teacher/student load.
9. Furnish copies of outlines of courses for each subject or occupational objective.
10. Furnish copies of student records.
11. (1) Class progress chart
    (2) Individual student progress record
    (3) Grade or report cards.
12. Furnish copy of teacher or instructor student attendance record book.
13. Furnish the titles of textbooks and manuals used in each occupational objective.
14. Furnish the titles of textbooks and manuals used in each general education and related information course.
15. What types of audio-visual or other teaching aids are being used in the training programme?

16. Furnish samples of certificates or diplomas issued.

17. Furnish samples of instruction sheets such as job sheets, operation sheets, information sheets and others.

18. Furnish samples of other forms used in the programme.

19. What student selection schemes do you use?

20. What is the academic and professional preparation of teachers and instructors?

21. Give salaries of teachers, instructors and administrative staff.

22. What teacher-training is being offered to teachers and instructors?

23. Give number of academic teachers, related subject teachers and shop instructors in each training centre.

24. Furnish the following student statistics:

    (1) Number of students enrolled in each centre during training period.

    (2) Number of graduates.

    (3) Number of drop-outs and reasons for dropping courses.

    (4) Follow-up of graduates.

    (5) Number of employed graduates in occupation for which they received training.

25. What student services are being offered?

    (1) Library service

    (2) School cafeteria

    (3) Transport service

    (4) Work clothing

    (5) Recreational activities

    (6) Student clubs

    (7) Others.

26. How many fellowships to study abroad have you offered?

27. Give pay schedules or stipends paid to students and other benefits.

28. Give size of shops and classrooms used in the training programme.

29. Give composition of advisory and craft committee.

    - How often do they meet?

APPENDIX II

(Document compiled during the mission from the replies to the questionnaire sent to Ministries with vocational training programmes).

REPORT ON VOCATIONAL TRAINING PROGRAMMES IN OPERATION

Vocational Training Projects under the Ministry of Industry (as of 13 March 1965)

On-the-job Training Programmes

1. This is an in-plant training programme of a short-term duration of 12 months.

2. The objective is to train semi-skilled workers.

3. Training is being offered in private workshops and industries and in the Government Training Centre for Carpentry in Tripoli.

4. The first training session was offered from November 1963 to November 1964 in Tripoli, Benghazi and Derna.

5. Training was offered in the following fields:

   Auto-mechanics, electricity, welding shoemaking, machine-shop, tyre-repairing, carpentry, plastic works, typewriter-repairing and tailoring.

6. Training is offered during 38 hours a week in on-the-job (in-plant training) with four hours in related theoretical courses (mechanical drawing, arithmetic and technology) offered in separate classrooms.

7. Training is offered to Libyans, 16 to 24 years of age, with a Primary Certificate.

8. The number of trainees who completed training in the 1964-65 session is 241 in the following occupations and communities:

Trade or occupation	Tripoli	Benghazi	Derna	Sebha	Total
Auto-mechanics	61	6	-	1	68
Electricity	19	4	-	-	23
Machine Shop	17	-	-	-	17
Carpentry	36	19	32	-	87
Welding	32	1	-	-	33
Shoe-making	-	4	-	-	4
Plastic works	1	-	-	-	1
Tyre-repairing	-	2	-	-	2
Miscellaneous trades	6	-	-	-	6
Total	172	36	32	1	241

Vocational Industrial Education Projects under the Ministry of Education (as of 13 March 1965)

1. Technical Industrial Education Schools:

(a) These schools have the general objective of "training Libyan youth to acquire technical skills in the various fields of technical education with a view to increasing productive capacity in industry, trade and engineering installations."[1]

(b) The specific objective of the technical industrial schools is "to supply the industrial public and private sectors with technically trained manpower at the various levels in order to realise the industrial development projects in the Libyan Development Plan."[1]

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[1] Information on the Vocational Training Programme - Ministry of Education, Kingdom of Libya.

(c) The Ministry provides two distinct stages at the Technical Industrial Schools: (1) The Preparatory Stage and (2) The Secondary Stage.

(d) The duration of vocational studies at the preparatory stage is four years. At the secondary stage the vocational studies take three years.

(e) Technical studies at the Applied Engineering School (for technicians) take four years.

(f) The vocational trade schools are located in Sabratha and Benghazi. The School of Applied Engineering is at Al-Ghiran (10 km. to the west of Tripoli).

(g) The entrance requirements are the following: "In addition to the general requirements which must be fulfilled by every Libyan student, i.e. to be physically fit and free from infectious diseases, the nominees must fulfil the following conditions:

(1) Nominees for the preparatory stage should be preferably over 13 years of age and hold a primary education certificate.

(2) Nominees for the secondary stage should hold a preparatory education certificate."[1]

(h) Vocational industrial students receive the following stipends:

(1) <u>Boarding students</u>

Secondary stage	£L. 8.0 per month
Primary stage	£L. 5.0 per month

(2) <u>Day students</u>

Secondary stage	£L. 5.0 per month
Primary stage	£L. 3.0 per month.

(i) Other benefits received by students:

(1) Boarding students receive free board and living accommodation, free clothing, including workshop overalls.

(2) Day students get one free meal at 10.30 a.m. and free workshop overalls.

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[1] Information on the Vocational Training Programme - Ministry of Education, Kingdom of Libya.

(3) Students receive "part of the yield of productive projects carried out by them during the scholastic year under the supervision of the instructors."[1]

(k) Classrooms and Shops. "There are no statistics regarding the area of classrooms in the vocational trade schools, but in general, they may be from 30 to 60 square metres. Workshops of vocational trade schools are for the most part sheds which previously belonged to the Italian or British Army and which were not originally designed as vocational workshops."[1]

2. The Programme of Studies for the Preparatory Stage is as follows[2]:

Subject	Period per week				Total
	1st Year	2nd Year	3rd Year	4th Year	
1. Religion	1	1	1	1	4
2. Arabic Language	6	6	4	4	20
3. English Language	5	5	4	4	18
4. Social Studies	3	2	-	-	5
5. Mathematics	3	-	-	-	3
6. Science and Health	2	2	-	-	4
7. Chemistry and Physics	-	-	2	2	4
8. Physical Training	1	1	1	1	4
9. Shop organisation and Management	-	-	-	1	1
Geometrical Drawing	2	-	-	-	2
11. Trade Drawing	-	2	4	4	10
12. Trade Accounting and Measurements	-	3	4	3	10
13. Trade Techniques	2	2	2	2	8
Total	25	24	22	22	93
14. Workshop	19	20	22	22	83
Grand Total	44	44	44	44	176

[1] Information on the Vocational Training Programme - Ministry of Education, Kingdom of Libya.

[2] Translated from Arabic by Mr. Moghrabi.

3. <u>The Programme of Studies for the Secondary Stage is as follows:</u>

Academic Subjects	Periods per week				Total Total
	1st Year	2nd Year	3rd Year	4th Year	
1. Religion	1	1	1	-	3
2. Arabic Language	3	3	3	-	9
3. English Language	3	3	3	-	9
4. Social Studies	3	3	-	-	6
5. Physical Training	1	1	-	-	2
Total	11	11	7	-	29
Technical Subjects					
6. Trade Mathematics	5	5	6		16
7. Physics and Mechanics	3	3	2		8
8. Shop Organisation and Management	-	-	1		1
9. Drafting and Industrial Drawing	3	3	5		11
10. Trade Measurements	-	-	2		2
11. Trade Techniques	2	4	4		10
Total	13	15	20		48
12. Workshop	20	18	17		55
Grand Total	44	44	44		132

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4. Enrolment for the school year 1964-65

(a) Sabratha Trade School (Technical and Clerical Training Centre)

1 Preparatory Level	Enrolment				Total
Craft	1st Year	2nd Year	3rd Year	4th Year	
(a) Mechanical trades	-	7	44	7	58
(b) Smithing and welding	-	8	25	8	41
(c) Auto mechanics	-	6	16	8	30
(d) Electricity	-	8	18	7	33
(e) Carpentry	-	5	11	1	17
(f) Tailoring	-	-	-	8	8
Total	-	34	114	39	187
2 Secondary Level					
(a) Mechanical trades	5	7	1		13
(b) Electricity	13	6			19
Total	18	13	1		32

(b) Benghazi Trade School (Technical and Clerical Training Centre)

1 Preparatory Level					
(a) Mechanical trades	7	6	5	3	21
(b) Smithing and welding	-	6	7	5	18
(c) Auto mechanics	-	6	7	3	16
(d) Electricity	-	7	4	2	13
(e) Carpentry	-	3	5	2	10
(f) Tailoring	-	3	1	-	4
Total	7	31	29	15	82
2 Secondary Level					
(a) Mechanical trades		5	7		12
(b) Electricity		13	6		19
Total		18	13		31

APPENDIX III

(Document compiled during the mission from the replies to the questionnaire sent to Ministries with vocational programmes).

ON-THE-JOB TRAINING PROGRAMME OF THE MINISTRY OF INDUSTRY FOR 1965-1966

1. The number of trainees enrolled in the 1965-66 session is 919.

2. They will receive training in the following occupations:

   auto-repairing, general mechanics, electricity, welding and plumbing, carpentry, painting and aluminium work, tailoring, typing, typewriter-repairing, storekeeping, shoe-making, tyre-repairing, air-condition repairing and maintenance, and electric station repairing and maintenance in the following Muhafadas: Tripoli, Misurata, El Homs, Zawya, Gharian, Benghazi, Derna, El Beida, Tobruk and Sebha.

3. The total stipends paid to the trainees who received training in the 1963-64 session was £L.85,000.

4. The total stipend to be paid to the trainees receiving training in the 1965-66 session is about £L.216,000.

5. Fifteen supervisors were used in giving training to the 333 trainees initially enrolled in the 1963-64 session.

6. Thirty supervisors are being used in giving training to the 919 trainees enrolled in the 1965-66 session.

7. The selection of trainees is based on the level of general education giving priority to the oldest candidates. No psycho-technical tests were or are being used in the selection of candidates for training.

8. The trainees (supervisors) used in the training programme were recruited from the graduates of the vocational preparatory and secondary schools of Sabratha and Benghazi.

9. Upon completion of training the trainees receive a certificate indicating the specific phases of the trade or occupation in which they received training.

10. A short teacher-training course of two hours per week, during three months, was offered to the trainers (supervisors).

11. Twenty-five supervisors and related theoretical teachers were employed in the 1963-64 session.

12. Thirty supervisors and related theoretical teachers are to be employed in the 1965-66 session.

13. Work clothing was and is to be provided to the trainees.

14. Forty-two piastres per day and participation in the National Insurance Organisation were the stipends and fringe benefits received by trainees in the 1963-64 session. For the 1965-66 session the stipends are to be raised to 60 piastres.

15. No advisory or craft committees have been organised as yet, but "regular meetings with private workshops managers are organised to discuss training aims and problems".

16. Training is offered to the trainees under a written agreement signed by the Ministry of Industry and private workshops.

17. The number of applications received in the Ministry of Industry for training in the various training centres during the 1965-66 session was 6,575.

18. The number of training stations available is 919.

19. The following is a breakdown of the applications received and the training stations available:

Muhafadas	No. of Applicants	No. of Training Stations Available
Tripoli	2,525	437
Benghazi	1,052	271
Sebha	114	53
Misurata	660	22
El Homs	202	9
Zawya	1,077	10
Gharian	385	5
Derna	392	75
Tobruk	53	16
El Beida	115	21
Total	6,575	919

Training in Leather Tanning

1. This is an in-plant on-the-job training programme of "short-term" duration, i.e. one year.

2. The objective is to train skilled workers in leather tanning to be employed in the new government tannery in Benghazi.

3. Training at the government pilot tannery in Tripoli started in March 1960 in all specialities concerning modern tanning techniques.

4. Training is offered in practical tanning with four hours in related theoretical subjects.

5. Training is offered to Libyans, 16 to 24 years of age, with a Primary Certificate.

6. Trainees annually enrolled are under the supervision of one F.A.O. expert and an expatriate specialist in leather tanning. It is expected that ten trainees will be trained in the one-year period.

7. Local trainees will receive a sixty (60) piastres stipend per day while trainees coming from other towns will receive 100 piastres per day.

Training in Printing

1. This is a project under study with the Ministry of Guidance and Information.

2. It is an on-the-job training programme of short-term duration - one year.

3. The objective is to train skilled workers in printing techniques to be used in the government printing shops in Tripoli, Benghazi and Sebha.

4. Training is scheduled to begin about August 1965.

5. Training is intended to cover modern printing techniques.

6. Entrance requirements: Libyans 16 to 24 years of age, with a Primary Certificate.

Training in Wool Carpet-Making and Dressmaking for Girls

1. This is an institutional long-term programme to train young Libyan girls in carpet-making and dressmaking. Duration of training is 18 months.

2. It was started in Beghazi in 1959. Another centre will be opened in Derna in June 1965.

3. 38 hours a week of practical training are offered. For the time being no theoretical training is available.

4. Training is offered to Libyan girls, above 12 years of age, without any minimum academic preparation.

5. Fifty trainees are enrolled in the Benghazi centre under the supervision of three instructors. The same enrolment is expected for the Derna Centre.

Fishery Training Programme

1. This is an on-the-job training programme under the Department of Fisheries of the Ministry of Industry.

2. It is a short-term programme of 12 months' duration.

3. The objective is to train Libyans in the techniques of the fishing trades such as mounting nets, handling and classifying fish, use of mechanical devices in fishing and (primary) elements of navigation.

4. Training started in the ports of Tripoli and Benghazi in 1962. A new programme will be started soon in Derna.

5. No limitation of working hours has been established for this instruction.

6. Training is offered to Libyans, 17 to 27 years of age, with a Primary Certificate.

7. The number of trainees under training in Benghazi is 12, under one instructor; in Tripoli six, under one instructor.

8. All training given is practical, no related subjects accompany the practical training.

9. A certificate is issued by the skippers to the trainee upon completion of training.

10. Training is offered by two qualified skippers holding Captains' Navigation Certificates, one being paid by the German Government, the other by the Libyan Government.

11. The number of trainees completing training was nine in 1962, 12 in 1963, and 16 in 1964.

12. Upon completion of their courses all trainees started to work in the trade in which they had received instruction.

13. The trainees receive free transportation service to the fishing ports, work clothing, a stipend of 60 piastres per day, and a sea bonus according to catches of fish.

14. This training programme is organised with the collaboration of the Libyan Fishing Co-operative.

Small-scale Industries Programme

1. An on-the-job training programme is actually in operation in the small-scale industries centre in Sebha. It is undergoing a complete reorganisation.

APPENDIX IV

(Document compiled during the mission from the replies to the questionnaire sent to Ministries with vocational training programmes).

CONTEMPLATED VOCATIONAL TRAINING PROGRAMME, UNDER THE MINISTRY OF INDUSTRY

Vocational Training Centres in Derna and Misurata

1. This is an institutional training programme of long-term duration (three years).

2. The objective is to train skilled workers.

3. Training is to be offered in Derna, starting October 1965, in the school buildings being constructed in this city with the assistance of the German Government. Training at the Misurata Centre is planned to start in October 1966. This Centre has no foreign or international agency support for the time being. A request has been sent to I.L.O. asking for the assistance of this agency in providing the technical personnel to operate the school and in training Libyan teachers at the I.L.O. Turin Training Centre.

4. Training will be offered in the following fields:

Derna	Misurata
Auto-mechanics	Auto-mechanics
Machine-shop	Machine-shop
Electricity	Electricity
	Welding.

5. Practical training is to be offered during 28 hours a week and related training (related subjects) during 12 hours a week in the shops and classrooms of the vocational institutions at Derna and Misurata, according to the programme suggested by the Government.

6. Training is to be offered to Libyans, 14 to 16 years of age, with a Primary Certificate.

7. The total enrolment in the three-year programme will be 90 students in the three trades to be offered in Derna and 120 in the four trades to be offered at Misurata.

8. It has not been defined, as yet, the stipends to be received by the students, if any.

9. Nine (9) Libyans and four (4) German instructors will be used in giving training to the 90 students to be enrolled in Derna, fifteen (15) instructors will be recruited to train 120 students in Misurata.

10. The selection of students for training is to be based on the general level of education, giving priority to the oldest candidates.

11. The Libyan teachers and instructors of the Derna Centre (counterparts of the German instructors) will be graduates from the vocational schools of Sabratha and Benghazi and will follow a special training course in Germany for two years. I.L.O. co-operation is being requested for the teachers and instructors of the Misurata Centre.

12. Upon completion of training, graduates will receive a diploma indicating the specific trade or occupation in which they receive training.

13. Work clothing is to be provided to students enrolled.

<u>Accelerated Training Programme with the Assistance of the American Friends of the Middle East (Training in Mobile Centres)</u>

1. This is an institutional, accelerated training programme of a short-term duration: four months per session. Training will continue with different groups for an initial duration of two years.

2. The objective is to provide diesel- and gasoline-engine mechanics; clerks specialised in materials control, inventory procedures and warehousing; shop supervisors. Training will be at the first-class, semi-skilled level.

3. Training is to be offered in specially constructed workshops (dismountable type). Two mechanics training centres will be established, one in Tripoli and the other in Benghazi. The Administrative and Clerical Training Centre will be established in Tripoli.

4. Training is to be started three months after approval of the proposal.

5. The American Friends of the Middle East (A.F.M.E.) has presented an outline course of study for each of the fields of training.

6. The Mechanics Training Centre in Tripoli will train 16 men per group every four months or 96 in the two years' duration of the project; the same number in the centre of Benghazi. The Administrative and Clerical Training Centre in Tripoli will train two 16-men groups every four months and produce 160 to 192 trainees over a two-year period.

7. The minimum educational requirement for enrolment in the Mechanics Centre is preparatory education.

8. Upon completion of training, trainees will be classified as first-class mechanic helpers and can proceed with on-the-job training to qualify as full journeymen mechanics.

9. A.F.M.E. will provide instructional materials such as text books, manuals, etc.

10. Stipends to be received by trainees have not been decided yet; probably they will receive 60 piastres per day.

11. A.F.M.E. will offer short four-month specially tailored training courses for carefully selected men in supervisory or management operations.

12. A.F.M.E. proposes that five carefully selected Libyans be sent afterwards to the United States for short-term intensive training.

APPENDIX V

MEETING OF THE JOINT PLANNING COMMITTEE ON VOCATIONAL TRAINING CO-ORDINATION

A meeting of the Joint Planning Committee was called by the Minister of Planning and Development to be held on 28 August to discuss the co-ordination of vocational training in Libya and the recommendations which the I.L.O. Vocational Training Adviser had presented to the Under-Secretary of State of the Ministry of Planning and Development.

The meeting was postponed until 4 September at which date the Joint Planning Committee decided to call the Expert-Adviser on the following day to present to the Committee the recommendations he had to make as to the co-ordination of vocational training.

The meeting was held in the library of the Ministry of Planning under the able chairmanship of Mr. Hamid Abeidi, the Minister of Planning and Development and with the attendance of the following: Dr. Alo Attiga, Under-Secretary of Planning and Development; Mr. Abdulasis Kamal, Under-Secretary of Industry; Mr. Ramadan Nasri, Under-Secretary of Finance; Mr. Othman Ghirbi, Under-Secretary of Agriculture; Dr. Pitt Hardeker, Economic Adviser to the Prime Minister; Mr. Rami Sarrag, representing the Ministry of National Economy; Mr. Kasim Sherlala, Director of Economic Research Section in the Bank of Libya; Mr. Mohamed Mariamai, Under-Secretary of Labour and Social Affairs; Mr. M. Bourgrara, representing the Ministry of Education; Mr. Mahud Derbi, Assistant Under-Secretary of Labour and Social Affairs; Dr. Kairy Sogier, Director of Planning and Agricultural Economy; Mr. Abu Bakr Sherif, Director of Economic and Social Affairs Division of the Ministry of Planning and Development; Dr. Subhas Dhar, Principal Planning Adviser, Ministry of Planning and Development; Mr. G. Hamaoui, O.P.E.X. Head Training Department, Ministry of Industry, and Mr. A. Figueroa-Colon, I.L.O. Vocational Training Adviser, Ministry of Planning and Development. Messrs. G. Malti and G. Tamemi, both from the Ministry of Planning and Development, acted as secretary and translator respectively.

The secretary read, in Arabic, the memorandum the I.L.O. Vocational Training Adviser had sent to the Director of Economic and Social Affairs on 5 June 1965. Then the document was discussed very thoroughly, especially by the Under-Secretaries of Labour and of Industry, who engaged in a very lengthy discussion on the interpretation of technical terms such as apprenticeship,

technical training, industrial education, accelerated training, and on-the-job training. The Expert-Adviser clarified some of the points under discussion when the Under-Secretary of Planning and Development called upon him to do so.

Upon the decision of the chairman, a subcommittee was set up composed of one representative each of the Ministries of Labour, of Industry and of Agriculture and the I.L.O. Vocational Training Adviser. This subcommittee was to meet in the same place at 6 p.m. of the same day.

This subcommittee drafted some conciliatory approaches to the determination of fields of competence of each Ministry in vocational training and on the following day, submitted its draft to the Joint Planning Committee. The discussion was continued by the Under-Secretary of Industry who wished certain programmes which had been left out from the revised fields of competence to continue to operate in his Ministry. The Under-Secretary of Planning and Development accepted this request and the draft was amended accordingly.

At this time, much of the discussion developed around the Arabic translation made of the English original submitted by the I.L.O. Vocational Training Adviser. Some Arabic terms did not express the concept as conceived by the Adviser and this gave ground for some debate by the Under-Secretaries with a command of the English language.

Finally the Under-Secretaries approved the fields of competence of each Ministry and the vocational training co-ordination plan as presented, with some amendments, by the I.L.O. Vocational Training Adviser.

Inasmuch as there exists in the Government a Joint Planning Committee with functions different from those of the Committee suggested, the latter will from now on be called the Vocational Training Committee. This Committee will meet every three months.

The establishment and functions of the Vocational Training Co-ordination Executive Committee (V.T.C.E.C.) and the Vocational Training Co-ordination Executive Committee Secretariat (V.T.C.E.C.S.) were also approved. The V.T.C.E.C. will consist of the Directors of Training of the Ministries with vocational training programmes. It will meet every month and will render annual reports and any other reports when called for by the Vocational Training Committee. The Vocational Training Co-ordination Executive Secretariat will be attached to the Ministry of Planning and Development and will form part of the Economic and Social Affairs Division of that Ministry (see annexures).

The Expert-Adviser deeply appreciates the interest shown by Dr. A. Attiga, the Under-Secretary of Planning and Development and the present Director-General of the Economic and Social Affairs Division, Mr. Abu Bakr Sherif, in making it possible that this meeting be held before the departure of the I.L.O. Vocational Training Adviser. The established delineation of the fields of competence will open the way for the approval of the Special Fund project as submitted by the Government of Libya. So as to facilitate the efficient operation of existing and future vocational training programmes to be organised in the country, the Ministries will co-ordinate their efforts in the development of the required training schemes to meet the acute shortage of skilled workers in Libya by observing standard governing principles which may avoid any duplication of effort in the establishment of such vocational training schemes.

Annexure A

FIELDS OF COMPETENCE OF THE MINISTRIES WITH VOCATIONAL TRAINING PROGRAMMES

(As approved by the Joint Planning Committee on 6 September 1965).

MINISTRY OF EDUCATION

1. Pre-vocational Information and Training Programmes, such as: industrial arts courses, and vocational information and guidance programmes.

2. Long-termed Trade Training Programmes designed for the preparation of youth for employment and to be offered in educational institutions at a Secondary Education Level, including Diversified Occupations Programmes.

3. Educational Training of Technicians, Degree Engineers, Managerial Personnel, Teachers, Instructors and Lecturers, that is, all training requiring post-high school or university education.

4. Educational Up-grading of Workers, that is, courses needed by workers to improve their general education, such as literacy and fundamental education programmes to be offered during the workers' non-working time.

MINISTRY OF INDUSTRY

1. Industrial Accelerated Training Programmes designed to offer in-plant or factory training to adult workers to meet the immediate needs of industry.

2. Industrial training programmes for the youths including apprenticeship schemes basic to those trades presently undertaken by the Ministry.

3. Specialised Training Centres to be established for the training of semi-skilled workers or single-machine operators for immediate employment in industry.

4. Training for small industries as handicrafts and cottage industries to be established to produce articles utilising elementary natural resources like leather, woollen yarns, metals, etc., which may facilitate the establishment of small industries.

5. Mobile Units (mobile shops on wheels) to facilitate training in remote areas where it is not possible to offer institutional training or the setting-up of temporary shops in remote areas and which can be dismantled and transferred to other areas where the training is needed.

MINISTRY OF LABOUR

1. Apprenticeship Training Programmes designed to provide vocational training to youths entering various industries.

2. Institutional Accelerated Training Programmes to provide skilled and/or semi-skilled labour, provided that any such programmes must not overlap or duplicate any projects undertaken by other Ministries.

3. Vocational and social rehabilitation programmes designed to offer vocational training for mentally, socially, or physically handicapped persons in institutions specially designed for such purposes or in industrial plants where special programmes can be organised for the training of blind or handicapped persons.

4. Evening Extension Courses designed for the upgrading or retraining of workers in new skills and technology.

5. Supervisory Training Programmes designed to offer training which may upgrade the skill of workers to assume positions of greater responsibilities such as foremen and shop supervisors.

Annexure B

VOCATIONAL TRAINING CO-ORDINATION SET-UP

(As approved by the Joint Planning Committee on 6 September 1965).

1. Vocational Training Committee

   a. To be organised at the Under-Secretaries level.

   b. Will be composed of the Under-Secretaries of Planning and Development, as chairman, and of the Education, Industry, Labour and Social Affairs, as members.

   c. Will act as a national advisory board for manpower and training.

   d. Will deal with matters of manpower and vocational and training policy.

   e. Will meet every three months.

   (As was approved in the 11th November 1963 meeting, "the Under-Secretaries of State of the Ministries concerned would enter the scene only initially and, later on, on such occasions where no agreement could be reached at the level of Director (of Technical Departments)".)

   This body which will concern itself with the over-all inter-relationships of economics, manpower planning, education and training and similar aspects that must be considered at Government level, could provide the necessary weight to develop the proper leadership and organisational machinery to bring the respective Ministries together in meeting a common goal.

2. Vocational Training Co-ordination Executive Committee

   a. To be organised at the Directors of Technical Departments level.

   b. Will be composed of the Directors of Technical Departments and Officials responsible for manpower planning, vocational education, and vocational training. The chairman will be the delegate from the Ministry with no executive functions, that is, the Ministry of Planning and Development.

c. Will act as the co-ordinating body of all manpower planning, vocational education and vocational training activities in the Ministries with these fields of activities.

d. Will meet every month.

Will deal with setting recommendations to the Vocational Training Co-ordination Executive Committee Secretariat for the implementation, with the Ministries concerned, of vocational education and vocational training programmes. As was approved in the 11th November 1963 meeting, this committee will deal also specifically with:

(a) Evaluation of the manpower situation by utilising all available information; with submission of annual reports and any other reports requested to the Vocational Training Committee.

(b) Assessment of the training requirements resulting from the manpower situation and its anticipated development.

(c) Planning of vocational education and vocational training facilities and schemes including, where appropriate, planning requirements as regards space, equipment and instructors.

(d) Consideration of ways and means to assess and, where appropriate, to supervise the implementation of vocational training schemes.

(e) Suggestions of rules according to which stipends, grants, and awards may be granted to trainees and/or students in the respective fields.

(f) Suggestions of rules according to which employers who take part in training schemes may be reimbursed for their training expenses.

(g) Suggestions of rules according to which employers benefiting from vocational training activities may be called upon to contribute to the training expenditures.

(h) Recommendations concerning the introduction of a vocational guidance system prior to, during, and subsequent to vocational training.

(i) Recommendations concerning the introduction of a placement service for graduates from vocational training schemes, or concerning other appropriate means to channel such graduates into jobs for which they are suitable.

(j) Promotion of the utilisation of modern teaching and instruction methods, including the use of audio-visual aids, and suggestions of other appropriate means to improve the standards of vocational training.

(k) Recommendations concerning the desirability of prevailing training for specific trades or occupations.

(l) Recommendations concerning the allocation of funds to vocational training programmes.

(m) Recommendations concerning the propagation of a public appreciation of vocational training and suggestions concerning the organisation of vocational training weeks or other appropriate means to this end.

(n) Setting governing principles to be applied in the establishment and operation of all vocational education and vocational training schemes with a view to standardise procedures and thus eliminate overlapping and duplication of efforts.

3. <u>Vocational Training Co-ordination Executive Committee Secretariat</u>

a. To be attached to the Ministry of Planning and Development and form part of the Economic and Social Affairs Division.

b. Will be composed of one Vocational Training Expert and two counterparts, one of whom will concentrate on manpower aspects of vocational training, whereas the other will, primarily, be concerned with other relevant technical aspects. However, it should be ensured that none of them loses out of sight the co-ordination of vocational training as a whole.

c. The Ministry of Planning and Development will facilitate office space, clerical staff and supplies and materials as needed.

d. It will have as a principal function the co-ordination of the various vocational training schemes in the Ministries and will receive and implement, with the Ministries concerned, the recommendations which the Vocational Training Co-ordination Executive Committee may approve for implementation.

The following functions will be performed by this Secretariat so as to carry out its primary objective of co-ordination of the vocational training programmes:

a. organisation of co-ordination committee's meetings and execution of the necessary preparatory and follow-up work resulting thereof;

b. carrying out such administrative work as not being the responsibility of another department or division in the Ministry of Planning and Development;

c. collection of information concerning the manpower situation and keeping it up to date;

d. evaluation of such information to the end that an assessment of training requirements can be based on them;

e. collection of information concerning existing and planned vocational training schemes and facilities;

f. evaluation of such information to the end that decisions concerning the future operation of existing, and the implementation of new vocational training schemes can be based on them;

g. facilitation of co-operation with other public or private bodies concerned with vocational training by making the necessary contacts, inviting guest members to committee meetings, and by such other means as may be appropriate;

h. such other functions as may be assigned to the Secretariat by the Committee.

VT 005 000
Associate Degree Education for Nursing.

National League for Nursing, New York, N.Y. Dept. of Associate Degree Programs
MF AVAILABLE IN VT-ERIC SET.
National League for Nursing, 10 Columbus Circle, New York, New York 10019 ($0.25).
Pub Date - 67 6p.

*HEALTH OCCUPATIONS EDUCATION; *TECHNICAL NURSES; *ASSOCIATE DEGREES; EDUCATIONAL PROGRAMS; *JUNIOR COLLEGES; GENERAL EDUCATION; REGISTERED NURSES; CERTIFICATION; ACCREDITATION (INSTITUTIONS); ADMISSION CRITERIA; HOSPITALS

Associate degree programs in nursing differ in many ways but are characterized by the following unique features: (1) The majority are conducted by public junior colleges, (2) The program length is two years, (3) Nursing theory and practice are combined with general education courses, (4) Students must meet college and nursing program requirements for admission, including high school graduation, (5) Costs, which are usually minimal, are comparable to those of other students in the college, (6) The purpose is to educate students to be eligible for licensure as registered nurses and to be prepared to give patient-centered nursing care in beginning general duty nurse positions, usually in hospitals. More than 200 state approved programs are listed and National League for Nursing accreditation is indicated for those so approved. (JK)

VT 005 000

EDO 30001

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6p*

ASSOCIATE DEGREE EDUCATION FOR NURSING

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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NATIONAL LEAGUE FOR NURSING

Department of Associate Degree Programs 10 Columbus Circle, New York, ~~New York~~ N.Y. 10019

1967

Code Number: 23-1253

Price: 25 cents

VT005000

ASSOCIATE DEGREE EDUCATION FOR NURSING

The Need for Registered Nurses

If you have read much about nursing or have had many contacts with nurses recently, you will know that more registered nurses are urgently needed to care for patients in our nation's hospitals, nursing homes, and other health agencies. Factors that have helped to bring about this need are well known: increased population, scientific and technological advances, more health insurance programs, and growth and expansion of hospitals and other health facilities. The startling fact is that while you are reading this paragraph, new job opportunities are being created and the need for more registered nurses is increasing.

As new job opportunities in nursing have been created, new educational opportunities have become available. A comparatively new and different type of education to prepare more registered nurses is the associate degree program in nursing.

This publication provides general information about associate degree education for nursing, lists state-approved associate degree programs, and indicates those that have been accredited by the National League for Nursing (NLN), which is the national accrediting agency for nursing education. The material was prepared by NLN's Department of Associate Degree Programs to assist prospective applicants and others who may be interested. For more information of a general nature, write to the department. For specific information, write to the individual programs for their nursing catalogues or bulletins.

Associate Degree Programs in Nursing

Associate degree programs in nursing became a part of the American system of nursing education in 1952. Their growth has been remarkable. In 1956, there were fewer than 25 state-approved programs. By the end of 1966, there were almost 220 state-approved programs in 40 of the 50 states and in Puerto Rico, Guam, and the American Virgin Islands.

Although there are variations, a number of features are unique to associate degree programs:

The majority are conducted and controlled by public junior or community colleges (some are in senior colleges or universities, and a few are in private institutions).

Associate degree programs require two years to complete, which may be two academic years or two calendar years.

The course of study combines nursing theory and practice with college-level general education courses in the liberal arts and the sciences.

Students must meet requirements of the college and the nursing program for admission and for graduation.

Costs and living arrangements for nursing students are comparable to those for students in other curriculums in the college. These are usually minimal in community colleges.

The sole purpose of AD programs is to educate students who will be eligible for licensure as registered nurses and who will be prepared to give patient-centered nursing care in beginning general duty nurse positions, usually in hospitals.

This last feature is especially important to note if you are considering a nursing career, for within the occupation of nursing today there are many kinds of nurses with different types of education and equally different job responsibilities. Despite this variety, the majority of registered nurses work in hospitals or other institutions and are engaged in giving direct nursing care to the sick. These nurses usually are called general duty or staff nurses and sometimes "bedside" nurses. Since staff nurses are responsible for direct care to patients, they must possess a high degree of technical nursing knowledge and skill and have an understanding of the scientific principles of the nursing care they give. Theirs is a demanding responsibility.

Because of its unique features, an AD program will meet your needs if:

You would like to become a registered nurse.

Your goal is to give nursing care to the sick as a staff nurse.

You want both a nursing education and some college-level general education.

You want to complete your education in a relatively short period of time.

You would like to obtain your nursing education in a college setting in your own community.

These unique features of associate degree education for nursing also mean that the programs are attractive to married women and others whose family responsibilities require them to live at home, to men who wish to pursue nursing careers, and to older students.

Although the associate degree program in nursing is complete for the purpose described, some of the college credits earned in the program can be applied toward a baccalaureate degree in nursing should a graduate decide later to pursue education for professional nursing. The amount of credit granted depends on the policies of the senior college or university that conducts the baccalaureate degree program (that accepts the students).

Admission Requirements

High school graduation is the minimum requirement for admission to any school or program that prepares its graduates to become licensed as registered nurses. This includes associate degree, baccalaureate degree, and diploma programs in nursing. A school may establish any requirements it wishes above the minimum. The college preparatory, or academic, course in high school is preferred by all schools and required by some. A good academic average is essential. Since admission requirements vary, you should obtain specific information by writing to schools for their nursing catalogues or bulletins.

Licensure

All states regulate by law the practice of nursing and other health occupations. This applies equally to medicine, dentistry, pharmacy, and other fields, and to nursing. Licensure, therefore, has a legal meaning. A license is not a degree.

A graduate of a state-approved associate degree, baccalaureate degree, or diploma program in nursing is eligible to take a state licensure examination to become a registered nurse. Licensure as a registered nurse (R.N.) means that the nurse has met legal requirements to practice in the state in which the license is issued.

The protection of the public is the basic reason for licensing laws, since the public cannot be expected to know the difference between a competent or an incompetent practitioner. In terms of public safety, a licensed practitioner of nursing, a registered nurse, is assumed to be competent. Note especially that a registered nurse's license does not indicate the type of education the nurse has had, since the R.N. may be a graduate of an associate degree, baccalaureate degree, or a diploma program in nursing.

Availability of Funds

A listing of scholarship funds is available on request from the college.

Nationally Accredited Schools

To become a licensed nursing practitioner--an R.N.--you must be a graduate of a state-approved school or program in nursing. State-approved schools have met legal standards set by a state board of nursing. This applies in each of the 50 states.

The American system of education includes another type of educational approval that is important for you to know about. It is called national accreditation.

National accreditation differs from state approval in that it is national (rather than statewide) in scope and is voluntary instead of being required by law. The National League for Nursing is the national accrediting agency for nursing education. Schools that apply for and receive national accreditation must meet national standards of excellence. These standards exceed the legal standards set by state boards of nursing. Enrolling in an NLN-accredited program is your guarantee of getting the best available nursing education of its type.

Following is a list of state-approved programs in nursing education leading to the associate degree. Programs accredited by the National League for Nursing are indicated by an asterisk (*). For specific information about any nursing program, write to the director of the program, c/o the junior or community college, and request a nursing catalogue or bulletin.

ALABAMA

Birmingham--Jefferson State Junior College*

ARIZONA

Flagstaff--Northern Arizona University
Phoenix--Phoenix College*

CALIFORNIA

Alta Loma--Chaffey College
Angwin--Pacific Union College
Bakersfield--Bakersfield College
Compton--Compton College
Costa Mesa--Orange Coast College*
Fresno--Fresno City College
Fullerton--Fullerton Junior College
Hayward--Chabot College
Kentfield--College of Marin*
Long Beach--Long Beach City College*
Los Altos Hills--Foothill College
Los Angeles--
East Los Angeles College
Los Angeles City College
Modesto--Modesto Junior College
Norwalk--Cerritos College
Oakland--Merritt College
Palm Desert--College of the Desert
Pasadena--Pasadena City College*
Redding--Shasta College
Riverside--
La Sierra College
Riverside City College
Sacramento--Sacramento City College
Salinas--Hartnell College
San Bernardino--San Bernardino Valley College
San Francisco--City College of San Francisco
San Jose--San Jose City College*
San Mateo--College of San Mateo*
San Pablo--Contra Costa College
Santa Barbara--Santa Barbara City College
Santa Rosa--Santa Rosa Junior College
Stockton--San Joaquin Delta College
Torrance--El Camino College
Van Nuys--Los Angeles Valley College
Ventura--Ventura College
Walnut--Mount San Antonio College
Wilmington--Los Angeles Harbor College

COLORADO

Grand Junction--Mesa College*
Pueblo--Southern Colorado State College*

CONNECTICUT

Bridgeport--Junior College of Connecticut,*
University of Bridgeport

FLORIDA

Bartow--Polk Junior College
Bradenton--Manatee Junior College
Cocoa--Brevard Junior College
Daytona Beach--Daytona Beach Junior College

FLORIDA--Continued

Fort Lauderdale--Junior College of Broward County
Fort Pierce--Indian River Junior College
Jacksonville--Jacksonville University
Key West--Florida Keys Junior College
Lake City--Lake City Junior College and Forest
Ranger School
Lake Worth--Palm Beach Junior College
Miami--Miami-Dade Junior College
Ocala--Central Florida Junior College
Panama City--Gulf Coast Junior College
Pensacola--Pensacola Junior College
St. Petersburg--St. Petersburg Junior College

GEORGIA

Americus--Georgia Southwestern College
Savannah--Armstrong State College
Tifton--Abraham Baldwin Agricultural College

GUAM

Agana--College of Guam

HAWAII

Honolulu--University of Hawaii*

IDAHO

Boise--Boise Junior College
Lewiston--Lewis-Clark Normal School
Rexburg--Ricks College

ILLINOIS

Belleville--Belleville Junior College*
Chicago--Amundsen Junior College-Mayfair Unit
Chicago Heights--Bloom Community College
Cicero--J.Sterling Morton Junior College
Elgin--Elgin Community College
Harvey--Thornton Junior College
Northlake--Triton College

INDIANA

Fort Wayne--Purdue University*
Gary--Indiana University, Northwest Campus
Hammond--Purdue University, Calumet Campus*
Indianapolis--
Indiana Central College*
Indiana University-Downtown Campus
Purdue University, Indianapolis Campus
Jeffersonville--Indiana University, Southeastern
Campus
Lafayette--Purdue University*
Michigan City--Purdue University, Barker
Memorial Center
Vincennes--Vincennes University*

IOWA

Fort Dodge--Fort Dodge Community College

KANSAS

El Dorado--Butler County Community Junior
College

KENTUCKY

Bowling Green--Western Kentucky University*
Covington--Northern Community Center of the University of Kentucky
Elizabethtown--Elizabethtown Community College of the University of Kentucky
Henderson--Henderson Community College of the University of Kentucky
Lexington--Lexington Technical Institute of the University of Kentucky
Paducah--Paducah Junior College
Richmond--Eastern Kentucky University

LOUISIANA

Alexandria--Louisiana State University*

MAINE

Portland--Westbrook Junior College

MARYLAND

Baltimore--
Baltimore Junior College
Catonsville Community College
Bel Air--Harford Junior College
Severna Park--Anne Arundel Community College
Takoma Park--Montgomery Junior College

MASSACHUSETTS

Auburndale--Lasell Junior College
Boston--Northeastern University
Greenfield--Community College at Greenfield
Newtonville--Newton Junior College
South Lancaster--Atlantic Union College*
Worcester--Quinsigamond Community College

MICHIGAN

Battle Creek--Kellogg Community College
Dearborn--Henry Ford Community College*
Flint--Flint Community Junior College
Highland Park--Highland Park College
Lansing--Lansing Community College
Livonia--Schoolcraft College
Petoskey--North Central Michigan College
Port Huron--Port Huron Junior College
Traverse City--Northwestern Michigan College
Union Lake--Oakland Community College
University Center--Delta College
Warren--Macomb County Community College

MINNESOTA

Hibbing--Hibbing Junior College*
Minneapolis--St. Mary's Junior College

MISSISSIPPI

Booneville--Northeast Mississippi Junior College
Ellisville--Jones County Junior College
Handsboro--Gulf Coast Junior College District, Jefferson Davis Branch
Itta Bena--Mississippi Valley State College
Meridian--Meridian Junior College

MISSISSIPPI--Continued

Moorhead--Mississippi Delta Junior College
Natchez--Natchez Resident Center of the University of Southern Mississippi
Raymond--Hinds Junior College
Poplarville--Pearl River Junior College

MISSOURI

Cape Girardeau--Southeast Missouri State College
Kirkwood--Meramec Community College, The*
Junior College District of St. Louis*
Joplin--Missouri Southern College
Kansas City--Metropolitan Junior College
St. Louis--
Forest Park Community College
Mercy Junior College

MONTANA

Havre--Northern Montana College

NEVADA

Las Vegas--Nevada Southern University

NEW JERSEY

Edison--Middlesex County College
Lodi--Immaculate Conception Junior College
Millville--Cumberland County College
Rutherford--Fairleigh Dickinson University*
Toms River--Ocean County College

NEW YORK

Albany--Junior College of Albany*
Alfred--SUNY, Agricultural & Technical College
Bronx--Bronx Community College*
Brooklyn--
Kingsborough Community College of the City University of New York*
New York City Community College
Buffalo--Trocaire College
Canton--SUNY, Agricultural & Technical College
Corning--Corning Community College*
Farmingdale--SUNY, Agricultural & Technical College*
Flushing--Queens College
Garden City--Nassau Community College*
Hudson Falls--Adirondack Community College
Jamestown--Jamestown Community College
Middletown--Orange County Community College
Morrisville--SUNY, Agricultural & Technical College
Niagara Falls--Niagara County Community College
Pleasantville--Pace College, Westchester Division
Poughkeepsie--Dutchess Community College
Rochester--Monroe Community College
Selden--Suffolk County Community College*
Staten Island--Staten Island Community College
Suffern--Rockland Community College*
Syracuse--SUNY, Upstate Medical Center*
Troy--Hudson Valley Community College
Utica--Mohawk Valley Community College

NORTH CAROLINA

Boiling Springs--Gardner-Webb Junior College
Charlotte--Central Piedmont Community College
Morganton--Western Piedmont Community College
Murfreesboro--Chowan Junior College
Southern Pines--Sandhills Community College
Wentworth--Rockingham Community College
Whiteville--Southeastern Community College
Wilmington--Wilmington College

OHIO

Cleveland--Cuyahoga Community College
Elyria--Lorain County Community College
Kettering--Kettering Medical Center Educational Division

OKLAHOMA

Bacone--Bacone College
Lawton--Cameron State Agricultural College

PENNSYLVANIA

Cresson--Mount Aloysius Junior College
Gwynedd Valley--Gwynedd-Mercy College*
Philadelphia--Community College of Philadelphia
Pittsburgh--Point Park Junior College

PUERTO RICO

Mayaguez--University of Puerto Rico*

RHODE ISLAND

Providence--Rhode Island Junior College

SOUTH CAROLINA

Clemson--Clemson University
Columbia--University of South Carolina, Division of General Studies
Greenwood--Lander College

SOUTH DAKOTA

Aberdeen--Presentation College
Vermillion--University of South Dakota

TENNESSEE

Collegedale--Southern Missionary College*
Jackson--Union University
Nashville--Tennessee Agricultural and Industrial State University

TEXAS

Alvin--Alvin Junior College
Odessa--Odessa College
Pasadena--San Jacinto College
Texarkana--Texarkana College*

UTAH

Ogden--Weber State College*
Provo--Brigham Young University

VERMONT

Castleton--Castleton State College
Montpelier--Vermont College*

VIRGINIA

Arlington--Marymount College of Virginia
Bailey's Crossroads--Northern Virginia Community College
Norfolk--Norfolk Division, Virginia State College
Winchester--Shenandoah College

VIRGIN ISLANDS

St. Thomas--College of the Virgin Islands

WASHINGTON

Everett--Everett Junior College*
Midway--Highline College
Pasco--Columbia Basin College
Seattle--Shoreline Community College
Vancouver--Clark College
Yakima--Yakima Valley College

WEST VIRGINIA

Charleston--Morris Harvey College*
Fairmont--Fairmont State College
Huntington--Marshall University

WISCONSIN

Milwaukee--Milwaukee Institute of Technology

VT 005 219
Alden, John D.
Engineering and Technician Enrollments--Fall 1967. Summary Report.

Engineering Manpower Commission, New York, N.Y.
MF AVAILABLE IN VT-ERIC SET.
Engineering Joint Council, Department P, 345 East 47th Street, New York, New York 10017 ($1.00).
Pub Date - Jan68 30p.

*STUDENT ENROLLMENT; *ENGINEERING EDUCATION; *TECHNICAL EDUCATION; *ENGINEERS; *ENGINEERING TECHNICIANS; TRANSFER STUDENTS; GRADUATE STUDENTS; FOREIGN STUDENTS; ENROLLMENT TRENDS; UNDERGRADUATE STUDY; FEMALES

"Engineering and Technician Enrollments--Fall 1967, Detailed Report" is summarized. See abstract of VT 005 220 which is the complete report. (EM)

VT 005 219

EDO 30001

ENGINEERING and TECHNICIAN ENROLLMENTS

FALL 1967

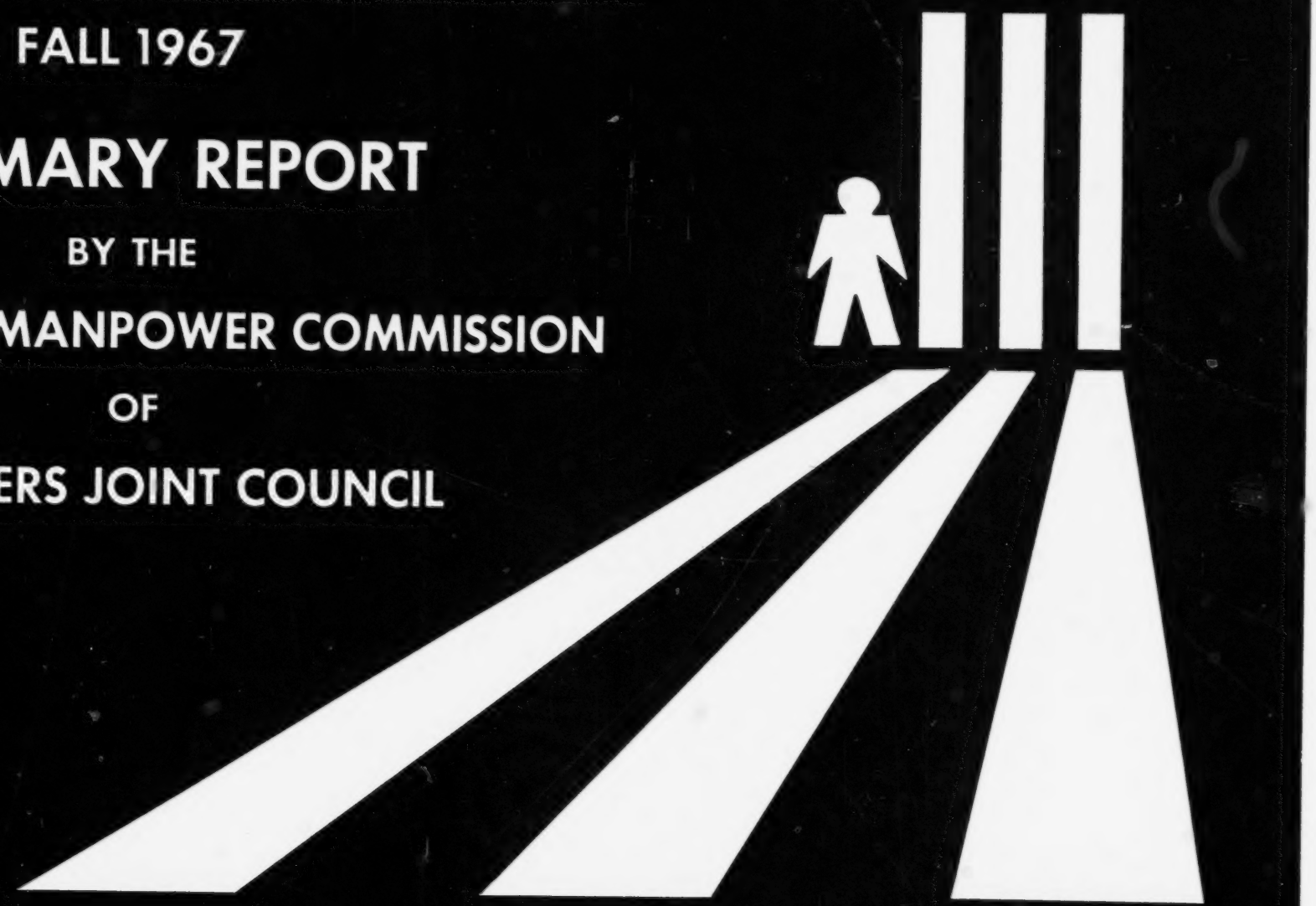
SUMMARY REPORT

BY THE

ENGINEERING MANPOWER COMMISSION

OF

ENGINEERS JOINT COUNCIL



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Engineering and Technician Enrollments -- Fall 1967

SUMMARY REPORT

by the
ENGINEERING MANPOWER COMMISSION
of Engineers Joint Council

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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January 1968

$1.00

The Engineering Manpower Commission of Engineers Joint Council is charged with the following responsibility:

> "To engage in studies and analyses of the supply, demand, and utilization of engineering and technical manpower; to make recommendations, conduct programs, and develop reports concerning these aspects of engineering and technical manpower; and to carry on such other programs in the field of manpower as may be authorized by the Board of Directors of EJC."

The Commission is made up of men and women from industry, education, government, and the professional societies whose work involves a close association with technical manpower problems. Members of the following engineering societies are currently serving as Commissioners:

--American Society of Civil Engineers
--American Institute of Mining, Metallurgical, and Petroleum Engineers
--The American Society of Mechanical Engineers
--American Water Works Association
--Institute of Electrical and Electronics Engineers
--The American Society for Engineering Education
--American Society of Heating, Refrigerating, and Air-Conditioning Engineers
--American Society of Agricultural Engineers
--American Institute of Chemical Engineers
--Society of Fire Protection Engineers
--Society for Nondestructive Testing
--The Society of American Military Engineers
--The American Institute of Industrial Engineers
--American Institute of Consulting Engineers
--American Institute of Plant Engineers
--American Association of Cost Engineers
--American Society for Metals
--Instrument Society of America
--American Society for Quality Control
--National Institute of Ceramic Engineers
--Society of Women Engineers

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Acknowledgments

The principal contributors to this report were, of course, the deans, registrars, and other officials of approximately 870 schools who provided enrollment data on their engineering and technology students. Thanks are hereby extended to all of them for their cooperation in this survey.

Thanks are also due to the American Society for Engineering Education for encouraging and assisting the Engineering Manpower Commission to undertake this survey. Dr. W. Leighton Collins, Executive Secretary, and Dr. George D. Lobingier, Past President and member of the Board of Directors of ASEE, personally contributed invaluable help and advice in making the survey a success.

Donald E. Irwin and Theodore J. Carron, as 1967 and 1968 Chairmen of the EMC Surveys Committee, had an important part in the planning and policy making that went into this project. Richard C. Fremon contributed technical advice in setting up a computer program for handling the data. Thanks are also due to Dr. Donald C. Metz for his pioneering work and advice in connection with the technician portion of the survey.

The survey was conducted under the general direction of John D. Alden, Executive Secretary of the Engineering Manpower Commission, with the assistance of Miss Carol Iceland of the EMC staff in a multitude of essential functions.

Programming and data processing were done by Computer House, Inc. of New York City.

J.D.A.

Introduction

This report contains the highlights of the enrollment survey conducted by the Engineering Manpower Commission of Engineers Joint Council in the fall of 1967.

Questionnaires were sent to all known engineering schools in the U.S. and replies were received from practically all of them. To make the data comparable with previous years, estimates were made for the few schools that did not respond. These constituted less than 3% of the total enrollments reported. Engineering enrollment data are thus entirely comparable with those reported by the U.S. Office of Education in previous years. In a few cases schools were unable to break down their data exactly as desired for this report such as being unable to separate master's and doctor's enrollments in the first year, etc. In such instances an arbitrary division was made on the basis of overall ratios prevailing in previous years. The numbers involved were too small to be significant in the totals.

For the technician survey, questionnaires were sent to all known technical institutes, junior colleges, and other institutions offering programs in engineering technology or industrial technology. Since there is no comprehensive list of all such schools, and new ones are constantly being established, the enrollment figures reported here are only an approximation of the total technician enrollments for the entire U.S. Our figures represent, however, the largest known group of technician schools ever surveyed. In the case of schools having curricula accredited by Engineers' Council for Professional Development, which constitute the solid core of engineering technology education, 100% returns are reported. No attempt was made to estimate enrollment for non-responding schools not on the ECPD list.

Explanations

Explanations of specific features of each data table will be found on the page facing the table. The following additional explanations are general in nature.

Tables showing data by curriculum follow, in general, the designations and groupings used by Engineers' Council for Professional Development in its 1966 list of Curricula Leading to First Degrees in Engineering, with the following exceptions:

--"Biomedical" is an unofficial category added by EMC. No accredited curricula exist with this title.

--"Marine" as used in this survey includes curricula in ocean engineering, marine engineering, and related titles, in addition to the naval architecture and marine engineering curricula accredited by ECPD.

--"Other" includes the welding engineering curriculum accredited by ECPD, as well as a variety of unaccredited curricula not classifiable under any other group.

--"Undifferentiated" refers to students who have not designated a major engineering field or who are in "common core" courses at the lower undergraduate levels.

For the technology schools, a simplified grouping was used consisting of aerospace, civil, drafting and design, electrical and electronic, mechanical, and all other fields of engineering technology; also physical science and mathematics technology, and industrial technology. There are no exact definitions for any of these fields, and in most cases classification was made by the reporting institution itself.

DATA TABLES

ENGINEERING AND TECHNICIAN ENROLLMENTS
FALL 1967

Table I

See page 5 for general notes on interpretation of the survey data.

The totals for women and foreign students are estimated because many schools reported that they were unable to provide this information. For the schools that did report data, the ratio of women and foreign students to total enrollments was calculated year by year. This ratio was applied to the total enrollment for all schools to arrive at the figures shown.

ENGINEERING MANPOWER COMMISSION

ENGINEERING ENROLLMENT SURVEY - FALL 1967

ALL ENGINEERING SCHOOLS, ENTIRE U. S.

CURRICULUM	NO OF INST REPTG	UNDERGRADUATES - FULL TIME FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	FIFTH YEAR	TOTAL 3RD-5TH YEARS	TOTAL 1ST-5TH YEARS	MASTERS OR OTHER PRE-DOC DEGREE FULL TIME FIRST YEAR	OTHER YEARS	DOCTOR DEGREE FULL TIME ALL YEARS	TOTAL GRADUATE STUDENTS
AEROSPACE	69	3331	3521	3003	2474	96	5573	12425	822	670	1050	2542
AGRICULTURAL	43	516	464	485	457	36	978	1958	215	130	151	496
ARCHITECTURAL	18	762	691	593	667	181	1441	2894	93	25	1	119
BIOMEDICAL	16	0	0	8	9	0	17	17	42	46	102	190
CHEMICAL	140	3410	4220	4205	3959	372	8536	16166	1469	970	1612	4051
CIVIL	185	5778	6441	7187	7475	693	15355	27574	2938	1708	1679	5325
ELECTRICAL	209	11818	12848	13388	13081	1374	27843	52509	5834	4191	3891	13916
ENGINEERING SCIENCES	101	2115	1969	2077	1977	31	4085	8169	824	580	1066	2470
ENVIRONMENT AND HEALTH (1)	25	25	45	38	37	0	75	145	174	61	172	407
GENERAL AND UNIFIED ENGRG	55	3178	2170	2129	1678	36	3843	9191	523	171	364	1058
GEOLOGICAL	23	207	190	211	175	0	386	783	139	50	63	252
INDUSTRIAL	102	948	1645	2689	2832	395	5916	8509	1679	1032	732	3443
MARINE	14	514	585	517	514	0	1031	2130	88	161	62	311
MECHANICAL	198	8224	9316	10196	9668	1251	21115	38655	3000	2341	1934	7275
METALLURGICAL AND MATERIALS	74	575	860	960	1011	85	2056	3491	664	420	1008	2092
MINING	23	131	148	174	198	0	372	651	91	82	52	225
NUCLEAR	41	209	215	237	202	0	439	863	418	321	619	1358
PETROLEUM	21	292	317	341	273	0	614	1223	65	103	70	238
TEXTILE	7	74	125	114	125	0	239	438	32	11	3	46
OTHER ENGINEERING	61	586	680	715	680	19	1414	2680	743	908	461	2112
UNDIFFERENTIATED	137	34858	10525	1216	59	20	1295	46678	41	356	284	681
*TOTAL - ALL CURRICULA	274	77551	56975	50483	47551	4589	102623	237149	19894	14337	15376	49607
WOMEN - ALL CURRICULA		898	571	402	247	18	667	2136	159	92	118	369
FOREIGN - ALL CURRICULA		2195	2016	2018	1954	103	4075	8286	3528	2901	3199	9628

(1) A few schools included Sanitary Engineering under Civil Engineering.

Table II

See page 5 for general notes on interpretation of the survey data.

This table contains several breakdowns of the "all school" data on the top line.

The second and third lines separate those schools on the 1966 list of Curricula Leading to First Degrees in Engineering Accredited by the Engineers' Council for Professional Development from all other schools. These two lines add up to the totals on the top line.

The next two lines distinguish between enrollments in curricula specifically accredited on the ECPD list, and all other curricula. In a few combined fields (such as metallurgical and materials, for example) where a school may have had both accredited and non-accredited curricula in the field, all enrollments in the entire field were arbitrarily treated as accredited. The resulting overstatement of enrollments in accredited curricula is negligible for all practical purposes.

Lines 6 and 7 separate the publicly and privately controlled schools. In lines 8, 9, and 10 the public group is further broken down into state, municipal, and federal subgroupings, while in the last two lines the private sector is divided into non-sectarian and religious subgroups.

ENGINEERING MANPOWER COMMISSION

ENGINEERING ENROLLMENT SURVEY - FALL 1967

ENROLLMENTS IN ALL CURRICULA, ENTIRE U. S.

TYPE OF SCHOOL	NO OF INST REPTG	UNDERGRADUATES - FULL TIME FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	FIFTH YEAR	TOTAL 3RD-5TH YEARS	TOTAL 1ST-5TH YEARS	MASTERS OR OTHER PRE-DOC DEGREE FULL TIME FIRST YEAR	OTHER YEARS	DOCTOR DEGREE FULL TIME ALL YEARS	TOTAL GRADUATE STUDENTS
ALL ENGINEERING SCHOOLS	274	77551	56975	50483	47551	4589	102623	237149	19894	14337	15376	49607
SCHOOLS ON ECPD LIST	180	64583	48640	43443	41001	3927	88371	201594	19189	13782	15090	48061
SCHOOLS NOT ON ECPD LIST	94	12968	8335	7040	6550	662	14252	35555	705	555	286	1546
ECPD ACCREDITED CURRICULA	NA	60846	44925	39742	37455	3704	80901	186672	16885	11718	12902	41505
NON-ECPD ACCREDITED CURRICULA	NA	16705	12050	10741	10096	885	21722	50477	3009	2619	2474	8102
PUBLIC SCHOOLS	150	56148	41310	36694	34797	2011	73502	170960	13886	6974	8755	29615
PRIVATE SCHOOLS	124	21403	15665	13789	12754	2578	29121	66189	6008	7363	6621	19992
STATE SCHOOLS	137	51512	38153	33726	32047	1580	67353	157018	12850	6060	8506	27416
MUNICIPAL SCHOOLS	6	2442	1445	1333	1288	431	3052	6939	567	652	196	1415
FEDERAL SCHOOLS	7	2194	1712	1635	1462	0	3097	7003	469	262	53	784
PRIVATE NON-SECTARIAN	82	16979	12238	10921	9952	1798	22671	51888	5177	6231	6325	17733
PRIVATE RELIGIOUS	42	4424	3427	2868	2802	780	6450	14301	831	1132	296	2259

Table III

See page 5 for general notes on interpretation of the survey data.

This table covers enrollments in two-year terminal programs reported by 512 institutions. Specific curricula in some schools do not clearly fall into any single one of the broad groupings given. In general, it was left to each school to decide how it wanted to report its own enrollments.

ENGINEERING MANPOWER COMMISSION

ENGINEERING AND TECHNOLOGY ENROLLMENT SURVEY - FALL 1967

ALL TECHNOLOGY SCHOOLS, ENTIRE U. S.

ASSOCIATE DEGREE OR CERTIFICATE PROGRAMS

FULL TIME STUDENTS

CURRICULUM	NO OF INST REPTG	FIRST YEAR	SECOND YEAR	OTHER YEARS	TOTAL FULL TIME	ALL PART TIME
AEROSPACE	29	2435	1135	58	3628	580
CIVIL AND RELATED	196	6213	3575	172	9960	4177
DRAFTING AND DESIGN	306	10368	5379	269	16016	4802
ELECTRICAL AND ELECTRONIC	405	20508	11855	1381	33744	36147
MECHANICAL AND RELATED	249	10699	6088	389	17176	7565
OTHER TECHNOLOGY	168	5117	2468	89	7674	7522
* TOTAL ENG TECH	498	55340	30500	2358	88198	60793
PHYS SCIENCE AND MATH TECH	61	3189	1283	7	4479	1395
INDUSTRIAL TECH	121	6232	3129	12	9373	5307
* ALL TECHNOLOGY COMBINED	512	64761	34912	2377	102050	67495

Table IV

See page 5 for general notes on interpretation of the survey data.

See notes for Table II for explanation of the breakdowns. In the case of the publicly controlled schools it is difficult to make a clear-cut distinction between state and local control; therefore no subgrouping has been attempted.

ENGINEERING MANPOWER COMMISSION

ENGINEERING AND TECHNOLOGY ENROLLMENT SURVEY - FALL 19o7

ENROLLMENTS IN ALL CURRICULA, ENTIRE U. S.

ASSOCIATE DEGREE OR CERTIFICATE PROGRAMS

FULL TIME STUDENTS

TYPE OF SCHOOL	NO OF INST REPTG	FIRST YEAR	SECOND YEAR	OTHER YEARS	TOTAL FULL TIME	ALL PART TIME
ALL TECHNOLOGY SCHOOLS	512	64761	34912	2377	102050	67495
SCHOOLS ON ECPD LISTS	49	13668	8559	879	23106	5489
SCHOOLS NOT ON ECPD LISTS	463	51093	26353	1498	78944	62006
ECPD ACCREDITED CURRICULA	NA	11307	7211	876	19394	4236
NON-ECPD ACCREDITED CURR	NA	53454	27701	1501	82656	63259
ALL PUBLIC SCHOOLS	458	55475	28949	1358	85782	55371
ALL PRIVATE SCHOOLS	54	9286	5963	1019	16268	12124
PRIVATE NON-SECTARIAN	47	9057	5820	922	15799	11722
PRIVATE RELIGIOUS	7	229	143	97	469	402

Table V

See page 5 for general notes on interpretation of the survey data.

See notes for Table III regarding curriculum groups.

This table covers all enrollments in bachelor of technology programs. The 59 schools reporting such programs include some which also offer two-year technician programs, some with four-year engineering curricula, some with both, and some with no other technological programs than those reported in this table.

ENGINEERING MANPOWER COMMISSION

ENGINEERING AND TECHNOLOGY ENROLLMENT SURVEY - FALL 1967

ALL TECHNOLOGY SCHOOLS, ENTIRE U. S. (1)

BACHELOR OF TECHNOLOGY PROGRAMS

FULL TIME STUDENTS

CURRICULUM	NO OF INST REPTG	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	TOTAL FULL TIME	ALL PART TIME	ALL POST BACH
AEROSPACE	4	296	166	153	103	718	57	0
CIVIL AND RELATED	15	318	178	133	79	708	249	56
DRAFTING AND DESIGN	12	304	202	172	150	828	183	10
ELECTRICAL AND ELECTRONIC	23	553	430	385	294	1662	653	68
MECHANICAL AND RELATED	19	267	317	375	310	1269	409	63
OTHER TECHNOLOGY	22	443	383	548	417	1791	368	139
* TOTAL ENG TECH	45	2181	1676	1766	1353	6976	1919	336
PHYS SCIENCE AND MATH TECH	2	2	0	0	0	2	2	0
INDUSTRIAL TECH	22	957	796	905	809	3467	3026	50
* ALL TECHNOLOGY COMBINED	59	3140	2472	2671	2162	10445	4947	386

(1) Includes bachelor of technology curricula in both engineering and technology schools.

Table VI

See page 5 for general notes on interpretation of the survey data.

See notes for Table II for explanation of the breakdowns, and Table V for the types of schools covered.

At the time the survey was taken no bachelor of engineering technology curricula had been accredited by ECPD; therefore no statistics are given for lines 4 and 5.

ENGINEERING MANPOWER COMMISSION

ENGINEERING AND TECHNOLOGY ENROLLMENT SURVEY - FALL 1967

ENROLLMENTS IN ALL CURRICULA, ENTIRE U. S.

BACHELOR OF TECHNOLOGY PROGRAMS

FULL TIME STUDENTS

TYPE OF SCHOOL	NO OF INST REPTG	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	TOTAL FULL TIME	ALL PART TIME	ALL POST BACH
ALL TECHNOLOGY SCHOOLS	59	3140	2472	2671	2162	10445	4947	386
SCHOOLS ON ECPD LISTS	6	209	131	110	113	563	147	0
SCHOOLS NOT ON ECPD LISTS	53	2931	2341	2561	2049	9882	4800	386
ECPD ACCREDITED CURRICULA	NA							
NON-ECPD ACCREDITED CURR	NA							
ALL PUBLIC SCHOOLS	44	2109	1686	2040	1664	7499	1081	264
ALL PRIVATE SCHOOLS	15	1031	786	631	498	2946	3866	122
PRIVATE NON-SECTARIAN	13	924	702	534	409	2569	3783	122
PRIVATE RELIGIOUS	2	107	84	97	89	377	83	0

Table VII

See page 5 for general notes on interpretation of the survey data.

See notes for Table III regarding curriculum groups.

In the case of pre-engineering students, the "other" category consists almost entirely of enrollments in general or non-specialized curricula.

ENGINEERING MANPOWER COMMISSION

ENGINEERING AND TECHNOLOGY ENROLLMENT SURVEY - FALL 1967

ALL TECHNOLOGY SCHOOLS, ENTIRE U. S.

ALL PRE-ENGINEERING STUDENTS

FULL TIME STUDENTS

CURRICULUM	NO OF INST REPTG	FIRST YEAR	SECOND YEAR	OTHER YEARS	TOTAL FULL TIME	ALL PART TIME
AEROSPACE	28	206	85	0	291	12
CIVIL AND RELATED	86	1447	663	88	2198	383
DRAFTING AND DESIGN	34	582	219	16	817	115
ELECTRICAL AND ELECTRONIC	82	1229	608	14	1851	509
MECHANICAL AND RELATED	79	1155	578	6	1739	362
GENERAL AND OTHER	222	10942	5159	367	16468	4847
* TOTAL PRE-ENG	285	15561	7312	491	23364	6228

Table VIII

See page 5 for general notes on interpretation of the survey data.

See notes for Tables II, IV, and VI for explanation of the breakdowns.

ENGINEERING MANPOWER COMMISSION

ENGINEERING AND TECHNOLOGY ENROLLMENT SURVEY - FALL 1967

ENROLLMENTS IN ALL CURRICULA, ENTIRE U. S.

ALL PRE-ENGINEERING STUDENTS

FULL TIME STUDENTS

TYPE OF SCHOOL	NO OF INST REPTG	FIRST YEAR	SECOND YEAR	OTHER YEARS	TOTAL FULL TIME	ALL PART TIME
ALL TECHNOLOGY SCHOOLS	285	15561	7312	491	23364	6228
SCHOOLS ON ECPD LISTS	10	689	354	0	1043	202
SCHOOLS NOT ON ECPD LISTS	275	14872	6958	491	22321	6026
ALL PUBLIC SCHOOLS	260	14838	6965	470	22273	5940
ALL PRIVATE SCHOOLS	25	723	347	21	1091	288
PRIVATE NON-SECTARIAN	15	522	237	6	765	248
PRIVATE RELIGIOUS	10	201	110	15	326	0

IMPORTANT: See Notes on Reverse Side Before Filling Out This Form

ENGINEERING ENROLLMENT SURVEY

(Note 1)

Field of Engineering Curriculum (Note 2)	1 Check If E C P D ACCREDITED (Note 3)	UNDERGRADUATES 2 First Year (Note 4)	3 Second Year (Note 4)	4 Third Year	5 Fourth Year	6 Fifth Year (Note 5)	Master's or Other Pre-Doctoral Degree (Note 6) 7 First Year (Note 5)	8 Other Years	Doctor's Degree 9 All Years
A Aerospace (aeronautical, astronautical, etc.)									
B Agricultural									
C Architectural									
D Biomedical									
E Chemical									
F Civil (incl. construction, transportation)									
G Electrical (incl. communications, electronics)									
H Engineering Sciences (incl. engineering mechanics, engineering physics)									
I Environment and Health (incl. sanitary)									
J General Engineering (incl. unified "Engineering" curricula but not undifferentiated students. See Note 4.)									
K Geological (incl. geophysical)									
L Industrial (incl. management)									
M Marine (incl. naval architecture and ocean engineering)									
N Mechanical									
O Metallurgical and Materials (incl. ceramic)									
P Mining (incl. mineral)									
Q Nuclear									
R Petroleum									
S Textile									
T Other specific engineering									
U Undifferentiated (Note 4)									
V Bachelor of Engineering Technology (Note 7)									
The following two categories should also be included in the individual curriculum totals above:									
W Women - All Curricula (Note 8)									
X Foreign Students - All Curricula (Note 8)									

Name of Institution _____

Address _____

Reporting Officer _____

A complimentary copy of the report will be sent to the reporting officer as soon as it is published.

24/25

ENGINEERING MANPOWER COMMISSION
345 East 47th Street
New York, New York 10017

Engineering Enrollment Survey - September 1967

INSTRUCTION SHEET

This survey is being made by the Engineering Manpower Commission of Engineers Joint Council with the support of the American Society for Engineering Education. The objective is to publish timely statistics on engineering enrollments for use in manpower planning by employers, educators, and others. This survey does not replace that conducted by the U. S. Office of Education, but is intended to produce key statistics sooner than available from the more detailed survey. A complimentary copy of the report will be sent to the reporting officer of all participating institutions as soon as published.

PLEASE NOTE THE FOLLOWING BEFORE FILLING OUT THE QUESTIONNAIRE:

Note 1 - Report full time enrollments only, including co-op programs. Include only students enrolled definitely as candidates for an engineering degree.

Note 2 - Curriculum. The groupings are based on the 1966 ECPD listing. Use "Other Specific Engineering" category (line T) only if curriculum cannot be included in any related major group.

Note 3 - Accreditation. For each curriculum field reported, check this column if one or more curriculum in the field is accredited by ECPD at your institution.

Note 4 - Undifferentiated Students. If your institution does not differentiate curricula during the first or second years, report these students only in line U, "Undifferentiated." Do not use this group for students enrolled in "General Engineering" (line J) or "Other Specific Engineering" (line T) curricula.

Note 5 - Fifth Year Students. Report candidates for five year bachelor's degree in column 6, whether regular or co-op program. If the curriculum is an integrated one leading to a five-year master's degree, report fifth year students under first year of master's degree in column 7.

Note 6 - Other Pre-Doctoral Degree. Enrollments for professional degrees beyond the bachelor's but pre-doctoral in level are to be included with master's degree enrollments for this report.

Note 7 - Bachelor's of Engineering Technology. Report only students definitely enrolled in curricula leading to a bachelor's degree or higher. Do not report students in two-year technician curricula.

Note 8 - Women and Foreign Students. Because of the small numbers involved, totals should be reported for all curricula combined. These should also be included in the individual curriculum totals above.

IMPORTANT: See Notes on Reverse Side Before Filling Out This Form

ENGINEERING TECHNOLOGY ENROLLMENT SURVEY

(Note 1)

Field of Curriculum	1 Check if E C P D Accredited (Note 2)	ASSOCIATE DEGREE OR CERTIFICATE PROGRAMS (Notes 3, 4, 5) Full Time Students 2 First Year	3 Second Year	4 Other Years	5 All Part Time Students	BACHELOR OF TECHNOLOGY PROGRAMS (Note 6) Full Time Students 6 First Year	7 Second Year	8 Third Year	9 Fourth Year	10 All Part Time Students	11 Post Baccalaureate All Students	PRE-ENGINEERING STUDENTS (Note 7) Full Time Students 12 First Year	13 Second Year	14 Other Years	15 All Part Time Students
I. ENGINEERING TECHNOLOGY (Note 3)															
A Aerospace															
B Civil and Related (Note 9)															
C Drafting and Design															
D Electrical and Electronics (Note 10)															
E Mechanical and Related (Note 11)															
F Other (Note 12)															
II. PHYSICAL SCIENCE AND INDUSTRIAL TECHNOLOGY															
G Physical Science and Mathematics Technology (Note 4)															
H Industrial Technology (Note 5)															

Name of Institution _____

Address _____

Reporting Officer _____

A complimentary copy of the report will be sent to the reporting officer as soon as it is published.

ENGINEERING MANPOWER COMMISSION
345 East 47th Street
New York, New York 10017

Engineering Technology Enrollment Survey - September 1967

INSTRUCTION SHEET

This survey is being made by the Engineering Manpower Commission of Engineers Joint Council with the support of the American Society for Engineering Education. The objective is to publish timely statistics on engineering technology enrollments for use in manpower planning by employers, educators, and others. This survey does not replace that conducted by the U. S. Office of Education, but is intended to produce key statistics sooner than available from the more detailed survey. A complimentary copy of the report will be sent to the reporting officer of all participating institutions as soon as it is published.

PLEASE NOTE THE FOLLOWING BEFORE FILLING OUT THE QUESTIONNAIRE:

Note 1 - Report students enrolled in technician or technology programs as indicated. Do not report students in curricula leading to an engineering degree at your institution. (A separate questionnaire has been sent to all engineering schools.) See Note 7 for pre-engineering transfer students.

Note 2 - For each field reported, check this column if one or more curriculum in the field is accredited by ECPD at your institution.

Note 3 - Engineering Technicians - students in engineering oriented organized occupational curricula of at least two (2) but less than four (4) year, leading to Associate degree or similar designation.

Note 4 - Physical Science Technicians - students in physical science and mathematics oriented organized occupational curricula of at least two (2) but less than four (4) years, leading to Associate degree or similar designation. (Do not include Medical or Dental Technicians or others not directly related to the physical sciences.)

Note 5 - Industrial Technicians - students in skill oriented organized occupational curricula of at least two (2) years leading to Associate degree or similar designation.

Note 6 - Bachelor of Technology - students in engineering or technically oriented curricula leading to a Bachelor's degree in technology but not to a recognized degree in engineering. Separate categories are provided for engineering technology and industrial technology curricula.

Note 7 - Report only students in non-terminal pre-engineering programs of at least two (2) years duration, leading to transfer to an engineering school for completion of a Bachelor's degree in engineering. To be reported only where the institution itself does not award Bachelor's degree in engineering. Report students in the closest applicable field of engineering technology. If students are not differentiated as to specialized field, report them in line F, "Other."

Note 8 - This column has been provided to report students in master's degree and other post-baccalaureate programs at a few schools.

Note 9 - Civil Engineering Technology - include also architectural, building, construction, highway, structural, surveying, and similar engineering technology programs.

Note 10 - Electrical and Electronics Engineering Technology - include also communications and similar engineering technology programs.

Note 11 - Mechanical Engineering Technology - include also air conditioning, diesel, machinery, and similar engineering technology programs.

Note 12 - Other Engineering Technology - include general, industrial, and other engineering technology programs which cannot be reported elsewhere.

ENGINEERS JOINT COUNCIL MEMBERSHIP

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NATIONAL SOCIETIES

AMERICAN SOCIETY OF CIVIL ENGINEERS
AMERICAN INSTITUTE OF MINING, METALLURGICAL AND PETROLEUM ENGINEERS
AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AMERICAN WATER WORKS ASSOCIATION
AMERICAN SOCIETY FOR ENGINEERING EDUCATION
SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS
AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS
AMERICAN SOCIETY FOR TESTING AND MATERIALS
AMERICAN SOCIETY OF AGRICULTURAL ENGINEERS
AMERICAN INSTITUTE OF CONSULTING ENGINEERS
AMERICAN SOCIETY FOR METALS
SOCIETY FOR EXPERIMENTAL STRESS ANALYSIS
INSTRUMENT SOCIETY OF AMERICA
AMERICAN INSTITUTE OF INDUSTRIAL ENGINEERS
SOCIETY OF FIRE PROTECTION ENGINEERS
AMERICAN INSTITUTE OF PLANT ENGINEERS
AMERICAN ASSOCIATION OF COST ENGINEERS

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REGIONAL SOCIETIES

WESTERN SOCIETY OF ENGINEERS
MICHIGAN ENGINEERING SOCIETY
ENGINEERING SOCIETY OF CINCINNATI
LOUISIANA ENGINEERING SOCIETY
NORTH CAROLINA SOCIETY OF ENGINEERS
WASHINGTON SOCIETY OF ENGINEERS
ENGINEERING SOCIETIES OF NEW ENGLAND
SOUTH CAROLINA SOCIETY OF ENGINEERS
LOS ANGELES COUNCIL OF ENGINEERING SOCIETIES
HARTFORD ENGINEERS CLUB
INTERNATIONAL MATERIAL MANAGEMENT SOCIETY (New Jersey Chapter)
CHINESE INSTITUTE OF ENGINEERS (New York)

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ASSOCIATE SOCIETIES

AMERICAN CONCRETE INSTITUTE
AIR POLLUTION CONTROL ASSOCIATION
SOCIETY OF AMERICAN MILITARY ENGINEERS
WATER POLLUTION CONTROL FEDERATION
NATIONAL INSTITUTE OF CERAMIC ENGINEERS
AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING
AMERICAN SOCIETY FOR QUALITY CONTROL
INTERNATIONAL MATERIAL MANAGEMENT SOCIETY
SOCIETY OF WOMEN ENGINEERS
SOCIETY FOR THE HISTORY OF TECHNOLOGY
FLUID POWER SOCIETY

VT 005 249

Lynn, Davis R.; Nothom, John W.

Educational Activities within Business-Industry; Implications for Public Education.

Hawaii Vocational Education Research Coordinating Unit, Honolulu
Office of Education (DHEW), Washington, D.C.
Hawaii State Commission of Manpower and Full Employment, Honolulu
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jan68 62p.

*INPLANT PROGRAMS; *STATE SURVEYS; EMPLOYER ATTITUDES; EDUCATIONAL OBJECTIVES; *EDUCATIONAL NEEDS; *VOCATIONAL EDUCATION; QUESTIONNAIRES
HAWAII

A survey of personnel directors, industrial relations officers, training staff and labor representatives was made to identify the nature and scope of training being conducted within business and industry in Hawaii and to examine the expectations for public education. The survey consisted of two phases: (1) on-site personal interviews with 23 firms considered to be a representative cross section of the larger employers in Hawaii and known to be conducting in-plant training programs, and (2) collection of information from a larger sampling of the business-industry community by mailing questionnaires to 1,684 firms categorized as small employers. Findings which are reported in a narrative discussion included: (1) Business and industry were engaged extensively in training operations in one form or another to increase the productivity of employees and the efficiency of the organizations, (2) The small employer group reported that expansion of vocational education at the high school level as well as expansion at the post-high school level was significantly important as a means of assisting business and industry with training, and (3) The larger employer placed greater emphasis on expansion at the post-high school level and the part-time evening programs. (PS)

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TRAINING ACTIVITIES WITHIN BUSINESS-INDUSTRY:

implications for public education in Hawaii

A Study Conducted by

Hawaii Vocational-Technical Education
Research Coordinating Unit

COMMUNITY COLLEGE SYSTEM, UNIVERSITY OF HAWAII

2327 Dole Street, Honolulu, Hawaii 96822

Project sponsored by State Commission on Manpower and Full Employment

VT005249

The Hawaii Vocational-Technical Education Research Coordinating Unit was established with a direct grant from the U. S. Office of Education, Division of Comprehensive and Vocational Education Research, June 27, 1966, under the research section of 4(c) of the Vocational Education Act of 1963.

Vocational education research coordinating units have been established in 44 states for the express purpose of developing and disseminating information derived through research which can be instrumental in improving existing programs in vocational-technical education; and, developing new programs to meet changing skill requirements.

The Hawaii Vocational-Technical Education Research Coordinating Unit serves all levels of vocational-technical education in the State. Local funding support is being provided by the Community College System, University of Hawaii, which administers and houses the Unit.

The major objectives of the Hawaii RCU are:

1. To stimulate research designed to improve existing programs of vocational-technical education and to develop new programs to meet changing needs.

2. To acquire information derived through vocational-technical education research and disseminate information to those whose interests and needs are related.

3. To guide research efforts into areas of greatest need and coordinate research to contribute to progress of effective vocational-technical education programs.

4. To foster the implementation of research in vocational-technical education in the schools where the impact of vocational-technical education problems are felt.

EDUCATIONAL ACTIVITIES WITHIN BUSINESS-INDUSTRY: IMPLICATIONS FOR PUBLIC EDUCATION

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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January 1968

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The Hawaii Vocational-Technical Education Research Coordinating Unit is partially supported by a contract with the Office of Education, U. S. Department of Health, Education, and Welfare. Points of view do not, however, necessarily represent official U. S. Office of Education position or policy.

COOPERATING AGENCIES

Commission on Manpower and Full Employment
State of Hawaii

Chamber of Commerce of Hawaii

Department of Labor and Industrial Relations
State of Hawaii

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ACKNOWLEDGMENT

This study was made possible by the interest and willingness of business-industry to become involved in the concerns of the public schools in the development of meaningful occupational educational programs.

Top management officials made themselves available and contributed classified information for the purposes of the survey. The authors were cordially received, and ample time was provided for on-site interviews.

The Department of Labor and Industrial Relations contributed to the personal interview phase of the study by identifying firms conducting in-plant training programs and facilitating interview arrangements.

The Chamber of Commerce of Hawaii facilitated the mail questionnaire phase of the study by providing access to a "master" mailing list.

The Commission on Manpower and Full Employment expedited the study by providing advisory services and supportive funds for the mechanics of the survey.

The authors appreciate the cooperation of all organizations and individuals who assisted in making the survey possible. It is hoped that this cooperative effort to re-identify training, problems and needs will stimulate interest in the coordinated development of manpower programs by both business-industry and public education in Hawaii.

David R. Lynn
John W. Nothom

FOREWORD

Industry-business and public education in Hawaii face dynamic challenges in preparing youth and adults for personal survival and success in our labor force. The many pressures and demands in meeting competition in our changing labor tasks make it increasingly difficult to provide the necessary educational experience and training. To keep pace with our changing economy, existing educational purposes and practice require constant review and revision.

The purpose of this survey was to identify the nature and scope of training being conducted within business-industry and to examine expectations for public education. It is expected that the information gathered will be of assistance in the development of coordinated manpower programs.

IMPLICATIONS

The following implications presented in four separate sections have been drawn from the study by the authors. In order of their appearance the sections report implications regarding (a) necessary research and development activities related to occupational education; (b) changes needed in the occupational curricula and program structure of public education; (c) need for public education to provide business-industry with personnel and facilities to foster, improve and increase the effectiveness of in-plant training programs; (d) new administrative concepts regarding responsibilities of business-industry occupational education.

Implications regarding the need for research and development.

1. That research be initiated and funded in the field of occupational education and manpower development to bridge the gap between the schools and business-industry where the impact of vocational training is felt.

2. That business-industry join public education in initiating research that will provide for the improvement of existing training programs and the development of new programs to meet changing needs.

3. That intensive studies be initiated to determine the most appropriate means of providing youth and adults with the opportunity to develop occupational proficiency.

Implications for changes needed in the occupational curricula and the program structure of public education.

1. That occupational education programs in widely selected occupational areas be developed at the secondary level which will be coordinated and articulated with the post-secondary programs to provide entry into post-secondary programs at several levels. (Not excluding advance placement and early admission.)

2. That secondary occupational programs be coordinated with business-industry and the State Employment Service to provide for "work experience programs" as an integral part of the occupational career oriented student's educational experience.

3. That the exploratory and prevocational function of the secondary industrial arts program be reidentified and broadened to reflect contemporary industry; and, that units of instruction be imaginatively developed and creatively taught.

4. That business-industry personnel and facilities, where feasible, be made available to supplement specialized instruction needed but not always offered by public education.

5. That the existing agreement between the Hawaii State Board of Education and the State Department of Labor and Industrial Relations (State Employment Service) be revised to include both the secondary programs and the post-secondary programs of the community colleges and technical schools. And, that the existing cooperative working agreement be further implemented and expanded to include provisions for the placement of youth in meaningful work experience programs.

Implications regarding the need for public education to provide business-industry with training personnel and facilities.

1. That vocational educators be made available to assist business-industry training personnel in analyzing training needs, developing trainer competencies, and implementing training programs.

2. That the duties of the "vocational teacher educator," College of Education, University of Hawaii, include the responsibility for the development of in-plant teachers and other supervisory personnel in business-industry.

3. That the community colleges and technical schools establish at each campus the position of "coordinator for vocational-technical education" to be responsible for maintaining continuous contact with business-industry and the development of cooperative relationships.

Implications regarding responsibilities of business-industry pertaining to occupational education.

1. That leaders from the total spectrum of business-industry involve themselves with educational administrators in the development and improvement of vocational education in the State.

2. That business-industry and public education cooperatively develop an organizational framework within which the image of the world of work and occupational preparation can be elevated. It is essential that business-industry assist educators in translating known needs into action programs.

3. That business-industry participate directly in manpower training programs by providing assistance in student recruitment, selection, and placement by formulating recommendations and advising on

problems relating to the instructional program; and, providing assistance in keeping instructional staff current with technological change.

4. That the role and function of apprenticeship be examined in view of meeting the training needs of a broader spectrum of occupations. Skill and knowledge requirements for each step of the apprenticeship and labor grade contracts need to be coordinated with the preemployment and part-time course offerings at the community colleges and technical schools.

5. That business-industry make provision within their training structures for occupational instructors in public education to become familiar with new technologies and practices which need to be included in current curricula.

6. That programs not meeting apprenticeship requirements be established by business-industry to provide on-the-job training programs with the schools providing the supplementary related instruction.

SUMMARY

This study was concerned with the nature and scope of educational programs within business-industry based on the opinions of personnel directors, industrial relations officers, training staff and labor representatives regarding school-industry cooperation in meeting manpower needs. Over 50,000 employees, approximately 16 percent of the total labor force in the State were represented in the study.

Areas of study included (a) types and levels of training being conducted by business-industry; (b) extent of business-industry "in-plant" education programs; (c) costs of training programs; (d) opinions as to expectations for public education.

Since the objective of this pilot study was to provide data for further research or action programs, if warranted, rather than an in-depth statistical analysis, findings were reported in narrative form.

The survey consisted of two phases: (a) PHASE I, on-site personal interviews with selected firms known to be conducting in-plant training programs; (b) PHASE II, the obtaining of information from a larger sampling by mail questionnaire.

PHASE I - Personal Interviews.

A total of 23 organizations were contacted and queried in regard to objectives of the study. Interviews were unstructured, but a "guide questionnaire" was used to provide uniformity of on-site assessment. Questions in the "guide" were focused on the objectives of the study.

The sample was determined by the State Department of Labor and Industrial Relations and contacts were established with the authors on

a volunteer basis. This sample was considered to be a representative cross section of the larger employers in Hawaii but not inclusive of all types of business-industry. Smaller employers were represented by only a few organizations. This phase of the study, therefore, does not reflect training practices or needs of this group.

PHASE II - Survey by Mail Questionnaire.

The objective of Phase II was identical of that of Phase I and differed only in methodology and the sample.

Phase II attempted to obtain a broader sampling of the business-industry community by contacting firms categorized as "small employers." The Chamber of Commerce of Hawaii made available to the authors the master mailing list of the organization. This list represented a comprehensive directory of firms and organizations in the community with no indication as to whether or not training was being conducted.

Packets containing an introductory letter, questionnaire and return envelope were mailed to 1,684 individuals and organizations. Firms contacted by Phase I were not included in this sampling.

Conclusions.

The results of the two sample groups (large employer and small employer) were generally consistent with few exceptions. The small employer group reported that expansion of vocational education at the high school level as well as expansion at the post-high school level was significantly important as a means of assisting business-industry with training. The larger employer placed greater emphasis on expansion at the post-high school level and the part-time evening programs.

Based on the data presented in this study, it is apparent that manpower development must be a cooperative undertaking involving business-industry, public education and related government agencies.

Business-industry is engaged extensively in training operations in one form or another to increase the productivity of employees and the efficiency of the organizations.

Public education has a responsibility of preparing local youth for useful, satisfying and gainful employment at the termination of formal schooling. Educators need to appreciate the training problems of industry and assist in the development and implementation of supplemental educational courses to increase occupational efficiency and personal development.

There is an apparent gulf between business-industry and public education which has not been bridged in spite of expressed interest by both parties to develop cooperatively on-going programs. There is evidence that employers are assessing vocational education to determine the amounts and kinds of assistance that are available and that public educators are interested in developing the needed programs. However, it appears that technological developments occur in business-industry more rapidly than cumbersome governmental agencies are able to develop needed programs.

Additional investigation into the needs of business-industry in relation to specific preemployment occupational programs as well as strategies for business-industry people to identify themselves with public education is needed if realistic occupational programs are to be developed.

Only through such partnership will public education be in a position to offer purposeful, meaningful and effective education for the world of work. As the nation's economy adjusts to change, so must its human resources development policies.

SECTION I

THE PROBLEM

President John F. Kennedy in his 1963 Manpower Report stated: Manpower is a basic resource. It is the indispensable means of converting other resources to mankind's aid and benefit. How well we develop human skills is fundamental in deciding how much we accomplish as a nation.

Educators are aware that public vocational-technical schools provide only a fraction of the total occupational education available within any one community. Training is provided by a variety of institutions. It is estimated that the armed services have more persons in training than all colleges and universities in the nation. An extensive amount of education is now occurring within business-industry. Some of these programs are excellent examples of educational planning, and much of the best instructional equipment is to be found there. In a period of accelerating technological change, continuous employment in some occupational classifications demands continuing education. (11:6)

Statement of the problem.

The need for accurate detailed information regarding the education being provided by business-industry has become crucial to the development of state educational plans. The purpose of this study was to identify occupational education programs currently being conducted by business-industry within the State of Hawaii in order that those concerned with the improvement of vocational-technical education would have data to support planning and recommendations. It is not entirely clear why

business-industry provides educational programs. Is business-industry duplicating the efforts of public education? In what areas can public education best provide supportive functions?

A further purpose of this study was to seek specific reasons for business-industry educational activity to determine if there were significant implications for public education. Therefore, objectives of this study were: (a) to determine the nature of educational programs related to occupations currently being conducted by business-industry in Hawaii; and, (b) to determine upon what premise such programs are being conducted and the implications for public education.

Importance of the problem.

The role and function of vocational-technical education in the public schools in Hawaii are of considerable concern. The Second Legislature, 1964, State of Hawaii, requested a study entitled, Education in a Changing World of Work in a Democratic Society, which questioned many on-going practices of the public schools. The Third Legislature, 1967, moved a step further by mandating the development of a "new state master plan for vocational education." This is currently being developed by a committee representing the State Board of Education, the University Board of Regents, and the Commission on Manpower and Full Employment. It is evident that public education can no longer provide all the skills for getting a job and meet the manpower needs of business-industry. But what kind of education is most likely to land that first and second vital job? It is necessary to examine the role that business-industry is performing in education if educators are to discharge their responsibility for planning and developing coordinated, meaningful occupational programs.

It is believed that this study will contribute directly to the implementation of program change and innovation in vocational-technical education to extend and enlarge job opportunities.

Questions for which answers were sought.

In conducting the study, answers were sought for the following questions:

1. In what areas was business-industry providing occupational education?

2. Why was this education being provided?

3. How extensive was such education?

4. What were the expectations of business-industry for public education?

Statement of assumptions.

The following assumptions were made in pursuit of this study: (a) that business-industry accepts the concept of vocational-technical education in the public schools and is interested in continuous cooperation; (b) that top management of business-industry would be responsive and cooperative in providing time for personal interviews; (c) that respondents would be knowledgeable of the broad spectrum of occupational education and related manpower needs; (d) that there were common understandings regarding concepts of training, manpower needs, technological development, economic and sociological trends, and cost effectiveness of programs.

Limitations of the study.

The study was conducted in view of the following limitations: (a) the sample studied in Phase I was determined by, with minor exceptions,

the Department of Labor and Industrial Relations; (b) the sample in Phase II was determined from the master mailing list of the Chamber of Commerce of Hawaii; (c) data and information reported were limited to opinions and observations of the respondents without reference to company records.

Delimitations of the study.

The following delimitations were placed on the study: (a) only those organizations maintaining offices on the island of Oahu were included in the study; (b) the study was only concerned with the education programs of business-industry--the military organizations were not included; (c) the research was not intended to be a statistical study and findings were reported by narrative discussion; (d) there was no intention of an in-depth study. The objective here was a sampling or pilot study to provide data for further research or action, if warranted.

Definitions of terms used.

The following terms are defined to clarify their usage in the context of this study:

1. Business-industry. The term business-industry is used to identify organizations engaged in business, sales, agriculture, construction, manufacturing, transportation and service.

2. Vocational-technical education. The term is used to denote any programs or courses, wherever or to whomever offered, which are specifically intended to prepare persons for a particular occupation and/or up-grade the person within the occupation.

3. Occupational education. The term is used synonymously with vocational-technical education.

4. Training. The term training is used interchangeably with the term education. In general, it is used to refer to those aspects of education which lead to occupational employment. In business-industry the term is commonly used in reference to all educational activity; i.e., "supervisory training," "apprentice training," "training facilities," "training officer."

5. Apprenticeship. The term denotes a formalized training program, according to a written agreement, in a recognized skilled trade requiring two or more years of work experience on the job through employment and supplemented by appropriate related training experience. The related training experience is normally provided by personnel of established vocational-technical education programs.

6. Work study program. This term is used to denote an instruction and work program in which students are employed specifically within the occupations for which their courses in school are preparing them. Work study in this study is used synonymously with cooperative education and work experience. The employment serves the function of a practical laboratory for reinforcing the in-school occupational education. Students in these programs receive both pay and school credit for their work.

7. On-the-job training. This term denotes the process of developing skills and knowledge while employed and receiving direction from a supervisor.

SECTION II

REVIEW OF RELATED LITERATURE

Although there are existing studies concerning education being provided by business-industry, apparently there are few studies that have concentrated on a single community.

Clark and Sloan studied vocational-technical education in industry, merchandising and the armed services. These studies indicated that large numbers are being trained by these groups. The studies were reported by Clark and Sloan in Classrooms in Factories. (4) Currently, Swanson and Elberg are attempting to determine the effectiveness of education now occurring within business and industry in the City of Richmond, California. (10) The October, 1967, issue of VEIN, the newsletter of the Oklahoma Vocational Research Coordinating Unit, reports the recently published study, "Expectations of Oklahoma Firms Concerning Occupational Curricula for State Junior Colleges," by Theodore H. Voth. The completed report was not available; but, the abstract reported the following:

> Business sees a two-fold educational need in an age of rapid technological change: (1) the increasing need for persons with highly specialized training, and (2) the need for persons with social responsibility, cultural maturity, and capacity for change. (12)

Samuel M. Burt, Special Assistant to the Director of the United States Employment Service, recently completed an in-depth study of industry participation and involvement in vocational and technical education programs. In regard to industry-education cooperation in occupational training, he cited the following problems of coordination:

> Unfortunately, industry does not always clearly understand the problems of the educational institution, and vice versa. For instance, industry may not develop definitive manpower policies, nor feel any commitment to employ graduates of the school occupational programs, despite the fact that they may have helped establish the programs. Yet industry expects the schools to meet its needs for new employees. At the same time, the schools may be providing youth with skills for occupations rapidly becoming outmoded and disappearing. (2:6-7)

In a conference concerned with apprenticeship training, Don Irwin of the Chrysler Corporation had this to say:

> Preemployment training and vocational education have been of little value. Schools are not expected to train students for jobs, per se. Students need a greater exposure to more crafts; their ignorance is great. Also, training in math and reading needs greater emphasis. (3:178)

Norman Bowman, Staff Business Writer of the San Jose Mercury, (October 20, 1967) reported briefly on results of a recent study by the Manpower Research Council as follows:

> About half of those answering the questions said they think in-plant training is the answer to curing a skill shortage--but, they also noted such training is handicapped by lack of time, competent instructors and money. (1)

At the local level, the "Oahu Manpower Skill Survey" conducted by the Department of Labor in 1965 determined the number of trainees in formal company training programs. The study did not inquire as to reasons for such programs or implications for the public schools; nor, did the report reflect opinions of needs and trends as seen by top management.

This report was edited, summarized and recently released as "Honolulu's Manpower Outlook--Survey of Demand and Supply of 78 Occupations." The summary of the report stated: "In the fairness to the absence of school programs, it should be pointed out that some of the

occupations have traditionally been filled through on-the-job training wholly and reliance on the availability of skilled workers."

The report further stated: "In many occupations, such as those in the service field, the length of training is relatively short and mostly adapted to employer requirements. Thus, there are some occupations which seem more suitable for employer training rather than formalized school situations." (9:7)

The role of industry in training was expressed by Donald Wolfhope, Director of Training and Personnel Research, C. Brewer & Company, Ltd., during the Governor's Conference on Human Resources, February 1, 2, 1966. He said:

> However, in any organization of any size, the management of that organization is constantly faced with the problem of more skilled jobs in the company just as they are faced with the staffing of the lower skilled job. Most organizations prefer to move people up through their ranks . . . we would like to hire from within and develop our own people. (8:134)

Francis M. Hatanaka in a study to clarify some of the basic problems associated with vocational-practical arts in the State of Hawaii reported that occupational training programs of industry and the armed forces had a definite motivating effect on many students. He recommended: "To this end, there may be substantial merit in the cooperative work-study programs." (6:27)

Dorothy Moore in the Legislative Reference Bureau's Report No. 3 (1966) discussed various concepts of occupational training and expressed the following concerns as to:

> . . . what policies can the State adopt to encourage employers to provide on-the-job training; and, should employers be required to release apprentices during the day for related study?
>
> . . . the boundary between public and private responsibility for training. . .
>
> . . . public expenditure for training which could be done better on the job. (7:70, 81)

Nationally there is a growing concern for a structure to integrate "industry" and "education" into a truly comprehensive national occupational training system. Gary B. Hansen has prepared for the National Manpower Task Force a report entitled, Britain's Industrial Training Act: Its History, Development and Implications for America.

Hansen points out "the dichotomy between formal education and institutional or on-the-job training remains unresolved in Britain, as indeed it does in the United States." He is of the opinion that the concept of the Industry Training Board, as used in the British training system, is worthy of consideration in this country. He cites implications in the British system for modifying the current U. S. training practices as follows:

> . . . such an approach might provide a suitable framework for overhauling America's archaic system of vocational education and training.
>
> . . . it could be a step toward fostering a healthy training consciousness in industry.
>
> . . . substantially modify the existing responsibility between institutional vocational education and industrial training within industry.

Problems to be met in the British training system are listed as follows:

. . . inadequate supply of training specialists and officers at all levels.

. . . problems of small firms with limited or highly specialized operations. (5:9, 54, 55)

A limited review of the literature reveals evidence that public education can be of greatest assistance to business-industry by providing students with basic job entry skills and the necessary educational background that will facilitate occupational advancement and mobility. Business-industry accepts the fact that they must train the new employee who possesses adequate entry skills in the application of those skills to specific work in progress. The policy of promotion from within necessitates in-plant training especially in the specialized skill areas.

SECTION III

METHODOLOGY

To accomplish the purposes of the study, the following methodology was used: (a) limited interviewing of business-industry personnel; (b) contact with a broad spectrum of business-industry via mail questionnaire; (c) analysis and interpretation of inquiry keyed to the questionnaire; (d) review of relevant literature in the field of business-industry occupational training programs; (e) development of conclusions and implications from the study.

Establishment of the sample for Phase I - Personal Interviews.

1. The Department of Labor drawing upon classified lists of business-industry organizations reporting in-plant education programs prepared and mailed letters encouraging cooperation in the proposed study. Recipients of the letter were requested to contact the authors. A total of 60 letters were mailed out.

2. Twenty five (25) business-industry organizations responded by phone and subsequent on-site interviews were arranged.

3. To provide a more representative sample, five additional organizations not responding but known to have training programs were contacted by the authors and included in the survey.

Seven organizations requested that contact be made with factoring agencies thereby reducing the on-site interview sample to twenty three (23).

Background was developed by visiting with vocational-technical educators and with several organizations concerned with manpower development. Pre-survey contacts were made with two business-industry organizations conducting in-plant training. From these contacts the questioning required to achieve the objectives of the study was delineated. Questions were then edited into an instrument which was used as the "questionnaire." For the purposes of the study, it was determined that the interview would be unstructured placing primary emphasis on the subject's verbal report.

Content of guide questions.

Guide questions were concerned with the following general areas: (a) general data; (b) what was happening in business-industry occupational education programs; (c) why did the situation exist; (d) what were the expectations for public education; (e) apparent trends in training concepts.

Establishment of the sample for Phase II - Mail Questionnaire.

1. The Chamber of Commerce of Hawaii made available to the authors the master mailing list of the organization. Questionnaires accompanied by an introductory letter and return envelope were mailed to 1,684 individuals and organizations in the State. The questionnaire was identical to that established in Phase I of the study.

2. Recipients were requested to return the completed questionnaires to the Hawaii RCU.

The data provided by respondents were organized and summarized for reporting purposes. As the study was not of a statistical design, the

findings were reported in a narrative discussion. Conclusions and implications were developed from the data collected.

SECTION IV

PRESENTATION OF FINDINGS

PHASE I - Interviews with Large Employers.

This section is devoted to a presentation of information and data gathered as a result of personal interviews with personnel directors, industrial relations officers and training staff of twenty three (23) business-industry organizations on the island of Oahu.

Several tables present tabulated data on certain aspects of the study; however, the research did not lend itself to a statistical study and findings are primarily reported by a narrative discussion.

The sample represented a good cross section of major employers of the community which, for reporting purposes, have been grouped into the following broad, general categories:

1. Sugar and Pineapple
2. Shipping
3. Manufacturing
4. Sales and Service
5. Labor/Management Associations
6. Banking
7. Public Utilities
8. Construction

Population sample.

TABLE 1

SAMPLE POPULATION DATA

Number Solicited	Number Interviewed	Total Employees Represented	Largest Payroll	Smallest Payroll	Average Payroll
60*	23	30,348	6,000	13	1,319

Note: Figures reported as estimates

*7 firms requested interviewers to contact the factoring agency

Only five organizations reported less than 250 employees. Therefore, the study does not reflect the concerns of the smaller organizations in the community.

Data indicate that females represent 10 percent of the total number of employees reported.

Extent of training conducted in business-industry.

Personnel managers, industrial relations officers and training staff were asked to respond to questions concerned with the amount of training being conducted, which is reflected in Table 2.

Responses on Table 2 indicate that with two exceptions all firms and organizations conduct training programs. All reported plans to expand present training or initiate a training program if they do not already have one. It was common practice to staff in-plant training programs with qualified personnel.

TABLE 2

SUMMARY OF RESPONSE TO QUESTIONS
REGARDING EXTENT OF TRAINING

Groups in Population	Number in Population	Conduct Training Program	Plan Expansion	Employ Trainer
Sugar/Pineapple	5	5	5	5
Shipping	1	1	1	1
Manufacturing	3	2	3	1
Sales/Service	6	6	6	5
Labor/Management Associations	2	2	2	2
Banking	1	1	1	1
Public Utilities	3	3	3	2
Construction	2	1	2	1
Totals	23	21	23	18

Representatives of the Contractors' Association were concerned as to how they were to meet training demands now facing them. Representing over 6,000 employees in a variety of trades, association administrators must shortly provide programs to up-grade employees as well as provide on-going programs to keep the present work force current with new techniques and processes in the construction industry.

A spokesman for one of the large sugar factors indicated that the industry expected to lose 1/3 of the present work force in the next ten years by retirement. He saw a technological revolution in the sugar industry occurring within the next ten years and a need for trained manpower to meet the challenge. Old practices will disappear, and both the sugar industry and the schools must develop new programs to meet changing needs.

TABLE 3

PURPOSES FOR WHICH TRAINING WAS CONDUCTED

Groups in Population	Job Entry	Improved Performance	Technological Change	Supervisory Training
Sugar/Pineapple	2	5	4	5
Shipping	0	1	1	2
Manufacturing	1	2	1	3
Sales/Service	4	6	3	3
Labor/Management Association	2	2	2	1
Banking	1	1	1	1
Public Utilities	3	3	2	2
Construction	1	2	0	1
Totals	14	22	14	16

Reasons for providing training.

Table 3 presents a summary of responses to several questions regarding the purposes for which training was conducted.

Table 3 reveals that business-industry places the major emphasis on training programs needed to up-grade and improve on-the-job personnel in order to keep the existing work force current to change and able to cope with new situations and equipment.

Most respondents mentioned the need to develop the capabilities of the first line supervisor who was responsible for much of the on-the-job training within the industry.

There was general consensus that the primary concern of business-industry was that of development of personnel once they were "on-board." However, it was repeated frequently that business-industry was searching for "new hires" with good basic public school foundations upon which it can build.

Job entry training programs were limited to those firms in which the new worker had to perform specialized functions peculiar to the activity.

Types of training programs being conducted.

Respondents were asked to indicate the specific types of training programs being conducted. Their responses are shown in Table 4.

Respondents generally agreed that training objectives were best met by "company organized in-plant" training programs. Seventy five percent of business-industry organizations were actively engaged in formal organized training programs. This activity was supplemented, in most

cases, by generous subsidies in the form of payment of tuition to colleges and universities, books and supplies, costs of correspondence courses, and travel and per diem to institutes and workshops in California and other states.

TABLE 4

SUMMARY OF RESPONSES TO QUESTIONS REGARDING TYPES OF TRAINING PROGRAMS BEING CONDUCTED

Number in Population	Apprenticeship State/Federal	Company Organized In-plant	Work Study Program	Subsidized Out-of-plant Courses
23	7	18	3	21

Seven apprenticeship programs were reported, but these were representative of only a limited number of total trainees involved in business-industry training programs.

The concept of work-study was of interest to many of the respondents. Three organizations reported on-going work-study programs in cooperation with public education. A number of the respondents indicated the need for business-industry to explore this avenue of training further.

An attempt was made to determine what qualifications, if any, business-industry had set as entrance requirements into training programs. Response was most varied and there was no general pattern throughout business-industry. Sixty percent used a proficiency test to screen and

determine abilities. In general, school certificates and diplomas were of little interest to employers other than as an indication of age and maturity.

Training programs, for the most part, were concerned with the development of skills related to trades and technical services. Respondents did not report training in the areas of office occupations.

Expectations for public education.

Respondents were given the opportunity to indicate services the public schools could perform or initiate in assuming responsibility for the development of manpower. Tables 5 and 6 reflect opinions in this regard.

TABLE 5

TRAINING AREAS SCHOOLS CAN BE OF MORE ASSISTANCE TO BUSINESS-INDUSTRY

Number in Population	Courses in Communication Skills	Courses Clerical Skills	Courses New Technologies	Courses Related Trade Skills
23	9	1	13	13

Table 5 reveals that business-industry is concerned with the need for courses to meet the changing technologies industry is now facing. Courses related to increasing on-the-job performance of workers in the skilled trades were considered equally important.

TABLE 6

SUGGESTIONS FOR INNOVATION AND CHANGE

Number in Population	Expand H.S. Voc. Program	Expand C.C.S. Program	Develop Work Study Program	Expand Part time Program
23	2	13	9	16

Table 6 reveals that business-industry identifies the evening and part-time programs as the area in which the public school can be of the greatest service; and, that expansion of such programs could supplement and even assume some of the training now being done by business-industry.

The community colleges and technical schools were seen as the educational level at which the schools could be of greatest help. Employees are adults and could be accommodated best in the post-high school programs.

The high school was rarely mentioned as a source of help in supplementary training. However, respondents were almost unanimous in their demands that "new hires" be adept in communication skills and oriented toward the world of work. The need for the development of better occupational counseling was frequently suggested.

Fifty percent of the respondents requested the services of the vocational teacher training staff at the University of Hawaii to assist business-industry in improving and developing in-plant training programs.

Cost of training programs and number of trainees involved.

Interviewing failed to determine the cost of training being incurred by business-industry. Respondents did not have figures and apparently such data was not readily available. Most respondents provided a "did not know" answer. Several of the large firms did, however, venture estimates which ranged from $25,000 to $100,000 for annual training costs.

The number of trainees receiving training annually was also impossible to determine. Programs varied from a few days to several years. Records were not available. A consensus of several of the respondents was that a figure representing 20 percent of the work force being trained at any one time was a good estimate.

PHASE II - Mail Survey of Small Employers.

This section is devoted to a presentation of information gathered as a result of the mail questionnaire survey of business-industry organizations on the island of Oahu.

Several tables present data tabulated for brevity and clarity of specific aspects of the study. The research did not lend itself to a statistical study and findings are primarily reported by a narrative discussion.

Occupational categories reported by responding employers were reduced to eleven principal categories for practicality in handling by combining closely related occupations. It should be noted that this arrangement is somewhat superficial as there are many overlapping areas and only the principal occupation of the business-industry firm reported was used in the occupational classification.

It was not practical from the information provided by the questionnaire to relate the occupational activity reported to the Department of Labor and Industrial Relations coding system.

However, to provide a more meaningful report and interpretation of data, the following table representing the categories has been provided to enable readers to assess the population sample represented by respondents.

TABLE 7

NUMBER OF EMPLOYEES REPORTED BY OCCUPATIONAL GROUPING

TOTAL EMPLOYEES REPORTED	20,336		
Occupational Grouping	Number Respondents (N)	Number Employees	Percent of Total Employees Reported
Sales and Service	89	3,379	16.6
Hotel and Restaurant	9	4,152	20.4
Mechanical	9	2,071	10.1
Manufacturing	20	1,966	8.7
Technical	17	1,977	9.6
Medical and Health	4	820	4.2
Clerical and Finance	55	4,031	19.8
Construction	24	1,578	7.7
Travel	6	161	.9
Printing and Publishing	5	156	.8
Other	6	245	1.2
	242	20,336	100.0%

Only those who responded to one or more items in each section area were included in the percentage calculations. These percentages are reflected in Tables 8 and 9.

Purpose and nature of training.

Respondents were asked the purpose for which in-service training was being provided. The answers are detailed in Table 8.

The most frequently reported reason for training was that of "improved performance." With minor exceptions all respondents listed this as the prime reason for training. To provide "job entry skills" was reported as the second most frequent reason for training.

Types of training programs.

Respondents overwhelmingly named "company organized and sponsored" as the principal type of training activity. Few organized formal and informal apprenticeship programs were reported. Major exception to this was the construction industry which reported apprenticeship as the major vehicle for training.

Evidence required to qualify for training programs.

An effort was made to identify the experience and educational attainment requirement, if any, for entry into training programs as established by respondents in the eleven categories. Table 8 provides a detailed summary of responses.

Responses of business-industry, reported by the eleven categories, most frequently listed a "statement of experience" as the most important entry requirement. This was followed by the need of evidence of a "school certificate" (unidentified). A review of item responses indicates a wide variety of entry requirements.

An inference can be drawn that because of the variety of activities of business-industry, there is little agreement from organization to organization as to standards for entry into training programs. The

TABLE 8

SUMMARY OF RESPONSES TO QUESTIONS REGARDING THE PURPOSES AND THE NATURE OF TRAINING PROGRAMS BEING CONDUCTED AND THE CRITERIA FOR THE SELECTION OF TRAINEES

Note: % reported is the percentage of responses only as related to the particular section.	Respondents identified by major job classifications										
Number of responses = (N)	Sales and Service	Hotel and Restaurant	Mechanical	Technical	Manufacturing	Medical and Health	Clerical and Finance	Construction	Travel	Printing and Publishing	Other
Total responses = 253	90	10	11	17	22	4	58	24	6	5	6
Average %	%	%	%	%	%	%	%	%	%	%	%
Purpose for which training is provided:											
Job entry skills	66	58	71	60	36	70	100	61	50	50	67	100
Improved performance	75	71	86	60	73	90	100	90	75	75	100	0
Changing technology	42	31	14	30	36	40	100	40	25	75	67	0
Supervisory and management	44	44	57	20	36	60	0	61	25	75	100	0
Type of training programs being conducted:											
Apprenticeship - Federal/State	22	6	20	10	9	0	0	7	79	0	50	0
Company organized and sponsored	84	94	50	100	82	80	100	92	26	100	100	100
Cooperative school-industry	21	13	0	30	0	30	100	25	11	0	25	0
Requirements for entry into training programs:											
None	29	31	33	30	15	44	50	22	30	20	30	17
School certificate	32	28	0	30	46	13	50	51	25	20	66	35
Statement of proficiency	54	58	16	60	54	38	100	43	55	80	33	17
Proficiency test	28	31	8	20	46	31	0	53	15	40	0	0

eleven categories provided responses from "0" percent to "100" percent to any one question. It is also significant to note that an average of 29 percent of business-industry respondents reported "no entry requirement."

Instructional areas in which business-industry feels public education could be of greater assistance.

When asked if the schools could provide training now being provided by business-industry, 143 of 253 firms responding (56.2%) indicated that "some" could be provided just as easily in the schools. Only 20 (8%) indicated that "all" training now being provided by the firm could be accomplished in the school.

The importance industry attached to the general areas of training that should be provided by the schools is shown in Table 9. Of the four program areas, data indicate that business-industry feels that the schools could be of greatest assistance in the development of "communication skills" for potential employees. The construction, mechanical and technical industries were exceptions to the above since they considered "courses related to skill areas" more important. "Clerical skills" and "new technologies" followed in that order with no significant preference indicated.

Expansion and development of public education programs that can best assist business-industry.

Business-industry was queried as to opinions regarding the program areas the schools could expand to serve their needs more fully. One hundred forty eight respondents identified "evening and part-time"

TABLE 9

SUMMARY OF RESPONSES TO QUESTIONS REGARDING THE PURPOSES AND THE NATURE OF TRAINING PROGRAMS BEING CONDUCTED AND THE CRITERIA FOR THE SELECTION OF TRAINEES

Note: % reported is the percentage of responses only as related to the particular section.	Respondents identified by major job classification										
Number of responses = (N) Total responses = 253	Sales and Service	Hotel and Restaurant	Mechanical	Technical	Manufacturing	Medical and Health	Clerical and Finance	Construction	Travel	Printing and Publishing	Other
	90	10	11	17	22	4	58	24	6	5	6
Average %	%	%	%	%	%	%	%	%	%	%	%
In what educational program areas do you think schools can be of more assistance to your organization:											
Courses in communication skills	67	81	77	50	40	72	75	85	28	66	100	66
Courses to improve clerical skills	38	40	22	10	7	28	75	44	9	66	60	33
Courses related to new technologies	27	28	21	60	46	17	25	23	18	18	20	17
Courses related to skill areas	40	23	21	60	87	28	0	25	90	33	60	17
How can the schools best assist business-industry training programs:											
Expanding vocational programs at the high school level	36	28	10	60	40	65	25	36	60	16	40	20
Expanding vocational-technical programs at the post-high school level	53	46	20	70	80	50	50	45	45	50	60	60
Development of work-study programs in cooperation with business-industry	34	34	80	30	20	25	0	30	20	50	60	20
Expand evening part-time programs to meet special needs at all levels	56	57	40	40	66	50	100	65	48	33	60	60

programs as a program area where the school could be of the greatest assistance. Respondents indicated priorities in this decending order:

(148) 51% favored "evening and part-time" programs

(121) 47% favored expanding vocational-technical programs at the post-high school level

(108) 33.5% favored expanding vocational-technical programs at the high school level

(86) 30.8% favored expanding work study programs

Respondents were encouraged to check one or more of the four items. It is significant to note that 38 percent indicated only one choice; 39 percent indicated two choices. An inference can be made that business-industry sees the need for program expansion in more than one area with preferences as indicated.

Assistance of "vocational teacher trainer" in developing training competencies.

Responses to the inquiry regarding assistance with training programs which professional educators might be able to provide business-industry indicated that such assistance would be most welcome.

One hundred four (60% of the total respondents to this question) indicated that the University's vocational teacher development programs could provide assistance to supervisors and others responsible for conducting in-service training. Table 10, Column 1 reports the responses.

Subsidizing of employees to encourage further education.

The survey undertook to determine the extent business-industry supplements "in-house" training programs by subsidizing and in other ways encouraging employees to take advantage of on-going, organized educational

TABLE 10

EMPLOYERS' RESPONSES CONCERNING EXPANDING TRAINING PROGRAMS, SUBSIDIZING EMPLOYEES IN TRAINING AND DEVELOPMENT OF TRAINING COMPETENCIES

	#1 Require assistance of vocational teacher trainer in developing training competencies			#2 Subsidize employees who are engaged in training courses			#3 Anticipated need to expand training programs		
	(N)YES	(N)NO	NR*	(N)YES	(N)NO	NR	(N)YES	(N)NO	NR
Sales and Service	29	25	36	49	36	5	45	31	14
Hotel and Restaurant	6	1	3	8	2	0	8	0	2
Mechanical	9	1	1	8	2	1	7	2	2
Technical	7	3	7	12	4	1	11	2	4
Manufacturing	8	6	8	10	10	2	10	6	6
Medical and Health	1	1	2	2	1	1	3	0	1
Clerical and Finance	22	23	13	44	12	2	33	22	3
Construction	15	4	5	14	9	1	13	9	2
Travel	0	3	2	4	1	0	2	2	1
Printing and Publishing	3	1	1	2	3	0	2	3	0
Other	4	0	2	4	2	0	2	4	0
	104	68	80	157	82	13	136	81	35

*NR - No response

programs being provided by colleges, institutes, universities, and correspondence courses.

Table 10, Column 2, reveals that 65 percent of the employers responding to this question subsidized further job related education for employees; 35 percent indicated that they did not.

Anticipated need to expand training programs.

Training activities of business-industry apparently will become more extensive as indicated by the data reported in Table 10, Column 3. One hundred thirty six firms (53% of the total respondents) indicated a need to increase training activities.

Training personnel and facilities costs.

One of the purposes of the survey was to evaluate the extent of training being conducted by business and industry. The questionnaire failed to determine specific numbers being trained and costs incurred.

One hundred fifty five of the 253 respondents reported 4,361 employees being serviced by in-plant training programs. Respondents listed 76 full-time trainers and 300 part-time trainers. Questions concerned with personnel and facilities, however, were only partially completed. Several answered by a question mark (?). One respondent answering in this manner represented a large hotel operation. Many others indicated "no training" but entered remarks such as the following:

> . . . it's hard to determine the number of employees receiving training
>
> . . . applicants are hired with no experience and given on-the-job training by the department to which they are assigned
>
> . . . we send employees to work shops and seminars
>
> . . . on-the-job training works best with us

SECTION V

CONCLUSIONS

The results of this survey appear to justify the following conclusions:

1. Business-industry is committed to a practice of promoting from within, and the primary concern is with in-plant training programs designed to increase the efficiency, productivity and skills of current employees.

2. Business-industry is interested in the public schools developing broad concepts and understanding as well as preemployment skills upon which training programs can be built.

3. The major implication for public education is in the provision of extended day, evening part-time and cooperative work study programs related to the needs of industry's employees.

4. Technological change in industrial materials and processes necessitates specialized training that cannot be anticipated for inclusion in the current curricula; therefore, it becomes the responsibility of business-industry either to conduct such training independently or to develop cooperative type programs with public education.

5. The local system of State sponsored apprenticeship can meet only certain manpower requirements because of the limited number of apprentice-type occupations currently in existence.

6. Business-industry is concerned with the lack of communication with vocational-technical educators.

7. There is little knowledge as to the cost-effectiveness of in-plant and other subsidized training programs of business-industry.

8. Business-industry is not concerned with in-plant training in clerical and secretarial skills; it, therefore, can be concluded that the high schools, community colleges, and other institutions are providing adequate training to meet the demands in these areas.

9. Present company organized and sponsored training programs could meet the needs of business-industry more effectively if there were more training coordination with vocational-technical programs of public schools, thereby relieving business-industry of some of the responsibility.

10. Business-industry widely subsidizes the educational development of employees by tuition refund programs, released time and related costs.

Comparative findings of PHASE I and PHASE II.

Since the sample surveyed in Phase I differed in some respects from the sample surveyed in Phase II, it was necessary to examine the data for any significant differences in findings. A comparison of the responses of Phase I (personal interview large employers) and Phase II (mail survey small employers) indicates that the conclusions drawn were consistent with only a few exceptions. (See Table 11.)

The following significant difference in conclusions can be drawn from Phase II of the survey which generally represented the smaller employer (78% less than 50 employees).

1. Courses in communication skills and the improvement of clerical skills were identified as course areas where public education could be of greatest assistance.

2. Expansion of vocational education at the high school level was reported as being significantly important as a means of assisting business-industry with training as well as expansion at the post-high school level.

3. "Statement of experience" was indicated as the most important requirement for entry into training programs. The "proficiency test" and the "school certificate" were not as significant as reported in Phase I.

4. Respondents were less optimistic regarding the need to expand training programs.

TABLE 11

COMPARISON OF DATA REPORTED BY RESPONDENTS PHASE I - PHASE II

	PHASE I Interview	PHASE II Mail Survey
	%	%
Purpose for which training is provided:		
Job entry skills	60	66
Improved performance	96	76
Changing technology	60	40
Supervisory and management	70	44
Type of training programs being conducted:		
Apprenticeship	30	22
Company organized and sponsored	78	84
Cooperative school-industry (work study)	13	21
Requirement for entry into training programs:		
None	26	29
School certificate	52	32
Statement of experience	21	54
Proficiency test	65	28
Instructional areas in which public education can be of greater assistance to business-industry:		
Course to improve communication skills	39	67
Course to improve clerical skills	4	38
Course related to new technologies	57	27
Course related to skilled trade area	57	40
Program areas public education can best assist business-industry training programs:		
Expanding vocational programs at the high school level	9	36
Expanding vocational-technical programs at the post-high school level	57	53
Development of work study programs in cooperation with business-industry	39	34
Evening part-time programs to meet special needs at all levels	70	56
Require assistance of "vocational teacher educator" to develop training competencies	52	41
Subsidize employees to acquire additional education	52	65
Anticipate expansion of in-plant training programs	87	54

BIBLIOGRAPHY

1. Bowman, Norman. "Business as Usual." San Jose Mercury, October 20, 1967.

2. Burt, Samuel M. Industry and Vocational-Technical Education. New York: McGraw-Hill Book Company, 1967.

3. Center for Studies in Vocational Technical Education. Research in Apprenticeship Education. Proceedings of a Conference September 8 and 9, 1967. University of Wisconsin, 1967.

4. Clark, Harold F. and Harold S. Sloan. Classrooms in Factories. Rutherford, N. J.: Institute of Research, Fairleigh Dickinson University, 1958.

5. Hansen, Gary B. Britain's Industrial Training Act: Its History, Development and Implications for America. Washington, D. C.: National Manpower Policy Task Force, 1967.

6. Hatanaka, Francis M. New Directions. Vocational Practical Arts Study. Bureau of Instructional Services. State of Hawaii, Department of Education, August 1966.

7. Legislative Reference Bureau, Report No. 3. Education in a Changing World of Work in a Democratic Society. University of Hawaii, 1966

8. State Commission on Manpower and Full Employment. Proceedings The Governor's Conference on Human Resources. Honolulu: February 1 and 2, 1967.

9. State of Hawaii Department of Labor and Industrial Relations. Honolulu's Manpower Outlook -- Survey of Demand and Supply of 78 Occupations. Honolulu, 1967.

10. Swanson, Chester J. "A Study of Educational Activities within Business and Industry in Richmond, California." University of California, Berkeley. (Research in process to be completed June, 1967.)

11. U. S. Department of Health, Education and Welfare. Education for a Changing World of Work. U. S. Government Printing Office, 1964.

12. Vocational Research Coordinating Unit. VEIN (Vocational Education Information Newsletter). Oklahoma State University. October, 1967.

APPENDIX A

SELECTED COMMENTS OF BUSINESS AND INDUSTRY IN RESPONSE TO QUERIES

Several comments made by respondents are appropriate for inclusion. In paraphrasing ideas and concepts, the following generalizations have been drawn:

Sugar and Pineapple Industry.

If related instruction for skilled trainees is not made available, we will need help in administering correspondence courses now being used.

Plantations should be surveyed to identify isolated training needs which could be accommodated in a central location.

We have a problem in recruiting new workers who have potential for progress to journeyman rating.

For my money, the program developed by the Maui Technical School jointly with the sugar industry 15 years ago has never been equalled--we need more of this cooperative activity.

In addition to traditional skills, training in new programs is needed to meet current demands.

Utilities.

Prospective employees are handicapped by deficiencies in numerical and verbal skills.

Off-campus evening programs are handicapped because of lack of instructional assistance.

Shipping.

We want a continuous flow of information on course offerings at the community colleges.

Current evening programs at Honolulu Community College are of great value to us.

Sales and Service.

New products and new materials mandate that we provide specialized training. Schools cannot keep training current.

I am presently working with the staff of the Honolulu Community College in developing a work-study program for qualified students in TV service.

The concept of DECA programs is good, but I find that students are not career oriented.

Labor and Management Association.

Our immediate problem is to up-grade labor grade employees to skilled classification.

We need more communication with the schools.

The industry has much to offer and we would like to work with school counselors and guidance personnel.

Apprentice courses need to be coordinated with the apprentice's on-the-job assignment.

Banking.

Training is so important to us that each employee is in a training situation and receives an average of one hour per week.

Manufacturing.

Help is needed in increasing the effectiveness of our first line supervisors.

Construction.

We appreciate this contact with you and hope that we can work together in coordinating training programs.

APPENDIX B

FIRMS RESPONDING TO INTERVIEW
PHASE I

ALEXANDER & BALDWIN, INC.

Charles Cameron
Manager, Wage & Salary Administration

C. BREWER AND COMPANY, LIMITED

Donald M. Wolfhope
Director of Training

CALIFORNIA PACKING CORPORATION (DEL MONTE)

John Hoxie
Director of Industrial Relations

CASTLE & COOKE, INC.

George Horne
Employment Services Administrator

DILLINGHAM CORPORATION

Richard Kuwata
Training & Education Manager

ELECTRICIANS UNION LOCAL 1186

Harry Chikamori
Coordinator

FIRST NATIONAL BANK OF HAWAII

Ramsay H. Sandelin
Vice President

GENERAL CONTRACTORS ASSOCIATION OF HAWAII

Elroy Chun
Assistant General Manager

Paul Banks, Representative
Construction Manager, Hawaiian Dredging & Construction

HAWAIIAN ELECTRIC COMPANY, INC.

Curtin A. Leser
Manager, Personnel Department

HAWAIIAN TELEPHONE COMPANY

Terry Plunkett
Management Training Supervisor

HAWAII WELDING COMPANY, LTD.

Ray Fuhrmann
General Manager

HOLSUM (HAWAII) BAKING INC.

James Dolim
President

Ivan Woodward
Vice President for Production

HONOLULU IRON WORKS

Richard Hughes
Vice President for Manufacturing

Francis Santos
Field Engineer

HONOLULU GAS COMPANY

Keith Ware
Personnel Manager

IBM CORPORATION

R. L. Forseth
Systems Engineering Manager

LEWERS & COOKE

Vernon Luke
Personnel Director

MATSON NAVIGATION COMPANY

Stanley Kudo
Industrial Relations Manager, Hawaii Region

OAHU SUGAR COMPANY, LTD. (Waipahu)

John T. Humme
Vice President and Manager

REFRIGERATION SERVICE & SUPPLY COMPANY, INC.

Robert Cosco

REMINGTON RAND OFFICE SYSTEMS

Richard Lum
Manager, Office Machines Division

SEARS ROEBUCK & COMPANY

Lester N. French
Personnel Manager

TIMES SUPER MARKET, LTD.

Perry Kuromoto
Personnel Manager

APPENDIX C

COPY OF LETTER SENT TO EMPLOYERS

SURVEY QUESTIONNAIRE

PHASE II

UNIVERSITY OF HAWAII

Hawaii Vocational Education Research Coordinating Unit
Community College System

November 3, 1967

Gentlemen:

We want to improve the services of the vocational-technical education programs presently being offered by the public schools of Hawaii in meeting community needs. Educators are aware that business-industry is engaged in extensive training programs. However, the nature of these programs and some of the reasons for doing so are not well known.

You are being asked to contribute to research designed to improve programs of vocational-technical education by completing the enclosed questionnaire. Specifics are not necessary--opinions and answers at hand will suffice.

From the information obtained, it is hoped that improved coordination between the school and industry can be developed in meeting manpower needs. Identification of your organization to specific information reported will not occur.

Return of the questionnaire in the enclosed envelope at your earliest convenience will be appreciated.

Sincerely yours,

Hawaii RCU

Encl.

2327 Dole Street · Honolulu, Hawaii 96822/Cable Address: UNIHAW

HRCU Form
10/20/67

HAWAII SURVEY OF OCCUPATIONAL TRAINING FACILITIES WITHIN BUSINESS AND INDUSTRY

Hawaii Vocational Education Research Coordinating Unit
in cooperation with State Commission on Manpower and Full Employment

Community College System
2327 Dole Street, Honolulu, Hawaii 96822
Phone: 941-0966

INSTRUCTIONS:

1. You are being asked to participate in a survey of occupational training and facilities being provided by business-industry in Hawaii.
2. Please complete this form to provide information as to the type of training being provided your employees by organized class instruction, organized instruction on the job, supervisory training programs and subsidized workshops, institutes and evening classes.
3. Answer all questions. Use guesstimates if specific information is not available.

PART I GENERAL INFORMATION

1. Name of firm, institution or agency	2. Address
3. Name of person reporting	4. Title
5. Type of organization (Government, Utility, Retail, Trade, Hotel/Restaurant, Construction, etc.)	6. Number of Employees Total: Male % Female %

PART II TRAINING INFORMATION (If you have no program, please enter NONE and complete only applicable questions.)

Instructions: Indicate the general job classifications for which your organization is providing employee training.
Example: clerical, mechanical, technical, operators, service, supervisory, sales, construction, health, security, custodial.

1. Job classification

_____

2. Purpose for which training is being provided: (Check one or more)
   - 2.1 ____ Job entry skills (to 6 months)
   - 2.2 ____ Improved performance
   - 2.3 ____ Changing technology
   - 2.4 ____ Supervisory and management

3. Type of training program being conducted:
   - 3.1 ____ Apprenticeship -- Federal/State programs
   - 3.2 ____ Company organized and sponsored
   - 3.3 ____ Cooperative school-industry (work-study programs)

4. What evidence of qualification is required by your organization when selecting employees for training?
   - 4.1 ____ None
   - 4.2 ____ School certf/degree
   - 4.3 ____ Statement of experience
   - 4.4 ____ Proficiency test

   Identify any special academic proficiencies required:

   _____

5. In what educational program areas do you think schools can be of more assistance to your organization? (Check one or more)
   - ____ Communication skills: reading, writing, speaking
   - ____ Courses to improve clerical skills: typing, shorthand, etc.
   - ____ Courses related to new technologies
   - ____ Courses related to skill areas: layout, blue print reading, related math, etc.

6. Can the University's vocational teacher development program provide assistance to supervisors and others conducting training programs by workshops and courses in teaching techniques?

   ____ YES ____ NO

7. Do you subsidize and encourage individual employees in acquiring additional education?

   ____ YES ____ NO

   If YES, explain (ICS-University-Community College-Technical School)

8. Do you think that your future needs will require you to expand your present training program; or, initiate a training program if you do not already have one?

   ____ YES ____ NO

9. Has anyone from the schools' vocational-technical education programs talked with you recently to see if they could serve your needs better?

   ____ YES ____ NO

10. Could any or all of the kind of training you are providing be provided just as easily in the schools?
    - 10.1 ____ ALL
    - 10.2 ____ NONE
    - 10.3 ____ SOME

11. In your opinion, how can the schools best assist industry-business training. (Check one or more of the following possibilities)
    - 11.1 ____ Expanding vocational programs at the high school level
    - 11.2 ____ Expanding vocational-technical programs at the post-high school level (community college/technical schools)
    - 11.3 ____ Development of work-study programs in a cooperative industry-school training program
    - 11.4 ____ Evening, part-time programs to meet special needs at all levels

PART III FACILITIES-COSTS

1. What is the approximate number of employees receiving training annually?

   _____

2. Do you have room space specifically assigned and used for employee training?

   ____ YES ____ NO ____ OTHER

3. Do you have training aids to support the training program such as books, projectors, film, etc.?

   ____ YES ____ NO

4. What do you estimate the dollar value of your training facilities?

   (Under-5,000) (5,000-50,000) (50,000-Up)

5. Do you have personnel specifically assigned to conduct company sponsored training programs?

   ____ YES ____ NO

6. If company personnel are assigned to training, indicate the number.
   - ____ Number of staff assigned full time
   - ____ Number of staff assigned on part-time basis

7. What do you estimate your costs in training personnel annually?

   (Under 5,000) (5,000-25,000) (25,000-50,000) (50,000+)

USE REVERSE SIDE FOR COMMENTS

VT 005 269
Wedekind, Carl E.
Significant Job Success Factors Found in Work-Study Programs in Five Major New York State Cities, Abstract.

New York State Education Dept., Albany. Bureau of Occupational Education Research
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Jan68 13p.

*WORK STUDY PROGRAMS; VOCATIONAL EDUCATION; *HIGH SCHOOL GRADUATES; *SUCCESS FACTORS; *EMPLOYMENT; *PROGRAM EVALUATION; GRADUATE SURVEYS; STUDENT ATTITUDES; URBAN SCHOOLS
NEW YORK

"Significant Job Success Factors Found in Work-Study Programs in Five Major New York State Cities" is summarized. See abstract of VT 004 016 which is the complete study. (EM)

VT 005 269

ED0 30001

SIGNIFICANT JOB SUCCESS FACTORS FOUND IN WORK-STUDY PROGRAMS IN FIVE MAJOR NEW YORK STATE CITIES

AN ABSTRACT

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The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Bureau of Occupational Education Research
January 1968

~~VT005242~~
VT005269

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SIGNIFICANT JOB SUCCESS FACTORS FOUND IN WORK-STUDY PROGRAMS IN FIVE MAJOR NEW YORK STATE CITIES

An Abstract

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Bureau of Occupational Education Research
Albany, New York 12224

January 1968

FOREWORD

This is an abstract prepared by the staff of the Bureau of Occupational Education Research, New York State's Research Coordinating Unit (R.C.U.) from a report financed by the Department under the Vocational Education Act of 1963.

The study was designed to direct the attention of administrators and teachers to certain factors involved in the success of the Work-Study Program in New York State.

The abstract is meant to convey to the teacher, supervisor, and administrator the study's implications and interpretations for direct application to today's school environment in planning work-study programs.

A copy of the entire New York State Study is available on a loan basis, by writing to the New York State Education Department, Bureau of Occupational Education Research, Albany, New York 12224.

Carl E. Wedekind
Director

ABSTRACT

SIGNIFICANT JOB SUCCESS FACTORS FOUND IN WORK-STUDY PROGRAMS IN FIVE MAJOR NEW YORK STATE CITIES

INTRODUCTION

The Vocational Education Act of 1963 required that the programs initiated by its funds be evaluated. Section 13 of this Act is the Work-Study portion, the intent of which is to provide work experience for secondary school students between the ages of 15 and 21 who are in need of earnings to commence, continue, or return to a full-time vocational education program. The Bureau of Occupational Education Research funded the School of Education at Syracuse University to conduct an evaluation of New York State Vocational Work-Study Programs operating under the Vocational Education Act of 1963.

The initial Vocational Work-Study Programs in New York State were started in January 1965 and a historical summary of these programs may be found in Appendix A. It was the intent of this study that evaluation of such work-study projects would measure the relative merits of programs and allow for a better understanding of what criteria are present in programs that are successful.

METHODOLOGY

This study was constructed so as to identify aspects of the work-study program that seem to be most closely related to job success among 246 senior students randomly selected from the graduating seniors in June 1966 from five urban school districts; namely, New York, Rochester, Schenectady, Syracuse, and Yonkers. The sample was equated for boys and girls to reduce variations due solely to sex differences. An attempt was made to determine whether the programs having higher ratings on five variables placed the graduates in correspondingly better job situations. The variables surveyed were:

1. The proportion of Work-Study Administrators and Supervisors to the number of students in the occupational program;

2. The students' grade point averages;

3. The number of hours of counseling;

4. The administrators' salaries;

5. Assignment of students to work-study job stations relating to students' major field.

These variables were then related to four job success factors:

1. The D.O.T. classification of graduates' jobs;

2. The proportion of students' available time actually employed after graduation;

3. The students' actual job held upon graduation and students' actual job potential as measured by standardized intelligence test scores; and

4. The job salaries of program graduates.

These variables and factors were constructed as twenty working hypotheses to be used to determine the relationship between graduates' economic efficiency level after graduation, and participation in the Vocational Work-Study Program by the graduates while students. Appropriate statistical techniques were used on these hypotheses with significant correlations noted in seven cases, a trend toward significance in five cases, and little or no significance in the remaining eight cases.

Three questionnaires were used to gather data: (1) the Program Descriptive Factor Sheet, (2) the Student History Form Section A, and (3) the Student History Form Section B. The Program Descriptive Factor Sheet contains information relative to specific school district programs during the 1965-66 academic year. The Student History Form Section A contains data regarding the graduate's high school record and post-school employment. The Student History Form Section B contains respondent's personal data such as achievement tests reports, intelligence tests results, anecdotal records, absenteeism, grades, number of counseling hours received, and types of school program. The questionnaires were pretested in a pilot program, revised, and shown to be reliable.

SUMMARY

Significant correlations were noted between the students' grade point averages and the D.O.T. classification of graduates' jobs, the proportion of students' time actually employed after graduation, and the difference between the actual job held after graduation and students' actual job potential. Significant correlations were also found in the relationship of assignment of students to work-study job stations related to their major field and the students' D.O.T. classification, actual time employed, actual job vs. actual job potential, and job salaries of program graduates.

A trend toward significance was noted between the number of hours of counseling and the four variables related to job success factors. A low, but positive relationship between the proportion of work-study administrators and supervisors to the number of students in the program and the students' actual job held upon graduation and students' actual job potential was recorded.

No significant trends could be noted between the proportion of work-study administrators and supervisors to students with regard to D.O.T. level of graduates job, proportion of time students were employed, and the job salaries of program graduates. There was also no significance shown by correlation when the administrators' salaries is related to each of the four variables.

CONCLUSIONS

The more successful the student in his school work, the higher success rating he received on his job. The closer the correspondence between job skills learned by the graduates while they were in the work-study programs with the skills required for their jobs after graduation, the higher order of success they experienced in employment. In light of this, the following suggestions are made:

1. A greater percentage of the Federal monies should be spent for occupational guidance and counseling.

2. The use of local advisory committees, e.g., that which is proffered in Youth Work-Study Program,[1] should be further encouraged.

3. There should exist "orientation" sessions, for school work-study supervisors, counselors, vocational and technical instructors, and appropriate officials of the State Education Department, so that program integrity is the result of concerted effort.

4. Specialists, representatives of various disciplines and vocations should meet periodically to question openly whether the current vocational and technical curricula are equal to demands in a changing world of work. While it is true that, ". . .schools pride themselves on how close their shop facilities duplicate real job conditions . . ." according to Venn,". . .this does not necessarily mean that the school had given the graduate the education he may really need. What is called for is more and better occupational education, to be sure, but occupational education on more general basis--teaching certain basic skills, of course, but also devoting more time to the development of broader technical understanding of communication and computational abilities, and of an appreciation of civic, cultural, and leisure activities."[2]

---

1. Youth Work-Study Program, Summary and Suggested Development (Albany, N.Y.: The University of the State of New York, The State Education Department, Division of Special Occupational Services), p. 3.

2. Grant Venn, Man, Education and Work, Postsecondary Vocational Education (Washington: American Council on Education, 1964), p. 32.

STUDENT RESPONSES

The conclusion that the Vocational Work-Study Programs investigated in this study uphold the intent of the Vocational Education Act of 1963 is based in part on the following:

1. Approximately 76 per cent of the students sampled agreed that the program has helped them since graduation.

2. Approximately 79 per cent of the students sampled responded that they would tell a friend to go back to school for the Work-Study Program.

3. Approximately 94 per cent of the students sampled agreed that they liked the Work-Study Program while in school.

4. Approximately 80 per cent of the students sampled responded that they did better in their school work while in the program.

5. Approximately 76 per cent of the students sampled agreed that they enjoyed school more while in the Work-Study Program.

Of the 90 students who are eligible for employment:

6. Approximately 69 per cent of the students responded that they did have a job when they left school in June 1966, and an additional 12 per cent found jobs within 30 days after graduation.

7. Approximately 64 per cent of the students responded that they were working 31-40 hours per week and an additional 16 per cent responded that they worked over 40 hours per week.

8. Approximately 82 per cent of the students responded that they are earning more than $1.51 per hour. Thirty per cent responded that they are earning from $1.51 to $1.75 per hour, 26 per cent from $1.76 to $2.00 per hour, and 26 per cent earning over $2.00 per hour.

FUTURE RESEARCH

Lastly, additional research pertaining to the efficacy of Vocational Work-Study Programs is in order. Such reports should attempt to seek the answers to such questions as:

1. Are employers more satisfied with those high school students who participated in the Vocational Work-Study Programs as compared to other terminal high school students?

2. Has the "holding power" of those schools offering Vocational Work-Study Programs increased appreciably?

3. Have the skill levels of the Vocational Work-Study Program graduates improved significantly as a direct result of participating in the Vocational Work-Study Program?

4. What strengths and/or weaknesses are discernible in Vocational Work-Study Programs conducted in rural or consolidated school districts as opposed to the urban-operated programs?

5. What do periodic follow-up studies on participants of the Vocational Work-Study Programs reveal concerning their educational experiences?

APPENDIX A

NEW YORK STATE WORK-STUDY PROGRAM

From January 1965 to June 1967

From January 1965, when the Vocational Education Act of 1963 Work-Study Program started in New York State until the end of June 1967, a total of 25,519 students participated in part-time work experiences and received $4,374,355.73 in stipends. Of this total, 14,773 were males and 10,746 were females. The largest number of students being 17 to 18 year old males. (See Table I.)

TABLE I

THE AGE RANGE OF THE VOCATIONAL EDUCATION WORK-STUDY STUDENTS

Ages	Male	Female	Total
15 - 16	4,408	3,067	7,475
17 - 18	9,050	6,835	15,885
19 - 20	1,315	844	2,159
TOTAL	14,773	10,746	25,519

Over 13,000 students earned over $20 and less than $50 per month during the time they participated in the program. During the summer months, the students were not limited in their monthly earnings, consequently, they earned over the minimum rates stipulated in the law. (See Table II.)

TABLE II

THE EARNING RANGE OF THE VOCATIONAL EDUCATION WORK-STUDY STUDENTS

Earning Range	Male	Female	Total
Under $20/month	2,370	2,145	4,515
$20 to $44.99/month	7,316	5,723	13,039
$45 to $60/month	1,328	1,131	2,459
Over $60/month *	3,114	2,392	5,506
TOTAL	14,128	11,391	25,519

* Summer programs only

Approximately 66 per cent of the students worked in jobs related to their curriculum. (See Table III.)

TABLE III

NUMBER OF VOCATIONAL EDUCATION WORK-STUDY STUDENTS THAT WORKED IN JOBS RELATED TO THEIR CURRICULUM

Jobs	Male	Female	Total
Related	6,069	9,185	15,254
Non-related	8,704	1,561	10,265

It is interesting to note that every dollar received in New York State from Section 13 of the Vocational Education Act was allocated to student stipends. The administrative expenses, which amounted to approximately 11 per cent of the stipend allocations were from Section 4(a) of the Act. The largest single program occurred during the Summer of 1966 when over 1.6 million dollars was allocated to the students. The next largest program occurred during the academic year 1965-1966 when slightly over 1 million dollars was allocated to the students. (Table IV.)

TABLE IV

VOCATIONAL WORK-STUDY EXPENDITURES

Programs	Administrative Expenditures Section 4(a)	Stipend Expenditures Section 13
Academic year 1964-1965	$ 40,000.92	$ 405,000.00
Summer 1965	11,689.92	413,600.66
Academic year 1965-1966	208,539.55	1,074,572.47
Summer 1966	114,507.63	1,650,133.60
Academic year 1966-1967	101,241.09	827,049.00
TOTAL	$475,978.19	$4,374,355.73

At no time was any local program ever funded 100 per cent of their request. The largest percentage funded was 50 per cent during academic year 1964-1965, with the lowest percentage of 25 per cent funded during the academic year 1966-1967. This meant that of the approvable projects for the last New York State Work-Study Program, only ¼ of the amount requested by local agencies for student stipends was funded, with the balance coming from local effort, or else the Program was curtailed.

Because of the fact that Work-Study Programs were only funded at ¼ of the amount requested for the last fiscal year, it is estimated that under the present rules and regulations of the Vocational Education Act Work-Study Program, New York State could spend over 6 million dollars a year on student stipends.

VT 005 532

New Horizons for North Dakota Women, Report of Conference (Bismarck, North Dakota July 17-18, 1964).

North Dakota Governor's Commission on the Status of Women, Bismarck
Women's Bureau (DOL), Washington, D.C.
North Dakota State Dept. of Labor, Bismarck
North Dakota State Unemployment Compensation Div., Bismarck
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 64 26p.

WORKING WOMEN; *SOCIAL STATUS; *ROLE CONFLICT; LABOR LEGISLATION; *CONFERENCE REPORTS; SPEECHES; SOCIAL CHANGE; *FEMALES; EMPLOYMENT PATTERNS; SOCIAL PROBLEMS; *CULTURAL OPPORTUNITIES; CIVIL RIGHTS LEGISLATION NORTH DAKOTA; *CONFERENCE ON NEW HORIZONS FOR NORTH DAKOTA WOMEN, BISMARK, NORTH DAKOTA, JULY 17-18, 1964

The conference explored the circumstances under which women live, the problems they face, and ways to meet problems more effectively. Major addresses were given by Mrs. Esther Peterson, Assistant Secretary of Labor, and Mrs. Alice A. Morrison, Chief, Division of Legislation and Standards, Women's Bureau. Participants exchanged ideas and experiences during workshop discussions sponsored by (1) the education and home-community committees, (2) the public and private employment committees, and (3) the civil and political rights, social insurance and labor legislation committees. Mrs. Peterson related facts about the new life patterns of contemporary women including increased longevity, working wives, opportunities for continuing education, and expansion of community services for homemakers. She spoke of governmental programs affecting the status of women, and in conclusion, she challenged participants to make an intensive appraisal of women's role, rights and obligations in every phase of community life. Mrs. Morrison, speaking on state legislation of women's rights, observed that "the legal status of women is continually changing and improving, but some discriminations remain." She concluded that anti-discrimination efforts not only help women in this country, but set an example for the women of all nations. (FP)

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NEW HORIZONS FOR NORTH DAKOTA WOMEN

Report of Conference
Held in
Bismarck, North Dakota
July 17-18, 1964

Sponsored by

North Dakota Governor's Commission on the Status of Women

In cooperation with

North Dakota Department of Labor
North Dakota State Employment Service
North Dakota Unemployment Compensation Division
Women's Bureau, U.S. Department of Labor

U.S. Department of Labor
W. Willard Wirtz, Secretary

Women's Bureau
Mary Dublin Keyserling, Director

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NEW HORIZONS FOR NORTH DAKOTA WOMEN

Report of Conference
~~Held in~~
Bismarck, North Dakota
July 17-18, 1964

Sponsored by

North Dakota Governor's Commission on the Status of Women, Bismarck.

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North Dakota State ~~Department~~ of Labor, Bismarck.
North Dakota State Employment Service, Bismarck.
North Dakota Unemployment Compensation Division
Women's Bureau, U.S. Department of Labor

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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U.S. Department of Labor
W. Willard Wirtz, Secretary

Women's Bureau
Mary Dublin Keyserling, Director

FOREWORD

This report summarizes the conference on New Horizons for North Dakota Women held in Bismarck, North Dakota, July 17th and 18th, 1964. The conference was one of a series of State and regional meetings cosponsored by the Women's Bureau, U.S. Department of Labor, in a continuing effort to explore the circumstances under which women live, the problems they face, and ways of meeting these problems more effectively.

The conference on New Horizons for North Dakota Women was sponsored by the Governor's Commission on the Status of Women in cooperation with the North Dakota Department of Labor, the North Dakota State Employment Service, the North Dakota Unemployment Compensation Division, and the Women's Bureau. The conference was fortunate in having as participants men and women who represented a wide variety of groups--employees, employers, government, volunteer workers and organizations, education, and politics. It benefited also from the counsel of women who had had experience with similar lines of inquiry in neighboring States.

We acknowledge with great appreciation the tremendous contribution of the committees that organized the proceedings. The meeting provided not only stimulating informative sessions, but also opportunities for personal exchange of ideas and experience and for warm fellowship. Many thanks are extended to the panelists who encouraged discussion in the three workshops by presenting pertinent information.

The stimulation afforded by meetings such as this one and the action that so often follows encourage us to believe that a realistic picture of women's lives is becoming increasingly apparent and that improvements that need to be made will surely follow.

Mary Dublin Keyserling

Mary Dublin Keyserling
Director, Women's Bureau

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Conference

NEW HORIZONS FOR NORTH DAKOTA WOMEN

PROGRAM

Friday, July 17, 1964

Grand Pacific Hotel - Hall of Four Seasons

1:00 p.m. Meeting of Commission

2:00 p.m. Registration

Meeting of Committees

6:30 p.m. Dinner

Music: Willard Yule

Presiding: Miss Dagny Olson

Invocation: Monsignor William F. Garvin
Holy Spirit Cathedral, Bismarck

Welcome: Mayor Evan E. Lips

Greetings: Lt. Governor Frank A. Wenstrom

Address: Mrs. Esther Peterson
Assistant Secretary of Labor

"Hat and History Show"
Mrs. Constance E. Sidell, Director

Saturday, July 18, 1964

House Chambers - State Capitol

8:30 a.m. Special Music

9:00 a.m. General Conference

Presiding: Mrs. Agnes Geelan

Invocation: Reverend Hensel Hendrickson
Trinity Lutheran Church, Bismarck

Address: "Charge to the Conference"
Governor William L. Guy

9:30 a.m. Workshops

Conference

NEW HORIZONS FOR NORTH DAKOTA WOMEN

PROGRAM--Continued

Grand Pacific Hotel - Hall of Four Seasons

12:15 p.m. Luncheon

Presiding: Mrs. Frank Jestrab

Invocation: Reverend William Lindsay
First Presbyterian Church, Bismarck

Reports of Workshops:

Mrs. William Brentzel

Mrs. Sybil B. Kelly

Mr. Wallace J. Dockter

Summary of Conference: Mrs. Esther Peterson

3:00 p.m. Tea - Governor's Residence

THE GOVERNOR'S MESSAGE

It is a great pleasure for me to extend greetings to you on this occasion of the "New Horizons for North Dakota Women" conference.

The Governor's Commission on the Status of Women was established along the lines set forth by President Kennedy to " . . . demolish prejudices and outmoded customs which act as barriers to the full partnership of women in our democracy."

I believe we are fortunate in that each year more and more women are taking an active role in the affairs of our State and Nation. This is as it should be, since we will always be in need of the best minds and talents available--the minds and talents of both men and women.

It is my hope that this conference will help alert us as to whether any "prejudices and outmoded customs" persist in North Dakota to the detriment of the common welfare and, if so, to assist us in eliminating all such vestiges of another era.

North Dakota is rapidly moving into a challenging and exciting new era. In order to meet these challenges, and seize these opportunities, your counsel and cooperation is not only needed; it is vital.

William L. Guy
Governor of North Dakota

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CONFERENCE SESSIONS

Dinner Session, Friday, July 17, 1964

Miss Dagny Olson, Vice Chairman of the North Dakota Commission on the Status of Women, was chairman of the session. She called the meeting to order and introduced Monsignor William F. Garvin of the Holy Spirit Cathedral, who gave the invocation.

Miss Olson thanked Miss Gladys E. Wentland for the tremendous task she had accomplished in organizing the conference. Miss Wentland, in turn, gave credit to the members of the committees that had been responsible for planning conference activities.

Miss Olson then introduced the Mayor of Bismarck, the Honorable Evan E. Lips.

Mayor Lips commented on the fine and able women working in Bismarck, and noted that in some areas of education, government, industry, and business, their performance is sometimes superior to that of men.

The Honorable Frank A. Wenstrom, Lieutenant Governor of North Dakota, welcomed the conference and praised the women of North Dakota who "are playing an increasing and ever more important part in business enterprises and in all branches of State and local government." He paid special tribute to "those able, hard-working, enthusiastic women who have served the people of our State so devotedly as legislators throughout the year," and "our loyal and ever-dependable desk reporters, our stenos, and committee clerks, who, working together, make the operation of the legislature possible. They have brought to that assembly a rich background of experience and know-how."

On behalf of the Governor's Commission on the Status of Women, Miss Olson officially welcomed the conferees, recalling that local Business and Professional Women's Clubs and the American Association of University Women helped foster Governor Guy's interest in appointing a Commission on the Status of Women. She praised the Governor for his forward-looking attitudes, and complimented the State's lawmakers for the favorable laws that regulate the civil and political rights of North Dakota's women.

Miss Olson took her audience back into the history of North Dakota. She noted that in 1863 the Assembly of the Dakota Territory limited the working time of women and children in the mechanical and manufacturing industries to 10 hours a day. The limitation also applied to contracts concerning women that did not specify the number of working hours. Fines for violation of the act were to be earmarked for schools. It has been suggested that, since there were almost no people in the Territory actually protected by the law, its real purpose was to attract factory workers in eastern cities as settlers.

Bills to permit women's suffrage were introduced from time to time in the Territorial Assembly, but did not develop much interest.

At the convention called in 1889 to draft a constitution for the new State of North Dakota, two of the most difficult issues were child labor and women's suffrage. Although there was some support for a minimum age of 15 years for workers, the provision finally approved prohibited labor of children under 12 years in mines, factories, and workshops.

There was active lobbying in behalf of women's suffrage, but after 3 weeks the convention gave only a glimmer of hope to women when it approved Section 122: "The legislative assembly shall be empowered to make further extensions of suffrage hereafter, at its discretion, to all citizens of mature age and sound mind, not convicted of crime, without regard to sex; but no law extending or restricting the right of suffrage shall be in force until adopted by a majority of the electors of the state voting at a general election."

Miss Olson pointed out that this left the issue of women's franchise up to the electors, who, of course, were men. However, while women of North Dakota did not acquire the vote on most matters, the convention, on the 43d day, declared them equal citizens in regard to school elections when it approved Section 128: "Any woman having the qualifications enumerated in section 121 of this article as to age, residence and citizenship, and including those now qualified by the laws of the territory, may vote for all school officers, and upon all questions pertaining solely to school matters, and be eligible to any school office."

"This was how our legal rights began."

The speaker of the evening, Mrs. Esther Peterson, Assistant Secretary of Labor, was introduced by Mrs. Agnes Geelan, Chairman of the North Dakota Commission on the Status of Women, as a woman who embodied President Kennedy's aspirations for American women. The Executive order establishing the President's Commission on the Status of Women directed that it find ways to ". . . enable women to continue their role as wives and mothers while making a maximum contribution to the world around them."

"Our distinguished guest and speaker has made and is making that maximum contribution, "Mrs. Geelan said, "as Assistant Secretary of Labor, as former head of the Women's Bureau, as Special Assistant to the President for Consumer Affairs, as Executive Vice Chairman of the President's Commission on the Status of Women, as Vice Chairman of the interdepartmental committee that is implementing the recommendations of the Commission. She has made that contribution in a career of teaching, in a lifetime of service to the labor movement, and in a career in Government where she is doing more than any other person to advance the status of women. And with all that, Mrs. Peterson's office asked us to arrange her schedule so she could get back to Washington to spend Sunday with her family."

Mrs. Peterson expressed her appreciation to those who had invited her to come, explaining that she felt a great interest in North Dakota because it was her husband's State and she felt that it had helped mold him and make him the "best man there is."

Mrs. Peterson mentioned that she had just returned from a meeting of the International Labor Organization in Geneva, Switzerland, where the status of women had been discussed. There are many places in the world, she noted, where a meeting such as the one in progress could not possibly be held.

"We are so fortunate in this country of ours. We can be so thankful for the democratic principles, the ingrained sense of individual worth, and the pioneering spirit that underlie our national life.

"I suspect that you here in North Dakota, like people in my own State of Utah, have an abundance of that pioneering spirit. It was not so very long ago that our ancestors moved westward, pushing back frontiers, risking their lives and possessions to establish homesteads, build communities, and expand a Nation.

"An interesting thing about the days of expanding frontiers was that men and women enjoyed a very real partnership in the adventure of settling new lands. Women shared the hardships and triumphs of pioneer life. Their contribution to the economy of the community was considerable, for they produced the food and the clothing that the family required; they nursed the sick, took care of the aged, and instructed the young. They worked in the fields beside their men and even took up rifles to defend their homes.

"But the wilderness has been conquered. Supplying a home with the goods and services needed by a modern family has become a commercial venture, and women are seeking new ways to make their full contribution to the society in which they live. While the home and family are still a woman's primary responsibility, homemaking and child-rearing no longer occupy the whole of her lifetime.

"As a result, women's lives are falling into new patterns. Women marry young and complete their families within a short span of years--usually while they are still in

their twenties. The average woman today is in her early thirties when her last child enters school.

"Since the life expectancy of women has increased from 48 to over 73 years since the turn of the century, American women can look forward to 30 or 35 years of active life after their families are launched.

"Freed from overburdening home responsibilities, healthy and energetic, American women turn to activities outside the home, either in paid employment or in volunteer work. They are pioneering in new fields to make the second half of their lives meaningful and productive.

"The problems we must deal with today--problems involving human values and attitudes--are byproducts of rapid change. The attributes of the pioneer--determination, capacity for hard work, and willingness to sacrifice--are as needed today as they were in the days of the unexplored frontier. To meet our problems successfully, we must develop an intellectual ruggedness and the ability to translate ideas into action.

"The President of the United States has issued a special invitation to women to participate in the building of what he terms 'the Great Society.' As a result, American women enjoy unparalleled opportunity to exercise their wit and wisdom in order to give shape and substance to their devotion to justice and knowledge and beauty."

Mrs. Peterson suggested that the climate of opinion has never been more favorable to women than it is now. She reported an upsurge of interest in women's role in society in the wake of the activities of the President's Commission on the Status of Women.

As evidence, Mrs. Peterson cited distribution figures for the Commission's report, American Women. Some 32,500 copies were given away and 31,300 copies were sold by the Government Printing Office. Charles Scribner's Sons plans to reissue the report in hard cover and paperback editions, including additional background material and a commentary by anthropologist Margaret Mead. The report itself has been translated into Italian, German, and Japanese. In Denmark, a Commission on the Status of Women has been established. In the United States, a large majority of the Governors have established Commissions on the Status of Women, and these Commissions in turn have stimulated conferences, ideas, and action.

As one of his last official acts, President Kennedy set up the Interdepartmental Committee and the Citizens' Advisory Council on the Status of Women to promote implementation of the Commission's recommendations. These two groups have reported a great deal of progress toward the goals suggested by the Commission. Mrs. Peterson cited some of the gains: In the Federal civil service, hiring officials may no longer specify the sex of a worker they need to fill a job, unless sex has a direct bearing on the job to be done. President Johnson has told his Cabinet: "The day is over when the top jobs are reserved for men." Over a thousand women have been appointed or promoted to Federal jobs that pay more than $10,000.

In private employment, the principle of equal pay for equal work has been embodied in law with passage of the Federal Equal Pay Act of 1963. Tax deductions for child care have been liberalized.

"But," said Mrs. Peterson, "the establishment, of State commissions is perhaps the most significant result of the work of the President's Commission.

"We recognized from the beginning that action to implement many of the Commission's recommendations must start at the local level. The economic, legal, and social changes needed to improve the status of women cannot be brought about by Federal action alone.

"Increasing opportunities for continuing education, improvement of education in the schools, expansion of community services to homemakers, and the evaluation of community services, for instance, must be initiated at the local level.

"However, there are many areas where Federal and local forces can and must work together to achieve needed improvements. Grant-in-aid programs can stimulate local interest and action in such areas as job training, day care, and homemaker services, but the community must participate in the planning and in carrying out the plans.

"The Department of Health, Education, and Welfare is initiating some new programs which should be watched with interest. For example, projects have been established in

five States to test the effectiveness of concentrated services and incentives designed to encourage teenagers either to complete their schooling or to secure training or placement in a suitable vocation.

"The Commission put great stress on the need for more homemaker services, and we find the Welfare Administration of the Department of Health, Education, and Welfare experimenting in this field, with special emphasis on low-income families. In one such project in Wisconsin, women receiving aid to dependent children or general public assistance were given an opportunity to train as home management aides. Between January 1962 and June 1964, 152 women, trained to work with low-income families, were graduated from the course. Forty who found employment were able to manage without further welfare assistance.

"The Federal Government can help State legislatures formulate minimum wage and equal pay laws, protective labor legislation, education and child care laws, and similar measures. But concerned citizens must lobby for the passage of needed legislation.

"To make our society a great society we need not only partnership of men and women, but also full partnership between the Federal Government and the State governments, and full participation by all segments of our population.

"Your State Commission on the Status of Women can be a significant force in bringing about the cooperation and participation that is needed. Your influence will be reflected in the attitudes of the people of your State. It will determine to what extent opportunities for education, employment, and promotion are opened up to women. It will determine to what extent women will enjoy what we have come to consider a basic freedom: the freedom to choose how one will spend one's life; what contribution one will make to society.

"This desire to contribute to society draws many of us into activities outside the home--sometimes as volunteers in community projects, but more often as employed workers. The 63,163 women workers in North Dakota in 1960 represented a 34 percent increase since 1950 and a 59 percent increase since 1940. By 1970 we expect 80,000 women workers in your State, an increase of 27 percent from 1960. At the same time, the number of employed men is expected to decrease by 7.2 percent.

"Job opportunities change frequently these days. We no longer train for an occupation in our youth and do the same work for the rest of our lives. This is particularly true in agriculture where the number of farms and the demand for farm workers are rapidly diminishing. In 1963, 1 out of every 15 American workers worked on a farm; by 1975 we expect the ratio to be less than 1 out of every 20 workers.

"Such changes in basic industries mean that many adults must learn new skills; training facilities must be provided by the local community or by the Federal Government through such programs as the Manpower Training and Development Act and the Area Redevelopment Act. In 1963, 36 projects for 357 trainees were approved for North Dakota at a cost of $808,684.

"Changes in education for the young are also necessary. Today we feel that a high school education is minimal, but we have not always achieved even that goal. Statistics show that in 1960, 61 percent of the population of this State 25 years and older had had less than 4 years of high school. We must do better than this for today's young people. We are expecting them to enter the labor force in increasing numbers; during the decade of the sixties about 26 million new young workers will be seeking employment. We must see that they have the education and the skills to meet the demand for highly trained workers, for unskilled jobs are fast disappearing. We must impress upon our schoolgirls that they will probably work outside their homes at some time during their lives; 8 or 9 out of every 10 do. This means that their education and counseling must prepare them for a dual role in life. This is an area where a commission such as yours can exert strong influence.

"Poverty is a problem that concerns us all, not only because of the suffering it inflicts upon its victims, but also because it depresses the economy and holds back progress. Unless we can put more purchasing power into the hands of this Nation's 9.3 million families living on annual incomes of less than $3,000, our rate of production will lag as will our rate of employment.

"Here again your commission can help. This State's 43,000 families who lived on incomes under $3,000 in 1960 represented 29 percent of all families in North Dakota. Of these poor families, 23,000 had children under 18 years of age. There were 60,000 children being raised in poverty. Eleven percent of the State's poor families were headed by women.

"We tend to think that poverty is linked to unemployment, but the shocking truth is that nearly half the Nation's poor families in 1962 had one member who worked. About one-fifth had two members at work, and nearly one-half million families remained impoverished with three or more members employed.

"How can we help these working poor? The answer, I think, lies in better minimum wage laws. Even the Federal minimum of $1.25 an hour does not provide an employee who works 40 hours a week with enough salary to reach the $3,000 annual income that we consider the edge of poverty. What, then, of the State laws that call for no more than 50, 60, or 75 cents an hour?

"There are other areas in which your commision will want to work and can work most effectively. I have talked about basic education, but we also need to urge our women to seek higher education. The real need for workers today is in the professional and technical fields, yet I note a decline in the percent of North Dakota women workers in these occupations from 24 percent in 1940 to 17 percent in 1960. If we truly want to see women in policymaking jobs in government, in industry, and in the professions, then we must encourage them to prepare for these responsibilities. And we must not assume that a college education is wasted on women who choose to contribute to society by concentrating on home and family. In today's complex world, the more knowledge and developed talent a mother has, the more she will be able to contribute to the development and future success of her children.

"You will be interested, too, in the efforts we are making toward improving conditions faced by household workers. The Woman's Bureau sponsored a consultation on this subject in Washington recently with a group of interested agencies and organizations. There was strong conviction among most of those attending that women who wish to enter this field should be able to secure training and become specialists in the various homemaking skills, so that they can command better wages and enjoy the status of skilled workers. Employers would benefit by being able to hire competent skilled workers, such as cooks or mother's aides, on a part-time basis.

"I know you are interested in the needs of North Dakota's Indian population. Among these people, problems of education, unemployment, and poverty are acute. We are particularly concerned about the education of Indian children, because about half the Indian population of the country is under 20 years of age. This is indeed a challenge to us, for it is probably only through the education of these youngsters that we will break the cycle of poverty among these people.

"I hope that during this conference we will have time to examine some of the other problems to which we seek solutions. We should talk about the need for community services that will help women do a better job as mothers and homemakers, especially when they combine these roles with employment outside the home.

"I'm thinking particularly of day care facilities, not only to help working mothers, but also to help mothers with big families in little houses, to help mothers who are ill or disabled, and to help mothers who are catching up on their education or performing valuable volunteer services in the community. I have been so impressed by the day care services that have been developed in Sweden, Austria, and other European countries I have visited. The day care centers are not just places where children are watched and kept out of trouble while their mothers are busy elsewhere. They are places where the child is encouraged to develop as a person, where attention is paid to his individual needs, and where the atmosphere is one of affection and companionship. Every effort is made to foster the warm, loving relationship between mother and child that makes for a happy home. We have child care centers like this in our country, but not nearly enough.

"We also need to talk about women's role as citizens. It's important that women get into the mainstream of public life and participate in county, State, and National politics. We need qualified women in policymaking posts all down the line; it will be up to women

at the local level to urge public officials and political leaders to follow President Johnson's example in opening public office to women.

"Then there is the vast subject of the place of the volunteer in our society today. We have a new image of her. She is efficient, well educated, and well trained. Many of her jobs are administrative; many deserve professional status; all meet unfilled needs. How can we help the volunteer develop her potential and improve her status?

"You can see why I think commissions like yours are so important. You are in a position to make an intensive appraisal of women's role, rights, and obligations in every phase of community life. Through your meetings; your consultations with women's organizations, labor unions, and community groups; and your reports, you will bring the purposes and findings of the commission to the attention of thousands of citizens in every walk of life.

"You will find that the programs of women's groups--the Business and Professional Women's Clubs, the American Home Economics Association, the League of Women Voters, Pilot, Zonta, Soroptimist, and all the rest--will soon reflect your influence. You will find educators and social scientists on your side. You will find, too, that you will command respect and win friends in State and local legislative bodies.

"Best of all, your own lives will be enriched. You are in the midst of a wonderful experience. If at times it seems frustrating and difficult, I car assure you that overall it will prove most gratifying.

"The Interdepartmental Committee and the Citizens' Advisory Council are eager to help at the Federal level. We want to work with you, to share your experience, and to learn with and from you. That is why we will keep in touch with you and serve, if we may, as a clearinghouse for all the knowledge, experience, and information that is developing in State commissions throughout the country. We invite your suggestions, your ideas, and your cooperation. Please make it a two-way street."

Mrs. Peterson's address was followed by a "Hat and History Show"--a parade of hats displaying styles from 1896 to 1964. The show was written, directed, and staged by Mrs. Constance E. Sidell. Narration was interspersed with songs for which Mrs. Sidell had written special lyrics related to the theme of the conference.

Morning Session, Saturday, July 18, 1964

Mrs. Agnes Geelan called the meeting to order and asked the Reverend Hensel Hendrickson of Trinity Lutheran Church to give the invocation.

Mrs. Geelan explained a program change: Governor William L. Guy, who had planned to interrupt his vacation to greet the conference provided his vacation was "fairly undisturbed" by other emergencies, had just been able to return to his holiday after an emergency that brought him back to the capital the previous week. Mrs. Geelan and conference members were disappointed, but appreciated his interest and the message he sent to the conference, which is on page vi.

Mrs. Geelan, chairman of the Governor's Commission on the Status of Women since its inception in October 1963, recalled the assistance, guidance, and encouragement she received, since the beginning of her task, from Miss Marguerite I. Gilmore, Regional Director of the Women's Bureau, U.S. Department of Labor, and presented Miss Gilmore to the conference.

"It is a wonderful thing to see how a State like yours takes hold of an idea and develops it," Miss Gilmore said. "We hope to be able to use some of your experienced leaders to help us spread good ideas to some of the other State commissions. It is a great pleasure to be here and a greater one to see how far you have come in a short time."

Mrs. Alice A. Morrison, Chief of the Division of Legislation and Standards, Women's Bureau, also was introduced. Mrs. Morrison explained that she had graduated from both the Liberal Arts College and the Law School of the University of North Dakota and regarded the State as her legal residence for civil service purposes.

She pointed out that North Dakota had a very good start for a commission on the status of women because the State already had good laws pertaining to women's status.

"In 1938, when we published our first report on the civil and political status of women, 23 States excluded women from jury service. One State, Oklahoma, barred women from eight major or State offices. Fourteen States and the District of Columbia gave preference to the father in regard to custody of his children, their upbringing, discipline, and education.

"Six States placed restrictions on the wife's conveyance of her separate property that did not apply to the husband's property. In seven States women were barred from serving in a fiduciary capacity, such as executor, administrator, or guardian. In two of the eight community property States, a surviving husband was entitled to inherit more than a surviving wife. In seven States--and this is the only group that includes North Dakota--a husband had the legal right to claim his wife's earnings unless he had agreed she could receive them as her own property.

"The legal status of women is continually changing and improving, but some discriminations remain. At the present time, four States still allow women to be married at 14 years of age with the consent of their parents. Four States require court approval before the wife can engage in a separate business that does not pledge her husband's account or property.

"Three States still give the man the preference for service in suretyship or as guarantor. One State requires the husband to join in a suit involving his wife's separate

real property. With respect to domicile, only four States permit a woman to have a domicile separate from her husband's for all purposes. This sometimes causes inequities with respect to voting, jury service, public office, probate, and taxation.

"In the eight community property States the husband and the wife now have an equal estate, but in most of those States the husband has the right to control the property during marriage. Some States still restrict the wife's disposition of her separate property during marriage, but do not similarly restrict the husband's disposition.

"These more obvious inequities, you can see at a glance, cause men and women to be treated differently. The Committee on Civil and Political Rights of the President's Commission on the Status of Women was interested in basic rights. It was interested in the partnership principle of marriage and believed that husbands and wives each should have a tangible, legal right in the property of the other when it was acquired during the marriage, whether or not the wife was earning and bringing money into the home.

"I would like to mention the importance of the work of the Governors' Commissions to women in other countries. We work very closely with many international agencies. Mrs. Peterson, as you know, has just returned from a meeting of the International Labor Organization in Geneva. We also work with the United Nations Commission on the Status of Women, and I had the good fortune in December to attend a seminar on the Status of Women in Family Law held in Bogota, Colombia, for all women of the Western Hemisphere.

"Twenty-five countries and territories were represented. All the South American countries except Chile and Venezuela were represented, together with many of the islands in the Caribbean, and of course the United States and Canada. The seminar was an occasion for free discussion where no one recorded the conversation, so the participants really brought their problems into the open and talked about life at home.

"At the Bogota seminar we found that although some countries had improved some aspects of the legal rights of married women, the progress was uneven and there were still many inequities. Brazil, for example, only 2 years before, gave the wife the right to work outside the home without her husband's consent; but if the wife works, her husband can collect her earnings.

"Some countries do not permit the wife to open a bank account without her husband's consent, nor go to court; and many do not permit her to leave the country nor to take her children out of the country--even when she is separated from her husband--unless he gives his written consent.

"At one session a representative said: 'In my country women have no rights; they have only responsibilities.' This was true of many of the countries represented.

"I point this out because the work done by your commission, and by commissions in other States, comes to the attention of international agencies in which the United States participates and influences the elimination of inequities and the improved utilization of women's capabilities in other countries.

"The work you do not only helps women in this country; it is important, also, in relation to the example we set for the women of all nations."

Immediately following Mrs. Morrison's remarks, conference participants met in three workshops.

Workshop 1

EDUCATION AND HOME-COMMUNITY COMMITTEES

Chairman: Mrs. Evelyn M. Anderson
Reporter: Mrs. William Brentzel

Panelists:
Mr. John Conrad, Member, North Dakota Board of Higher Education - "Women in Higher Education"
Mrs. H. A. Belcher, Past Vice President, National Congress of Parents and Teachers (PTA) - "Women in Support of Education"
Mrs. Winifred Stockman, Director, Cass County Welfare - "Child Care and Working Women"
Mrs. Lois Trapp, Past District President, Federated Women's Clubs - "Volunteer Work by Women"
Mrs. Winifred Echelberger, Acting Chairman, South Dakota Commission on the Status of Women - "South Dakota Commission on the Status of Women"

Consultants:
Mrs. George E. Hariman, President, North Dakota United Church Women
Dr. A. O. DeLong, President, Dickinson State College
Mrs. Margaret C. Phelan, Member, Governor's Commission on the Status of Women
Mr. Orville Crays, Regional Representative, Children's Bureau, U.S. Department of Health, Education, and Welfare

Workshop 2

PUBLIC AND PRIVATE EMPLOYMENT COMMITTEES

Chairman: Mr. Charles Askew
Reporter: Mrs. Sybil B. Kelly

Panelists:
Mrs. J. F. X. Conmy, Past President, North Dakota Bar Association Auxiliary - "Barriers to Women's Employment"
Mr. Carl F. Fryhling, Director, North Dakota State Employment Service - "Women in Employment--Supply and Demand"
Mrs. Ann Powers, North Dakota State Representative - "Equal Pay Laws--State and National"
Mr. Ed Garvin, Personnel Director, North Dakota Tax Department - "Women in North Dakota Government"

Consultants:
Mrs. Gilman Peterson, President, North Dakota Press Women
Miss Betty Svihovec, County Auditor
Miss Marguerite I. Gilmore, Regional Director, Women's Bureau, U.S. Department of Labor
Mrs. Harriette Wolf, Superintendent, Division of Women's and Children's Employment, Illinois Department of Labor

Workshop 3

CIVIL AND POLITICAL RIGHTS, SOCIAL INSURANCE, AND LABOR LEGISLATION COMMITTEES

Chairman: Miss Marcella O. Hanson
Reporter: Mr. Wallace J. Dockter

Panelists:
Miss Dagny Olson, District Court Reporter - "Legal Rights of Women in North Dakota"
Mr. Martin N. Gronvold, Director, North Dakota Unemployment Compensation Division - "Unemployment Laws and Women"
Mrs. Ethel Avery, Assistant to President, North Dakota Farmers Union - "Wage-Hour Laws Affecting Women"
Dr. Wilson M. Laird, State Geologist - "Possibilities for Women in Government"

Consultants:
Miss Brynhild Haugland, North Dakota State Representative
Honorable William Reichert, North Dakota State Senator
Mrs. Alice A. Morrison, Chief, Division of Legislation and Standards, Women's Bureau, U.S. Department of Labor

Luncheon Session, Saturday, July 18, 1964

Mrs. Frank Jestrab presided at the luncheon session and called on the Reverend William Lindsay of the First Presbyterian Church to deliver the invocation.

Mrs. Winifred Echelberger, Acting Chairman of the South Dakota Commission on the Status of Women, brought personal greetings from Governor Archie Gubbrud and good wishes from the South Dakota Commission on the Status of Women.

Mrs. Harriette Wolf, Executive Director of the Illinois Commission on the Status of Women, relayed greetings from Governor Otto Kerner and the members of the Illinois Commission.

The following summaries of workshop panels were presented by the workshop reporters.

Report of Workshops

Mrs. William Brentzel, reporter for Workshop 1 - Education and Home-Community Committees

Education

Women can demonstrate their interest in education in many ways. As homemakers they can encourage their children's interest in learning. Outside the home women may become interested in the policies, legislative problems, and administration of the schools at all levels--local, State, and National. Women should read, listen, study, participate, and speak out in support of developments that are good.

Institutions of higher education in North Dakota face an unprecedented challenge. By the fall of 1966 nearly 4,000 more college and university students will be enrolled than were enrolled in 1963. Not only is the college-age population increasing, but the percentage of this group that goes to college is rising also. Women are well represented in the ranks of elementary and high school teachers, but are needed in increasing numbers as teachers in colleges and universities. Teaching at the college level is highly adaptable to women's needs, since teaching on a part-time schedule can be arranged without lowering standards.

Community Aids for Mothers

Some 30 percent of all the women in North Dakota are gainfully employed outside their homes. Services are needed to help them provide care for their children while they work. The most needed service is day care for preschool children. This may be provided by licensing private homes that meet standards for warm, sympathetic care. The North Dakota Committee on Day Care has a plan, a schedule, and a manual and is ready to go into action. Plans call for a sliding scale of fees, with the maximum set at $2 a day.

Homemaker service that provides temporary help in the home when a mother is ill or absent for a prolonged period of time is the second most urgent need. Although plans

for this service have not yet been formalized, they will call for the assistance of warm, motherly women who can serve on a part-time basis.

Public and private recreational facilities offer constructive supervised activities for school-age children of working mothers. The hot lunch program offered in schools is also of particular value to them.

There is great need for additional vacation activities for school-age children, such as summer camps operated by the Camp Fire Girls, the YMCA, YWCA, and volunteer groups of citizens in larger cities.

Of prime importance is the need to cultivate an appreciation of the worth and dignity of working women, so that young girls--8 out of 10 of whom will work for pay at some time of their lives--can grow up in a favorable atmosphere. In this moment of time, working mothers often suffer pangs of guilt, whether they work because of necessity or because of interest in a job or profession.

Volunteer Workers

No one has made a serious effort to compute the value of free services American women give to their communities. Women who participate in churchwork raise funds for welfare needs, as well as for the improvement of the physical plant of the church. Women active in political organizations make surveys, conduct campaigns, and educate citizens in the importance of voting.

In the area of education, women serve on school boards at all levels--community, State, and National. Their educational efforts extend beyond formal school situations and include the educational programs of the organizations they join.

Women are prominent in health and welfare volunteer work. Two-thirds of the solicitors for health program funds are women.

Community improvement and economic development often are spurred by special projects initiated by women volunteers.

Volunteer work provides an outlet for the feminine impulse to serve. It enables a woman to utilize her education and talents, but frustrations and disappointments often accompany the satisfactions.

Women's services are not always recognized. Especially in church, political, and educational fields, volunteers lack a voice in policymaking that is commensurate with their contribution. The business and educational worlds rarely recognize the valuable training and experience volunteer services provide, regardless of how professional a job may have been done.

Women need to take themselves more seriously before others can be expected to do so. There is a definite need to coordinate and limit the efforts of organizations and to finance "volunteer" work more realistically. It is one thing to give time and another to pay for the privilege of giving.

Work With the Disadvantaged

In working with disadvantaged children, it is most important to communicate with the parents as well as the youngsters. Parents must understand the value of education so they can encourage their children to learn and to have respect for education. Counseling for both parents and children is a key to success in such projects. If all the individuals concerned are not treated with dignity and respect, they will lose interest and withdraw.

Mrs. Sybil B. Kelly, Reporter for Workshop 2 - Public and Private Employment Committees

The underutilization of the talents and competence of women workers is, in part, a result of the poor motivation of women themselves. Traditional training and guidance, as well as outmoded prejudices, restrict women's employment and advancement.

Employment

Both the supply and the demand for women workers are increasing. However, although the demand for technical and professional workers exceeds the supply, the supply of applicants with limited skills or training exceeds the demand for them in acceptable types of work.

The current manpower training program is extremely important. In Devil's Lake, for example, three programs are in operation and have included women trainees. Some women who were trained as hospital cooks already have good jobs.

There is serious need for an equal pay law in North Dakota. Such a law was considered and passed by the House of the North Dakota Legislature at its last session, but the Senate did not approve it. Considerable attention should be paid to this question in the future.

The government hires more women than any other single employer in North Dakota. Some 16,400 women are employed by Federal, State, and local government agencies that offer women jobs in a wide variety of occupations and professions. Most women, however, are employed in the clerical fields. Government agencies have a good record as employers. Women with experience are welcome to return to employment when their children no longer need close supervision.

Discussion

During the discussion period, the group touched on the uneven treatment of teachers, the need for more vocational education to discourage dropouts, and the enforcement of the Federal Equal Pay Act.

Mr. Wallace J. Dockter, reporter for Workshop 3 - Civil and Political Rights, Social Insurance, and Labor Legislation Committees

Legal Rights

With few exceptions, men and women generally are considered to have the same legal rights in North Dakota.

Although women may be excused from jury duty on personal request based purely on their sex, men must have a pressing reason in order to be excused. This inequity fails to recognize that both sexes have equal obligations as citizens.

There is need also to reconsider the woman's rights to her husband's estate. A study of inheritance laws should be made regarding the amount received by the widow, looking toward the possibility of allowing her to object to her deceased husband's will and elect to take the share she would receive if her husband had died intestate.

Unemployment Compensation

Employment in North Dakota is highly seasonal. The unemployment rate is extremely high in winter and extremely low during the rest of the year. Unemployment insurance provides a cushion that protects the economy of the entire State. It provides the families of the unemployed with some purchasing power which, in turn, helps keep other workers in the State employed.

In order to qualify for unemployment insurance, an unemployed worker must have been employed for a specified period of time and must have earned a minimum of $600 a year. The wage structure is so low in North Dakota that a woman who has been employed fairly regularly may not make even $600 a year. Consequently, in addition to her low

wage, she may be denied unemployment insurance because of it. This problem needs serious consideration in the business community.

Another problem that merits consideration is the automatic disqualification of pregnant women workers for unemployment compensation. The question is how long they can work--through 4 months of pregnancy or 8 months of pregnancy, or more or less. The disqualification may be doubly unjust in that it withholds income at a time when a family may be in urgent need of it. The legislature should study the question of maternity leave in relation to unemployment benefits.

Labor Laws

Fewer than one-third of the women over 14 years of age in North Dakota are gainfully employed and provide 27 percent of the work force. It is most unfortunate that many of these women are not covered by either Federal or State wage and hour laws. The wage board often holds lengthy public hearings, but fails to bring wage standards up high enough. Often an employee can't afford to take time off to appear at a hearing called to hear all points of view, and consequently her story is never heard.

The right-to-work law hampers the organization of women into labor unions. In other States, women's wages have risen after women organized, but the right-to-work law in this State has made it very difficult for women to do anything collectively.

Discussion

About 29 people leave North Dakota every day. Many of the people who leave are college graduates, capable young people, or married couples who seek greener pastures.

Women's chances for employment in both State and local government agencies are quite good. There doesn't seem to be too much discrimination in hiring, although women probably don't always get the promotions they deserve.

If the current necessity for upgrading technical skills continues for the next few generations, it is estimated that someone entering the labor force now will have to be retrained four times during his working life. Already some thought has been given to extending the public school system through junior college and making 14 years of schooling compulsory.

Conference Summation

Mrs. Esther Peterson had been asked to close the conference by summarizing the ideas presented. She thanked the participants for a rewarding experience and explained how helpful it is to someone who "sits in Washington trying to do the right thing" to hear the people directly involved in a problem discuss it and exchange views. She congratulated the Chairman of the Commission and the Commission itself for organizing the meeting, and said that she took pleasure in the spirit of hospitality and exchange that characterized all the conference activities.

Mrs. Peterson excused herself from summarizing and said that she would rather discuss a few ideas that occurred to her during the conference.

"I was very pleased with the wide scope of your interests. You are not just talking about women as employees, you are talking about all women in all the circumstances they meet. The President's Commission looked at women in the same manner. Although we are dealing particularly with the problems of women, we cannot look at women as though they live in a world of their own. We can look at women only as members of society as a whole.

"I was pleased that so many references were made to the total economy of the community--unemployment, wages, and purchasing power. All of these are related, and we cannot take care of women without taking care of society.

"Although we who participate in conferences like this one can see the relationship between women's status and the community as a whole, there is a great deal to do to educate the public to these concepts. You must draw many citizens into your work and help them learn and develop new attitudes.

"I was glad to hear that all of you seem to understand that there are no easy answers. So many problems that women have stem from tradition, and tradition is not easy to change. We will not be able to solve all the problems at once. We will have to take only one step at a time and we must not be impatient. But, on the other hand, we must not be too patient. We do have to have thrust and movement.

"Another facet of this conference that pleased me was your attempt to learn from others' experience. It is splendid that you invited Mrs. Wolf and Mrs. Echelberger to come. I was so glad Mrs. Morrison could be here. She is a technician who has her finger on legislation pertaining to women not only in the United States but in the whole world. I like the system of bringing in consultants because we can gain from the experience of many people.

"Of course I was very pleased that education received such strong emphasis. I believe deeply that education must start early and continue throughout life. Those of us who have had a high school education and a college education have a double responsibility to those who have been left out. This is a fact we should consider when we think of the disadvantaged groups in our society.

"I was impressed also with the report on volunteer activities. I really have my interest in volunteer work to thank for my present job. After I graduated from college, I taught physical education and did volunteer work at the YWCA. That's where I got acquainted with and interested in working women. We must think of volunteer workers as women who explore to find new ways to do things that the old routines don't take care of. I could name hundreds of projects that are now part of our way of life that were started by volunteers who looked for new ways to handle problems. Volunteers with imagination, with ability to organize, can move into new circles of usefulness and plow new territory.

"I can see all the things we are talking about come to pass in the future. And in the process, ideas are going to change. We are going to realize and acknowledge that sensitivity, aggressiveness--all skills--belong to both sexes. We are going to acknowledge

that traits such as emotionalism, reliability, compassion belong to both sexes, too. The myths that have dominated thinking about the capabilities and limitations of men and women are being dispelled as we move ahead. They will eventually disappear.

"Some of the things I enjoy most on my job are the letters I receive. On the whole, it is delightful to read the honest opinions of people who sit down to write to their Government about things that affect them. I want to tell you about one letter I received recently which began 'Dear Mrs. Peterson: It is all your fault.' I wondered what I had done this time. The letter went on: 'My 13-pound weight loss, the fact I feel better than I have in many years, the fact my interest in life and its activities is keener than ever before, Mrs. Peterson, it's all your fault.'

"The writer described how she and her naval officer husband and two teenagers moved around the country. She said she saw the report of the President's Commission and agreed with it. 'We moved into a new house, settled, and got the children in school. One morning I woke up to the fact that it was around 10 o'clock and the laundry was done, the polishing was done, and I had written to everyone I owed a letter. I was bored stiff and feeling a little bit sorry for myself.' Then she remembered the report and the idea of doing something away from home occurred to her.

"She volunteered first, and loved it. The volunteer job led her to a paying job. Someone asked her to take on some work for several hours a day. 'When my friends heard of my new venture their reactions were mixed. With womankind, the universal feeling seemed to be how lucky I was, getting dressed up every day and being able to eat in town.'

" 'Well, it has been fun and more rewarding than I ever suspected. In 2 months I lost 13 pounds that I had wanted to lose and couldn't sitting at home. The walk to the bus is getting the job done fast.'

"Then she said: 'It is sinful to stagnate if you can be of use. I do think happiness comes in usefulness, feeling we are needed and we are useful. My prayerbook contains a prayer, the essence of which is that when we die we must give an account of time lost and talents unused. And now I weep for all the minutes I have lost and for the people who have let their talents lie fallow, either through laziness or through unawareness of any talent, and have lost the joy of being useful.'

"I think that sums up what we really want. We want a good life for everybody and we want all of us to have the opportunity to fulfill our desires to be useful at the highest levels of our capacities. You have taken a great step toward realizing this goal for the women of North Dakota, and I congratulate you and wish you further success in your quest."

The luncheon session adjourned. Participants were invited to tea at the Governor's Mansion at 3 o'clock in the afternoon.

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VT 005 543
A Study of Volunteer Firemen Training in the State of Utah. Final Report.

Office of Education (DHEW), Washington, D.C.
MF AVAILABLE IN VT-ERIC SET. OEG-4-7-063046-1612 08
BR-6-3046
Pub Date - Mar68 86p.

*FIRE FIGHTERS; *VOLUNTEER TRAINING; *INSERVICE PROGRAMS; *FIRE SCIENCE EDUCATION; PROGRAM IMPROVEMENT; ADULT VOCATIONAL EDUCATION; TRADE AND INDUSTRIAL EDUCATION; NATIONAL SURVEYS; PROGRAM DESCRIPTIONS; QUESTIONNAIRES; ITINERANT CLINICS
UTAH

The development of a training program for Utah volunteer fire departments which would most economically and effectively utilize the best fire training methods and procedures presently available was the basic purpose of this study. The specific objectives were to ascertain the scope of volunteer fire department training programs as they presently exist in Utah and other states, to indicate those areas which need improvement in Utah, and to suggest solutions to problems uncovered in the study. Information was sought through a survey of states, personal interviews and observations, the use of an advisory panel, questionnaires to individual fire chiefs, library materials and the use of a rating committee. Recommendations include: (1) the construction of a permanent state fire college, (2) the enlargement of the state instructional staff, (3) the development of a concentrated, state-coordinated program of public relations and a complete set of forms and procedures, (4) subjection of the volunteer fire departments to the supervision of the local governing bodies, and (5) additional research in the possible implementation of a 2-year associate degree program with appropriate teaching aides, training followup, and objective rating systems to grade fire departments. (HC)

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FINAL REPORT
Project No. 6-3046
Grant No. OEG-4-7-063046-1612

A STUDY OF VOLUNTEER FIREMEN TRAINING IN THE STATE OF UTAH

March 1968

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

VT005543

FINAL REPORT

Project No. 6-3046
Grant No. OEG-4-7-063046-1612

A STUDY OF VOLUNTEER FIREMEN TRAINING IN THE STATE OF UTAH

Principal Investigator: Robert W. Pommerville
Project Director: John F. Stephens

Research Coordinating Unit
for Vocational and Technical Education
Utah State Board of Education
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Salt Lake City, Utah, 84111

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ACKNOWLEDGEMENTS

Grateful acknowledgement is extended to the following individuals, groups and organizations, whose efforts have made these pages possible:

Wilson W. Sorensen, President, Utah Technical College at Provo;
Robert Tanner, State Fire Marshal;
Allen R. "Captain" George, State Fire Training Instructor;
Abram Bywater, General Manager, Utah Fire Rating Bureau;
Roger B. Honeyman, Chairman, Evening School, UTC at Provo;
Fire Chiefs who completed and returned the questionnaire;
Officials in the thirty-three states responding to my letter of inquiry, who provided me with valuable information concerning fireman training programs in their respective states.

It is very much in order to give a special thanks to Mr. John F. Stephens, Director, Utah Research Coordinating Unit, whose keen insight and perspective gave constant direction to this study and increased whatever relevance it may have.

This study was conducted under the auspices of the Utah Research Coordinating Unit, which placed its facilities and aid at my disposal.

SUMMARY

The modern volunteer fire department has a complex and difficult mission. It must be fully prepared to function effectively in each of the areas of fire protection with which a fire department must be concerned. It must be capable of combating industrial fires as well as grass fires - fires in multi-story buildings as well as fires in barns and outbuildings. To obtain this desired level of preparation, a complete and well-rounded training program must be readily available to each department in the State. The training programs presently available to the volunteer fire departments in Utah, and the facilities for conducting this training, are not meeting this need.

The basic purpose of this study is to provide a basis for the development of a training program for the volunteer fire departments in the State which will most economically and effectively utilize the best fire training methods and procedures presently available.

The specific objectives of the study are fourfold: 1. to ascertain the scope of the fire training programs for volunteer departments presently existing in other states; 2. to ascertain the scope of the training program for volunteer fire departments as it presently exists in Utah; 3. to indicate those areas in which improvement of the Utah training program is required; and, 4. to offer suggestions for the solution of the various problems uncovered in the study, and new approaches to those problems, whenever the need appears.

The methods used to obtain the information used in this report were: A survey of states, personal interviews, personal observation, the use of an advisory panel, questionnaires to individual fire chiefs, library materials and the use of a rating committee.

The study concludes that the Utah training program suffers from: A decided lack of physical facilities (such as training towers, fire test buildings,etc.; an insufficient number of state instructors to carry the training program to the various departments; an inadequate system of public relations; a rudimentary system of forms and procedures which fails to fully inform the local departments as to the services and facilities available to them; an inadequate exchange of information between the local and state levels of fire service; an outdated training manual; an inefficient form of departmental organization; a partial lack of desire on the part of the local departments to participate in a complete training program (although it must be noted that working conditions, job requirements, and inadequate time contribute to this lack of desire).

Some of the recommendations made include: The construction of a permanent state fire college; the enlargement of the state instructional staff; the development of a concentrated, state-coordinated program of public relations and a complete set of forms and procedures; and subjection of the volunteer fire departments to the supervision of the local governing bodies. The need for additional research in the area is indicated.

CHAPTER I

INTRODUCTION

It seems to be a tragic principle of fire safety that nothing is ever done to improve existing conditions until disaster strikes. Chief J. I. Fetters gave some examples of this tendency in an address to the Illinois Firemen's Association at Decatur, Illinois on October 23, 1962 (numbering mine):

> "1. The Coconut Grove Fire in Boston, 1942 - 493 dead. This fire resulted in laws to prevent over-crowding of places of assembly and required signs showing the safe number of occupants, laws requiring adjacent swinging doors to revolving door exits and laws requiring emergency exits;
>
> 2. The Collingwood School Fire, 1908 - 174 dead, and the Iroquois Theatre fire in Chicago, 1903 -602 dead. These fires preceded laws requiring panic bars on doors of theatres and schools;
>
> 3. Ringling Brothers Circus Fire, Hartford, Connecticut, 1944 - 163 dead. Laws requiring circus protection by hose-lines laid to the circus lot, weeds cleaned off the lots and axes ready to cut tent ropes;
>
> 4. Cleveland Clinic Fire, 1929 - 124 dead. Laws requiring the use of safety film for X-rays and photo films, and most 16 mm films;
>
> 5. Baltimore Fire, 1904. Standards for hose threads and hose fittings;
>
> 6. Chicago Fire, 1871. Laws setting up zoning systems with wide streets for fire breaks;
>
> 7. San Francisco Earthquake, 1906. Laws providing emergency water supplies."

This same pattern has been apparent here in our own state. Many examples could be cited of communities doing nothing about local fire safety until some disaster impelled action. This should not be the case. Utah communities must be aware of the fire safety problems existing in their respective areas before a disaster compels such awareness, and must plan for all eventualities. Perhaps most important, they must be more willing to spend some money to improve the level of fire protection which they are presently receiving. A community's financial support of its fire department is most important,

but spending money without knowing what to buy is foolish. Too many communities will buy a piece of equipment and rest comfortably in the belief that they have adequate fire protection, not realizing that equipment alone does not make an effective fire department. A community must make sure that its firemen know how to use their equipment in all situations conceivably occuring within the area of protection with which they are concerned. A community thus assured of adequate fire protection may enjoy two important benefits of such farsightedness: (1) peace of mind and (2) possibly lower fire insurance rates. To achieve these desirable results, each community must assume its fair share of responsibility.

Harry A. Ohlrich, Coordinator of Fire Service Training for Southwestern Ohio, in an article in the May 1966 newsletter, "Around the Buckeye Training Table," had this to say:

> "It is absurd to expect fire departments - volunteers in particular - which in some cases were organized and equipped to cope with only the simplest, commonplace types of fires such as have previously been encountered in rural and suburban areas, to successfully combat today's complex, even deadly, types of blazes that evolve in these new hazards. Indeed, it is remarkable that volunteers have managed to achieve the high plane of efficiency which distinguishes so many of them in the light of the failure of some local and area governments to support them financially and morally.
>
> It is high time that volunteer fire forces be reviewed and reevaluated in view of their present and future responsibilities. It is time that they are given financial as well as moral encouragement. It should no longer be necessary for them to finance their own essential operations -- to pay for the privilege of risking their necks. The communities, businesses and industries which they must protect should pay their just share of that protection."

The conclusions reached by Mr. Ohlich are timely and accurate, and deserve our serious consideration. But they do not go far enough. The volunteer fire department exists because of the need of smaller communities for fire protection and the impracticality of their maintaining full-time fire departments. The fires with which most volunteer departments have historically dealt have been in barns, farm houses, haystacks and fields. Now, however, these same departments are being called upon to fight and control fires in oil storage areas, grain elevators and large multi-story buildings. There are new construction and industrial materials with burning characteristics and properties totally unlike anything known to the traditional volunteer departments. Today's volunteer fireman must know how to fight many different classes and types of fires. He must have training far in excess of that provided

for his forerunners. He must be, in every sense of the term (except perhaps the receipt of full-time compensation) a professional fire-fighter.

A. PROBLEM STATEMENT

The modern volunteer fire department has a complex and difficult mission. It must be fully prepared to function effectively in each of the areas of fire protection with which a fire department must be concerned. It must be capable of combating industrial fires as well as grass fires - fires in multi-story buildings as well as fires in barns and outbuildings. To obtain this desired level of preparation, a complete and well-rounded training program must be readily available to each department in the State. The training programs presently available to the volunteer fire departments in Utah, and the facilities for conducting this training, are not meeting this need.

B. OBJECTIVES OF THE STUDY

The basic purpose of this study is to provide a basis for the development of a training program for the volunteer fire departments in the State which will most economically and effectively utilize the best fire training methods and procedures presently available.

The specific objectives of the study are fourfold:

1. To ascertain the scope of the fire training programs for volunteer departments presently existing in other states;

2. To ascertain the scope of the training program for volunteer fire departments as it presently exists in Utah;

3. To indicate those areas in which improvement of the Utah training program is required; and,

4. To offer suggestions for the solution of the various problems uncovered in the study, and new approaches to those problems, whenever the need therefor appears.

C. LIMITING FACTORS

The findings resulting from this study were limited in several ways. These limitations include the following factors:

1. The majority of the questionnaires sent to the chiefs of the various volunteer fire departments were not returned, despite an extensive follow-up procedure;

2. The questionnaire was not as well-constructed as had been desired, despite the assistance of the advisory panel (this is discussed fully at Section B of Chapter II - Procedure);

3. The rating of the various departments as to personnel effectiveness in fire fighting procedures and tactics was left wholly to a three-man committee, without the participation of the writer. Thus, the exact procedures utilized by the committee and the criteria used in rating the various departments are not available in this study. A list of the departments and the ratings which they received is likewise unavailable. The rating committee was utilized because of the inability of the advisory panel to agree upon an effective rating system and the unwillingness of the various fire officials to be responsible for any list of cities and towns graded as to department effectiveness. The rating list published by the Utah Fire Rating Bureau was deemed inappropriate for our use because many of the factors underlying its rating schedule are extraneous to those matters which are the subjects of this study. (i.e. building fire safety construction, water supply, etc.);

4. The response from other states was not structured or uniform in scope or content, though much valuable information was obtained from this source;

5. There have been no substantive surveys made of fireman training programs as they exist in the United States, thereby providing no basis for the comparison or evaluation of replies received from other states;

6. There is in existence (to the knowledge of this writer) no recommended uniform training program for volunteer fire departments, which can be used as a standard in the evaluation of the program existing at the present time in Utah. Thus, any evaluation made of the training program in any state must of necessity be more subjective than perhaps is desirable.

D. DELIMITATIONS

In addition to the limiting factors listed above, there were certain delimitations placed on the project which the investigator felt were necessary to give more definition to the study.

1. The area of study was limited to the volunteer fire departments, and to those methods, procedures and approaches which would improve the quality and quantity of the training which they receive (although the acquisition of some information concerning full-time departments was not altogether avoided);

2. The consideration of the general functional needs of volunteer firemen training programs constituted the main emphasis of the study. Thus, a minimal amount of research was conducted as to the actualities of classroom instruction, teacher aptitudes and teaching skills required by the fire instructor, or the quality of the instruction presently available.

3. The study was restricted to State and local fire safety officials and leaders. No attempt was made to solicit information from the individual volunteer firemen.

E. DEFINITIONS

1. ITINERANT INSTRUCTION - fire training instruction provided by the State at each local fire department by instructors traveling to the town or city from some central or regional source.

2. ITINERANT INSTRUCTORS - "traveling" instructors; instructors providing individual fire departments with itinerant fire instruction.

3. PROTECTIVE AREA - that area constituting the immediate fire safety responsibility of a particular department.

4. REGIONAL FIRE CONFERENCE - a training session conducted by State fire instructors in a given geographic area and open to members of all fire departments in that area.

5. STATE FIRE COLLEGE - a permanent facility built for fire training purposes and available for the use of every fire department in the State. Such facility would be staffed by state fire instructors who would serve as itinerant and regional instructors whenever the fire college was not in use.

6. STATE INSTRUCTIONAL STAFF - in Utah, the full and part-time fire training instructors who work out of the Utah Technical College, Provo. These instructors teach at the state, regional and itinerant levels, and spend most of their time with the volunteer fire departments of the state.

7. VOLUNTEER FIRE DEPARTMENT - a fire department consisting of citizens performing the service of fire protection of their own free will, receiving minimal or no compensation for their efforts; not a full-time department; a fire department consisting of part-time firemen who are paid only for those services actually performed, on an hourly basis, and who depend upon work other than firefighting as their principal means of support; for the purposes of this study, those departments consisting of one or more full-time firemen in addition to volunteer firemen are considered volunteer fire departments.

CHAPTER II

DESCRIPTION OF THE RESEARCH DESIGN

A. DESIGN FORMAT

In order to accomplish the purpose of this study, it was necessary to seek information from the following sources:

1. SURVEY OF STATES - to ascertain the "state of the art" throughout the United States.

2. PERSONAL INTERVIEWS - to ascertain the state of the present training program in Utah, to pinpoint problem areas and to obtain suggestions and recommendations for improvement.

3. PERSONAL OBSERVATION - to obtain first-hand knowledge as to the present operation of the State fire training program.

4. USE OF AN ADVISORY PANEL - to obtain the expert opinions of leaders in their respective fields as to the relevance and applicability of various approaches and methods in firemen training, and to obtain recommendations for improvement in the area.

5. QUESTIONNAIRES SENT TO INDIVIDUAL FIRE CHIEFS - to obtain information as to the training needs of the local fire departments throughout the State, to solicit the personal evaluations and opinions of the fire chiefs, and to determine the attitude existing among the departments as to the new programs which have been suggested.

6. LIBRARY MATERIALS - to gain depth of understanding in the field and to obtain valuable background information.

7. USE OF A RATING COMMITTEE - to obtain some form of information as to the present levels of preparedness and training of the various volunteer fire departments.

B. POPULATION AND SAMPLE

The population for this study consisted of all of the volunteer fire departments in the State of Utah.

The sample chosen for receipt of the questionnaire consisted of all of the fire chiefs of the volunteer fire departments in Utah. The list of fire chiefs and their addresses was obtained from the State Fire Marshal and was compiled from the most recent information available to that office.

The inquiries sent to other states were directed only to those states submitting information to the FIREMEN magazine, for use in the annual survey conducted by that publication. The December 1965 issue was used for this purpose. Such selectivity was utilized because of ease of operation and because it was felt that states not even responding to the inquiries of a trade publication would not have very much to report to us or much inclination to do so.

C. PROCEDURES

1. SURVEY OF STATES - to ascertain the "state of the art" throughout the United States. It was felt that, in order to give the fullest opportunity for the various states to respond in a complete and comprehensive manner, and to provide for flexibility in their approach to the problem, the letter of inquiry must of necessity be framed in broad and general terms. Such feeling was justified by the responses received, as the wealth of information submitted and the many salient comments as to the effectiveness of the various programs employed were instructive and most helpful. It is felt that such information and comment would not have been so freely provided had a more restrictive and objective inquiry been utilized.

It was recognized, in analyzing the returns from the various states, that an overstatement of accomplishments and an understatement of problems and failures would be a natural tendency in those responding. It was also felt that this tendency would be more pronounced in those having responsibility for the success of the program in their state. It is difficult to compensate for this tendency as there are few alternate sources of information with which to compare the submitted information and ascertain the degree of objectivity involved. It is believed, however, that the responses as a whole were quite objective and analytical, and that any compensating factor would be quite small.

The problem of analyzing the material thus collected was difficult, due to the random nature of the replies received and the relatively unstructured inquiry. Also, the differences in geography, economics and population among the states would tend to make meaningful comparison impossible. Nevertheless, the replies indicated, in many areas, a similarity in approaches and solutions to problems, and therefore, a general agreement within those areas. Where approaches differed substantially, it was felt that those of states having characteristics roughly similar to Utah's would be most applicable here.

2. PERSONAL INTERVIEWS - to ascertain the state of the present training program in Utah, to pinpoint problem areas and to obtain suggestions and recommendations for improvement. These interviews were conducted solely at the state level, with no attempt being made to interview the local fire chiefs or members of the local departments.

It was felt that here again the tendency would be towards overstatement and a glossing-over of defects. The information received from other states and the returns from the questionnaires provided convenient points of reference for evaluating the interview results. On the basis of the comparisons thus made, it appears that most of those interviewed were objective and forthright in their evaluations.

These personal interviews proved to be an important part of the study, as they provided much valuable background information and a better understanding of the various problem areas.

3. PERSONAL OBSERVATIONS - to obtain first-hand knowledge as to the present operation of the state fire training program. This phase of the study provided the writer with more background information and contributed to a better in-depth understanding of the problems of fire training. It consisted of visits to various departments, discussions with several training officers and participation in an actual training situation.

4. ADVISORY PANEL - to obtain the expert opinions of leaders in their respective fields as to the relevance and applicability of various approaches and methods in fireman training, and to obtain recommendations for improvement in the area. In meetings and subsequent correspondence, the members of the panel contributed a great deal to the relevance of this study. The panel redrafted the fire chief questionnaire and approved its final form, considered the relationship of the fire department to the community it serves, and worked on a rating system to measure the collective ability of the departments to function as fire fighting units.

The advisory panel is a powerful and useful tool when used properly, but a source of confusion when misused. For the purposes of this study, the panel was presented with rough drafts and concrete proposals, and asked to recommend changes and improvements therein. The panel members were <u>not</u> presented with amorphous ideas and research needs, and asked to develop a meaningful program. They thus reworked an <u>existing</u> questionnaire, discussed <u>specific</u> policy questions and dissected a <u>proposed</u> rating system. The expertise brought to bear by this panel upon the problems presented to it was extremely valuable to this study. The panel must be given credit for any value the study may possess.

The members of the panel were: Robert Tanner, State Fire Marshal; Allen R. George, State Fire Training Instructor; Al Donaldson, Chief in Charge of Training, Salt Lake City Fire Department; Jim Wilkins, Grading Engineer, Utah Fire Rating Bureau; Clyde L. Peterson, Chief, Ogden Fire Department; William Ruff, Chief, Springville Fire Department; Walter Ulrich, Jr., State Specialist, Trade and Industrial Education; Clifford Rampton, Chief, Bountiful Fire Department; Stanley M. Smoot, Davis County Commission Chairman; Richard Klason, Deputy State Forester; and, John F. Stephens, Director, Utah Research Coordinating Unit.

5. QUESTIONNAIRES - to obtain information as to the training needs of the local fire departments throughout the state, to solicit the personal evaluations and opinions of the fire chiefs, and to determine the attitude existing among the departments as to the new programs which have been suggested. The questionnaire was designed to avoid the reluctance of the departments to expose themselves to public scrutiny, and to offer an opportunity for objective evaluation of the successes and failures of each department. In spite of the care taken in this regard, the questionnaire was not as capable an instrument as had been desired. Some of the reasons for its partial failure were probably:

A. The mistrust of the volunteer fire chiefs and the desire to avoid public inquiry;

B. The natural tendency of a responding fire chief to put his department in as favorable a light as possible; and,

C. The ineffectiveness of the three-point grading scale used in several of the questions (i.e. wholly adequate, satisfactory, and wholly inadequate). Such a grading system elicited a "satisfactory" response from all but the most determined respondent. Few chiefs would be so bold as to claim to be "wholly adequate", and few would be so derogatory as to claim to be "wholly inadequate" as a department. Perhaps a five-point graduation would have been more effective, with the highest and lowest grades probably being eliminated by lack of response.

The fire chiefs were not asked to identify themselves or their departments and no numbering system to provide for such identification was used. Some two weeks after the questionnaires had been sent out, an attempt was made to reach each chief by phone, excepting only those known to have replied (because of notations in the questionnaire itself or distinguishing postmarks). This proved to be an almost impossible task, as the lists provided by the State Fire Marshal's office were either out of date or erroneous in many instances. In all, eighty-three of the calls were completed, with the writer talking either to the fire chief or to his wife. The fire chiefs were asked if they had received the questionnaire, and whether they had completed and returned it to the Board of Education Offices. The wives were asked to leave such a message of inquiry for their husbands. Several of the chiefs thus contacted revealed a marked determination not to fill out or forward the questionnaire, and indicated that they had thrown the instrument away. Others indicated that they would immediately put the questionnaire in the mail. Still others asked for another questionnaire, a request with which we readily complied. Those chiefs not contacted were excluded either because they were never home when the calls were made, or because the listed phone number was incorrect and no one contacted seemed to know who the chief was or what phone number to call. This difficulty in reaching fire chiefs indicated the need for requiring

the local departments to submit at least an annual report to the State Fire Marshal. Otherwise, much needed information will not be (as it is not now) forthcoming.

The questionnaire, with all its faults, yet was largely a success, due to the opportunity given after most of the questions for "comments" or "opinions" of the respondent and to the important questions included in the instrument at the suggestion of the advisory panel.

6. LIBRARY MATERIALS - to gain depth of understanding in the field and to obtain valuable background information. This source was not as helpful as had been expected, as the various libraries available for this study had a dearth of information on the training and functioning of a volunteer fireman. What material was available was outdated and somewhat inapplicable. Yet some information was gleaned from this source, and thanks to the substantial periodical libraries of the State Fire Marshal and the Salt Lake City Fire Department, sufficient material was obtained to give added meaning and direction to this study. It appears that the most up to date and meaningful literature on the subject is in periodical form or in report form and published by the various fire training associations in the country. The various clearinghouses for research in vocational education offered no assistance in this study, as little research has been done in the area. Those contacted were: The ERIC Clearinghouse on Vocational and Technical Education, Ohio State University; and The Center for Studies in Vocational and Technical Education, University of Wisconsin.

7. RATING COMMITTEE - to obtain some form of information as to the present levels of preparedness and training of the various volunteer fire departments. The advisory panel was unable to agree upon a suitable rating system for the volunteer fire departments, and no one at the state level seemed to want the responsibility of rating the departments in this area.

The writer asked the following individuals to form an ad hoc rating committee: Abram Bywater, General Manager, Utah Fire Rating Bureau; Robert A. Tanner, State Fire Marshal; and Allen R. George, State Fire Training Instructor. The procedure utilized by the committee, as reported to the writer, was to use, as a starting point, the rating received by each city under the "Fire Department" section of the Standard Grading Schedule (which constitutes 30 percent of the total grade received by cities for fire insurance purposes). Other sections of the Grading Schedule include "Water Supply," "Fire Alarm," "Fire Prevention," "Building Department," and "Structural Conditions." The introduction to the Grading Schedule discusses its purpose.

"The Grading Schedule is a means of classifying municipalities with reference to their fire defenses and physical conditions. From a study of pertinent conditions and performance records extending over many years, certain standards have been developed; these are set forth in the Schedule, and the various features of fire defense in the municipality under consideration are compared with them. For each deviation from these standards, deficiency points are assigned, the number depending upon the importance of the item and the degree of deviation. The natural and structural features that increase the general hazard, and the lack or inadequacy of laws or of their enforcement for the control of unsatisfactory conditions, are graded in the same way. The total number of deficiency points charged against the municipality determines its relative classification. The word "municipality" is used in this Schedule in a broad sense to include cities, towns, villages, or other municipal organizations."

There are thirty-four items considered under the "Fire Department" section, only one of which is training. Many of the other items are, however, strongly related to the training received by the department. The items are:

FIRE DEPARTMENT

Item

1. Number of Officers
2. Number and Qualification of Operators
3. Qualifications of Officers
4. Chief's Tenure of Office
5. Appointment and Promotion of Officers
6. Enlistment Requirements
7. Retirement Requirements
8. Number of Engine and Hose Companies and Apparatus
9. Number of Ladder Companies and Apparatus
10. Distribution of Companies
11. Total Manual Strength of Companies
12. Manual Strength of Companies in or near the High-Value District Considered
13. Pumper Capacity
14. Reserve Pumpers
15. Condition of Apparatus
16. Fireboats
17. Powerful and Special Stream Appliances
18. Small Stream Appliances
19. Reserve Hose-Carrying Vehicles
20. Amount of Hose

21. Condition of Hose
22. Emergency Equipment
23. Minor Equipment
24. Radio Communication
25. Repair Facilities
26. Salvage Appliances
27. Fire Stations and Fuel
28. Regulations and Discipline
29. Training
30. Response to Alarms
31. Fire Methods
32. Conditions Affecting Fire Department Operations
33. Building Inspections
34. Records.

The committee realized that many of the ratings were out of date, since the cities are generally graded only every eight to ten years. Also, since cities are generally regraded at their own request and the rating process thus usually occurs at the most opportune moment for the city, the ratings can be assumed to be higher than they normally should be. To remedy this tendency to neglect recent changes and to reflect relatively "ancient" states of preparedness, the members of the committee studied each of the cities and regraded them according to their collective knowledge of the present conditions therein. They also attempted to eliminate factors having little or nothing to do with training or department effectiveness. This was admittedly a highly subjective method, but all rating systems have some degree of subjectivity inherent within them, and this was the best and most objective available to us for use in this study.

CHAPTER III

REVIEW OF LITERATURE / STATUS OF PROGRAMS

A. NEED FOR FIREMAN TRAINING

"The time has come to study our increasing fire problem on a nationwide basis. There can be no doubt that something should and must be done about it.

The recent terrible fire with such tragic loss of life in Montgomery of my own State of Alabama reaffirms the urgency of this need. That sad occasion followed in relatively close succession to the burning of the McCormick Place in Chicago which is said to be the most devastating fire since the 1906 San Francisco fire.

In spite of our great progress as a Nation in most all lines of human endeavor, we still have unwarranted and excessive losses of lives and property by fire. As the President pointed out in his message to Congress on February 16, 1967, our loss in lives, which in the year 1965 was 12,000, is about four times greater on a per capita basis than that of the United Kingdom, and is over six times as great as that of Japan. Needless to say, our property loss each year amounts to billions of dollars (one and three-quarters billion in 1965). Immediate steps should be taken to see just how and why the United States is so sadly lacking in this regard."

This statement, taken from the remarks of Senator Sparkman in the Congressional Record - Senate, February 27, 1967, illustrate the great need existing in our country for a complete and thorough reevaluation of our present fire safety posture.

In Utah, the property loss from fire in 1965 amounted to nearly four and one-half millions of dollars ($4,470,746.00), and the loss of life due to fire was 74 (43 of which died in the fire following the hard landing of a United Air Lines 727 jet airliner). These figures indicate this same need for reevaluation exists strongly in our own State.

It is within the scope of the present study only to consider our needs in the area of fireman training and the general preparedness of the volunteer fire departments in the State. Under this topic (need for fireman training) this study will discuss the State Fire College and the itinerant instructional program.

1. STATE FIRE COLLEGE

In the Utah State Fire Marshal's annual report for the year 1965, the following recommendation was made:

> "While much of the basic training can be carried out at the fire stations, facilities for training to handle large severe fires are totally lacking in the State. Such a facility should be located on a site where the use of fire, smoke and water need not be restricted... (These facilities) would provide the means of training firemen to handle a 'live' fire."

While the need for a permanent state fire college could have been stated more positively in the report, it has long been recognized by officials in the state. The Utah State Fireman Training Advisory Committee has been considering the purchase of a tract of land in Orem, Utah, for the erection of such facility. The State Fire Marshal, in conjunction with the Utah Technical College, Provo, has compiled a sample pamphlet (included in this report as Appendix A, describing the purpose and scope of the proposed fire college).

The factors which indicate the rather substantial need for a state fire college are these:

1. Firemen need actual fire-fighting experience in their training. Lectures, demonstrations and drills are necessary elements in a fireman's education, but cannot fully prepare him to fight fires. A football team cannot be accurately rated by its appearance on the practice field; rather it is its performance under the pressure of actual competition on the playing field which determines its championship caliber (or lack thereof). You can learn a great deal about football from books, but you can't learn to play the game without actual experience. This principle is as true in the area of firefighting as it is in the area of athletics. Only actual experience can adequately prepare for "game" conditions; only actual experience can translate academic learning to physical competence.

The National Board of Fire Underwriters, in a special interest bulletin dated August 1, 1946, (#235), had this to say on the subject:

> "Capable firemen cannot be obtained except through experience, and this experience must include actual fire fighting. There must be rooms, of concrete lined with hard burned brick, in which fires can be built and the men trained in the proper approach and technique. The ideal would be a building of several stories and a basement, where the various evolutions, including the freeing of smoke and heat, can be carried out. Only the

larger cities can afford such a structure, but the states should interest themselves in the erection of such a building where other departments can be trained in actual fire fighting.

Facilities must be provided to permit training which will show the value of different appliances, extinguishing agents and methods of operation, and how these would be modified by the type of material burning. Oil fires, fires in freeburning material, and deep-seated fires are all factors in the fire-fighting technique of a modern department."

Reference may also be made to the returned questionnaires, which indicated a large percentage of the responding fire chiefs felt a real need for training under actual fire conditions. As one chief stated: "We aren't able to know whether we can put out a certain type of fire or not, until the alarm sounds, and then it's too late if we can't."

Facilities to provide actual fire conditions are thus necessary for adequate training, and at the present time there are no such facilities in the entire state. This condition should not long be left unremedied.

2. Systematic, standardized training can best be accomplished through statewide planning and coordination, having as the basic point of reference a permanent state fire college. Standardized procedures and methods of operation enable neighboring fire departments to work cooperatively in fighting large fires. Effective mutual aid systems can be planned and implemented by local authorities working with state fire officials.

It must also be noted that there is a marked trend in the country toward higher degrees in firefighting offered by both two-year and four-year colleges. While the offering of higher degrees does not yet appear to be feasible here in Utah, the establishment of a permanent state facility, offering standardized instruction, would enable graduate fire instruction, leading to associate or bachelor degrees, to be more easily implemented (see the "Firemen" magazine for December 1967).

3. With the establishment of a State Fire School, the fire service in Utah would become professionalized, if not in fact, at least in ability and training. The fires occurring in the state burn without regard to the type of department fighting it, and all fire departments must be prepared to act when the need arises. Big city departments have a wide variety of types and classes of fires occurring constantly within their protective areas, but in the small departments, particular types of fires may occur only rarely, if they occur at all. Yet small departments must be able to function effectively when those rarities do occur.

2. ITINERANT INSTRUCTION

In order to provide the quality and consistency of training so badly needed by the fire service, the present instructional staff must be expanded. It is a study in futility to expect one man, even with the assistance of four or five part-time instructors, to be completely effective in satisfying the training needs of the fire departments in the state. Since the part-time instructors are all full-time firemen, the travel time required to reach many of the departments necessarily restricts those instructors as to their effective geographical teaching area. The full-time instructor is generally limited to conducting his classes in the evening (due to the working schedule of the volunteer firemen), and can rarely teach more than one class in a day. If he were to teach twelve monthly classes during a year's time, in as many departments as mathematically possible (excluding only Saturdays and Sundays in the calculations and not holidays, vacations or time spent on other training activities), he would be able to teach in only twenty-two departments, or only 15.9% of the departments in the state each year, and would reach all of the departments every six and one-quarter years. Even this situation, which assumes the best possible performance on the part of the instructor, does not appear to be enough. Many of the states contacted reported that reaching every department in the state every two years, with a coordinated series of courses, was a desirable goal. To achieve this situation, the percentage of departments reached each year should approach 50%. The recruitment of new firemen and the tendency of the old to forget that which they have learned and not yet used, requires more constant attention from the state instructors than is presently the case. Even with the work of the five part-time instructors, the yearly average of departments actually receiving at least one class during the year is only thirty-two (information obtained from the annual report of the State Fire Marshal for the years 1964, 1965, and 1966). The effectiveness of these part-time instructors is a point yet to be resolved; and one additional full-time instructor may well prove to be more effective, and more inexpensive, than all five part-time men. Further research needs to be done to provide an anwer to this question. Nevertheless, in order to assure professionalism and competence in the fire departments of the state, and to make possible the systemization of the state fire training service, more qualified full-time instructors are needed.

B. THE PRESENT UTAH TRAINING PROGRAM

The Fire Training Program in the State of Utah presently functions on three levels - state, regional and local as discussed below.

1. STATE LEVEL TRAINING

The state level training program previously consisted of two annual events; a Spring Instructor's School and a Fall Fire Seminar. The

Fall Seminar was abandoned in 1967 because of inadequate participation of the various fire departments (at past seminars, only 30% of the departments in the state were represented, with many of these being represented by only one man). These seminars appeared to suffer from several fatal defects:

a. The distance required for travel and the time involved for such travel by many departments, usually at their own expense, made participation impractical or difficult.

b. The difficulty which many of the volunteer firemen had in taking time off from work and attending the seminar, thereby receiving no compensation from their work and none as firemen, made attendance undesirable for them.

c. As indicated by comments on the returned questionnaires, the material covered at the seminar was either inapplicable to, or too advanced for, the training needs of the small volunteer department, or too simple for the larger metropolitan departments. In either case, attendance suffered because of this difficulty in adjusting the program to the needs of all of the departments in attendance.

In place of the state level seminar, the state instructional staff began experimenting with regional conferences.

2. REGIONAL LEVEL TRAINING

The regional level training program consists of regional conferences held in various areas of the State and conducted by the state instructional staff. The first three of these regional conferences were held in September 1967, at Price, Richfield and Fillmore, on successive weekends. They consisted of lectures, films and discussions on Friday evening and working demonstrations on techniques of fighting class "B" fires on Saturday. The regional conferences appear to be working out quite well, and substantially increase the number of firemen participating in such training programs. For example, where only one man from an entire regional area attended the state level fire seminar the previous year, over 60% of the firemen in the area attended the two-day regional conference held there this year. Such significant results should not be ignored in the development of any training program which is effected in this state.

3. LOCAL LEVEL TRAINING

The local fire training program, as it presently functions, can be divided into two general areas; the training provided within the departments themselves by department personnel, and that provided by state itinerant instructors operating out of the Utah Technical College at Provo.

a. Training within the departments - the present study included no attempt to evaluate the training provided by the individual departments in the state, since the wide disparity in quality and scope makes any meaningful comparison extremely diffcult if not impossible. It can only be said that each department has periodic meetings (monthly or weekly) at which some training is attempted. Some of these meetings reportedly are little more than "socials", while others get some real training accomplished and effectively supplement whatever training is received from the state. The rest fall somewhere in between these extremes. It was evident to the State Fire Marshal and officials at the Utah Technical College, Provo, that reliance solely upon intradepartmental training, using as instructors members of each department, is misplaced and illfounded. It was equally as evident that to acquire standardized, high quality instruction in every department in the state, reliance must be placed upon the state instructional system.

b. State itinerant instruction - accordingly, the state itinerant instructional program was instituted in February, 1964. At the present time, there is one full-time itinerant instructor, and four part-time instructors (who are full-time firemen) operating out of the Utah Technical College at Provo. These instructors travel to the various departments at the request of the local department and present weekly or monthly classes in subjects of the department's choosing. The content of this training, provided in each department, largely depends on local facilities, equipment and environment, and is roughly similar to that provided by itinerant instructors throughout the United States. This training is well-adapted to the needs and limitations of the volunteer departments and should be continued. But this alone does not appear to be enough, as the advantage of full departmental participation and personnel familiarization with the department's own equipment which is gained by such itinerant instruction, is obtained at the expense of other training essentials which cannot be provided on the local or regional levels. The returned questionnaires indicated that one of the essentials sacrificed in the present program is training under actual fire conditions. Others indicated were: A lack of adequate training facilities; a lack of sufficient training materials; and an inability to standardize and compare the training received by the various departments, due to the many variables encountered in the departments.

In a letter to the writer dated August 18, 1967, Mr. Harry H. Wolff, Director, Visual Education, Western Actuarial Bureau of Chicago, Illinois, made some significant comments concerning the need for both itinerant instruction and for a permanent state fire facility.

> "The best, in our opinion, of the several training program outlines for volunteer firemen, is that afforded by the National Fire Service Training Association...

Since most volunteer firemen find it impractical to travel any distance for training purposes, any program which offers 'hometown' instruction through qualified local or itinerant instructors have met with greater success than have any other type of fire service training except extended residential enrollment in schools offering fire service instruction."

C. PROGRAMS IN OTHER STATES

There have been many useful developments in procedure and approach to fireman training problems by the various states of the union. This study makes no attempt to list all of these, or even most of them, but rather attempts to indicate general areas of importance which it is felt deserve immediate consideration, and ultimate implementation, in Utah. Those procedures and methods of other states which are included are not intended to be all-inclusive, but merely suggestive of those improvements required to improve the existing training program. As they appear in this study, these suggestions from other states are, on occasion, modified by the expert opinions of the advisory panel members.

The following areas were indicated by various states as being important aspects of a well-developed state-level fireman training program and are considered to be essential in Utah:

1. A concentrated, state-coordinated program of public relations;

2. A complete set of forms and procedures;

3. A complete system for the state-local exchange of information;

4. Adoption of the Oklahoma Training Manual;

5. A change in the basic organizational structure of the volunteer fire department; and,

6. A systematic attempt to convert the local departments to the need for adequate fireman training.

1. PUBLIC RELATIONS

In planning a concentrated, state-coordinated program of public relations, the following subject headings must be included: Constant and organized participation in the Utah Municipal League by the various state agencies concerned with fire fighting and fire safety; issuance to local papers of state-supplied publicity releases on a regular basis; education of local departments in the need for, and methods to achieve, good departmental public relations; thorough home inspection programs designed to acquaint property owners with basic principles of fire safety; a film and lecture series on fire safety delivered at various

local service and special-interest club meetings and at churches; and the establishment of a citizen's fire safety advisory committee in each locality. A brief discussion of each of these subject headings follows.

a. The Utah Municipal League-- several of the responding states indicated their adoption of some means of communication, on a regular basis, with the local civic leaders throughout the state. It was suggested by members of our own advisory panel that a convenient and effective forum through which the local civic leaders may be reached is providdd by the Utah Municipal League. Since the active moral and financial support of a community's leaders for the fire department in large part determines the effectiveness of that department, this is an important avenue for shaping civic support which should be utilized to the fullest extent. The subjects which may be presented in the various departmental meetings and workshops would include the insurance rating schedule for the rating of the various towns and cities, the necessary factors for good fire safety, the need for control of the fire departments by the city governments, and the probable dollar savings effected by improving the level of training of their departments and the fire safety position of their towns and cities. Such state-level leadership may well effectuate substantial change of attitude among the civic leaders, and probably would increase their awareness of the fire safety requirements of their respective areas.

b. State-supplied publicity releases - Many of the states contacted have well-developed programs which regularly disseminate fire safety information to the newspapers and other mass communication media throughout the state. Information concerning fire safety and costs of fire protection provides interesting filler for most local newspapers. Information about each particular local department, or about local costs, fire insurance ratings, and fire safety accomplishments constitutes sought-after news. The responding states seem to feel that such a far-reaching program has several beneficial results: (1) it educates the public as to the needs, accomplishments and problems of the fire service; (2) it teaches the public the essentials of fire safety; (3) this increased public knowledge in the fire safety area often results in an upgrading of the fire service provided in the area; and, (4) the lines of communication between the State Fire Marshal (assuming the releases originate in his office) and the public in general through the news media are kept open and constantly reinforced through use.

c. Public relations education - local departments could do a great deal, as will later be shown, to improve the support they receive from their communities and local leaders. The most important, and obvious, things a department can do in this regard is to have an adequate fire safety program, and be able to put out fires when they do occur in as efficient and professional a manner as possible.

Assuming this ability, there is a great deal of self-help which is possible and open to a department. According to members of the panel, many of the departments never do anything to consciously improve their relations with their community, and this largely because they either don't know improvement is needed or they don't know how to obtain improvement even if the need is felt. Many states have one or more courses included in their fire training curriculum dealing with public relations. An example is this course description, taken from the manual describing the training program in the State of Washington:

Public Relations I — 3 credits

Public relation methods and techniques as it pertains to the Company Officer. Telephone manners, press and radio contacts, general principles of meeting with the public.

Public Relations II — 3 credits

Types of public relations programs. Effective use of the press, radio and television, and Fire Prevention programs as a method of public relations. Promotional programs effecting public relations of the Fire Service.

Such instruction is needed in Utah, and should be included in the regular content of the material presented to the local fire departments.

Additionally, forms for press releases concerning local departmental functions and activities (completion of unit training, inauguration of a home inspection program, etc.) should be provided each department for guidance in submitting information to the news media. A sample of such form, taken from that used in Minnesota, follows.

State of Minnesota
Department of Education
Instruction Division
Vocational Section
Trade and Industrial Unit

N E W S R E L E A S E

The 1. under the direction of Chief 2. has just completed the Course in Firemanship Training as provided by the Trade and Industrial Unit of the Vocational Section, State Department of Education.

This course consists of a minimum of twelve hours of instruction and is presented with the cooperation of the local school officials.

Instructor in the training was 3. and those enrolled from the local fire department were: 4.

1. _____Fire Department
2. Name of Fire Chief
3. Name of Instructor
4. List all class participant's names

d. Home inspection programs - It is felt by several of the states responding, and by several members of the advisory panel, that a good home inspection program serves many purposes. These purposes may be briefly summarized as follows: (1) it acquaints property owners with the basic principles of fire safety and enables them to be aware of the fire safety problems upon their property; (2) it acquaints the local fire departments with the property they protect, thus possibly saving several minutes during the early critical stages of a fire; and, (3) it puts the fire department in public view and develops interpersonal relationships between department members and the individual citizens having their property inspected. Such close contact tends to eventually increase public support of the local fire safety program.

e. Film and lecture series - films and lectures at clubs, churches, and other organizational groups prove to be invaluable tools for building in the public an awareness of good fire safety practices in several of the states. There are almost 30 films available for department use from the Utah Technical College at Provo. Several of these would be excellent for use with PTA groups, service clubs and church groups. There are others which should be added to the state film library. Having members of the local department or members of the state instructional staff as the speakers in these programs adds the personal touch necessary in this situation. Standard meeting plans and topic outlines should be drawn up and made available to each department. If these programs are well-planned, snappy and short, they have been elsewhere, and probably would be in Utah, both effective and well received.

f. Citizens Fire Safety Advisory Committees - this means of obtaining community support for the local fire department was suggested by several of the fire chiefs in their questionnaires and by several of the states responding to our letter of inquiry. The committee would be chosen from the leading citizens of the community and would function as a sounding board for public opinion. The committee would appear to be a useful tool in the fire safety area, for by sponsoring home inspection programs by various high school groups and by sponsoring other fire safety projects, a keener public awareness of fire safety would probably result. The committee could also serve as a molder of public opinion and as a lobbying group to secure the passage by the local governing body of measures to improve the fire department and its fire safety program.

2. FORMS AND PROCEDURES

While the present training program can perhaps be adequately controlled and coordinated through personal contact and the minimal amount of printed material now in use, the necessary expansion of the program will make almost mandatory the publication of a complete set of forms and procedures for its systemization and standardization. Even at the present time, it is difficult for a local department to know exactly those services and facilities which are available for its use. A bare

list of courses offered, with no description thereof and no explanation as to time and facilities required, is all that is presently available. Any expansion of the program effected will make it even more difficult to know what is offered. It therefore appears that a more precise and organized system of informing the departments of the opportunities for learning provided them by the state and of controlling and coordinating such learning opportunities is needed. The following areas require separate consideration: A descriptive catalogue of course and film offerings; course outlines and instructor's guides; field instructor's policies; and generally available means for course requests to be made.

a. Descriptive catalogue - A descriptive catalogue of the fireman training program should include a general discussion of the operation of the program and its overall objectives, and a brief description of each course offered. With such a catalogue, individual firemen and departments would be able to see at a glance that which is applicable to their particular situations and needs. The catalogue would also tend toward a standardization of the entire program and would help to make it more an educational offering and less a stop-gap training effort. Such catalogues are in general use by the colleges and universities in this country, and by many of our vocational-technical schools. The sponsoring institution (Utah Technical College, Provo) has an excellent descriptive catalogue of this nature which could well be used as a standard.

A sample course listing in the catalogue would perhaps look like this excerpt from the Georgia descriptive pamphlet:

> Unit 1c. Hose practice. Actual practice training in the use and care of hose, hose accessories, and hose adapters as: drills in selecting and identifying various sizes, types and materials used in the construction of hose used by the local department; making and breaking couplings using various one and two man methods; attaching and removing hose adapters such as nozzles, wyes, siamese, reducers, and other adapters as used by the local department; attaching and removing hose accessories as used by the local department such as hose roller, hose jacket, hose clamp, chafing block, spanner and hydrant wrench, and rope, strap, and chain hose tool; making the one and two man single and twin donut-roll, the self-locking roll, and the bundle-fold; practicing hose carries, drags, and raises, including carrying the nozzle end, the shoulder fold carry, the shoulder loop carry, the shoulder loop drag, and the street drag, advancing hose up stariways, ladders, fire escapes, and the side of buildings; loading hose onto apparatus using horseshoe, flat, and accordian load; holding and maneuvering charged and uncharged hose lines using one, two, three, and four man method; and testing, setting up and maintaining records of such tests of fire hose.

Texts and visual aids:

Hose practices: International
Handling hose and ladders: NFPA
Fire stream practices: International
Care and maintenance of fire hose, (film): Firefighting films
Hose appliances, (film): LAFD
Hose: Basic operations in hose handling and hose laying, (film): LAFD.

A less extensive course description might be as effective, as this excerpt from the Washington pamphlet demonstrates:

Fire Protection Equipment and Systems 3 credits

Topics discussed include portable fire extinguisher equipment, sprinkler systems, protection systems for special hazards, and fire alarm protection systems. Opportunities are afforded for visits to local facilities that have fire protection equipment and systems in order that critical appraisals can be made.

Films constitute an effective means of instruction for departments and at the same time can be very persuasive public relations tools. In order for the films presently owned by the state to function in these capacities, they must be readily available to all who would use them. The present film listing is merely a table of contents, givng the title of the film and nothing more. In any listing of available films the following information should be provided: The title of the film; the type of equipment required for its showing; its running time; a brief synopsis of the film; and, the type of group for which it is best suited. In addition, the procedure necessary to obtain a film should be clearly set forth, and an order form should be provided with each film list.

An example of what is considered by the writer to be a suitable film listing is provided by the State of Illinois:

CRIMES OF CARELESSNESS 16 mm B. & W. Sound Running time, 10 minutes

This fire prevention film depicts the appalling loss of life and property that results from preventable fires. It contains spectacular pictures of actual fires and will convey a moving message to young and old.

FOR: Fire departments, general public and civic organizations.

FIGHTING TANK FIRES 16 mm Color Sound Running time, 25 min.

Explains the proper methods of dealing with large oil tank fires; how to position crew, choose nozzle size, lay lines and move in.

FOR: Fire departments.

b. Course outlines and instructor's guides - While it is true that two teachers will teach the same class in the same way, it is evident that some direction must be given to the state fire instructors if standardization of instruction is to be achieved. Asking an instructor to teach (for example) a course in hydraulics, without further guidance or clarification, will probably result in a class modeled upon one in which the instructor learned hydraulics, modified to some extent by that instructor's own experience and personal preferences. If all of the state instructors learned hydraulics in the same classroom situation, at the same time, and if their subsequent experiences in the area were similar, then perhaps all instruction offered in hydraulics in the State of Utah would be fairly uniform and standardized.

Assuming that such coincidence of learning experiences does not exist now among the instructional staff, and that it will not exist in the future, some form of instructor's guide or outline for each course offering ought to be devised. These instructor's guides should be fairly specific, and should include the following information: Every topic and subtopic to be covered in each class period; a suggested approach and method of teaching for each topic; and, the visual aids and demonstration materials required for each class period which must be provided by the instructor. Several states have excellent instructor's guide sheets and lesson outlines; one of the most complete is that developed by the State of Wisconsin. Other states having well-developed lesson plans include Illinois, Minnesota and Pennsylvania. A sample page from Wisconsin's lesson plans is shown on the next page.

c. Field instructor's policies - a formal statement of the field instructor's policies is an effective means of enabling the senior or supervising instructor to control the activities of the other instructors and of informing various instructors of that which is expected of them. Such a statement would serve to avoid needless procedural delays and inconveniences. An example of such statement of policy is furnished by the State of Minnesota, and is contained in Appendix B. While such a measure is perhaps not required at the present time with Utah's limited instructional staff, any expansion in the program will necessitate more formalized procedures.

d. Course requests - It is important that formal written requests be made for state itinerant fire instruction. This will enable the instructional staff to schedule classes in advance and to make efficient

WISCONSIN FIRE SERVICE TRAINING LESSON PLAN

CODE S P 1
TIME 2½ HOURS

COURSE: STANDARD
LESSON: HOSE AND FIRE STREAM PRACTICES
EQUIPMENT REQUIRED:
PUMPER TRUCK, 2½" HOSE (UP TO 20 LENGTHS IF AVAILABLE), 1½" HOSE, ALL TYPES OF NOZZLES USED BY THE DEPARTMENT PITOT TUBE AND GAUGES (IF AVAILABLE), OTHER HOSE APPLIANCES USED BY DEPT. (HOSE JACKET, CLAMP, HOSE STRAPS, SPANNERS, ETC.). THIS IS A "WET" DRILL, WATER WILL BE USED.

INSTRUCTOR"S NOTES	TEACHING POINTS
	Objective; To develop proficiency in getting effective hose streams into operation and the handling and care of fire hose, nozzles and related equipment. 1. Introduction Start with short talk on handling and caring for fire hose. Discuss straight and reverse lays; the need for using pumpers on hydrants; how couplings can be damaged, how hose can be damaged; why hose should be cleaned and dried after use. 2. Laying or stretching hose lines Explain and show how hose should be removed from apparatus. 1. Reverse lay 2. Straight lay Note: Emphasize that they must pull off sufficient hose to reach all parts of the fire. Better to have too much than too little. How could you estimate amount of hose needed? From front door of building, allow one length for each floor plus one extra. Example: Fire on third floor, three plus one, or four lengths. Why? Because the line may have to be taken to back of building or to floor or floors above fire. 3. Hand stretch Have them pull off and stretch by hand about ten lengths - one man to each length. Advance dry line to point of operation. Walk rapidly, don't run (leave line laid out).

use of their time and effort. Having a formal means of requesting instruction together with an adequate catalogue describing the courses available should encourage the various departments to request instruction and will undoubtedly lead to a more professional type of instruction. Several kinds of course request forms are included in this report in Appendix C.

3. STATE-LOCAL EXCHANGE OF INFORMATION

At the present time, the local departments are not required to submit annual reports to the State Fire Marshal; those reports which are made are entirely voluntary. In order to adequately plan for the future development of the fire service and to be completely informed of the status of the fire safety program in the state, such reports should be made mandatory. A reporting form should be devised and sent to each department at the end of every year. Such reports should include information on the percentage of each type of fire occurring in the particular area and the percentage of false alarms turned in. Also, any efforts of the department in the fields of fireman education or public safety programs should be reported.

The advisory panel suggested that reports of difficult or unusual fires be sent to the State Fire Marshal on forms provided for that purpose. There would thus be a readily available pool of information on the major fires in the state and the methods used to combat such fires. The Fire Marshal could periodically distribute a newsletter which discusses recent fires and the firefighting methods used in controlling them. These reports could then be read and discussed in a local training session, thus enabling all departments to learn vicariously from the experience of one.

Local problems in fire fighting might also be brought to the attention of the proper state authorities through these reports, if those problems appear incapable of local solution. An example of such local problem requiring a state-level solution is the occasional grass fire caused along the railroad right of ways in the state when the weed-control efforts of the railroads are not current. In such a situation, state-level pressure on the offending railroad might be more effective than any influence the local unit of government could bring to bear.

4. TRAINING MANUAL

The manual of instruction used at the present time in the Utah training program is a three volume set originally compiled by the Salt Lake City Fire Department over 15 years ago. According to members of the advisory panel, the manual is outdated and obsolete in many respects, and a thorough updating and re-editing would be an expensive and time-consuming project. Even then, the finished work would not be any better than some already existing manuals, if as good. After

an intensive review of many training manuals in use throughout the country, it is the opinion of this writer, and of the members of the Ad Hoc Firemen Training Advisory Panel, that the manual "Fire Service Practice for Volunteer Fire Departments, " published by the Department of Fire Protection, Oklahoma State University, and validated by the International Fire Service Training Association, is best suited for our purposes in Utah. The manual is complete and comprehensive, and yet has the advantages of simplicity, clarity and brevity necessary for its use in volunteer departments. The Oklahoma manual is updated and revised each year by acknowledged experts in firemen training, and more advanced manuals in specific areas are readily available from the same source, if required. Another excellent manual considered, but found to be too detailed and extensive in its coverage for its intended use, was the "Fire Service Training" manual, published by the Ohio Trade and Industrial Education Service, Ohio State Department of Education.

5. ORGANIZATIONAL STRUCTURE

The local fire department should be regarded as a part of the city government and should be subject to the supervision and control of the local governing body. There is a general tendency, according to several of the members of the advisory panel, for a volunteer fire department to be more a private club and less a functioning unit of the local government. This should not be the case. Even though the volunteer firemen are donating their time and best efforts to improve the level of fire safety in their towns and cities, in most cases as a public service, the service they perform is one which is of vital importance to their community. As such, the final responsibility for the successful operation of the program should rest in that body most responsive to the desire and control of the public - the elected governing body of the community.

As the local governing body assumes the ultimate control of the fire department, it also must assume the responsibility for several important areas of fire safety and protection. Three of these are: The appropriation of sufficient funds for the fire department; the permanent appointment of the department's fire chief; and, the constant review of the community's fire safety posture.

a. Appropriation of funds - it is important that the fire department be adequately supported financially, as well as morally, by the elected governing body of the community. The provision of appropriate fire-fighting equipment is important in this regard, but equally important is the provision of compensation for at least the out-of-pocket expenses incurred by the individual firemen in participating in training programs or otherwise preparing themselves to be more effective as fireman. Volunteer firemen should no longer be expected to pay for their own operations or to lose time from their work for training purposes without receiving compensation therefor from the community.

b. Appointment of the fire chief - at the present time, there are many fire departments in the state in which the members of the department elect a new fire chief each year. Thus the most popular and not necessarily the most efficient and capable man is placed at the helm of this important community service, by individuals who are themselves not accountable for their actions to the community as a whole. This arrangement tends toward the establishment of cliques and encourages actions prompted by self-interest on the part of the firemen. Perhaps the most serious defect in this situation is that no one man is in office long enough to learn all that is required of an effective fire chief. The training program of the department is among those areas of fire safety which suffer because of this practice of annually electing the fire chief.

The permanent appointment of the fire chief by the local governing body is a change much to be desired. This is the practice in several of the responding states, and the advisory panel has recommended that this method of fire chief selection become the rule in Utah communities. A chief selected in this manner would be subject to removal only for cause, and would therefore be able to give the continuity and direction needed by those programs which are important to the overall fire safety of the community, (i.e. training, inspections, public relations, etc.).

c. Review of the local fire safety posture - fire insurance rates are determined, in part, by the rating received by the area in which the home or business is located. Thus, the better the fire protection available in a given community, the lower the insurance premiums paid by the local homeowners and businessmen. The Utah Fire Rating Bureau which is charged with the responsibility of rating the towns and cities in Utah for fire insurance purposes, attempts to regrade every area in the state at least every ten years. The bureau is suffering from quite a backlog, however, and generally can regrade only those areas which formally request such re-examination. It would therefore be much to the advantage of every city or county government to be aware of those factors which are determinative in the establishment of the rating schedule, and to seek actively to improve the rating which has been assigned to their territories. Once improvements in specific areas have been made, it is important to make a formal request for a re-evaluation of the local rating. In a number of cases, even a slight improvement in a particular classification would be enough to raise the area's rating one class, with a resulting savings in premiums paid flowing to each property owner in the regraded area. This savings in insurance premiums paid, resulting directly or indirectly from a well-developed training program and consequent public awareness in the area, is nowhere more dramatically demonstrated than by the example in Florida. According to W. H. Barnett, Superintendent of the Florida State Fire College in an article in the November 1960 issue of

"Firemen" magazine, the insurance rate reductions for the years 1949 through 1959 represented premium dollar savings to Florida policyholders of over fourteen million dollars ($14,000,000). The committee report from which Mr. Barnett obtained his figures went on to say:

> "While it is perhaps impossible to measure the exact influence the Florida Fire College has had on rate reductions through the part it plays in the fire service, it might at least be assumed with authority that the State Fire College has played an important role in securing lower insurance rates through teaching effective techniques for saving life and property from loss by fire."

6. DEPARTMENT "CONVERSION"

While much could possibly be written about the need which exists in this state for an adequate means of convincing many of the local departments of the desirability of the state itinerant instructional program, an attempt will be made here at brevity.

According to the present state fire training instructor, it is often difficult to induce some departments in the state to accept his services (a fact for which he is, in one sense at least, grateful. His backlog is even now quite considerable, and a period of waiting for his services of from one to three months is not al all uncommon). At the present time, it is perhaps best that more effort is not expended in this regard, as the limited capacity (quantitatively) of the present instructional staff is evident. But as the present staff is expanded to meet the present and future needs of the fire service in Utah, the capacity will be great enough to enable the instructors to concentrate on providing some measure of training for every fire department in the state.

The reluctance of the various departments to participate in the state instructional program cannot be adequately explained, as the reasons therefor are as numerous and distinctive as the departments giving them. Some departments may not want instruction from "outsiders", some may feel their level of training is adequate, some may not even be aware of all that is offered by the state program, and some may not know the ease with which the services of a state instructor may be obtained. Whatever the reason for not requesting state instruction, the obvious goal of an effective state instructional program must include the training of every department in the state. This, evidently, was the conclusion of those in charge of the training program in Wisconsin, and the results of their program to sell fireman training to the volunteer departments of their state are stated in the annual descriptive report for Fire Service Training for the fiscal year ending June 30, 1966:

"A 'foot in the door' approach was quite successful in reaching volunteer fire departments which had never requested training. They were offered the free services of a qualified speaker at one of their regular meetings. Our part-time instructors were the speakers. Each gave a one-hour lecture on firefighting with emphasis on the value of training. The speaker concluded by pointing out how easily this training could be obtained from the state and gave the fire chief an application blank. Sixty-two fire departments, which had never asked for training, accepted this offer and ninety percent of them subsequently sent in applications for training."

Note: Although the fire losses in the nation have mounted considerably in the past three years, Wisconsin's fire losses have declined."

It might be noted that there are several films available which are designed to stimulate volunteer fire departments to accept training, and that these could be used in lieu of, or in addition to, lectures by state fire instructors at such fire department meetings.

CHAPTER IV

RESEARCH RESULTS

A. QUESTIONNAIRE RETURNS

Questionnaires were sent to the chiefs of each of the fire departments in the state, both full-time and volunteer. Of these, 43 were completed and returned by the volunteer departments, and five by the full-time departments. The rate of return by the volunteers was 33.1% (43/130) and that by the full-time departments was 62.5% (5/8). The combined rate of return for all departments was 34.8% (48/138). The low rate of return from the volunteer fire departments may be due in part to the rapid and constant change-over of department chiefs. As pointed out earlier, the list of chiefs used was fairly recent, and yet it was two or three chiefs behind in several instances. It thus appears that many of the questionnaires never arrived at their proper destinations, as the person to whom they were sent neglected to forward them to the new chief or misunderstood their nature. The low return rate may perhaps also be explained by the reticence of many of the relatively inactive or inept departments to report such inactivity or ineptness. This conclusion is the result of the subjective impression of this writer that most of the replies were from the better or more active departments. Other factors producing the low return may have been procrastination, loss or disinterest. The conclusions indicated by the returned questionnaires are presented below. The complete returns are included in this study as Appendix D.

It would first appear that there are few, if any, facilities in the state which can provide actual fire-fighting experience for firemen. Of the departments responding, none had a drill tower, one reported a fire test building (indicating that the term was misunderstood by the respondent, as this writer is unaware of any such facility in the entire state). 10.4% reported having smoke houses, and 18.8% reported having flammable liquid installations.

It must be noted here that the comments of the responding fire chiefs must be given a great deal of weight in this study when they correspond, since no specific responses were sought. If, for example, 20% of the chiefs make the same comment, where none is required, the point must be of substantial import, and would probably have been checked by a far greater percentage of the chiefs had it been listed as a part of the questionnaire.

With this in mind, it is noteworthy that 56.3% of the responding fire chiefs commented that actual fire conditions were needed to adequately prepare their firemen to fight fires effectively. Less than

50% of those responding reported having received at least some state-provided training within the previous two years.. The comments with some recurrence in the individual responses were: Need much more training (18.8%); need actual fire training (31.3%); and, need better training facilities (27.1%).

When asked to rate their department's level of training for all classes of fire, 10.4% of the chiefs felt a need for more state training, 13.5% felt there was inadequate time available for proper training, 27.1% stated a need for actual experience and for better training facilities, and 10.4% felt the level of training was as good as could be expected. Thus many of the chiefs feel a need for more and better training than they have heretofore received, and few feel their departments to be completely competent as firefighting units.

The presence of compensation, at least for out-of-pocket expenses, would make a significant difference in the willingness of volunteer firemen to attend a 3-7 day course at a permanent state fire school. When asked to indicate the percentage of the men in their respective departments who would attend such a school, the chiefs indicated that the upper three percentage categories (30% - 40%, 40%-50%, and over 50%) would show a 43.7% increase in attendance from the absence to the presence of compensation. In their comments to the question, 68.8% of the chiefs indicated that compensation would definitely make a difference.

As to the willingness of their men to attend weekend regional courses, the responding chiefs indicated that compensation would not be as significant an inducement as it would be for attendance at the state fire school. The upper three categories showed an increase of only 16.8% from the absence to the presence of compensation. Perhaps with reimbursement merely for travel expenses, this difference would be reduced even more.

The need for a concerted public relations campaign to educate the public and the community leaders as to the training needs and accomplishments of the volunteer firemen was indicated, in some manner, by most of the chiefs responding. (See Appendix D). The suggestions for such a campaign ranged from state-level coordination and supply, to home inspection programs, to selecting a citizens fire safety committee in each community. All respondents appeared to feel the need for better and more systematic communications between the local fire department and the community it serves. The sentiment seemed to be that if such communications were improved, the moral and financial support received by each department from the community would shortly be forthcoming.

Concerning the desirability of the various levels of training, 81.3% of those responding indicated a need for a permanent State Fire

School; 35.4% favored regional fire schools; and 58.3% favored classes in each individual department, provided (as is presently the case) by the state on an itinerant basis.

The comments to the question indicated that 37.5% of the chiefs felt a State Fire School was needed to provide actual firefighting experience; 33.3% felt such a school would provide a better quality of training than is presently available; and 25% felt it to be a necessity for the State to have such a permanent facility. Travel considerations would make regicnal schools preferable to a centrally located state fire school, according to 16.7% of the chiefs. The following reasons were cited in support of an itinerant training program reaching the local levels; need to train with own equipment (4.2%); distances make local training the only feasible (10.4%); inability of men to leave jobs for state or regional schools (12.5%); cannot leave city unprotected while men are attending a state or regional school (4.2%); and there will be a better response in attendance with local classes (18.8%). Nearly 21% of the chiefs felt a need for all three levels of instruction.

The questionnaires demonstrate that:

1. The physical facilities for the training of the volunteer firemen in the State of Utah are not at all adequate to meet the present need, and that permanent State facilities for such training are in order;

2. some form of compensation paid those volunteer firemen attending a state fire school would substantially lessen the burden of such attendance and increase the percentage of firemen able to participate in the training;

3. there is a definite need for more and better training than that which has previously been available to the volunteer departments;

4. compensation would make little difference in the willingness of the volunteer firemen to attend a regional fire seminar;

5. there is a substantial need in the state for a concentrated program of public relations and education; and,

6. all three of the various methods of firemen instruction (State Fire School, regional fire seminars and local itinerant instruction) are needed in a well-developed training program.

B. RATING COMMITTEE RESULTS

The ad hoc rating committee divided the cities and towns of Utah into four categories, utilizing the ten-class rating schedule of the Utah Fire Rating Bureau in roughly the following manner: First through

fourth class cities-Class A; fifth and sixth class cities-Class B; seventh and eighth cities-Class C; and, ninth and tenth class cities-Class D. The most efficient fire departments would be in Class A, and the least efficient would be in Class D. The rating resulted in the following division among the four classes: Two departments (1.5%) in Class A; eight (6.1%) in Class B; fifty (38.2%) in Class C; and seventy-one (54.2%) in Class D. These figures include full-time departments but exclude departments at federal installations and those at private institutions, such as Thiokol or Hercules.

It appears first of all that some objective means of rating the various volunteer departments in the State must be developed. In this way, weaknesses may be strengthened in each department and all departments may be graded according to their training level in relation to the other fire departments in the State. The important goals of standardization of training and levels of ability, and the upgrading of the entire fire service in the state will be more easily achieved by this rating. Instructors and teachers in other educational endeavors are expected to give grades to their students upon completion of a course of study, and there is no reason why the state fire instructors should not grade each fire department which completes a prescribed course of study (assuming a fairly objective grading scheme can be devised for the instructor's use).

The rating committee thus placed 92.4% of the fire departments in the state in the lower two classes, when rated for efficiency in fighting fires. Substantial improvement in this area is vitally important, and can be largely effectuated by improving the quantity and quality of the training available to, and actually received by, the volunteer firemen throughout the state. Such training will not only increase the ability of each fireman, and each department, to fight fires, but will also acquaint the firemen with the necessities of fire protection for their own cities (adequate water system, effective fire code, alarm systems, most effective equipment for fighting fires, etc.) and therefore will ultimately result in better all-around facilities. The final result of such an occurrence will tend toward better fire protection, better insurance rating for each city, and a consequent out-of-pocket insurance savings for every citizen.

C. SURVEY OF STATES

In the survey made of practices in other states, much helpful information was obtained. The response was very good, with thirty-one of the thirty-seven states contacted responding (83.8%).. The complete returns are included in Appendix E. The percentages listed in the following material were obtained by dividing the number of states in each category by the total number of states responding to our inquiry.

Eight states (25.8%) reported having a permanent state fire college, nine (29.0%) reported permanent sites either under construction or in the planning stage, and fourteen (45.2%) reported no permanent state fire college. It is understood that two other states, Iowa and Texas, have permanent fire training facilities and that two states, Arkansas and Indiana, are currently seeking legislative approval of plans for such facilities. Thus, if this information is correct, there are ten states (28.6%) which have permanent state fire schools, eleven states (31.4%) which are planning to construct state fire schools, and fourteen states (40.0%) which have no schools and no plans to construct one. Thus, twenty-one states (60.0%) have decided a state fire college was necessary for their training program.

Five states (16.1%) reported that associate or bachelor degrees are offered. Four (12.9%) more indicated that plans for such programs are being developed, bringing the total number of states regarding degree programs as important to nine (29.0%).

Twenty-five states (80.6%) reported having itinerant training programs. Thirteen states (41.9%) reported using the Oklahoma Red Books as their training manuals, three (9.7%) used the Ohio training manual, three (9.7%) used Maryland's, one (3.2%) used manuals published by the International Association of Fire Chiefs, five (16.1%) used their own manuals, three (9.7%) used those published by the National Fire Protection Association, and twelve states (38.7%) did not respond.

The trend in firemen training throughout the nation appears to be toward a higher level of education and a professionalization of the fire service. The feeling is growing that a fire service should be more than a mere vocation - that it is in reality a profession requiring more than mere manipulative skills. The growth of the advanced degree programs attests to the strength of this feeling.

It is being recognized that the state governments must take a more active part in the training and education of the firemen serving in the local communities, and that state instructional programs eentered around a permanent state training facility are essential (retaining of course the itinerant and regional programs which are basic to any such program). The substantial shift to permanent state fire schools demonstrates that other states are realizing that actual experience and exposure to fire conditions are essential prerequisites to a well-trained fireman, and that such prerequisites cannot be achieved in the traditional local-level training programs.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

1. The training program as it now exists in Utah is not meeting the needs of the fire departments in the state, despite the very able work of the small state instructional staff.

2. The training program suffers from:

A. A decided lack of physical facilities (such as training towers, fire test buildings, etc.);

B. An insufficient number of state instructors to carry the training program to the various departments;

C. An inadequate system of public relations;

D. A rudimentary system of forms and procedures which fails to fully inform the local departments as to the services and facilities available to them;

E. An inadequate exchange of information between the local and state levels of the fire service;

F. An outdated training manual;

G. An inefficient form of departmental organization;

H. A partial lack of desire on the part of the local departments to participate in a complete training program (although it must be noted that working conditions, job requirements, and inadequate time contribute to this lack of desire).

B. RECOMMENDATIONS

It is recommended that:

1. A permanent State Fire College be constructed and made available for the use of all fire departments in the state.

2. Two or more additional full-time State Fire Instructor positions be created.

3. A concentrated, state-coordinated program of public relations be planned and implemented, using some or all of the following methods and forums:

A. The Utah Municipal League
B. State-supplied publicity releases
C. Public relations education of the firemen in the state
D. Home inspection programs
E. Film and lecture series
F. Establishment of local Citizen Fire Safety Advisory Committees.

4. A complete set of forms and procedures be developed, including:

A. A descriptive catalogue of the training program and the courses offered

B. A descriptive listing of the films available for departmental and public relations use

C. Course outlines and instructor's guides

D. A statement of policies for field instructors

E. Course request forms and more formal procedures for the requesting of courses

5. A more complete state-local exchange of information be implemented.

6. The Oklahoma manual be adopted for use in the training program.

7. The local fire departments be made subject to the supervision and control of the local governing bodies, placing in such governing bodies the responsibility to:

A. Appoint new fire chiefs, who will be subject to removal only for cause; and,

B. Adequately finance the activities of the department, including all training activities.

8. A program designed to sell the need for complete departmental training to the various fire departments and civic officials in the state be implemented.

9. Further research be conducted in the following areas:

A. Possible implementation of a two-year associate degree program in fire science and/or fire technology, with courses taken at both the itinerant and state fire college levels being credited toward completion of the program;

B. Specific teaching aids and methods required for each course and topic in an effective fireman training program;

C. A permanent follow-up program on the effects of an improved instructional program (studying reduced insurance rates, increased efficiency, lower fire loss, etc.); and,

D. The development of an objective rating system to grade fire departments on the basis of efficiency and skill in combating fires and functioning as fire safety units.

APPENDIX A

U T A H

S T A T E F I R E

C O L L E G E

1967

DEDICATED TO THE SAVING

OF LIFE AND PROPERTY

UTAH STATE FIRE COLLEGE

Orem, Utah

Wilson W. Sorensen, President
Roger Honeyman, Director, Off-Campus Training

PURPOSE

The purpose of the Utah State Fire College is to provide instruction and training for paid, volunteer, institutional and industrial firemen; develop new methods and practices for fire fighting and fire prevention; to assist the State of Utah and county, municipal, and other local governments of Utah and their agencies and officers in their investigation and determination of the causes of fires; to provide facilities for testing fire fighting equipment; to disseminate useful information on fires, fire fighting and fire prevention, and other related subjects, to fire departments and others interested in such information; to do such other needed or useful things necessary to the promotion of public safety in the field of fire hazards and fire prevention work.

SUPERVISION

Operation of the Utah State Fire College is under the direct supervision of the Utah Trade Technical Institute, in cooperation with the office of the State Fire Marshal.

The supervision and operation of the Fire College is directed by a superintendent appointed by the President.

CURRICULUM

The Utah State Fire College conducts several phases of fire service training. Classes are held at the Fire College in Orem and in the field at various fire departments, industrial plants, institutions, etc.

UNIT TRAINING includes several ( ) hour units of instruction and one week is required to complete each unit. These units are divided into two groups--the ONE HUNDRED (100) series, covering subjects all firemen should know and the TWO HUNDRED (200) series, which becomes more technical, covering subjects designed for officer level and special services. All units are taught at the Fire College and some can be taught in the field.

ITINERANT TRAINING is conducted in Utah for local fire departments, private fire brigades, institutions and others requiring this type of training. Equipment on hand is used plus portable equipment carried by the instructor. ( ) hours are required for this course and classes are conducted three (3) hours each day or night, Monday through Friday. The regular course includes some training in such subjects as TOOLS, FORCIBLE ENTRY, EXTINGUISHERS, BREATHING EQUIPMENT, HOSE LADDERS, VENTILATION, SALVAGE & OVERHAUL, RESCUE, FIRE STREAMS AND PUMP OPERATION.

Note: Special courses can be arranged whereby more time can be spent on one or more subjects and others omitted.

Field Classes of ITINERANT or UNIT TRAINING may be scheduled by writing the Fire College. When requesting this training, state approximately when you prefer the class to be conducted. A date as near as possible to that requested will be arranged.

SPECIAL TRAINING is conducted in various other subjects which are scheduled in this bulletin.

OTHER SERVICES extended by the Fire College are: Assistance in the inspection of schools, hospitals and other public buildings; advisory assistance in the evacuation plans of hospitals and other institutions, the organization of fire departments, the arrangement of fire prevention programs, the planning of local training programs and every other thing conducive to the promotion of good fire prevention and protection.

CERTIFICATION

Upon completing one ( ) hour class of UNIT TRAINING and passing the written examination, a student is issued a certificate for that unit.

When a student has earned certificates in five different units of either the ONE HUNDRED or the TWO HUNDRED SERIES, he is then awarded a diploma for the series completed. Certificates are also issued for ITINERANT TRAINING but do not apply toward a diploma. Certificates earned in one series do not apply toward a diploma for the other.

ATTENDANCE

Attendance is open to all paid and volunteer firemen of state, county and city organizations; military personnel; fire prevention and safety personnel of industry; and all others concerned with the fire service.

DESCRIPTION OF UNITS

101 TOOLS, FORCIBLE ENTRY, BREATHING APPARATUS, EXTINGUISHERS
Included in this unit are the operation, use and maintenance of various types of extinguishers, fire department tools, and breathing apparatus; ropes and the tying of knots and hitches used in the fire service; latest methods and equipment for forcible entry.

102 HOSE AND LADDERS
The information on ladders includes: types, design and material; handling, raising and climbing; precautions and inspection. The portion alloted to hose covers such items as: fire hose, couplings, accessories and adapters; hose loads and finishes; hose lay-outs, hydrant connections and advancing hose lines; testing and maintenance of hose. Actual drills in the application of this information are conducted.

104 FIRE STREAMS
This unit contains information needed for quick calculations of engine and nozzle pressures. Rouch rules are taught as well as various formulae. Considerable background information is given so that a better understanding of pressure in fluids may be obtained. Students who enroll in this unit must have a working knowledge of Mathematics.

105 FIRE APPARATUS AND PUMPS
The basic operation and in-service maintenance of fire apparatus and pumps is taught in this class. Cutaway models of various types and makes of pumps, pressure regulators, and priming devices are used in order to assure a more thorough understanding of fire pump operation. Included is information regarding pumps of latest design and construction.

106 FIRE INSPECTION
Through this unit a man is taught how to make effective inspections, recognize hazards, and make comprehensive reports and records; is informed of new hazards, new types of hazardous material and new problems in this field. The class will engage in roundtable discussions of inspection problems, and make actual building inspections.

107 ARSON DETECTION
Explained are the principles of recognizing fires of suspicious origin through knowledge of known fire causes; how to determine what is evidence; how to preserve reliable evidence for the professional investigator; how to make pre-

liminary investigations from the viewpoint of the firemen and of the investigator. Case histories applying to the topic are discussed. Demonstrations of flammable liquids and chemicals are conducted. This unit is of value to all firemen as well as to the fire investigator.

108 VENTILATION, SALVAGE AND OVERHAUL
This unit includes the recognition of ventilation requirements; how to ventilate; importance of salvage work; types, sizes and construction of salvage covers; folding, carrying and using salvage covers; removal of water and debris from building; overhaul and clean-up.

108 RESCUE
This unit deals with such subjects as: recognition of rescue situations; conditions in which the victim may be found; rescue procedures and personal protections. REGISTRANTS IN THIS CLASS SHOULD INCLUDE SWIMMING TRUNKS WITH THEIR WORK CLOTHES.

201 INSTRUCTOR TRAINING
This training is for those who are now, or expect to become, engaged in instructional duties to any degree. This includes company officers who are responsible for training the men in their command, as well as the instructors who are responsible for training the entire fire department. Subjects covered include: HOW to teach (not WHAT to teach); improvement in teaching techniques; course outlines, arrangements of teaching material in logical order; use of visual aids in teaching.

202 COMPANY OFFICER TRAINING
The fire officer today must cope with many varied problems and situations. This unit is designed to assist in solving these problems. Subjects covered are: planning, leadership, training men, coordination and supervision, duties and responsibilities.

204 FIRE FIGHTING TACTICS
Every fire officer is constantly faced with the problems of making immediate decisions. In order to assist in making wise decisions he should have a thorough knowledge of the subjects covered in this unit: pre-fire planning, size-up, attack, control and extinguishment of fire using to the best advantage available manpower, apparatus, tools and equipment on the fire ground.

206 FIRE PREVENTION AND PROTECTION
The essential information necessary for fire protection of the average municipality is given in this class. Outlined is a program of fire prevention that will bring good results in the protection of both life and property. To aid in the reduction of hazards and thereby reduce fire losses, information is given on: fire incidents in occupancies; mercantile and industrial hazard protection; storage; public relations and preparing fire prevention programs.

207 FIRE INVESTIGATION
This course is designed to teach firemen the fundamentals of investigation with special emphasis on investigation of the origin and cause of fire. Utah arson laws, preservation of evidence, records and reports, the arson investigation process and other related subjects.

FIRE DEPARTMENT ADMINISTRATION

Administration of a modern fire department has grown to such proportions that it has become quite complex. The following units of training are designed for those who are now or expect to become involved in administrative duties.

208A Included in this unit are such subjects as: analysis of administration; administrative and personnel management; fire defense organization; understanding and handling manpower; fire defense and insurance rates; administrative requirements.

208B This unit contains such subjects as: the fire department organization and promoting team work; basic principles to guide the operation; exercises in large scale operation; water supply; buildings and equipment of the fire department; purchasing apparatus and equipment maintenance of department property; communications; the fire department training program; records and reports; public relations.

SCHEDULE OF SPECIAL CLASSES AND CONFERENCES

Utah Fire Service Training Improvement

Conference

The purpose of this conference is to improve training and education in the fire service; to assist in solving the many problems that confront those responsible for this training. The conference is open to fire chiefs, training officers and all others concerned with training in the fire service of Utah.

Attendance certificates will be issued to those who attend all sessions of the conference.

INDUSTRIAL FIRE BRIGADE TRAINING

Fire Brigade Training is available for industries within the State of Utah. Training requires a minimum of ten hours of instruction for each member of the brigade.

Training covers:

1. Fire prevention as it applies to the saving of life and property, job security and continuity of employment.
2. Plant layout
3. Location and Operation of

    A. Hydrants and Hose Houses
    B. Sprinklers
    C. Standpipes
    D. Extinguishers
    E. Other Fire Appliances

4. Chemistry of Fire
5. Causes of Fire
6. Classes of Fire
7. Types of Extinguishers and their uses
8. Knots and Hitches
9. Using Available Fire Fighting Equipment

    Class "A"
    Class "B"
    Class "C"

The Fire College instructor, if requested, will confer with plant management and the fire brigade on continued fire prevention and good housekeeping practices.

FALL FIRE SEMINAR

This three day conference held in the fall of each year is held for the purpose of acquainting firemen with the latest advances and techniques in fire prevention and suppression. This conference is open to all firemen in the state.

INSTRUCTIONAL AND REFERENCE MATERIAL

Manuals, reference material and work books used for training are distributed by the Fire College. Various text books, publications, informational pamphlets, standards and suggested ordinances obtained from the National Fire Protection Association and other sources, are also available through the Fire College.

APPENDIX B

FIELD INSTRUCTORS POLICIES

1. Field instructors shall keep daily milage data when driving state vehicle. State credit card charge slips shall be turned into the motor pool office or T & I office weekly. Milage record sheet must be turned into the T & I office immediately after the last day of the month.

2. Field instructors shall keep daily meal and housing facilities expense account when in the field. Receipts are necessary for housing facilities expense. Expense accounts are to be turned into the T & I office at the close of each week.

3. When it is necessary for the field instructor to make a long distance or toll telephone call pertaining to his work, he shall use telephone credit card which has been issued to him. A record slip must be filled out for each call and turned into T & I office at the end of the week with his expense account.

4. When a change in itinerary is necessary, while in the field, the instructor shall call his office and advise of the change, and cancel all previous commitments that may be affected by the change.

5. When an emergency arises involving the field instructor, such as sickness or an accident, he must notify by telephone the office and give the particulars. Any class cancellations necessary must be worked out with the office personnel at that time.

6. The field instructors must report into the office or contact the office each Friday afternoon to receive any information or instructions necessary for the following weeks schedule.

7. Vocational Department Staff meeting will be held the first Monday of each month, unless otherwise designated by Mr. S. K. Wick, Director. Each field instructor must make an attempt to be present at each meeting if at all possible.

8. If, during the course of a session of training, the field Instructor shows a film or conducts any other activity not included in the regular training outline, he shall make a notation of the same on the back of the attendance record. In doing so list the name of the film or activity conducted.

9. At the completion of a class session, the field instructor shall make certain that the class attendance record is fully completed and all names are correctly spelled and unquestionably readable. He will then place the attendance record in the senior instructor's work tray.

10. The senior instructor urges all field instructors to discuss with him, any suggestions or constructive criticism they may have relative to the welfare of the firemanship training program.

11. If, at any time, the field instructors have any questions, problems or matters they wish to discuss, the senior instructor welcomes the opportunity to discuss the same with him. The senior instructor will, to the best of his ability, assist in any possible way he can to bring about a suitable solution or decision, as the case may be.

12. Field instructors will be furnished yearly work record forms and shall tabulate information indicated on the form after the completion of each twelve hour course conducted. On May 15, of each year a summary sheet will be issued to each instructor, to be filled out and returned to the office, on or before, June 3, of each year, with a copy of the completed yearly work record form attached. This summary is to include all work completed from May 31, to June 1, of each year.

APPENDIX C

State of New Mexico

OFFICE OF

State Fire Marshal

APPLICATION FOR INSTRUCTION

TO: STATE FIRE MARSHAL'S OFFICE
P. O. DRAWER 1269
SANTA FE, NEW MEXICO 87501

FROM: _____ FIRE DEPARTMENT

PLEASE CHECK THE APPLICABLE BOXES BELOW

1. [ ] The _____ Fire Department hereby authorizes and requests the State Fire Marshal's Office to schedule formal training for our Department in accordance with your letter of _____.

2. [ ] This is to advise the State Fire Marshal's Office that the _____ Fire Department does not wish to have the services of a Fire Protection Instructor in accordance with your letter of _____ _____. Our reason for rejecting your offer is as follows:

_____

_____

_____

_____

_____

_____

IF THE BOX BY QUESTION 2 HAS BEEN CHECKED, INDICATING THAT YOU DO NOT DESIRE THE SERVICES OF AN INSTRUCTOR, IT IS NOT NECESSARY THAT QUESTION 3 BE ANSWERED. HOWEVER IT IS STILL NECESSARY THAT THIS APPLICATION FOR INSTRUCTION BE SIGNED AND RETURNED TO THE STATE FIRE MARSHAL'S OFFICE.

CONTINUED ON PAGE 2

APPLICATION FOR INSTRUCTION

3. The _____ Fire Department has reviewed the "Description of Subjects Offered" and has chosen those subjects indicated by check marks in the appropriate boxes below:

CODE No.		SUBJECTS	ALLOTTED TIME HOURS	MINUTES
1.	[_]	FORCIBLE ENTRY	1	0
2.	[_]	PORTABLE EXTINGUISHERS	0	30
3.	[_]	FIRE DEPARTMENT USE OF ROPE	0	30
4.	[_]	BREATHING EQUIPMENT	2	0
5.	[_]	RESCUE METHODS	1	0
6.	[_]	CONTROL OF BLEEDING	0	30
7.	[_]	MANUAL RESUSCITATION	1	0
8.	[_]	MECHANICAL RESUSTICATION	1	0
9.	[_]	VENTILATION	2	0
10.	[_]	TYPES OF FIRE STREAMS	0	30
11.	[_]	APPLYING FIRE STREAMS	1	0
12.	[_]	NOZZLES	0	30
13.	[_]	PRODUCING FIRE STREAMS	2	0
14.	[_]	PRELIMINARY LADDERS	1	0
15.	[_]	STANDARD CARRIES & RAISES FOR LADDERS	1	0
16.	[_]	SPECIAL CARRIES, RAISES & USES OF LADDERS	1	0
17.	[_]	INSPECTION & CARE OF LADDERS	0	30
18.	[_]	TESTING LADDERS AS PER NFPA #193	1	0
19.	[_]	SALVAGE EQUIPMENT	0	30
20.	[_]	CARE OF SALVATE COVERS	0	30
21.	[_]	METHODS OF FOLDING SALVAGE COVERS	0	30
22.	[_]	METHODS OF SPREADING SALVAGE COVERS	1	0
23.	[_]	REMOVAL OF WATER FROM BUILDINGS	0	30
24.	[_]	OVERHAUL & HIDDEN FIRES	0	30
25.	[_]	DETERMINING THE FIRE CAUSE	2	0
26.	[_]	PUMPS	2	0
27.	[_]	CARE OF FIRE APPARATUS	2	0
28.	[_]	OPERATION OF PUMPER	1	0
29.	[_]	FIRE HOSE & COUPLINGS	0	30
30.	[_]	FIRE HOSE ADAPTERS	0	30
31.	[_]	HOSE ROLLS & HYDRANT CONNECTIONS	0	30
32.	[_]	HOSE CARRIES & DRAGS	0	30
33.	[_]	HOSE LAYOUTS, LOADING & ADVANCING	1	0
34.	[_]	FIRE DEPARTMENT STANDPIPE CONNECTIONS	0	30
35.	[_]	FIRE DEPT. AUTOMATIC SPRINKLER CONNECTIONS	0	30
36.	[_]	MASTER STREAM APPLIANCES	0	30
37.	[_]	FOAN & WET WATER APPLICATION	0	30
38.	[_]	TESTING FIRE HOSE	1	0
39.	[_]	FIRE INSPECTION PRACTICES	2	0
40.	[_]	SIZE UP	0	30
41.	[_]	SPRINKLER SYSTEMS	1	0

SIGNED _____ RANK _____

DATE _____ Page 2

FD-1

STATE BOARD OF VOCATIONAL, TECHNICAL AND ADULT EDUCATION
720 State Office Building
1 West Wilson Street
Madison, Wisconsin 53702
C. L. Greiber, Director

AUTHORIZATION REQUEST

Mr. Wm. E. Clark, Supervisor
Fire Service Training
State Board of Vocational, Technical
and Adult Education
720 State Office Building
1 West Wilson Street
Madison, Wisconsin 53702

Dear Bill:

We would like to receive instruction in the _____ Course.

Name of Fire Department _____

Location _____

Signed _____
Title _____
Mailing Address _____

_____

Telephone No.: _____

(Do not fill in below this line)

AUTHORIZATION APPROVAL

Authorization to conduct _____

at _____. _____ sessions for total of ___ hours.

Beginning Date: _____ Ending Date: _____

Mr. _____ is available as instructor. He will be

paid $ _____ for the course. His travel allowance is estimated at

$ _____ and the total cost at $ _____.

Recommended _____
Supervisor, Fire Service Training

Approved _____
Chief, Trade & Industrial Education

Approved _____
State Director

Date: _____

SAMPLE COPY * REQUEST FOR TRAINING

F 54-6 (Rev. 7-67)

STATE OF MINNESOTA-DEPARTMENT OF EDUCATION
VOCATIONAL-TECHNICAL EDUC. DIVISION
TRADE & INDUSTRIAL EDUC. UNIT

FIREMANSHIP TRAINING REQUEST

NOTE: PLEASE PRINT DATE:

NAME OF VOLUNTEER FIRE DEPARTMENT :

STREET ADDRESS:

CITY	STATE	ZIP CODE

This volunteer fire department has completed_____sessions of Firemanship Training and now requests an additional course of training starting at your earliest convenient date.

TOTAL NO. OF MEMBERSHIP	MOST CONVENIENT EVENING FOR INSTRUCTION	
	First Choice	Second Choice

Comment pertaining to requested training (Repeat of 1st, 2nd, 3rd sessions, etc.) _____

We agree to have not less than 10 men attending each training session and will notify membership on receipt of scheduling notice.

CHIEF (Print)	BUS. TELEPHONE NO.
STREET ADDRESS	HOME TELEPHONE NO.

FORWARD TO: Trade & Industrial Education
State Department of Education
4th Floor - Centennial Bldg.
St. Paul, Minnesota 55101

TELEPHONE: Area Code 612 - 221-3248

APPENDIX D

T. H. BELL
Superintendent

DIVISION OF
RESEARCH AND PLANNING

MAURICE C. BARNETT
Administrator

UTAH STATE BOARD OF EDUCATION

1400 UNIVERSITY CLUB BUILDING • 136 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

The enclosed questionnaire is designed to assist in a study of the training received by members of the volunteer fire departments in the state of Utah. Please comment freely on the questions asked and be as objective as possible in your evaluations. Your comments and original thinking in the areas covered by the questionnaire are most important, since you are the fire training and fire prevention expert in your community. It is for this reason that we turn to you and the other fire chiefs in the state for help in upgrading our training program.

Please return the completed questionnaire to:

John F. Stephens, Director
Research Coordinating Unit
Utah State Board of Education
1300 University Club Building
Salt Lake City, Utah 84111.

An addressed and stamped envelope is enclosed for your convenience.

We would appreciate your immediate attention in this matter.

Thank you for your cooperation and support.

Sincerely,

John F. Stephens

John F. Stephens, Director
Utah Research Coordinating Unit

RWP:mh

Enclosure

WALTER D. TALBOT, Deputy Superintendent for Administration • LERUE WINGET, Deputy Superintendent for Instruction • JAY J. CAMPBELL, Deputy Superintendent for Institutions

TO: All Chiefs of Volunteer Fire Departments

FROM: John F. Stephens, Director, Research Coordinating Unit
1300 University Club Building, Salt Lake City, Utah 84111

QUESTIONNAIRE

PLEASE DO NOT IDENTIFY YOUR DEPARTMENT BY NAME.

Number of men in your department: Full time _____
Part time or on call _____

Approximate population of area protected by your department ____

1. Check the training facilities now used by your department or those used within the past two years

( ) a. Training or drill tower
( ) b. Classrooms
( ) c. Library
( ) d. Fire test building
( ) e. Standpipe and sprinkler systems
( ) f. Flammable liquid installations
( ) g. Drill area for hose layouts and practices, maneuvering fire apparatus and driver training
( ) h. Smoke house
( ) i. Drafting pit
( ) j. Fire training films
( ) k. Pumping apparatus
( ) l. Other (specify) _____
_____
_____

2. In your opinion, these training facilities are:

( ) a. Wholly adequate
( ) b. Satisfactory but lacking in some essentials
( ) c. Wholly inadequate

Please explain your answer: _____
_____
_____
_____
_____
_____

3. Check the areas in which training has been conducted in your department within the last two years (also indicate whether the course was conducted by your department or by a state agency).

Local	State		
( )	( )	a.	Introduction to Fireman Training
( )	( )	b.	Company Organization and Administration
( )	( )	c.	Utah Laws and Ordinances Related to Fire Departments
( )	( )	d.	County and City Ordinances Related to Fire Departments
( )	( )	e.	Chemistry of Fire
( )	( )	f.	Fire Prevention and Inspection
( )	( )	g.	Personal Safety at Fires
( )	( )	h.	Operating at Fires
( )	( )	i.	Fire Extinguishment
( )	( )	j.	Water Measurement and Supply
( )	( )	k.	Practical Hydraulics for Firemen
( )	( )	l.	Water Fog
( )	( )	m.	Fire Apparatus Practices (Operating Apparatus)
( )	( )	n.	Fire Apparatus Practices (General)
( )	( )	o.	Fire Pumps
( )	( )	p.	Forcible Entry Practices
( )	( )	q.	Handling Hose
( )	( )	r.	Handling Ladders
( )	( )	s.	Ventilation Practices
( )	( )	t.	Fire Service Rope Practices
( )	( )	u.	Hazardous Fires
( )	( )	v.	Radiation
( )	( )	w.	Public Relations
( )	( )	x.	Communications
( )	( )	y.	Problems of Organizing and Managing a Fire Department
( )	( )	z.	Other (specify)

_____

_____

_____

_____

_____

4. These courses of study as presently available to the men are:

( ) a. Wholly adequate
( ) b. Satisfactory but lacking in some essentials
( ) c. Wholly inadequate

Please explain your answer: _____

_____

5. At the present time (taking into consideration the time available for training, the quality of the training received, etc.) you feel that the level of training for all classes of fire is:

a. Wholly adequate ( )
b. Satisfactory ( )
c. Wholly inadequate ( )

Please explain your answer: _____

_____

_____

6. If there were a permanent state fire college in Utah, offering courses throughout the entire year, you feel that the following percentage of the men in your department would take advantage of a short (3-7 day) course each year:

( ) a. none
( ) b. 0%-10%
( ) c. 10%-20%
( ) d. 20%-30%
( ) e. 30%-40%
( ) f. 40%-50%
( ) g. Over 50%

If they received compensation for their time, the following percentage would attend:

( ) a. none
( ) b. 0%-10%
( ) c. 10%-20%
( ) d. 20%-30%
( ) e. 30%-40%
( ) f. 40%-50%
( ) g. Over 50%

Please explain your answer: _____

_____

_____

_____

_____

_____

7. If a state instructor would come, on request, to your department and teach courses of your choosing, would you prefer classes to be held:

( ) a. Once a month until completion
( ) b. Once a week until completion
( ) c. Four or five evenings during a single week, completing the entire course in that week
( ) d. Not at all

Please explain your answer: _____

_____

_____

8. If a short (weekend) course were offered periodically on a regional basis, with several fire departments in your area being invited, you feel that the following percentage of the men in your department would attend:

( ) a. 0%-10%
( ) b. 10%-20%
( ) c. 20%-30%
( ) d. 30%-40%
( ) e. 40%-50%
( ) f. Over 50%
( ) g. None

Please explain your answer: _____

_____

_____

If they received compensation for their time, the following percentage would attend:

( ) a. 0-10%
( ) b. 10%-20%
( ) c. 20%-30%
( ) d. 30%-40%
( ) e. 40%-50%
( ) f. Over 50%
( ) g. None

Please explain your answer and state your feelings: _____

_____

_____

9. What support does your department receive from your city and/or county officials?

_____

_____

_____

_____

10. How can this support for the activities and business of your department be improved?

_____

_____

_____

_____

11. Is there a need for better public relations between your department and the community it serves?

yes_____ no_____

How might they be improved? _____

_____

_____

_____

12. Please state and explain your feelings on the relative merits of:

( ) a. a centrally located state-wide fire school
( ) b. a regional fire school held periodically
( ) c. fire classes held in each individual department

_____

_____

_____

_____

_____

TABULATION

QUESTIONNAIRE RETURNS

Question No.		Volunteer Department No.	Volunteer Department %	Full-time Department No.	Full-time Department %
#1	A) Training or drill tower	0	0	0	0
	B) Classrooms	32	74.4	5	100
	C) Library	11	25.6	4	80
	D) Fire test building	1	2.3	0	0
	E) Standpipe and sprinkler	7	16.3	3	60
	F) Flammable liquid	6	13.9	3	60
	G) Drill area	35	81.4	4	80
	H) Smoke house	4	9.3	1	20
	I) Drafting pit or ditch	14	32.5	4	80
	J) Fire training films	34	79.1	5	100
	K) Pumping apparatus	43	100	5	100
	L) Old buildings to burn	0	0	1	20
	M) Aircraft carcasses	1	2.3	1	20
#2	A) Wholly adequate	4	9.5	0	0
	B) Satisfactory	28	65.1	4	80
	C) Wholly inadequate	11	25.5	2	40
#2 Comments					
	A) Equipment in poor shape	0	0	0	0
	B) Need actual fire conditions (i.e., tower, smoke house, etc.)	22	51.2	5	100
	C) No training facilities	5	11.6	1	20
	D) No training at all	1	2.3	0	0
	E) Don't use present facilities well	2	4.6	0	0
	F) Practice with new equipment would help to choose best for own city	1	2.3	0	0
	G) Need proper equipment	6	13.9	1	20
#3	A) Introduction	19	44.1	1	20
	B) Company organization	15	34.9	2	40
	C) Utah laws	15	34.9	2	40
	D) County ordinances	11	25.6	1	20
	E) Chemistry of fire	22	51.1	1	20
	F) Fire prevention	22	51.1	2	40
	G) Personal safety	17	39.5	1	20
	H) Operating at fires	22	51.1	1	20
	I) Fire extinguishment	22	51.1	1	20
	J) Water measurement	17	39.5	1	20

K) Practical Hydraulics	17	39.5	1	20
L) Water fog	19	44.2	1	20
M) Fire app. (operating)	19	44.2	1	20
N) Fire app. (general)	17	39.5	1	20
O) Fire pumps	19	44.2	1	20
P) Forcible entry	18	41.9	1	20
Q) Handling hose	23	53.5	1	20
R) Handling ladders	21	48.8	1	20
S) Ventilation practices	20	46.5	1	20
T) Fire service rope practices	12	27.9	1	20
U) Hazardous fires	14	32.5	1	20
V) Radiation	9	20.9	1	20
W) Public relations	10	23.2	1	20
X) Communication	5	11.6	1	20
Y) Problems	15	34.9	1	20
Z) "Pre-planning"	1	2.3	0	0
AA) First aid	3	7.0	0	0
BB) Aircraft fires	1	2.3	0	0
CC) Gas company training	1	2.3	0	0
#4 A) Wholly adequate	10	23.2	0	0
B) Satisfactory	26	60.5	5	100
C) Wholly inadequate	5	11.6	0	0
#4 Comments				
A) Need much more training	8	18.6	1	20
B) Difficult w/volunteer department	4	9.3	0	0
C) Need actual fire training	12	27.9	3	60
D) Need better training facilities	10	23.2	3	60
E) Difficult to get men to attend	7	16.3	0	0
F) Lack teachers for courses	3	7.0	1	20
G) Need training in each department	0	0	0	0
H) No training at all	1	2.3	0	0
I) Had courses in past	1	2.3	0	0
#5 A) Wholly adequate	3	7.0	0	0
B) Satisfactory	25	58.1	5	100
C) Wholly inadequate	14	32.5	0	0
#5 Comments				
A) Need more state training	5	11.6	0	0
B) Inadequate time available	6	13.9	0	0
C) Lack of training facilities	11	25.6	2	40
D) Need actual experience	12	27.9	1	20
E) As good as can be expected	4	9.3	1	20
F) No training or very limited	4	9.3	0	0
G) Can be improved	0	0	1	20
H) Some training too advanced	1	2.3	1	20
I) Need better organization	2	4.6	0	0
J) Too long between training-forget	2	4.6	0	0
K) Not enough interest	1	2.3	0	0

#6	A) None	4	9.3	0	0
	B) 0-10%	18	41.8	1	20
	C) 10-20%	7	16.3	1	20
	D) 20-30%	8	18.6	0	0
	E) 30-40%	1	2.3	0	0
	F) 40-50%	6	13.9	0	0
	G) Over 50%	2	4.6	1	20
If compensation:					
	A) None	0	0	0	0
	B) 0-10%	8	18.6	0	0
	C) 10-20%	4	9.3	1	20
	D) 20-30%	3	7.0	0	0
	E) 30-40%	6	13.9	0	0
	F) 40-50%	8	18.6	1	20
	G) Over 50%	15	34.9	1	20
#6 Comments					
	A) Compensation makes difference	29	67.4	4	80
	B) Compensation makes no difference	8	18.6	0	0
	C) Can't get off work	18	41.8	0	0
	D) Can't afford the time	13	30.2	0	0
	E) Distance problems	2	4.6	0	0
#7	A) Once a month	19	44.2	0	0
	B) Once a week	21	48.8	4	80
	C) 4-5 evenings in one week	5	11.6	0	0
	D) Not at all	0	0	0	0
#7 Comments					
	A) 1-week course only way to hold interest	2	4.6	0	0
	B) Difficult to attend consecutive meetings	4	9.3	0	0
	C) Once a week as often as possible	9	20.9	1	20
	D) Full-time daily basis	0	0	2	40
	E) Once a month the present system	10	23.2	0	0
	F) Once a week the present system	7	16.3	1	20
	G) Any way O.K.	0	0	1	20
	H) Every other week best	2	4.2	0	0
	I) Inaccessibility makes 1 week course best	1	2.3	0	0
	J) Forget quick courses too fast	1	2.3	0	0
#8	A) 0-10%	8	18.6	2	40
	B) 10-20%	6	13.9	0	0
	C) 20-30%	9	20.9	0	0
	D) 30-40%	10	23.2	0	0
	E) 40-50%	7	16.3	0	0
	F) Over 50%	4	9.3	1	20
	G) None	1	2.3	0	0
If compensation:					
	A) 0-10%	3	7.0	0	0
	B) 10-20%	5	11.6	1	20
	C) 20-30%	5	11.6	1	20

	D) 30-40%	9	20.9	0	0
	E) 40-50%	6	13.9	0	0
	F) Over 50%	14	32.5	1	20
	G) None	1	2.3	0	0
#8 Comments					
	A) Men not interested	1	2.3	1	20
	B) Compensation makes difference	16	37.2	3	60
	C) Compensation makes no difference	11	25.6	0	0
	D) Weekends are difficult	1	2.3	0	0
	E) Weekends are best	7	16.3	1	20
	F) Too far to other departments	5	11.6	0	0
	G) Could arrange time if sufficient notice	8	18.6	1	20
	H) Expenses for travel would be sufficient	4	9.3	0	0
	I) No time	7	16.3	0	0
	J) Shift work makes difficult	7	16.3	0	0
#9	A) Good support	35	81.4	3	60
	B) No support	3	7.0	0	0
	C) Some but could be improved	3	7.0	0	0
#10	A) Get a new mayor	1	2.3	0	0
	B) Better communications	12	27.9	2	40
	C) More propaganda as to ability of volunteer departments	6	13.9	1	20
	D) More money	10	23.2	2	40
	E) Improve services offered by department	6	13.9	1	20
	F) Public relations program on state-wide basis	2	4.6	0	0
	G) Stronger organization	2	4.6	0	0
#11	A) Yes	22	51.2	4	80
	B) No	19	44.2	1	20
How to improve?					
	A) Concerted effort necessary	2	4.6	1	20
	B) Publicize all department events	13	30.2	3	60
	C) State-wide publicity program	9	20.9	2	40
	D) Home-inspection program	3	7.0	0	0
	E) Citizens fire safety committee	4	9.3	0	0
	F) Local paper	14	32.5	3	60
	G) Department public relations officer	2	4.6	0	0
	H) Films for public use	2	4.6	0	0
#12	A) State fire school	35	81.4	4	80
	B) Regional fire schools	14	32.5	3	60
	C) Classes in departments	26	60.5	2	40
#12 Comments					
	A) Men need to train w/own equipment	2	4.6	0	0
	B) Need full facilities for actual fire experience	14	32.5	4	80

C) State school would be of better quality	12	27.9	4	80
D) Best training is in own department	2	4.6	0	0
E) Travel makes region better than state	8	18.6	0	0
F) Need all three	7	16.3	3	60
G) Distances make local only feasible	5	11.6	0	0
H) Can't leave jobs for state or regional	6	13.9	0	0
I) State school a necessity	9	20.9	3	60
J) Can't leave city unprotected	2	4.6	0	0
K) Better response with local training	8	18.6	1	20
Men in department				
A) 0-5	1	2.3	0	0
B) 6-10	7	16.3	0	0
C) 11-15	8	18.6	0	0
D) 16-20	8	18.6	0	0
E) 21-30	15	34.9	2	40
F) Over 30	4	9.3	2	40

APPENDIX E

STATE	PERSON CONTACTED	PERMANENT STATE FIRE SCHOOL	PRESENT TRAINING PROGRAM	LENGTH OF COURSES OFFERED	MANUALS USED
ALABAMA	W. L. Rickard, Asst. State Supervisor Trade and Industrial Education State Department of Education P. O. Box 2847 University, Alabama 35486	Presently under construction at the University of Alabama. When completed, it will offer a series of short courses, including a course designed especially for volunteer firemen. The school will be operated by Trade and Industrial Education	Two (2) full-time itinerant instructors who work with volunteer and paid departments. Also a five day statewide fire college conducted annually.	1-10 clock hours, varying according to the specific course offered and the needs of the department.	Oklahoma Red Books (International Fire Service Training Assoc.
ALASKA	Robert F. Crouse State Fire Marshal Department of Public Safety Division of Fire Prevention Pouch N -- State Capitol Juneau, Alaska 99801	No, but in process of setting up a "Public Safety Institute" (covering fire, police, and industrial safety), as per Purdue University, Adoption scheduled for 1968. Will offer a two year associate degree, and a four year B.S. degree in fire engineering.	Special schools in specific subjects conducted on state and regional levels. Itinerant instructors work with individual departments. Instructors' training classes conducted annually in six cities.	Variable -- depends upon needs of department and area.	Not reported
CALIFORNIA	Edward W. Bent Supervisor of Fire Training California State Dept. of Ed. Bureau of Industrial Education Fire Training Program 721 Capitol Mall, Room 414 Sacramento, California 95814	No, but there are permanent Fire Science programs at 47 junior colleges, which are open to volunteer firemen and quite accessible. Legislative approval is being sought for the construction of a new training school.	Two full-time coordinators and six full-time itinerant instructors conducting classes in local departments. Zone and statewide schools and seminars are conducted periodically throughout the state.	15 to 72 hours flexibility scheduled. The length of each course and its content vary according to the specific needs of the department, area, or zone.	Own
COLORADO	A. A. Pisciotta, Supervisor Fire Service Training Section State Board for Vocational Ed. Room 32 State Services Building Denver, Colorado 80203	No, but annual Fire Command Officer School at Colorado State University.	Full-time firemen are hired on part-time basis as itinerant instructors. Basic, intermediate, and advanced training offered in all phases of fire prevention, control, and extinguishment.	100 total hours of classes recommended, with each course taking from 2 - 12 hours to complete. Classes are generally held once or twice a month until completion	Not reported
CONNECTICUT	Andrew J. Flanagan Supervisor, Fireman Training Hartford State Technical Inst. 401 Flatbush Avenue Hartford, Connecticut 06106	Four permanent state-supported fire schools located at New Haven, Willimantic, Burrville and Derby. Instructors at New Haven are full-time, those at the other locations are assigned on a part-time basis. Also annual state-wide Fire Marshal's Conferences and Fire Schools.	Regional fire training schools. Mostly part-time instructors. Two-year course leading to associate degree in applied science.	Basic two-year course, credit hours from 1-3 hours per week.	Own Adopted from standard evolutions adopted by the International Assoc. of Fire Chiefs

STATE	PERSON CONTACTED	PERMANENT STATE FIRE SCHOOL	PRESENT TRAINING PROGRAM	LENGTH OF COURSES OFFERED	MANUALS USED
DELAWARE	Harvey D. Grant Senior Instructor Delaware State Fire School R.D. #2, Box 166 Dover, Delaware 19901	Yes, at the State Training Center in Dover.	Sequential training program, with prerequisites required for more advanced courses. Continuous training offered at the state facility.	Firemanship I: 24 hours Firemanship II: 24 hours Upon completion of these basic courses, individuals may take: III. Pumps and Water supply (Optional 6 hour hydraulics course) IV. Tactics course 24 hours V. Staff and command course 24 hours 24-hour courses generally require two weekends for completion.	Not reported
FLORIDA	W. H. Barnett Superintendent Florida State Fire College P. O. Box 785 Ocala, Florida 32670	Yes, several 30-hour courses requiring one week for completion are offered. There are 8 full-time instructors in residence, serving as both resident and itinerant instructors.	Same classes offered in itinerant program as at the fire college. The fire college staff of 8 instructors travel to the various depts. to conduct the classes. Special training conferences, seminars, and workshops are conducted periodically.	Itinerant program: 15 hours/course conducted 3 hours/day or night, Monday through Friday in local dept. Other offerings vary in length.	Own, and also those obtained from the Natl. Fire Protection Association and from other sources. NFPA
GEORGIA	Harold G. Thompson Fire Service Training Superv. Industrial Education Dept. Georgia Inst. of Technology Atlanta, Georgia 30332	No, but a bill for its establishment is presently before the General Assembly. An Annual State Fire School and five area fire schools are presently conducted. Considering offering a two-year associate degree program	Five full-time, 60 part-time instructors carry on the itinerant training program. Basic and first class firefighter programs with well organized outline	For the combined Basic and First Class Firefighter programs the course of instruction takes 2½ hours per week for 3 years.	NFPA Maryland Ohio Oklahoma Red Books
IDAHO	John A. McDaniel State Supervisor Trade and Industr. Educ. State Board for Voc. Educ. 518 Front Street Boise, Idaho 83702	No, but first annual State Teacher Training Workshop held this year.	Experienced firemen from each community in state taught to be instructors, then return to own areas and set up training programs.	Variable	Oklahoma Red Books
ILLINOIS	W. J. Eckert, Director Firemanship Training Division of University Ext. University of Illinois 117 Illini Hall Champaign, Illignois	No, but annual week-long Fire College. University of Illinois directs entire program. A B.S. degree in Fire Protection Engineering is offered at the Illinois Institute of Technology.	Ten full-time instructors teaching on itinerant and regional basis. Firemanship I, Firemanship II, Fire Officer Command, and regional schools comprise the bulk of the courses offered.	Firemanship I and Firemanship II each consist of five three-hour classes. Others are of variable length.	Oklahoma Red Books

STATE	PERSON CONTACTED	PERMANENT STATE FIRE SCHOOL	PRESENT TRAINING PROGRAM	LENGTH OF COURSES OFFERED	MANUALS USED
KENTUCKY	Joe D. Smith, Co-Chairman Fire School Committee Kentucky Fire School 940 Starks Building Louisville, Kentucky 40202	No, but an annual fire school in which nine 12-hour courses are offered. Also an annual two-day teacher training course prepares fire department members to be instructors.	Two full-time and 25 part-time itinerant instructors conduct 20-hour inservice firemen training classes in the various departments. The part-time instructors are members of fire departments throughout the state.	A basic 20-hour inservice fireman training program is presently offered	Not reported
LOUISIANA	George M. Martinsen Associate Law Enforcement and Fireman Training General Extension Division Louisiana State University Baton Rouge, Louisiana 70803	Yes, at L.S.U. Offers a 40-hour course in firemanship covering basically that which is taught in the field, but with emphasis on application of the methods and procedures learned in the field.	Four full-time instructors, teaching courses at the Fire College and in the field on an itinerant basis. Also short regional and state-wide courses and seminars in special subjects.	Itinerant Program: Six 12-hour courses Fire College: One 40-hour course	Oklahoma Red Books
MARYLAND	J. R. Bachtler, Director Fire Service Extension Fire Service Building University of Maryland College Park, Maryland 20740	Yes, at the University of Maryland, offering a four-year program leading to a B.S. degree in fire protection. Also a series of short (2-5 day) courses in special subjects at the University, and short classes in practical firemanship at training center.	Part-time itinerant instructors teach Basic, Intermediate, and Advanced Firemanship courses in each department. Also a rescue course is taught on the same basis. Departments and individuals get certificates after completion.	At the present time, the first three courses are each of 60-hour's duration. In a short time the hourly instr. will be: Basic - 60 hrs; Intermediate-80 hours; Advanced - 100 hrs. Also Rescue Course - 42 hrs.	Own
MICHIGAN	Francis Hartman, Supervisor Firemanship Training Program Civil Defense & Disaster Training Center -- North Campus Univ. of Michigan Ext. Service Ann Arbor. Michigan	No, discontinued 1966. The combination Training Center at the Univ. of Michigan is presently used for this purpose.	Itinerant training very flexible -- adjusted to the needs of the department as requested.	18-hour course presented 3 hours/night for 6 nights	Not reported
MINNESOTA	Ward E. Wilford Senior Field Instructor Minnesota Firemanship Trg. Department of Education Centennial Office Building St. Paul, Minnesota 55101	No, but the Univ. of Minnesota is presently conducting a survey to determine the need for advanced training and to recommend the kind and amount of education, and the type of educational institution which would best serve the needs of the state.	Four full-time and six part-time instructors conducting an itinerant and a regional training program. Courses: First Session Firemanship Trg.(Basic) Second Session Firemanship Training Third Session Firemanship Training An excellent office procedure outline has been developed for the training program.	Each session consists of four 3-hour sessions. Also week-end regional schools.	Ohio Oklahoma Red Books Maryland NFPA

STATE	PERSON CONTACTED	PERMANENT STATE FIRE SCHOOL	PRESENT TRAINING PROGRAM	LENGTH OF COURSES OFFERED	MANUALS USED
MONTANA	W. Lyle Roeseler State Supervisor Trade and Industr. Education Dept. of Public Instruction Helena, Montana 59601	No, attempted but not too successful.	Two full-time itinerant instructors presenting courses on request.	Three hours per unit -- total of 10 Units (30 hours) of instruction available.	Oklahoma Red Books
NEBRASKA	G. W. Price Industrial Coordinator Nebraska Voc./Techn. School Milford, Nebraska 68405	No, but an annual 3-day fire school.	Three full-time itinerant instructors offering a course in Basic Firemanship to each department once every five years (on the average). Feel a need for six or eight part-time area instructors.	Variable	Oklahoma Red Books
NEW HAMPSHIRE	Walter E. Miner, Consultant Trade & Industr. Education Department of Education Div. of Voc.-Tech. Educ. Stickney Avenue Concord, New Hampshire 03301	No	State is divided into 30 districts, with one fireman from each district hired on part-time basis, to organize and teach courses in fireman training. Instructors meet annually for one week to review techniques and methods and to receive additional information.	Night classes--variable lengths	Not reported
NEW MEXICO	John A. Elliott Administrative Assistant State Fire Marshal Post Office Drawer 1269 Santa Fe, New Mexico 87501	No, but an annual Firemen's Training School at New Mexico State University	Three full-time itinerant instructors teach local departments on request. The courses are generally taught in one department at night for the first four days of the work week. Fridays spent by instructors in planning for the coming week.	Each course consists of five sessions of three hours each.	Not reported
NEW YORK	Anthony R. Granito Supervisor of Fire Training Division of Fire Safety 155 Washington Avenue Albany, New York 12210	Not at the present time, but one is under construction which will be fully operative by 1972. A State Fire Instructor's Conference is held annually; also special programs and courses held on request. Associate degree programs offered by various community colleges.	114 part-time instructors, with 25 full-time instructors now in process of being hired. The training is generally done on the itinerant and regional levels. The basic course is "Essentials of Firemanship", which is a prerequisite for most of the other courses (9) offered.	Variable but average, is about 18 hours per course.	Own lesson plans and executive teaching material -- Training manuals used not reported
OHIO	Joseph Heinzen, Coordinator Fire Service Training Trade and Industr. Education 122 Townshend Hall 1885 Neil Avenue The Ohio State University Columbus, Ohio 43210	No, but an Annual State Fire School at Ohio State University A new state training academy is planned. An associate degree program is offered in fire technology	Over 300 part-time itinerant instructors and five full-time coordinators, assigned to state universities. A basic fire training course is a requirement of the insurance rating bureau of Ohio (Ohio Inspection Bureau).	The basic fire training course is 36 hours. Other courses of variable length, from 20 hours up.	Own, quite detailed and comprehensive

STATE	PERSON CONTACTED	PERMANENT STATE FIRE SCHOOL	PRESENT TRAINING PROGRAM	LENGTH OF COURSES OFFERED	MANUALS USED
OKLAHOMA	G. L. Sartain, Head Fire Protection Department Oklahoma State University The Technical Institute Stillwater, Oklahoma 74074	No, but an annual State Fire School held for one week at Oklahoma State Univ.	Three itinerant instructors teach courses according to needs of various areas. Generally regional schools are conducted.	Variable, according to need.	Oklahoma Red Books (for volunteer departments)
PENNSYLVANIA	Robert G. Miller, Supervisor Public Service Institute Dept. of Public Instruction Box 911 Harrisburg, Pa. 17126	Yes, complete schedule of fireman training courses, and several courses for instructors. School's address: Box 631 Lewistown, Pa. 17044	150 part-time itinerant instructors and three full-time instructors at the fire school. The part-time instructors teach at the state fire school and at regional schools, as well as on an itinerant basis in each department. Basic courses in firefighting (the Fundamentals of Firefighting) offered at the local level.	8-45 hours in the field. One week full-time at the fire school. Fundamentals of Firefighting is a 45 hour course (15 weekly 3 hour sessions.	Oklahoma Red Books
RHODE ISLAND	Richard P. Anderson, Dean Vocational-Technical Education Rhode Island Junior College 199 Promenade Street Providence, Rhode Island 02908	No, but two courses, Municipal Fire Administration and Firefighter Officership, offered at Rhode Island Junior College. Also an annual state fire school. It is understood that a state training facility has been designed.	Not reported if there is any itinerant program.	Not reported	Not reported
SOUTH CAROLINA	D. H. Gillam, Jr. Training Coordinator Fire Fighter Training Service P. O. Box 432 Orangeburg, S. C. 29115	No, but in the planning stage	One itinerant instructor, classes held at convenience of department day or night	18 hours during 5 days	Oklahoma Red Books
TENNESSEE	Homer Elkins Senior Instructor Firemanship Training Regional Office of Voc. Ed. 207 East Main Street Murfreesboro, Tenn. 37130	Yes, an annual fire school and four special courses are offered; at least 14 hours of classwork required for certificate Expansion of present facilities is planned.	Three full-time itinerant instructors work with a department for a week	15-hour basic course offered 3 hours a session for 5 consecutive nights.	Oklahoma Red Books
VIRGINIA	R. Lawrence Oliver State Fire Instructor Industrial Education State Board of Education P.O. Box 645 Harrisburg, Va. 22801	No, but the plan for one will be presented to the Legislature in January 1968	Two full-time fire instructors to coordinate activities of 239 part-time instructors. Courses taught in basic, standard and advanced areas.	Variable	Not reported

STATE	PERSON CONTACTED	PERMANENT STATE FIRE SCHOOL	PRESENT TRAINING PROGRAM	LENGTH OF COURSES OFFERED	MANUALS USED
WASHINGTON	Lyle Goodrich, Supervisor Fire Service Training Division of Voc. Education State Board for Voc. Ed. P. O. Box 248 Olympia, Washington 98501	No. Many annual conferences and state-wide workshops are held. The state vocational -technical schools and community colleges offer a series of inservice courses: 7 courses for firemen; 6 courses for company officers 5 courses for staff and command officers Associate degree programs offered.	45 part-time instructors teaching regional and local courses. Wide range of course material available to departments. The courses for firemen are taught in local departments, those for company officers and staff and command officers are taught on a regional or state-wide basis.	Firemen: Each class is three hours long, each of the seven instructional units are of 30-36 hours duration. Others: Other instructional units are from 30-45 hours long.	Own plus others. Not reported by name
WEST VIRGINIA	R. E. Hanna, Jr. Assistant Director Fire Service Extension West Virginia University Morgantown, W. Va.	No, but an annual state fire school.	Basic Firemen's Extension course and advanced Firemen's Extension course, offered to departments on an itinerant basis. Also two-day short courses and regional fire schools.	Basic course requires 33 hours of class time. Others are of variable length.	Not reported
WISCONSIN	Gordon R. Christianson Senior Instructor Fire Service Training State Board of Vocational and Technical Education Room 720 1 West Wilson Street Madison, Wisconsin 53702	No, but two technical institutes have fire technology programs.	Two full-time instructors supervise 40 part-time instructors. Itinerant training sessions conducted in each department. Also one-day special schools are conducted on a regional basis.	Basic firemanship course consists of 9 sessions of 2½ hours each	Oklahoma Red Books Own lesson plans and outlines for instructors
WYOMING	Marvin S. Hoflund State Director Trade & Industrial and Technical Education Department of Education Cheyenne, Wyoming 82001 Ed Bradley State Fire Marshal 301 Capitol Building Cheyenne, Wyoming 82001	No, but annual 3-day fire college.	Itinerant part-time instructors teach local departments on a limited basis.	Variable	Not reported

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Office of the
STATE SUPERINTENDENT
OF PUBLIC INSTRUCTION

T. H. BELL
Superintendent

APPENDIX F

We are now in the process of surveying the training received by members of the volunteer fire departments in our state. Our goal is to devise a comprehensive training program for our volunteer firemen which will most effectively utilize the limited time which they have available.

We have a very limited amount of information concerning your efforts in this regard, and so would appreciate any help you could offer. Do you have a state fire college? If so, how are volunteer firemen included in its program, and what courses are they offered? If not, what type of program do you have for training your volunteer firemen?

Since such information may not be immediately available, my office will be pleased to bear the cost, upon notification, of reproducing the materials which we desire.

I appreciate your cooperation and assistance in this matter, and hope that, if the need arises, you will allow this office to reciprocate. I will forward to you a copy of the completed report, if you so desire.

Sincerely,

Robert W. Pommerville
Research Assistant

RWP:mh

WALTER D. TALBOT, Deputy Superintendent for Administration • LERUE WINGET, Deputy Superintendent for Instruction • JAY J. CAMPBELL, Deputy Superintendent for Institutions

APPENDIX G

SUBJECTS COVERED IN FIREMAN TRAINING SERIES I

Book #1

Conference	Title
1	Introduction to Fireman Training
2	Company Organization and Administration
3	Utah Laws and Ordinances Related to Fire Departments
4	County & City Ordinances Related to Fire Departments
5	Chemistry of Fire
6	Fire Prevention and Inspection
7	Personal Safety at Fires

Book #2

8	Operating at Fires
9	Fire Extinguishment
10	Water Measurement and Supply
11	Practical Hydraulics for Firemen
12	Water Fog
13	Fire Apparatus Practices (General)
14	Fire Apparatus Practices (Operating Apparatus)
15	Fire Pumps
16	Forcible Entry Practices

Book #3

		Also:
17	Handling Hose	Public Relations
18	Handling Ladders	Communications
19	Ventilation Practices	Problems of Organizing & Managing a Fire Dept.

20	Fire Service Rope Practices
21	Hazardous Fires
22	Radiation
23	Concluding Conference

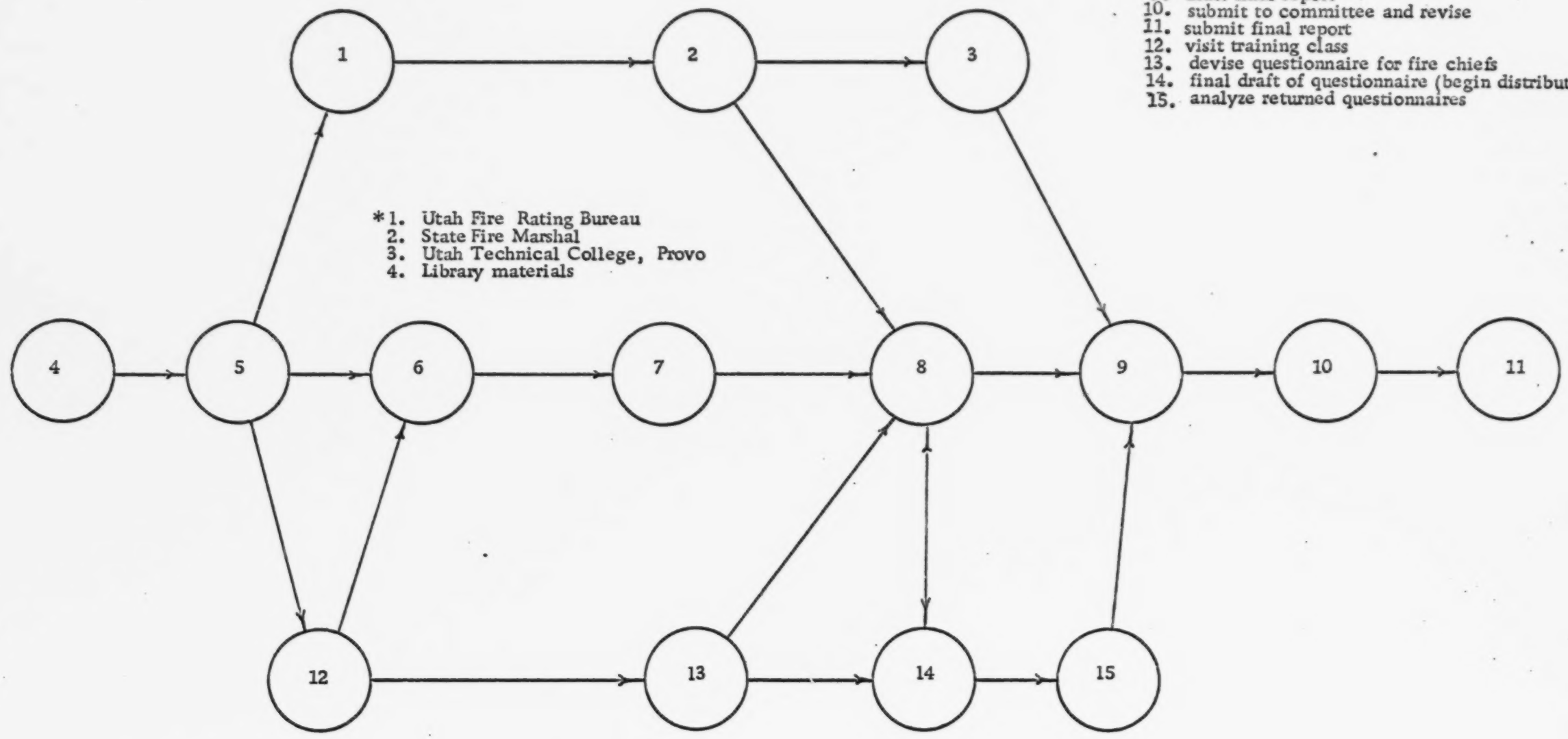
FIREMAN TRAINING FILMS

Title	Number
Preparation	46
Gear Shifting	47
Steering	48
Ladders	49
You Bet Your Life	50
Salvage	51
Salvage (Color Slides)	52
Fire Apparatus	53
Company Response	54
Ventilation	55
Hose-Basic	56
Using Water Wisely	57
Brush Fire	58
Pump Operator	59
Let's Try Fog	60
Fires Before They Happen	61
The Tale of Two Towns	62
Fighting Tank Fires	63
L.P. Gas Fire Control	64
Train We Must	65
Fire Hazards of Atomic Energy	66
Resuscitation	144
Fire Science	153

PERT NET WORK

VOLUNTEER FIREMAN TRAINING STUDY

1. send survey letters to various states
2. begin to analyze data
3. complete analysis of data from other states
4. begin project
5. obtain background information
6. establish present state of training in Utah
7. appoint advisory committee
8. meet with advisory committee
9. draft final report
10. submit to committee and revise
11. submit final report
12. visit training class
13. devise questionnaire for fire chiefs
14. final draft of questionnaire (begin distribution)
15. analyze returned questionnaires



*1. Utah Fire Rating Bureau
2. State Fire Marshal
3. Utah Technical College, Provo
4. Library materials

APPENDIX H

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION

ERIC REPORT RESUME

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001

TITLE

100 A STUDY OF VOLUNTEER FIREMEN TRAINING IN THE STATE OF UTAH
101
102 Final Report
103

PERSONAL AUTHOR(S)

200 Pommerville, Robert W., and Stephens, John F.

INSTITUTION (SOURCE) | SOURCE CODE

300 Utah State Board of Educ., RCU, 1400 Univ. Club Bldg. Salt Lake City

310 REPORT/SERIES NO.

OTHER SOURCE | SOURCE CODE

320 Utah Technical College at Provo, Utah

330 OTHER REPORT NO.

OTHER SOURCE | SOURCE CODE

340

350 OTHER REPORT NO.

400 PUB'L. DATE 3 — —68 | CONTRACT/GRANT NUMBER OEG-4-7-063046-1612, P.#6-3046 (RCU)

PAGINATION, ETC.

500
501

RETRIEVAL TERMS

600 Volunteer fire departments, volunteer firemen training, itinerant training,
601 state fire college, in-service vocational training, teaching practices,
602 teaching methods, skills-firefighting, associate degrees, public relations.
603
604
605
606

IDENTIFIERS

607 International Fire Service Training Association (Oklahoma) Manual

ABSTRACT

800 The training of volunteer firemen is a difficult and yet important task, and
801 it can rarely be effectively accomplished by the individual fire departments
802 acting alone. A state-administered training program is a necessity.
803
804 The specific objectives of this study are:
805 1. To ascertain the scope of the fire training programs for volunteer depart-
806 ments presently functioning in the United States;
807 2. To ascertain the scope of the training program for volunteer firemen as it
808 presently exists in Utah;
809 3. To indicate those areas in which improvement of the Utah training program
810 is required; and,
811 4. To offer suggestions for the solution of the various problems uncovered in
812 the study, and new approaches to those problems, whenever the need appears.
813
814 Some of the recommendations made include: The construction of a permanent
815 state fire college; the enlargement of the state instructional staff; the de-
816 velopment of a concentrated, state-coordinated program of public relations and
817 a complete set of forms and procedures; and, subjection of the volunteer fire
818 departments to the supervision of the local governing bodies.
819
820
821
822

VT 005 633

JATC Handbook; A Guide to Joint Management-Labor Area-Wide Apprenticeship and Training Committees.

Manpower Administration (DOL), Washington, D.C. Bureau of Apprenticeship and Training
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 62 26p.

ADULT VOCATIONAL EDUCATION; *COMMITTEES; DIRECTORIES; SKILLED OCCUPATIONS; *TRADE AND INDUSTRIAL EDUCATION; *GUIDELINES; *PROGRAM ADMINISTRATION; PROGRAM DEVELOPMENT; *APPRENTICESHIPS
JATC; JOINT LABOR MANAGEMENT APPRENTICESHIP AND TRAINING COMMITTEES

The key to successful area-wide apprenticeship training is the joint apprenticeship and training committee. This committee, equally representative of management and labor, is established to carry out the development and administration of apprenticeship and journeyman training training programs. Major functions of the joint apprenticeship and training committee include selection of apprentices, supervision of comprehensive on-the-job training experience and related instruction, and control of apprenticeship agreements and registration. Guidelines for these functions and others are given in this booklet. Also given are directories of state and regional apprenticeship agencies and national joint apprenticeship committees. (HC)

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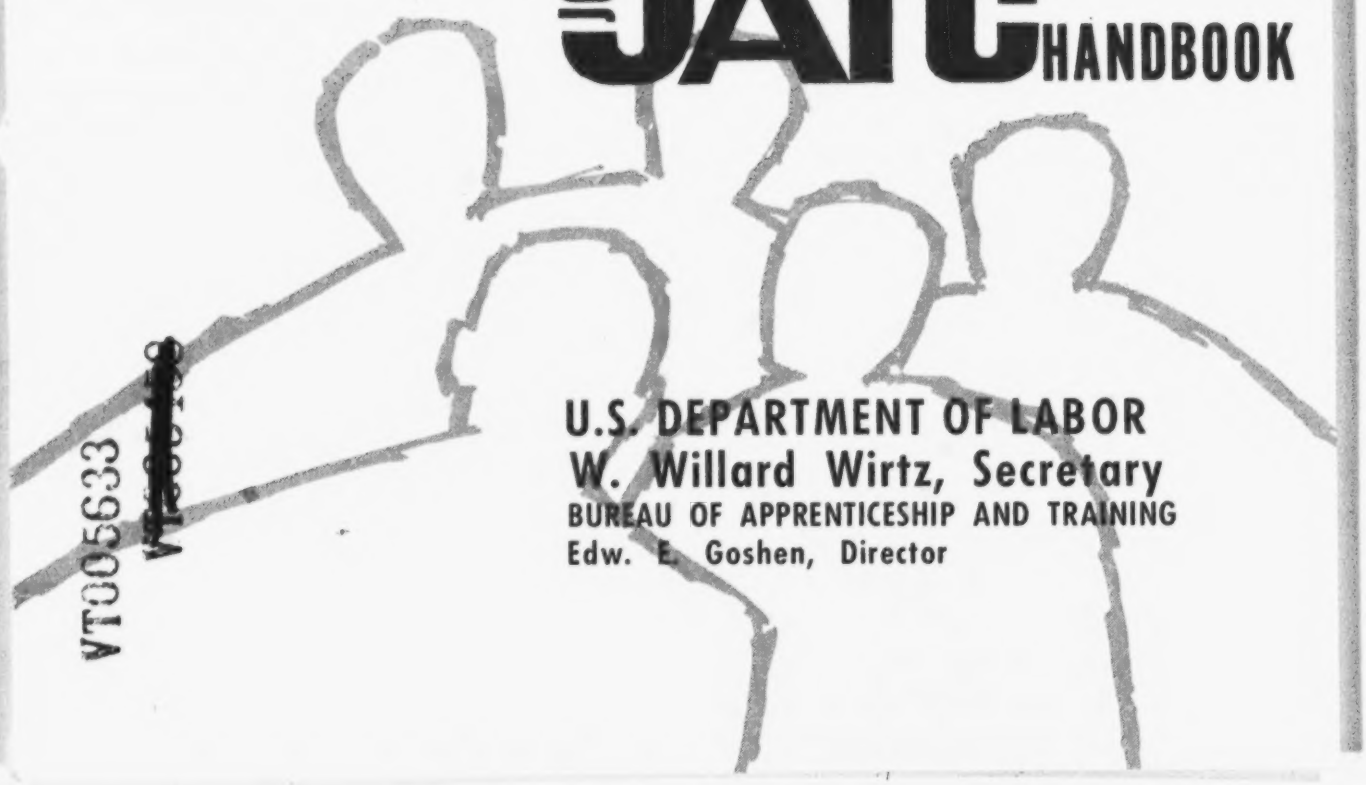
JOINT APPRENTICESHIP AND TRAINING COMMITTEES

JATC HANDBOOK



U.S. DEPARTMENT OF LABOR
W. Willard Wirtz, Secretary
BUREAU OF APPRENTICESHIP AND TRAINING
Edw. E. Goshen, Director

VT005633

JATC HANDBOOK

A Guide to Joint Management-Labor Area-Wide Apprenticeship and Training Committees

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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U.S. DEPARTMENT OF LABOR
W. Willard Wirtz, *Secretary*

BUREAU OF APPRENTICESHIP AND TRAINING
Edw. E. Goshen, *Director*

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FOREWORD

The introduction of new processes, automation, technological changes, and requirements for higher skills has created a challenge to Joint Labor-Management Apprenticeship and Training Committees (JATC's) for more effective action to assure adequate apprenticeship and advanced training for journeymen. This challenge is further underscored by insufficient numbers of apprentices, drop-outs before completion of apprenticeship, and poor on-the-job practices and supervision.

More than 9,000 Joint Labor-Management Apprenticeship and Training Committees have been established in all sections of the country. These committees are delegated authority by their respective organizations to set up and conduct apprenticeship and training programs.

The information in this booklet is primarily concerned with area-wide Joint Apprenticeship and Training Committees, as their responsibilities differ somewhat from single plant Joint Apprenticeship Committees. An examination of area-wide programs shows many points of similarity in functions. This type of committee has been in operation long enough to make it possible to set forth in booklet form a guide based on successful experience.

A significant development is the creation by employers and labor of apprenticeship and training trust funds and the employment of national and local apprenticeship directors and coordinators. In the construction industry, there are a number of national directors and more than 200 local JAC's have part-time or full-time directors or coordinators.

The information in this booklet reflects thousands of hours spent by committees in developing quality apprenticeship. We are confident that when these experiences are adapted by conscientious committeemen, JATC's will improve their apprenticeship and training program.

Assistance in establishing new committees and reactivating existing JATCs is available from both Bureau of Apprenticeship and Training and State Apprenticeship Agency representatives.

EDW. E. GOSHEN, *Director*
Bureau of Apprenticeship and Training

THE JATC HANDBOOK

Key to Successful Area-Wide Apprenticeship Training Programs

What Is A Joint Apprenticeship and Training Committee?

A joint apprenticeship and training committee is a group, equally representative of management and labor, established to carry out the development and administration of apprenticeship and journeyman training programs. The committee may represent labor-management interests at the National, State, or local level.

The joint management-labor apprenticeship and journeyman training committee is the key to a successful area-wide apprenticeship and journeyman training program. It is to the program what the manager is to his company's business, or what the business agent is to the union. If the members of a joint apprenticeship and training committee are interested and active, the program is likely to be a success. If the members are indifferent and inactive, the program will reflect their inaction. It is important that the committee be thoroughly familiar with its duties and that each member be aware of his responsibilities.

Principal factors and provisions for a successful area-wide apprenticeship and journeyman training program are discussed in the following pages.

National Committees

National joint apprenticeship committees, composed of national employer association and international union representation, are concerned primarily with developing minimum, uniform apprenticeship standards for the trade and encouraging local management-labor groups to accept these standards as a guide in developing local apprenticeship programs. This national trade approach has proved especially effective in enlisting the cooperation and support of State and local groups.

State Committees

State committees, which also guide the development and operation of apprenticeship, have been established in some of the construction

trades. These committees encourage local organizations to foster and standardize apprenticeship. Where no local organization exists in a particular trade or industry, the State committee may assume some of the duties normally performed by committees at the local level.

Local Committees

As administrator of the area-wide program, the local joint apprenticeship and training committee is responsible for the quality and comprehensiveness of the training the apprentice receives.

Within the framework of minimum national standards recommended for the trade, the local joint committee develops standards governing the training of apprentices at the community level.

In the building, graphic arts, and some other trades where area-wide collective bargaining agreements are in effect, the apprenticeship program is usually established on an area-wide basis, with employers and unions throughout the area participating in the program. An area joint committee has general supervision of the program, including the selection, indenturing, and placement of apprentices. To assure every apprentice of the variety of experience he requires for all-around work in his trade, the committee supervises his transfer from one employer to another. Some of the larger area-wide committees employ full-time apprenticeship and training directors or coordinators to carry out the industry's program. If committees do not have funds to employ directors they delegate responsibility for action to the committee chairman, the secretary, or other committee members.

Apprenticeship Directors and Coordinators

In the large programs, the number of apprentices employed may be too great for an area-wide apprenticeship committee to supervise properly. In instances of this kind, a full-time or part-time apprenticeship director or coordinator is employed by the joint apprenticeship and training committee and works directly under its supervision.

More than 200 local JATC's have employed directors or coordinators to administer their programs. In addition, 40 apprenticeship and training coordinators have been employed by national groups to work with their local affiliates.

Establishing the Committee

The typical local joint apprenticeship committee is comprised of three employer and three union representatives, appointed by their respective organizations for staggered terms of 3 years each. The term of one member of each group expires annually. However, a member may succeed himself.

Selecting Committee Members—What Committee Members Should Know

Committee members appointed by the groups they are to represent should be selected on their qualifications for this important job. Principal qualifications are:

Management Representatives—

Position in the company—Persons in responsible jobs who are in a position to know how apprentices are being trained and able to affect improvements if needed.

Interest in trade and in helping young men learn.

Ability to work with others.

Time available to attend meetings.

Employee Representatives—

Recognized craftsmen.

Interest in trade and in helping young men learn their trade.

Ability to work with others.

Willingness to attend committee meetings.

In general, members should have time available to devote to committee activities; a thorough knowledge of the trade; a genuine interest in working with young people; and broad experience with training practices in their trade.

Understanding of policies, procedures, and authority is necessary to the successful operation of any program. Therefore, JATC members should understand basic apprenticeship and training policies, and their authority and responsibilities relating to apprenticeship.

Although the duties of joint committees may vary in some respects, there are certain major duties that are common to all. These duties are explained in the following pages.

FUNCTIONS OF JATC

Selection of Apprentices

Most area-wide standards of apprenticeship place responsibility for the selection of apprentices on the joint apprenticeship and training committee. In most instances, committees make up a list of qualified applicants and refer the applicants to employers on the basis of an agreed-upon formula, such as referring the best qualified applicant first if he is still interested and immediately available.

Apprenticeship and training committees consider the selection of applicants for apprenticeship a most important factor in assuring the success of a program. In selecting apprentices they consider the applicant's school and work records, hobbies, physical condition, personal traits, acquired skills, aptitudes, educational background, and interests.

Careful selection of applicants for apprenticeship has proved to be of vital importance from the standpoint of the employer, the

apprentice, and the committee. Research studies have shown that it reduces turnover of apprentices, thus cutting down the cost to the employer and saving valuable time of the committee members. Of particular importance is the time that it saves the applicants. If an applicant is not qualified, it is in his own interest to be guided to a more suitable trade or an entirely different occupation.

The informed apprentice will usually be the most cooperative. Many committees find that an explanation of the apprenticeship and training program—its objectives and operation—to applicants for apprenticeship, is extremely helpful. Applicants, as well as apprentices, should be impressed with the opportunity provided by apprenticeship for careers as craftsmen in the skilled trades. They should also be given a frank definition of their duties and responsibilities as apprentices, including hardships and disadvantages of learning a trade. The rules and policies of the committee directly affecting the apprentice should be reduced to writing and a copy furnished the prospective apprentice before employment. A clear understanding of these things will assist prospective apprentices in deciding whether they wish to spend several years in learning a trade through apprenticeship.

Bureau of Apprenticeship and Training and State Apprenticeship Agency representatives are prepared to discuss selection procedures and advise local JATC's on successful selection methods used by other committees. The seven principal steps in a sound selection program are illustrated below.

Joint apprenticeship and training committees can obtain assistance from local offices of State employment services in making the initial screening or the testing of applicants. The employment service has aptitude test batteries which have proved successful in 48 apprenticeable trades.

Training On-the-Job

In view of the fact that the greatest part of the apprentice's training time is spent in actual work experience with and under the supervision of journeymen, the importance of the quality and comprehensiveness of one-the-job training experience cannot be overemphasized.

Members of many committees feel that there is room for a great deal of improvement in supervising apprentices' work experience. It is inadvisable to retain apprentices for excessive periods on one process or operation because they are good at it or because the employer does not want to spend the time and effort to give them training in other phases of the trade. An important part of the job of supervision is to see that apprentices receive a sufficient amount of experience in each of the basic operations and processes in the trade.

There are several steps the joint apprenticeship and training committee may take toward improving the job training of apprentices:

1. *Keep Work Processes Up-to-Date*—Reexamine the work processes as set forth in the apprenticeship standards to determine if all jobs performed by journeymen are listed.

2. *On-the-Job Training Records*—Furnish the apprentice a card, work record log book, or other form listing work processes, so that he can make a record each day of the amount of time he works on one or more of the processes listed. Require the apprentice to turn this record in to the appropriate representative of the joint apprenticeship and training committee periodically at an appointed time.

3. *Check Rotation in Work Processes*—Information from the weekly or monthly apprentice's work record card should be posted in his master record by part-time or full-time clerk employed by the committee. Review the apprentice's work record report at the regular monthly meeting of the committee to determine whether the apprentice is being given an opportunity to learn all phases of the trade.

4. *Tests to Determine Apprentice's On-the-Job Progress*—Apprenticeship and training committees must assume the responsibility of periodically determining the progress being made by the apprentice on the job. These evaluations are excellent devices for keeping the apprentices, journeymen, and employers on their toes.

A fairly simple procedure for handling these examinations is to schedule certain apprentices to appear before the committee at each

meeting for oral examinations. Each apprentice explains to the committee the work he is doing, and has been doing since he started his training or since he last appeared before the committee. Being practical men in the trade, and having the apprentice's work record cards before them, the members of the committee will quickly sense whether the apprentice is making reasonable progress in his work. They will also know whether the apprentice is being given the proper opportunity by his employer for essential experience in all aspects of the craft. By this means committees are able to determine whether and when the apprentice should be transferred to another employer who has the kind of work the apprentice needs to round out his experience.

Apprentice wage increases are not based solely on lapse of time but are a reward for accomplishment. The apprentice should make required progress in learning the trade in each wage period. He should actually work a specified number of hours, and have good reports on his work before advancement is authorized. On-the-job training is a category within itself and should not be averaged with school work for evaluation.

5. *Improving On-the-Job Instruction*—Arrange for job instructor training courses to prepare journeymen for training apprentices on the job.

6. *Placing Apprentices Under Interested Journeymen*—Encourage employers and foremen to place apprentices with journeymen who are willing and able to train them.

Related Instruction for Apprentices

Prerequisite to a quality apprenticeship program is the development of sound related instruction. A minimum of 144 hours a year is recommended, although it is recognized that additional time may be required to keep pace with technological developments.

It is the responsibility of the joint apprenticeship and training committee to make arrangements for related instruction and to require the apprentice to attend class regularly.

Graduated scale of apprentice wages is not just a matter of lapse of time, but rather a reward for the successful accomplishment of a specified percentage of training. The apprentice should be required to have full attendance in related instruction classes with a satisfactory grade average before advancement is authorized. Related instruction is a category within itself and should not be averaged with his on-the-job training for evaluation.

Timing—

There are at least three ingredients in a quality related instruction program. One essential ingredient to successful related instruction is proper timing. This is especially true when utilizing the public vo-

cational education facilities. School officials must plan their courses to meet anticipated needs. Conferences held with them at the earliest possible date will give them the advantage of time to prepare for related instruction needs.

Selecting the Instructor—

A second ingredient to a successful related instruction program is the selection of a qualified instructor. The apprenticeship committee should assume major responsibility, and work closely with school officials in the selection processes.

The importance of selecting a high quality instructor cannot be overemphasized. The best materials, course content, and facilities are of little value if the instructor is not of comparable quality. The ideal attributes and qualifications that should be considered essential in the selection process are:

- knowledge of subject matter (journeyman)
- personality
- general education
- technical competence
- demonstrated interest in working with youth

As a practical matter, it may be impossible to obtain an instructor with all of these qualifications. When this is not possible, greater importance should be attached to technical competence and occupational experience than a high level of general education. In any event, it is necessary to remind the committee that when considering instructor candidates, a review should be made of some of the skills that are needed for quality instruction. Some of these skills are: how to present facts, principles, and theories in an interesting and understandable manner; how to develop and maintain interest of apprentices; how to choose practical problems and how to test or evaluate apprentice comprehension and progress.

To assure itself of having qualified instructors, the committee should encourage craftsmen with the interest and potential to take instructor-training courses. These courses are available in metropolitan areas and in many smaller communities where universities conduct evening extension courses.

Preparation of Course Material—

A third ingredient important to a quality related instruction program is course materials that meet the need of the industry and the apprentices.

The use of prepared lesson material is essential to successful classroom instruction. The committee should not expect the instructor to bear this responsibility on a part-time basis.

In most instances, curriculum materials have been prepared by national joint committees, international unions, vocational-technical schools, or commercial publishers that meet the needs of or can be readily adapted to the particular JATC objectives. When prepared material is not available, the apprenticeship and training committee should be responsible for its preparation. In making decisions on course content, the committee should place a priority on the information to be conveyed to the apprentices. A simple rule to follow in this connection is to determine the importance of the material on the basis of:

1. Essential information.
2. Information that is desirable but not essential.
3. Information that is merely good to know.

There are several commercial publications available that offer practical suggestions in curriculum construction which would be of value to the committee and the instructor. These publications usually present information on determining course content; preparation of outlines and lesson plans; suggestions on presentation; record keeping and other similar considerations that should be taken into account.

Class Attendance of Apprentices—

The four main elements to a successful related instruction program for apprentices are:

1. A constructive and interesting course of instruction directly related to the trade.
2. A competent instructor.
3. Regular attendance at classes by the apprentices.
4. Application by the apprentices to the school work.

If the joint apprenticeship and training committee wants to strive for a quality program, it will have to insist that the related instruction be of sufficiently high quality to justify the apprentices' attendance; and then adopt a policy of compulsory school attendance. Within this policy, it should provide standard rules for absenteeism in bona fide cases of necessity. In the main, joint committees with successful programs find it wise to accept few excuses and to require apprentices to make up all lost time.

Committees should visit related instruction classes periodically to observe apprentice participation, thereby maintaining a constant evaluation of this part of the program.

When directors or coordinators are employed, supervision of classroom instruction and regular reports to the committee are part of their responsibilities. Apprentices who are not making satisfactory progress are brought before the JATC for appropriate action.

Apprenticeship Agreements and Registration

Area-wide apprenticeship programs usually provide that each apprentice sign an apprenticeship agreement with the committee rather than with the individual employer. Some programs provide that the agreement shall be directly with the employer.

The objective of the agreement with the joint apprenticeship and training committee is to provide the degree of flexibility needed to conform with actual employment practices. It also gives the joint apprenticeship and training committee the freedom of action it needs to transfer apprentices from one firm to another and, in the building trades, one construction job to another, so as to assure diversity of work experience and as nearly full employment for each apprentice as possible.

The joint apprenticeship and training committee should enter into a written agreement with the apprentice before he is employed. Some committees prefer to wait until the probationary period has been completed. The agreement or required information on each apprentice is sent to the appropriate apprenticeship agency for registration.

Minute Keeping

Apprenticeship and training committees have found a good set of minutes for each meeting to be a most valuable asset, and as time moves on and policies are determined, the minutes become of great value as a reference. They are also a valuable means of bringing a new member of a committee up to date in connection with the previous actions of the committee.

Important actions of the committee that should be recorded in minutes are:

- Adoption of standards and revisions of standards.
- Apprentice progress action, such as advancement, credit for previous experience.
- Examination records and dates.
- Completion dates.
- Disciplinary actions.
- Reports to employer associations and unions.
- Financial records—monies collected, expenditures.
- Appointment of new committee members.

Understanding the Apprenticeship and Training Program

The success of an apprenticeship and training program depends not only on the activity and interest of the committee, but upon the understanding of all who participate—management, labor, and apprentices.

Many committees have experienced difficulty in getting all of the employers who participate in the apprenticeship and training program and the employer associations in the trade to appreciate fully what it entails; the details of procedure and provisions, such as apprentice wage rates, ratios, requirements for related instruction, and the functions and responsibilities of the apprenticeship and training committee. Some committees have overcome these difficulties by:

1. Publishing the apprenticeship program in pamphlet form, and distributing it to every participating employer.
2. Calling special meetings of the employers and explaining each section of the program.
3. Personal calls by members of the joint apprenticeship and training committee on as many of the employers as possible to explain the program, and to secure their wholehearted support and cooperation.

Obviously, it is just as important to obtain the support and cooperation of the members of the labor union as of employers and employer organizations. Although the employer furnishes the job and the pay, the apprentice is associated with and gets most of his on-the-job training from the journeymen members of the union. As a consequence, successful committees attribute a major part of their success to the fact that they obtain and maintain the wholehearted cooperation and support of the individual members of the union.

Following are some of the steps that have been taken to assure an informed and cooperative union membership:

1. Members of the apprenticeship committee have appeared at one or more meetings of the union to explain the standards agreed upon, to inform the union membership of the functions and duties of the committee, and to answer questions.
2. Copies of the program are made available to union members just as they are made available to individual employers.
3. Special articles on the program have been written for publication in the labor papers.
4. Employers post copies of the standards in a conspicuous place so they are available for reference to the journeymen and apprentices.

Public Recognition of Apprenticeship Completion

One of the high points in the life of a young man is the day he completes his apprenticeship and is recognized by his fellow workers as a full-fledged journeyman. It is also a high point for the members of the committees and the trades.

Many apprenticeship committees are now finding ways to celebrate these apprentice completions. The events range from the presentation of a Certificate of Completion of Apprenticeship to individual apprentices, to a banquet at which all apprentices are honored who have completed their training during the year. In a number of places all of the trades in the community form a joint group and arrange a community celebration.

Public Relations

The apprenticeship program provides a good medium through which employers and employees in the trade can improve the industry's public relations.

The public has only a limited understanding of the great contribution those in charge of an apprenticeship program are making to the welfare of the community.

Many joint apprenticeship and training committees make a special effort to acquaint editors of newspapers, employer, and labor periodicals with their activities. It is easier to complain that editors will not give a program space than it is to inform them of an activity, but the fact is that the editors cannot publish articles on JATC activities unless they are fully informed. If editors are given the news, especially with regard to nonprofit activities about young people in the community, such as apprenticeship, they usually are glad to publish it.

Members of the joint apprenticeship and training committee, as a group, should schedule a meeting with representatives of local papers, TV and radio stations and other public communication media to advise them what is being done to maintain and build up the skills of the craftsmen whose work is of such great importance to the citizens of the community. The probabilities are that these communication representatives will be pleased to learn at first hand of what is being done, and that the conference will be mutually beneficial to them and to the committee.

Many committees have arranged for TV, radio and newspaper coverage of completion ceremonies, apprentice contests, field visits of apprentices and other activities of interest to the public.

Technical Assistance Available

In all matters relating to the employment and training of apprentices, apprenticeship committees may have, upon request, the assistance of members of the field staff of the Bureau of Apprenticeship and Training and State apprenticeship agencies. These field representatives are well acquainted with the best practices and training techniques in the trades. They have current material on the subject

available for the guidance of employers and labor organizations. Their services will be gladly given, without charge, to anyone who wishes information or assistance. Lists of State apprenticeship agencies and regional offices of the Bureau of Apprenticeship and Training are on pages 16–18.

Preapprenticeship, Prejob, or Preemployment Training

Some local joint apprenticeship and training committees have established preapprenticeship programs. Preapprenticeship programs must be carefully planned and efficiently operated, however, if the future apprentice and his employer are to receive maximum benefits from such training. Because of unfamiliarity with the trade, the new apprentice in his early stages of employment sometimes finds his efforts diverted to secondary duties from which the employer realizes little productive value, and the apprentice receives little training. To avoid this situation, it has been found expedient, where this type of training is feasible and practicable, to give prospective or newly indentured apprentices short concentrated prejob training before entering regular apprenticeships.

The preapprenticeship course, authorized and supervised by the local joint apprenticeship and training committee, exposes the participant to designated basic knowledge of the craft. When he enters his apprenticeship, he does so with a knowledge of the basic principles of his trade, and a measure of productive ability and worth to his employer.

The focal point of preapprenticeship programs is the committee and the vocational school authorities. The schools can provide the necessary facilities and equipment. They are also helpful in selecting instructors who are not only skilled at the trade, but who are capable of teaching.

Preapprenticeship programs also serve as a good selection tool to assist the committee in determining the prospective apprentice interest, aptitude, and ability to learn the trade.

Advanced Training for Journeymen

In addition to training apprentices, joint apprenticeship and training committees must develop training programs for journeymen already employed in the industry. Some journeymen did not complete a formal apprenticeship and may need additional training to round out their skills. Technological changes also make it necessary to develop advanced training for journeymen to help them keep abreast of new methods and new materials. Training sponsored by various joint apprenticeship and training committees covers a wide range of subjects. Some of the programs provided to journeymen are:

Auto Mechanic—
- Fuel and Electrical
- Engine Tune-up

Bricklayers—
- Welding
- Transit Operation and Use
- Supervisory Training
- Estimating and Layout

Carpenters—
- Welding
- Estimating
- Use of Steel Square
- Supervisory Training
- Transit Operation and Use
- Metal Forms

Compositors—
- Paste Make-up
- Camera, Developing
- Fotosetter Mark-up
- Imposition, Plate Making

Electricians and Linemen—
- Electronics: Basic and Advanced
- Cable Splicing
- Life Saving
- Automatic Controls
- Industrial Atomic Energy Uses, Hazards and Controls
- Automatic Controls
- National Electrical Code
- Estimating and Layout
- Blue Print Reading and Supervisory Training

Iron Workers—
- Welding
- Safety
- Rigging

Machinist—
- Understanding the Operation of Automatic Machine Controls

Plumbers and Pipefitters—
- Welding
- Lead Wiping
- Estimating
- Refrigeration
- Glass and Plastic Welding
- Nuclear Power Plant Operations
- Pneumatic Controls and Instrumentation

Sheet Metal Workers—
- Welding
- Pattern
- Layout and Estimating

How To Develop Advanced Training for Journeymen

Joint committees may obtain ideas and suggestions for specific training needs of journeymen from employers, foremen, union representatives, architects, engineers, manufacturers, BAT representatives, and equipment salesmen.

Discussion of journeyman training needs at local unions, employer associations meetings and JATC meetings will indicate specific needs. Training may be conducted in employer or union facilities, vocational schools, manufacturers or suppliers plants, and in technical schools, colleges or universities.

Bureau of Apprenticeship and Training representatives and vocational school directors are available to assist communities to develop plans and stimulate journeymen attendance.

One international union has prepared a comprehensive skill improvement course for its journeymen. This course includes training manuals, instructor manuals, visual and training aids.

With the financial means provided through apprenticeship and training funds, many JATC's have constructed and equipped facilities, employed instructors, and provided journeyman training on a continuing basis.

Apprenticeship and Training Funds

At first, area-wide apprenticeship and training programs were financed by informal arrangements for contributions from either employers or a labor organization, or from both groups. In recent years, informal financing plans have been followed by trust funds established through collective bargaining.

These trust funds provide financing in two ways: either by joint payments from employers and the union, or by employer contributions alone. The amount collected is usually based on number of hours worked by journeymen and apprentices, and varies from ½ cent to 4 cents an hour or more. These funds may be legally established (Section 105 of the Labor-Management Relations Act 1947, as amended by section 505 of the Labor-Management Reporting Act of 1959—see appendix for more information). The funds are tax exempt.

Apprenticeship and training funds may be used to provide for:

1. Employment of apprenticeship and training directors.
2. Employment of or supplementing pay of related class instructors.
3. Purchase of books, supplies and other materials.
4. Rental or erection of classroom facilities.
5. Payment of apprentices' wages for class attendance.
6. Completion ceremonies.
7. Apprentice contests.
8. Attendance of apprenticeship director, JATC member and apprentices at apprenticeship conferences.

Several national employer and labor organizations have developed suggested agreement forms for use of local groups in developing trust funds. Some groups that have developed trust fund agreements are The Associated General Contractors of America, Inc.; the United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada; the National Sheet Metal Workers JAC; the National Joint Bricklaying Apprenticeship Committee, and the National Joint Electrical Apprenticeship and Training Committee.

Apprenticeship Contests

Many national and local JATC's have developed apprenticeship contests to help increase apprentices' interest in learning the trade and to stimulate increased interest of journeymen, employers, and unions in developing better craftsmen.

These contests also help develop more public interest in apprenticeship and provide a means to demonstrate good craftsmanship to the public.

Annual National, State, or regional contests have been established in the following trades: bricklayers, carpenters, plumbers, pipefitters, sprinkler fitters, painters, sheet metal workers, molders, core-makers, and patternmakers.

Local, State, and National prizes and awards given to outstanding apprentices stimulates greater interest in the trade and provides additional incentives for them to become craftsmen. Information about these contests may be obtained from the local representative of the Bureau of Apprenticeship and Training.

Appendix A

REGIONAL OFFICES
BUREAU OF APPRENTICESHIP AND TRAINING

Information on Apprenticeship and Training

For information on apprenticeship, journeyman, or other on-the-job training or assistance in the establishment of apprenticeship programs, write the nearest regional office listed below:

REGION I

(Maine, N.H., Vt., Mass., R.I., Conn.)
Room 501, 18 Oliver St.,
Boston 10, Mass.

REGION II

(N.Y., N.J.)
Room 903, 341 Ninth Ave.,
New York 1, N.Y.

REGION III–IV

(Pa., Del., Va., Md., W. Va., N.C., D.C.)
Room 321, Professional Arts Bldg.,
Chambersburg, Pa.

REGION V

(S.C., Tenn., Ga., Miss., Fla., Ala.)
Room 525, 1371 Peachtree Bldg.,
17th and Peachtree Sts., NE.,
Atlanta 23, Ga.

REGION VI

(Ohio, Mich., Ky.)
Room 1008, Engineers' Bldg.,
Cleveland 14, Ohio

REGION VII

(Ill., Ind., Wis.)
Room 1000, Bankers Bldg.,
105 West Adams St.,
Chicago 3, Ill.

REGION VIII

(N. Dak., S. Dak., Minn., Mont.)
Room 216, Calhoun Bldg.,
711 West Lake St.,
Minneapolis 8, Minn.

REGION IX

(Mo., Kans., Nebr., Iowa)
Room 2811, Federal Office Bldg.,
911 Walnut St.,
Kansas City 6, Mo.

REGION X

(La., Tex., Okla., Ark.)
Room 212-A, 1114 Commerce St.,
Dallas 2, Tex.

REGION XI

(Utah, Wyo., Colo., N. Mex.)
Room 832, Equitable Bldg.,
730 17th St.,
Denver 2, Colo.

REGION XII

(Ariz., Nev., Calif., Hawaii)
Room 820, Appraisers' Bldg.,
630 Sansome St.,
San Francisco 11, Calif.

REGION XIII

(Alaska, Idaho, Wash., Oreg.)
Room 221, U.S. Court House,
1010 Fifth Avenue,
Seattle 4, Wash.

Appendix B

STATE AND TERRITORIAL APPRENTICESHIP AGENCIES

Arizona Apprenticeship Council,
1623-B West Adams,
Phoenix, Ariz.*

Division of Apprenticeship Standards,
Department of Industrial Relations,
San Francisco, Calif.*

Colorado Apprenticeship Council,
c/o Industrial Commission,
Denver 2, Colo.*

Apprentice Training Division,
Department of Labor,
Hartford, Conn.*

District of Columbia Apprenticeship Council
1145 19th St. N.W.,
Washington, D.C.*

Department of Apprenticeship,
Florida Industrial Commission,
Tallahassee, Fla.*

Apprenticeship Division,
Department of Labor and Industrial Relations,
Honolulu, Hawaii*

Iowa Apprenticeship Council,
Department of Labor,
State House,
Des Moines, Iowa

Kansas Apprenticeship Council,
Department of Labor,
Topeka, Kan.

Kentucky State Apprenticeship Council,
Department of Labor,
Frankfort, Ky.*

Division of Apprenticeship,
Department of Labor,
Baton Rogue, La.*

Main Apprenticeship Council,
Department of Labor and Industry,
Portland, Maine*

Division of Apprenticeship Training,
Department of Labor and Industries,
Boston, Mass.*

Division of Voluntary Apprenticeship,
Department of Labor and Industry,
St. Paul, Minn.*

Montana Apprenticeship Council,
Department of Labor and Industry,
Helena, Mont.*

Nevada Apprenticeship Council,
Department of Labor,
Carson City, Nev.*

New Hampshire Apprenticeship Council,
Department of Labor,
Concord, N.H.*

New Mexico Apprenticeship Council,
Labor and Industrial Commission,
Santa Fe, N.M.*

New York State Apprenticeship Council,
Department of Labor,
Albany, N.Y.*

Division of Apprenticeship Training,
Department of Labor,
Raleigh, N.C.*

Ohio State Apprenticeship Council,
Department of Industrial Relations,
Columbus, Ohio*

Oregon Apprenticeship Council,
Bureau of Labor,
Portland, Ore.*

Pennsylvania Apprenticeship Council,
Department of Labor and Industry,
Harrisburg, Pa.*

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*State apprenticeship law enacted.

Apprenticeship Division,
Insular Department of Labor,
San Juan 8, P.R.*

Rhode Island Apprenticeship Council,
Department of Labor,
Providence, R. I.

Utah Apprenticeship Council,
Industrial Commission,
Salt Lake City, Utah*

Vermont Apprenticeship Council,
Department of Industrial Relations,
Montpelier, Vt.*

Division of Apprentice Training,
Department of Labor and Industry,
Richmond, Va.*

Washington Apprenticeship Council,
Department of Labor and Industries,
Seattle, Wash.*

Apprenticeship Division,
Wisconsin Industrial Commission,
Madison, Wis.*

Virgin Islands Apprenticeship Council,
Department of Agriculture and Labor,
Christiansted,
St. Croix, V. I.*

*State apprenticeship law enacted.

Appendix C

National Joint Apprenticeship Committees, International Unions, and National Associations Employing Apprenticeship Directors, Coordinators, Educational Directors and Training Fund Administrators

Jointly Employed National Directors

National Joint Apprenticeship and Training Committee for the Electrical Industry. Sponsored by: National Electrical Contractors' Association, and International Brotherhood of Electrical Workers (AFL–CIO)

International Training Fund

Sponsored by: United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada (AFL–CIO), and National Constructors' Association

International Unions

Automobile, Aircraft and Agricultural Implement Workers of America; International Union, United (AFL–CIO)
Boilermakers, Iron Shipbuilders, Blacksmiths, Forgers and Helpers; International Brotherhood of (AFL–CIO)
Bricklayers, Masons and Plasterers' International Union of America (AFL–CIO)
Electrical, Radio and Machine Workers; International Union of (AFL–CIO)
Electrical Workers; International Brotherhood of (AFL–CIO) (Skill Improvement Director)
Iron Workers; International Association of Bridge, Structural and Ornamental (AFL–CIO)
Oil, Chemical and Atomic Workers International Union (AFL–CIO)
Painters, Decorators and Paperhangers of America; Brotherhood of (AFL–CIO)
Photo Engravers' Union of North America; International (AFL–CIO)
Plasterers' and Cement Masons' International Association of the United States and Canada; Operative (AFL–CIO)
Plumbing and Pipe Fitting Industry of the United States and Canada; United Association of Journeymen and Apprentices of the (AFL–CIO)
Printing Pressmen and Assistants' Union of North America; International (AFL–CIO)
Rubber, Cork, Linoleum and Plastic Workers of America; United (AFL–CIO)
Steelworkers of America; United (AFL–CIO)
Typographical Union; International (AFL–CIO)

National Associations

Associated General Contractors of America, Inc.
Contracting Plasterers and Lathers' International Association
Graphic Arts Industry, Inc., Education Council
National Electrical Contractors' Association
National Tool, Die and Precision Machining Association
Painting and Decorating Contractors of America, Inc.
Structural Clay Products Institute

Appendix D

Legal Status of Financing Plans for Apprenticeship and Training

QUESTIONS AND ANSWERS

The following questions and answers were prepared in consultation with the U.S. Department of Labor Solicitor's Office

1. *What type of apprenticeship or training programs are affected by this law?*
   Only those apprenticeship or other training programs established by representative of an employer's employees and which the employer wishes to finance in whole or in part through the payment of money or other thing of value.
2. *Are such apprenticeship or training program financing plans legal?*
   Yes, if set up in accordance with the requirements of Section 302 of the Labor Management Relations Act, 1947, as amended by section 505 of the Labor Management Reporting and Disclosure Act of 1959. Section 505 added a new paragraph (6) to subsection (a) of section 302 which so provides. The requirements are set forth in paragraph (5) (B) of subsection (c) of section 302. These requirements are stated under question 3.
3. *What are the specific requirements such employer-financed programs must meet under section 302?*
   (a) The employer payments must be made to a trust fund.
   (b) The trust fund must be established for the purpose of defraying the costs of apprenticeship or other training programs.
   (c) The detailed basis on which such payments are to be made is specified in a written agreement with the employer.
   (d) The employees and employers are equally represented in the administration of the fund, together with:
      (1) Such neutrals as the representatives of the employers and employees may agree upon; *or*
      (2) In the event the employer and employee groups deadlock on the administration of the fund, and there are no neutral persons empowered to break such a deadlock, such agreement provides that the two groups shall agree on an impartial umpire; *or*
      (3) In the event of their failure to agree within a reasonable length of time, an impartial umpire to decide such dispute shall, on petition of either group, be appointed by the U.S. District Court for the district where the trust fund has its principal office.
   (e) The trust agreement shall contain provisions for the annual audit of the trust fund, a statement of the results of which shall be available for inspection by interested persons at the principal office of the trust fund and at such other places as may be designated in such agreement.
4. *Should a joint apprenticeship committee have a lawyer prepare its apprenticeship and training trust fund?*
   The act does not expressly require it, but the trust documents are legal documents and it is recommended that a lawyer be utilized. The performance of legal services by persons not authorized to practice law is prohibited in most States.

5. *How does the bargaining agreement relate to the apprenticeship and training trust fund?*

The bargaining agreement is the legal contract between the employers and the labor union. The joint apprenticeship committee derives its authority from the bargaining agreement. Any method for the raising of apprenticeship and training funds, unless strictly voluntary contributions, should be covered in the applicable collective bargaining agreement and the details as to the payments should be spelled out therein. The agreement would be supplemented by a trust agreement.

6. *Should the trust agreement be written into the bargaining agreement or into the apprenticeship program?*

It need not be written into either. However, the bargaining agreement should provide for the setting up of the trust and it can authorize the members of the joint apprenticeship committee to develop the trust instrument, sign it, and function as trustees.

7. *May employers make contributions to materials, money, or other things of value to an apprenticeship or other training program operated by a joint apprenticeship committee if no trust fund is set up?*

Section 302 forbids an employer to make any payments of money or other thing of value to a representative of his employees except in the manner specified in that section, i.e., to a trust fund established as required.

8. *Can other objectives be included in the apprenticeship or other training trust fund, such as industry promotion plans?*

The trust fund should be limited to the purposes authorized by the exceptions in section 302(c). Industrial promotion plans are not among the exceptions.

9. *Can there be separate trust funds for apprenticeship or other training programs?*

Yes. A trust fund can be set up to cover only apprenticeship or a trust fund can be set up to cover apprenticeship and other training or it can be set up for such other training as desired.

10. *Can the members of a joint apprenticeship committee serve as the trustees of any trust fund referred to in the answer to question 6?*

Yes, so long as the requirements of section 302(c) are satisfied.

11. *What does the requirement of equal representation of employers and employees in the administration of the trust fund mean?*

To be certain that the requirement of equal representation is met, there should be equality in the number of employer and employee representatives and equality in their powers under the trust agreement.

12. *Is there a requirement for a neutral person in the administration of the apprenticeship or other training trust fund?*

Either one or more neutral persons agreed upon by the employee-employer representatives or provision in the agreement for an impartial umpire as a tie-breaker. In event there is failure to agree on a problem and there is no tie-breaker, either party may petition the district court of the United States for the district where the trust fund has its principal office for appointment of an impartial umpire to decide the matter. (See questions 2 and 3.)

13. *Is an annual audit of these trust funds required?*

Yes, an annual audit is required. A statement of the results of such audit must be available at the principal office for inspection by interested persons.

14. *May the apprenticeship and training trust fund provide for the payment of salaries, materials, text books, and similar cost items?*

Yes. Joint committees in setting up a trust fund should decide and write into the trust instrument those things relating to apprenticeship or other training for which the funds may be used. Section 302(c)(6) provides that the funds may be used for "*defraying costs of*" these programs.

15. *May a labor representative trustee be fully or partially responsible for the funds of the trust?*

Yes.

16. *Can a union contribute money or other thing of value to an apprenticeship and training trust fund?*

Yes. It can do so voluntarily or it can be stipulated in the bargaining agreement as an obligation that the union will pay "X" amount into the fund.

17. *Are employers required to make reports to the Secretary of Labor on contributions to apprenticeship or other training trust funds?*

No. Section 203(c) of the Labor-Management Reporting and Disclosure Act of 1959 specifically excuses employers from reporting payments to unions under section 302(c) of the Labor Management Relations Act of 1947.

18. *Must those trustees having responsibility for receiving, handling, or distributing funds of the apprenticeship or other training trust be bonded?*

Solicitor's Office Comment: Interpretations of the bonding provisions of section 502 of the Labor-Management Reporting Disclosure Act are being held in abeyance pending currently scheduled meetings with interested parties outside the Government. Any answer to this question is therefore postponed.

Bureau Comment: Regardless of the legal interpretation which may be made, the Bureau recommends that any person be bonded who has the responsibility posed in the question for amounts in excess of $5,000.

NOTE: The Solicitor's Office points out that section 302 is a criminal statute enforceable in criminal prosecutions only by the U.S. Department of Justice and not by the Department of Labor.

U.S. GOVERNMENT PRINTING OFFICE: 1962 O—646265

VT 005 735
So You're Teaching Adults.

Wisconsin State Board of Vocational and Adult Education, Madison
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 67 16p.

*ORIENTATION MATERIALS; *ADULT VOCATIONAL EDUCATION; TEACHER EDUCATION; *TEACHING METHODS; *ADULT EDUCATION; TEACHER CHARACTERISTICS; *TEACHER ROLE

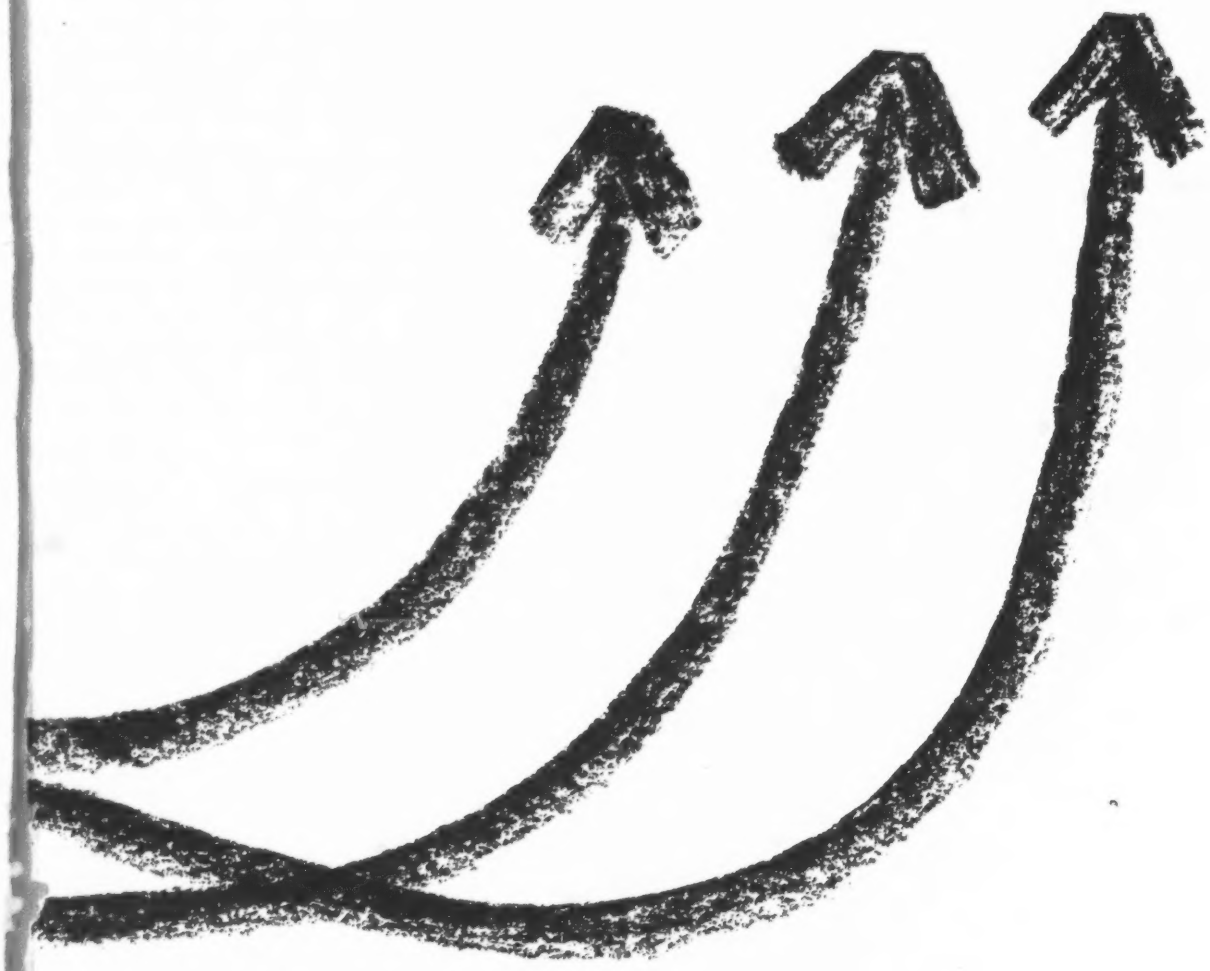
Teachers may use this illustrated reference in preparing for an adult class. It contains; (1) hints about adults and adult classes, (2) suggested orientation activities for the first class meeting, (3) aids for improving instruction, (4) teaching methods and techniques, and (5) an outline to use in planning a lesson. (DM)

VT 005 735

ED0 30001

16p*

...so you're teaching adults...



AC005735

State of Wisconsin
BOARD of VOCATIONAL and ADULT EDUCATION
Madison 3, Wisconsin
C. L. GREIBER, director

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
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FOREWORD

All of you who have been asked to serve as teachers in our Adult Education Program have been selected because you have the knowledge, the skill, the interest and enthusiasm, and the love of people, to make you a valuable and integral part of our program.

We want you to know that we stand ready to help you whenever you see fit to call on us.

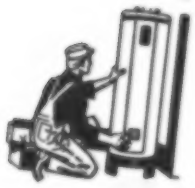
C. L. GREIBER

STATE DIRECTOR
VOCATIONAL and ADULT EDUCATION

- - - - - - - - - - - - - -
Director
School of Vocational
and Adult Education

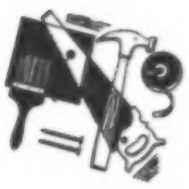
CLUES TO SUCCESSFUL ADULT TEACHING

The success of our program is dependent on good teaching. Part of this is determined by the approach and attitude you take toward your students and whether you can give these adults the satisfying results they desire.



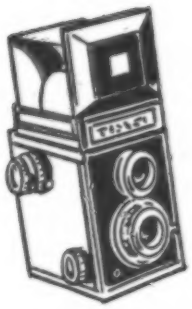
Therefore these suggestions, tips, and aids are to help you better understand your students' desires and reasons for taking your class. We also include some teaching techniques and explanations of your relationship to the administration of the program.

An added word for those who are not professional teachers: Some of our most successful instruction has been accomplished by individuals who had no formal training as teachers. These successful "non-professional" teachers had these traits in common:



Each knew his subject matter thoroughly.

Each had a personal interest in the individual's progress in his class.



Most important, they all liked people.

A FEW HELPFUL HINTS

ABOUT ADULTS • • •

- A "satisfied" adult will not only come back, he will bring a friend.
- An adult appreciates systematic, efficient, and capable teaching. From any other kind he may silently steal away. This type of silence can be quite eloquent.
- Adult needs must be met *now*.
- An adult may be impatient because he is a rapid learner.
- Adults respond to failure more quickly than children and in a more positive way—by quitting the class.
- An adult responds more quickly to *praise* and attention.
- The best time for an adult to learn something is when he feels uncomfortable about not knowing.
- The adult likes to be comfortable.
- An adult wants to be treated as a person and a friend, not as a student.
- An adult desires definite work for a definite purpose.

A FEW HELPFUL HINTS

ABOUT THE CLASS • • •

- Adults differ widely in age, previous education, and mental ability, from fellow students.
- They want a variety of activities as well as varied presentations.
- They don't like to waste time.
- They like to add enrichment to the class by calling on their own experiences.
- They like to know what is coming each week.
- They are inclined to attend every class and to be on time.
- They want a break, to stand, stretch, get a drink, or have a smoke.

Each class has its own "personality." The effective teacher adjusts to the needs of the class.

WELL BEGUN IS HALF DONE

The first meeting of the adult class and teacher is the most important one. It will determine the effectiveness of the work done by the group. It often determines whether the group will grow in size or disintegrate and wither away.

For these reasons, well-planned orientation of the adult student is extremely important. When he receives his first impression, it should stimulate an interest in the subject, his teacher, and fellow students. From this interest a successful and satisfying learning experience should result.

SUGGESTED ORIENTATION ACTIVITIES FOR YOUR FIRST MEETING

1. Be in the room ahead of time to greet the first student. Act as host.

2. Be sure the room is ready. Arrange the setting as you want it to help sociability. Adults like to see faces, not backs of heads.

3. Create a warm situation. It is important that class members and teacher get acquainted. Lead off a round of introductions by stating your own name and giving some background information about yourself. Ask the others to follow your example. Or have each student write out the information and exchange it with his neighbor. Introductions may then be made by the "neighbors" who present one another to the group.

4. Get the class underway efficiently with an over-view of the subject matter and specific goals of the course. Give the students an opportunity to discuss ways in which the course can best contribute to their individual needs. Adults like to know where the group is going, how it plans to get there, how long the trip will take. ***If changes are desired by the group,*** make them cheerfully.

5. Emphasize that promptness and continuous attendance is necessary if maximum benefit is to be derived.

6. Explain the type of supplies and equipment to be used and the care and cost of it.

7. Inform students in a positive manner rules or regulations about parking facilities, best entrances, smoking, etc.

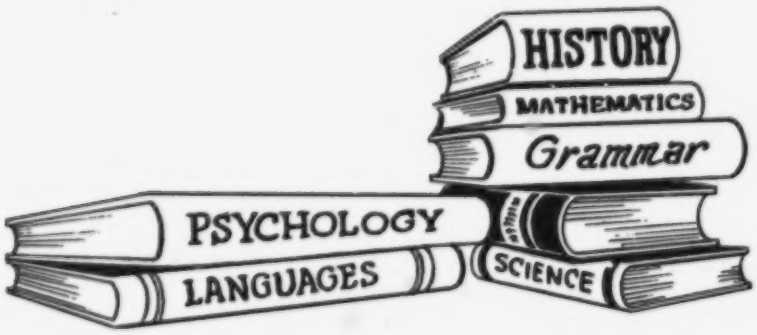
8. Explain the required attendance and satisfactory class participation if certificates are given.

GENERAL INFORMATION FOR FIRST CLASS

1. A registered student should have a stub or receipt. If he has none, determine why not or arrange to have him get one.

2. If a textbook is to be used, determine price and method of distribution.

3. Classes always meet unless students are notified. If you are to be absent, let our office know as early as possible.



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Your students should leave the first session feeling that . . .

- the other students are nice to know.
- the class work will be rewarding.
- the teacher is friendly, helpful and "knows his business."

TO HELP YOU BE A GOOD TEACHER

DO YOU HAVE WHAT IT TAKES?

The teacher of adults must be a good teacher each *session;* his test of competence is a continuing one.

A Good Teacher

- **HAS A GOOD SENSE OF HUMOR**

  He is convinced that learning is the best kind of fun. "When people laugh (or sing) together they cease to be young or old, master or pupils, they become a single group of human beings enjoying its existence." (Highet)

- **GETS TO KNOW HIS STUDENTS QUICKLY**

  "Larn" your class, even if you have to study the names or other data as homework. Adults like to be known individually by name as you do. In case of absence from class, a card or note from you helps. We will supply cards. A friendly chat after a return from absence goes far in building good human relations. A similar chat before or after class, or walking to the parking lot with a student, will return dividends. A successful teacher knows his students and what he teaches.

- **PLANS HIS WORK CAREFULLY**

  A careful plan begins with a course outline based on an analysis of what is to be taught. This "guide," together with unit outlines and teaching aids, compose the course.

  Although the good teacher should be ready to tailor his course to suit his customers, planning each session is a necessity. Planning insures (1) that the teacher knows the goal of the group; (2) which material is to be covered in reaching this goal; (3) which method is best; (4) how the subject should be organized; (5) how provision can be made for both group instruction and for individual attention; (6) and which aids are necessary to make the lesson more effective and interesting.

A plan is a guide, not a straight jacket. A good teacher will hold discussions occasionally on the plan and the teaching methods. These may then be modified if the group needs show this necessity. The class is always right in adult education.

- **GIVES STUDENTS A FEELING OF ACCOMPLISHMENT**

  This is done by organizing the work in short units, by allowing the students "to do" wherever possible, by having frequent summaries or reviews of what has been done, by providing opportunity for questions and using the experience of other students.

- **KNOWS HIS CRAFT OR SUBJECT THOROUGHLY AND CAN IMPART HIS KNOWLEDGE OR SKILL**

  Be prepared to help students with problems in any phase of the work. "Staying one lesson ahead of the class" is impossible in an adult class.

- **USES A VARIETY OF TEACHING METHODS**

  Be expert in devising new and interesting methods and techniques as well as using old and workable ones. Be willing to get away from the four walls of the classroom. Field trips and teaching visual aids are great supplements.

- **CREATES A GROUP CONSCIOUSNESS**

  Adults come together to pursue commonly held interests. Although the class begins as a collection of individuals, commonly held interests provide a means of welding friendships.

- **RIDS HIMSELF OF "SCHOOL TEACHERISH" MANNERISMS**

  Many teachers, over a period of years, develop a classroom air of positiveness and authority. This often creeps in unconsciously and becomes part of the tone of voice, the attitude toward people, the general bearing. An adult teacher is more of a group leader. This leadership cannot be imposed; it must face the more difficult challenge of ***voluntary acceptance*** by the group.

- **RESPECTS THE STUDENT'S TIME**

  Adults expect to get their "time's worth." Begin on time and end on time.

- **REALIZES THAT HE AND HIS CLASS ARE BUT ONE OF SEVERAL TENANTS USING THE CLASSROOM**

  Although the room will be cleaned after you leave, it should be left approximately as you find it. The night school teacher should cooperate with the day staff in intelligent use of the facilities. A meeting might well be arranged with the day-time teacher to discuss mutual problems.

The Good Teacher Is One Who Is Becoming Better

A TEACHING MIRROR

ROUTINE . . .

Do I arrive early enough?
Do I keep a minimum of careful records?
Is my class planned properly?
Is the atmosphere of my room cordial, friendly and suitable for adults?

PERSONALITY . . .

Am I cooperative with my students? My co-workers?
Am I sympathetic and understanding?
Am I mentally alert?
Do I encourage slow pupils?
Do I give praise when deserved?
Do I criticize constructively and in a helpful way?

ATTENDANCE . . .

Am I holding attendance?
Do I follow up absentees?
Do I encourage regular attendance and punctuality?
Do I preview the next assignment properly?

INSTRUCTION . . .

Am I resourceful?
Has my lesson been properly planned?
Have I a variety of teaching techniques?
Is my lesson presented interestingly?
Do I have a definite aim of accomplishment for each evening?
Is the class monopolized by one or two students?
Have I improved my knowledge of my subject?

TEACHING METHODS AND TECHNIQUES

Methods are often confused with techniques. Method in education is the form used to reach a desired goal. Thus lectures, question-answer sessions, group discussions, laboratory demonstrations, use of visual aids and role playing are *methods* of teaching.

Selection of the method for a particular situation is a matter requiring knowledge and judgment. The teacher must understand the learning situation, know the abilities and needs of the students, plan according to the facilities available, and be confident that the knowledge of these factors related to his own abilities and skills will lead the group in the direction of their goals. This, together with ingenuity in devising new methods or new techniques for old methods, is a characteristic of the master teacher.

THE LECTURE

Although one of the oldest types, the lecture is used infrequently today because it is a one-way process, effective only if material is carefully organized, the language of students is used, speech is clear, slow, and not too long, time is allowed for questions, and there are frequent summaries. You must "tell them what you are going to tell them, tell them, and then tell them what you have told them!"

QUESTION AND ANSWER

This is a traditional method of teaching, but it should be abandoned in favor of other methods, all other things being equal. Good questions are designed not to check on whether a lesson is learned, nor to expose factual ignorance, but rather to help the student to learn, to cause him to re-examine his views. Questions should be clear, simple, thought-provoking, attention-holding, developmental.

GROUP DISCUSSION

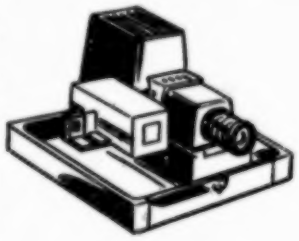
This is becoming the basic method in adult education. It should be a cooperative enterprise of people "thinking aloud," each open-minded to the ideas of others. Good *show*-how develops good *know*-how.

LABORATORY OR DEMONSTRATION

The presentation should be carefully planned. If possible, students should take part in or, even better, give the demonstration.

Show the simplest and easiest method of doing the job. Explain each new term so that the student can see what is being done and how it is being done.

USE OF VISUAL AIDS



Visual aids are excellent means of imparting information. They save time and make teaching more uniform. They should be previewed and used at the ideal time. In the selection of certain teaching aids there are many factors that influence the specific choice. They should apply to the lesson, meet the time allotment, involve student participation, demand attention, and have technical accuracy.

ROLE PLAYING

An excellent way to learn is through doing. Role playing presents an opportunity to put what has been learned into practice. We can profit by following the suggestions of others and by avoiding their mistakes. This is a means of practicing techniques under the supervision of a trained leader. It gives us a chance to see ourselves as others see us and a chance to correct our errors *before* they become serious.

THIS IS A SHORT WORKABLE OUTLINE

FOR USE IN PLANNING YOUR LESSON

Unit:

Lesson Title:

Lesson Number:

Date:

Time Allotted For Teaching The Lesson:

1. What do I want to accomplish?

2. How will I interest the students?

3. How will I teach this lesson? In which way or ways shall I do this?

4. What helps will I need to teach this lesson?

5. Summary:

TEXT

VT 005 741

Educational Opportunities for Business and Technical Careers in Agriculture and Biology in the North Carolina Comprehensive Community College System, 1967-1968.

North Carolina State Dept. of Community Colleges, Raleigh. Div. of Vocational-Technical Programs
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Sep67 12p.

*AGRICULTURAL EDUCATION; *TECHNICAL EDUCATION; *OFF FARM AGRICULTURAL OCCUPATIONS; *PROGRAM DESCRIPTIONS; CAREER OPPORTUNITIES; EDUCATIONAL OPPORTUNITIES; DIRECTORIES
NORTH CAROLINA

The rapid expansion of the off-farm phase of agriculture has brought increasing need for semi-professional workers. Individuals with a good understanding of agriculture who can exercise sound judgment and competently perform activities of selling, servicing, supervising, controlling, evaluating, diagnosing, building, operating, and testing are in short supply. The associate in applied science degree is awarded to graduates of 2-year curriculums in agriculture and biology from the comprehensive community college system. Curriculums available in the various institutions in North Carolina are (1) Agricultural Business Technology, (2) Agricultural Chemicals Technology, (3) Agricultural Equipment Technology, (4) Agricultural Research Technology, (5) Food Processing Technology, (6) Forest Management Technology, (7) Ornamental Horticulture Technology, (8) Poultry and Livestock Technology, (9) Recreation Grounds Management Technology, (10) Soil and Water Conservation Technology, and (11) Veterinary Medical Technology. Information concerning admissions, prerequisites, length of curriculum, cost, financial assistance, placement, and enrollment is listed. Agricultural curriculums available at each of the 14 institutions and a map of the comprehensive community college system are included. (DM)

VT 005 741

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EDUCATIONAL OPPORTUNITIES FOR BUSINESS AND TECHNICAL CAREERS IN AGRICULTURE AND BIOLOGY

in the

North Carolina Comprehensive Community College System

1967-68

(Released September, 1967)

INTRODUCTION

American agriculture has advanced more in the past 50 years than in all prior years of our history. Modern farming and ranching--combined with a progressive system of marketing, processing, and merchandising--provide abundant, wholesome food when, where, and how it is wanted; and other farm products with new qualities for home and industry.

Agriculture is an intricately woven web of businesses, including not only those that produce food and fiber, but also organizations that supply and service our farms and the businesses that process, store, handle, and sell farm products. These businesses employ approximately 40 percent of the working force in the United States and over 50 percent in North Carolina.

The technological explosion in agriculture and the rapidly expansion of the off-farm phase of the nation's biggest industry have brought about an increasing need for semiprofessional workers known as "technicians." The agricultural industry needs individuals with a good understanding of agriculture who can exercise sound judgment and competently perform such activities as selling, servicing, supervising, controlling, evaluating, diagnosing, building, operating, and testing in specialized situations.

Examples of areas where agricultural and biological technicians are needed are farm supply and equipment firms, feed and fertilizer plants, horticultural enterprises, poultry hatcheries, agricultural chemicals firms, agricultural research installations, food processing plants, forest services and industries, soil and water conservation districts, animal hospitals and other veterinary medical operations, recreational areas, and large, specialized farming operations.

Two-year curriculums have been developed to meet the needs for technicians in agriculture and biology and are offered in the Comprehensive Community College System. Graduates are awarded the Associate in Applied Science degree (A.A.S.).

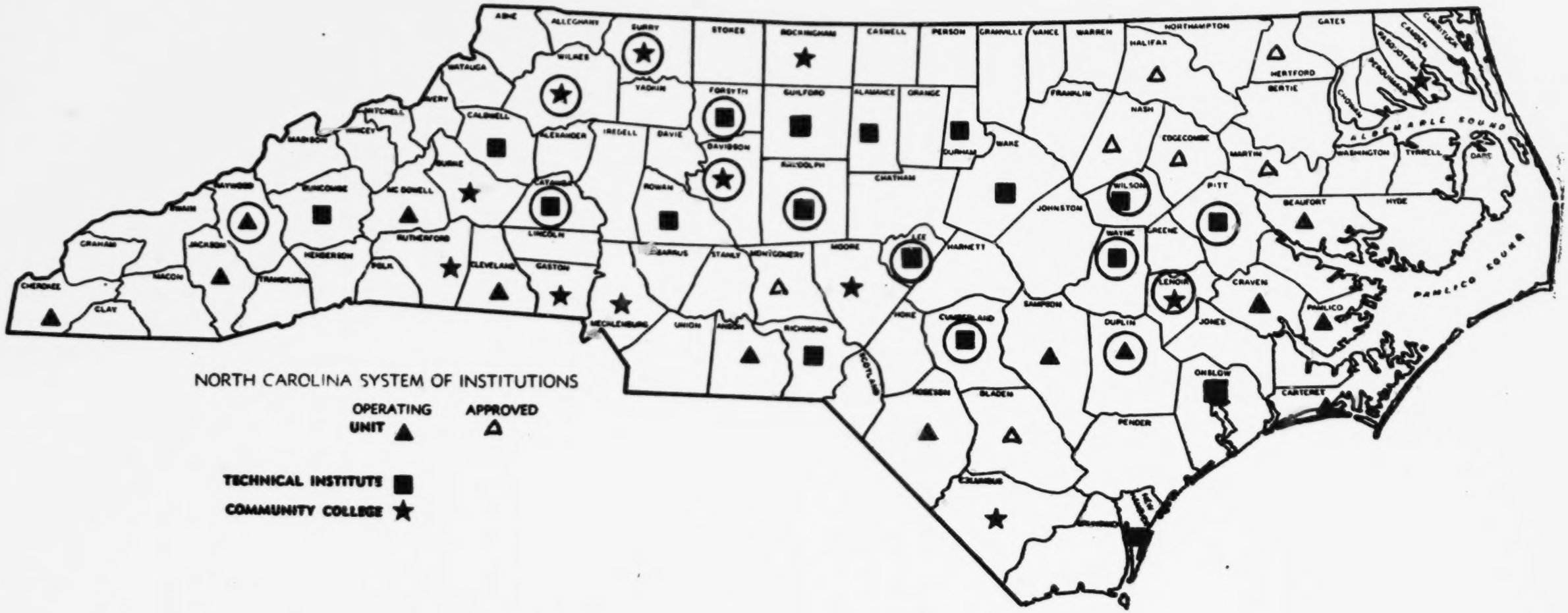
VT005741

AGRICULTURAL AND BIOLOGICAL EDUCATION

Associate in Applied Science Degree Curriculums

1967-68

NORTH CAROLINA SYSTEM OF INSTITUTIONS



○ INDICATES 1967-68 LOCATIONS OF TWO-YEAR CURRICULUMS IN AGRICULTURAL AND BIOLOGICAL EDUCATION AWARDING THE DEGREE OF ASSOCIATE IN APPLIED SCIENCE (A.A.S.)

CURRICULUMS AND INSTITUTIONS

Agricultural Business Technology

Purposes. The curriculum in Agricultural Business Technology is designed to help students acquire knowledge, understandings, and abilities in the field of agricultural business, including agricultural production. Objectives of this curriculum are to develop in the student an understanding of the principles of organization and management in agricultural businesses and industries; an understanding of the application of the principles of business management to agricultural production and of the abilities essential to the management of an efficient, well-organized farming operation; an understanding of the basic principles of our economic system, marketing, credit, price concepts, governmental policies, and programs relating to agriculture; and an understanding of the agricultural sciences most essential to the production and marketing of agricultural products.

Careers. A graduate of this curriculum should qualify for various jobs in agricultural business and industry--salesman or store manager in farm supply stores; agricultural field serviceman; salesman, demonstrator, or plant manager of feed and food companies; farm products inspector; and salesman or office manager of farm products marketing firms.

Institutions. This curriculum is offered at the following institutions in 1967-68:

1. Catawba Valley Technical Institute, Hickory
2. Central Carolina Technical Institute, Sanford
3. Davidson County Community College, Lexington
4. Fayetteville Technical Institute, Fayetteville
5. Forsyth Technical Institute, Winston-Salem
6. James Sprunt Institute Unit, Kenansville
7. Lenoir County Community College, Kinston
8. Pitt Technical Institute, Greenville
9. Randolph Technical Institute, Asheboro
10. Surry Community College, Dobson
11. Wilkes Community College, Wilkesboro

Agricultural Chemicals Technology

Purposes. The curriculum in Agricultural Chemicals Technology is designed to prepare the student for entry into the field of agricultural chemicals. This field involves the development, testing, production, sale, and application of pesticides and fertilizers. The curriculum will give the student a functional understanding of the basic agricultural sciences relating to the agricultural chemicals industry; applied chemistry; business organization, procedures, and management of firms producing, marketing, and applying agricultural chemicals; and the formulation and use of farm chemicals and their relation to profitable agricultural production, including safety procedures.

Careers. The agricultural chemicals industry offers employment opportunities for technically educated individuals in sales, research, production and manufacturing, management, and custom farm application of chemicals. Positions are available in the larger companies as well as in the smaller farm supply businesses.

Institutions. This curriculum is offered at the following institution in 1967-68:

Pitt Technical Institute, Greenville

Agricultural Equipment Technology

Purposes. The curriculum in Agricultural Equipment Technology is designed to help the student develop the ability to select, demonstrate, install and maintain internal combustion engines and agricultural equipment. He learns to utilize technical bulletins and manuals relative to the agricultural equipment industry, and he is taught to communicate effectively and to deal with individual human behavior problems peculiar to the agricultural equipment industry. The student gains an understanding of the principles of general business organization, management, and procedures relating to the agricultural equipment industry and selected areas of agricultural economics applicable to the industry. He also gains the ability to utilize the knowledge and skills acquired in solving problems of the agricultural equipment industry.

Careers. Employment is found in areas of manufacturing and distributing equipment. Local distributors or dealers employ technicians for sales, service, and general maintenance of farm equipment.

Institutions. This curriculum is offered at the following institutions in 1967-68:

1. Wilkes Community College, Wilkesboro
2. Wilson County Technical Institute, Wilson

Agricultural Research Technology

Purposes. The curriculum in Agricultural Research Technology is designed to prepare students for entry into the extremely important and rapidly growing field of agricultural research--involving the development, testing, production, and use of pesticides, chemicals, biologicals, plant strains, and animals. Governmental and industrial agencies conduct basic and developmental research on a wide variety of agricultural materials, products, and methods. The scope of activities within the field is practically unlimited.

Careers. Upon graduation from this curriculum, an individual should qualify for positions with State and Federal experiment stations and farms; research centers of pharmaceutical, fertilizer, and chemical companies; large farms; and sales and service organizations. The multiplicity of job opportunities places this program in a unique position for providing positions with futures.

Institutions. This curriculum is offered at the following institution in 1967-68:

Central Carolina Technical Institute, Sanford

Food Processing Technology

Purposes. The curriculum in Food Processing Technology is designed to give students an understanding of the principles, methods, techniques, and skills which are essential for successful employment and advancement in the food processing industry.

Careers. Specific job opportunities in the food processing industries are found in production management, buying, processing management and supervision, quality control, sanitation, grading and inspection, equipment maintenance, sales, and laboratory testing. Some of the employment opportunities in allied industries include sales and service representatives of companies manufacturing equipment and supplies for the food processing industries.

Institutions. This curriculum is offered at the following institution in 1967-68.

Wilkes Community College, Wilkesboro

Forest Management Technology

Purposes. The curriculum in Forest Management Technology is designed to help students acquire technical knowledge, understandings, and abilities essential in developing and conserving our forests and water resources for maximum production and income. Its objectives are to develop student understanding and ability in the principles and practices involved in the production and utilization of forests and the conservation of forest and water resources with emphasis on practical application. In addition, effective ways of communicating and dealing with individual human behavior in working with the public is stressed.

Careers. Graduates should be qualified for entry into positions as forest technicians with Federal and State forestry agencies and private forest industries. The graduate will have abilities in timber cruising, marking trees, forest surveying, log and tree scaling, procuring forest products, supervising forest cutting operations, locating and maintaining forest roads, forest protecting, operating forestry equipment, preparing records, and performing various related technical activities.

Institutions. This curriculum is offered at the following institutions in 1967-68:

1. Haywood Technical Institute Unit, Clyde
2. Wayne Technical Institute, Goldsboro

Ornamental Horticulture Technology

Purposes. The curriculum in Ornamental Horticulture Technology is designed to help young men and women acquire knowledge, understandings, and skills in the production, use, distribution, and maintenance of ornamental plant materials.

Careers. Among the numerous employment opportunities for which the graduate of this curriculum should qualify are nursery and greenhouse foreman, planting and maintenance supervisor, and golf course and park maintenance supervisor. The graduate should have developed abilities and understandings in the reproduction, planting, cultivation, and maintenance of a variety of ornamental plants that are essential for jobs in the ornamental horticulture industry.

Institutions. This curriculum is offered at the following institutions in 1967-68:

1. Catawba Valley Technical Institute, Hickory
2. Forsyth Technical Institute, Winston-Salem
3. Lenoir County Community College, Kinston

Poultry and Livestock Technology

Purposes. The curriculum in Poultry and Livestock Technology is designed to teach the student about producing, marketing, processing, and distributing livestock and poultry and their products according to the scientific principles essential to efficient and profitable operations. The student learns about the specializations of the livestock and poultry industry, including automation, materials handling, manpower efficiency, production control and schedules, contractual arrangements, and vertical and horizontal integration. He also gains an understanding of practical principles of our economic system. Governmental policies and programs pertaining to agricultural production and marketing are emphasized.

Careers. Occupational opportunities include such jobs as feed salesmen, equipment salesmen, field servicemen, flock or herd managers, feed mill managers, and buyers of poultry and livestock.

Institutions. This curriculum is offered at the following institutions in 1967-68:

1. James Sprunt Institute Unit, Kenansville
2. Wayne Technical Institute, Goldsboro
3. Wilkes Community College, Wilkesboro

Recreational Grounds Management Technology

Purposes. The curriculum in Recreational Grounds Management Technology is designed to provide students the necessary knowledge, understandings, and skills to enable them to manage and maintain developed recreational land areas. The curriculum is composed of courses drawn from the areas of ornamental horticulture, soil and water conservation and forestry--as well as courses in communications and the social sciences.

Careers. Employment for graduates of this program would be found at golf courses and local, State, and National parks and gardens.

Institutions. This curriculum is offered at the following institution in 1967-68:

Wayne Technical Institute, Goldsboro

Soil and Water Conservation Technology

Purposes. The curriculum in Soil and Water Conservation Technology is designed to develop the student's understanding of the principles involved in soil and water conservation as well as an understanding of farm production problems related to soil and water conservation. He is taught how to supply farmers, ranchers, and others with technical assistance in planning, applying, and maintaining measures and structural improvements for soil and water conservation as well as how to communicate effectively and to deal with individual human behavior problems in working with farmers and ranchers.

Careers. Although the curriculum is primarily aimed at preparing soil and water conservation technicians for the Soil Conservation Service (SCS), graduates should be qualified to serve in a technical capacity with the Agricultural Stabilization and Conservation Service (ASCS) and with golf club associations.

Institutions. This curriculum is offered at the following institutions in 1967-68:

1. Davidson County Community College, Lexington
2. Wayne Technical Institute, Goldsboro

Veterinary Medical Technology

Purposes. The curriculum in Veterinary Medical Technology is designed to develop knowledge, understanding, and ability in the principles and procedures of a technical and practical nature involved in operation of an animal hospital; the skills needed in assisting the professional worker with the reception, observation, care, and treatment of animals; the performance of certain laboratory tests involved in animal care and research, under professional guidance and direction; and the effective communication and human relations in the animal science field.

Careers. Graduates of this curriculum will find job opportunities as animal hospital technicians to assist the veterinarian in animal care, inspection, hospital and clinical practice, animal colony, and research work. Although emphasis in the curriculum is placed upon developing proficiency in assisting the practicing veterinarian, the instruction will also prepare the student for job opportunities as public and private research and regulatory laboratory technicians and veterinary supply salesmen.

Institutions. This curriculum is offered at the following institution in 1967-68:

Central Carolina Technical Institute, Sanford

OTHER INFORMATION

Admission Requirements

In order to enroll in any of the curriculums, the applicant must be at least eighteen years of age, a high school graduate (or equivalent), and demonstrate an interest in and aptitude for the particular curriculum.

Prerequisite High School Courses

Satisfactory completion of four units of English, one unit of mathematics (preferably algebra), and two units of science (preferably biology and chemistry) are advised for all curriculums. In addition, vocational agriculture (if it is offered) would be beneficial to the student.

Curriculum Length

All curriculums are six 11-week periods (quarters) in length, or approximately 16 1/2 months. This is usually spread over two years with a 3-months summer vacation during the middle of the course of study. (Some curriculums require summer occupational experiences.) Although a student might be permitted to enroll at the beginning of any 11-week period, the fall quarter (beginning in September) would be the most desirable time. Full-time enrollment is highly recommended; however, the degree may be pursued on a part-time basis.

Costs

The tuition fee for a North Carolina resident is $32 per quarter for a full-time student, or a total of $192 for the entire length of the curriculum. (Non-residents of the State are charged 2 1/2 times this amount.) The cost of books, supplies, and miscellaneous items added to the tuition fee should approximate $350 for the total two-year costs. (This amount does not include meal and travel costs.)

Financial Assistance

All institutions make every effort to encourage students with seriousness of purpose to secure an education. Financial aid is available to full-time students in the form of loans, scholarships, and part-time employment. Insufficient funds need not deter any individual from seeking admission.

Student Housing and Boarding

No institutions provide dormitory facilities for student use. The institutions, however, will assist students who wish to live near the campuses to locate suitable living accommodations. There are vending machines in the student lounges that provide light food service at all times.

Draft Deferment

Students are presently exampt from the Selective Service System draft as long as they are enrolled on a full-time basis and performing satisfactorily in their curriculum.

Veterans

Qualified veterans who are admitted for full-time instruction may be approved upon presentation of the Certificate of Eligibility issued by the Veterans Administration under Public Law 550 or Public Law 89-358. Veterans admitted under these public laws are responsible directly to the institutions for payment of all costs.

Degree

Regardless of the type or name of institution, all curriculums of the same title are designed to be basically identical in content and quality, and all graduates are conferred the degree of Associate in Applied Science (A.A.S.).

Placement Service

The institutions provide placement services for graduates. Prospective employers are kept abreast of the graduates in all curriculums.

How to Enroll

Enrollment applications may be secured from any institution in the System; however, it would be advisable to contact the particular institution interested in attending in order to obtain all desired information.

For further information, write to:

Agricultural and Biological Education
Division of Vocational-Technical Programs
State Department of Community Colleges
Raleigh, North Carolina 27602

AGRICULTURAL AND BIOLOGICAL EDUCATION

Associate in Applied Science Degree Curriculums by Institutions

1967-68

1. Catawba Valley Technical Institute - Hickory

   Agricultural Business Technology
   Ornamental Horticulture Technology

2. Central Carolina Technical Institute - Sanford

   Agricultural Business Technology
   Agricultural Research Technology
   Veterinary Medical Technology

3. Davidson County Community College - Lexington

   Agricultural Business Technology
   Soil and Water Conservation Technology

4. Fayetteville Technical Institute - Fayetteville

   Agricultural Business Technology

5. Forsyth Technical Institute - Winston-Salem

   Agricultural Business Technology
   Ornamental Horticulture Technology

6. Haywood Technical Institute Unit - Clyde

   Forest Management Technology

7. James Sprunt Institute Unit - Kenansville

   Agricultural Business Technology
   Poultry and Livestock Technology

8. Lenoir County Community College - Kinston

   Agricultural Business Technology
   Ornamental Horticulture Technology

9. Pitt Technical Institute - Greenville

Agricultural Business Technology
Agricultural Chemicals Technology

10. Randolph Technical Institute - Asheboro

Agricultural Business Technology

11. Surry Community College - Dobson

Agricultural Business Technology

12. Wayne Technical Institute - Goldsboro

Forest Management Technology
Poultry and Livestock Technology
Recreational Grounds Management Technology
Soil and Water Conservation Technology

13. Wilkes Community College - Wilkesboro

Agricultural Business Technology
Agricultural Equipment Technology
Food Processing Technology
Poultry and Livestock Technology

14. Wilson County Technical Institute - Wilson

Agricultural Equipment Technology

VT 005 774
Vocational Education for Disadvantaged Adults, An Experimental Project.

School of Adult and Vocational Education, Cairo, Ill.
Illinois Research Coordinating Unit, Springfield
Illinois Dept. of Public Instruction, Springfield
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 10p.

*DISADVANTAGED GROUPS; *VOCATIONAL REHABILITATION; *VOCATIONAL TRAINING CENTERS; *ADULT VOCATIONAL EDUCATION

The placement of students on jobs commensurate with their vocational training was this project's ultimate objective. The program is described under headings of philosophy, objectives, counseling, testing, placement, and curriculum. Vocational courses are offered in auto mechanics, carpentry, ceramics, crafts, data processing operation, graphic arts, home and family living, licensed practical nursing, mills and drills, nurses aide, power sewing, retail sales, state and federal civil service examination preparation, upholstery and furniture repair, vocational business, welding, and cosmetology. Reasons are given for using achievement ability, and specific purpose tests and an extensive counseling program is described. (DM)

VT 005 774

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CD
10p*

PHILOSOPHY
OBJECTIVES
COUNSELING
TESTING
PLACEMENT
CURRICULUM

An Experimental Project

VOCATIONAL EDUCATION FOR DISADVANTAGED ADULTS

In Cooperation With
State Board of Vocational Education

Research Coordinating Unit
V. E. Burgener, Coordinator

And
State Office of Public Instruction
Ray Page, Superintendent

Under the Direction of
Mrs. Grace Duff
Superintendent of Alexander County Schools

SCHOOL OF ADULT AND VOCATIONAL EDUCATION
Ray Casey, Director

1615 Commercial Avenue
Cairo, Illinois 62914

VT005774

Eugene Bullard . . . . . Counseling Supervisor
Gilbert Hartline . . . . . Vocational Coordinator
Don Kraatz . . . . . Counselor
Al Farmer . . . . . Counselor

PHILOSOPHY

Counseling is an integral phase of any school curriculum; however, it plays an extremely vital role in adult education. It is a systematic process of assisting each individual in realistically evaluating his personal assets and his role in society.

Counseling should be concerned with the total development of the individual. It is an effort to help the individual improve his total life adjustment to society, community, family, school, job, and within self. Counseling is a learning process in which new and better methods of meeting difficulties are learned. The acquisition of skills improving adjustment in one area affects adjustment in all areas. When new insights are acquired which aids in an individuals adjustment to his environment, counseling has been functioning to a certain degree.

The school personnel believes in the dignity and worth of each individual and his right to seek a life style which will be productive to himself and the society in which he lives.

OBJECTIVES

The objectives of the counseling department are manifold. Some of the more important objectives are:

1. To give the student a feeling of security in his adjustment to the new, unfamiliar environment.

2. Develop the desire to strive toward a life of social and economic independence.

3. Develop insight into personal assets and limitations.

4. Develop an understanding of and an appreciation for the purposes and provisions of the training program.

5. Identification of students in need of special services beyond that offered by the training facility.

6. Collection of sufficient data for a thorough evaluation of the school program.

7. Development of a sense of individual respectability, pride of accomplishment and an improved self-image.

8. Development of the most realistic schedule for the occupational and educational improvement of the individual.

9. To conduct a placement program in cooperation with other local and state agencies.

10. Follow up the progress of the students after they leave the training facility.

COUNSELING

Individual and group counseling sessions are held regularly in order to help students develop greater insight into their strengths and limitations; examine their role in society; and develop a realistic plan for vocational, educational, social and economic improvement.

Conferences are often requested by the counselor due to referral by an instructor or other school personnel. The students are also encouraged to request counseling sessions concerning any matter of concern to them.

The services of all community agencies which perform functions related to the needs of the student population are requested.

A psychologist and a rehabilitation counselor from Anna State Hospital, Anna, Ill., come to the school one-half day per week and conduct sessions with students referred to them by the counselors.

A psychologist and a social worker from the Department of Mental Health provide referral services to students with child care or family problems.

Department of Vocational Rehabilitation Counselors make periodic visits to the school and talk with students whom the school counselors feel might qualify for their services.

Every effort is made to give the students a feeling of acceptance and worth. The resources of all interested agencies are utilized in assisting the student achieve economic independence.

TESTING

Tests are essential for measuring student progress as well as evaluating the results of the total school program. Since most tests have been standardized on public school populations, it is difficult to locate tests appropriate for an adult population.

Tests currently being used at the School of Adult and Vocational Education are the following:

A. *Achievement*
1. California Achievement Tests
2. Test of Adult Basic Education—This is a test published by the California Test Bureau for use with adults. If this test proves successful, it will replace the California Achievement Test.

B. *Ability*
1. Revised Beta
2. Army General Classification Test (A.G.C.T.)
3. Wechsler Adult Intelligence Scale (W.A.I.S.)

C. *Tests for Specific Purposes*
1. Purdue Pegboard—manual dexterity
2. S.R.A. Clerical Aptitude
3. Personnel Tests for Industry—verbal and numerical

Test results are used for the following purposes:

1. Locating areas of aptitude, strengths and limitations.
2. Identification of students with areas in need of special emphasis or services.
3. Academic placement.
4. Vocational placement.
5. Enable the teachers to do a better job of providing for individual differences in their classrooms.
6. Indication of curriculum changes to meet student needs.
7. Evaluation of the total school program.
8. Obtain an overall picture of the student population.
9. Identification of students prepared to take examinations for the GED or eighth grade diploma.

PLACEMENT

The ultimate objective of the counseling department is the placement of students on jobs commensurate with their vocational training. Businesses and industries in Southern Illinois, Southeast Missouri and Western Kentucky are contacted concerning present job vacancies and the projected employment outlook for the immediate future. Primary emphasis is placed on contacting occupational areas in which the school is preparing students for direct or related entry into the field.

During the 1966-67 school year, 18 per cent of the students were employed in fields in which they were occupationally trained; 16 per cent were employed in related fields; and 66 per cent were employed in fields other than their vocational training. The 34 per cent of students who had received either direct or related training, is a significant percentage, especially since enrollment records reveal that the school population is primarily composed of hard-core unemployed, undereducated individuals.

Regular communication is carried on between the state employment agencies in the tri-state area and the counseling department. Students who are prepared for entry into the employment field are referred to the local office of the Illinois State Employment Service for testing and screening. The state employment agencies are specifically designed for job placement and possess valuable data about employment trends; therefore they serve as important adjuncts to the placement program.

CURRICULUM

The educational and vocational training which meets the needs of the educationally deficient, disadvantagous adults, poses a multi-sided problem involving organization and coordination. A basic objective is to identify the principles and propositions involved in developing a curriculum that simultaneously teaches vocational communicative skills and job training.

Of considerable significance and consequences has been the shift to provide the older age group (50 and above) with a type of school expericence more valuable to them than a strictly vocational or basic literacy class approach. This phase of the curriculum is identified as "Self Improvement Instruction."

VOCATIONAL COURSES	*DESCRIPTION*
Auto Mechanics	Instruction includes all phases of automotive work and repair. These phases deal with engine, power train, electrical, lubricating and cooling, fuel and suspension systems.
Carpentry	The course is designed to help prepare the student with the skills and related technical information required to successfully enter the building trades.
Ceramics	The student is provided the opportunity to develop a motivation toward the use of his hands as a means of creating both useful and decorative objects of ceramic structure in this course. The student is able to learn the basic fundamentals of how ceramic items are produced. An important factor is that through the using of the hands to create, he also discovers a means of adding beauty to the home.
Crafts	Skills in creating many useful items from leather are taught in this course. The pride of accomplishment achieved from the creating of useful leather articles such as purses, billfolds and belts will provide the student both an enjoyable hobby and skill he may be able to carry over into phases of other kinds of work or vocation.
Data Processing Operator's Program	The introductory course will qualify the student as an operator of the basic conventional punch card equipment. The objective of the instructional program will be to give the student the technical background, knowledge and understanding necessary to utilize electronic data processing equipment to the maximum in any given operation.
Graphic Arts	Training in cold type composition, camera and darkroom procedures, plate processing and film development, plate making, offset press operation, bindery operations, production control and photography is offered. The graduating student should be equipped to function well in the publishing-printing industry.

Home and Family Living	The course is offered to women affording them the opportunity to participate in the following phases of homemaking techniques: personal hygiene; meal planning; food selection; selection of clothing; care, repair and making clothing; home beautification; general household planning; and many other helpful home care ideas. Each phase will aid the student in becoming more proficient in their home.
Licensed Practical Nursing	The Practical Nursing course teaches the principles and practices of nursing. The student is prepared to become a member of the professional nursing team by caring for all phases of illness and aiding in the recovery of patients in hospitals and homes or for clients. Students are eligible to take State Board Examinations to become Licensed Practical Nurses.
Mills and Drills	This course prepares the student to be able to function as an operator of milling machines and drill presses that will be encountered in many phases of manufacturing. During the training period the student will have the opportunity to receive instruction in all six phases in milling operations and will cover approximately 12 phases of drilling operations. Length of the course will be 15 weeks.
Nurse Aide	Instruction is presented in simplified form concerning the theory of nursing principles and teaches the basic skills of nursing on a non-professional level. Prepares the student for duties in homes caring for the ill, aged and shut-in.
Power Sewing	The course teaches the threading operation and control of industrial power sewing machines and with time and practice the student can be employed in the sewing industry. The student will become familiar with light maintenance, parts of the machines, needle setting, folder adjustment and knife setting.
Retail Sales	Instruction is given in the techniques of selling in many of the retail sales operations in the myriad of businesses today. Students learn about the product, stock, displaying the stock (shelves, counters, etc.), inventory, customer relations, cash register operations and change making. The student should be proficient enough in these areas at the end of the course to properly function in the retail sales field.
State and Federal Civil Service Examination Preparation	The course is designed to present the basic fundamentals required to improve performance on state and federal civil service examinations. Methods of study, review on important factors, clarification of various "question structures," and increasing speed and accuracy, will be among the various topics discussed. Pre-tests are given to obtain the functional level of each individual. Instruction is adapted to meet the needs of the student.
Upholstery and Furniture Repair	The course prepares the student to be able to repair, rebuild and upholster and construct the majority of upholstered and semi-covered items of furniture in existence and to function in the trade.

Vocational Business

The business course enables the student to progress at a reasonable rate from beginning typing skills, shorthand and dictation through advanced typing and procedures with business forms and filing.

Welding

The student receives training in all current practices and techniques concerned with both arc, acetylene and tig-arc welding. At the completion of the course the student should be able to function as a competent welder in industry.

NEW VOCATIONAL AREA CURRENTLY BEING IMPLEMENTED

Cosmotology

Cosmotology or beauty culture, also called cosmetic therapy and cosmetic art, is the science of the care and adornment of the body. The course, as offered by the school, meets the State of Illinois standards in total hours, staff, equipment, facilities, reference material and curriculum. A one year program will be offered which will meet the requirements of 1500 hours training. The curriculum shall include: shampooing, facials, electrical devices, scalp and hair conditioning, hair and hair coloring, permanent waving, hair dressing, sanitation and sterilization, personal hygiene, first aid and duties of dispensary clerk. Also included in the curriculum will be courses dealing with the fundamentals of English, salesmanship, bookkeeping for a shop, speech and psychology. Upon successful completion of the program the student may present his certificate of work at the school to the Department of Registration and Education in Springfield, Ill., to be eligible then to be examined for a license as a licensed cosmetologist.

SELF IMPROVEMENT INSTRUCTION

Basic literacy skills are provided for adults who function at the primary level on a full day basis. Though it is inevitable that certain similarities will exist between the adult program and the traditional public school system, these similarities are minimized as much as possible.

The instructional program is designed for adults who are unable to participate successfully in the occupational world because of a deficiency of essential skills. It provides the core areas of basic education: reading, writing, mathematical and language skills; plus an understanding and appreciation of our nation's historical development, the contributions of various individuals and minority groups, governmental structure and the nations position in the world today.

Because of the need to maintain optimum motivation, a diversified schedule of learning activities is planned. Instruction in leather craft and ceramics is interspersed in each basic education student's schedule to break the academic routine.

More specifically, the objectives of the self improvement program are:

1. To develop an understanding of the system and organization of written language.
2. To read for both enjoyment and information.
3. To understand the underlying principles of basic arithmetic processes–addition, substraction, multiplication and division–and their application to practical situations.
4. To develop an understanding and appreciation of our American way of life and its foundations.
5. To express an interest in the wholesome use of leisure time.
6. To develop or increase the desire to become a productive, independent citizen.
7. To understand the importance of utilizing educational opportunities.
8. To express a greater awareness and understanding of current events.
9. To develop a desire to learn more about the local community and its problems.
10. To improve skills in interpersonal relationships.
11. To inform themselves about local, state and national issues and to knowledgeable participate in the election of officials at all three levels.

VT 005 951

Healas, Donald V.; Cotter, Jude T.
Adult and Youth Employment Project, City of Detroit, Experimental and Demonstration Project, April, 1965-June 1966. Final Report.

Mayors Committee for Human Resources Development, Detroit, Mich.
Manpower Policy, Evaluation, and Research (DOL), Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 316p.

*ADULT VOCATIONAL EDUCATION; *DEMONSTRATION PROJECTS; *COMMUNITY PROGRAMS; UNEMPLOYED; *EMPLOYMENT PROGRAMS; PROGRAM DESCRIPTIONS; *DISADVANTAGED YOUTH; POVERTY PROGRAMS; TESTING PROGRAMS; OCCUPATIONAL GUIDANCE DETROIT; MICHIGAN; *MAYORS YOUTH EMPLOYMENT PROJECT; MYEP; MDTA PROGRAMS; *MANPOWER DEVELOPMENT AND TRAINING ACT PROGRAMS

In order to prepare young adults from areas of high unemployment in Detroit for successful competition in a changing labor market, employment project objectives were: (1) to counsel, test, and provide complete medical and dental examinations for incoming trainees, (2) to provide special job training opportunities that could be utilized by the trainees to acquire work training and hold jobs, (3) to provide related educational programs, 94) to develop new methods of testing and counseling to more accurately evaluate potentials, (5) to provide programs of selection that match youth with job opportunities and increase motivation, and (6) to provide a follow-up program for the trainees once they have been terminated. Trainees were unemployed youth 16 to 21 years of age, from socioeconomically deprived families in Detroit. Statistics revealed that during the period involved, 520 individuals were in regular enrollment. Of these, 96 were terminated, 408 were involved in employment placement, and 459 were enrolled in additional special activities such as Neighborhood Youth Corps. Barriers to jobs were listed as age, medical problems, high school diploma, criminal record, and ethnicity. The major effect of placement was orientation to reality and effective use of training. Recommendations included introducing more employers to the project and introducing clients to employers. (DM)

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ADULT AND YOUTH EMPLOYMENT PROJECT

CITY OF DETROIT

JEROME P. CAVANAGH, MAYOR

DONALD V. HEALAS, Director

JUDE T. COTTER, Assistant Director

EXPERIMENTAL

AND

DEMONSTRATION

PROJECT

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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VT005951

FINAL REPORT

April 1965 - June 1966

This report on a special manpower project was prepared under a contract with the Office of Manpower Policy, Evaluation, and Research, U. S. Department of Labor, under the authority of the Manpower Development and Training Act. Organizations undertaking such projects under Government sponsorship are encouraged to express their own judgment freely. Therefore, points of view or opinions stated in this document do not necessarily represent the official position or policy of the Department of Labor.

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ACKNOWLEDGEMENTS

The success of the Mayor's Youth Employment Project has, over the past fourteen months, been attributed to a number of factors and more importantly, individuals.

The Honorable Jerome P. Cavanagh, Mayor of the City of Detroit, has been an ardent supporter of the Project. The Mayor had a long record of innovating and implementing special projects to assist the people of the City of Detroit.

Mr. Richard Strichartz has exhibited a strong friendship for the Project not only as Special Assistant to the Mayor, but as City Controller and as an active member of the Technical Advisory Committee.

The Technical Advisory Committee, under the chairmanship of Mrs. Mildred Jeffrey, is composed of the leadership of the complete community. Representatives of government, labor, industry, business, and education make up this respected, working committee. As a Technical Advisory Committee, it has worked hard and long to assist in solving the problems that have confronted the Project and the trainees.

Other agencies through their individual representatives have made major contributions to the Project.

Dr. Samuel M. Brownell, Superintendent of the Detroit Public Schools, has lent MYEP the support of his office and staff even during the most crucial periods of the Detroit Public Schools.

Mr. Malcolm Lovell, Director of the Michigan Employment Securities Commission, has been responsible for the many assistances given MYEP through his staff and facilities.

Every sector of the City of Detroit has made contributions. Labor, management, private and public institutions, individuals, service clubs, and churches have donated their time, money, facilities, and name to this enterprise.

(See Appendix A for complete listing.)

ADULT & YOUTH EMPLOYMENT PROJECT

FINAL REPORT

April, 1965 - June, 1966

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CITY OF DETROIT
MAYOR'S COMMITTEE FOR
HUMAN RESOURCES DEVELOPMENT

ADULT & YOUTH EMPLOYMENT PROJECT

F I N A L R E P O R T

April, 1965 to June, 1966

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I. PROJECT PURPOSE

A. NEED

In September, 1964, the Michigan Employment Security Commission reported that only 2.8 percent of the local labor force was unemployed. During the same month, Arthur Greenleigh Associates, of New York City, conducted a study of the inner city to identify the characteristics and needs of the poor.*

Of the more than 2,000 low-income families interviewed:

87.8 percent had incomes inadequate to maintain minimum living standards.

55.8 percent were headed by an adult who had an eighth grade education, or less.

49.2 percent had one or more children with a school learning problem.

41.0 percent lived in unsafe or unsanitary housing.

43.1 percent needed health services for adults.

19.9 percent needed health services for children.

The hypothesis that these handicaps often combine to condemn the poor, and their children, to chronic underemployment or unemployment is confirmed by the following data, collected from the same survey group:

29.6 percent of the households had one or more

29.1 percent of those 18 to 21 years of age were unemployed and out of school.

*Greenleigh Associates (New York & Chicago), A Study of Services to Deal with Poverty in Detroit, Michigan - (March, 1965).

54.1 percent of heads of households were in the lowest paying occupations of unskilled workers, laborers or service, clerical and sales workers.

17.4 percent of heads of households who were employed had incomes of less than $3,000 per year.

40.2 percent of all households required vocational training and counseling services.

These findings underline the need for programs designed to increase the access of the poor, and especially the near-adult children of the poor, to adequately remunerated, full-time employment. The need for such programs is not equally distributed throughout Detroit, however. Within the target areas selected for concentrated community action, for instance, there are twice as many families with annual incomes of less than $3,000 and three times as many on public assistance as in the rest of Detroit, according to the 1960 U.S. Census of Population. Obviously the prosperity which most Detroit residents enjoy has failed to have any meaningful impact on families living in the target areas.

Critical to the success of MYEP's preventive efforts is the effective operation of a project which offers young adults from low-income families a controlled introduction to the world of work. The health and educational problems presented by these young men and women are complicated, however, by the operation of several factors:

1. A one-industry metropolitan complex subjected rapid technological change resulting in higher entry level working skills.

2. A heavy influx of unskilled labor from the southern states during World War II and the economic boom that followed.

3. Declining city tax revenues.

4. A deteriorating inner-city school system.

5. Extensive inner-city urban renewal.

6. Inadequate public health facilities.

These problems affect all employment levels but most crucially the youngsters from the unskilled labor group. The social economic price of poverty is not levied indiscriminately nor on racial lines, but where inadequacies are most frequently found in the lower scale of this group and most harshly among non-whites.

In any consideration of an unskilled labor group within the framework of American structured society, work and marriage are considered the two major determinants of individual behavior and group attitudes. In a very real sense, through these two social commitments, all groups surrender hostages to society as a guarantee of conformity to socially acceptable behavioral norms. One of the few exceptions to this behavior is that of the young non-white male.

In order to understand the behavior of this sub-group, it is necessary to have a working knowledge of the familial group in its entirety. Studies of this group have shown the family to be what anthropologists describe as matrifocal, or centered around the mother rather than the father. The mother is the head of the household and the basic family group includes her children, and perhaps one or more of her female relations.

Often, almost to the point of consistency, the adult man is a marginal and only intermittent participant in the female-based and dominant household.

Other studies have revealed the presence of serial monogamy, a pattern in which a woman lives and has children by a series of men who desert her or whom she asks to leave. The man who has difficulty in finding a steady job or is laid off frequently, finds it difficult to function as the male breadwinner and household head. Moreover, when the woman is able to find steady employment or can subsist on welfare payments, she tends to treat the man with disdain and quite frequently open hostility. Under these conditions there is no motive for the man to remain in the family, and in times of stress, he frequently deserts. Moreover, when the male children develop and grow to maturity in a predominately female household--where the man is often a powerless and scorned figure--their upbringing encourages ambivalence as to their male functions. In this manner, the pattern of the irresponsible, socially uncommitted, hostage-free male, is transmitted to the next generation.

This abdication of household responsibility, either through desertion or breakdown, is not typical of other minority groups within the disadvantaged sub-culture. As a rule, women in these families are active in supporting by word and deed the authority of the male, and in urging the child to act in ways defined as male by their culture.

The family structure is an influential factor in contributing to the inability of these youth to accept any routine imposed upon them by work-oriented adult society. And for this reason the most important adult routine, that of school, is confusing to many. Emerging from homes in which learning, reading and communication have not been encouraged, their attention span is very short. This makes studying and learning difficult. Moreover, the school, a middle-income institution, seeks to train them for a way of life that is in many ways diametrically opposed to the one they so far experienced.

Some of the dimensions of the task confronting Detroit's Program can be inferred from the disparities in occupational and income status recorded in official Census data. 69 percent of the residents of the target areas selected for concentrated community action efforts is non-white, but only 29% of the entire population in the City of Detroit is non-white. The significant differences in occupational status reported in 1960, are summarized in the table below.

	Percent in Each Group			
	Males		Females	
	White	Non-White	White	Non-White
High-skill occupations	48	19	14	12
Medium-skill occupations	42	50	64	52
Low-skill occupations	10	31	22	36
	100	100	100	100

The low occupational status of non-whites translates directly into low income status. But the disparities in income status are made even greater by the inability of non-whites to secure as much

work as whites within the higher paying occupational categories.

The table which follows presents data for the entire labor force, not just those employed when the census was taken. While 62 percent of the white males were fully employed during the census year, only 44 percent of the non-white males were. Differentials of this order appear for each separate major occupational group. Significantly, the difference was least in the low-paid jobs.

If non-whites are removed from the "All" group shown in the table, the median income for all white males is seen to have been about 38 percent above the median for non-white males.

To a large extent the discriminatory practices which work to the detriment of non-whites as they strive to enter the job market are on the wane in Detroit. Considerable work must still be done to inform both employers and prospective employees of the exact nature of their rights and responsibilities under legislation such as local fair employment.

Earnings in 1959 of persons in the Experienced Civilian Labor Force by Occupation, Color, and Sex for Detroit Metropolitan Area

MALES	Number with Earnings (Thousands)		Median Earnings (Dollars)		Percent Worked 50 to 52 Weeks	
	All	Non-White	All	Non-White	All	Non-White
Professional, etc.	111	4	7,931	5,425	78	61
Managers, Offs., etc.	84	2	8,085	4,384	87	71
Clerical	73	6	5,420	4,652	73	65
Sales	69	2	5,233	1,863	71	53
Craftsmen, etc.	216	14	6,379	4,660	63	48
Operatives	255	46	5,089	4,393	47	37
Service Exc. household	56	13	4,513	3,316	64	57
Laborers	55	17	3,718	3,558	35	[illegible]
Occup. not reported	43	12	4,737	4,110	54	[illegible]
TOTAL	967	118	5,604	4,195	62	44

FEMALES	Number with Earnings (Thousands)		Median Earnings (Dollars)		Percent Worked 50 to 52 Weeks	
	All	Non-White	All	Non-White	All	Non-White
Professional, etc.	48	4	4,438	4,492	33	35
Managers, Offs., etc.	11	1	3,972	2,741	75	67
Clerical	135	9	3,416	3,240	63	59
Sales	37	2	1,663	1,597	41	41
Craftsmen, etc.	5	1	3,530	2,413	60	54
Operatives	51	8	3,107	2,449	37	38
Service	59	14	1,860	1,982	42	47
Household	24	13	742	827	29	32
Laborers	2	1	2,067	2,202	34	37
Occup. not reported	20	6	2,332	1,849	45	44
TOTAL	393	58	2,720	1,931	48	43

Source:

U.S. Census of Population, 1960; PC (1) 24D, pp. 541 - 544

The pressing need in Detroit, however, is to prepare target area young adults for successful competition in the changing labor market--prepare them to take advantage of the increasing opportunities available to non-whites. Detroit's Program must be able to draw on resources flexible enough to tailor work-experience, pre-apprenticeship training and skills training programs to specific, individual and group needs.

B. OBJECTIVES

1. To counsel, test, and provide complete medical and dental examinations for incoming trainees and to determine a plan of attack for each trainee on an individual basis.

2. To provide special job training opportunities that can be utilized by the trainees to acquire work training and specific skills necessary to hold jobs in government, private business and industry.

3. To provide related educational programs designed to complement on-the-job and vestibule training with remediation in basic reading, verbal, and arithmetic skills.

4. To develop new methods of testing and counseling to evaluate more accurately the potentials of young people from low-income families.

5. To provide programs of selection that match youth with existing job opportunities, new job opportunities, increase individual motivation and improve trainee's work adjustments.

6. To provide a follow-up program for the trainees once they have been terminated. A job clinic, testing, counseling, and guidance are a few of the services which were provided in this area.

C. PROGRAM FORMAT

The Mayor's Youth Employment Project (MYEP) was designed to provide meaningful vestibule and on-the-job training, coupled with related classroom instruction for socially, economically, and educationally handicapped youth. The Project also provided Pre-Apprenticeship, Coupled, and Pre-Entry programs. Many of the trainees were high school graduates who have not been able to make a successful transition from the world of school to the world of work. The training program was in most cases based on a five-day week with four hours of vestibule training, and three hours of related classroom instruction each day. One hour was provided for lunch and travel. Variations in the day's schedule were often necessary because of the variety of types of programs. Youth between the ages of sixteen through twenty-one years of age were eligible.

The Mayor's Youth Employment Project in cooperation and consultation with OMAT, for a period of 12 months, provided a special program for selection, counseling, testing, evaluation, referral to training, placement and follow-up of between 600 and 1,200 youths (depending upon the degree and length of training required). MYEP provided the services described below as well as additional services deemed appropriate and expedient to a changing situation.

Characteristics of Persons to be Served

Trainees were unemployed youth who were at least 16 years of age and not over 21, and who were from socio-economically deprived families in Detroit. Special consideration (but not exclusive) was

given to those youth who live in areas designated as target areas by Detroit's Total Action Against Poverty Program (TAP). In addition, MYEP undertook specially designed E & D programs for "problem" and "special-need" individuals (i.e., probation and parole cases, pre-apprentice and pre-OJT) regardless of age, as deemed advisable.

Program

MYEP operated a program for selection, testing, counseling, and referral to occupational training similar to that established under the contract with OMAT dated June 27, 1965. The following are the constituent parts of this program as it was operated under this grant:

Trainee Recruitment

Recruitment of trainees was performed by both the Michigan Employment Security Commission and MYEP. Recruitment by MYEP permitted exploration of new approaches and avenues to potential-trainee contact whenever considered practical.

Testing

All incoming trainees were given aptitude and interest testing by the Michigan Employment Security Commission. The purpose of these tests--to help guide the trainees into suitable occupational preparation--was explained to the trainees, and they were made aware that they could neither pass nor fail.

MYEP also carried on its own testing programs and orientation sessions regarding tests. The primary purpose of MYEP's testing program was to prepare the trainee for the entrance tests, promotion

tests, and release tests which are a regular part of the world of employment.

Counseling

An intensive program of counseling designed to enable the trainee to reach his potential for vocational accomplishment was provided by the Project staff, supplemented from time to time by personnel of the Employment Service.

The project counseling staff had no authority for administering discipline of any kind and the counseling rooms had all symbols of authority removed. Consequently, student reluctance to visit the counselor, such as exists in some public schools where counselors administer discipline, was minimized.

Training

Several different types of training programs were offered. Individual trainees could move from one training program to another, as seemed appropriate to enable them to obtain and hold a job following the end of the total training program.

The constituent parts of the training program were:

1. Orientation

The orientation period was intended to prepare the trainee for his on-the-job training experience, vocational future and life goals. It involved: (1) planning the steps necessary to reach the trainee's goal, (2) making the trainee aware of employer expectations and planning to meet these, (3) improving the trainee's understanding of inter-personal relationships in work, and (4) helping the trainee

to acquire the understanding and attitudes necessary for successful vocational adjustment. It often included advanced testing, counseling, instruction in personal grooming, job orientation, cultural trips, job posture, talks and meetings with the work-education coordinator. The duration of the orientation sessions varied with the needs of the trainee, but in no case exceeded six weeks.

2. Institutional Training

Trainees were enrolled in institutional training situations provided by the Department of Health, Education and Welfare through designated agencies related to their occupational goals and needs.

3. Vestibule Training

Vestibule training was a type of training program in which trainees did non-productive work in an on-the-job training type situation. Generally, such training was provided as part of an overall program which included three hours a day of remedial, academic or related work at training institutions, but in some instances, the trainees were given full-time vestibule training. Vestibule training was provided at work sites provided by governmental agencies and private non-profit organizations.

4. On-the-Job Training

Trainees placed in on-the-job training were compensated by wages paid by the employer. Arrangements for OJT, where MDTA funds are sought for training expenses, were made in accordance with the requirements of the Bureau of Apprenticeship and Training of the Department of Labor.

5. Coupled program

The coupled program involved a combination of institutional and on-the-job training, depending on the individual needs of the trainees and the services available through the company providing OJT. It could also couple any series of programs to provide a sequence of learning experiences.

6. Pre-entry program

This program was non-institutional and was designed to enable the trainee to meet the entrance requirements of particular public or private agencies which maintained their own training programs, such as apprenticeship programs or special company training programs. The pre-entry program lasted from two to six weeks.

7. Pre-apprenticeship, Pre-training

This program was similar in purpose to the pre-entry program, but it could be longer than six weeks and it could be provided through an institution or MYEP facility. It was designed to bring a trainee's basic education to the level required for entry into apprenticeship or MDTA type training programs. The Technical Advisory Committee formed a sub-committee as a union management team to give direction to this portion of the program. Those unions would be represented whose area of work is part of a particular program.

8. Placement

Three job development and placement specialists were employed by the project to work directly with the trainees and to help them find jobs.

They made use of the services of the Michigan Employment Security Commission, and reported all placements made by the project to the Youth Opportunity Center of MESC. The senior job development and placement specialist cooperated with BAT in establishing OJT and apprenticeship programs.

9. Follow-up

The Contractor, with the aid of the Michigan Employment Security Commission, provided follow-up at periods of three, six, and nine months after placement.

MYEP's training program was conducted so that approximately a half day was devoted to classroom instruction and the other half of the day devoted to job (vestibule) training.

The classroom training was directly related to the job training station on which the trainee was placed. If the trainee studied auto-mechanics, he was given remedial English directly related to auto-mechanics. For example, he was not taught a long list of words which have no meaning in his real work. He was taught remedial English by direct encounter. He might have learned that a sentence reads: "Pistons go up and down." not: "Bees buzz."

In this manner, he immediately saw a tangible reason for studying his subjects. Too often, our regular schools teach things that cannot be readily and immediately related to the real world.

The term "vestibule" is applied to Detroit's rather unique job station training, in the sense of a "passage" or "entrance," since the trainee is not out of nor is he in, a job. He is in training for the entry level, and it is a training experience, not a productive work experience. These training stations were located primarily with the City of Detroit, although it is hoped to eventually include the use of State and Federal facilities. During this phase, an assigned coordinator visited the training stations, talked with the supervisor and the trainee and was generally concerned with needed additional consultant services for the trainees, and checked on possible job placement readiness.

Throughout this period, two additional phases were conducted. The project's orientation and operation was two-fold but integrated. Firstly, it provided the individual trainees with the needed skills to permit them to enter the world of work and, secondly, it assisted them in removing or adapting to any obstacles interfering with their ability to enter or to function in a work situation.

Complete health remedial resources were available to the trainees, and after complete evaluative physical examinations the recommended medical, dental or other referrals were made. Counseling, individual and group, was provided to the degree needed by the trainee with emphasis on self-upgrading of the individual through additional education and training. As broad an exposure to vocational and employment opportunity as is possible was provided since many trainees

come from backgrounds where unemployment or marginal underemployment is normal and their knowledge of the world of work is minimal at best. To know what they would like to do, what they can do, and what is available to do were necessary ingredients to satisfactory placement.

Job referral was a regular part of the learning situation although mock interviews and test situations are effective only up to a given point. Guidance in grooming, conduct and attitudes during interviews, test taking techniques, and other related preparation form other parts of the program.

The Project maintained its own job development and placement personnel. Operating with the philosophy that successful placement is dependent on fitting the job to the person and not the person to the job, they were vital to the effectiveness of the entire program since a part of the Project's philosophy is that a job is the cement that bonds the individual to society.

D. Management and Staffing

This section of the report concerns itself with the staffing of an E & D Project, supported and funded through the Office of Manpower Automation and Training and the U. S. Department of Labor. Funds for the educational phase were provided by the U. S. Department of Health, Education and Welfare through the Detroit Public Schools.

A. HISTORICAL BACKGROUND

The Committee for Community Action for Detroit youth was a blue ribbon task force established by Mayor Jerome P. Cavanagh early in 1963.

Its charge was to survey the needs of the youth of the City of Detroit and make the necessary recommendations so that the ills could be overcome in a vigorous attack.

One of the major outgrowths of CADY was the Special Youth Employment Project.

A proposal was designed and submitted to the U. S. Department of Labor and the U. S. Department of Health, Education and Welfare. The Labor Contract was returned directly to the City of Detroit. The HEW Contract was returned via the State Department of Education, to the Detroit Public Schools. They in turn released or subcontracted their portion to the City of Detroit. The Detroit Public Schools agreed to assist in teacher certifications and employment, physical location and instructional supplies.

Therefore, the City of Detroit found itself with a Special Project, dually funded and without firm guidelines. It was after all an Experimental and Demonstration Project. The proposal spelled out some job specifications for staffing, overall objectives and the criteria of population to be served and a line item budget.

In January, 1964, the Special Youth Employment Project began on an operational status.

The OMAT staff was appointed by the Mayor so that the project could begin immediately. It consisted of the following:

Director
Job Training Supervisor
Test Specialist
Two Counselors
Two Job Development and Placement Specialists
Four Work Education Coordinators (teachers)
Recommended to the Detroit Public Schools and certified by same
Five office staff

After about four months of operation, some difficulties arose as to the efficiency and direction of the project. The U. S. Department of Labor requested a review of the staffing and organization of the project.

A number of OMAT staff resigned their positions and a request went to the Civil Service Commission to select staff for the project.

The Civil Service Commission publicly announced open competitive examinations for said positions, including a new position, that of Assistant Director.

The Directorship was to remain as a Mayor's appointee position.

FORMAL SELECTION

During this beginning period, the Detroit Civil Service Commission drafted a job specification and code identification for each of the above positions, not including the Work Education Coordinators.

By City Charter, all persons with the exceptions of the Mayor's appointees must be processed by the Civil Service Commission. This includes city residency, age, education, written test and oral interview requirements.

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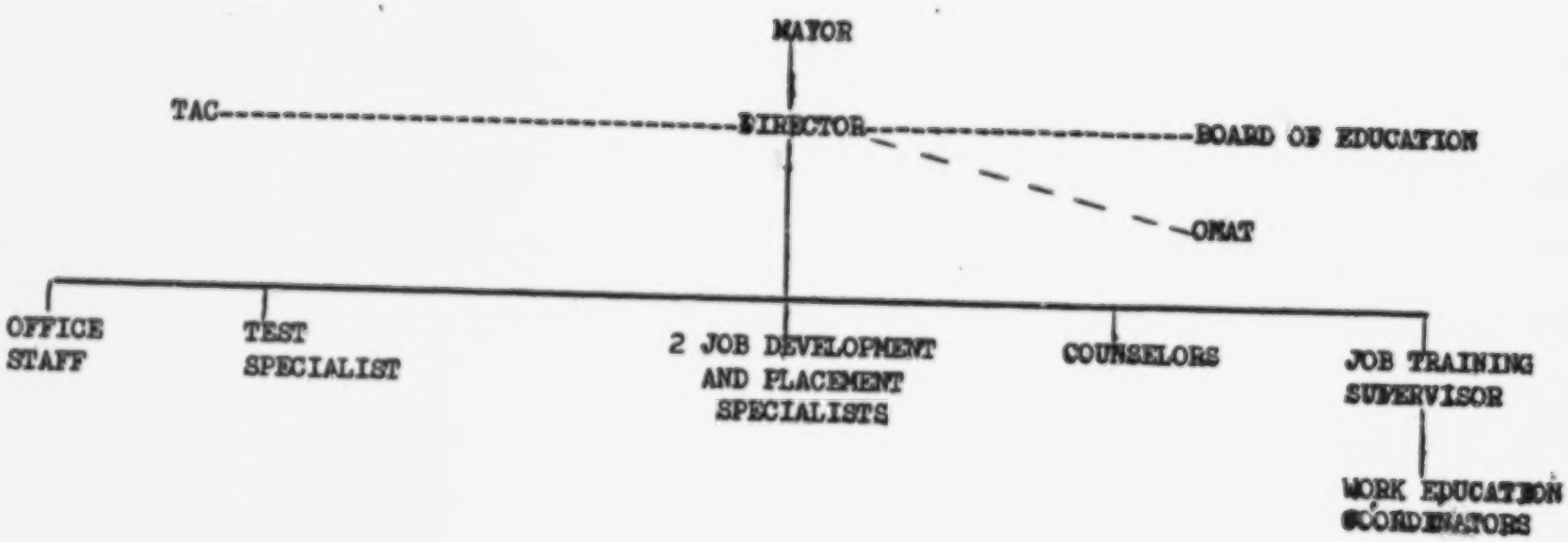

TABLE OF ORGANIZATION #1

SYEP January, 1964

The written tests for these positions generally included an intelligence test and sections on local, state and Federal government, sociology, psychology, social psychology and public relations.

Then for each specific area, special tests were used to gain data concerning the subject matter related to the job. These were in depth tests.

For example, the Director was required to take the Assistant Director's test sequence. This battery included the general tests listed above, an overview of the specific tests for each of the fields he was directing and a heavy concentration on such areas as, management principles, organization principles, public and business administration, public relations, supervisory practices and personnel concepts.

A total point system is used and from this a position is established on the list of the particular job classification.

As a result of the aforementioned system of examination and evaluation of candidates, lists were compiled for each of the job classifications. All staff members are drawn from the top of the specific job title list at Civil Service. No deviations are permitted with the exception of male or female type.

Of the total staff members involved, only two had to be returned to Civil Service because of unsatisfactory service in this particular project. The majority of staff members who left the project went into an upward mobility pattern. Some returned to their former occupations, such as teachers, housemakers and other similar occupations.

From January 1, 1964, to June 31, 1966, there has been a 97% turnover in staff. Only 4 staff members remain that started with the revamped program May 4, 1964.

C. SELECTION OF DIRECTOR

The two top candidates for the position of Assistant Director were interviewed by the Mayor and his staff individually. The Director was appointed to serve at the Mayor's pleasure. The other candidate was made the Assistant Director under the Civil Service system. The Assistant Director, with a PH. D. in Psychology had tremendous technical knowledge and added more than a full measure to the project.

Upon assuming the duties of the Directorship, he reviewed all past memos, rules, procedures, policies and table of organization. Since the above mentioned communications apparently did not delegate authority, a new table of organization was developed, and with it, policy, rules and procedures to supplement the plans leading to the objectives. See Chart #2.

A "team" concept of direction was developed using the entire OMAT staff with their specific disciplines. Following the trend, apparently established by business, the "management team" was utilized immediately. Although the final decision was ultimately made by the Director, it was the team that supplied the necessary data that enabled the correct decision to be made.

Later, during the second year's operation, the executive team was comprised of the Assistant Director and the senior level personnel.

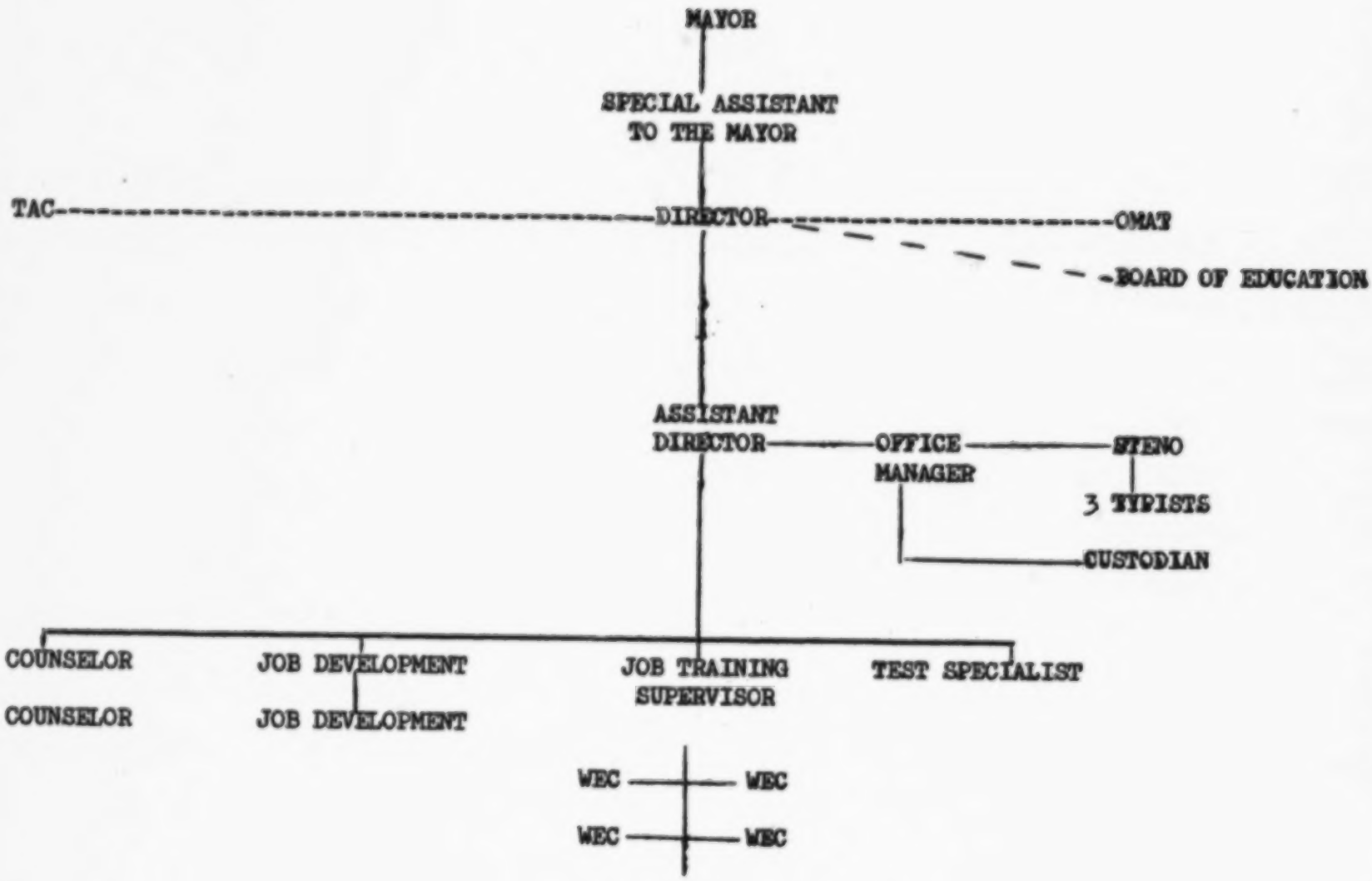

TABLE OF ORGANIZATION - CHART #2

SYEP MAY 31, 1964

The small size of the E & D Project enabled the entire OMAT and educational staff to have to face meetings at any given time. The entire staff knew the total story of the project in terms of the past, present and the future projections. They knew the questions and the answers given.

The loyalty and traditions absorbed by the staff are closely related to the philosophies established by the Director with the aid of the Technical Advisory Committee. Even during the most trying times, (interim prior to refunding, newspaper and TV editorials) the staff performed at a high degree of efficiency and individual warmth.

D. FACILITIES

An office and classroom building was made available through the generous contribution of Mr. Abraham Shiffman at 1501 E. Ferry.

The Detroit Public Schools leased a surplus school for the project (HEW funds) and it was located at Joseph Campau and E. Forest.

The City of Detroit provided well over 200 vestibule training stations through its various departments. The Water Board, DPW Garages, Fire Department Garages, Engineering, Hospitals, Controller, DSR and the Library are but a few of the cooperating departments.

In providing these training stations they automatically committed personnel to work with the trainee in a one to one relationship.

As a result, the main instructional phase was accomplished at the Campau School; the administration and Special Projects phases were handled at the Shiffman Building and the work experience Vestibule Training at the City departments.

Because of the diversity of physical locations, the job training supervisor was delegated the authority of a "Principal" and the Campau School was brought under his control. The necessary supportive staff was assigned to the school.

E. TECHNICAL ADVISORY COMMITTEE

The Mayor appointed a Technical Advisory Committee. This working committee cut across the business, industry, education, labor and government segments of the community.

Along with their duties as advisory/consultants to MYEP, several standing sub-committees were used continuously. They were the Personnel Sub-Committee, the Health Sub-Committee and the Finance Sub-Committee.

F. WORK EDUCATION COORDINATORS vs TEACHERS

A request was made to the Detroit Public Schools to request funds from the Department of Health, Education and Welfare for the continuation of the institutional phase. This request was made about October, 1964.

By the time the request was received at HEW, it was noted that they had committed all of their funds for the coming year. This left the Mayor's Youth Employment Project in a peculiar position. The Labor Department had issued the necessary contract for another years operation, but it appeared that there would not be any funds for the institutional phase.

The Detroit Public Schools agreed to support MYEP in this area to the best of their ability. The necessary funds were withdrawn

from other uses and allocated to the servicing of MYEP.

Of necessity, this use of restricted funds caused a cutback in the number of WEC's to be employed by the Detroit Public Schools. From a maximum of 14, the cutback brought the number to 4 people. As a result, it was necessary to require these people to teach full time rather than teach ½ day and coordinate the other ½ day.

The 1965 Labor Contract provided for four coordinators. These were assigned to the job of coordinating the vestibule work stations with the related instruction.

The Work Education Coordinators were in fact employees of the Detroit Public Schools, assigned to and under the direct supervision of MYEP for the first contract.

During the second year, the teachers (4) were assigned to MYEP but under the supervision of a "Team Leader" of the Detroit Public Schools. Coordination was achieved to some degree between the two similar supervisors of each agency.

G. WORK EDUCATION COORDINATOR/TEACHER SELECTION

The personnel assigned to MYEP by the Detroit Public Schools were generally selected or recommended by the administration of MYEP to the Personnel Sub-Committee of TAC. Following this interview and review of personal background, the Sub-Committee would recommend those deemed acceptable to the Detroit Public Schools Personnel Committee.

They in turn would accept or reject based upon the requirements of the job and the technical and performance background of the

individual. The applications of those accepted were then forwarded to the State Department of Education for Emergency Vocational Certificates where needed.

The Detroit Public Schools were most cooperative in this area of WEC's and/or teachers. They permitted some of their regular teachers to obtain a leave of absence to assist MYEP with the institutional and administrative phases.

H. SALARY SCHEDULE/INSTITUTIONAL STAFF

As noted above during the first contract year the WEC's were paid a flat rate of $5.48 per hour.

During the second years' program they were paid at a rate commensurate with the teachers at the Detroit Public Schools Skills Center. This ranged between $4.00 per hour for a teacher of a non vocational subject to $4.50 for a "Team Leader", to $5.48 for a teacher of vocational subjects.

I. SALARY SCHEDULE/OMAT STAFF

The administrative staff, as funded by OMAT, were paid as provided for by the Labor Contract. The only exception was the pay of the Director. These rates were on a flat rate scale.

The original Director was funded for $15,000. But as of May 4, 1964, the new Director was paid at $13,500 per annum. The Assistant Director, functioning as of May 4, 1964, was paid at the rate of $12,500 per annum. Note: these two rates were less than allowable under the contract.

The office staff: manager, typists, and janitor were taken directly from the Civil Service lists and paid at the prevailing rates of the City of Detroit.

During the second year's operation, the U. S. Department of Labor, permitted modest raises, in keeping with pay rates of the Detroit Public Schools for equal jobs.

This time there was a minimum - maximum level established. The actual rate depended upon the experience and technical background of that particular individual.

Some discussion was evident among some of the Civil Service and Rate Section people of the City of Detroit, regarding high rates of pay for MYEP. There was some hesitation or varying degrees of reluctance on MYEP being able to promote at too rapid a pace.

Under the second year's contract the Director moved to $14,500 per annum and the Assistant Director to $13,500.

As the contract year drew to a close plans were tentatively made to comply with TAP's request that MYEP move under the control of the Total Action Against Poverty Program. As a result of this planning, the Civil Service Commission and the Rate Section were asked by TAP to review the job specifications and rates, to bring them into line with the prevailing hierarchy of the TAP structure. (For a final report on this amalgamation see the July-August Bimonthly Report).

J. PEOPLE - NOT JOB SPECIFICATIONS

As noted earlier in this paper, all personnel assigned to MYEP, with the exception of the Director and the Work Education Coordinators/Teachers, were from the established lists of the Civil Service Commission.

It has been the extreme good fortune of MYEP to have established a rapport with the Civil Service Commission. They have been most understanding in the great many problems of staffing a Special Project. The Civil Service Commission staff have moved to the extreme limits in the staffing of MYEP. As indicated with a 97% turnover in staff this has engendered a great deal of work for the Commission. But-- there were limits established by City Charter and Commission policy.

Many institutions, both private and public, have established Job Specifications and codes for each and every job within their hallowed halls. These specifications have spelled out the requirements to the applicant in terms of tests, types of tests, educational background, business-industrial experience, personal references, oral interviews, dress, and residency. Some, it has been reported, resort to : lie detector tests, investigation by private detectives, home visits at dinner time, and other devices not entirely known to the writer but referred to in various management journals.

Since the numbers of agencies and the methods of selection are as varied as the sands of the sea, let us devote our energies to those public agencies serving human beings.

It seems relatively easy for someone to receive an assignment of writing a job specification and of developing the requisite tests.

Apparently it is just as easy to talk to someone of related authority and/or go to the library for a little research, then sit down and write the "Specs" and tests. These are then reviewed by staff members following which they might be presented to an advisory committee. Simple? Yes, except it has left out the most important element--the individual. How does one measure ingenuity, creativity, motivation, respect for human dignity, administration-peer-trainee rapport?

Is the institution purchasing the person who fills, on paper at least, the job specifications or the individual who can accomplish the aims and objectives of the part and thus the whole?

Many persons who have the "right" specifications to fill a position have failed miserably when given the true test--actual performance. Conversely, many who did not meet the paper requirements, but were employed on an emergency/temporary basis, have performed beyond all requirements and expectations. When the job is completed, one doesn't ask, "What were the job specifications that did it?" Rather they ask, "Who did the job?"

Since the specially constructed tests developed by the Civil Service Commission were used originally to meet the needs of SYEP/MYEP, new and different types of individuals were drawn to the program. Perhaps the new face moving into the professional area of federal programs might best be characterized by the following: The Advanced Management Journal, April, 1966, contained an article by James Wallace. The article, "A Profile of Tomorrow's Executive," expresses

the feelings of this writer in a most complete and analytical fashion.

Mr. Wallace's projection into the future reveals that his concerns are mainly people oriented. He has listed nine general headings which are noted here.

"1. He will be mature.

2. He will have force, direction, and decisiveness.

3. He will have enthusiasm.

4. He will be a model of humility and graciousness.

5. He will be adjusted in his environment.

6. He will be adaptable.

7. Our 1975 business chieftain will have more formal education than his predecessor.

8. Tomorrow's executive will have imagination and

9. He will be a man with certain special spiritual qualities." [1]

Mr. J. Maurer III , an instructor at Wayne State University, has called these ideals "pious platitudes." [2] It does appear that John W. Gardner would disagree. He has stated:

> "Modern technology need not destroy aesthetic, spiritual and social values, but it will most certainly do so unless the individuals who manage our technology are firmly committed to the preservation of such values."
>
> "The man who has established emotional, moral and spiritual ties beyond the self gains the strength needed to endure the rigors of freedom." [3]

Of the original professional OMAT staff starting out May 4, 1964, only one had had a Civil Service and/or City of Detroit background. The selection process was open to anyone, city employee or not, who wanted to try for the positions. It must be assumed that some persons working in other City of Detroit Departments tried to become part of the SYEP/MYEP staff.

Therefore, of the seven professionals, one was a former Welfare Department employee, one a university guidance and counseling specialist, two teachers, one a vocational department head, one an Olympic track star, and the last one a language department head at a private school. All were apparently impatient with the status quo. All felt what John Gardner meant when he stated: "The only stability possible is stability in motion." [4]

K. COMPOSITION

A. Work Education Coordinators/Teachers

Unless noted, all of the sections of this report are dated back to January 1964. Since this date, MYEP has had a total of 20 Work Education Coordinators/Teachers. Of this total, 13 were Negro.

As indicated before, the WEC's/Teachers were selected because of their desire to assist youth, educational background, and/or work experience.

From a subjective view, it appears that there has been no known resentment or friction between the WEC's/Teachers of one racial origin and trainees of another, this provided that there existed a mutual understanding; this observation could only be gained through actual performance under the circumstances.

B. Office Staff

The office staff was requested on an as need basis from the Detroit Civil Service Commission's functional lists--that is the individual at the top of the list and is the one assigned when the request is received. No deviations are permitted.

C. Summer Staff

In the summer of 1965, the Mayor's Youth Employment Project was asked to direct Project Growth, an E & D program that included an agricultural experience.

Planning for that summer was also hampered by the time element. A call was placed to a number of outstanding leaders of the Negro community requesting their assistance in recruiting summer staff. The prospective summer staff would be referred to the Civil Service Commission for the necessary tests (special) for selection.

The recruitment efforts were also carried on at the various colleges and universities in the area. Graduate students in the areas of sociology and psychology were emphasized.

Both efforts stressed summer employment, hard work in the city and at the agricultural setting (24 hours a day), a chance to increase their practical knowledge in the psychological and sociological fields and to serve a truly disadvantaged youth.

As the project got underway, a summer administrator and four counselor-coordinators were employed. All were Caucasian not by selection but by application and Civil Service qualifications. The Mayor's Youth Employment Project employed one consultant in the field of physical education. He was Negro.

In the summer of 1966, Project Exploration was designed and implemented. Once again the many options were exercised in the recruitment of staff with the Civil Service Commission being the screening and final selection authority.

And again, the summer administrator and the eight counselor-coordinators that reported to the project were Caucasian.

It must be stated that for the two summer projects a total of fifteen summer staff were employed. All were Caucasians with the exception of the physical education consultant. This gentleman was employed directly by the Mayor's Youth Employment Project. He was a teacher in the Detroit Public Schools. As a consultant, it was not necessary to use the Detroit Civil Service Commission.

D. <u>OMAT Staff</u>

During the operational life of SYEP/MYEP, which covers the period of time from January, 1964 to June 30, 1966, the OMAT staff numbered some 33 professionals. Of this number, 9 were Negro and 24 Caucasian.

As noted earlier, the Mayor appointed the primary OMAT staff prior to the Civil Service Commission developing the necessary job specifications, codes and tests. This enabled the project to move out quickly. Of the appointees, three were Negro and four were Caucasian.

Following the change over, May, 1964, all of the applicants for the OMAT staff were qualified by tests--oral and written--at this time, two were Negro and five were Caucasian.

As time progressed, an increasing upward mobility pattern developed. When the contract was developed for April 1, 1965, only five of the original OMAT staff remained that started in May, 1964.

D. V. Healas, Director, Dr. M. Tucci, Assistant Director, H. Stone, Job Development and Placement Specialist, J. Cotter, Counselor and B. Bradley, Test Specialist. With the new contract the word "Senior" was officially added to the senior level person in each department so that a responsible person could be held accountable. The new contract also provided for a moderate increase in staff and salaries.

In June, 1965, Dr. Tucci, Assistant Director, left MYEP to direct Active Community Teams Inc., a juvenile delinquency control program.

Shifts in personnel were made, once again based upon the original Civil Service test results and experience.

The following moves were made: J. T. Cotter was made acting Assistant Director, H. Stone was made Senior Job Development and Placement Specialist, Dr. W. Welke, Senior Counselor, B. Bradley, Senior Test Specialist. As noted, "Senior" level tests were not available, therefore, the "promotions" were based upon past test results and on the job experience.

Points that might be worth mentioning as part of the writer's observation:

One of the Negro WECs had mentioned that she was "tested" by her Negro girl trainees. They did not believe that she had been poor or disadvantaged. They questioned her as to the food she ate and where she lived as a young girl.

Another Negro WEC tried to talk to the trainees in their own "street" language. But the trainees saw this as something put on and only tolerated it as they laughed behind his back.

A Caucasian WEC, a football coach and referee, developed a rapport almost instantly with his all male trainees.

A professional member of the OMAT staff, and a Kentuckian by birth has perhaps made the greatest contribution to single and groups of trainees and to various outside agencies as represented by the Detroit Urban League, the Flint Urban League and the Trade Union Leadership Council.

The trainees were quick to sense a false facade by any member of MYEP.

It will also be noted that when the incumbent Mr. Conrad Mallett, Job Training Supervisor left for a Mott Foundation Scholarship, he was not replaced. The reason behind this move was the fact that the number of WECs/Teachers was cut from 14 to 4 and the Detroit Public Schools furnished a Team Leader (Senior Teacher) for supervision.

Perhaps due to the mobility pattern, one year Federal contracts, and the Civil Service Commission's standing lists, there were no Negro senior personnel in MYEP. It has also been the policy of MYEP to promote from within wherever possible and permissible.

Another possibility is the result of the Civil Rights Act of 1964 and the awareness of the sociological changes taking place in the employment posture of the greater Detroit area.

At one time, according to Mr. Conrad Mallett, he was encouraged to strive for a civil service position in one of the governmental agencies, specifically the U. S. Post Office. But as a result of a continued interest by a teacher, Mr. Mallett readjusted his level of ambition to match his ability. Mr. Mallett became a police officer, a teacher in the public schools, Work Education Coordinator and the Job Training Supervisor for MYEP. He left for a Mott Foundation Scholarship, returned to TAP as Director of Staff Training and now has been appointed Assistant to the Mayor.

Mr. Bill Raymond, Director of Job Development for the Detroit Urban League has stated that he "...cannot find enough qualified Negroes to fill the professional job requests."

These statements might suggest that the highly qualified Negro is seeking his rightful niche in the private sector instead of the traditional job openings such as the Post Office, Department of Public Works, Detroit Street & Railways and others of similar nature.

A recent study reported by Dr. Garda W. Bowman in the "Harvard Business Review" indicates that:

> "However, one striking difference emerges. In the earlier metropolitan New York pilot study, the chief deterrent to promotion on merit alone was identified as executive's fears regarding the effects of management integration on production, prestige, and profits. In HBR's national study, a year later, these fears appear to be substantially lessened. Today the phenomenon of Negroes as managers is no longer an extreme rarity. Pressures for equal opportunity have been increased both through government action and through the Negro leadership. Management is taking a hard look at its own attitudes and behavior; the end result is that purpose rather than fear is the dominant note in the HBR responses." 5

L. EDUCATIONAL BACKGROUND

A. Work Education Coordinators/Teachers

The WEC's/Teacher's formal educational qualifications ranged from high school graduates to post masters programs.

A number of these had regular State of Michigan Teaching Certificates. The others were provided with Emergency Vocational Certificates through the Detroit Public Schools and the State Department of Education.

The primary reason for employment as a WEC/Teacher was a combination of items. Knowledge of the world of work, industrial/business experience, education and respect for the dignity of man were the items considered.

B. Office Staff

All of the office staff were high school graduates. Some of these were involved in post-high school educational programs.

C. OMAT Professional Staff

All of the OMAT professional staff were college graduates. Many were involved in graduate work at the masters and doctoral level.

The various disciplines represented included such areas as, guidance and counseling, testing, administration, industrial-vocational education, sociology, philosophy, psychology and higher education.

Throughout the period of operation as either SYEP or MYEP the professional OMAT staff was selected via the criteria as

established by the Civil Service Commission. One of the basic requirements was the college degree as a pre-screening device, although there was a small clause that might permit a person with just less than a degree to be accepted. All OMAT senior staff possessed at least two academic degrees.

The Director of SYEP/MYEP was encouraged by the Civil Service Commission to sit in on the oral portion of the total evaluation of candidates. The candidate had to pass the written portion of the battery before he was eligible for the oral interview. It was during the oral interviews that the Director could make known the philosophy and, therefore, the intent of the Project. One of the feelings of the Director is expertly expressed by Alfred N. Whitehead:

> "You cannot be wise without some basis of knowledge; but you may easily acquire knowledge and remain bare of wisdom."[6]

Another area of watchfulness was the past record of "creativity," "innovation," and "flexibility." Robert T. Golembrewski described the feeling as:

> "...Whyte's celebrated complaint that the bias of much personality testing is to select organization men who are uniformly bland, if they are not stultified conformists."[7]

This Project was built around the individuals of the staff and functioned for the individual trainees.

These three items--"creativity," "innovation," and "flexibility" --were perhaps the key to what success SYEP/MYEP encountered. As a total team effort each and every member of the Project voluntarily wore a number of hats as the need arose. The interchange of activity

or functions was established by the Director's example and carried down through every level.

Stanley Sadofsky and Melvin Herman reported Curtis Aller as saying:

> "Most (personnel at the OMAT Training Conference), perhaps by virtue of their assigned duties, appeared to be highly specialized and less than knowledgeable or communicative about other disciplines or specialities involved in their projects...In an ideal situation most project people would be generalists: that is, a counselor at one point, a trainer at another time, and a supervisor at still another...I felt that there may be a tendency toward too much division of labor in the projects and that an effort should be made to utilize a team concept headed by a multi-occupational leader to offset the contrifugal tendencies of specialization."[8]

SYEP/MYEP staff were not only developed experts in their particular fields; they also applied their wide background experience to becoming generalists in the true sense of the word.

Once again the work of Melvin Herman and Stanley Sadofsky is used to point up some of the difficulties encountered and overcome:

> "All of the respondents in this study felt that directing a demonstration project or a work program was an extraordinarily demanding position, requiring an unusual combination of technical and administrative skills. Only an experienced, competent administrator, they claimed, can survive in the chaotic political and bureaucratic environment in which these programs must be planned and operated."[9]

M. ORGANIZATION

Prior to May 4, 1964 the organization, as shown by Chart #1 was set up on a functional basis. There were apparently some loose ends.

On May 4, 1964, a new table of organization was detailed.

As a result of the new position of Assistant Director, the Director could then spend additional time in establishing coordination between other agencies and the reestablishment of a rapport that was not nurtured.

David Jinowes, in an article for "Management Services" has pointed out that:

> "The Chief Executive Officer is the most important single function...If preceding one officer was good, a pattern is followed. If he was poor, the new has to establish duties without model."[10]

However, unless the senior level positions were immediately involved and in turn the rest of the staff, MYEP would not have been able to recover in the short period of time that it did.

The organization of MYEP was not unlike the sands of time, shifting and flowing.

Constant evaluation of the total program often indicated changes to be made in order to accomplish the objectives.

As pointed out, the organization chart is cold and impersonal until human beings are slotted in. Then it becomes a people-oriented map.

As noted, the Organization Charts #1 and #2 are somewhat different. Chart #3 came about as the need for areas of authority were found. This included the collection of data for reports to various agencies, the need to establish a working liaison with local agencies, and the internal-upward mobility of staff. As a consequence, the third organization chart was designed with attendant coordinating functions.

Note that the word "Senior" was included to denote the section head - department head. This was accomplished in advance of the refunding date to show a need and prior service so that upward mobility would be strengthened at the new contract time.

N. BUDGET

Since the budget was established prior to each contract period, it remained inflexible to a point. Deviations were permitted with the full concurrence of OMAT and MYEP and with the noted changes brought to the Common Council of the City of Detroit for their approval.

As with all Federal contracts the following steps are requisite.

1. Must be approved by:

   The U. S. Department involved
   The Mayor of the City of Detroit
   The Common Council
   The various City Departments involved
   The agency submitting the request

2. They may be cancelled upon due and timely notice by the Federal Government.

3. Bond must be posted.

4. Bank accounts and/or City of Detroit voucher systems must be established.

5. Equal Opportunity Act must be complied with and verified.

As indicated, the City of Detroit provided the means to account for the funds through its various departments. This applies to the grants that came directly to the city.

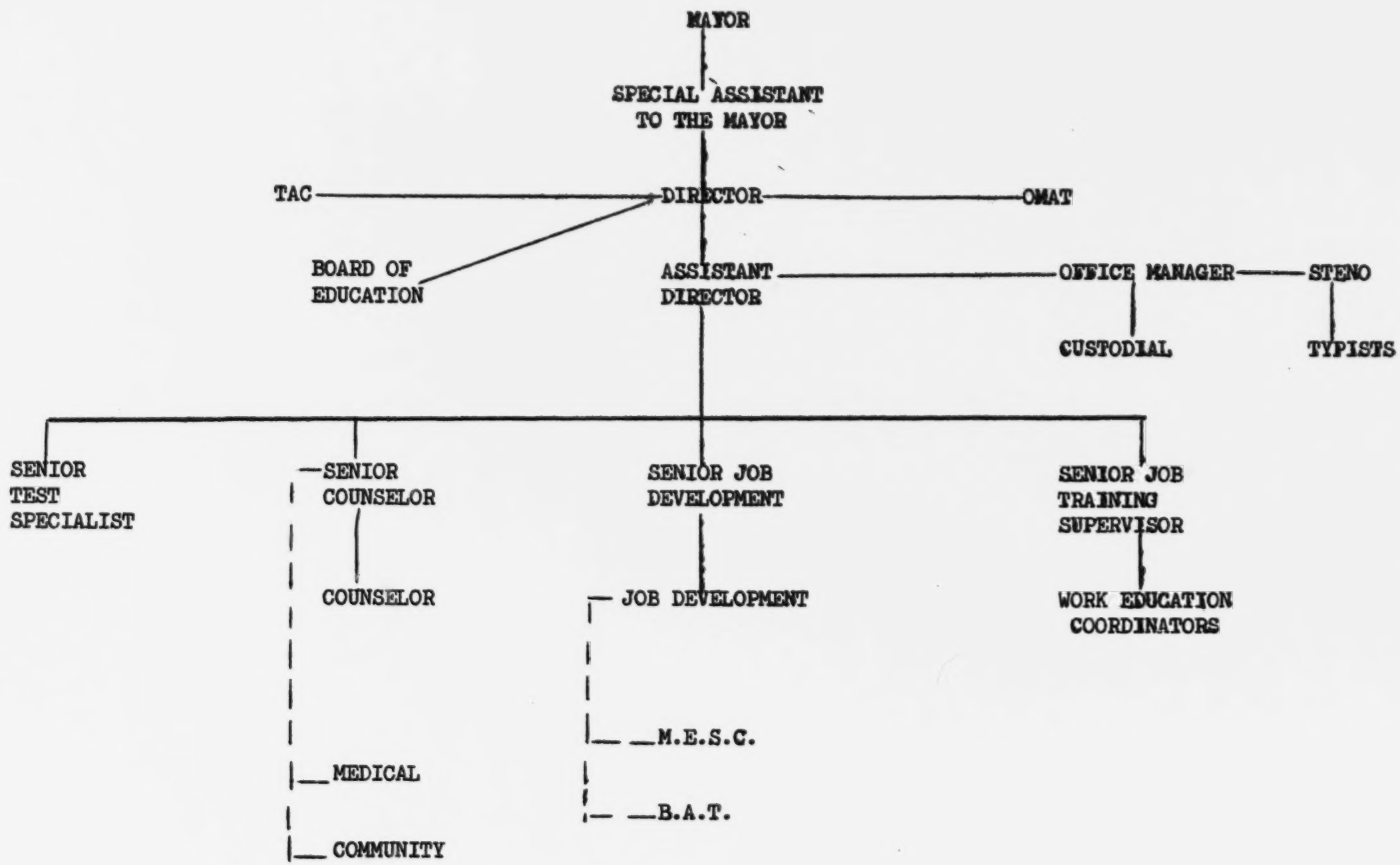

TABLE OF ORGANIZATION #3
MYEP-April, 1965

The grants from the U. S. Department of Health, Education and Welfare for WEC/Teachers, were channeled through the Michigan State Department of Education to the Detroit Public Schools. The Detroit Public Schools through its office of federally supported programs, were responsible for those funds.

All petty cash, the loan fund, medical fund, purchasing and requisitioning were performed within keeping with the rules and procedures of the federal agency and the City of Detroit or the Detroit Public Schools.

O. PLANNING

As stated before, the initial planning of SYEP/MYEP was accomplished by the Community Action for Detroit Youth. As a result of this planning and direction of Mayor Jerome P. Cavanagh, a long range plan of attack was established. But the staff apparently failed to key in the short and intermediate range plans.

Therefore, a review of the original planning was instituted. From this, immediate programs were developed to set in motion a truly integrated project.

The Team Concept evolved after ascertaining the staff's willingness to:

Accept risks
Be creative
Be innovative
Be flexible

The object of the Project was the individual trainee as seen by individual staff members. This was followed by the bringing together

of this "mix" in the most effective manner to serve the trainee.

The planning of specific training programs required the coordination of many individuals and/or agencies including the:

Michigan Employment Security Commission
Detroit Public Schools
City of Detroit
Mayor's Youth Employment Project
U. S. Department of Labor
Bureau of Apprenticeship & Training
Technical Advisory Committee

and all the individual components of these agencies. A complete listing of the agencies and/or individuals may be found in Appendix A.

P. STAFF DEVELOPMENT

As indicated there has been a high rate of turnover in the staff of SYEP/MYEP. As a result, a continuing training program has been in effect.

Although there has been no specific funding or staff assignments for this purpose, it has been a "must" item in any planning procedure. Robert K. Stolz discusses this view concerning industry's approach; he points out:

> "Leading companies make no bones about having dropped the pomp and ceremony which was characteristic of their executive development programs in the early 1950's. But they distinguish sharply between (a) the formal programs and (b) the organized, managed approaches designed to stimulate and help their managers build confidence."
>
> "...companies that devote the most attention to developing management talent are those that consistently lead their industries in profit growth..."[11]

"Success" might well substitute for "growth" in the case of SYEP/MYEP.

The incoming staff person has already "proved" himself as prepared for a particular level of competency within a discipline "on paper." This point is verified by the Civil Service Commission's certification to the Project. As a result there is a base from which to start. But as Alfred N. Whitehead points out:

> "You cannot be wise without some basis of knowledge; but you may easily acquire knowledge and remain bare of wisdom."[12]

Another thought about the "competency on paper" was highlighted by Robert Golembrewski,

> "...Whyte's celebrated complaint that the basis of much personality testing is to select 'organization men' who are uniformly bland, if they are not stultified conformists and there is a long tradition that individuals should be adapted to 'the organization' rather than it to them."[13]

Generally, there has been little or no time to phase in the new person. He reported into the Project the day he cleared personnel. The person was then introduced to the senior level person in charge of his department, and then the rest of the staff.

The "buddy" system was used to further the educational tasks and the philosophy of the Project. This required, because of the lack of time, that orientation and training take place on-the-job. Using this in-house training technique plus continuing conferences-discussions, job rotations and special assignments has lead to a highly cohesive unit.

The majority of the OMAT staff were involved in graduate programs either as students or instructors. As indicated before, this

staff group was unique and self-motivated. Although a variety of disciplines were represented, they were interwoven and interlocking. Each move up the academic ladder was backed or reinforced by practical experience at the Project. Patricia Sexton has indicated that:

> "Reading is not the source of all knowledge. Without experience in the real world book learning is often worth less than nothing;..."[14]

In-service programs were held for all of the staff at various levels. This program not only called upon the various staff members but also used the services of many professionals from other agencies.

Wayne Foreman recently reported his study that is best expressed in the following table:[15]

N = 45

Training Techniques	Time Appearing In Top 5	%
OJT	43	96
Conferences & Discussions	42	93
Job Rotation	34	76
Special Projects	32	71

SYEP/MYEP cannot lay claim to creating such programs, but the Project was in excellent company.

Robert K. Stolz has indicated that:

> "...the primary purpose of development action is to test the man under fire."[16]

This is a reinforcement of perhaps one of the major criticisms of "role playing" and "gameship," as a technique in training. This may be related to the "Escape and Survival" course offered by the

U. S. Marine Corps in that no matter what happened to you, you knew it was a "game" and would be over in two weeks. These teach techniques but do not necessarily test your reactions in the world of work, where decisions count. This is especially true in the human sector over the material sector.

Q. FORMAL TRAINING

It has been stated that:

> "Man's knowledge has doubled between 1950 and 1960 and will double again by 1968."[17]

With this in mind it appears that the executive of a Federal Project must devote a great deal of energy in reviewing the ever increasing volume of literature to keep up to date. Not only is this executive reading about innovations in management but he is often, more times than not, creating, enforcing or denying them, at least in specific areas.

This not only applies to the management field but to the other disciplines that support the total programs. For instance, in the field of social work, education, guidance, and counseling the changes brought about in the last year or two have not been well documented in the various textbooks.

In the field of management many companies and some universities have been working together to design and implement executive development programs. Kenneth Andrews has indicated that:

> "Eighty-two per cent of the 10,000 participants evaluated favorably their attendance at the university executive development programs."

> "Of the adverse comments, the most frequent one (occurring 130 times) is that a few of the faculty were too academic, with inadequate business experience."[18]

This has been the writer's experience not only in a management program but also in some of the educational programs at the same university. It appears that in most of these cases both recorded and others, that the main trouble has been too little experience on the part of the instructor either because he was recently graduated from college and is now working on his Ph.D. and teaching, or that he has earned his Ph.D. long ago and is not conversant with the changes that have come about within his discipline.

Another thought has been provided by Robert R. Blake et. al., when they stated:

> "...most behavioral scientists do a better job of communicating technical findings to each other than they do of communicating the relevance of their research to practicing managers."[19]

A great deal of theoretical research is needed in the vast developing field of management. There is also an equal need for a pragmatic, systematic approach to teaching the vast complex of business administration. But should the two be one? The writer feels not. The two disciplines must retain separate, but bridged by an interruptive link.

R. SUMMARY

The SYEP/MYEP was successful if measured in terms of the trainees and their graduate records of employment, wages earned, taxes paid, and most importantly, the movement of the graduates into the mainstream of the American way of life.

Perhaps the most distinguishing or significant point in answer to the question "Why was it successful" appears to be interest or belief in the individual trainee. Other factors are involved but seem to be supportive rather than primary.

As for the staff and management side, Charles Myers expressed it well as he stated:

> "...effective authority in many groups, particularly in management and R. & D. circles, comes from mutual confidence and trust between organizational superiors and subordinates as epitomized in McGregor's Theory Y or in Blake and Mouton's 9,9 Management."[20]

Peter F. Drucker has also pointed out that:

> "What pulls people together in an organization is a common sense of purpose."
>
> "Invariably I have found that the ones who have results to show for their knowledge are not the ones with the largest accumulation of Ph.D.'s on the staff or the largest amount of expensive equipment. They are the ones where the research director has regularly asked himself and his scientists: What contribution have we really made this year to the business and its performance?"[21]

The writer might make a few substitutions so that the last sentence might read as follows:

> "They are the ones where the <u>director</u> has regularly asked himself and his <u>senior staff</u>: What contribution have we really made this <u>month</u> to the <u>trainees</u> and <u>their</u> performance?"

SYEP/MYEP senior staff have engaged in all of the managerial functions: planning, staffing, organizing, direction, and control. The time element, end-product, and internal-external pressures may differ somewhat from the established business institution.

The time element has been reduced to 1 year only for planning purposes. As a result, all of the other functions are reduced in time but magnified in intensity.

The end-product for SYEP/MYEP has been the human being and his upward movement.

The internal-external pressures are similar to the pressures of the major companies but with the involvement of the established-traditionalist institutions and the people of the community.

REFERENCES

[1] Wallace, James, "A Profile of Tomorrows Executive,", Advanced Management Journal, April, 1966.

[2] Maurer, John III, Statement made at Wayne State University, September, 1966.

[3] Gardner, John W., Self-Renewal, Harper & Row, New York, 1964, p. 92-93.

[4] Ibid., p. 7.

[5] Bowman, Garda W., "What Helps or Harms Promotability?", Harvard Business Review, January-February, 1964.

[6] Whitehead, Alfred N., The Aims of Education, New American Library, New York, 1936, p. 36.

[7] Golembrewski, Robert T., "Personality and Organization Structure: Staff Models and Behavorial Patterns," Academy of Management, September, 1966, p. 217.

[8] Sadofsky, S. and Herman, M., Youth Work Programs: Problems of Planning, New York University, New York, 1966, p. 66.

[9] Ibid.

[10] Jinowes, David, "The Top Executives in New York," Management Services, May-June, 1966.

[11] Stolz, Robert K., "Executive Development: New Perspective," Harvard Business Review, May-June, 1966.

[12] Op. cit., p. 39.

[13] Op. cit.

[14] Sexton, Patricia C., Education and Income, Viking Press, New York, 1964, p. 257.

[15] Foreman, Wayne, "Management Training Techniques," Personnel Journal, Vol. 45, No. 9, October, 1966, p. 548.

[16] Op. cit.

[17] Litton Industries, Booklet #3.

[18] Andrews, Kenneth, "Reaction to University Development Programs," Harvard Business Review, May-June, 1961.

[19] Blake, Robert R., et. al., "Breakthrough in Organization Development," Harvard Business Review, November-December, 1964.

[20] Myers, Charles, "Behavioral Sciences for Personnel Managers," Harvard Business Review, July-August, 1966.

[21] Drucker, Peter F., "How The Effective Executive Does It," Fortune, Vol. LXXV, No. 2, February, 1967.

E. PROJECT IMPACT

Internal Evaluation Mechanism and Purpose

An internal evaluation mechanism is a valued necessity for any institution, agency, or business. It is especially valid for an Experimental and Demonstration Project. The main function is to evaluate the program continually and systematically, not just the end results. By this method the staff can make the necessary adjustments at that point in time, to keep the known objectives in sight or can reevaluate and shift the direction of the program so that new objectives can be reached.

The internal evaluation mechanism of MYEP was made up of a number of interlocking parts. The regular and special reports, group discussions, formal and informal staff meetings, the Technical Advisory Committee meetings, intra-agency meetings and the Mayor's Office. Of course, the ultimate evaluation has been: Were the trainees employed, how long and are they able to advance?

Weighing Success

As stated above, the ultimate end was the effect upon the trainee. The Project was oriented to the trainee as an individual. MYEP was not out to play a numbers game. It's prime concern was the trainee's present and future. It is relatively easy to "prep" trainees for entry into a job, but quite another thing to prepare them to sustain employment and grow productively.

MYEP conducted a follow-up study in the fall, 1965 of it's trainees. Using the known data the Project was able to assume that

about 75% of the trainees were still employed after the first year. Subsequent studies by the Detroit Board of Education and the Michigan Employment Security Commission confirmed this percentage.

MYEP has received unsolicited letters from a number of trainees indicating their appreciation of the program.

Comments from the vestibule station supervisors have generally indicated a great deal of surprise and admiration for the individual growth of the trainees.

Another of the indicators of the success of the trainees is the information gathered by the Job Development and Placement Department on their calls back to employers who have hired the products of MYEP.

Approximately 72% of the trainees in the MYEP study were in families who were collecting some form of relief. As indicated in the study, the wages earned by trainees were estimated to be $3,500,882. The total taxes paid by trainees were computed to be $477,696 using the wages indicated as a base. All the computations were figured on the low side. It became evident that the total expenditures for the Project would be offset by trainee earnings and taxes paid within one year after obtaining employment.

Above, and certainly beyond the numbers game, the individual trainee is the object of the main thrust of the program.

Feedback to Public and Private Agencies and Programs

Without the help of hundreds of individuals, MYEP could not have achieved the full measure of success it enjoyed during the 1965-1966 contract year. These individuals may have been an auto mechanic who

trained, coached, encouraged, and counseled a rebellious trainee or a Vice-President in charge of personnel who opened employment channels for our trainees. They may have been a business executive who devoted one night a week to tutoring an ex-convict, or a doctor who took time from his private practice to conduct, a special medical clinic for our trainees. The support of these individuals, and the businesses and agencies they represent were crucial for the past success, and continuing success of MYEP. Because of the outstanding service rendered to our trainees, it was felt that a formal type of recognition should be given to those individuals and agencies who had provided the services.

A Reception of Recognition was planned to perform the two-fold purpose of giving recognition to deserving individuals, agencies, and organizations, and to reinforce the cooperation they had demonstrated during the past year (see appendix). Individual awards signed by Jerome P. Cavanagh, Mayor of Detroit, were presented to each person who worked with MYEP trainees.

II. RECRUITMENT

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II. RECRUITMENT

General

This section of the report must be viewed as an integral part of the overall program. It is not possible to adequately describe "a" best method of recruitment and divorce that section to make retrieval of information more systematic. The methods, techniques, knowledges, and skills developed over a span of three years cannot be arbitrarily classified to simply itemize a few categories of what, and how, to reach the trainee. Recruitment for a program is determined by the goals established for that specific program, and techniques utilized in one instance may transfer value in securing additional trainees for a program that is of another nature.

The purpose of this report, then, will be to clearly delineate specific types of recruitment for specific programs conducted by MYEP during the period of April 1, 1965 to July 1, 1966. The contract specified that recruitment of trainees would be performed by the Michigan Employment Security Commission and/or the Contractor.

While both types of recruitment will be described, the greatest emphasis will be placed on recruitment activities of the MYEP staff, as this was a critical factor in the experimental aspects of this demonstration program.

A. Recruitment by Michigan Employment Security Commission

The Michigan Employment Security Commission has a variety of methods for trainee recruitment which could be best described by that agency. The regular programs conducted by the Mayor's Youth Employment Project were filled by trainees supplied by MESC. Basically it was implemented in the following manner.

A young person wants a job. This may be discovered by a mobile unit working in a neighborhood, or the person may walk in to one of the MESC centers seeking a job. There the person is interviewed, fills in an application, talks with a counselor, is tested, and an occupational goal established. He may go directly to employment, enter various training programs, go back to school, or college, or be placed on a waiting list for openings in either employment and/or training. When MYEP was ready to start a new group, a request was made to MESC to supply trainees who had an interest and aptitude for that specific type of training, i.e., auto-mechanics, clerk-typists, nurses aides, metal processors, etc. The trainees reported to MYEP and began training on the day they reported. The purpose of the Mayor's Youth Employment Project as an Experimental and Demonstration Project was to develop new and effective techniques of

working with a disadvantaged population. For this reason, the remainder of this recruitment report will describe various methods used in special recruitment for experimental programs.

B. Recruitment by Mayor's Youth Employment Project

The most meaningful method of describing MYEP's recruitment activity would be to give a capsule summary of specific programs, and then relate concrete examples of recruitment and community penetration. The following will indicate a specific program and then comment on the items listed in "Outline for Operation Retrieval."

1. The Police Program

At the request of the Commission on Community Relations and the NAACP, MYEP was involved in working with young men (21 years and over), who wanted to be police officers, but who had failed the entrance examination. The recruiting for this program was conducted by CCR, with the cooperation of the Detroit Police Department. The program had the twofold purpose of academic improvement, and physical fitness. Because these young men are presently employed, and do not meet the MDTA requirements for special allowances, the program was conducted on Saturday. Mr. Bradley, Director of Testing, volunteered his time and services, for this program. If this experimental program was successful, CCR planned to write a proposal for a full-fledged program to prepare minority youth for employment with the Detroit Police Department.

The method of selection for this program was established by screening the scores of all the young men who failed the examination for police officers. As the purpose of the program was to work with minority youth, and Negroes in particular, a hierarchy was established by such identifiable data as, area of the city, church denomination, name, high school attended, etc. When the list was completed, each person received a phone call, or letter inviting them to attend an orientation meeting designed to answer specific questions about the program. The meeting was set up for Saturday morning because it was the most convenient time for the majority of the group. The immediate monetary inducements were minimal, in that no training allowances were paid during the program. Most of the young men were employed in entry level jobs on a full time basis. However, possibility of having a secure future, with monetary gain in the future, may have been a motivating factor. The status inducements, i.e., being a police officer, was a far greater motivating factor. The impact of social groups on recruitment could be considered negligible in this case. The young men had been motivated to apply for police work before they were recruited for the program.

The purpose of the intake interview was to orientate the individual as to the specifics of the program, and to do a surface evaluation of the trainee's strengths and weaknesses. The holding time between intake and training is always as short as possible. In this case, training began at the next meeting a week later, and

continued on a weekly basis until the termination of the program. In this instance, the number of trainees did not exceed the intake quota, so services to the non-eligibles was not a problem.

The recruitment techniques used in this experimental program might be described as a "rifle" technique. They were zeroed in on a particular group; activities would, of necessity, be aimed at a much broader base because a full-blown project would have the time, staff, funds, and facilities to work on a long range program. The next type of recruitment to be described is a "shotgun" technique, inasmuch as the population required could have various backgrounds, interests, and educational levels; and a wide variety of occupational choices would be made available to the individual.

2. Project Growth

The purpose of Project Growth was to recruit young men who would work on farms in Michigan for a period of about four (4) weeks and then enter an MDTA training program designed to provide specific occupational skills.

This was MYEP's first experience in direct recruiting. The local MESC office informed the Project that it would not be possible at that time to secure the necessary number of young men for the program. The Project was also given permission to recruit in whatever way it could. A massive recruitment campaign was immediately started. It included the following types of mass media:

Newspapers - Ads

Detroit News	2 Sundays	808,000
Detroit Free Press	2 Sundays	575,000
Michigan Chronicle	1 Wednesday	57,000
Eastside Shopper	1 Wednesday	50,000
Eastside Express		
Eastside Booster		
Harper Woods News		
Grosse Pointe Press		
Polish Daily News		34,000
English & Polish		

Newspapers - Stories

Detroit Free Press
Eastside Shopper

Radio Stations - Spot Announcements

WCHB
WJLB
WKNR
CKLW
WXYZ
WGPR

Television

WJBK

All of the above ads and announcements indicated a specific morning for the trainees to report. The entire staff was assembled to process the group, and arrangements were made with the local MESC office to supply personnel to handle an overflow crowd if need arose. A large restaurant chain in Detroit reserved all of its day old baked goods free of charge, and promised up to fifty (50) gallons of coffee would be made and delivered within one hour of the time it was

requested. The staff stayed late the night before the "big day", and arrived at 6:00 a.m. on kick-off day to ensure processing of the early arrivals. The net result of all the advertising--NOT ONE SINGLE PERSON ARRIVED TO REGISTER FOR PROJECT GROWTH.

The abject failure of the first recruiting efforts were, to say the least, disappointing. However, the next day a new approach was formulated. Approximately 6,000 flyers were printed and distributed to housing projects, youth agencies, churches, recreation centers, playgrounds, swimming pools, basketball courts, street corners--anywhere that young men might congregate. While this proved to be more successful than the mass media approach, the most effective method was to contact the youth directly, drive him to the Project, sign him up, and give him bus tickets so he could report the next morning. This meant recruiting at night, going back to where young men congregate, at basketball courts, pools, etc.---in short, it meant taking the Project to the prospective trainee instead of attempting to get him to come to the Project.

The following section is a report written by our most effective recruiter.

PROJECT GROWTH - RECRUITING REPORT

It is not the purpose of this report to investigate or compare different approaches to recruiting in various situations. Rather, this report will concern itself with recruiting in one situation where the only independent variable will be the types of approaches used in recruiting. During the summer of 1965, a low employment rate made a certain approach to recruiting necessary which at other times might have appeared unnecessary and almost wasteful.

The objective of this recruiting program was to secure at least 70 jobless young men between the ages of 17 and 21 for a vocational training and work-experience program sponsored by the Mayor's Youth Employment Project. The recruits also had to be either high school graduates or out of school for a full year in order to qualify for the program. The eligibility requirements in themselves greatly reduced or modified the recruiting approach and method.

When the recruiting program began, it's approach and technique could be compared to an experimental lab situation. We knew the response we wanted, the real problem was in finding the right stimulus which could work the desired effect. The desired response was, of course, recruits, as many and as soon as possible. Many stimuli were introduced before a satisfactory S-R relationship was achieved. When we found a satisfactory stimulus, it was reinforced and polished so that its greatest efficiency could be utilized. The remainder of this report will be largely concerned with evaluating these stimuli and their productive capacity.

Stimulus One

From my experience in recruiting this summer, I feel that it is highly advantageous to be well dressed when the recruiter is contacting parents or other organizations who may be acting as referral sources. The recruiter's impression upon people is a quick one and to these people, a well-dressed recruiter usually implies that the recruiter has something important to say and probably has the authority to back it up.

When contacting the young men themselves, I feel that it is even more important to be well dressed. A recruiter is fooling only himself if he thinks that he can become "one of the gang" in the short time that he spends with them. He is not one of them, and they can virtually sense this, no matter what he is wearing. If he speaks their language ("hey cat! hey man!") they can usually spot him for a phony or at best a good actor. I strongly recommend that the recruiter dress and speak the part of an employer or a person who is thoroughly interested and has authority to give his recruits a better job or training. In this way, the recruiter takes advantage of his position, uses it, and can give the recruitant the impression that he is taking a step in the right direction, both in terms of the people he will be dealing with and the success of the program in the past. I strongly feel that this is a very important aspect of recruiting and cannot be overly emphasized.

Stimulus Two

Formal or organizational contacts in themselves proved to be highly unsuccessful methods of recruiting. By formal or organizational

recruiting I mean the type of recruiting that does not involve a person to person contact between recruiter and recruitee. This would include public and private agency referrals, fliers and newspaper ads, radio and television announcements, telephone calls, speaking at parent clubs, and by any other indirect means of recruiting.

Why these methods proved unsuccessful is difficult to tell. Many of the organizations or agencies were probably too busy with their own business to give the necessary attention or time to our requests. Other things like the fliers and the radio and newspaper ads probably contacted only a very small percentage of the recruits that would be eligible for our program. The type of man that we were interested in didn't read the want ads or if he did hear about the program, it probably went in one ear and out the other. Getting the recruit while he is still enthused is a major aspect of good recruiting. This will be discussed in greater detail later.

After these forms of recruiting had failed, I depended almost completely on personal contact. I asked for lists of names from various organizations of young men who met our qualifications and our eligibility requirements. I then attempted to contact these people in person. This was a better method of recruiting and would have been excellent were it not for the fact that the records of these people were usually over a year old. At least 50% of these listed contacts no longer lived at their listed address. What this added up to was a lot of wasted traveling time to see people who didn't live there anyway.

The best recruiting technique actually involved a combination of formal recruiting (by contacting listed names) and informal recruiting. I found that the listed names usually carried me into areas where often large groups of teen-agers congregated. Although I continued contacting the listed names, they in themselves became secondary to the roadmap function that they had assumed. Recreation centers, porches, shopping centers, street corners, pool rooms, and "greasy spoons," all became the best referral agencies I had yet contacted.

Stimulus Three

Personal contact, however, is not enough. No matter how enthused the recruitee is, it usually manages to wear off by the next morning unless it is reinforced by something. "Get them while they're hot" certainly does not lose its application in this situation. Unless the recruitee finds a rare case of bubbling ambition, telling the boy to come in the next morning will do about as much good as handing him his discharge papers.

The basic theory is to do as much with the boy while he is still enthused as is possible. This is the technique that I used. I usually gave the boy an application, told him to fill it out and told the boy that I would meet him in a specified place after he had filled out the application (not more than 1½ hours after I let him go). After doing this with four or five young men, I then picked them all up together and took them down to the office. Besides being economical, there is good logic in taking the fellows down together.

First of all, they are more relaxed in groups and feel more at ease. Second, they get the impression that there are others who are interested in improving themselves and getting good jobs. In other words, they are not "loners."

After I got them down to the office, I never kept them for more than a half hour. I usually re-explained the program, had the trainees ask questions, and then gave them some forms to fill out at home. The main purpose again, behind the whole operation, was to get them started or use their enthusiasm while they still have it. If the recruiter can make the trainee feel as if he has already started or has already committed himself, then the chances are much greater that the recruitee will return tomorrow. To make the trainee feel that he is merely continuing tomorrow can mean a great deal in securing his participation in the next day's activities.

Stimulus Four

Another important thing for a recruiter to remember is not to indicate in any way that the recruiter needs the recruit. Communication of the recruiter should be in terms of "if you qualify," "if you meet the requirements" and "if you prove your ability." He must feel that he must prove himself worthy to get the job or else he will only give you half of what he is capable of giving.

Stimulus Five

Another obvious factor in recruiting is the distance from the school where the new recruits are trained. The closer the recruitee is to the training station, the more likely it is that he will return the next day.

Stimulus Six

Although processing and daily activities are not part of the responsibilities of the recruiter, as such, a well organized and efficient schedule can do much to keep what the recruiter brings in. If a new man senses disorder and chaos on his first day, he will transfer this chaotic situation to his opinion of the training station and what they can do for him.

Stimulus Seven

There is a pronounced difference in attitude between the Caucasian and Negro boys that I contacted. Working with the Caucasian contacts appears much less successful than working with Negro boys. The Caucasian contacts appear to be somewhat more embarrassed by my presence than their Negro counterpart. On the whole, they seem to regard my presence as a sign of their weakness and failure and do not like to be reminded of it. Negro youth, on the other hand, appear to have a more favorable attitude. They do not try to protect their status and seem more willing to accept me as a form of outside help. Caucasian contacts seem to regard me as some type of welfare, while Negroes usually regard my offer as an opportunity to be taken advantage of.

Stimulus Eight

Giving short range explanations and goals are important in any operation. They are also important in recruiting. It is too vague a statement for a recruiter to say something like, "Within a year, we can get you a good full-time job." A week by week explanation of the

Project program activities and GOALS are necessary if the recruitee is to gain a comprehensive outlook on the program. Short range goals are just as important for the recruiter as they are for the instructor of a classroom.

The future trainee must be able to visualize each phase of a program and his role in it before he can gain the enthusiasm that he needs to carry him through it. If the trainee can obtain a vivid picture of what the program can offer him, he is more likely to be an interested and a motivated trainee.

In conclusion, I would again like to stress the importance and the OVERALL EFFECTIVENESS of informal recruiting. Many young men who could not be contacted in any other way can be contacted through this source. Also, it is these men who need the most help and who probably would not make it, were it not for somebody actually going out and dragging them into the Project or program.

3. ST. LEO's PROGRAM

The program at St. Leo's Church was designed to help the members of the community who were in need of help in securing employment, or additional short-termed remedial instruction, to improve employment possibilities. Three qualified teachers volunteered their time to teach remedial reading and arithmetic, and MYEP staff members volunteered time for counseling, testing, and referral. Officially, MYEP was involved only in an advisory capacity. If this "Job Clinic" proved a success, the pastor indicated he would attempt to influence other inner city pastors to have similar programs as a parish activity.

The recruitment for the St. Leo's Program began with a visit to the pastor of the parish, Father John Morel. He indicated a willingness to cooperate in any manner feasible. With the help of Sister Ann Joachim, the high school principal, the following plan was formulated:

Father Morel would write articles and have them published in the church paper, he would talk about the program in each of his sessions, and contact the church organizations to get their support. Sister Joachim would have the grade school and high school students take flyers home, and also distribute flyers to the neighborhood. She would also contact by phone the families who were receiving some form of public assistance or help from the parish, St. Vincent DePaul Society (a society to help indigent families). After the recruitment had been under way for two (2) weeks, Father Morel would publish a progress report in the church paper.

St. Leo's Parish is located in a very poor section of Detroit. While the plan was to serve the indigent population of the immediate area, word-of-mouth advertising reached persons living many miles from the parish. There were no direct monetary inducements because no training allowances were paid. The Project services were set up, also a cafeteria made available by Father Morel. Past experience indicated the need for this population to bring the Project to the people rather than trying to motivate the people to come to the Project.

Concerning the impact of social groups on recruitment, the family, the peer group, and the neighborhood, all played an important role. It was not uncommon to have a parent and several of her teen-age children attend the same meeting. The first meeting was designed to orientate the group to the possibilities presented by the Job Clinic, and to secure background information through the use of individual interviews.

There was no holding time between intake and training. Some of the individuals were referred out to jobs the first night. No intake quote had been established. If the intake exceeded the staff capabilities, qualified volunteer help was available. No restrictions were set, so it wasn't possible to have a "non-eligible". The recruitment resulted in a group of about 100 persons with ages ranging from 14 to 68, and educational levels from about the 4th grade through college.

The recruitment activities for the St. Leo's Job Clinic is best described as the "shotgun technique." A wide range of referrals, training, and job placement was available to the group. One result of this experimental program was a series of meetings with the Michigan Employment Security Commission designed to facilitate referral procedures from mobile recruiting teams, follow-up techniques, and more cooperation between agencies dealing with disadvantaged persons.

The following page presents a sample of the flyers distributed to the community.

ST. LEO'S JOB CLINIC

St. Leo's Parish is sponsoring a Job Clinic survey with the cooperation of the Mayor's Youth Employment Project. The following is a FACT SHEET about this program:

PURPOSE: The purpose of this program is to help people in this community who:

1. Are unemployed and want a job
2. Are employed, but want a better job
3. Would like to have vocational testing and counseling services
4. Would like to know about various vocational programs available to youth and adults

WHEN: This program will be established as soon as this, and other survey work, indicates the community is interested.

WHERE: The Job Clinic will be held at St. Leo's High School.

TIME: The time of the program will be established when most people can attend. This might be in the evening, on Saturday, or on Sunday.

COST: There is no charge for this program.

WHO: Any interested person may attend.

HOW: This program is based on individuals. If a large enough group (15 or 20) have a common interest, classes will be started to help prepare a person for employment, or find better employment.

In order to find out how many would be interested in such a program, we are asking you to fill out the following questions. Please return the completed form to school as soon as possible.

	YES	NO
1. Do you feel this program could help the Parish?	_____	_____
2. Is there anyone in your family who is interested in this program?	_____	_____
3. Do you know of a friend or neighbor who could use the services of the Job Clinic?	_____	_____

4. Please fill in the following if you would like to attend a Job Clinic (if you are not interested, perhaps a friend relative, or neighbor who is interested might fill out this section.)

5. NAME _____
ADDRESS _____
PHONE _____ AGE _____
EMPLOYED: YES _____ NO _____
When would be the best time to have the Job Clinic:
Please check one: A. evenings _____
B. Saturdays _____
C. Sundays _____

4. PRE-APPRENTICE PROGRAM

During the time when there was a lack of qualified young men to enter apprenticeship trades, this is particularly true in the case of minority youth, MYEP, in cooperation with the Detroit Board of Education and MESC, was given permission to recruit young men from the inner city schools. These indicated an interest in the apprenticeship field, but lacked the necessary skills and knowledge to qualify for apprenticeship training.

The purpose of this program was to provide a short-termed high impact course for selected trainees to prepare them for admission into the apprenticeship field. If successful, the Detroit Board of Education had indicated the possibility of including a similar program as part of the regular high school curriculum.

The recruitment involved the cooperation of three parties: the Michigan Employment Security Commission, the Detroit Board of Education, and the Mayor's Youth Employment Project. These three agencies worked together quite harmoniously.

The Detroit Board of Education was most helpful, especially its Assistant-Superintendent, Dr. Carl Byerly. Meetings and agreements between Dr. Byerly and MYEP staff members established the foundation for the program. Permission was granted to MYEP to present the program to young men from two schools--Northeastern and Northwestern. The men, all destined to be January, 1966 graduates who were interested were given some preliminary tests and then interviewed individually. The result was that a group from each school was scheduled to begin training after graduation. MYEP agreed to follow the suggestion of

Mr. Westly Rea that actual training and further recruitment begin after graduation, since to begin before that date would be too demanding of the students. Therefore, at the end of January the new trainees were registered with MESC and the program began.

Each trainee who qualified received an allowance through the Michigan Employment Security Commission. MESC agreed to come to the MYEP headquarters and register the group from each school. This procedure greatly simplified matters and the cooperation of Mr. Trolley, Mr. Novak, and the MESC counselors was greatly appreciated. As new trainees entered the pre-apprentice program in groups of an agreed size, MESC continued to register them for allowance. In return for this courtesy, MYEP kept MESC informed as to the progress of each trainee. Once the program began, the Work-Education Coordinator was given the task of recruitment and he worked with the Board of Education and with the MESC. As a result of this recruitment, two small groups of trainees--there were about seven in each--entered MYEP during March and April. Although the Pre-Apprentice Program is a project of the MYEP, it should be quite apparent that its existence and operation would not have been possible without the cooperation of the aforementioned agencies.

The Pre-Apprentice Program is another example of a "rifle technique" in recruiting trainees for a specific experimental program. Generally speaking, the requirements to enter an apprenticeable occupation in the Detroit area are seemingly higher than the requirements to enter some of the universities. This is not surprising when one is cognizant of the fact that a tax supported institution has more latitude in accepting a marginal student than business or

industry. A student who drops out of college after the first or second year presents no threat to the college. On the other hand, a trainee who drops out of an apprenticeship after the same length of time presents a considerable investment of time, talent and money to the company who was training him. The screening examinations, therefore, have become more and more stringent. This is particularly true in the electrical trade, and other apprenticeable occupations which require a higher degree of skill.

A major goal of this program was to match minority youth, Negroes in particular, with existing opportunities in the apprenticeable trades. All of the young men in the program were recruited from inner city schools. A continuing complaint on the part of employers has been lack of qualified Negro youth who could successfully compete in the written exams, interviews, background, etc. As an experimental and demonstration program, MYEP set out to demonstrate that it was possible to recruit, train, and place in apprenticeable occupations minority youth from the inner city.

The population to be served in this experimental program was located in the center of the inner city. The method of reaching the trainee was to go to the schools, and sell the program to those who qualified. The monetary inducements of entering the program meant a curtailment of immediate earnings. Because of the great demand for unskilled labor, most of the trainees could have secured employment in the automobile factories immediately upon graduation. However, if they accepted such employment, they would be underemployed and filling a job slot that could be filled by a person with less skill and ability.

In recruiting for this program and most of the special programs, the impact of social groups has had a negative affect. The delayed gratification concept is not a characteristic of lower socio-economic groups.

Many times trainees have been ridiculed by their peer group because they were earning a mere $20.00 a week while in training. The family has, in many cases, exerted pressure to have the trainee drop out of the program and "get a job." The fact that a trainee has no saleable skill and was unemployed when he came into the program is not a mitigating factor in this type of negative response because the economic conditions in the home are such that a job for $35.00 a week, no matter how temporary, appears to be superior to a training allowance of $20.00 a week even if it will lead to a well paying secure occupation.

Once a trainee is active in the program, there are many motivational devices built into the training to overcome these types of pressures. Suffice to say, the inability to delay immediate gratification of economic needs, both felt needs and real needs, poses a real problem in recruitment. MYEP has found that the most effective way to overcome this problem is to take the program to the prospective trainee and give a hard sell approach.

In the Pre-Apprentice group recruiting, the first contact was made at the school. The young men were assembled in an auditorium and given a hard sell on why this program deserved their careful consideration--the positive aspects and the negative aspects were both presented. Those who wanted additional information were then

asked to move to another room for a brief test, and additional orientation. This was a calculated risk. In moving to another room it was possible to lose the entire group. Conversely, if the young men followed us to the other room, they had psychologically committed themselves to the program. We lost two from a group of 26.

Formal intake was scheduled for the day after graduation. Again, it must be emphasized that this program could not have been successful without the cooperation of the Detroit Board of Education and MESC. The board representation, particularly Mr. Ernie Marshall, cooperated in every way possible. MESC sent a mobile team to ensure eligibility and to enroll the trainee at the project. While this was a departure from standard operating procedure, the experimental nature of the program warranted MESC's involvement in an experimental way also.

Each young man who committed himself to the program by going into the second room during the initial contact was serviced by MYEP. While all did not qualify for pre-apprentice training, arrangements were made to secure permanent full-time work for every trainee.

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A. The Purpose of Training

The broad purpose of the training provided by the MYEP has been to enable socially, economically, and culturally disadvantaged youth to acquire the knowledge, skills, and attitudes necessary for obtaining meaningful entry level employment. While employment has been the goal of all the activities within the project, employment itself has been viewed in terms of its significance in enabling one to become a participating member of society and not as an end in itself. Therefore, although this section of the report will be concerned primarily with the training aspect of the Project, it should be remembered that all aspects of the Project (counseling, testing, job development and placement, medical services, grooming) have been vitally interconnected with the training and have provided a combined approach toward resolving the problems (personal, academic, occupational, and social) of disadvantaged youth. The total Project effort has been directed towards freeing the trainee from those elements which have hindered the achievement of success in the adult world; training has been one aspect of this effort.

In order to comprehend more adequately the interrelatedness of the various aspects of the program with training, the following will delineate the specific purposes of the different components within the project and will relate this with the overall purposes of training for employment and for life as an adult.

The specific purposes of the Project are designated as follows:

1. To counsel, test, and provide complete medical and dental examinations for incoming trainees, and to determine a plan of attack for each trainee on an individual basis. The findings in these three areas all impinge on the training aspect of the Project. Personal, social, and Medical problems of the trainee, if undiscovered or unsolved, greatly hinder the trainee in his development within the classroom and/or vestibule aspects of the program. Conversely, with the resolution of problems in these areas, trainees have developed much more rapidly in both the classroom and work experience components. Testing indicates the performance levels at which trainees enter the program and serves as a guide to their development during their participation in the program. It also helps to define the kind of training needed by each trainee to reach employable levels.
2. To provide special job training opportunities in an actual work situation that can be utilized by the trainee to acquire the work training and specific skills necessary to hold jobs in government and private industry.

This vestibule station aspect provides valuable information regarding supplemental training needed in a classroom context, as well as, contributing significantly to the total approach to training. A classroom or sheltered approach to training has deficits which can best be compensated for by combining it with a vestibule training station, just as a vestibule station of work experience alone cannot be adequate for providing needed skills or developing academic strengths. Vestibule stations also serve as an incentive for learning, since what is acquired in a classroom context is immediately put into practice in a work situation. Performance on a vestibule station is also some indication of how a trainee will perform on an actual job and, as such, indicates the decree of readiness for employment.

3. To provide related educational programs designed to complement on-the-job and vestibule training with related skills and, where needed, remediation in basic reading, verbal and arithmetic areas.
4. To develop new methods of testing and counseling in order to evaluate approximately the capacity of disadvantaged youth. Findings in these two areas supplement and modify the content of and approach to training.

5. To provide programs of selection that match youth with existing job opportunities and new job opportunities; and to stimulate motivation and facilitate successful work adjustment for them. The fact that all training is directly related to specific job opportunities and that trainee interest and aptitude are highly determinative of what kind of training they will receive, acts as a great motivational factor in the learning experience.

6. To provide a follow-up program for trainees once they have been terminated. A job clinic, testing, counseling and guidance are a few of the services provided in this area. The follow-up procedures also provide data on the success or failure of the training program and aid in adjusting the training program to reflect changes in employer requirements, as well as, to remedy deficits in previous programs.

B. Availability of Resources

The resources which have been available to the Project for conducting training programs have basically been the quality of the staff and the quality of the vestibule training stations.

The Project has consistently lacked those elements normally considered essential for the operation of an adequate training program--facilities, supplies, and equipment. During the past contract year, training programs were conducted in an elementary school no longer utilized by the Detroit Board of Education, and a small Lutheran elementary school no longer used by the church for its own educational program. Both schools were quite old and had been vacated by the previous educational agencies since they were inadequate for the agencies' purposes. The Project operated with three or four teachers for the entire year. There was little or no equipment available for conducting the classes--cooks, auto mechanics, pre-apprentices, police trainees, metal processors, retail sales, mechanical trades--and the nurse aide and clerical classes had a minimum of equipment, mostly obsolete. The major resource in the above areas was the vestibule station. While the Project lacked much in the way of equipment, this could be offset by a careful selection of vestibule stations. Here trainees were guided through various aspects of training by concerned supervisory personnel who exposed them to the kinds of training experiences and usages of equipment lacking within the Project itself. The manner in which this was done will be covered in the section describing the various kinds of training programs operated by the Project.

C. Methodology for the Determination of Areas of Training

A prime consideration in operating a successful training program is the selection of suitable areas for training. The types of training offered must be suitable for the population to be served, must reflect current needs in the job market, and must be in keeping with the training resources available to the Project (in terms of staff, facilities, equipment, etc.). Each of these factors were evaluated in terms of the other, and none were considered normative in themselves.

1. The Population to be Served

By contract the Project was committed to working with disadvantaged youth between the ages of 17 and 21. At the beginning of the contract year, there was a fairly equal distribution of males and females available for training; but as the year progressed, there were fewer and fewer males available because of two major factors--the war in Vietnam and increased need for unskilled males in factory occupations. Since a major factor in selecting areas for training was the characteristics of those who were available for training, the kinds of training offered by MYEP shifted to reflect the unemployed labor pool.

Initially, training was offered in areas suitable for males and females; as fewer males became available for training, more programs were offered for females. In the last months of the contract period, the trainee population was approximately 90% female since by that time there were virtually no males available.

Additional characteristics which determined the kinds of training to be offered were educational levels, occupational interests and the prior work experience possessed by unemployed youth.

After this analysis of the population to be served, the Project endeavored to design its programs for 17 to 21 year old disadvantaged youth performing below high school graduate norms who possessed some potential for meeting employer requirements. Courses would be of relatively short duration (in general, not to exceed six months) because of the orientation of this population towards crisis thinking and the immediate gratification of needs. Most of the potential trainees either had no prior work experience or worked sporadically in lower level occupations (car wash, domestics, etc.); hence, where possible, vestibule stations would be utilized.

While a need might exist for numerous employees in service categories (waiters, waitresses, bus boys, janitors, etc.), these occupations were not deemed suitable for the population under consideration because of the previous connotations of servility which surrounded these types of jobs.

2. The Job Market

What kinds of jobs were currently available and had some prospect of being available in the future job market? What were the requirements to enter these occupations? What jobs were available for the kind of population under consideration? How long would it take to train for these occupations? These questions and many similar ones required answers before a decision could be made on the levels of training which should be provided by the Project. The Occupational Outlook Handbook and similar publications provided information in these areas. The state employment services also conducted periodic analyses of the job situation in the Detroit area. However, we have found that in addition to these resources, a close contact with the industrial world is necessary for an adequate picture of employer

needs for specific occupations, in a specific area, for a specific period of time. The major element in deciding what kinds of training should be provided was based on what kinds of jobs would be available--and this was ultimately determined by direct contact with private employers. From them we obtained specific information of projected needs in various occupational fields, current and specific information on entry level requirements and suggestions both for areas of training and for the kind of training which should be provided.

3. Resources

The resources which were available to the Project were the third factor in determining what kinds of training would be provided. In many instances this factor was the desirous one. For example, analyses of employer shortages indicated the need for skilled automatic screw machine operators. In the population to be served, there were many individuals with the potential for employment in this field after adequate training. However, since we lacked both the necessary equipment and adequate facilities to house the equipment needed to train

automatic screw machine operators, the Project was not able to offer training in this area. There were numerous occupations in high demand in the Detroit area, but because of a lack of resources (teaching, personnel, equipment, facilities, or all these combined) the Project could not provide significant training to meet the needs of the job market for machine operators, key punch operators, data processors, etc. All three of the factors interacted with each other to determine the kinds of training which would be provided. In some areas, there might have been a need for a particular kind of training, and available resources; but the jobs were of a complexity beyond the achievable levels of the population to be served, or required unrealistic lengths of time to train individuals adequately (one to two years). In these instances the population to be served was determinative. In other cases, there were available resources to train in particular areas, but no particular <u>need</u> for this kind of employment in this job market. Here job market analyses were determinative. As has been cited, in other instances, lack of resources prohibited training in needed areas.

prohibited training in needed areas. Only when data in all three areas coincided (characteristics of the population to be served, the current job picture, and available resources) was training provided.

D. Constant Factors in the Training Process

In the past contract period the Project has offered training in ten different occupational areas. Each of these areas required a particular approach to training dictated, to a large extent, by the nature of the occupation, employer requirements, resources available to the Project and the characteristics of the trainees involved. However, in all of these programs there were certain factors that were present in the training process; and, in general, they applied uniformly to all groups. This section will confine itself to these constant factors, while Section E will discuss each type of training program individually (in terms of specific approaches to training, problems encountered, results, etc.).

1. The Orientation Period

Each incoming group of trainees participated initially in a one or two-week orientation program prior to beginning training in an occupational area. During this orientation period, various elements were included for all groups. Each received an introduction to the world of

work involving lectures, discussions, speakers, and films; these dealt with the nature of work in general, the resources for the necessity of work in our society, the manner in which work should be performed (in terms of work habits, attitude towards employers, fellow employees, etc.), and the rewards of work (financial, personal, social, etc.).

Initial Group Testing was also accomplished during the orientation period. This served as a guide to the training unit in determining the levels of achievement upon entrance into the program, the ability to perform in test situations, and the degree of punctuality to employer standards.

Initial Counseling Forms were completed as part of the orientation process, both to provide data for the counseling unit and to see initially the degree of proficiency possessed by the incoming trainees in completing forms. Each group was introduced to the Project staff, and a representative of each component in the Project explained the particular function of their department, and the manner in which the individual department fit into the overall approach of the Project in

training for employment.

A general explanation was given of the particular occupational category in which the new trainees would be receiving training, a broad description of the nature of the training to be received, the estimated length of time involved in the training program, the nature of the classroom work, and the function of vestibule or work stations in the training process.

An attempt was also made during the orientation period to communicate both the philosophy of the Project in dealing with the training of disadvantaged youth and the past history of the Project (in terms of origin, funding, successes and failures).

The orientation period served as an introduction to the training period and as a bridge between the previous existence of the trainees and entrance into the training segment.

2. <u>Testing</u>

In addition to the initial experience with testing during the orientation period, all trainees received (or endured) a considerable amount of "test taking" during the training process. This has been an essential component in the Project, not only for

the test data which has been obtained, but as a training factor itself. Testing is utilized to assess the degree of trainee progress in academic areas and the degree of relationship to employer norms (in those cases where testing is a factor in securing a job). Testing on standard employer test batteries has proved to be a valuable tool in evaluating the content of the material presented in the training component in terms of its relevance to employer requirements. As such, testing has constituted an element in the shaping of curricula.

Great care is used to avoid invalidation of standardized tests; it is assumed that employer tests are used to determine the possession of particular kinds of knowledge which are essential to successful performance in a specific job. The goal of the training unit has been to provide the types of information which employers have found to be essential for job success.

It is insufficient to offer training on tests themselves, since this will only equip an individual to pass a test; it will not prepare him for the demands of the job itself.

The fact that most tests may be culturally biased or culturally contaminated is irrelevant from a training standpoint. The aim of the Project is to prepare disadvantaged youth for life in what, unfortunately, is a culturally biased world, or at best, a culturally different one. While other Project efforts are directed towards altering the view of the advantaged world (including employers) toward the disadvantaged, the task of the training unit is to prepare youth for the world as it is. At least for the present, they will have to face culturally biased tests; they must receive, therefore, the type of instruction which will enable them to function in both, test and work situations. A significant part of the needs of the disadvantaged is the provision of a wider range of experiences, experiences which are often gained by a non-disadvantaged population in the normal course of its existence.

The testing aim of the Project serves an additional function as a training supplement by providing much needed experience in test taking per se. It may be true that test taking does not significantly alter results for a non-disadvantaged, middle class,

verbally-oriented population. However, with a disadvantaged population, familiarity with tests and test taking procedures does affect the results. Therefore, the testing department is utilized in this manner as part of the training process.

3. Occupational Grouping of Trainees

Trainees in the Project are not grouped on the basis of their educational characteristics or on the findings derived from achievement and/or aptitude test batteries. Levels of proficiency in the usage of English; knowledge of grammar, spelling, vocabulary, arithmetic; typing speeds; previous work experience, etc.--none of these plays a significant part in the assignment of a trainee to a particular training class. Trainees are recruited and referred by other agencies (MESC, NYC, etc.) for specific occupational training and are assigned to classes on the basis of common occupational objectives. The main determining factors in the assignment to a particular occupational training program are an interest in the job area, and some indication of a potential to develop the necessary skills for employment in the designated field.

During the course of the training, it might be discovered that an individual no longer possesses an interest in the initial occupational area, or that he might not be able to acquire the requisite knowledge and skills to obtain employment in an occupational area for which there is still a high degree of interest. Only if the trainee is in agreement is a change of training area made, and the desires of the trainee are the primary consideration. Findings of the various Project components (counseling, testing, teaching, etc.) may indicate that a change in occupational preference is warranted; there may be a staff consensus that a trainee has set an inappropriate occupational goal. This information would then be presented to the trainee--but only if the trainee is in agreement with staff findings, is a change made. If the trainee still desires to work toward an occupational goal which the staff might feel is unrealistic, the trainee will continue in the area of his/her preference.

In other instances the request to change training programs has originated from the trainee. Sometimes this is due to a feeling of discouragement

about the possibilities of achieving the initial goal; sometimes because of a change of interest due to exposure to a variety of possible job opportunities and the resultant acquisition of a new interest. If the staff concurred in the trainee's self evaluation, a transfer to another occupational training program would be made immediately. On occasion, the staff has felt that the trainee's original choice was realistic and achievable; and they would suggest continuing in the initial training category. However, trainee reaction would again be determinative. If the individual felt that, in opposition to staff recommendations, he would like to try a new area, a transfer was made.

Occupational grouping of trainees has both definite benefits and definite drawbacks. As an example of the latter, a clerical training class might have members whose verbal skills range from 3rd grade to 12th grade levels. This can create various problems in terms of the curricula to be used, rates of progress, interest levels, etc. However, we have found that the benefits derived from occupational (as opposed to academic) groupings outweigh the defects.

Common job goals act as a strong motivating factor in the learning experience of a group. Often more advanced trainees have been used to assist slower trainees. This, in turn, has aided in the development of both groups.

Basic education, as such, has not been provided by the Project. What basic education has been provided has been directed toward meeting individual needs for specific skills or knowledge required for specific employment; and this has been provided in conjunction with occupational training.

4. Pedagogical Philosophy

There has been no single pedagogical technique utilized by the Project teaching staff to accomplish its instructional goals; nor has there been any definite conclusions regarding the use of programmed materials and teaching machines as approved to or in conjunction with the lecture-discussion technique. This absence of findings in what is traditionally considered the essentials of a teaching program should not be taken to indicate that there wasn't an educational development of the trainees; nor a particular approach to the problems of educating disadvantaged youth.

Underlying all of the teaching activities was a certain philosophy regarding the needs of the disadvantaged, the role of a teacher and the educational process. In addition, there were certain common factors built into each training class which constituted a tacit, if not always explicit, pedagogical approach.

A major element in the pedagogical philosophy of the Project was an attitude toward the trainee; a view regarding the reasons why he was disadvantaged, and why he was in need of further educational training beyond that provided by the traditional educational institutions.

The Project was committed to working with youth who were unable to make a successful transition from school to work. Hence, the population which the Project served were automatically those individuals who had already experienced a large degree of failure. Failure often pervaded every aspect of life--personal, social, academic, occupational. The first assumption of the Project staff was that our trainees had the capabilities to succeed; that they were not failures inevitably and permanently but that they had experiences of failure. The task, therefore, of the teaching

staff was to develop a pattern of success--perhaps in minor areas initially, perhaps not earth-shaking successes--but real successes, nevertheless. Teachers attempted to present materials on a level where the initial experiences of the trainees would be successful ones.

Much of the failure-complex characteristic of the trainee was acquired in a school situation. What was often wrong with the school setting was not necessarily the materials presented nor the techniques used in teaching. Inevitably, there were overcrowded classrooms, lack of personal relationships with school personnel, no apparent relevancy between the subject matter of the classroom and the exigencies and demands of daily life--no reason for learning because of no definite, reliable goals. The Project sought to overcome this by various approaches.

Classroom ratios between teacher and pupil never exceeded a 1 to 20 norm. Trainees progressed at their own rates of development and when they were ready for employment, they were placed on jobs. This invariably reduced the ratio between teacher and trainee since no attempt was made to keep 20

trainees in a class at all times. This allowed the teacher to spend more time with the remaining trainees, who in turn, needed more individualized work.

The relevancy of materials presented in the classroom setting to obtain employment was always indicated either directly or indirectly. Hence, trainees realized that what they were attempting to learn had a direct relationship to an immediate attainable goal. This acted as a high motivational factor for obvious reasons. For example, it is one thing to learn English because it is a school requirement for graduation; but it is a far different thing when it is a pre-requisite for obtaining employment in a clerical occupation. This is especially true if a person has been unemployed for a period of time and has had repeated failures in job seeking activities, often due to educational deficiencies.

The degree of success which each individual instructor had with a particular class was not dependent so much on the information he was able to communicate or the techniques used, but on the degree to which he was able to establish a good relationship with the trainees.

Again, the assumption of Project personnel was that the trainees had not failed because they lacked intelligence, ability, motivation, etc. Life experiences had so affected their self-concepts, their image of other people, the goals they had set or failed to set, that they were unable to learn and would continue to be unable to learn unless new experiences affected these factors. The teacher saw his role as one of liberating the trainee from a given view of himself and his surroundings--liberating him so that he might achieve in ways commensurate with his real abilities and potentialities. The teaching process was not viewed primarily as one of communicating information, but in terms of effecting the attitudes of trainees so that learning would be a possibility for them. Trainees learned facts, materials, skills, etc., and this was a crucial factor in obtaining a job; but little learning could have taken place if the staff had not been able to effect trainee self-concepts and attitudes, or if a climate which encouraged learning had not been created.

Instructors were encouraged to present materials and to conduct the classroom in ways consistent with their own personality structures. Some were more permissive, some more authoritarian. There was no demonstrable correlation between success in communicating and other of these attitudes. If trainees sensed that an instructor was basically for them, interested in them as persons, and believed in their ability to succeed, they responded to almost any kind of approach to teaching and differing personality types. Hence, the more permissive and the more authoritarian instructor had an equal distribution of successes and failures.

While the general tenor of the Project was more permissive and accepting, it was also recognized that trainees required a certain degree of structure and some setting of limits. This was provided by various personnel, both within the classroom and through contact with other Project components.

An underlying approach also provided the development of curricula for all occupational groups. Whatever particular techniques were used, whatever kinds of materials, whatever the personality structure of the teacher might be, one element was constant. Trainees would be taught those things necessary for obtaining employment. In terms of the development of the occupational content for the various programs, the current requirements of employers for particular job categories was the determining factor. Through contact with employers the Project could determine what employers desired in an employee as to skills, knowledge, personal attitudes, etc.--and this is what

the trainee received. This process of matching classroom work with employer requirements was an ongoing one and classroom work was adjusted as needed to reflect adjustments in employer requirements. As a procedural approach, the Project assumed that for the most part employer requirements were realistic and in keeping with actual demands of a job category; therefore, the Project felt that it was its responsibility to elevate youth through training to meet existing employer requirements. The particular way in which this effected the curricula development for each occupational category will be spelled out in Section E.

Excursus 1. The Teacher-Coordinator Approach

In the first year of the Project's operation a particular approach to training was adopted in an attempt to deal with the multi-faceted problems of unemployed disadvantaged youth. A person designated as a work-education coordinator (WEC) was assigned to a group of 20 trainees. In general, the WEC was responsible for the total needs of this group. For one-half of a day, 5 days per week, the WEC worked with the trainees in a classroom setting and was responsible for the educational occupational development of the group. The other half of the day was spent in a number of activities connected with other aspects of the trainee's development. Part of this time was occupied in visiting the vestibule stations, discussing trainee progress with work station supervisors, observing the trainee in a work situation, and, when possible, speaking directly with the trainee about any number of things--work, personal problems,

family life, etc. Other time was spent by the WEC on visits to the trainee's home, discussion with parents, parole officer, ministers, and other types of involvement in the outside-the-project life of the trainee. WEC's went on field trips with their group to private industries, public facilities, cultural events, and picnics. This multiple function as teacher, coordinator, counselor, social worker, parent surrogate, and legal advisor, gave the Wec a unique relationship with the trainee--one which was of inestimable value in understanding and meeting the needs of the trainees.

In the current year of operation, it was felt by the Detroit Board of Education that only four teachers could be provided for the Project, and that they would be required to operate strictly in a full-time teaching capacity. Teachers would teach full time and would confine their activities almost exclusively to a classroom context. The Project, therefore, provided co-ordinators who would be responsible for the activities formerly performed by the WEC's outside of the classroom--visiting of vestibule stations, home calls, counseling, field trips, etc. Teachers continued to handle only 20 trainees at any given time in the classroom, but had 2 groups of 20 which they taught each day for 5 days per week. One coordinator was assigned to 40 trainees.

In comparing the two approaches, the Project staff unequivocally felt that the role of the WEC was much more effective in dealing with the total needs (educational, social, personal, and occupational)

of the trainee. The WEC provided a confined approach to all levels of the trainee existence; the bifurcating of this function into a teacher and a coordinator led to many of the problems characteristic of the educational institutions in which the trainees had already had many experiences of failure. One person taught; another counseled; another visited the home, etc. Teachers who must teach all day have little time or energy to expend resolving personal problems of the individual student and often are unaware of the existence of these problems. The Project was aware at the outset of problems which could develop by dividing the functions of the WEC among two staff members, teacher and coordinator and worked at reducing these. Teachers and coordinators were to work as closely as possible with each other in terms of servicing the trainee population. Knowledge obtained about the trainee by one was to be communicated to the other. Both were to be involved in the resolution of trainee difficulties, one in a classroom context, and the other outside the classroom. As much as possible, the teacher and the coordinator were to function as one person, and the measure of success achieved by this approach was directly related to how closely this unity was realized. The Project found that the teacher-coordinator approach could be effective in the training process, but required constant effort to avoid breakdown in communication to encourage a sharing of information about trainees and to plan a unified approach in dealing with the trainees. As a necessity brought about by inter-agency differences,

this approach could be made to work; the ideal approach, however, is still felt to be that developed by the work-education coordinator.

5. Physical Remediation: Its relationship to training and employment

A fifth common factor in the training process was the provision of medical services to resolve existing health problems. All trainees were given an initial diagnostic medical examination; an attempt was then made to correct the medical problems discovered by this examination.

The physical problems of a disadvantaged population are the result of a lifetime process of various factors: improper diet, poor living conditions, lack of knowledge, inadequate funds to correct physical deficiencies, and inadequate public facilities for providing free medical correction. However, an individual's physical condition has a direct bearing on the acquisition of training and the ability both to obtain work and to keep working. The Project discovered early in its development that an attempt must be made to resolve these physical problems in order to make it possible for the individual to obtain training and eventually go to work. Poor eyesight, partial or total loss of hearing, anemia, pain caused by dental defects, insomnia, severe hemorrhoids--these and a myriad of other physical problems make it all but impossible for an individual to gain anything significant from occupational training or an educational process. Even if an individual is able to learn while plagued by a host of physical problems; he has little opportunity of gaining

employment or holding it for any length of time. Physical remediation, therefore, was regarded by the Project as an essential component in the training process, along with educational remediation and skills development; often it was the medical services that made the acquisition of the latter a possibility.

The manner in which medical services were made available to the trainees also reinforced another goal of the training process: the development of a sense of personal worth. The experience of a disadvantaged population with public health agencies is often a frustrating, and occasionally, a degrading one. Many public health facilities are often in poor physical condition, inevitably overcrowded, and have long working periods for services. It is not uncommon for a person in need of medical help to wait two to four hours for an initial appointment, another two hours for an examination, and lengthy periods of time for subsequent visits. (This is by no means exclusively the fault of the public health facilities which are understaffed, overworked, and often poorly equipped. Failure to correct this situation does reflect on a society unconcerned about the needs of the poor and the importance of resolving them in a more humanized, personalized manner.) All of this is very discouraging for the poor individual, plays a part in the failure of the disadvantaged to obtain needed medical services, and reinforces the disadvantaged person's image of himself as one who is not worth much, deserves no better, is unsignificant.

The Project felt that in its medical program, as well as in its other aspects, the trainee should be treated as someone of value, someone entitled to the same care and consideration as the "advantaged" population. Therefore, the medical services which were provided were done with this in view. Individual appointments were made at private hospital clinics, waiting periods were reduced, and a high degree of personal attention was given to the individual's problems and their resolution.

Resolution of physical problems not only had a direct effect on enabling the trainee to acquire training, but served indirectly to reinforce the other project efforts to create a sense of worth in the trainee's view of himself.

6. Counseling and its Relationship to Training

Physical problems act as a deterrent to learning and to work; this is equally true of emotional and personal problems. Initial counseling contacts were made with all incoming trainees; further services were provided on a "as needed" basis and played a significant part in the training process. Our findings showed that physical defects retard or prevent learning and work. An attempt was made to correct these feelings of insecurity, poor family relationships, neurotic fears, and the full range of psychological and social problems present in the individual trainee retarded or prevented the training process and the acquisition and retention of a job.

Intensive counseling might be needed to free an individual so that learning was a possibility for him, or to reduce anxieties prior to a job application. While the Project had a counseling staff, the counseling function was not limited to them; it was shared by various staff members, in formal and informal fashions, in the classroom and out, on stairways, in cars, in groups and individually. (For a more complete elaboration of the counseling function per se, and in its relation to training see Section V of the report.)

7. Job Application Procedures

The overall goal of each training program was to prepare youth for employment through education, skills development and supportive services. One of the latter which was real of the training process was related directly to the trainee's contact with the employer. Just and specific training was provided to remedy educational and occupational deficiencies, so specific training was given in job application procedures.

Trainees were given practice on completing application forms. These were provided for Project use by Civil Service Agencies and private employers. Work in this area involved information regarding application forms, terminology employed, definition of words, the value of a well filled out neat-appearing application in terms of its effect on the potential employer, and assistance in obtaining data required for completion of the forms (references, birth certificates, social security numbers, etc.).

Trainees were also taught to have with them at all times a 3 by 5 card with the relevant information needed to complete forms accurately and completely (dates of employment or training, schools attended and dates of attendance, names and addresses of references, etc.) This card was found to be of great value to trainees when they actually went out on a job interview. It released them from some anxiety, allowed them to concentrate on neat completion of the form (since the information required did not have to be recalled from memory) and prepared them more adequately for the oral interview.

Information was also provided on interview techniques. Lectures and discussions were given analyzing the attitudes of employers and hiring personnel toward minority groups, the information sought through the oral interview (factual data and personality components of the interviewee) and ways of presenting oneself in the best possible light (how to enter an office, how to talk, kinds of questions to ask and to avoid asking, how to start and conclude an interview, approximate apparel for the interview, etc.). Much of this material was covered, more indirectly through mock interviews conducted in the classroom, in which one individual played the part of an employer and a trainee played the part of a job applicant. The role of the employer was shared by various people: the classroom teacher or coordinator (staff members with whom trainees were quite familiar), the job placement staff (not well known to the trainee) and the trainees themselves.

The class was responsible for evaluating the performance of each trainee in his role as job applicant. In addition to serving a valuable function by giving practice, the mock interview (often extremely humorous) acted as a tension reducing device and, thus, played a constructive part in alleviating anxiety about an actual job interview.

Trainees were given some instruction in how to look for jobs: what agencies to contact, the comparativeness of private and public employment agencies, want ad searching, civil service notifications, the value of recontacting employers; how to handle the "we'll call you" routine, etc.

Teachers, coordinators, counselors, job placement staff and outside resource people were utilized to deal with various areas including personal hygiene, grooming, and appropriate dress for the employment interview and the job itself. Work was done in this area on an individual and a group level.

E. Description of Individual Training Programs

The Project operated eleven different types of training programs in the past contract year. Since each had its own requirements, (objectives, selection criteria, results, etc.) they will be dealt with on an individual basis. This section will confine itself to the way in which each specific program operated. It should be understood, however, that the constant factors discussed in Section D

were present in all of the following programs; the description will be concerned only with the training process directly, the preparation for it, and the results achieved.

The following table gives a composite picture of the various types of training programs in terms of a numerical analysis of the trainees and the results achieved. Only 8 of the 11 programs are included; the 3 programs not included were operated after normal project hours, involved adults, and differed from the regular programs in various aspects. They will be discussed separately.

Training Program	Enrolled	Terminated	Employed	Training Related Employment	School	Military	Neutral	Negative	Unplaced
1. Clerk-Typist									
MDTA	133	127	87	77	9		16	6	9
NYC	126	45	23	22	4		3	15	0
Total	259	172	110	99	13		19	21	9
2. Metal Processors									
MDTA	165	165	120	90	13	3	10	17	2
NYC	22	20	1	0	0	0	0	19	0
Total	187	185	121	90	13	3	10	36	2
3. Nurse Aid									
MDTA	79	79	60	59	2		13	3	1
NYC	92	38	24	24	0		2	7	5
Total	171	117	84	83	2		15	10	6
4. Pre-Apprentice	39	35	26	10	2	6		1	
5. Auto Mechanics									
MDTA	35	32	18	11	0	3		11	
NYC	6	6	1	0	4	0		1	
Total	41	38	19	11	4	3		12	
6. Cooks	25	24	14	10	1		5	4	
7. Retail Sales	19	19	18	18				1	
8. Pre-OJT NYC Supermarket	19	19	2	0					15

Explanation of Terminology Employed

"MDTA" and "NYC" refer to the manner in which trainees were paid for their participation in the training. A different training approach was required for individuals enrolled under those categories and this will be discussed under each occupational analysis.

The Items: "employed, school, military, neutral, negative, and unplaced" are a breakdown of the total terminations into type of termination. The first three are self-explanatory: "neutral terminations" refer to individuals who were forced to leave the program because of illness, pregnancy, family problems, relocation, incarceration. "negative termination" refer to those individuals who left the program because of lack of interest. In the case of NYC enrollees this meant that they were terminated from the MYEP phase although they continued with NYC. "Unplaced" refers to these trainees who completed the training program but were not placed on jobs. Positive terminations are the total of job placements, entry into military service or school.

(It should also be noted that there are fewer terminations than enrollment. Trainees who were not terminated by July 1, 1966, are still involved in training at the Project under the new contract period.)

1. Clerk-Typist Training Program

	Enrolled	Terminated	Employed	Training Related Employment	School	Neutral	Negative	Unplaced
MDTA	133	127	87	77	9	16	6	9
NYC	126	45	23	22	4	3	15	
Total	259	172	110	99	13	19	21	9

	MDTA	NYC	Total
Positive Terminations (Employment - School)	75.6%	60%	71.5%
Negative Terminations (Lack of Interest)	4.5%	11%	8.1%

Trainee Selection Criteria:

Age: 17 to 21
Sex: Female
Grade Level: High School Graduation

Training Data

Approach: classroom and vestibule station
Estimated length of training: six months

The clerk-typist training program contained the largest number of trainees in the Project. The reasons for offering training in this occupational field were many. First, an analysis of the needs of employers in the Detroit area indicated an increasing demand for females in various clerical capacities, at the present time and in the future. Jobs in the clerical field also would provide continuous work with virtually no lay-off and little chance for automation to significantly reduce the need for clerical personnel. Once entry-level employment is obtained in this capacity, there are good opportunities for upward-mobility, as well as job security. The second determinative factor was the occupational interests of the unemployed female disadvantaged population.

There was a steady pool of unemployed 17-21 year old females whose primary occupational interest was in clerical jobs. Some of these young women had taken commercial courses in high school but did not possess the typing skills or verbal proficiency needed to meet existing employer standards. Others had had a college prep curriculum; but because of poor marks, inability to meet college entrance requirements, financial needs or a change of interest, had not continued their education on the college level, and subsequently found themselves ill-equipped to obtain employment. Still others had made no definite plans for post high school life, had usually taken a general curriculum with some typing and also found that they lacked the skills needed to obtain employment. The third factor which conditioned the Project's thinking regarding the feasibility of training in clerical occupations was the resources available to this Project. Instructors could be obtained who could teach the necessary communication skills, typing, office practice, business arithmetic, etc. Vestibule stations could be developed in city departments which would provide meaningful training experiences in actual work situations. There would be an opportunity, at those stations, to develop both occupational skills (typing, filing, operating business machines, answering phones, etc.) and personal qualities desirable for a clerical employee.

The particular approach to training was conditioned in part by the manner in which trainees were reimbursed for participation in the program. Individuals receiving MDTA training allowances

followed a different training schedule than that utilized for Neighborhood Youth Corps enrollees. In the former instance, trainees were present in class for one-half of a day and spent the remaining half at a vestibule training station. This schedule was followed for five days a week. NYC trainees worked three full days a week, and were involved in the training program for 2 days. Of the two approaches, the one utilized with MDTA trainees appeared to be more fruitful from a training standpoint. The five half days in class permitted a continuous instructional presentation and also gave project staff daily contact with the trainees. Conversely, with the NYC trainees, there was an interruption of five days in the educational process due to the three full days work schedule and weekends. It further appeared that 3 or 4 hours per day of classroom instruction 5 days a week was more suitable to the needs of a disadvantaged population than 2 seven or eight hour days (because of attention shown, retention of material, reinforced learning experiences, etc.).

The curricula utilized in training clerk-typists was based entirely on information fed back to the Project from the placement staff's contacts with employers. A combination of factors was required almost uniformly by all employers as a prerequisite for employment in clerical capacities. Typing speeds had to approximate 50 words per minute. Academic skills in English (vocabulary, grammar, spelling, punctuation) and in arithmetic had to be developed sufficiently both for passing clerical screening tests and successful

performance in the job situation. Trainees in this occupational category spent their classroom time equally, divided between work in improving their typing, and academic work in the above mentioned areas. The content of the academic component was not general or remedial in nature, but was linked with the needs of the occupational category. In the communication skills areas vocabulary, grammar, spelling, and punctuation were handled in terms of their applicability to a clerical situation. Arithmetic was taught in terms of its relationship to the occupational field (rates of interest, bills of lading, numerical sequences for filing procedures, etc.). In a large measure the curricula was developed in terms of areas and content found in the Arco test books for clerical occupations. The typing component also provided instruction in office procedures and general clerical skills (filing systems, telephone procedures, office decorum, etc.).

In addition to the development of skills, the project staff had to deal with another crucial factor in the preparation of clerical trainees for employment. In order to obtain a job in a clerical capacity, trainees were required by employers to pass tests in both typing and academic areas. The levels of qualification were not unrealistically high, and often trainees performed at equal or greater levels both in the Project and vestibule stations. However, when trainees were tested at the various industries, their performance was often considerably below that achieved in the relatively stress-free environment of the training programs.

Extreme nervousness, lack of confidence, fear of failure, insecurity in the confrontation with the potential employer all contributed to poor performance in test situations. For example, girls who could type 50 words per minute in the project environment would often lose speed and increase the number of errors made in a test situation at an employer's facility. The Project built in a stress situation in its training component to acclimate the trainees to the type of situation they would face during an actual job seeking situation.

Various factors entered into the determination of the trainee's readiness for job referrals. Proximity to employer norms was the key measure device and this was measured by performance in both the practical (typing) and academic portions of the programs. Skill development and work attitudes were determined primarily by performance at the vestibule training situation through the evaluation of the work training supervisor and the co-ordinator. Only when the various project components (instruction, testing, placement, counseling, co-ordinators, etc.) concurred, was an individual considered ready for job placement.

While the ideal was to develop the individual in both typing and academic areas, it was found that some trainees were at employable levels in many capacities but fell short of employable levels in others. For example, a trainee might be typing at 50 to 60

words per minute but did not demonstrate an ability to perform in an academic test situation. Job referrals were then made to these employers who used typing tests as the sole or primary resource of employability. If an individual performed well in a test situation but was weak in typing, referrals were made to those employers whose hiring practices were determined primarily or exclusively by performance on clerical test batteries.

The positive terminations (employment and school) were significantly higher for MDTA trainees (75.6%) than for NYC enrollees (60%). Similarly there were fewer negative terminations for MDTA trainees (4.5%) than there were for NYC enrollees (11.9%). This can be accounted for by various factors: MDTA trainees were totally involved in Project activities and this received the full benefit of total staff resources. MDTA trainees were serviced by one agency, while NYC enrollees were involved with numerous agencies (MESC, NYC, MYEP), each of which had one or more functions with the trainees; allowances for MDTA trainees were handled by MYEP staff and were given for participation in a training program. NYC trainees were paid by NYC for hours worked and participated in MYEP on a voluntary basis.

The length of time which it took for a clerical trainee to obtain sufficient training to secure a job varied with the individual. The following analysis gives an indication of the distribution of trainees in terms of the length of time spent in the program before obtaining employment. The trainees considered are those who were terminated for employment reasons only.

Months in training	MDTA Trainees	NYC Trainees
1	10	11
2	8	3
3	7	8
4	7	1
5	8	
6	4	
7	8	
8	9	
9	6	
10	8	
11	5	
12	7	
	87	23
Average length of training	6.2 months	1.9 months

The average length of time spent in training before acquiring a job for a MDTA trainee was 6.2 months. However, the average in that case, as in others, is somewhat misleading. What is more significant is the pattern of random distribution or rather the lack of the normal distribution one might expect. MDTA trainees were fairly uniformly spread out over a 12 month period in terms of the length of time needed to obtain a job. The only conclusion that can be drawn from this data is that an individual's rate of progress in the project was to a large extent conditioned by her background and levels of achievement prior to entrance into the program. Each trainee was allowed to develop at her own rate; those who were nearer

employer norms when they entered the program obtained jobs sooner than those who needed more intensive work. As an individual reached employable levels she was referred for a job. If the distribution indicates anything significant it is that development of skills in an individual is based on what background the trainee had prior to entering the program.

In the case of the NYC clerical trainees, all placement occurred within four months after entering the program. It is significant that there were an equal number of negative terminations during this same four-month period for NYC clerical trainees. It appears that the NYC population and the structure under which the coupling program was initially operated, there was little possibility of retention of trainees for any length of time. Either the trainees were placed rapidly or they lost interest, dropped out of the WEP phase and then continued in their NYC work experience alone. MDTA trainees could be retained in the program until such time as they were ready for employment; half of the MDTA trainees, it should be noted, did not obtain employment until they had been in training between six and twelve months.

2. Metal Processor Training Program

	Enrolled	Terminated	Employed	Training Related Emp.	School	Military
MDTA	165	165	120	90	13	3
NYC	22	20	1			
	187	185	121	90	13	3

	Neutral	Negative	Unempl.
MDTA	10	17	2

NYC	10	19 36	2

	MDTA	NYC	Total
Positive Terminations: (Employed-School-Military)	82.4%	5%	74%
Negative Terminations: (lack of interest)	10.3%	86.4%	19.2%

Trainee Selection Criteria:

Age: 18 to 21
Sex: Male
Grade Level: none required, 9th grade preferred
Special Skills: none; no obvious disabling handicaps.

Training Data:

Approach: Classroom only
Estimated length of training: Three months

The metal processor training program was developed in conjunction with the largest steel manufacturing company in the Detroit area. The personnel director of the company indicated that he had difficulty filling job vacancies and meeting new hiring needs (which sometimes amounted to fifty men per day). The main requirement for employment with the company was the knowledge of arithmetic on the sixth, seventh, and eighth grade levels, and the ability to pass an examination which tested for this knowledge. This appeared to be the major obstacle in obtaining employees. The company also administered a very thorough physical examination, and this, too, excluded many individuals from employment. Discussions with the personnel director led project staff to feel that the screening devices were reasonable, were not being used arbitrarily to screen out job seekers, and were realistic in terms of the demands of the work. The company had a policy of promoting employees from the laborer category into any number of skilled and/or semi-skilled operations. No further exam-

ination was required for this promotional movement, but employees did need a basic knowledge of arithmetic to operate productively in these skilled/semi-skilled capacities, and as a base upon which to build increased knowledge and skills. Therefore, every individual who entered the company was required to demonstrate knowledge of arithmetic in order to guarantee a minimal base of information for job mobility. (It should be noted that the realistic possibility of movement into semi-skilled or skilled capacities in relatively short periods of time was the main factor in deciding to train in this area. The project had avoided training and/or job referrals for unskilled jobs in a factory complex, since these were regarded as dead-end jobs, many of which would soon become obsolete. The steel company's practice of promotion from within was in keeping with the project's goal of training for entry-level employment in areas where these were possibilities for upward mobility. The physical examinations were thorough because of many health problems peculiar to the steel industry. For example, the company found that dead teeth were a serious hazard to health in the steel industry; if the tooth became infected, the infection could travel to the eye and cause blindness. Similarly, other physical disabilities precluded work in certain areas of the industry e.g. around smelting ovens.

The program that was developed by the project was directed simultaneously, meeting employer requirements and serving the needs of the disadvantaged population. After a two-week orientation period, trainees began classroom work five days per week basically in arithmetic remediation, but specifically directed at the needs of this particular steel company. This included work in addition, subtraction,

multiplication, division, conversion of fractions to decimals to fractions, knowledge and use of the steel ruler, the cast for lengths of steel, cubic measurement, etc. No vestibule stations were provided, since no work stations could be found in city departments which would duplicate the kind of work situation at the steel company. We tried to utilize some general labor vestibule stations for trainees in this category, but this did not prove effective since they were unrelated to the occupational field. Work attitudes, employer-employee relationships, punctuality and attendance, etc., were handled through classroom lectures, discussions, and films. On several occassions, former trainees who had secured employment at the steel company spoke to the training class about the work situation, hours, pay rate, and company policies.

Particular attention was paid to the medical needs of trainees in this occupational training program. The Project was aware of their physical defects which would preclude employment with the steel company and sought to correct them. Dental work (particularly extraction of dead teeth), minor operations (for hernias), special medication, etc., were some of the kinds of services provided for trainees in this category.

Trainee readiness for employment was determined in two ways: proximity to employer standards in knowledge of arithmetic; and resolution of physical and personal problems which might impede initial employment or prevent continuous employment. The decision on trainee readiness was reached through consultation with the various staff components (teaching, counseling, testing and coordinators).

The following analysis will give an indication of how long it took trainees in the metal processing program to obtain employment. The table indicates how many trainees obtained employment after one month of training, two months, etc.

Months in Training	Trainees
1	33
2	39
3	22
4	15
5	8
6	1
7	1
8	1
	120

Average length in training: 2.5 months

The average length of time spent by an individual in metal processor training was 2.5 months. The length of time which it took to develop the necessary knowledge to obtain employment depended to a large extent on individual data of progress. As a trainee demonstrated proficiency in arithmetic, and personal and medical problems were disolved, he was referred for employment. Essentially the academic deficiencies of the metal processor trainees were resolved in the first three months. The bulk of trainees who obtained employment after three months were those who required more intensive physical remediation, or resolution of personal ans social problems (both of which interfered with the learning process and/or the obtaining of employment).

Seventy-five per cent (75%) of the trainees who obtained employment were placed in training-related occupations; the other 25% were placed in nontraining related jobs. The latter occurred for a variety

of reasons. Some individuals did not want to continue in training when jobs were available in factories on an unskilled level. Although attempts were made by the project staff to defer youth from seeking jobs of this mature, a number of trainees went to work in factories rather than persist in a training program. In some instances they were aided by project staff in securing such employment; more often they obtained these jobs on their own. Other youth showed little progress in acquiring the necessary knowledge for employment in the steel company, and were placed in jobs more commensurate with their abilities. In a few instances, trainees discovered that they were not interested in employment in the steel industry and had potential for higher levels of employment. These were aided by Project staff (educational, testing, and job placement) to enter directly into skilled occupations with various industries (the gas company, the telephone company, etc.).

There was a total of 22 NYC trainees who were involved in this training program. They continued on NYC work stations for 3 days per week, and were expected to attend AYEP class for 2 days per week. This proved to be a very unsuccessful venture. Of the initial 22 trainees, 19 dropped out of the program within the first 2 weeks. The NYC trainees showed little interest in being sent to the program, apparently found little to interest them in their 3 to 4 days in the project; and since their participation was on a voluntary basis, they just stopped coming. They did continue with their NYC work experience after leaving MYEP. Because of a shortage of male enrollees in NYC, we have not been able to initiate another program with males from NYC.

Part of the problem may have been that these trainees were among the first sent by NYC to MYEP; liason between the two agencies was not well developed and there was a lack of communication regarding the problems of these particular NYC enrollees.

3. Nurse Aide Training Program

	Enrolled	Terminated	Employed	Training Related Employed	School	Neutral	Negative	Unplaced
MDTA	79	79	60	59	2	13	3	1
NYC	92	38	24	24	0	2	7	5
Total	171	117	84	83	2	15	10	6

	MDTA	NYC	Total
Positive Terminations (School - Employed)	78.5%	63.1%	73.5%
Negative Terminations (Lack of interest)	3.8%	7.6%	5.8%

Trainee Selection Criteria:

Age: 17 to 21
Sex: Female
Grade Level: none required; some high school preferred

Training Data:

Approach: classroom and vestibule station
Estimated length of training: three months

The conjunction of factors which was present in the decision of the Project to train in other occupational areas was also present in the considerations for a nurse aide training program. With the increase of health services, hospitals found themselves in need of the full range of medical personnel; this included nurse aides. The normal procedure utilized by hospitals in obtaining nurse aides, when exper-

ienced employees are not available, is to hire inexperienced women who have some interest in working in a hospital situation; these individuals are then put through a training program at the hospital lasting from two to four weeks based on the individual policies of the particular institution. The Project felt that it could aid the employer by providing individuals who had some training and experience in the nurse aide field. We realized that the hospitals subsequently would provide their customary training period for new employees; but our trainees would possess some basic knowledge and experience that would also make it easier for disadvantaged youth to obtain and retain employment.

Another consideration in deciding to provide nurse aide training was the characteristics of unemployed females. Many lacked the aptitudes and interests for employment in clerical capacities; others expressly indicated a desire to enter the nurse aide field but had found it difficult to do so. Still others hoped to make nursing a career; they desired nurse aide employment as a means of obtaining funds to forward their desires, and as a way of gaining their first exposure to an area related to their long-range occupational goals.

The Project also felt that its resources were sufficient to offer adequate training in this field. A registered nurse was acquired to handle the training program in a classroom context. Equipment was obtained to establish a mock hospital situation. City hospitals were contacted, and they agreed to enter into a training relationship with/ or by providing meaningful work-training experience in an actual

hospital context. Vestibule stations were developed with these hospitals in which trainees would be exposed to a variety of nurses-aide functions under adequate supervision and in a scheduled fashion. The vestibule station experience and the materials presented in a classroom mock-hospital situation were closely interrelated; one element supplemented and complemented the other.

The hospital vestibule station component was found to be a highly desirable, if not inexpendable, element in the training process. The Project attempted to operate one nurse aide training program with NYC trainees who remained on former NYC work stations which were unrelated to the nurse aide field. While the classroom training in the nurse aide area was adequate, it could not be substituted for the learning experience gained through hospital vestibule stations. Even where sufficient knowledge was acquired through the classroom situations, employers were loathe to hire individuals who had no hospital floor experience. After this initial experience, subsequent nurse aide training programs were set up with a vestibule station experience in a hospital.

The following will give some indication of the manner in which this combined approach (classroom and vestibule station) operated in the training of nurse aides. It should be noted that the hospital component was not solely a <u>work</u> experience but a well-regulated <u>training</u> experience as well. The total nurse aide training program resulted from combined planning involving both hospital and Project staff. The hospital experience involved rotation through various departments within the hospital and a systematic exposure to various routines within these departments.

Hospital Work-Training Component

Contagious Diseases: 96 hours. General duties include bed baths, bed-making, taking temperature, pulse and respiration; transferring patients to wheel chair, stretcher or chair; administering the cleaning of bedpans, emesis basing; feeding patients; cleaning bedside units, linen rooms, etc.

Central Supply: 48 hours. Duties include cleaning glove, thermometers, syringes; removing sterile supplies from autoclave; folding gowns and other linens.

Pediatrics: 96 hours. Duties include diapering infants; taking rectal temperatures; feeding and bathing infants and children.

TOTAL 240 Hours

Institutional Component

Orientation: 36 hours; introduction to the world of work, general health and sanitation, work attitudes.

Nursing Arts, Lecture and Practice: 70 hours; bed-making temperatures, bathing, feeding, intake and output, transferring.

Human Anatomy and Physiology: 31 hours; studies of such systems as blood and circulation, digestive, excretory.

Nutrition: 4 hours; emphasis on proper diet.

Library and tours: 8 hours.

Testing: 6 hours; aptitude and intelligence tests.

Community Relations: 12 hours; personal growth and development.

Current Events: 8 hours; reporting on current events to gain experience in speaking before a group.

TOTAL: 160 Hours

Trainees were at the hospital for 3 eight-hour days a week. Two days a week were spent in the Project. The entire program was set up to run for 400 hours, or 10 weeks. This was expanded occassionally to 12 weeks as the needs of individual groups were considered. This was one of the few training programs in the Project which had a definite training time limit. This could be done in this occupational field primarily because the material to be learned could be absorbed within the time limit set up for the program, and because the academic requirements for employment in this field were relatively low.

Both MDTA and NYC trainees were involved in the nurse aide training program. MDTA trainees were uniformly involved in a combined program of classroom instruction and related vestibule training stations. Initially, the NYC trainees were involved only in the classroom phase and continued on nontraining related work stations. As has been previously indicated, this latter approach was far less effective in terms of training, attention in the program and obtaining employment than that utilized with the MDTA trainees. In subsequent coupled programs with NYC, all trainees were placed on training-related work stations in a hospital; this resulted in an increased learning experience, a reduced dropout rate, and a more adequate preparation for employment.

While the training program had as its primary goal the preparation of youth for employment as nurse aides, it had a large-range goal as well. It was anticipated that once trainees obtained employment in the nurse aide field they would have possibilities of upgrading themselves to practical nurse levels. Both the curricula and the attitudinal components of the program were directed toward this end.

4. Pre-apprentice Training Program

Enrolled	Terminated	Employed	Training Related Employment	School	Military	Neutral	Negative
39	35	26	10	2	6		1

Positive Terminations: 97.1%
(Employed, School, Military)

Negative Terminations: 2.9%
(Lack of interest)

Trainee Selection Criteria:

Age: 17 to 21
Sex: Male
Grade Level: High school graduation
Special Aptitudes: Potential for entry into apprenticeship program
Training Data:
Approach Taken: Classroom only
Estimated length of training: Three months

The Project was motivated to offer pre-apprentice training for a variety of reasons. The first attempt in this area was brought about by a request from the Urban League. This agency had a number of Negro men who were interested in entering apprenticeship programs with industry, but failed to qualify in entrance examinations. A pilot program was attempted with 24 men, to see what could be achieved in a relatively short period of time. These men were employed in non-apprenticeable occupations, and consequently, the pilot program was set up to be operated two nights a week. All 24 men were able to pass apprenticeship batteries after the training program and four were admitted into apprenticeship training programs directly. The others are still on waiting lists at this time and their prospects for employment in apprenticeable trades is dubious. The statistics listed above do not include this initial group of men, since they were over 21,

the program was operated at night, and the individuals were all employed prior to entering the training program.

On the basis of this pilot program, the Project became interested in applying the techniques utilized with the Urban League men to an unemployed disadvantaged youth population. It was felt that there were many Negro youth who would be interested in employment in apprenticeable occupations but rather lacked the qualifications for entry or were unaware of the benefits associated with employment in this area. The Project obtained the co-operation of the Detroit Board of Education to initiate a recruiting program among the males in a graduating class from two inner city high schools. Youth who were interested in the possibilities of entering apprenticeship programs were enrolled by MESC counselors in the MYEP pre-apprentice training program. The goals of this program were varied. One aspect was directed toward making these youth aware of the various opportunities for employment in the apprenticeable occupations. Another was assisting these youth in making realistic choices for themselves in order to enable them to realize the goals they had set for themselves. This might mean preparation for employment; it might also mean furthering their education on the college level. Since these were youth who had just completed high school, a third aspect of the program was directed towards the problems of maturity, the transition from school to employment, life as an adult, etc.

The youth were involved in a program for 4 eight-hour days per week. Their time in this Project was divided equally between academic preparation for apprenticeship employment and preparation for life as an adult. The following program outline will provide an indication of both of these aspects and the kinds of materials covered in the half-day academic and half-day supportive components. The Project testing staff was responsible for the development and communication of the academic materials and further data in this aspect of the program is contained in the report of the testing department. A coordinator was assigned to handle the nonacademic component as well as the supportive services required by the trainees.

<u>Instructional Component</u>

A. MECHANICAL REASONING

1. Physical Systems

a. Effects of gravity
b. Effects of centrifugal force
c. Mechanical advantage
    1. Lever
    2. Inclined plane
    3. Pulley systems

d. Gearing ratios
e. Resistence effects (friction)
f. Multiple force effects
    1. Gravity
    2. Friction
g. Temperature dynamics
h. Fluid mechanics
i. Action - reaction dynamics

B. SPACE RELATIONS

1. Sheet metal applications
2. Volume determination

C. NUMERICAL ABILITY

1. Addition
   Subtraction
   Multiplication
   Division
2. Decimals
3. Fractions
4. Square roots
5. Percentages
6. Discounts

D. ABSTRACT REASONING

1. Problem figures
2. Number series
3. Letter series
4. Word series
5. Syllogistic reasoning
   a. Major premise
   b. Minor premise
   c. Conclusion
   d. Deductive reasoning

E. VERBAL REASONING

1. Analogous Systems
   a. Form relations
   b. Meaning relations
   c. Position relations

2. Definitions
   a. Word origin
      1. Prefixes
      2. Suffixes
      3. Stems
      4. Roots
   b. Linguistic Theory
      1. Spelling
      2. Punctuation
      3. Syntax
      4. Usage

Supportive Component

Orientation Sessions

1. Read and discuss Ford training manuals
   a. Knowledge of selection procedure
   b. General knowledge of at least ten trades
   c. Role of minority groups in apprentice selection

II. Class reports on related trades
   a. Individuals to report on specific occupations
   b. All reports to be oral-related to unit on public speaking
   c. Written assignment; class essays on three trades

III. Plant tour: as soon as can be arranged

IV. How to interview
   a. Application blanks
   b. The psychology of interviewing
   c. The rights and responsibilities of the applicat in an interview
   d. Mock interviews

V. The problem of automation
   a. The meaning of automation
   b. Cybernetics
   c. The social and political implications of automation
   d. Values and promises
   e. Threats and dangers
   f. The impact of automation upon specific trades
   g. Automation and the problem of leisure

Outline of Topics for Discussion

I. What does it mean to be a man?
   a. The search for the self
   b. Why man's self-identity is in confusion
   c. Man and woman: The fundamental difference
   d. When does a boy become a man
   e. The relation of work to manhood

II. World problems
   a. The need for a world perspective
   b. Most significant problems
   c. The relation of world problems to individuals
   d. Viet Nam and personal anxiety

III. Images of man: an objective presentation of some alternatives

a. "The playboy philosophy"
b. Nihilistic Existentialism
c. Marxism
d. Humanism
e. Religious view

IV. The meaning of maturity

a. Dependence-independence
b. Relation to reality
c. Authority
d. Mastery of negative emotions
e. Postponement of gratification
f. Intimacy
g. Communication

V. Money and taxes

a. Meaning and power of money
b. The need for budget
c. Taxes
d. How to fill out income tax forms

VI. Automation

a. Meaning
b. Impact
c. Cybernation
d. Relation of automation to vocational training

VII. Leisure time

a. The increase in leisure
b. The problem of leisure
c. Possibilities of creative use
d. The dangers of leisure

VIII. Public speaking

The academic portions of the training program were developed in terms of existing employer requirements and in conjunction with them. Employers required a broad base of knowledge upon which they could build during the four-year apprenticeship period. The Project goal in this aspect was to provide each individual with the knowledge needed to enter and to complete an apprenticeship program.

The supportive component was developed to meet a different kind of need. Minority youth have traditionally had difficulty in entering apprenticeship programs. Academic deficiencies accounted for some of these difficulties, and the academic portion of the program was designed to correct this. The supportive component was designed to deal with the attitudinal, personal, and social problems often used as a basis for the exclusion of minority individuals.

Results

Ten of the thirty-five youth who were terminated from this project entered directly into apprenticeship programs. The majority of the twenty-six who were employed in nonapprenticeable occupations could have entered apprentice programs if they had so desired. These youth were those who, during the course of the training program, decided that they were not interested in apprenticeship occupations and developed other interests instead. A fairly typical example of what occurred during the training program, M.C. was undecided when he entered the program as to his future goals. During the period of his participation in the program, he decided that his real interest was in Business Administration. He did not have the funds available for a college education. Many private employers have programs wherein an individual is hired and has the opportunity subsequently of taking college courses on a part-time basis at the company's expense. As the employee acquires further academic background, he is moved up within the company. M.C. decided that he would prefer this to embarking on a college program on a full-time basis. He was employed by the largest automotive manufacturer in Detroit as a junior accountant and, after his

probation period, will begin work at a university in Business Administration. While M.C.'s employment was not directly related to the training received in the Project, it was a result of the experiences he had in the Project, both academic and supportive.

The pre-apprentice program was considered by the MYEP to be a highly successful endeavor. This was true not primarily because of the entry of youth into apprenticeship occupation, but because youth were enabled to rethink their goals, establish new ones in some instances, and finally were enabled to realize them.

5. Auto Mechanic Training Program:

Enrolled	Terminated	Employed	Training Related Employment	School	Military	Neutral	Negative
41	38	19	11	4	3	0	12

Positive Terminations: 68.4%
(Employed, School, Military)

Negative Terminations: 29.3%
Lack of interest

Trainee Selection Criteria:

Age: 17 to 21
Sex: Male
Grade Level: none required; some high school preferred

Training Data:

Approach taken: Classroom and vestibule stations
Estimated length of training: six months

Accompanying the growth of the utilitization of motorized vehicles has been an increasing demand for trained individuals who are able to maintain, service, and repair these vehicles. The Project has endeavored, through its auto mechanic training program, to prepare disadvantaged youth for entry-level employment in this field. The requirements for entry-level employment in this occupational field vary extensively with the needs of individual employers. The Project training program was set up to provide a variety of work experiences from elementary to the more advanced levels of automotive repair. It was realized that some individuals might possess the aptitudes for a thorough training program; others would be able to absorb only the basic essentials in this field and would require years of actual work experience to develop into highly skilled mechanics.

Trainees were involved in an 8-hour per day, five days a week program. This consisted of 24 hours on vestibule work training stations and 16 hours of related automotive instruction.

City of Detroit departments (Motor Transportation, Public Works Fire Department and Detroit Streets and Railways Commission) were utilized to provide work experience and training in an actual job situation. Trainees were assigned to individual mechanics within the various personnel in the automotive repair division of the above mentioned city departments (superintendants, supervisors, foremen, and mechanics). Without the cooperation of those departments, the Project would not have been able to offer training in this occupational field since it lacked the facilities and equipment needed to conduct an auto mechanics training program.

The attached curricula and work experience assignment will give some indication of the kind of program that was operated. This comprises the full range of the program and was designed to provide a well trained entry level employee. Certain portions of the program were covered in a classroom setting, particularly the orientation section. However, all other aspects were covered formally by the training station and the classroom phase. A trainee would receive a basic introduction to a specific area or task. He would then be exposed to work in this area at the training station. If needed, further classroom time would be spent reinforcing the experience at the training station. As each job task was completed satisfactorily, the space on the right of the program outline would be signed and dated by the mechanic at this training station or the classroom instructor. An individual file was kept on each trainee's progress. A trainee was considered ready for employment when he had completed a sufficient number of tasks to qualify for employment. This was also correlated with the individual trainee's potential. Thus, an individual with a higher aptitude might complete more tasks and, subsequently, receive a higher level entry job, while a trainee with more limited potential would complete tasks sufficient to obtain employment in a somewhat less demanding situation.

Program Description

AUTOMOTIVE SHOP AND JOB STATION REQUIREMENTS
FOR MAYOR'S YOUTH EMPLOYMENT PROJECT
AUTO MECHANIC TRAINEES

APPROVED:
Superintendent of Motor Transportation City of Detroit:

_____

Auto Repair Supervisor Motor Transportation City of Detroit:

_____

Foremen: _____

_____

_____

	DATE COMPLETED
Orientation	
1. Shop Safety	_____
2. Shop Organization	_____
3. Appearance and Shop Maintenance	_____
4. Job Opportunities in Auto Repair	_____
5. Automotive Hand Tools - Techniques in use of	_____
6. Automotive Terms	_____
7. Mathematics for the Shop	_____
8. Film, booklets, and charted materials	_____
Measuring	
1. Read micrometers	_____
2. Measure a piston	_____
3. Measure a cylinder	_____
4. Measure a crank pin	_____
5. Measure piston and cylinder clearance	_____
Drills	
1. Grind a drill (sharpen)	_____
2. Drill and tap holes for	_____
Chisels and Files	
1. Grind a drill (sharpen)	_____
2. File a sunface	_____
Broken Stud Removal	
1. Remove a broken stud or cap screw	_____
Metal Identification	
1. Identify the ferrous metals	_____
2. Identify the non-ferrous metals	_____
Fastening Device Identification	
1. Identify nuts, bolts and cap screws	_____
2. Identify locking devices	_____
3. Identify miscellaneous fastening devices as screws, keys, etc.	_____

AUTO MECHANICS

	DATE COMPLETED
Standard Hand Tools	
1. Tin a soldering copper	_____
2. Solder a seam in tin plate	_____
3. Solder electrical splicks	_____
Rivets	
1. Rivet sheet metal parts	_____
Pipes and Tubes	
1. Make a pipe assembly	_____
2. Make a tube assembly	_____
Automotive Service	
1. Brakes	_____
2. Diagnose brake trouble	_____
3. Adjust service brakes and pedal clearance	_____
4. Remove and install brake shoes	_____
5. Adjust hand brake	_____
6. Remove and install master cylinder	_____
7. Remove and install brake	_____
8. Bleed a brake system	_____
Steering	
1. Learn basic types of steering units	_____
2. Diagnose steering trouble	_____
3. Adjust steering	_____
4. Check and adjust steering mechanism for alignment	_____
5. Remove and install steering linkate	_____
6. Remove and install steering gear	_____
Rear Axle	
1. Learn movements of a rear axle	_____
2. Diagnose rear axle trouble	_____
3. Remove and install rear axle assembly	_____
Springs	
1. Remove and install a leaf spring	_____
2. Remove and install a coil spring	_____
Universal Joint	
1. Remove, lubricate and install universal joint	_____
Transmissions	
1. Learn types of transmissions	_____
2. Diagnose transmission trouble	_____
3. Remove and install a transmission	_____

AUTO MECHANICS

	DATE COMPLETED
Clutches	
1. Diagnose clutch trouble	_____
2. Remove and install a clutch	_____
3. Adjust clutch pedal clearance	_____
Lubrication	
1. Lubricating system	_____
2. Repack front wheel bearings	_____
3. Packing universal joints	_____
4. Lubricate a complete chassis	_____
Minor Body Adjustments	
Doors	
1. Remove and install and adjust door latch	_____
2. Adjust door hinges	_____
Windows	
1. Remove and install and adjust windows lift mechanism	_____
Windshield Wipers	
1. Remove and install windshield wiper motor	_____
Heaters	
1. Remove and install can heater controls	_____
2. Adjust heater controls	_____
Hood	
1. Adjust hood and hood latch	_____
Rear Compartment door	
1. Adjust rear compartment door and latch	_____
Body Bolts	
1. Torque body bolts	_____
Automotive Engine	
Cooling Systems, Radiator, Water Pumps and Thermostats	
1. Learn parts, function and operation of an automobile cooling system	_____
2. Learn operation of engine thermostats and how to test for correct operation	_____

	DATE COMPLETED
3. Correctly drain cooling system, install radiator hose, check anti-freeze and check visually for leaks	_____
4. Remove and install a water pump and adjust belt	_____
5. Disassemble a water pump, rebuild and reassemble a water pump	_____
6. Study typical car heating systems	_____
Engine Ignition and Timing	
1. Learn firing order of common six and eight-cylinder engines	_____
2. Install timing gears	_____
3. Install timing chain	_____
4. Check valve timing	_____
Carburetors, Fuel Pumps and Manifolds	
1. Learn function and operation of current model carburetors, fuel and vacuum pumps, disassemble, assemble and test pump	_____
2. Learn intake and exhaust manifolds and install a set of manifold gaskets	_____
3. In tall, adjust, and test carburetors	_____
4. Learn purpose of carburetor and manifold heat controls	_____
5. Learn purpose and adjustment of automatic choke	_____
Lubrication Systems, Oil Pumps and Filters	
1. Learn different filter systems and pressure controls	_____
2. Learn different types of oil pumps, remove, disassemble, assemble and replace oil pump	_____
Complete Engine	
1. Learn function of principal engine parts	_____
2. Learn types of engines in use today	_____
3. Engine principles	_____
4. Tune engines 4, 6, 8	_____
Automotive Electricity	
Electrical Circuits	
1. Learn relationship of volt, ampers and ohms in simple circuits	_____
2. Measure voltage drop	_____

AUTO MECHANICS

	DATE COMPLETED
Batteries	
1. Study and test dry cells and storage batteries	_____
2. Study 6 volt and 12 volt battery charging systems and completely charge & battery	_____
Ignition Circuits	
1. Trace and test primary ignition circuit	_____
2. Trace and test secondary ignition circuits, including spark plug wires	_____
Spark Plug	
1. Machine clean and adjust spark plugs	_____
2. Test spark plugs in a pressure chamber	_____
Ignition Timing	
1. Ignition time and engine	_____
2. Check ignition timing with timing light engine running	_____
Starting Motor	
1. Disassemble, inspect and assemble a starting motor	_____
2. Clean brush holders	_____
3. Study starter control devices	_____
Generators	
1. Inspect and assemble an automotive generator	_____
2. Test generator output	_____
3. Recondition a generator commutator	_____
Light and warning device circuit	
1. Trace and inspect horn circuit	_____
2. Trace and inspect lighting circuit (head, tail, back-up, interior lights)	_____
3. Trace and inspect turn signal and stop light circuit	_____
Regulators	
1. Inspect and adjust air gap, point clearance, spring tension for controlling generator output	_____
2. Check and adjust regulator in a generator battery regulator circuit	_____

Results

The time required for trainees to acquire the necessary background for employment varied with the individual trainee. The following analysis will give some indication of this individualized rate of development:

Months in Training	Trainees
2	6
3	2
4	2
5	3
6	2
7	0
8	2
9	1
12	1
	19

Average length in training 4.7 months

Again, it appears to be indicated that the length of time spent in training before a job was obtained is based primarily on the background of the trainee prior to entry into the Project. In addition, each trainee was retained in the program as long as he was willing to continue, and as long as it was felt that he could continue to benefit from the program.

6. Dietary-Aide Training Program

Enrolled	Terminated	Employed	Training Related	School	Neutral	Negative
25	24	14	10	1	5	4

Positive Terminations: (Employed - School) 62.5%

Negative Terminations: (Lack of interest) 16%

Trainee Selection Criteria:

Age: 17 to 21
Sex: Male or Female
Grade Level: none required

Training Data

Approach: vestibule stations only
Estimated length of training: four months

The Project entered into this training program as an experiment with the Skills Center. Trainees were selected from that agency who had been involved in the program of education and sheltered work experience at the Skills Center cafeteria. Each trainee who was selected by the Skills Center was to have had the necessary basic education and vocational training (institutional) prior to their entrance into MYEP. MYEP was then to place these trainees in a straight vestibule training station, in the cooking area, for four days per week. The fifth day was to be spent back at the MYEP for counseling and guidance. The purpose of the trial program was to explore the possibilities of utilizing vestibule stations only, after youth had received the necessary educational and vocational training instead of simultaneously with the vestibule stations, to see if this would complete their training and prepare them for work.

After two weeks orientation at MYEP, the trainees were placed on the vestibule training stations in the dietary departments of various hospitals. As the program progressed, it became evident that a vestibule program alone was inadequate to meet the needs of disadvantaged youth. While they may have acquired the necessary knowledge and skills needed to perform their duties at the vestibule stations, they lacked the attitudinal and motivational factors essential to becoming a satisfactory employee. They also needed additional instruction to supplement their vestibule experience.

It was the opinion of the MYEP staff that the needs of disadvantaged youth are best served by a combined institutional and vestibule approach when a program is designed to teach occupational skills and to prepare these youth for employment. The institutional phase alone is inadequate since it fails to provide experience in an actual work situation. The vestibule phase alone is inadequate since it fails to provide additional occupational information and the supportive services essential to the preparation of disadvantaged youth for employment. Since the youth were in the stations for four days a week, this left insufficient time to deal with the personal and social needs of the individual trainee; it also provided no opportunity for remedying knowledge--gaps uncovered by the vestibule experience.

MYEP did not offer any further training programs in this area primarily because it lacked the staff and facilities needed to provide a meaningful training approach in the dietary aide or cook-helper category.

In our first contract year, dietary-aide training was provided in a combined approach, i.e., classroom and vestibule trainees received both basic and occupational education in the Project context, and actual job training at a vestibule station. This proved to be a far more effective approach than that attempted during this contract period.

7. Retail Sales Training

Enrolled	Terminated	Employed	Training Related	Negative
19	19	18	18	1

Positive Terminations: 94.7%
Negative Terminations: 5.3%

Trainee Selection Criteria:

Age: 17 to 21
Sex: Male or Female
Grade Level: ,high school graduation preferred but not required

Training Data

Approach: classroom and on the job training
Estimated length of training: Three (3) months

The basic approach utilized in the retail sales training program was similar to that found in other training programs where vestibule stations were involved. The trainees were in Project classes for two days a week during which time materials were presented in the area of merchandising (customer contact, sales techniques, displays, credit buying, sales and luxury taxes, etc.). The remaining three days each week were spent with a major retail merchant (Sears-Roebuck Co.) in a work-training situation. Trainees were employed by Sears for 24 hours per week and paid the minimum starting wage. They were not regarded as regular employees but as sales trainees. Department managers were directly involved in the training of those individuals and in an evaluation of their performance in the job situation. A co-ordinator from the Project staff visited the training supervisor and the trainee on the job site at periodic intervals to assess trainee progress and determine areas where the trainee could use more help. Information found during the training station contact was communicated to Project staff, and an attempt was made to correct deficiencies, provide new information, review previously covered material, etc., when the trainee spent the two class days at the Project.

The program lasted for 12 weeks. At the end of this time, trainees who had completed the program were offered employment by Sears. In terms of a training experience which led to employment, this program was unusually successful. Eighteen of the nineteen trainees were retained by Sears in sales capacities. However, there were certain factors connected with the retail sales field which made the Project question the advisability of offering further training in this area. It is a fairly common practice among retail stores to start new employees on a contingent (on-call) or part time basis rather than as full-time employees.

This was the experience of the trainees who completed the program with Sears. In some instances this led to full-time employment; in others, trainees were continued in part-time capacities only. This proved to be quite discouraging to several trainees who subsequently quit their jobs when full-time employment did not appear to be a possibility in the immediate future.

While it is true that there is a need for retail sales personnel, considerable caution should be used before embarking on a training program in this area. Unless there are fairly secure assurances that successful trainees will obtain full-time employment, this area should be avoided in designing programs for a disadvantaged population. It is not always easy to interest disadvantaged individuals to participate in a training program to begin with. It is an extremely disappointing experience to complete a program successfully and then to be "rewarded" by part-time employment. As a result of this one factor the Project did not continue training in this area.

8. Supermarket Pre-On-The-Job Training Program

This program was designed to complement the type of services provided to youth enrolled in the Neighborhood Youth Corps. In many instances, NYC enrollees were able to make the transition from their NYC experience directly into jobs or into on-the-job training programs with private employers. However, this was not always true for every NYC youth. Just as many NYC youth required additional occupational training and basic education before they can meet employer requirements for jobs, so many NYC youth require additional training before they can enter into an on-the-job training (OJT) program. This program was intended to prepare NYC enrollees to enter an OJT program with a supermarket chain as cashiers, stock clerks and meat wrappers. NYC trainees were to continue their work experience for 3 days a week; the remaining 2 days they were to participate in the MYEP. During these 2 days they were given a basic orientation to supermarket employment (merchandising principles, customer-employee relationships, fundamentals of the work to be performed, etc., as well as supportive services (counseling, testing, grooming, etc.). The curriculum utilized was a project of joint planning with the city OJT staff, MYEP staff, and personnel from the supermarket chain. As trainees completed the program they were to enter the OJT phase with the supermarket.

All nineteen trainees completed the program; however, the expected OJT slots did not materialize at the time when the MYEP phase was completed. Consequently, none of the trainees entered the OJT program. One youth was placed directly into employment with a locksmith; another returned to school, two of the remaining seventeen

entered MYEP's clerk-typist program. Fifteen left the MYEP phase and continued their NYC work experience.

MYEP continues to feel that it is important ot provide a supplement to NYC to prepare youth for entry into OJT programs. However, much more extensive planning is needed before another program of this nature would be attempted. Full employer co-operation and participation in the pre-OJT phase should be secured. Definite OJT slots should be developed, preferably with the pre-OJT trainees in mind. NYC work experience should be related to the training received in the MYEP phase. In general, as much effort and planning must go into the preparation of youth for OJT programs as goes into the preparation of youth for employment. Even though OJT is technically a training program, private employers expect a certain degree of productivity, knowledge of the occupational field, and good work habits. In many ways the expectation is similar to that associated with the employment of new personnel directly. A pre-OJT program must be cognizant of this and develop its approach accordingly.

9. Special Projects

In addition to the programs previously discussed in this section, the Project also became involved in operating programs of a somewhat different nature. One such program was discussed briefly under pre-apprentice training (sec. E,4.) and is fairly typical of the remaining two which will be covered in this section. Trainees were not youth, they received no allowances, participation was on a voluntary basis, and classes were conducted after normal working hours.

A. Alexandrine House Project

The Alexandrine House is a non-profit residence established for parolees. It provided a home for men who have been incarcerated and who have subsequently become eligible for parole. The House serves as a half-way situation: a place where parolees can adjust to the community and to "normal" life during the transition from life "inside" to life "outside". The men reside at Alexandrine House until they become employed in full-time fairly steady capacities and are subsequently self-sustaining.

One of the major difficulties encountered by parolees in their attempts to exist as members of society is that of obtaining employment. Employees are usually reluctant to hire individuals with police records; this reluctance is intensified when an individual is on parole. The difficulties for the parolee are further compounded if he is Negro. In this sense the personal background and characteristics of the parolee, nature and number of offenses, and the length of incarceration constitute the major impediment toward securing a job. This is true even if the parolee has acquired a skilled or semi-skilled trade prior to or during his incarceration, or if he possesses good scholastic abilities or high aptitudes. The task of finding employment is increasingly difficult for the parolee who, in addition to having a police record, lacks academic proficiency, high aptitudes, or specialized occupational training. When employment can be obtained for either of these two types of parolees, it is often of a temporary nature, and on an unskilled level with commensurate low pay and high job insecurity. The kind of work which parolees are able to get (or unable to get plays a determinative part in the repetitiveness of criminal behaviour.

With these things in mind, the MYEP felt that it could extend its services of counseling, guidance, testing, class work and job placement to this particular population in an attempt to minimize the obstacles faced by parolees in obtaining employment, and to maximize the potential of the parolees who would be involved.

Since Alexandrine House was "home base" for the parolees, the Project activities were conducted at the facility. We began by interviewing all those who were interested, tested them, and made an initial attempt to evaluate their abilities and potentials. Those who tested well or had marketable skills were referred directly to employment by the Project placement staff. Those who tested fair to poor or who had inadequate skilled backgrounds were designated for additional class work which would be directed at increasing their knowledge and abilities.

Class sessions were established and scheduled to meet twice weekly for periods of two and one-half hours each time. The classes provided remedial work in arithmetic and English, instructions on test taking procedures, practice in completion of application forms, and the development of job interview techniques. Attendance at these classes was on a voluntary basis; parolees participated when they wanted to, and continued until they obtained employment or until they lost interest. Because of this voluntary aspect, considerable effort was directed toward securing employment quickly.

Approximately twenty different men were interviewed each month during the six-month period when the program was in effect. Between six to ten men were involved in each class session that was conducted,

with different men entering and leaving the house and the class as well.

Ten men were placed on jobs with the steel company mentioned in the discussion of the metal processor program. Ten others were placed in various kinds of employment commensurate with their aptitudes and skills (auto mechanic, clerical, semi-skilled factory work, etc.). These twenty were involved in the classes conducted by a Project staff member.

Twenty other individuals were placed in jobs as a result of Project involvement, although they did not participate directly in the class work component. In some instances, individuals lacked tools needed to begin a job; these were provided by the Project. In other cases, the parolees who possessed required skills but had encountered obstacles because of their background.

In view of the highly mobile nature of the parolee population, numerous personal obstacles to employment, noncompulsory nature of the program, and the attitudes of employers toward men with police records, MYEP feels that the results achieved in this initial attempt were highly satisfactory. Alexandrine House is continuing to work with parolees along the lines developed by MYEP.

B. Police Preparation Program

At the request of the Commission on Community Relations (CCR) and the NAACP, MYEP initiated a program for men, 21 years and over, who wanted to be police officers but had failed the entrance examination. These individuals were close to the minimum requirements and

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were otherwise well qualified, but did lack certain skills and knowledge. The program was designed to accomplish academic improvement, increase physical fitness, and provide an introduction to the function of the police department and the policeman.

Since the individuals selected for this program were employed, training was conducted on Saturdays from 9:00 a.m. until 3:00 p.m., for eight weeks. Trainees participated on a voluntary basis, and the program was conducted by the MYEP Director of Testing.

The first sessions were devoted to diagnostic testing for the purpose of assessing strengths and weaknessess. On the basis of this testing, the specific course context was developed in the following manner:

<u>Curriculum Component 9:00 - 11:00 a.m.</u>

I. Vocabulary
   A. Word origin
      1. Prefixes
      2. Suffixes
      3. Stems and Roots

   B. Spelling
      1. Rules
      2. Exceptions

   C. Word Definitions
      1. Cognates
      2. Synonyms
      3. Antonyms
      4. Homonyms

II. Mathematics
   A. <u>Basics</u>
      1. Addition
      2. Subtraction
      3. Division
      4. Multiplication

   B. Decimals
   C. Fractions
   D. Percentages
   E. Discounts
   F. Elementary principles of Algebra

III. Mechanical Reasoning
(A brief introduction to:)

A. Physical Systems
1. Gravity
2. Centrifugal force, inertia
3. Levers, inclined planes, pulleys
4. Friction
5. Temperature and fluid dynamics

IV. Abstract Reasoning
A. Problem figures
B. Number series
C. Letter series
D. Word series (relationships)

V. Verbal Reasoning
A. Analogous Systems
1. Form relations
2. Meaning relations
3. Position relations
4. Elementary logic and reasoning
a. analogies, syllogisms, etc.

Physical Conditioning and Lunch 11:00 a.m. - 1:00 p.m.

During this period the men underwent a rigorous physical development program at a neighboring Y.M.C.A. The purpose of this aspect of the program was to develop physical abilities to twice that of the minimum police academy requirements.

Related work: discussion topics 1:00 - 3:00 p.m.

1. Law

2. Police techniques and equipment
a. Firearms
b. Vehicles
c. Special equipment
d. Fingerprinting

3. Community relations
a. Community agencies

4. Relationship to the Fire Department
a. Special roles

5. Crime Statistics
   a. Adult crime
   b. Juvenile crime

6. Special Crime Categories
   a. Narcotics
   b. Extortion
   c. Robbery
   d. Break and entry

7. Related films and slides from the academy

8. Speakers
   a. Police Department
   b. Community agencies
   c. Related governmental departments

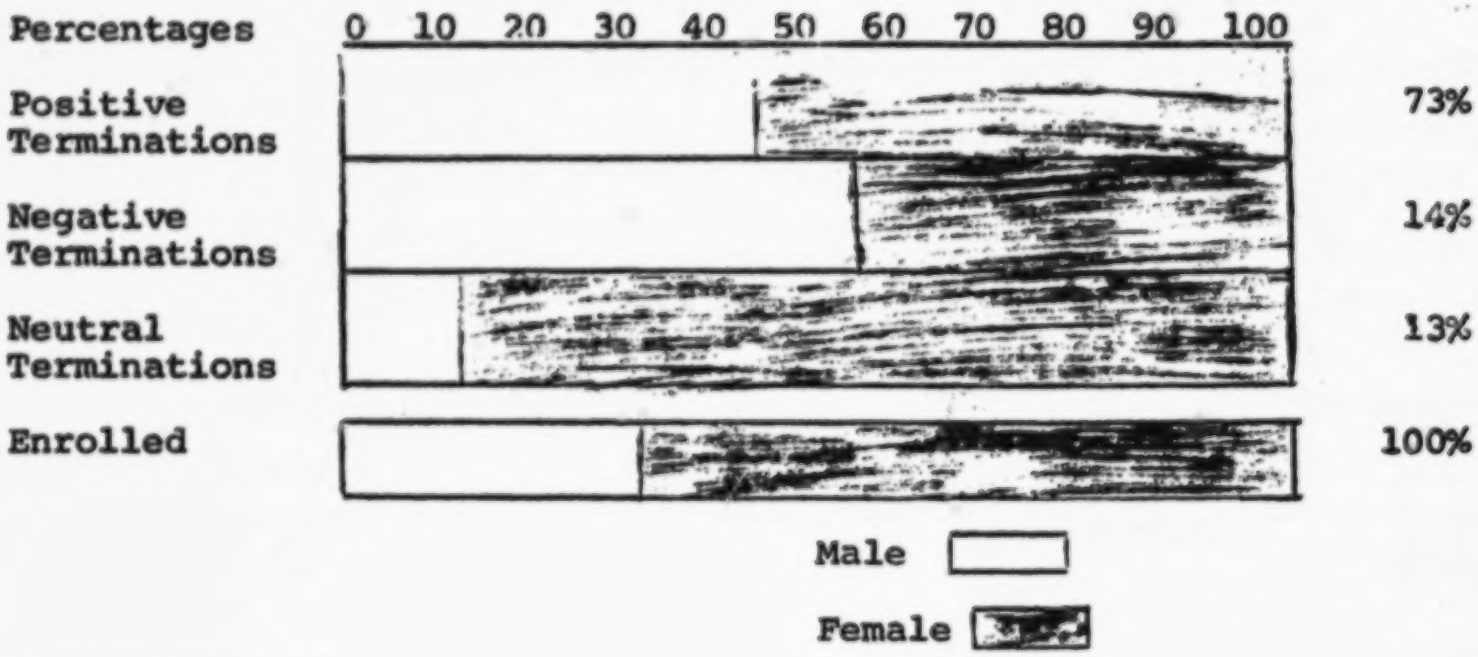
Thirteen men started the program; seven completed it. The six who left did so because of an apparent decreasing interest in attempting to obtain employment with the police department. The seven men who completed the program were subsequently tested by the Department; three men passed and were employed by the Police Department. For a more complete discussion of the program, see the testing report.

C. Male - Female Ratios

This section will concern itself with the analysis of the sexual composition of the regular training programs in terms of enrollment and terminations (positive, negative, and neutral). This will not include data on the special programs conducted by the Project (Urban League pre-apprentice, pre-police, and Alexandrine House); these all involved males only.

The following data indicates what percentage of the enrollment was male and female, and the percentages of males and females involved in terminations for positive, negative, and neutral reasons.

	Male	Female
Enrolled	36.4%	63.6%
Positive Terminations	46.5%	53.5%
Negative Terminations	58.8%	41.2%
Neutral Terminations	16.3%	83.7%



Explanatory Narrative:

1. Enrollment:

Of the total number of trainees involved in regular programs, 36.4% were males and 63.6% were females. It was the Project's intention to have a much higher percentage of males, but external conditions prohibited this. At the beginning of the contract year there was a sufficient number of unemployed males available for training, and the first ratios in AYEP were 60% - 40% with males predominating. However, the labor market situation altered radically in Detroit; toward the end of the contract year it was virtually impossible to secure males for training since almost any male could obtain employ-

ment, at least in unskilled capacities, if he so desired. As a result, trainee composition in the latter part of the contract year was almost entirely female. AYEP felt that the training programs should reflect the needs of the unemployed population; as the proportion of unemployed females who were available for training increased, the Project adjusted its structures to provide more training programs in female areas.

2. Terminations:

If a normal pattern prevailed, one would expect that terminations for male and female for positive, negative and neutral reasons would be distributed on the same percentage basis in the enrollment. It would be expected that of the positive terminations roughly 36% would be males and 64% would be females, and similarly for negative and neutral terminations. However, this was not the case. While males constituted 36% of the population, they accounted for 46.5% of the positive terminations, 58.8% of the negative terminations, and only 16.3% of the neutral terminations. Females, who constituted 63.6% of the trainee population, account for 53.5% of the positive terminations, 41.2% of the negative terminations, and 83.7% of the neutral terminations.

Within the male and female populations, the following will indicate the percentage of each group who were terminated for positive, negative or neutral reasons:

	Males	Females
Positive Terminations	76.8%	69.6%
Negative Terminations	18.5%	10.4%
Neutral Terminations	4.7%	20%

The major reason for termination in both groups is positive, i.e., employment, school, further training, military service; it is 3½ to 4 times greater than the next highest reason for termination. The differences between male and female are slight with regards to positive terminations, since proportionately, more males are terminated for this reason. This difference may be accounted for in part by the fact that the labor market was more desirous of obtaining male trainees. Another factor was the length of time involved for training males for jobs imposed to the length of time required for training females. The majority of males could be trained within a two to four month period; as a result there was less opportunity for nonemployment terminations since this goal could be achieved in relatively short periods of time. On the other hand, approximately 85% of the females were involved in training in excess of three months.

Of most interest in the comparison of males with females is the area of nonpositive terminations. The males had a significantly higher <u>negative</u> termination rate than the females. It became obvious to the Project staff that if males did not obtain employment relatively quickly, they lost interest in the training process and subquently dropped out. Females, on the other hand, could persist in a training experience for much longer periods of time.

In general, males continued in training until they obtained a job or until they lost interest. Females continued in training until they obtained a job or until personal problems (sickness, pregnancy, etc.) prohibited them from completing their training.

D. The Relationship of Training to Employment

	MALE	FEMALE	COMPOSITE
Training Related Employment	66%	94%	82%
Nontraining Related Employment	34%	6%	18%

The overwhelming majority of jobs obtained by trainees was directly related to the kind of occupational training received in the project. Only 18% of the total placements were not directly related to the training provided by MYEP, this should serve to indicate a high correlation between the kind of training provided by the Project and the kind of job which was ultimately obtained. Nontraining related placements should be viewed in terms of a number of factors.

1. One of these factors was the objectives of the Project. Ultimately, MYEP hoped to place youth in entry level jobs. The primary consideration was the interest of the trainee in a given occupational field and his aptitudes for performance in this field. In effect, the Project was more concerned with trainee-related job placement than with training-related job placement. While trainee acceptance of jobs in nontraining related areas was of concern to the Project staff, these terminations were not considered unrelated to the overall ob-

jectives of the Project. Although this employment was not directly related to the training received, it was directly related to the comprehensive impact of the Project on the lives of the trainees: counseling, medical, and testing services; classroom instruction; work experience gained through vestibule training; the combined evaluation of the trainee by various staff members; and the activity of the placement division.

2. Higher Employment Potential

On a number of occasions, after a trainee had been screened by various referral agencies (MESC, NYC, Skills Center) and assigned to a specific training category, subsequent testing and counseling at the MYEP indicated that this trainee was capable of a higher level of employment than that provided for by this category to which he had been assigned. In instances such as these, trainees were placed in employment where it was felt that their maximum potential would be utilized. For example, two males were originally placed in an auto mechanics training program. Subsequent test scores indicated high verbal, mathmatical and mechanical aptitudes. Interviews with the trainees by various staff members (teachers, coordinators, counselors, job placement) confirmed their preference for employment in a more technical field. They were subsequently placed in technical training positions with Bell Telephone where they have excellent prospects for promotion, economic advancement, and personal development.

3. Lower Employment Potential

In some instances, trainees were placed in categories where, even after training, their skills and/or knowledge were inadequate for em-

ployment in their training category. This occurred most frequently among males in the metal-processing training program. As has been mentioned before, fairly rapid acquisition of jobs was very important for male trainees. In a number of cases in metal-processing training, it appeared that it would take a considerable length of time to evaluate them to employer standards in this field. Job placements were made for these youth in semi-skilled capacities in other areas. This was only done when the trainee concurred with staff opinion. If a trainee wished to continue in training, the staff would continue to work with him toward obtaining his goals, or until it became evident to him that a change of goals was in order.

4. Economic and Labor Market Factors

While all of the trainees in the Project were economically deprived, some felt a greater degree of pressure from their home environment, or their personal needs to obtain employment as quickly as possible, even if this was not in their designated training area. Again, this was more true for male than females. There was an unusually high demand for unskilled factory employees among Detroit employers. As a result, a number of male trainees (and a few female trainees) obtained employment in these unskilled but high-rating capacities. Although these trainees could have obtained employment in the areas of their specific training, they decided in favor of the higher earnings available at the time because of increased production in the automotive industry. The Project attempted to defer trainees from entering these types of jobs, and, for the most part, was successful. However, as in other matters, the wishes of the trainees

were the determinative factor in whether they stayed in training or accepted unskilled employment.

In some instances, Project staff aided trainees in acquiring these jobs. This was done in cases where the acquisition of money was needed to forward individual trainee goals--college education, impending maternity expenses, etc.

In general, females obtained employment in the areas of their training(6% nontraining related employment). It was among the male trainees that the greatest number of nontraining related placements were made. 34% of the jobs acquired by males were in nontraining related areas; the reasons for this were almost equally divided among the above mentioned factors.

E. Duration of Training

The following table indicates the length of time spent in a training program before a job was obtained. The table reflects only those trainees who were terminated for employment, and does not consider the length of time spent in training by an individual who was terminated for neutral or negative reasons, who returned to school, or entered military service. It includes MDTA and NYC trainees, but does not include special programs (Urban League, Police Alexandrine House).

Months In Training	Clerical	Metal Processors	Nurse Aides	Pre-Apprentices	Auto Mechanics	Dietary Aides	Retail Sales	Total
1	21	33		4		1		59
2	11	39		10	6	2		68
3	15	21	84	10	2	2	18	152
4	8	15		2	2			27
5	8	8			3	1		20
6	4	1			2	2		9
7	8	1				3		12
8	9	1			2	2		14
9	6				1	1		8
10	8							8
11	5							5
12	7				1			8
TOTAL	110	119	84	26	19	14	18	390

A discussion of the individual training categories has been included in Section E on the training report. With the exception of two categories, nurses aides and retail sales, training programs were designed on an open end basis. Trainees were to stay in the programs until they reached employable levels; no arbitrary cut off rates were established for terminating an individual group. Trainees entered the occupational programs at different levels of academic proficiency and skill development, therefore, their progress towards employment varied in duration based largely on these factors. In many instances, medical, social, and personal problems were impediments in the trainee's development. These had to be resolved, along with academic and skill deficiencies, before an individual could obtain a job.

All of these factors required an individualized, yet total, approach to the training needs of our population, individual config-

urations of liabilities and assets accounted for the fact that trainees in a given occupational field (clerical, for example) might remain in training anywhere from one month to twelve months before a job was acquired.

Part of the problem in a traditional educational setting has been the failure to take into account gross differences in rates of development. In MYEP a trainee was "finished" with his training only when the goal of a job was achieved; and the Project staff was committeed to working with an individual for as short or long a period as was required to achieve this goal. As long as a trainee was interested in continuing to work toward obtaining a job, he was allowed to continue in this program. If his interest abated, attempts were made to rekindle it. If these attempts were futile, the trainee usually excluded himself from the training process.

In the case of nurse aide and retail sales training, the Project deviated from its normal pattern in that it set up a definite time limit for the training process. For both programs this was approximately three months. In these two occupational areas the duration of the training exceeded by far the training given to a new employee in these fields by employers. Hospitals spent between two and three weeks training nurse aides. Retail stores often have no training program for new employees; if they do, it merely lasts longer than one week. In both of these fields training is given in the course of the actual job performance. The Project felt that in three months it could provide good basic training in these areas for disadvantaged

youth. Part of the training experience was on-the-floor activities with hospitals in one case, and retail stores in the other. It was felt that if an individual could not develop for employment in these two areas within three months, there was little prospect of this occurring in a longer period of time. MYEP experienced no difficulty in training youth for employment as nurse aides or retail sales clerks within this time span, and the training provided by the Project established a foundation upon which employers could build after a trainee was employed.

F. The Use of Vestibule Stations for Training

In the first year of operation, the vestibule station was a component of virtually every training program; trainee time was divided equally between the institutional-classroom aspect and the vestibule work-training station. Vestibule stations were not utilized as extensively in the second year of operation. The following chart indicates the number of trainees who were enrolled in a classroom situation only, those in a classroom-vestibule station program, and those who were in a vestibule station only.

	Classroom	Classroom & Vestibule	Vestibule
1. Clerical	20	239	
2. Metal Processors	165	22	
3. Nurse Aides	63	171	
4. Pre-Apprentices	63		
5. Auto Mechanics		41	
6. Alexandrine House	40		

	Classroom	Classroom & Vestibule	Vestibule
7. Dietary Aides		7	18
8. Retail Sales		19	
9. Supermarket OJT		17	
10. Police Training	13		
	301	516	18

The combined usage of classroom and vestibule stations was the predominant technique adopted in the training of the majority (62%) of MYEP enrollees. 36% of the total number of trainees enrolled were trained through a classroom situation only. 2% were involved in a vestibule station only with no classroom supplementation.

The particular approach which was adopted in each instance was dictated primarily by entry-level employment requirements and requirements for job performance. Vestibule stations provided the opportunity for the development and utilization of skills in a work situation; this was a necessary element in the training process for clerk-typists, nurse aides, auto mechanics, retail sales clerks and dietary aides.

One attempt was made to train clerk-typists (20) in a classroom situation alone. They received academic instruction and typing training for four days each week on the hypothesis that what was needed for clerical employment was the improvement of communication skills and typing abilities. These trainees had been on NYC work stations for a number of months prior to entering MYEP, and it was felt that they would profit more from a concentrated classroom experience than

they would by dividing their training time between the classroom and the vestibule station. This experiment was initiated in the last month of the contract year and data is not available on the outcome of this approach.

In training programs where no vestibule station was utilized, there were various reasons for this. The Alexandrine House program was operated at the House in the evenings and involved part-time voluntary participation training for specific occupational areas; help was provided on an as needed basis to interested parolees. In the pre-police training program, the object was to prepare individuals to enter the police training program. What was required was academic and physical preparation, and this could be accomplished without the use of vestibule stations. This situation also prevailed in the pre-apprentice training process. Youths were prepared to enter and complete an apprenticeship program. Primarily, this required development of academic skills. The actual apprentice program would provide four years of on-the-job training and little could have been accomplished by the use of vestibule stations. Employers were interested in hiring youth who possessed academic backgrounds sufficient to pursue further training, and this was the task which the Project set for itself. In the case of metal processors, the primary employer requirement was the possession of a specific level of mathematic ability. If an individual possessed this, the employer would undertake the responsibility of training him for a specific job. Vestibule stations could not duplicate the work situation in the steel industry and could add little to improving mathematical levels; therefore, they were not utilized.

In general, vestibule stations were utilized where they would be of direct benefit in preparing youth for employment. They had to be training-related stations where specific occupational skills could be acquired and developed. If youth were acceptable to employers with any skill development, (as with metal processor apprentices, and police) vestibule aspect was sufficient.

Vestibule stations have proved highly effective in the development of good work attitudes: punctuality, attendance, relations with co-workers employers, etc. They also served as a guage to measure the effectiveness of the institutional component in resolving the academic, skill, personal and social deficits of trainees.

From a training viewpoint, the vestibule stations acted as an incentive for learning in the institutional setting. What a trainee received in the classroom had direct relevance to his tasks at the vestibule station and could be put into effect in a practical situation immediately. There was virtually no cap between learning and doing, and trainees could readily perceive the practical reasons for absorbing classroom materials.

G. Co-operative Programs: Neighborhood Youth Corps and MYEP

From February to July, 1966, MYEP was involved in a joint effort with the Neighborhood Youth Corps (NYC), to provide occupational training in an institutional setting for NYC enrollees.

The basis of the NYC approach is the assumption that work experience and supportive counseling services are sufficient to enable disadvantaged youth to develop the attitude and skills necessary to

obtain regular employment. While NYC has had a measure of success with this approach, it was found that many youth did not reach employable levels through work experience and counseling alone. Pilot programs were subsequently developed with MYEP, whereby MYEP would complement the services offered through NYC by providing instruction in occupational areas, knowledge of test taking techniques, additional counseling, and job placement. The experience of MYEP had been that neither work experience nor classroom instruction as an independent component were sufficient to enable the majority of disadvantaged youth to make the transition from employment to unemployment. A total approach was required--classroom instruction, work-station experience, counseling, testing, medical remediation, and job placement. The needs of disadvantaged youth are manifold, and training programs must attempt to deal with all their needs if youth are to be aided in a meaningful fashion. MYEP has attempted to operate in this manner since its inception, and it was with this in mind that the pilot programs were designed.

Two plans were devised. Plan 1 involved the preparation of NYC for entrance into an on-the-job training program; this has been discussed in a previous section of the report.

Plan 11 consisted of providing NYC enrollees with both classroom instructions in occupational areas and the total range of project services in order to enable them to obtain full-time employment. NYC enrollees continued their work experience for three days per week (8 hours per day), and were paid at the rate of $1.25 per hour for

the 24 hours worked. The remaining two days each week were spent at MYEP on a voluntary basis without monetary compensation, and it was during these two days that the services of MYEP were made available to the NYC enrollees.

The Michigan Employment Security Commission (MESC) was responsible for the selection and referral of NYC trainees who had interests in and aptitudes for the type of training offered by MYEP. MESC was also responsible for counseling interviews with each NYC enrollee every two weeks. Initially, these interviews were held at MESC offices; subsequently, MESC provided staff at the MYEP training site and this proved to be a more satisfactory way of fulfilling the counseling function.

NYC had the primary responsibility for conducting the work experience aspect of the coupled program. NYC assigned trainees to work stations, visited these stations regularly, and handled pay for the time worked. NYC personnel were also involved in counseling contacts with three trainees.

The primary task of MYEP was to provide institutional training in a classroom setting. This was directed toward equipping NYC enrollees with the academic and vocational skills required to obtain employment in various areas: clerical, nurse aide, auto mechanics and metal processors. MYEP also provided counseling, medical services, test preparation, and job placement.

The following chart indicates the results of the NYC-MYEP pilot program under plan 11 for the original 103 NYC enrollees only.

Training Category	Enrolled	Terminated	Positive	Negative	Neutral
Clerk Typists	44	39	22	16	1
Nurse Aides	38	38	24	7	7
Metal Proc.	15	15		15	
Auto Mech.	6	6	5	1	
	103	98	51	39	8

"Terminated" refers to termination from the MYEP aspect of the coupled programs.

"Positive" terminations include employment, return to school or entrance into an MDTA program on a full time basis. (45 of the above were for employment.)

"Negative" terminations indicate those trainees who left the MYEP phase because of lack of interest. They may or not have continued with NYC in the work experience program.

"Neutral" terminations include illness, pregnancy, and relocation.

While there were certain positive aspects resulting from this coupling arrangement in terms of inter-agency cooperation and the effect on the trainees, it is the opinion of MYEP that its effectiveness in dealing with the problems of the trainees was seriously curtailed. For the past two and one-half years, the Project has worked with disadvantaged youth in terms of a total approach to training, and has sought to bring to bear the total resources of the Project in the task of training youth for jobs. The coupling programs, as they were initially instituted, reduced the Project involvement with trainees to two days a week, primarily in a classroom setting.

MDTA trainees who participated in the Project during this contract period were involved in the total MYEP program. The results of the effectiveness of the Project with MDTA trainees in comparison with NYC trainees appears obvious in the following statistical analysis:

	MDTA	NYC
Positive Terminations	80%	52%
Negative Terminations	9%	40%
Neutral Terminations	11%	8%

While 80% of MDTA terminations were for positive reasons, only 52% of the NYC terminations were positive. Among MDTA trainees, only 9% were terminated for negative reasons; for NYC trainees 40% were negative terminations. A number of factors were present in the training of youth under MDTA allowances that were absent in the coupling programs with NYC. The absence of these factors accounts for the relatively poor results achieved with NYC enrollees.

I. MDTA trainees were paid a weekly training allowance for participation in a five-day training program. NYC trainees were paid only for the work experience portion, and were expected to participate in the classroom aspect without compensation. Trainees paid under MDTA received less per week than NYC enrollees, but understood from the outset that they were being given an allowance to assist them in obtaining training. NYC enrollees began their experience in NYC with the understanding of receiving pay for time spent in the program. When they became involved with MYEP, they were not paid for the time spent with that agency. In effect, whether they took part in the MYEP training or not, their weekly pay would be the same.

As a result, the financial incentive for obtaining training was lacking with NYC trainees and contributed to their failure to attend MYEP classes.

2. In the case of MDTA trainees, allowances were under the control of the training agency (MYEP). This was not the case with the NYC enrollees.

3. MDTA trainees were the total responsibility of MYEP and this permitted a unitary approach to the solution of individual problems. There was multi-agency involvement with the NYC enrollees which tended to fragment the individual.

4. MYEP staff was not involved in the work-station portion of the NYC enrollee's experience and had to rely on feedback from NYC counselor aides on trainee progress, problems, etc. Even when the feedback was good, this still interposed a second person between the NYC enrollee and the MYEP staff

5. Since NYC enrollees spent only two days each week at MYEP, there was insufficient opportunity to provide a full range of supportive services. Whatever supportive services were provided cut into trainee class time.

In the light of this data, subsequent discussions were held with NYC which led to a modification of the original coupling arrangements. Any future NYC enrollee who is referred for training at MYEP will become the responsibility of MYEP in a more complete way. MYEP will make assignments to and coordinate the work-training stations of NYC enrollees involved in MYEP training. While NYC enrollees will

continue to be paid for time worked, they will be expected to participate on a five-day basis with MYEP. MYEP coordinators will be responsible for reporting time to NYC and the distribution of checks to trainees. By assuming the responsibility for work experience, distribution of pay, institutional training, medical remediation, counseling, testing and job placement, it is anticipated that MYEP will be able to provide a more unified, intensified and more effective training experience for NYC enrollees.

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IV. TESTING

A. Approaches to Appraisal

1. Self Selection

Trainees are self-selecting to the extent that they have registered at MESC for admission to training programs. The registration suggests an inability to acquire gainful employment under their existing abilities without assistance of the State Employment Service.

2. Initial Batteries

All entering trainees are given a basic battery of tests designed to assess relative strengths and weaknesses. The findings of the initial testing are transmitted to counselors, coordinators, and instructors. The instructors design their curriculum at the level indicated by the initial testings. The basic test battery consists of the Otis, Wonderlic, Mooney Problem Check List and Numerical Ability, Abstract Reasoning and Verbal Reasoning subtests of the Differential Aptitude Test.

Other tests are used in experimental situations and as requested by department heads.

Early use of non-verbal instruments indicated that AYEP trainees score about one-half of one standard deviation below national norms. Verbal tests yielded approximately one standard deviation below national norms.

Since non-verbal instruments are not used in business and industry except on rare occasions or as a part of a verbal battery, non-verbal testing has been essentially abandoned.

B. Use of Test Results in Selecting Trainees

Trainees are not selected on the basis of test scores at AYEP. Generally, trainees have been tested at MESC or have been selected on the basis of interviews with an MESC counselor. Test results may be used to separate, for instance, a group of forty trainees into two groups. If the groups are being split on the basis of a high or low group, then the top and bottom halves are split. If equivalent groups are desired, then an odd-even split is made.

1. State of the Art

The Society for the Psychological Study of Social Issues has conducted substantial research in the area of minority group testing.

They state, "The present report examines how this unfortunate situation may be remedied and its objective is to set down some criteria for interpreting test scores obtained from children who do not have the advantages of the middle class child. But it is more than that, for the guidelines set forth can also serve as a basis for constructing more appropriate testing instruments. It is the hope of the Society that the report will stimulate a reformulation of the issue of intelligence testing of such an order that present, often inadvertent, injustices can be removed."[1]

They further state, "Standardized tests currently in use present three principal difficulties when they are used with disadvantaged minority groups: (1) they may not provide reliable differentiation in the range of the minority group's scores, (2) their predictive validity for minority groups may be quite different from that for the standardization and validation groups and (3) the validity of

their interpretation is strongly dependent upon an adequate understanding of the social and cultural background of the group in question."[2]

The findings at AYEP appear to generally confirm these findings. General reading deficiencies contribute significantly to depressed test scores.

Other research findings about the characteristics of minority group children are consistent with AYEP's experience.

"Most of the evidence relating to the contention that the majority of educational and psychological tests tend to be more unreliable, i.e., more characterized by what is technically called 'error variance', for minority group children, is indirect, being based on studies of social class and socio-economic levels, what characteristics may be expected to affect differences rather than on minority group performance per se. Nevertheless, the particular kinds of minority groups that we have in mind are closely associated with the lower levels of socio-economic status. The results of studies by Warner, Davis, Deutsch, Deutsch and Brown, Havighurst, Hollingshead, Sears, Maccoby and many others are cases in point. Many of these studies are discussed by Anastasi (1958), Tyler (1956) and Deutsch (1960).

For children who come from lower socio-economic levels, what characteristics may be expected to affect test performance in general, and the accuracy or precision of test results in particular? The list of reported characteristics is long, and it is not always con-

sistent from one investigation to another. But, at least, it may be hypothesized that in contrast to the middle class child the lower class child will tend to be less verbal, more fearful of strangers, less self-confident, less motivated toward scholastic and academic achievement, less conforming to middle class norms of behavior and conduct, more apt to be bilingual, less exposed to intellectually stimulating materials in the home, less varied in recreational outlets, less knowledgeable about the world outside his immediate neighborhood, and more likely to attend inferior schools."[3]

2. Test Consciousness

Minority group trainees are acutely aware of their status when taking tests. Intelligence testing specifically seems to produce culture inequalities. The Haggard experiment in Chicago reveals strong cultural effects on performance and practice.

"THE HAGGARD EXPERIMENT." As mentioned above, another major empirical investigation in the Chicago research program was designed to examine the effects of motivation, training, and certain other conditions on intelligence test scores. Specifically, Haggard predicted that lower class children would show substantial improvement in their test scores under the following conditions: a) when they were tested on an intelligence test form in which the content was more in keeping with the language and experiences of lower class children, b) when test items were read aloud to them instead of depending upon them to read the items to themselves, c) when they were given practice in answering questions similar to those which appear on intelligence tests, and d) when either their practice or their

test taking was motivated by the promise of a free pass to a movie for a good performance. Haggard evaluated these predictions by measuring the intelligence of nearly 700 high and low status children on a conventional test and then separating them into a variety of experimental groups of 40 to 50 children each. These groups, were then subjected to different combinations of experimental conditions. All were retested five days later, some with the conventional test and others with a revised form of the test, some under motivating conditions and some not, some with practice during the intervening days and some without such practice, and so on. Haggard's fundamental question was, "Would lower class children improve more in their scores than higher class children under the predicted circumstances?"

"As one might imagine, the number of comparisons reported from this study was large, and they cannot be itemized in detail here. Generally speaking, the results were mixed and inconsistent. Thus, it was the high status and not the low status children who benefited from the practice sessions, particularly when they were retested on the conventional test. In some experimental conditions the investigator's attempts to motivate the children decreased the retest scores of high and low status children alike, in other conditions the motivation attempts made no difference, and in still others motivation improved the retest scores of low status children but not high status children in accordance with Haggard's predictions. The lower status children showed substantial gains when they were retested on the form of the test deliberately revised to make it more suitable for them, but these gains were overshadowed by the fact that higher status

children also showed remarkable gains on the revised form.

In sum, while Haggard's study was unable to demonstrate that social class differences in intelligence were fully accounted for by such matters as motivation, practice, test forms, and the like, it did show that test scores of children, whether of low or high status, could be influenced by these factors. Test performance, the investigator concluded, depends upon the experience children bring with them and upon the psychological factors in the testing situation itself. The mere revision of current intelligence tests to remove their middle class bias would not be sufficient to measure mental ability adequately."[4]

C. Testing as Training

A heavy emphasis is placed on testing at AYEP for several reasons. First of all, diagnosis of difficulties is crucial for curriculum development. Tests are also used extensively for practice effect. Generalized anxiety can be significantly reduced through familiarity with types of tests, questions, and exposure to standard testing conditions. An attempt is made to reproduce testing environments which will be found in business and industry. Extensive orientation about what to expect in job interview environment is given.

D. Special Projects

1. Project Exploration (see appendix)

   a. Proposal
   b. Research design

Analysis of Results - The results of Project Exploration are currently being prepared for key punch operations and final computer analysis. Final results should be available by the end of the calendar year.

1a. TESTING AT ST. LEO'S JOB CLINIC

The testing program at St. Leo's was established to screen and determine ability level. Testing was used for this purpose only, not to eliminate anybody. A short battery of tests was used. The Wonderlic Personnel Test and the Otis Quick Score were chosen for this purpose.

The results indicated that these two tests may not be valid indicators of problem solving ability for the population under consideration. The results of the testing indicated that there were at least two factors limiting the valid measurement of problem solving ability for the population. The first factor was the reading ability of the population. There were members of the population from homes of bilingual background. There were members of the population from homes with limited amounts of reading material available. Because of these two factors, the results obtained from two verbal tests were not valid indicators of problem solving ability.

A rank correlation between the two tests showed little significant relationship. The rank correlation was .37.

Graph 1 shows a comparison of intelligence, as measured by the Otis Quick Score Test, between the national, MYEP and St. Leo's populations. The national mean I.Q. is 90-110 with a high average of 100-110. The MYEP mean I.Q. was 102 with a range from the low sixties to a high of 126. The St. Leo's mean I.Q. was 85. There was a range from a low of 65 to a high of 117.

These results indicate that the population under consideration

differs from the other two populations. One of the factors previously mentioned, reading and verbal difficulties, can be considered a significant factor in this difference.

Although the MYEP population and the St. Leo's population were of a similar nature there was a significant difference in I.Q. as measured under standard conditions with the same instrument. There was a difference in mean age between the two populations. The results of age comparison and mean I.Q. score for the St. Leo's population show that the younger population scored significantly higher than the older population. Graph 2 shows that the mean I.Q. for age group 14-25 was 92. The mean I.Q. for age group 26 and up was 79.

Several factors can be said to influence these results. It is very possible that a large part of the older group has a residence and educational background from the South. It is a fact that many of the schools do not meet the standards of schools in the North. It is also a fact that many of the schools in this city are not at the level of quality they should be. Both of these age groups were exposed to these types of education. This is a partial explanation of the difference between both groups and the national norms and differences between the age groups.

Another important variable concerns the grade level attainment in school and the amount of time between test date and last school attendance. These two factors influence test scores considerably.

Graph 3 indicates that the mean male I.Q. was 92. The mean female I.Q. was 85. There was, however, a higher percentage of young males in this population which would, according to the factors mentioned relative to age, account for the large difference.

Graph 4 shows a comparative distribution of scores, by age group, attained on the Wonderlic Personnel Test.

Graph 5 shows the distribution of scores for the St. Leo's population. The range of scores was 0 to 23. The mean was 12. The mode was 16. The median was 12.5. According to the Wonderlic manual 12.3 is the expectancy for eight grade level of educational achievement.

Graph 6 shows the comparative distribution of Wonderlic scores on a sex basis. The male mean score was 14. The female mean score was 10. According to the Wonderlic manual the mean score for males at the eighth grade achievement level is 13.4. The mean for females at the same level is 11.2.

2. PRE-POLICE ORIENTATION SEMINAR

PURPOSE

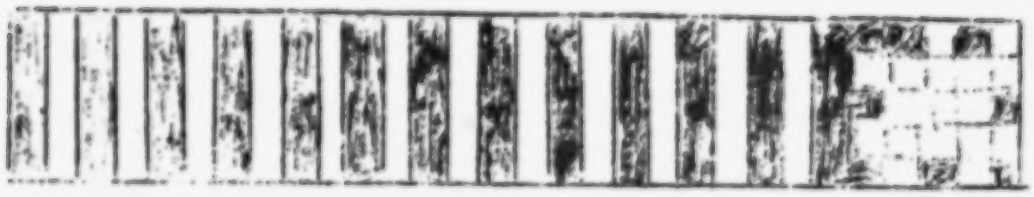
The purpose of this seminar is to provide intensive and highly specialized orientation to the knowledge and skills required of persons preparing to become policemen.

There exists a demand for well qualified young men in police work; yet the rigorous physical, mental, and emotional requirements, coupled with an economy of near full employment has resulted in fewer applications for police work.

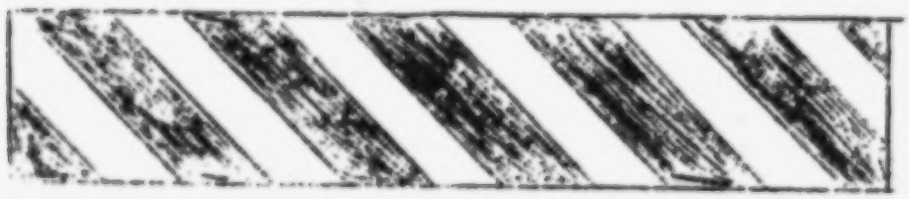
There are a substantial number of young men who approach minimum requirements and are otherwise well qualified, but lack certain skills and knowledge. This knowledge and certain specific skills may be gained by these men in a relatively short time, if they are

I. Q. AS MEASURED BY THE OTIS QUICK-SCORE

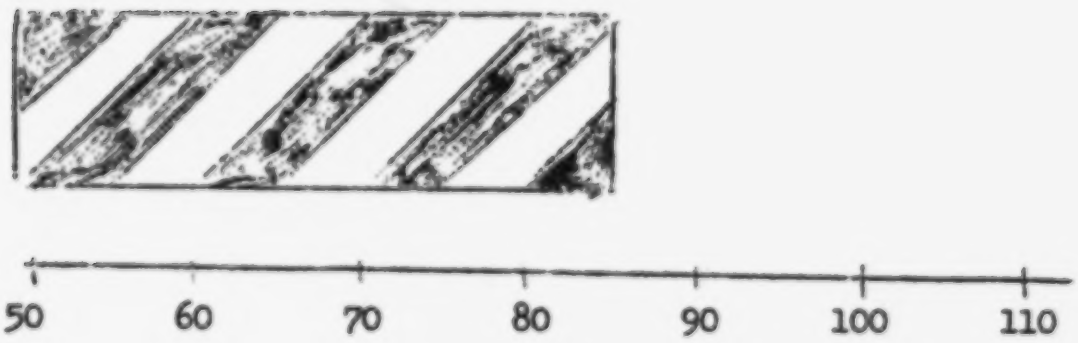
NATIONAL MEAN I. Q.
90-100 LOW AVERAGE
100-110 HIGH AVERAGE



MYEP MEAN I. Q.

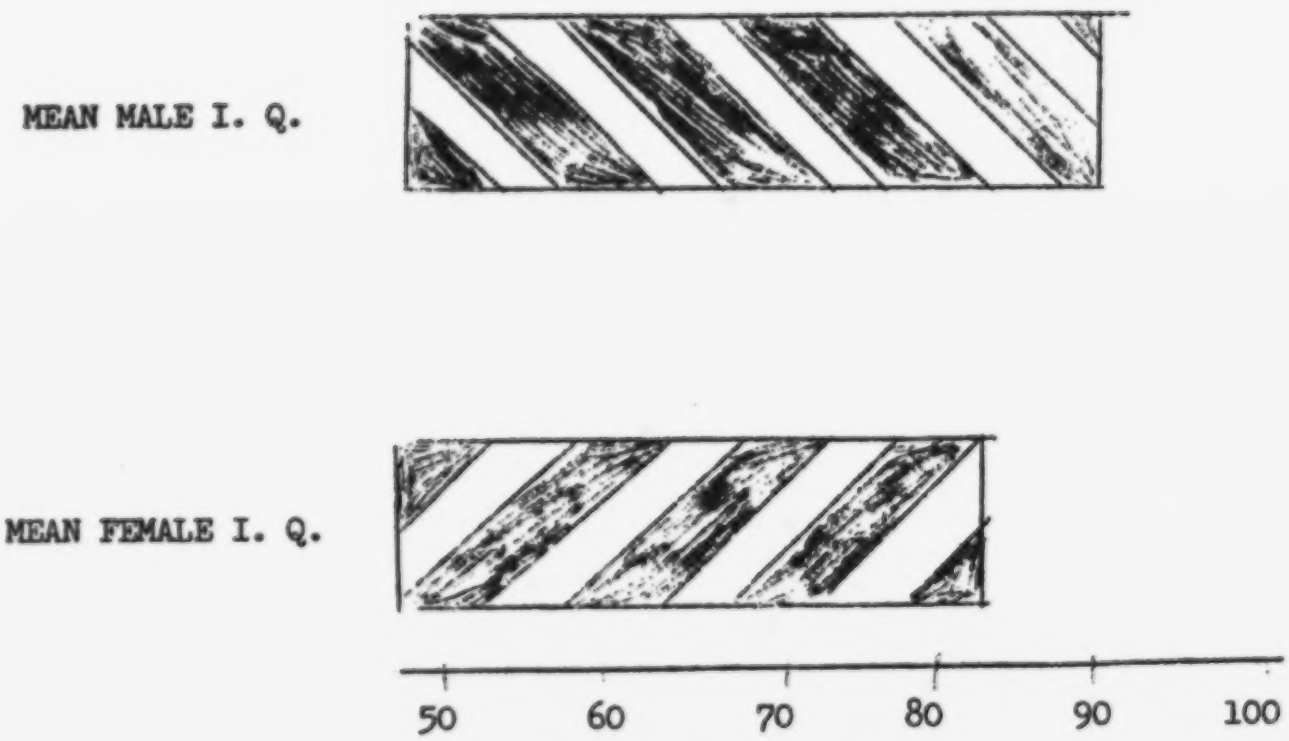


ST. LEO MEAN I. Q. 85
LOW SCORE 65
HIGH SCORE 117



GRAPH 1

ST. LEO MEAN I. Q.



GRAPH 3

191-B

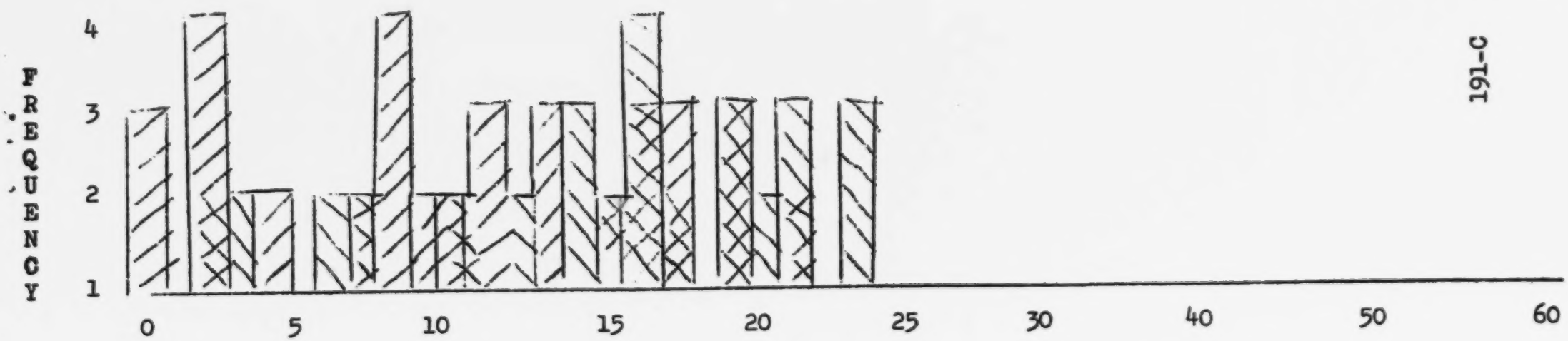
WONDERLIC PERSONNEL TEST

MALES

FEMALES

MALE MEAN 14

FEMALE MEAN 10



191-C

191-C

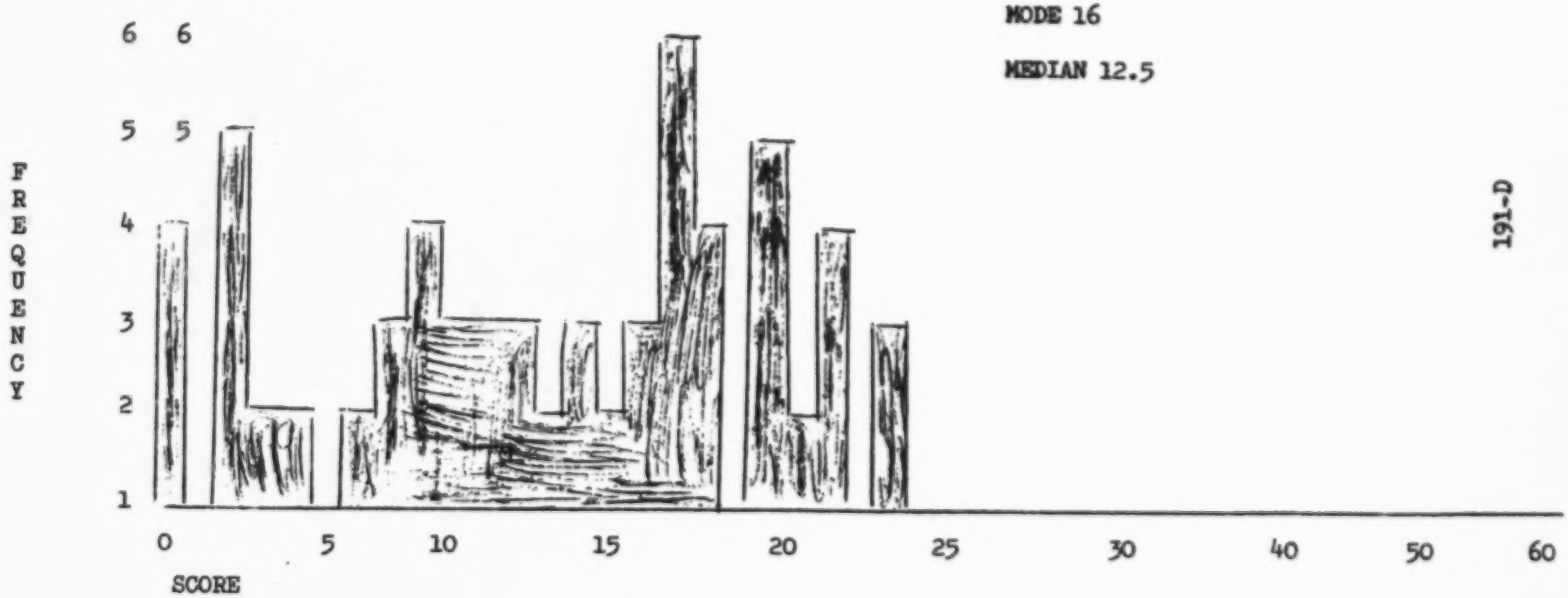
GRAPH 6

ST. LEO WONDERLIC PERSONNEL TEST

MEAN 12 (8th Grade Educational Level)

MODE 16

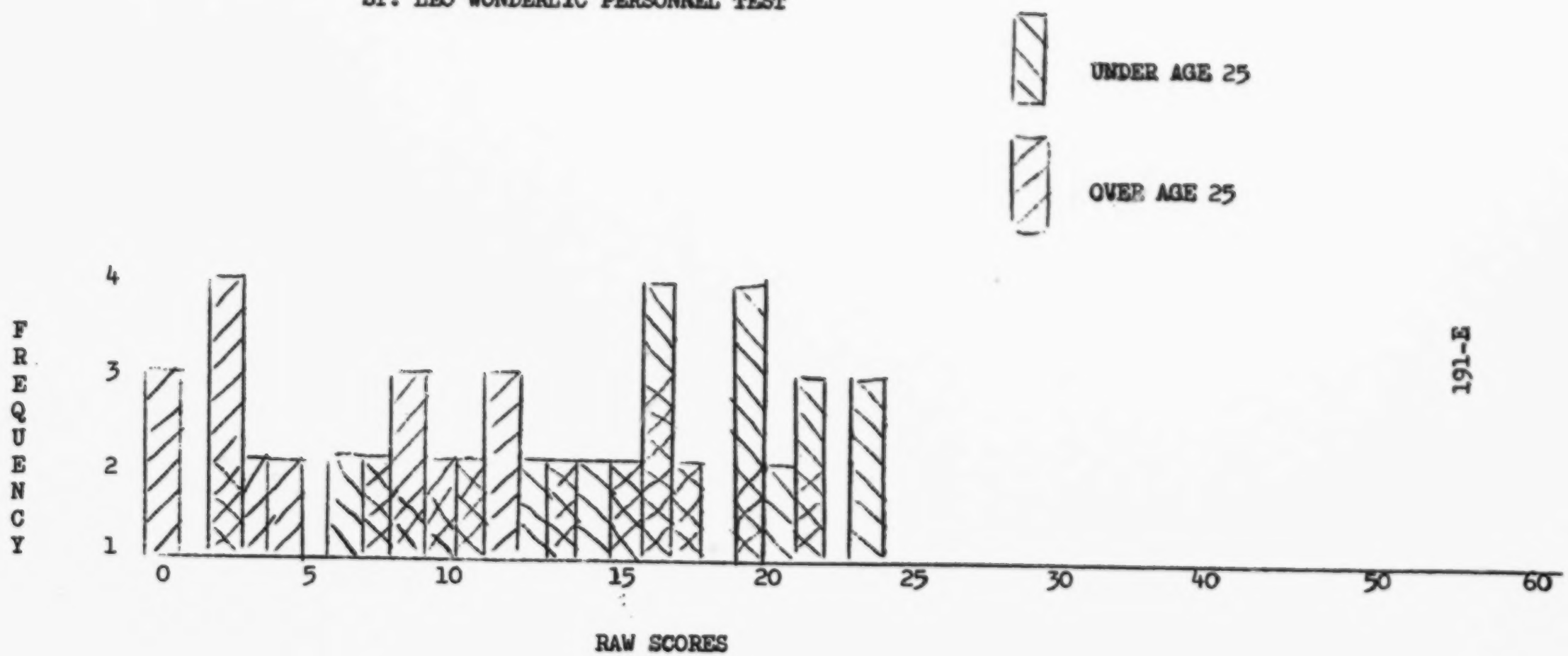
MEDIAN 12.5



191-D

GRAPH 5

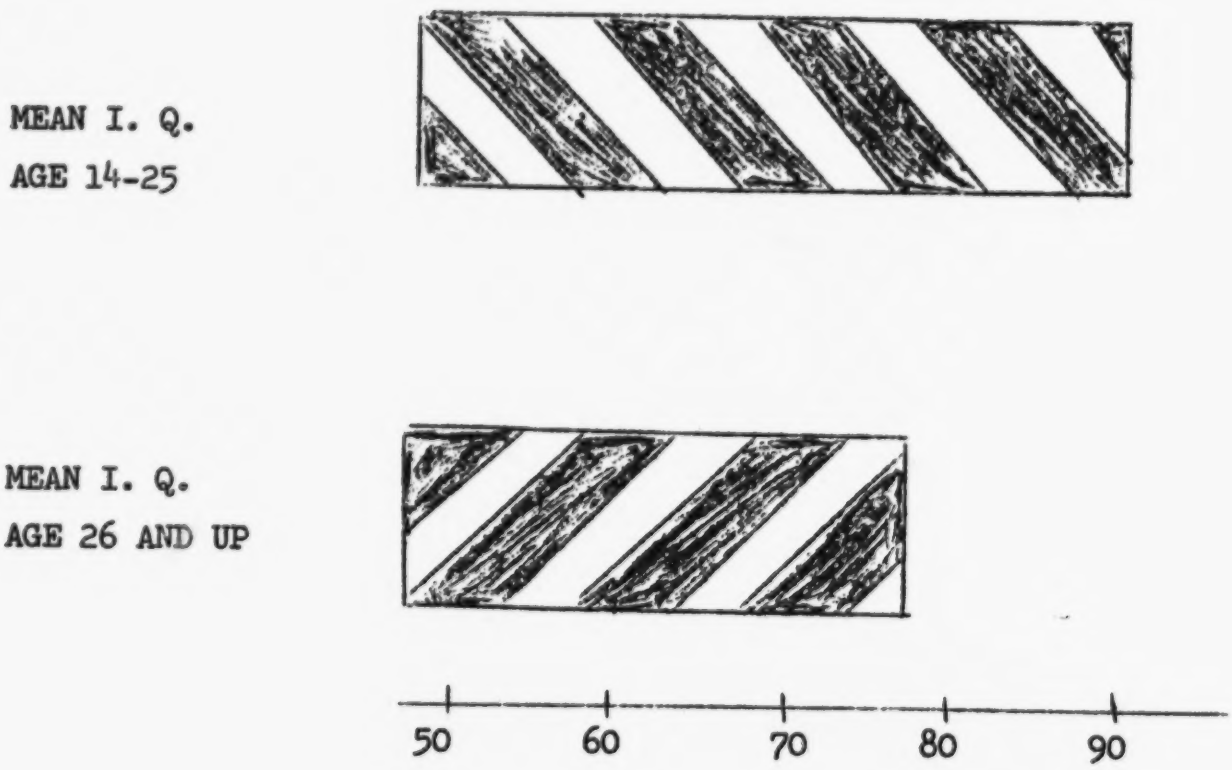
ST. LEO WONDERLIC PERSONNEL TEST



191-E

GRAPH 4

I. Q. COMPARISON BY AGE



GRAPH 2

taught in a program specifically designed for that purpose, and by a specialist in the field.

The Mayor's Youth Employment Project will provide the physical facilities, the program, and the specialist for this seminar.

DURATION

It is anticipated that the program will run for a period of six to eight weeks on Saturdays. The program will begin at 9:00 a.m. and continue until approximately 3:00 p.m. The period between 9:00 a.m. and 11:00 a.m. will be devoted to classroom activities. The period between 11:00 a.m. and 1:00 p.m. will be devoted to physical conditioning and lunch. The period between 1:00 p.m. and 3:00 p.m. will be devoted to correlative activities designed to complement the morning session.

Period I - 9:00 - 11:00 a.m.

CURRICULUM DATA

The first two or three sessions will be devoted to diagnostic testing for the purpose of assessing strengths and weaknesses. On the basis of this testing, the specific course content at the appropriate level will be established. This specific course content will be drawn from the following areas:

I. Vocabulary
   A. Word origin
      1. prefixes
      2. suffixes
      3. stems and roots

B. Spelling
   1. Rules
   2. Exceptions

C. Word Definitions
   1. Cognates
   2. Synonyms
   3. Antonyms
   4. Homonyms

II. Mathematics
   A. Basics
      1. Addition
      2. Multiplication
      3. Division
      4. Subtractions
   B. Decimals
   C. Fractions
   D. Percentages
   E. Discounts
   F. Elementary Principles of Algebra

III. Mechanical Reasoning

(A brief introduction to:)

   A. Physical Systems
      1. Gravity
      2. Centrifugal force, inertia
      3. Levers, inclined planes, pulleys
      4. Friction
      5. Temperature and fluid dynamics

IV. Abstract Reasoning

   A. Problem figures
   B. Number Series
   C. Letter Series
   D. Word Series (Relationships)

V. Verbal Reasoning

   A. Analogous Systems
      1. Form Relations
      2. Meaning Relations
      3. Position Relations
      4. Elementary Logic and Reasoning
         a. analogies, syllogisms, etc.

Period II 11:00 a.m. - 1:00 p.m.

PHYSICAL CONDITIONING AND LUNCH

During this period, the men in the seminar will undergo a rigorous physical development program conducted at the Northeastern Y.M.C.A. The week to week program will vary as abilities increase, but basically the goal will be at least twice the minimum Police Academy requirements. In the event that these men are accepted into the Police Academy, they will be able to handle the physical training with little difficulty.

Lunch will also be fitted in to this period.

Period III 1:00 p.m. - 3:00 p.m.

RELATED AND COMPLEMENTARY WORK

During this period, the men will be introduced to such topics as salaries, working conditions, and other related information. It will be valuable if a Police Department representative can be available occasionally.

Other material will include basic mnemonics, observation techniques and other material that might be suggested by the Police Department.

It is, of course, obvious that a great deal of material is included in this program, however we know, from experience that it can be handled. The final duration of the seminar will depend on the rate at which the men assimilate the material but a period of six to eight weeks is anticipated.

COPY OF A LETTER

December 17, 1965

MEMORANDUM TO: CCR Committee on Police-Community Relations

Rev. Nicholas Hood, Chairman
Mr. Henry J. Szymanski
Mr. Stanley Winkelman
Father James J. Sheehan

FROM: Jimmy McGowan

The following educational training program is proposed in effort to reduce the shortage of police officers in the City of Detroit. The shortage of minority group members in the Police Department is even more acute than the general shortage.

The Manpower Development Training Program presents the opportunity to interest young men, from minority groups of the city in a career with the Police Department, by making it possible to offer a course to assist them to pass the patrolman's examination.

While the proposal of this program is motivated by the relative ineffectiveness of standard recruitment procedures among minority group persons, and the acute shortage of minority group personnel in the Police Department, we feel that it should not be limited exclusively to minority group members, but that a vigorous attempt be made to recruit minority group members.

This proposal while modeled after a program designed by the City of New York differs, in that we suggest the persons selected be selected from the files of the Detroit Police Department, Office of Personnel Examiner and should meet all other requirements for acceptance to the established training programs, but are in need of remedial educational aid in certain basic areas such as: reading comprehension, spelling, basic math, and English comprehension. Also, as a means of ensuring that the persons selected will be able to do a professional job with the maximum effectiveness the curriculum should also include courses in human relations, clerical skills, occupational orientation, law enforcement observing

and reporting, patrolman's duties, health and physical education and driver education. We recommend that a six month intensive training program be instituted with the aim of raising the educational attainment of the applicants.

There should be no compromising with the standards as set forth by both the Civil Service Commission and the Police Department. It should be expected that upon completion of the course and satisfactory passing examinations the persons will be appointed recruits and assigned to the Police Academy for training there.

We propose that persons from concerned agencies be involved in drawing up the final proposal to be submitted to the Office of Manpower Development and Training design the curriculum, establish facilities and take care of all details, problems, etc. encountered in getting the program started. As a first step in this direction we feel that the staff and facilities of the Skills Center would be ideal for this program.

In addition to cooperating and assisting in program development, the Police Department will have the added functions of scheduling at the Police Academy classes in physical training and a course aimed at acquainting the young men with the patrolman's duties. The physical classes should be designed to ensure that the student will successfully pass the qualifying examination given as a requirement for becoming a police officer.

Initially, we recommend that a planning meeting of the concerned agencies, i.e., Detroit Police Department; CCR; Detroit Board of Education; Michigan Employment Security Commission; Manpower Development and Training Act Advisory Board; Total Action Against Poverty Policy-Advisory Committee, the NAACP, OJT and DPOA be called to work out the details of the program.

We feel that educational requirements and content of the program should be cooperatively arranged with the Detroit Board of Education and the Detroit Police Department. We also suggest that the services and facilities of the Michigan Employment Security Commission and other appropriate agencies be utilized whenever possible.

This program will serve both the expressed desires of the Police Department; the community, and the applicants by effectively reducing the shortage of police officers, increasing minority group representation, as well as giving an opportunity to deserving young men to be public servants in an honorable service to their community.

TENTATIVE SCHEDULE OF SPEAKERS FOR
PRE-POLICE TRAINING

February 12	Inspector Robert Quaid - General Orientation to DPD
February 19	Research and Planning Bureau - Techniques and Equipment
February 26	Deputy Superintendent Paul Sheridan - Crime
March 5	Community Relations - Community Agencies 1. Civil Rights Commission 2. Commission on Community Relations 3. National Association for the Advancement of Colored People 4. Police Department Citizen Complaint Bureau
March 12	Lt. Leo Shanks, Youth Bureau
March 19	Special Crime Categories - Inspector Robert Kerr (Vice, Narcotics, etc.)
March 26	Detroit Police Officers Association - Special Roles - i.e. first aid, etc.

COPY OF A LETTER

This is to remind you of the examination for the Police Department and the debriefing session to be held immediately afterwards. The examination will be held on Saturday, April 2, 1966 at 8:00 in the morning sharp, room 207, 1300 Beaubien, Detroit. The examination should last until approximately 11:00 a.m.

The debriefing session will be held at the St. Thomas School, Fischer and Chapin immediately afterwards.

Much success with the examination; I'm sure you won't have any difficulty.

Sincerely,

Jim McGowan
Field Representative

JM:tmj

COPY OF A LETTER

March 22, 1966

Mr. Burton Bradley
Mayor's Youth Employment Project
1501 E. Ferry
Detroit, Michigan 48211

Dear Sir:

Congratulations on having almost completed the Pre-Police Training Class. It is our continued hope that your experience in the class will enable you to pass the departmental examination with minimum difficulty and stand you well in your career as a police officer.

In the last class on Saturday, March 26, 1966, Sgt. Avery Jackson of the Recruiting Division of the Detroit Police Department will take your application for the examination which will be administered on April 2, 1966. Sgt. Jackson will also give you some pertinent information concerning the examination and the department. We cannot emphasize enough the importance of your being present Saturday, March 26, 1966.

Please call me either at my office or my home to confirm your presence on Saturday. Office: 963-9550. Home: 896-4284.

Sincerely,

Jim McGowan

JM:em

COPY OF A LETTER

May 25, 1966

Mr. Richard Strichartz
Controller
City of Detroit
Detroit, Michigan

Dear Mr. Strichartz:

Mr. Healas asked me to prepare for you a detailed report of the recently completed Pre-Police Orientation Seminars conducted in cooperation with the Commission on Community Relations.

To facilitate your complete understanding of the program from its inception, I have enclosed six items number 1 - 6 in chronological order.

Item 1 is a memorandum to the CCR, Committee on Police-Community Relations from Jim McGowan, which is a proposal for the program. We designed a program along these lines and it is described in item 2.

Item 2 is a detailed description of the program as I conceived it, operationally. Because these men were employed, it was necessary to conduct the Seminar on Saturday.

Item 3 is a schedule of speakers for Period III of the program.

Item 4 is a copy of the letter sent by Mr. McGowan to each of the program participants.

Item 5 is another letter from Mr. McGowan reinforcing test time and debriefing session.

Item 6 is a breakdown of the final results of the exam taken in the police department. These people had taken the test before so we were able to compare the two test scores.

Under I.Q. you will see three columns: Prior, Current, and Loss and Gain.

The prior column gives scores from the original test. The current column is the most recent score and the loss and gain represents the degree of change.

I spoke with Mr. McGowan today and was told that three of the eight men who took the test are being hired and assigned to the Police Academy. On page 2 of item 6 is the breakdown of overall ratings. The first three scores 68, 58, 57 represent the three who are being hired.

Racially, the group consisted of five Negroes and three Caucasians. The three who are being hired are also the three Caucasians.

If there are details you would like beyond what I have given, you may reach me at 921-1322.

Yours truly,

Burton Bradley
Director of Testing

BB:pr

PRE-POLICE SEMINAR EXAM RESULTS: April 2, 1966

On Saturday, April 2, 1966 the men from the pre-police seminar took the Police Department exam. Each of the men had taken the general battery at least once, but the batteries are equivalent rather than identical. The subscores of prior tests and current tests are given:

I. Q.

	Prior	Current	Loss & Gain
1.	101	104	+3
2.	101	100	-1
3.	102	90	-12
4.	99	93	-6
5.	96	93	-3
6.	95	93	-2
7.	93	88	-5
8.	92	90	-2
	779	751	

Net Loss = 28 points
Average Loss = 3.5 points of I. Q.

SPELLING

	Prior	Current	Loss & Gain
1.	24	26	+3
2.	22	23	+1
3.	15	20	+5
4.	14	19	+4
5.	9	20	+11
6.	8	16	+8
7.	6	5	-1
8.	0	4	+4
	98	133	

Net Gain 35
Average Gain 4.4

OVERALL RATINGS

	Prior	Current	Loss & Gain
1.	68	73	+5
2.	58	71	+13
3.	57	70	+13
4.	52	64	+12
5.	52	56	+4
6.	47	55	+8
7.	43	56	+13
8.	42	62	+20
	419	507	

Net Gain 88
Average Gain 11

SUMMARY AND TENTATIVE CONCLUSIONS

Three areas of comparison are reported here, I.Q., spelling and overall rating.

The I.Q. ratings indicate an average loss of 3.5 points. The range between the prior and current scores is from -12 to +3 or 15 points. Of the 8 tested, 7 lost points and 1 gained points.

The spelling ratings indicate an average gain of 4.4 points. The range between the prior and current scores is -1 to +11 or 12 points. Of the 8 tested, 1 lost points and 7 gained points.

The overall ratings indicate an average gain of 11 points. The range between the prior and current score is +4 to +20 or 16 points. All of the 8 tested gained in overall rating.

On the basis of the across-the-board decrease in I.Q. scores it may be assumed that the current test is probably on equivalent form with a correction factor of +4 -6 points. The scores were depressed on average of 3.5 points.

The spelling tests indicate an increased ability with fairly large gains. This suggests that a longer period of practice would probably be fruitful inasmuch as spelling ability may be learned with practice.

The universal increase in overall ratings suggests that the experiment is generally successful but that the time limits imposed (8 weeks, 2 hours per day) are inadequate.

3. TESTING SERVICES FOR WAYNE COUNTY BUREAU OF SOCIAL AID

The Wayne County Bureau of Social Aids provides an educational service for Aid-to-Dependent-Children mothers. The purpose of the service is to provide classroom instruction pertaining to the skills necessary for employment as postal workers.

On two occasions this year the testing department has provided auxiliary services for these students. The purpose of the services was to present a rational approach to test taking.

Listed below is the format of the presentation.

A. Preliminary Discussion

1. Purpose of tests
   a. Screening
   b. Measurement
   c. Evaluation

2. Types of tests
   a. Intelligence
   b. Aptitude
   c. Achievement
   d. Personality

3. Meaning of results
   a. Raw score
   b. Derived score
   c. Percentile

4. Value of results
   a. Counseling
   b. Job Placement

B. Approach to Tests

1. Psychological set
   a. Vocabulary
      1. Word origin
      2. Prefixes
      3. Stems and roots

   b. Spelling
      1. Rules
      2. Exceptions

   c. Word definitions
      1. Cognates
      2. Synonyms
      3. Antonyms
      4. Homonyms

   d. Mathematics
      1. Addition
      2. Subtraction
      3. Multiplication
      4. Division
      5. Decimals
      6. Fractions
      7. Percentages

   e. Abstract reasoning
      1. Problem figures
      2. Number series

   f. Verbal reasoning
      1. Form relations
      2. Meaning relations
      3. Position relations
      4. Logic

C. Test Practice

1. Timed test
2. Test debrief

At the conclusion of each session a test was administered and the results were later reported to the instructor.

4. SYSTEMATIC ERROR ANALYSIS IN TYPING

An experiment has been initiated for the purpose of improving typing. The experiment consists of a systematic error analysis which is designed to isolate and identify specific typing errors, and tabulate them. It is postulated that typing errors tend to follow a pattern which is not always identifiable without specific isolation. It is further postulated that systematic analysis will focus attention on the particular error which is most prevalent and cause the student to direct her attention toward the correction of the error. High level errors (most prevalent) may be eliminated in order of their relative frequencies. Initial pilot experiments have shown significant improvement when the system is used. It is assumed that the improvement is attributable in part to systematic analysis.

Errors are categorized as: misspellings, mistrikes, reversals, omissions, additions, substitutions, and miscellaneous. A daily tabulation is kept and rate of improvement is charted. Daily evaluation by the instructor allows initial remedial drills as indicated.

5. GAS STATION ATTENDANTS

A group of six women from the Work Experience Program started a class at AYEP to train as service station attendants.

The testing department provided two types of testing services for these people. The first type was a battery of aptitude and special aptitude tests to determine the ability level of each person and recommend any indicated remedial work. The second type of test used was the personality inventory test. This semi-projective in-

ventory is used by the counseling staff to determine needed psychological and health counseling.

6. STATISTICAL STUDIES

A. The IPAT 16 PF was given to a group of 20 young women. After completing the test, they were instructed to rate themselves on the profile sheet. The true profile was then obtained and superimposed on the estimated profile. The maximum deviation was on factor "C" (emotional stability) = 2.7. The minimum deviation was factor "H" (venturesome vs shy) .06. Chart 1 shows the mean and sum of the deviations for each factor. It can be seen that the subjects were within a reasonable range on their estimates. This indicates that their self-concept is realistic.

	MEAN D	SUM OF D
A	+2.29	39
B	-.35	-6
C	2.70	46
E	.29	5
F	1.82	31
G	1.05	18
H	.06	1
I	.88	15
L	-1.07	-4
M	-.69	-11
N	-1.59	-27
O	.35	6
O1	.24	4
O2	.65	11
O3	1.41	24
O4	-.59	-10

CHART 1

STATISTICAL STUDIES

B. An analysis of the loss or gain of percentile scores on a mechanical reasoning test was obtained for a pre-apprentice class. The gain or loss was obtained on a test-retest basis. (See Chart 1 in the pre-apprentice section).

There was no loss shown. The maximum gain was 74 points. The minimum gain was 4 points. The mean terminal score was 40. The mean gain was 14 points.

These results would indicate that the method of instruction has proven effective.

STATISTICAL MEANS FOR STANDARD BATTERY OF TESTS OF AYEP POPULATION

MEN

Otis		83.09
Wonderlic		15.30
DAT:	MR	14.04
	VR	16.49
	NA	17.48
	SR	36.49
Bennett Mechanical Comprehension		21.74

WOMEN

Otis		88.95
Wonderlic		14.82
DAT:	VR	20.09
	NA	17.04
	Spelling	32.70
	Grammar	20.82
Minnesota Clerical		
	Numbers:	27.80
	Names:	27.05

MECHANICAL REASONING SCORES FOR PRE-APPRENTICE CLASS

Initial Percentile Score	Present or Terminal Score	Gain or Loss
75	90	+15
70	70	00
60	60	00
60	75	+15
60	95	+35
60	90	+30
55	60	+05
55	55	00
45	45	00
35	45	+10
32	50	+18
20	20	00
15	45	+30
15	15	00
15	20	+05
15	60	+45
15	35	+20
10	10	00
10	10	00
10	60	+50
5	25	+20
5	25	+20
5	15	+10
1	1	00
1	1	00
1	75	+74
1	5	+04
1	10	+09
1	10	+09
1	25	+24

Mean Initial Percentile: 25

Mean Present or Terminal Score: 40

Mean Gain: 14

7. TESTS ADMINISTERED

Otis Gamma	800
Wonderlic	900
DAT	
Mechanical Reasoning	225
Verbal Reasoning	675
Numerical Ability	650
Abstract Reasoning	250
Space Relations	220
Spelling	165
Grammar	130
Clerical	125
Bennett Mechanical	115
Rotter Incomplete Sentence	325
Mooney Problem Check List	615
Thurstone Test of Mental Alertness	20
Thurstone Non-Verbal	5
IPAT 16 PF	550
Allport-Vernon Study of Values	525
Thurstone Clerical	40
General Clerical	40
Minnesota Clerical	100
California Achievement Test	3
California Psychological Inventory	5
Card Punch Operator Aptitude Test	10
Davis Reading Test	2
Diagnostic Test	1
IPAT Culture Fair I.Q.	3
IPAT Motivation Analysis Test	5
Otis Employment Test	20

SPECIAL TESTS ADMINISTERED

Vocabulary Inventory	60
Spelling	60
Reading Comprehension	75
Arithmetic	150

E. Standardized Test Batteries - Its Inadequacies

Man perceives objects in his environment and conceives abstract ideas within his sphere of experience. When he observes, for instance, a dog, he involuntarily forms the word-sound "collie" or "cocker spaniel." Along with simple identification of the object he may associate some experiential factor which adds a value judgement such as good, bad, vicious, or pleasant depending on prior association with the object in question. The experiential factor may be direct or indirect. The individual may have been bitten by a dog in the past or may have simply been led to believe that dogs bite, through the experience of another individual. It is likely in this instance that a negative factor of avoidance is added to simple identification. In this way the total image of the concept "dog" is formed. First that the object is a dog and that it is to be avoided. The image may be extended by association to include other animals such as cats. In short, the individual forms an integrated image.

In a similar way man attaches symbols to all objects. The symbol becomes, in effect, the object itself along with its values. Through the process of education in all of its forms man learns the symbols which stand for each of the objects in his environment. As he learns progressively more symbols and how to read, write and speak them, he acquires the skill of synthesizing word groups which have a collective singular meaning. Not only "this is a dog" but "this is a collie, of the type which once caused me pain and which I must avoid." If the individual continues with the educative process, he learns that objects sometimes have more than one symbol and that

they may be combined in a variety of ways. This process is sometimes called degree of literacy.

The individual who is rewarded for his literacy proficiency tends to extend his literacy. He gains practice in "symboling." He learns many symbols and how they may be combined. Middle and upper class people place a great value on literacy and promote it in their ranks. Lower class people place less value on literacy. They receive less practice in "symboling."

In about the third or fourth grade of elementary school students are asked to write about "What I Did This Summer." Some of the children write such things as "My Visit to Yellowstone Park" or "Fun at Camp."

In the process they utilize dozens of new symbols they have learned. It is enjoyable to think back over the rich and rewarding experiences. The poor children have little to relate. "Hanging Around on the Corner" or "My First B & E" somehow doesn't seem appropriate. At this age and grade level a bifurcation occurs. The poor children start to fall behind. Their interest lags as their teacher begins to divert more attention to the students who are more successful. The dropout process has begun. As they shuttle to the back of the room and the far corners, a gloomy, persuasive boredom sets in. Truancy begins shortly and by the time of the eighth grade or so, the only remaining goal is the achievement of age 16 for official drop out. Of course, many drop out before this time.

In some schools, populated exclusively by poor children, teachers are compelled to lower their standards. They find that increments of success are smaller. The pride a teacher feels when his students achieve well is nearly absent. The persuasive language of the poor subculture cannot be overcome. Illiterate parents do not provide the support and encouragement the schools desperately need. The homes of the poor contain few, if any, books. Reading (symboling) is not encouraged. In order to "graduate" any students, the schools do lower standards. The high school diploma has a different meaning. Students who read at an 8th grade level are awarded a diploma, a "pat on the back" and sent into the world of work.

By the end of the following summer the poor graduate has applied for a series of jobs. In almost every case he has been given an employment exam. He has puzzled over a series of new words and symbols and ponderously tried to follow the exam instructions. He isn't accepted. He cannot "symbol" as well as graduates from better homes and schools. After a series of rejections he realizes he is hamstrung by the establishment. His high hope dwindle to desperation and finally bitterness and anger. He can't qualify. He finally accepts a menial job requiring no exam. Each summer the story is repeated. The frustration is immense.

Employers have for many years, relied on standardized test batteries for help in selection of new employees. It has been assumed that potential employees who score well on employment tests will become good employees. This assumption is based on what is called a validity factor. One of the ways of developing an employ-

ment test is to draw a sample of employees who are performing adequately and subject them to a series of questions. Through a process called item analysis the questions which are discriminating, that is, those which are answered most correctly are extracted and listed in a new series. The new series is then used as a screening device under the assumption that efficient work performers answer these questions correctly will be efficient work performers. "Post hoc ergo propter hoc." Unfortunately, these sometimes erroneous assumptions are never questioned. The tests are still used wven when the work itself changes. In many cases the work is essentially unrelated to the validity basis. Smaller companies which cannot afford to develop their own tests rely on tests which may never have been related to the specific work they are performing. The selection process continues, however, and employees are hired or rejected on a basis about as appropriate as the toss of a coin. Of course, tests are not often the sole selection factor. Other selection criteria may include high school marks, general appearance, poise, voice quality and in some cases, "strength of handshake." Test scores and these other qualities are combined and an employment decision is made. So it isn't very surprising that when a youth walks into an employment office dressed casually, extends an unsure handshake or none at all, speaks as little as possible and produces a poor high school transcript, his test score simply verifies what the employer already knew. The polite, "We'll call you if we have an opening" is something the youth already knew also. A few experiences such as this verify that he is unfit, a loser.

Attempts have been made to develop tests free of "cultural contamination." It became clear that particular words such as "sonata," are used in middle class cultures and not used in lower class cultures and that therefore should not be included because of unfairness. It was further concluded that not only words familiar to middle and upper classes should not be used but essentially all words are used more in middle and upper classes and, therefore, create unfair advantage when used in tests. The obvious conclusion was that a test with no words should be used.

Just such a test was developed; in fact, several were developed. As it turns out, the disadvantaged groups still perform below the others. This phenomenon is still being discussed.

The truth of the matter is that all paper and pencil tests must necessarily consist of symbol manipulation. Not only the test, but other employment criteria are symbols, the handshake, the dress, the poise and the spoken language. So we return to the original problem. If your symboling techniques do not conform to acceptable standards you are rejected.

If you hear something like, "This gray boy from the bad crib and his mink copped out when this diddy bop with the cool sky piece made the scene," you can be pretty sure it's some form of English but for the user it is <u>the</u> language. It is distinct, it is precise, it is rich in meaning but it <u>is</u> a different language. When you add a heavy accent, it becomes truly a different language.

So the disadvantaged minority youth is caught in the system. He is evaluated with a tool designed for someone else, and it doesn't fit.

There is a growing body of research which suggests that standardized test batteries are not only inappropriate for certain minority groups but even tend to screen out individuals who are in fact capable of outstanding performance.

In the Journal of Social Issues, the publications of the Society for the Psychological Study of Social Issues, whose contributors include Dr. Jerome S. Bruner, Dr. Herbert Kelmon, Dr. Martin Deutsch and many others of equal status, are found the following statements concerning standardized tests, and I quote, "...their predictive validity for minority groups may be quite different from that for the standardization and validation group and they are dependent upon an adequate understanding of the social and cultural backgrounds of the group in question."

Research by W. Lloyd Warner and his associates in Chicago has shown that children from lower classes performed poorly on intelligence tests because they were either unimportant in or alien to their particular subculture. And finally, Dr. Davis at the University of Chicago also concluded that class differentials in I.Q. scores resulted from cultural bias in intelligence test construction and not from difference in the reasoning ability of children. In short, intelligence tests were unfair to children of the lower class culture.

In our Detroit Project, we have discovered numerous examples of trainees who fail entrance exams but nevertheless perform not only adequately but exceptionally well. Our Federal's Project illustrates this very well.

Now for a look at the pure economics of the problem in question. There is substantial concern that special dispensations concerning entry requirements and special training programs are expensive. I believe I can demonstrate that this is not the case at all.

In a follow-up study of the Detroit Project completed one year ago, we found that among the trainees sampled, their earnings totaled $1,326,000. They paid $153,229 in Federal taxes, $20,398 in state taxes and $11,106 in city taxes. Their average income came to $3,938 annually.

Incidentally, this is only half of the story. If you consider the cost of public assistance, detention in jail or any number of expensive, non-productive measures necessary to accommodate non-workers, then the net profit of these programs to society becomes exponential. And most importantly, how do you measure the value of the individual worth of a human being? We have estimated that many of our trainees have already more than paid for their training. So when the question is raised about the expense of these programs the answer is that these programs are not expensive. They are, on the contrary, profitable.

It is important that business and industry understand the full impact of programs of this nature. Not only do these programs create taxpayers and eliminate welfare recipients but they also create customers. In addition to the direct effect on the individual, the secondary and perhaps more important effect occurs to those individuals who are related. Brothers, sisters, sons, and daughters all profit from successful employment. Success breeds and the welfare chain is broken.

An interesting phenomenon occurred when we retested a group of trainees on a widely used problem check list. This check list consists of a series of problems of all kinds, concerning health, security, family relations and other related areas. We found that problem areas changed from such things as "uncertainty about the future and needing money" to wanting more education and more cultural enrichment. In short, long term employment raises the sights, broadens the horizons and creates optimism. There is almost total absence of welfare histories among people whose close relatives have long employment histories. Again, success breeds success.

In closing--I would like to summarize the points which I feel are most critical. Standard test batteries don't measure the abilities and predict the success of minority group members because they were not really designed to do it. The population sample used to build these tests does not ordinarily include members of the group in question, and should not be used to test them.

Employment programs make economic sense. What may appear to be expensive in terms of tax dollars really turn out to be a profit making venture. Training costs in the huge majority of cases are amortized over a year or two in actual new tax dollars, with the savings in reduced costs for policing and processing through the legal departments there doesn't seem to be much left to argue about.

I believe we are living in a society that is changing in geometric proportions. Each day brings a new technological advance. We are developing new methods of internal organ transplant, we have computers which solve problems in seconds that would take an army of

mathematicians years to solve. With the completion of Gemini II we are on the threshold of the moon. In the United States we have more consumer goods and services than ever before in history. It is an exciting time. I think we can allow everyone to enjoy the fruit of our expanding economy. It is hard to see how unemployment and interplanetary space travel can exist together. Perhaps, they should not!

F. The Role of Social Reinforcement in the Development of Self-Concept

DISCUSSION OF THE TOPIC

It is postulated that the individual's self-concept is a crucial mediating factor between the individual's past social reinforcement history and the amount of effort he is likely to exert for successful job performance. It is further postulated that "disadvantaged people" and more particularly in this case "disadvantaged youth" have poor images of themselves in terms of vocational and educational skills. That is, they have never been led to believe that they are particularly competent, skilled, talented individuals, and they generally think of themselves as relatively inept in relation to academic training or job performance. Extensive psychological research confirms the conclusion that fear and apprehension produced by a past history of self-criticism and self-deprecation virtually assures failure.

("Disadvantaged youth" are defined as people between the ages of 16-21, primarily Negro with a few white youths who reside and attend school in the "inner city" and who qualify as either welfare recip-

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ients of some form of public assistance. Generally, family incomes will be $3,000 or less per annum with no other visible means of support. This definition is by no means all inclusive, and will serve only as descriptive criteria in a very general way).

The research proposed has the practical aim of finding which, of various possible methods, will alter self-concept from which generalizations can be made about the development of training programs.

THEORETICAL BACKGROUND

Man has a self-concept. In his first year of life he begins to perceive of himself as unique among individuals. His personality and behavior begin in a systematic development. The direction and form of his personality development is based primarily on sensory messages. His physical development is partially hereditary and partially the result of his environment. These basic concepts of human development have been well documented and established.

The primary concern here is that of the process of the development of the individual self-image and how it affects man's behavior and how his behavior, thereby, affects his self-image.

From birth the human organism begins receiving messages which collectively form the image. Boulding in his discussion of imagery states behavior depends on the image and that the image is built up as a result of all past experiences of the possessor of the image. Everytime a message reaches him his image is likely to be changed in some degree by it, and as his image is changed his behavior patterns will be changed likewise. The meaning of the message is, therefore, the change which it produces in the image.[1]

As the human organism becomes able to understand messages from his environment his self-image becomes formed. If he is loved and receives messages to that effect his self-image becomes that of one worthy of loving. If he does not receive the love or nurturance he becomes reticent and withdrawn. This principle has been demonstrated in orphanages (Hurlock Psychology of Development). There is the case of Anna reported by Davis: "Anna could not talk, walk or do anything that showed intelligence. She was in an extremely emaciated and undernourished condition. She was completely apathetic, lying in a limp supine position and remaining immobile, expressionless, and indifferent to everything."[2]

Most of the mental traits we think of constituting the human mind are not present unless put there by communicative contact with others. Research has shown that the closer the correspondence between socializing agencies (school, parents, peers) the more rapidly socialization takes place. I am assuming here that socialization means successful personal relations with others. This process seems to be analogous to the image-building process.

There is a tendency for parents to raise their children the way they were raised, that is they tend to reproduce their image. Hilgard found that mothers identify with certain of their children in complex ways suggesting the perpetuation of her self-image.[3]

Kluckhohn has shown that the emotional tone of communication from parent to child affect subsequent development more than either of the particular techniques of child raising. He suggests that it is the child's perception of the parent's attitude that is important.[4]

Termon's findings carry important suggestions about the probable influence of socialization variables on affiliative behavior.[5] They suggest, for example, that a parent-child relationship which produces strong positive ties is an important influence on the general and life long affiliative behavior of the child--this seems to be confirmed by Sanford.[6] The child behaves as he is expected to behave by his parents, throughout his school experience.

Another research finding is that the severity of the conscience is apparently determined less by the strictness of the child's treatment by the parents than by the related intensity of his feelings for the parents. The child's conscience reflects the parents consciences more than their behavior, and socialization is affected through identification, first with parents, then with others.

Hall and Lindsey suggest that the super ego is modeled upon the earliest parental images, when the parents were thought to be perfect and omnipotent. Super ego takes over the role of external authority figures and exacts conformity to society. The person is said to be socialized.[7]

Parental pressure for and reward of early achievement when coupled with a high ratio of successes to failures results in a high need for achievement in later life. The general finding is supported for example by data which demonstrates that severe training acts adversely for achievement motivation.

In one study, the need-for-achievement score of sons receiving physical rewards was 7.60 as compared with 3.64 for those who did not (McClelland).[8] Other findings indicate the earlier the parental

demands for achievement the stronger the subsequent drive for achievement.

Dr. Maxwell Maltz in a book called Psycho-Cybernetics suggests that discovery of the self-image represents a break through in psychology and the field of creative personality.[9] He practices what he calls self-image psychology. There is today irreputable clinical evidence in the fields of industrial psychology, psychosomatic medicine and industrial psychology that there are success-type personalities and failure-type personalities. He further asserts that self-image psychology may reshape the self-image of a person in a desirable way. He asserts along with Boulding that all actions, feelings, behavior, even your abilities are always consistent with the self-image. In short, you will act like the person you conceive yourself to be. The self-image is a "premise," a base, or a foundation upon which your entire personality, your behavior, and even your circumstances are built. Because of this our experiences seem to verify, and thereby strengthen our self-images and a vicious or beneficent cycle, as the case may be, is set up.

Prescott Lecky conceived of the personality as a system of ideas based upon the ego ideal or self-image.[10] Lecky theorized that if a student had trouble learning a certain subject, it could be because it was inconsistent for him to learn it. He was able to bring about startling changes whenever he was able to induce the student to change his self-image. Salter suggests a similar principle in "Conditioned Reflex Therapy."[11]

It has been postulated that social class accounts for some of the variation in human behavior. The Lynds in their Middletown study reported that a potent factor in continuance of school is the economic status of a child's family.[12] They found that some children left school because they were unable to afford adequate clothing. The two major conclusions of the Lynds study were:

1. Lower class parents are less likely to instill in their children a desire for formal education.

2. Lower class children are penalized within the school system since they do not possess the symbols, attitudes, and behavior characteristics valued by the dominant class group.

A social prestige research conducted by W. L. Warner, Havighurst and Loeb resulted in the conclusion that American schools have a social class screening device, which in actuality keeps at a minimum the flow of upward mobility. The educational institution is described as functioning as sorters of students, rejecting some and rerouting others.[13]

One large group is almost brushed off into a bin labeled "non-readers," "first grade repeaters" or "opportunity class" where they stay for eight or ten years and are then released through a chute to the outside world to become "hewers of wood and drawers of water."

The intricate conveyor belt is seen to continue through high school and college, at each grade level a bit more selective and certainly less democratic in rejecting and accepting.

"The young people are inspected not only for brains and learning ability, but also for skin color, pronunciation, cut of clothes, table manners, parental bank accounts."

This conveyor belt hypothesis is supported in evidence by two tables which show that the greater the students parental income, the greater the likelihood he will go to college. It is also noted that I.Q. is not the vital factor in explaining variations in educational attainment. Other important findings were:

1. In high school there is a relationship between the students' socio-economic status and the curriculum in which he is enrolled and, when intelligence is held constant, the proportion of high school graduates that go on to college decrease with socio-economic status.

2. The type of school curriculum determines in part, the quality of education, for teachers and administration gives less prestige to vocational training programs than they do to the college-oriented courses.

3. Children from lower socio-economic groups are penalized in the social life of the school because they do not conform to the school's middle class standards.

Hollingshead analyzed the relationship of adolescents to the social structure.[14] The analysis involved 390 high school students; 345 who had withdrawn from school and 535 families of these adolescents.

Hollingshead concluded that opportunities for the attainment of desirable rewards and values (those held by the middle class) vary positively with individual's position on the social ladder.

The two explanations proposed are:

1. The socialization process in the lower class does not properly fit the adolescent for satisfactory educational and occupational adjustment.

2. The middle class adults in the school enforce their class values by "putting down" the lower class adolescents."

Criticism of these studies is that the relatively small communities analyzed are inadequate samples from which to make generalizations about all of American society. An important question was asked: Could difference in educational success be due simply to differences in educational sophistication among individuals from the various social strata? Because of their own college experiences and community positions middle class parents may have a better understanding of how schools operate, where to get information, with whom to speak in the academic bureaucracy, how to fill out applications, and so on.

A more recent analysis of the "climate of values" by Coleman suggests that (a) adolescents do not always reflect the values and attitudes of their parents; (b) social class alone will not predict the types of attitudinal orientations held by individuals; (c) educational institutions differ in respect to "social climates;" and (d) these differences will alter the impact of social class in respect to values, attitudes, and behavior.[15] Other studies suggest that there are norms of school culture which cut across class categories. Form and Stone found that adult attitudes and sensitivity to clothing varied sharply by social class identification. In Lansing, Michigan, Vener investigated differences in attitude toward clothing. Except for a feeling of deprivation with regard to clothing, there were no significant differences among the boys and girls from the various social strata in any of their age groups.[16]

Houser hypothesized that the family was not necessarily the relevant reference group for adolescents attitude toward minority groups.[17] This analysis indicated that within the adolescent school society there are relevant patterns of interaction which cut across the socio-economic categories characterizing the youths families.

A study of persons indicated that schools serve an allocating function in American society. The future status of the child in the adult social structure is determined in significant degrees by decisions made in school.

A study by Rosen attributes variation in achievement need and intensity to differences in the values held by parents in both social class groups.[18] Middle class parents are seen to place the greater emphasis on mobility and success, since their children are likely to embrace achievement-oriented behavior.

A Michigan State University study showed typical relationships between achievements and students social class backgrounds. Yet a sizable proportion of the youths from lower class families are excelling in school. Certainly factors other than those identified as social class are operating in determining school grades.

In summary, variation in reference group, motivation, self-perception, school "social climates," teachers and other adults expectation of the school and other factors may account for some differences in educational achievement and other school behavior which have been attributed to social class. Much more examination of such intervening variables is needed.

RESEARCH DESIGN AT WAYNE STATE UNIVERSITY

In August, 1965, Drs. Alan Bass and Reuben Barron initiated a project entitled: The Role of Social Reinforcement Parameters in Facilitating Trainee Motivation, Learning and the Performance. Their objectives were to specify a set of motivational conditions under which unemployed trainees from the disadvantaged population could be enabled to obtain maximum benefits from a job retraining program. It was postulated that the individual's self-concept was a crucial factor between the individual's past social reinforcement history and the amount of effort he is likely to exert for successful job performance. Thus, the research is aimed at determining what methods of dispensing social rewards will be most effective in changing the self-concept and, therefore, the subsequent job performance of job trainees.

The dependent variables in the experiment included level of past social Deprivation Abstract vs Concrete Rewards, 100 per cent vs partial rewards administrated by the authority figure.

It was assumed that trainees typically fail because lack of motivation underlying this assumption was the familiar observation that the trainees have poor images of themselves in terms of relevant vocational and educational skills. They had never been led to believe that they were particularly competent, skilled, or talented, and that they generally think of themselves as inept. Fear of failure has been shown in extensive psychological research to virtually guarantee failure. Having little experience with success the trainees have no reason to expect success.

THEORETICAL BACKGROUND

Recent experimental research suggests that a person's self-image (as measured by rating scales) may be effectively modified using relatively short-term social reinforcement techniques. (Hass and Maehr have shown that both positive and negative changes in self-image produced by laboratory social conditioning techniques persists at least as long as six weeks. Marlowe found much the same thing).

The work of Zigler, Gewirtz and Baer, and Ericksen have demonstrated that effectiveness of a given social reinforcer is a direct function of its past availability. Verbal reinforcers that have a praise connotation are more effective conditioners for the socially deprived than those emphasizing correctness.

Skinner's schedules of reinforcement are suggestive of the most effective way of bringing about changes in self-concept and improving subsequent job performance. The research proceeds to test these hypotheses of social reinforcement and the results are reported.

The analysis is incomplete but it does appear that praise of the person is more effective than praise of his task performance. Type and frequency of reinforcement yielded measurable differences. These will be reported in detail.

The current research is designed to measure the extent to which self-concepts and expressed motivation may be changed through direct interventions and social reinforcement.

RESEARCH DESIGN

Referring to the schematic design of the experiment, cell 2 of Group I contains 150 subjects who will receive the social reinforcement techniques developed for the Wayne study. This will be preceded in cell 1 by a series of scales designed to assess job prestige values and personal attainment measures. Personal problem areas, personality factors, and another occupational values inventory will be described later. In cell 3, subjects will receive a two-week period of intensive orientation to the various occupations which will include visits to the various businesses and industries. They will receive supportive services along with personal and vocational counseling during this time. This period will be followed by a period of smaller groups based upon the trainee professed interests again supplemented with social reinforcement.

During a final week of the period the trainees will spend a week at summer camp during which they will describe their experiences and formulate future goals.

In cell 4, trainees will receive post-scaling identical to the prescaling in cell 1.

Experimental Group II begins with cell 5, AYEP prescaling followed by cell 6, social reinforcement parameters. Cell 7 omits the summer experience and cell 8 is post-scaling.

Experimental Group III will receive the prescaling in cell 9; nothing in cell 10. Summer experience in cell 11 and post-scaling in cell 12.

The control group will receive only pre and post-scaling. All of the groups will be compared statistically.

Experimental Group I N - 150	Experimental Group II N - 50	Experimental Group III N - 50	Control Group N - 50
1 Pre - Scaling AYEP	5 Pre - Scaling AYEP	9 Pre - Scaling AYEP	13 Pre - Scaling AYEP
2 Social Reinforcement Parameters (WSU)	6 Social Reinforcement Parameters (WSU)	10	14
3 Summer Project Experience	7	11 Summer Project Experience	15
4 Post - Scaling AYEP	8 Post - Scaling AYEP	12 Post - Scaling AYEP	16 Post - Scaling AYEP

INSTRUMENTATION

Mooney Problem Check List

Purposes: The essential purpose of the Mooney Problem Check List is to help individuals express their personal problems. The procedure is simple. Individuals read through the check list and underline the problems which are of concern to them, circle the ones of most concern, and write a summary in their own words.

There is nothing mysterious about the check list method of observing personal problems. A competent counselor can elicit an expression of a counselee's problems over a period of interviews. Observant leaders can infer the problems of a group from run-of-the-day behavior of its members and conversations on ordinary matters. By means of the Problem Check Lists, both of these slower methods of determining the problems of the individual or group can be accelerated, and previously overlooked areas needing attention can be brought to light. Thus, the usefulness of the check list approach lies in its economy in bringing the problems of the individual into the open and in appraising the major concerns of the group.

Design and Administration: The adult form of the Problem Check List, like other forms, is printed on a six page folder in a way that provided for ease of summarization by the counselor or research analyst. The present format has proved itself practical with hundreds of thousands of cases.

The Problem Check List

It is self-administering. All the directions needed are on the cover page. The language is simple and can be readily understood by

individuals of varying educational backgrounds. Usually the check list will be completed in 20 to 30 minutes, although some individuals may take as long as 50 minutes. Those who are slow should be given the opportunity to complete the check list, since they might be just the persons most deeply involved in their problems. The check list is constructed so that the problem areas run horizontally across the page, in groupings of six items. The areas, with the number of items in each, are listed below:

1.	Health (H)	36
2.	Economic Security (ES)	36
3.	Self-Improvement (SI)	36
4.	Personality (P)	72
5.	Home and Family (HF)	36
6.	Courtship (C)	18
7.	Sex (S)	18
8.	Religion (R)	18
9.	Occupation (O)	18
	TOTAL	288

The individual goes through the items in the check list, underlining the problems that are of concern to him. Most people, in answering the check list, do not discover the horizontal grouping of items by area. This is an important feature. Both students and counselors report that where groupings of items by area are obvious to the respondents, there is a tendency to skip entire areas that appear to be inappropriate without bothering to read the items, and to avoid marking items in areas that they feel have lower social acceptability--such as personality and sex. The format of the Problem Check List overcomes these difficulties and still presents a grouping of problems that is convenient for the counselor and the survey analyst.

THE SIXTEEN PERSONALITY FACTORS QUESTIONNAIRE

This test gives fullest information in the shortest time about most personality traits. It sets out to cover planfully and precisely all the main dimensions along which people can differ according to basic factor analytic research. The questions asked are indirect and the responses are treated as behavior not as valid self ratings. Three alternative answers to each item are provided for the subject. In order to supply a range of possible test lengths from which to choose, there are three forms: A, B, C.

Raw scores are converted to standard scores ranging from 1 to 10. These standard scores are plotted on a profile chart which graphically compares the scores and their interrelationships. To achieve a group profile, the arithmetic mean of the raw scores is computed, converted to a standard score and plotted on the group profile chart. Standard scores of 5 and 6 are considered deviant scores. Degree of deviance is empirically considered to be spaced in equivalent units.

Research data relevant to the Sixteen Personality Factor Test is now available in limited quantity. Apparently more data will be forthcoming. Some of the research data currently available is entitled, "High School Juniors Gifted in Science," "Sixteen Personality Factors Profiles of Happily and Unhappily Married Couples," "The Personality of Weight Lifters and Body Builders," "Social Casework With Families of Alcoholics," "Sixteen Personality Profiles of a Clinical Syndrome Group," and "New Prediction Possibilities for Vocational and Educational Counseling with the Sixteen Personality Factor." Other research is also available.

The Hatt-North Occupational Prestige Ratings

Description: A nationwide cross-section of Americans (National Opinion Research Center Sample of 2,930) were asked to rate the standing of ninety occupations. These occupations were chosen from a wide range of white collar and manual occupations.

Respondents were asked, "For each job mentioned, please pick out the statement that best gives your own personal opinion of the general standing that such a job has: 1. Excellent standing, 2. Good standing, 3. Average standing, 4. Somewhat below average standing, 5. Poor standing. I do not know where to place that one." Ranking the ninety occupations was made possible by a procedure devised to translate the percentage ratings on each of the jobs into a single general score. When the "Don't Know" answers were excluded, the scoring theoretically allowed a maximum of 100 points for any job receiving only "excellent" ratings and a minimum of 20 points for work that was unanimously rated as poor. The actual range became 33-96.

Study of Values: Allport - Vernon - Lindzey

The Study of Values aims to measure the relative prominence of six basic interests or motives in personality: the theoretical, economic, aesthetic, social, political, and religious. The classification is based directly upon Eduard Spranger's Types of Men (50), a brilliant work which defines the view that the personalities of men are best known through a study of their values or evaluative attitudes. Since it is undesirable for those who take the test to know too much about its theoretical basis beforehand, any mention or discussion of

these six values should be deferred until the test has been taken.

Hypotheses

It is hypothesized that trainees in Experimental Group I will show a significant difference in indicated problems between Pre and Post Scaling. Specifically, problem areas describes as questions 187, 188, 189, 190, 191, 19, 20, 22, 23, 68, 217, 218, 169, 170, 125, 77, 76, 75, 73, and 25 will be indicated significantly fewer times. It is also hypothesized that the mean number of indicated problems per trainee will decrease significantly.

Also in Group I it is hypothesized that trainees will change significantly in the following factors A, E, G, H, Q_1, Q_2, and that the movement will occur toward the high score description of the 16 Personality Profile.

Other hypotheses for Experimental Group I are that self-placement on the Hatt-North Occupational Prestige Scale will change and that it will move upward.

For the Allport-Vernon Profile of Values, it is hypothesized that value scores will change. The direction of change is not predicted.

REFERENCES

[1]Boulding, Kenneth E., The Image, Ann Arbor Paperbacks, The University of Michigan Press, (1956).

[2]Davis, Clara M., Diseases In Children from "Human Behavior," Harcourt, Brace & World, 1964.

[3]Hilgard, Ernest R., Conditioning and Learning, Appleton, Century-Crofts, 1960.

[4]Kluckhohn, Clyde, "Culture and Behavior" in Gardner Lindzey ed. Handbook of Social Psychology, Vol. II, Addison Wesley, 1954.

[5]Terman, Lewis M., and Merrill, Maud A., Measuring Intelligence, Houghton Mifflin, 1937.

[6]Sanford, R. N., Wakins, Margaret M., Physique Personality and Scholarship, Social Research Child Development, 1943.

[7]Hall & Lindsey, Theories of Personality, John Woley & Sons, 1957.

[8]McClelland, David C., Studies in Motivation, Appleton-Century-Crofts, New York, 1955.

[9]Maxwell, Maltz, Psycho-Cybernetics, Wilshire Book Company, 1965.

[10]Lecky, Prescott, "Organismic Theory" from Theories of Personality, ed. by Hall, Calvin S. and Lindzey Gardner, 1957.

[11]Salter, Andrew, Conditioned Reflex Therapy, Anchor Books, New York, 1955.

[12]Lynd, R. S. and H. M., Middletown, A Study in American Culture, Harcourt, Brace & World, New York, 1929.

[13]Warner, W. L., Havighurst, R. J., and Loeb, M. B., Who Shall Be Educated, Harper and Row, New York, 1944.

[14]Hollingshead, A., Elmstown's Youth, John Wiley & Sons, Inc., New York, 1949.

[15]Coleman, James C., "The Adolescent Subculture and Academic Achievement," from The American Journal of Sociology, 1960.

[16]Vener, A., "Adolescent Orientation to Clothing," Unp. MSU, 1957.

[17]Houser, L., "A Sociometric Test," Unp. MSU, 1956.

[18]Rosen, B., "The Achievement Syndrome," from American Sociological Review, 1956.

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V. COUNSELING

A. Success Experiences and Vocational Development

INTRODUCTION:

"Social dynamite" is the phrase frequently used to describe the situation among our unemployed, disadvantaged youth; a situation already serious and becoming more so. Many recent studies have shown a close correlation between youth unemployment and social problems of major proportions; symptoms of an increasing lack of vocational direction and purposeful job goals among our youth. Traditionally, the admission of youth to the adult world, their badge of belonging, is a job. Unfortunately, for hundreds of thousands of boys and girls this admission is denied because of discrimination, mental or physical disabilities, cultural and educational handicaps or other barriers to employment. These youngsters can look forward only to lives of drudgery and intermittent work. For them, the outlook is black. Life is empty, with survival the only incentive. It is in this social milieu that youth employment viz-a-viz vocational preparation and direction become important.

PURPOSE

It is hypothesized that there is a relationship between the individual success experiences in real life situations and the vocational development of disadvantaged youth as experienced by the trainees of the Mayor's Youth Employment Project of Detroit. The purpose of this paper is to explore aspects of success experiences in creating "self-esteem" and the relationship upon or toward a desirable state of employability.

There is a definite need for additional conceptual studies relating to individuals of lower socio-economic status. Leo Strole states, "Ultimately indicated here may be interventions into the downward spiral of compounded tragedy, wherein those handicapped in personality or social assets from childhood on are trapped as adults at or near the poverty level, there to find themselves enmeshed in a web of burdens that tend to precipitate (or intensify) mental and somatic morbidity; in turn, such precipitations propel the descent deeper into chronic, personality-crushing indigency. Here we would suggest, is America's own displaced-persons problem."[1]

SCOPE

The broad definitions commonly given to vocational preparation effectively limit the scope of this paper. The multi-faceted aspects of the field do not permit broad consideration of the development of total personality of the individual. While some background influences will be introduced, the dominant theme will be restricted to the effect success experiences appear to have in vocational preparation.

BACKGROUND

The population group for purposes of this study are the members of the Mayor's Youth Employment Project, and vary in age from 16 to 22 years of age (19.6 average age). The Project is primarily concerned with socially and economically deprived youths who are high school graduates but who for various reasons have been unable to make a successful transition from school to the world of work. This Project is an Experimental and Demonstration Program, federally fun-

[1]Leo Strole, Mental Health in the Metropolis -- The Midtown Manhattan Study, McGraw-Hill, 1962, P.23.

ded, to help these disadvantaged youth to become productive members of society through gainful employment, successfully completing the transition from adolescent to adult status. The majority of the trainees are Negro and come from homes in the inner section of the City of Detroit.

The term "vocationally prepared" or "employable" has many connotations, so it is necessary to establish a point of reference before proceeding. Many of the youth comprising the disadvantaged subculture are either unable to develop the vocational preparation necessary to maintain the identity they desire, or unwilling to accept the identity they possess with its resulting vocational limitations. Perhaps the main concept involved in vocational preparation is the establishment of a compatible and acceptable as well as realistic relationship between trainee aspirations and trainee abilities. These two factors are seldom in accord, which is to be expected. What is not expected and yet is more frequently true, is that a trainee's aspirations usually are considerably below his abilities. As a rule, they "feel" that they can function in a higher level and more demanding (and rewarding) job but also feel that there is little chance of their achieving it, or they are willing to compromise for considerably less. The problem, then, is to change the "feeling" from one of failure to one of success. This involves acquiring the job skills and exposing abilities while instilling success confidence through competent performance. The process is vocational preparation, and the result is employability.

If there is one overall characteristic that is common to all MYEP trainees, when they enter the program, it is failure. Failure in school and at home, failure in adjusting to personal problems and social situations, and primarily the failure to find some means of economic security. For Americans, the economic ethos serves as the bonding element for the integration of the multiple identities and roles of the individual and here lies the seeds of inadequacy and inferiority as well as those of self-respect and economic security. If an individual, through repeated failures, despairs of his skills or of his status among his economic partners, employability is impaired. "We see ourselves as others see us" becomes a self-fulfilling prophecy and the individual potential is not realized, for it is our contention that self-esteem and vocational competence is the accrued successful experience of the individual's ability to integrate all identifications, real or desired, with the vicissitudes of real life, with the aptitudes developed out of endowment, and with the opportunities offered in socio-economic roles.

THE PROBLEM

"Success confidence," another name for self-esteem, is not a simple task either to teach or to learn. It does not follow any external evaluation of individual worth. It is necessary to see ourselves through other's eyes but to accept this image only as a guide to be considered in establishing our conception of ourselves. Self-confidence thusly established, though it cannot indefinitely resist externally imposed degradation, may stand up rather well under attack.

In this sense, it is closely related to clarification of experience; if we do not understand clearly what we have done and what has happened to us, we have no true basis for self-confidence.

In adolescence, self-esteem is a crucial problem for there is, as yet, little experience to base it on, and that little is a thoroughly biased sample acquired in the home and the juvenile group. There is too little diversity of experience and too little experience of detachment to permit much objectivity and the individual, therefore, is extremely vulnerable to the feelings and judgements expressed by the persons and institutions of his environment. As a group, they lack reserves of self-esteem and confidence to sustain them under humiliating conditions, and they cannot easily assimilate an attack on their dignity or individual worth.

As a generalization, this has proven particularly germane with the MYEP trainees, 84% of whom were high school graduates in 1964-65. The high school institution still reflects and faithfully transmits the esteem or disparagement in which the community holds its students and their families. Lower socio-economic status students quickly come to perceive the school's concern with socio-economic status and consequently expect it to have no interest in them. It is here that many of them learn to accept the prevailing judgement of their worth. They accept and internalize this social verdict on themselves and proceed to lower their aspirations and job goals. The socio-cultural determinants of human behavior with particular reference to problems of identity and social role become even more complex when a racial factor is introduced. There still is a "double-standard" in America

for society's evaluation of individual social worth. An achieved evaluation is the determinant for the white population and an ascribed evaluation for the non-white population.

So the objectives of MYEP involve unlocking not one door but many. Of a slow, cumulative build-up of small individual victories here, strategic retreats with honor there, and understandable defeats along the way. Opening Doors for Troubled People, aptly describes the Project's role: "The individual who has not been prepared by experience and proper training to meet the many challenges and responsibilities of life in our complex society finds many people in the community commissioned, officially and unofficially, to help and guide him when he falters."[2] Their feet falter on many paths. Discrimination bars some of them from jobs for which they are qualified. Some simply need additional training and preparation. Others are unable to read and write well enough to even apply for a job, let alone perform one adequately. Some have never acquired the kind of self-discipline which is needed to work steadily. Many have not learned to find satisfaction and personal fulfillment through working. Some are unrealistic, holding out for jobs which are not available or which make demands they cannot meet. Some are qualified but cannot find jobs. Many of them live in congested city areas, surrounded by social disorganization, poverty, and despair.

Gerald Caplin reaffirms the importance of the role of experience and self-esteem. "It is worth noting," he states, "that what the

[2]David S. Shapiro and Leonard T. Maholick, M.D., Thomas Books, Springfield, Illinois, 1963, P. 62.

epidemiologists call 'host factors,' namely, the qualities of the members of a population which determine their vulnerability or resistance to environmental stresses, are made up of two groups of attributes. The first, including such attributes as age, sex, socio-economic class, and ethnic group, cannot be manipulated, since it involves, as it were, the factors of individual fate. The second, including such attributes as general ego strength, problem-solving skills, and capacity to tolerate anxiety and frustration, is currently fixed, but could have been modified in the past by altering the experience of the individual or his parents."[3]

It is in the area of secondary attributes where it is possible to be of greatest assistance to the trainee. In a work laboratory sense, both group and individual case histories within the Project appear to substantiate the relationship of success experiences--self-esteem--improving employability and vocational preparation. They reflect attitudinal changes, reorientation of self-concepts, and roles in and relation to the rest of society.

When trainee problems are encountered in the counseling process, a "pat answer" will not suffice. On the other hand, merely accepting the trainee and understanding the situation, while it may be cathartic, offers little in the way of a solution. The Project's basic concern, in this area, is the trainee's development and maturation through handling his own problems. A pragmatic course of action is followed whenever possible and appears to be effective in opening up various avenues of action and/or decision to the trainee.

For personal-type problems, the idea of "thinking with" the trainee and discussing a variety of possible solutions that the trainee may not have known, or making available information, seems to help in the process of making a decision that will tend to alleviate the problem. What this does in effect, is provide an "incubation period" during which the trainee may try a variety of approaches to solve a complex problem. An important fact here: While the problem is not yet solved, the very process of attempting a solution seems to help the trainee immeasurably by applying his own experience and values to a problem-solving situation. At last he feels he is doing something, he has the ball moving, he is to a certain degree the master of his own destiny.

In vocational problem areas, through the utilizing of the many and varied vestibule training stations, the trainee is physically placed in a situation where by doing and seeing, he is able to acquire the information and experience needed to make a rational decision. The resulting solution is their own solution evolved from their own experience and knowledge. The cumulative effect tends to make each additional problem more subject to solution and the trainee more secure in his own ability to meet and cope with the problem.

It appears that a multiple didactic approach to helping trainees solve problems provides the flexibility necessary to work in an area that has little in the way of research to offer significant guidelines. When the staff is not slave to a single method, it can be cognizant of the different stages of growth and maturation within the individual, and methods may be varied to suit the needs of the trainee

at significant points in the process of development. Most important, the staff then has the ability to act as a catalytic agent to start the problem-solving process of the trainee moving.

SUMMARY

Self-esteem or self-confidence and employability or occupational readiness appear related if not subject to correlation, especially inasmuch as the inverse proposition is both well established in social theory and documented in extensive research, i.e., loss of self-confidence results in poor occupational readiness. The case studies indicate not only the positive values of the "success experiences" but the equally positive values of the negative "failure experiences" for it is equally necessary to learn to cope with adversity without severe damage of self-concepts.

Success experiences, being instrumental in the creation of self-confidence, as an approach toward establishment of purposeful job goals and occupational preparedness would appear to deserve further consideration and experimental application.

B. PRE-COLLEGE ORIENTATION

> This E & D Program is designed not only to help Negroes to achieve equality of educational opportunity but to go beyond opening college doors to those with educational deficiencies associated with cultural deprivation and help them stay in college.

INTRODUCTION

Many colleges in the past few years have attempted actively to recruit qualified Negro students, but the supply of such students,

particularly as measured by the traditional methods of defining the term "qualified," i.e. scores on the College Board Examinations of their equivalent, is extremely limited. Negro students with relatively high college board scores have little difficulty getting accepted at good colleges and universities, but the great majority perform below acceptable standards on college boards. The major problem facing these Negro youth is the inequality of pre-college education, an inequality created and fostered by long years of segregated schools, a segregation both official and non-official, with the result that a relatively small number of Negroes of college age are adequately prepared for college. An effort should be made to locate, to help prepare, and ultimately to encourage more Negro students to actively seek and complete college training, particularly male youth.

A large percentage of Negro students who do enter college do not complete their education, and the main reason for their failure seems to be a weakness in the verbal skills of reading and writing, weaknesses which show up in the statistically significant differences between Negro and white students in the areas of verbal skills as measured in college board scores.

This six-week program would concentrate primarily upon verbal skills, reading, writing, general linguistic sophistication, and humanities; but it will also include mathematics, partly because mathematics, especially in its strong relationship to logic and organization of thought patterns, has a bearing upon such rhetorical skills as organization of ideas into logical and sequential patterns.

It is also felt that one of the greatest gulfs between high school and college subject matter exists here, and that six weeks of intensive study in mathematics will enhance the students' chances of success in college.

Enrollee Selection Criteria

To the greatest possible extent, enrollees will be drawn from the AYEP work-study program of TAP, but will possess the following characteristics:

1. High School Graduate
2. Four Basic Units of English
3. Two Basic Units of Mathematics
4. Three Units of the Social Sciences
5. Two Units of the Sciences
6. Show ability to do college work and have potential as well as proper motivation if given an opportunity to attend college.
7. Demonstrated financial need and disadvantaged by lack of cultural background.

(The AYEP work-study program is designed to prepare disadvantaged youth to meet the entrance requirements for college in addition to emphasizing the value of higher education and an awareness of the opportunities waiting the college-educated individual).

It is deliberately planned that the program be restricted to an essentially all Negro student body for what appears to be excellent reasons. For many Negroes in their teens the dominant white culture is meaningless. The consciousness of the present generation of young

Negroes has been shaped by segregation and the pejorative connotation of "blackness" which has been a part of the Negro's existence ever since his arrival in America. Therefore, an all Negro student body is thought desirable because it gives the program a direction which goes beyond simple acquisition of skills; it can aim at the intellectual stimulation of the Negro student by confronting him with himself and his situation through the medium of literature by Negro and white authors about Negroes and Negro-white conceptions of one another. In fact, those parts of the program which relate specifically to the strengthening of reading and composition skills depends upon the student's becoming involved in the deepening of knowledge about himself. Such knowledge would seem to be a pre-condition for his awareness of himself as a freely developing being in society. An important experimental aspect of the whole program is the way in which the books and poems to be read by the Negro students are selected to exert a power of attraction over his mind and his feelings, so that the development of reading and composition skills becomes a natural by-product of his desire to understand himself as a Negro and as a human being, and to express that understanding to himself and to others.

CURRICULUM PROGRAM

Language

The language course is designed to present the student with a descriptive approach to American English. This approach is viewed as the best way to eliminate misconceptions about the nature of the standard language. Language will be presented as a tool which enables

one to operate more effectively in the culture. Although the course will emphasize the practical rather than the theoretical aspects of language, enough linguistic theory and methodology will be incorporated to establish a systematic examination of English, spelling, punctuation conventions, syntax, and current usage.

This course, as will the others, will be shaped somewhat by the students' needs but will begin with a study of the history and structure of the modern dictionary through the use of a contemporary desk dictionary and a dictionary handbook. This examination will be related to a discussion of usage levels in contemporary American English, empirical conclusions about the distinctions between formal, informal, and non-standard usage. Effort will be made to show the students the flexible nature of language, the inappropriateness of such terms as "correct" and "incorrect," and the fact that standard American English is merely a socially accepted dialect imposed upon the total culture by a particular majority. A collection of essays on language will also be used and several papers will be assigned which require the students both to analyze particular language problems and to examine their own concepts about language.

Mathematics

The basic assumption behind the inclusion of mathematics in the curriculum is that a considerable gulf exists between the high school preparation of most students and what they will be confronted with in college. It is also felt that a number of mathematical concepts will have some relevance to rhetorical concepts. Certainly, logic, organization of thought patterns, and sequential reasoning, as well as an

ability to grasp abstract concepts, are common to both areas.

Course work will start with the natural numbers and the basic rules of operation with them. This will continue on the enlargement of this number system, first to zero and the signed integers, then to rational irrational numbers and finally to complex numbers. Number systems in various bases and operations for these systems will be studied.

The student's experience in arithmetic will be used to develop his understanding of algebra as a logical structure. The study of algebra will include exponents and radicals, factoring, linear and quadratic equations, the binominal theorem, synthetic division, obtaining real roots of equations of degree greater than two, solution of systems of equations including solution by determinants, the concept of function and an elementary discussion of limits and continuity. A review of geometry relative to the parallel axiom, ratio, proportion and area will be made. Also included will be a study of the essential topics of plain trigonometry--the circular functions and their graphs, basic identities, solution of trigonometric equations, and the laws of sines and cosines.

Finally, a brief study will be made of the conics. The basic equations of the circle, parabola, ellipse and hyperbola will be derived and a brief study will be given to their elementary properties.

No tests will be given through the six weeks of the course. However, daily assignments will be required of all students and a careful check will be made of at least three of these assignments per week, after which the papers will be returned to the students. The papers

will be used by the instructor as a means of keeping touch with the student's understanding of the lectures, and his difficulties. Problems that cannot be solved, or those missed most often, will be discussed in class.

Humanities

The objective of the course work in humanities is to involve the students personally in imaginative works of literature, to give them problems in handling abstractions, and to help them to communicate effectively in speech and writing. More specifically, it will attempt to heighten the students' awareness of the values and uses of accurate and sensitive reading and listening, and of clear and forceful writing and speaking. It will try to demonstrate to the students that these values and uses are in fact accessible to them because they already have within themselves--to various extents--the abilities to read, think, and communicate, and to convince them that these abilities can provide the basis for a better understanding of themselves.

As presently programmed, the students will be confronted with four works of literature, James Baldwin's Go Tell It On The Mountains, Ralph Ellison's The Invisible Man, Franz Kafka's Amerika, and Jean Genet's The Blacks. Two of these works are by Negro authors, dealing with the problem of being Negro in America; one is an imaginative examination of America by a foreigner; the last is an analysis of Negro-white relationships by a white author who is himself an outsider. In addition, films will be shown each week, in which parallels will

be drawn between the thematic concerns of the film and similar themes in the literature.

The classroom method will be lecture-discussion, with emphasis upon the latter. Instructors will try to show the students how to relate themselves, whenever possible, to the themes and ideas in the films and books. Reading and observation of detail will also be emphasized as a means for them to define for themselves the experience each work deals with, to apprehend the ideas and feelings which the work communicates through its treatment of such experience, and to preceive the relevance of that experience to their own situation.

Reading

Since one major problem facing each of the students will be an apparent difficulty in reading with sufficient speed and comprehension to compete with college work, much of which depends on such verbal skills, the reading part of this program is considered extremely important. Reading, of course, is a skill, and can only be mastered through constant and repeated practice. However, it is a skill that does not and cannot operate within an intellectual vacuum. The content of the material read is as important as the possession of the skill. One aim of this program is to increase the student's verbal and mathematical skills, but it is felt that these skills cannot be taught independently of intellectual content. Every effort will be made, then, to join the intellectual content of the course work to the mechanical skills required to absorb this content.

This course should be programmed only by a qualified reading specialist in conjunction with the instructors in the three academic areas. However, this is conceived as a course complementary and supplementary to the other courses in that a series of exercises and reading questions will be prepared from the regularly assigned reading in the other courses. Specially prepared reading examinations and vocabulary drills will be given, similar in nature to those which are given in standard verbal comprehension tests. Scores should be tabulated and close watch kept on rates of progress. Those who do not show satisfactory progress should be assigned to special clinical sessions with a Reading Specialist to diagnose and treat whatever individual difficulties are encountered.

Composition

Composition, like reading, is primarily a matter of mastering concrete skills, of being aware of certain conventions of the English language. On the lowest level, it consists of mastering the conventions of spelling, punctuation, and sentence structure. On a more advanced level it involves rhetorical considerations such as organization of subject matter, presentation and ordering of ideas, and considerations of style and diction. And, like reading, composition is intimately concerned with content. The ideas to be expressed must have some intellectual validity. It is the objective of the course to improve the student's ability to express himself in conventional English, and at the same time, to help him realize that he has something valuable to express.

Composition, then, is closely related to the language course, insofar as learning the mechanical skills is concerned; it is also closely related to the humanities course for expressive content.

Each student will be assigned to write one composition of about 500 words each week. The topics for compositions will be selected by the instructors in the subject matter courses (language arts, reading, and mathematics). After completion of a rough draft of the composition, the student will receive assistance with mechanical irregularities. The second draft will be discussed for matters of organization and style. The final draft of the paper will be turned in to the instructor for whatever subject the paper has been assigned. The instructor will read and comment upon the subject matter content. This approach, which provides the student with close supervision from the inception of the paper to its final completion, has the possibility of establishing in the student's mind the close connection between the acquisition of mechanical verbal skills and the ability to express one's self with clarity and precision.

Extra-Curricula Activities

As a supplement to the regular curriculum a few cultural and social events will be scheduled as well as some field trips.

Evaluation Techniques

No tests of any type will be administered during the operating period of the program, since it is felt that this program should be free from the normal testing and grading processes which characterize much of the students' previous educational experience, and which seems

to have given many of them a negative attitude toward the educational process. The only formal testing will involve the STEP tests (the Sequential Tests of Educational Progress) to be administered when the students first begin, and again during their last week. Separate STEP tests will be administered in reading, writing, mathematics, and essay. These tests are particularly useful for this program since they stress achievement of skills.

A quite effective informal measurement of achievement during the program can be gained through the essays required weekly of students in humanities, the language class, and on occasion, in mathematics.

Staffing

Three teachers and six teacher aides could adequately handle sixty students with the assistance of a Reading Specialist. Teacher classes would be held mornings with the afternoons spent in a teacher aide-tutorial situation on a 1 + 10 ration (teacher-student ration would be 1 + 20).

Rationale

This is a departure from the traditional educational structure to which students will have been exposed for twelve years and yet remain weak in certain areas. It is an attempt to provide these individuals with something entirely different in the way of an educational experience. It is an attempt to operate in an atmosphere of almost total freedom in which no external controls are exercised over the students, and in which the student is simply confronted with subject matter containing its own inherent interest. It is an attempt

to try, insofar as resources and time permit, to equip these individuals for college in a way which seems almost paradoxical; by facing them with an experience which when they get to college will bear little relationship to the situation prevailing there. But it is hoped that the six-week experience will whet their curiosity, stimulate their intellect, and help them to adjust to the reality of college through increased intellectual and personal motivation. One important aspect of the program is the attempt to make them realize that education is more than a matter of grades, tests, required class attendance, and token observance of formal requirements. It is hoped that they can be brought to see that education, to be effective, must spring from an internal desire, an internal quest, an internal curiosity.

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VI. JOB DEVELOPMENT AND PLACEMENT

A. What Jobs; Job Finding vs. Job Fabrication

It is a demonstrable fact that jobs in a capitalistic society can be created only by a healthy and expanding economy. No social service agency or social movement can by their own efforts (save of course within their own structuring) brings into being new jobs. In every real sense, therefore, in a free enterprise economy jobs must be found because they cannot be fabricated.

The spark for the creation of a new job is the existence of a need, felt or real, for the performance of a service or the production of an item from which a profit can be realized. The role of the job placement function is to locate position openings since it cannot manufacture them.

B. Where Can Jobs Be Found

In the light of the foregoing it is clear that jobs are found where they exist. A placement function must be sensitized to as many sources of information for the presence of job openings as its collective capacities, energies, and imagination permit. All available and known avenues of communication in this area should be tapped. Classified ads, direct employer contacts, personal contacts, general economic indices, professional association affiliates, economic trend projections, technical journals, and liaison efforts with concerned counterpart functions are but a few of the means which should be and must be investigated continually if a job placement unit is to be characterized with by a success coefficient of the requisite magnitude.

C. Who Is To Find Them

1. Role of Project Staff:

Within the Adult and Youth Employment Project job placement is everybody's business. This is the way that it should be for no one person has a monopoly on contacts, knowledgeableness, and the physical energies necessary to cover the gamut of job openings that exist. While it is legitimate that the chief burden for finding jobs within the Adult and Youth Employment Project rests with the Placement Section this organizationally assigned responsibility does not exempt the rest of the staff from being alert to job opening possibilities. The immediate gratification propensities of the culturally disadvantaged demand that the name of the game be "earn and learn." To the accomplishment of this end the total efforts of the staff should be directed.

2. Role of Public and Private Agencies

It is trite but nevertheless true that the battle against unemployment among the culturally disadvantaged must be waged simultaneously on a number of far flung fronts. Only when there is a concerted show of response to the situation from the totality of the major segments within the community is there any hope for a significant impact upon the problem.

Detroit is fortunate in the respect that there has been both a community definition and a community response to the manifold factors that create as well as protract the extensiveness of the phenomenon

of unemployment among the "culturally disadvantaged." A few examples are offered in support for the above made point:

> "Mayor Cavanagh announced on Wednesday that he is pushing for a substantial relaxation of city testing and employment procedures to bring more unskilled and less schooled workers into civil service jobs. The mayor also promised to put pressure on policy makers in the Big Three auto firms and other industries to relax job requirements in certain areas. This will be done at an employment conference sometime in October he said....."[1]
>
> "Representatives of the Big Three auto firms will be asked to serve on TAP's (Total Action Against Poverty) employment committee to avoid repeating the recent Ford Motor Company decision to go out of state to hire people for its Wixom plant.
>
> TAP's policy advisory committee objecting to the Ford decision voted unanimously yesterday to ask policy making representatives of Ford, Chrysler, and General Motors to sit on the employment committee headed by Willis H. Hall, former general manager of the Greater Detroit Board of Commerce.
>
> Members of the advisory committee in taking the action said they felt that big industry in the Detroit area had a responsibility to help alleviate the hard-core unemployment in Detroit before going out of state to hire employees.
>
> The advisory committee was told by Michigan Employment Security Commission chairman, Malcolm Lovell that steps were already being taken to get industry to accept responsibility for training and hiring hard-core unemployed in the Detroit area.
>
> He said a conference on the problem has been scheduled for September 14 at the Rackham Educational Memorial. Hall added that his committee has been active in getting large industry to hire people from TAP areas.

He said that his committee was instrumental in obtaining jobs for 20,000 individuals in a six-month period this year, and 9,3000 of them were TAP area people."[2]

"More than 2,600 of Detroit's hard-core unemployed have found jobs as a result of a special two-week registration and placement program started in mid-September.

However, Malcolm R. Lovell, Jr., Director of the Michigan Employment Security Commission (MESC) said jobs still must be found for some 14,000 other persons registered during the program.

Lovell said 16,311 men and women registered for jobs as a result of the program. He said 9,105 were referred to job openings and 2,614 obtained employment.

More than 15,000 persons were rendered some type of employment services--placement in jobs, referral to jobs, counseling, testing for aptitudes or proficiency in certain skills.

The dual purpose of this project was to identify a considerable number of the hard-core unemployed and by exerting every possible effort to help them become job-ready."[3]

3. Disposition of Unfilled Job Orders

Within the Adult and Youth Employment Project an "S.O.P." has been evolved so that job orders that are received and cannot be filled are forwarded to a source where there exists more than a fair expectancy that they can be handled successfully. The aforementioned sources include: The Michigan Employment Security Commission, the On-the-Job Training component of TAP, the Neighborhood Youth Corps, and local university placement services.

The employer who placed the original job order is notified of the disposition of his request and thanked for having placed it with AYEP.

D. Barriers to Job Development and Placement

1. Age: Age is a barrier to job obtainment in terms of marginal extremes of youth and maturity. Even though the State of Michigan prohibits discrimination in employment because of age[4] the older applicant is still handicapped in finding a job particularly where there exists a checkered work history.

While there are kinds of employment opportunities for 17 year olds the more desirable entry positions in terms of pay and opportunities are open only to those who are at least 18 years of age. The younger applicant is also penalized for his lack of specific experience. While most employers demand that commodity, few seem willing to furnish it.

2. Medical Problems: The culturally disadvantaged are, also, the medically disadvantaged in terms of adequacy of information and care in the area of health. Both as a cause and a result substandard and non-nutritional diet coupled with a lack of economic means to seek are vicious dehabilitating agents. Many individuals in the population under discussion lack the physical stamina and energy necessary to create the requisite impression during a job interview or during a probationary employment period. This fact gives rise to claims of indolence, lack of capacity to learn, and insufficiency of drive levels. A number among this group also, do not possess the

psychological sets normally expected in the world of work, i.e., their attention spans appear limited, gratifications are of the moment, crystallized goals for self-direction are inadequate, and conventionally defined orders of general knowledge may be lacking.

3. High School Diploma: A lack of a high school diploma is decidedly a serious handicap in finding employment. Specifically, it is a problem for females seeking entry into clerical fields. For males more openings are available which do not necessitate successful completion of high school but this deficiency can and does constitute a "millstone" around the neck of those without it which plagues their entire lives. Not only are many job categories denied the non-high school graduate but even after obtaining a job vertical progression is often not possible. It may, therefore, be seen that the failure to complete high school is a double edged sword which cuts in terms of the more limited number of initial job opportunities as well as more limited advancement possibilities once a job is obtained.

The present age requirement of the Detroit Public Schools regarding the GED Test is 20 years. The Director of the Adult & Youth Employment Project and Dr. Carl Byerly, Assistant Superintendent, are making a concentrated effort to determine the feasibility of lowering the age requirement.

Thus, if this effort is possible, a number of youth will be able to gain a high school diploma via the GED, and, therefore, higher entry level jobs and perhaps promotional opportunities will be opened.

4. Criminal Record: One of the most formidable barriers to obtaining some jobs is the stigma of a police record. So few companies are willing to take a chance on those who have had difficulties with the law that a recent feature article in the Sunday Detroit News was devoted to the subject.[5] "Chrysler Corporation has become the first of the automotive 'Big Three' to knowingly hire convicted felons under a new program designed to give parolees and probationers a chance for useful productive employment. Four of the major local companies who accept employees without asking about prior criminal records are Great Lakes Steel Corporation, Evans Products Company, McLouth Steel Corporation and Revere Copper and Brass Company."

5. Ethnicity: "A current labor newsletter carried the bold headline, "Unemployment Rate at Nine Year Low"[6], citing the January, 1966 statistics of the U.S. Department of Labor report of unemployment in the nation currently at 4% or 3.3 million. This means that 40 out of every 1,000 workers in the labor force were actively seeking work and could not find it. As evidenced by this latest report, significant strides have been made during the past year when the adjusted jobless rate in January, 1965 of 4.8% edged up to 5% in February, and just eleven months later dropped to the new low of 4%. However, most of us concerned with the problems of minority group unemployment eagerly analyzed the current figures hopeful of finding some evidence of even a minimal decrease in the non-white figure,

only to discover that this rate has not only remained much the same over the past twenty years, but reflects an even worsening situation with the total number of non-whites among the 3.3 million unemployed as being 678,000 and still nearly double the national rate.

Making up less than 10% of the country's labor force, Negroes currently account for 25.4% of its unemployment. In 1947, the non-white unemployment rate was 64% higher than that for whites; in 1952, 92% higher, and in 1962, 124% higher; and as evidenced by the recent Labor Department report, is still climbing.

A summary article in a recent issue of Time presents this picture of the situation.[7] The employment situation has become incomparable better for the middle-class Negro and worse for the lower-class Negro. While unemployment among whites has been declining this year, and is now 3.3%. Negro unemployment has been climbing and is now 7.8%. This is primarily because the jobless rate in many black slums has soared to 25% and automation has eliminated a lot of menial and manual jobs traditionally held by lower-income Negroes. The overall figure nonetheless conceals the fact that countless job opportunities have opened for skilled and semi-skilled Negroes in the past few years."

E. Liaison With Employers

1. Introducing the Employer to the Project

Achieving employer rapport can be accomplished in a number of ways, i.e., visits to the facilities of the organization where entry

is being sought, telephone contacts, direct mail promotion, etc. There is little doubt that there is no substitute for personal meetings with an employer. This technique permits a greater flexibility of approach since those questions the employer really has about our project and its enrollees can be answered in the required depth and with the candor that is often necessary to dispel presently held bias.

2. Introducing the Client to the Employer

In each instance, where possible, the client should be introduced to the employer via the setting of a specific interview time which has been established by a preceding telephone call. The aforementioned contact should be utilized to give the employer the applicant's name and provide whatever pertinent data of a biographical nature that is required in addition to establishing the interview date and time.

Great care should be exercised so that there is no misrepresentation of the client's qualifications since in the long run the "truth will out" and more harm than good will have been accomplished.

F. When is Placement Effective?

1. First as Reality Orientation

One characterizing dimension of American Society is that it is work orientated. Much of ones social status derives from being employed as well as where and how one is employed. Save for a few socially sanctioned roles, such as students, housewives, and given categories of the handicapped, etc., work is the expected activity for everyone else.

It is debatable if one can fully share in our society in terms of prevailing value systems if one is not employed. Thus, to work is to enter the reality of the mainstream of American life.

2. Last, as the Payoff to Training

Training is most distinguishable from education in that the former is always specifically orientated to the preparation necessary for the performance of a task while the latter is globally pointed in terms of underlying principles.

While the task to be performed as the end result of training may be complex in that it is limited as far as goal attainment is concerned, rewards for training tend to be more immediate in realization than is true in the educational process and the greatest reward for job preparation is the obtaining of a job itself.

G. Follow-Up

1. How to Maintain Contact

While follow-up contact can be achieved in a number of ways one of the better means is a longitudinal study over a large enough sample to give meaning to the data collected. Emergence of patterns can best be seen over a population. An appropriate timing to conduct such an in-depth effort would be from six months to one year following the placement of the trainees involved.

2. What Follow-Up Service to Provide

It should be made known to each enrollee who leaves the program for positive reasons that an "open door" policy prevails and that if additional services are desired the attempt to provide them will be made upon request.

3. Feedback to all other Phases of Program

As part of the requisite communication net there should be as wide a circulation of follow-up data collected to as many individuals within the various functional areas as have a direct concern in the learning established.

H. **STATISTICS**

			4-1-65 to 6-30-66		1-1-65 to 6-30-66
A.	Regular Enrollment		520		958
B.	Terminations		96		145
	1. Neutral	49		71	
	2. Negative	41		56	
	3. Not placed	6		18	
C.	Employment Placements		408		797
D.	Individuals in Training		16		
E.	Percentage Analysis				
	1. Job Placement		80%		84.6%
	2. Negative Terminations		7.6%		5.6%
F.	Enrollment (special activities)		459		
	1. Served but not Trained	54			
	2. Alexandrine House	30			
	3. Police Training	13			
	4. Neighborhood Youth Corps	260			
	a. Metal Processors	22			
	b. Clerk-typists	118			
	c. Nurse's Aides	94			
	d. Auto Mechanics	8			
	e. OJT (pre)	19			
	5. St. Leo's Parish	102			
G.	Total enrollment for all Activities		979		1,417

REFERENCES

[1]Stanton, Barbara, The Detroit Free Press, October 24, 1966, p. 1A.

[2]The Detroit News, August 11, 1966, p. 5B.

[3]The Detroit News, October 30, 1966.

[4]Act 251, Public Acts of 1955, as amended by Act 344, Public Acts of 1965, State of Michigan.

[5]Neal, W. Paul, The Detroit News, Sunday, November 6, 1966, p. 7B.

[6]Hickey, Laverne, Racial Discrimination and Unemployment, July, 1966, Vol. 1, Number 2.

[7]Essay, Time October 28, 1966, pp. 32-33.

APPENDIX A -- PROJECT EXPLORATION

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PROJECT EXPLORATION

VOCATIONAL CHOICE

RATIONAL

Some authorities in the field of Vocational Guidance and Counseling have raised the question of the timing and method of one's choosing a vocation or occupation. Such authorities (Dr. Tucci, Dr. Super, and Dr. Ginsberg) have independently covered many aspects of this problem.

A recent study, Project Talent, developed by the University of Pittsburgh, has discovered that about 75% of a sampling of high school graduates (male) changed their vocational aspirations after graduation.

In some public school systems, a student is encouraged to make a tentative selection between the seventh and eighth grades. Other systems have done so earlier, while others have done so at a later grade level. It does not follow a precise pattern.

But prior to making a selection, even a broad general area, a student should know something about himself, his desires, tastes, ambitions and goals of life.

The student should also know something about the world of work--first hand.

His experiences must be in the flesh, not only through the media of books, magazines, TV and the beautiful color movies. This type

of "sheltered" acquaintances does not impart the other vital senses relating to feeling, smelling and hearing.

If these studies are valid, it then apparently indicates that a young student makes his selection at a poor time in life. The choice, once made, tends to narrow the base of exploratory experience. (In fact, it might be related to a student standing on a railroad track; the farther it goes, the narrower it appears to become until it reaches a vanishing point.) This is conceivably what might happen to an occupation. It might vanish in the five years it takes to get there.

There are other considerations that are part of the puzzle--the physical plant is one. Should large amounts of money be spent to make all high schools comprehensive? Or should/could programs be developed to give a broad base of knowledge in the fields of Industrial Education; then in the last semester/year of high school or a post-high school program, a high impact, short term, concentrated effort be made to assist the student in a real life experience in selecting an occupation?

In order to assist the youth, and those agencies charged with the education and training of said youth, the following objectives are set forth:

1. To stimulate the desire to continue school and/or further schooling.

2. To provide factual vocational information.

3. To provide related guidance and counseling on a day to day basis.

4. To develop a realistic test program for the youth involved. Immediate response.

5. To provide a wide variety of experiences designed to assist youth in selecting an occupation.

6. To provide a medical-dental program that might alleviate some of the road-blocks, imparing employability.

7. To provide a nutritional program designed to improve health and, therefore, the work capability.

8. To provide an in-depth counseling program aimed at personal problems.

9. To provide group experiences. Dialogue; interpersonal problems.

10. To transmit all data to interested and legally acceptable agencies.

A proposal to provide an exploratory Vocational Experience and the related knowledge in a Multi-Industrial-Business Related Complex, supplemented by counseling, guidance, and other supportive services for disadvantaged youth, high school juniors or seniors, from the inner-city.

I. Introduction

A key to understanding the behavior of youth in modern society is the paucity of meaningful economic roles for young people and their virtually complete segregation from the world of work until such time as they enter it at a comparatively late age. No separate tasks are set aside to be carried out by adolescents, nor is there

an institutionalized graduate increase of right and responsibilities corresponding with stages of physical growth. Apprenticeships and on-the-job training are limited, and generally the youth is schooled in artificial surroundings and segregated from the sphere of "real" work.

In our pre-industrial society, there was a general arrangement wherein young people, through apprenticeship type learning, gradually acquired more responsibilities and rights. The nature of a person's economic role was largely determined by his sex, then, the degree of involvement in economic tasks was determined and exacted his contribution to the collective struggle for survival.

In our present industrial society, sex and age are less significant criteria for the division of labor; instead, almost purely economic factors prevail. Tasks are tailored to the capacity of the human being at his most productive span of years. Consequently, the bulk of productive activities is carried out by adults, and increasingly, by adults within a prescribed age grouping which seems to be narrowing. By this process, adolescents are excluded from the production process. These conditions take on crucial importance in a society where the economic factor is the main criterion for the allocation of self-esteem in their own eyes, and social worth in the eyes of society. The impact of this is particularly great on the disadvantaged youth, especially as the number of unskilled jobs decreases. It is well as equal access to educational opportunities and other rights.

Perhaps one way of understanding this social movement, from the perspective of its youthful members, is to view it as an attempt to increase the availability of accessibility to roles which provide self-esteem and social worth.

II. Objective

This proposal has the two-fold purpose of exposing inner-city high school juniors and seniors to the multi-occupational world of work and to provide a systematically programmed collection of data to improve our knowledge of the magnitude and makeup of these groups and the factors preventing or limiting their employment.

The terms and conditions of observer-participant (employment) to be offered to the youth in this Exploratory Program, will comply with existing laws and regulations. The staff of the Mayor's Youth Employment Project will direct and supervise all aspects of the program.

The all-inclusive objectives of this program is to expose inner-city youth to an extensive body of occupational knowledge and experience at the crucial period (junior and senior academic years) when the majority of high school drop-outs occur. By providing them with a vocational objective or interest to which their remaining high school curriculum or post high school program may be functionally related, it is hoped not only to provide motivation for continuing in school, but by establishing a goal-interest to substantially increase their employability at the time of graduation.

A secondary but related objective of the program is to provide a source of earnings and savings for the youths to help them meet expenses when they return to school. (All data and recommendations will be forwarded to the participating school systems.)

An indirect but very important objective is to acquaint and weld more available resources in the community into a concerted attack on the problems of poverty affecting both youth and adults. Many private and public organizations have not participated in the poverty war due to administrative or personnel problems, lack of knowledge of the need, or simply because they have not been requested for the type of assistance and involvement which is within their capabilities. The programming of this project is designed toward involvement of hitherto uninvolved community groups.

III. Summary Description of the Project

In this project, the contractor will recruit, in cooperation with the Detroit Public Schools, and serve a number of male and female youths who are in need of the type of services and activities involved.

The contractor will further provide the following services and activities involved.

1st Period (2 Weeks)

This generally will be a pre-project orientation but with certain long-term objectives:

a. A thorough and complete briefing of the over-all objectives of the program with emphasis upon the experimental and demonstration aspects and the manner in which the trainees are involved and the values of their individual and collective contribution.

b. Collection of biographical and personal data.

c. Administration of a test program designed to improve our knowledge of the magnitude and makeup of disadvantaged youth and the factors preventing or limiting their employment and to be correlated, in the tenth week, with a "disbriefing" work-shop type retreat of one week duration.

d. Intensive guidance and counseling in both personal and vocational areas.

e. Organized athletics and small group activities.

2nd Period (2 Weeks)

Introduction into the world of work through medium of a large selected industrial complex.

a. Trainees will spend a part of each day or certain days of each week, whichever is most practical, as observer-participants within the industrial complex. Effort will be made to have these as varied as possible with rotation of the trainees during the period to increase vocational exposure.

b. The remaining portion of the time will be devoted to supportive services, personal and vocational testing and counseling and related activities under the supervision of the contractor and staff.

c. Out of these broad vocational exposures, every effort will be made to encourage a narrowing (positive or negative) of vocational interest for the third stage.

3rd Period (2 Weeks)

Enrollees will be broken down into smaller groups (approximately 5 to 20) for a similar assignment to smaller, specialized business enterprises, i.e., printing companies, hospitals, welding and/or fabrication shops, body shops, etc.

a. Enrollees will again be on a part-time basis in these enterprises with orientation toward knowledge of the special characteristics of small business. Rotation of observer-participant roles will be effected as much as practical.

b. The remainder of enrollee time will continue to be devoted to supportive services, vocational guidance and counseling with exposure emphasis on small business employment, apprenticeship and on-job-training opportunities.

c. Every effort will be made to assist in the crystallization of the individual's specific vocational interest for implementation of the next stage.

4th Period (2 Weeks)

Enrollees will be considered on an individual basis for assignment to a "vestibule-type" work station in accordance with his expressed vocational or occupational interest. This will be at the "grass-roots" level of our productive society and every attempt will be made to establish a one-to-one ratio between the enrollee observer-participant and a competent worker in his area of interest.

a. Enrollees will continue on a part-time basis in this work situation.

b. The remainder of the enrollee's time will continue to be devoted to intensive vocational guidance and counseling and clarification of job goals as related to educational opportunities.

c. A portion of MYEP enrollee time in the last week will be devoted toward encouraging and assisting the enrollee in contacting employers in his field of interest and himself securing his own observer-participant role for the following week.

5th Period (1 Week)

Enrollees to work part-time in work and with employers of their own choosing in accordance with their own concept of their vocational interest, aptitude and ability. This will be a close experience to securing actual employment on their own, assuming responsibility for their own choice and performance, and assessing themselves in these terms. Supportive and reinforcing guidance and counseling will continue throughout the week.

6th Period (1 Week)

It is anticipated that this will be a full-time period spent in a work-shop "retreat" setting, i.e. camp facilities, and will be devoted to:

a. A professional "de-briefing" correlated with the pre-project briefing to provide a body of knowledge concerning changes in work motivation and attitudes.

b. Assisting the enrollee to relate his summer experience and job-goal interests to his remaining years in high school, toward continued higher education, work-study programs, and the apprenticeable trades.

Throughout the project, for any high school graduates enrolled, the emphasis will be more directed toward continued education or training at the end of the project, and, if considered appropriate, enrollment on a tuition-paid basis with suitable institutions.

IV. Population Served

Youths eligible for this program shall be no less than 16 years of age, either male or female, and high school graduates or entering their junior or senior years in high school. From this population, the contractor will select those individuals for whom this project is the most suitable manpower development program currently available. Priority will be given to those youths of a disadvantaged background most likely to benefit from this pragmatic vocational guidance experience, a change of environment, the supervision of counselor, training in cooperation social relationships and work responsibilities, and beneficial guidance and counseling.

V. Number and Phasing of Participants

The contractor agrees to recruit and serve up to two hundred (200) male and female youths, with the Detroit Public Schools cooperation in accordance with the following schedule:

Pre-project orientation	June 27 - July 8
Industrial Exposure	July 11 - July 22
Small Business Exposure	July 25 - August 5
"Vestibule" Exposure	August 8 - August 19
Individual Job Choice	August 22 - August 26
Post-project "de-briefing"	August 29 - September 2

Return to high school September 6, 1966.

VI. Selection of Participants

The contractor is responsible for recruiting and screening the specified number of youths from the pool of applicants. The recruitment shall not be based on discrimination with respect to the race, ethic origin, or religious creed of applicants. Screening procedures shall be adequate for determining the vocational aptitudes, capabilities and interests of the youths; and for determining that this project is the best potential course of action or program available to the youth at the time. Factors to be considered include the economic status of the applicants; records of previous behavior or social adjustment; school record and/or recommendation; the home environment; and physical condition.

Recruitment will be directed to, but not limited to, the inner-city high schools of the City of Detroit.

VII. Pre-Project Orientation Study

In order to develop the type of sophisticated research needed, Dr. Allen Bass of Wayne State University will conduct a Pre-Orientation Study. with the Project Group and a like control group. The information gathered will be put on memory cards and will be used in relation with the Post Project Study.

Dr. Bass and his staff will work with the Test Specialist of the Mayor's Youth Employment Project in the design and implementation of the total study.

VIII. Post-Project Orientation Study

At the conclusion of Project Exploration, a Post Project Study will be instituted by the staff of Wayne State University and the staff of MYEP. This will be undertaken during the "Retreat." The information and projections will be included in the Final Report.

IX. Staff Supervision and Involvement

A summer staff will be employed to be the Counselor-Coordinators. It is hoped that a number of the last summer staff (Project Growth) will be able to return. The coordination will be through the Detroit Civil Service Commission.

The permanent staff of MYEP will give direction, supervision, and full support to Project Exploration. These services to include:

Director

Assistant Director

Senior Job Training Supervisor (Liaison)

Senior Counselor & Staff

Senior Test Specialist & Staff

Senior Job Development & Staff

Plus the participating community resources and the staff of Total Action Against Poverty.

X. Administration of Pay and/or Allowances

All funding is processed through the City Controller, City of Detroit.

XI. Vocational-Related Services

For those enrollees who have expressed an interest, demonstrated desire, or based upon educational background, seek to gain entrance to higher educational opportunities (post high school), provisions will be made to enroll them in one of the post high school programs in the community. This could be during or immediately following Project Exploration.

Counselor-Coordinator contact would be maintained throughout this phase.

Also, it might be desirable to have the interested trainees "audit" several classes at the University level without enrollment.

XII. Terms and Conditions of Enrollment/Employment

The enrollees will be selected from the inner-city schools, private or public, with their cooperation.

In these schools, prime consideration will be given to the potential "drop-out." The junior, senior year of a high school program seem to be the end of the line for the drop-out. The age factor 16 - 18 years old must be considered, but not the over-riding criteria. It seems likely that the age levels per grade are possibly higher for disadvantaged youth.

XIII. Insurance

The contractor will attempt to provide adequate accident insurance coverage for all enrollees during the entire period of enrollment at no expense to the enrollee of both an occupational and non-occupational nature. Provisions will be made to enroll the youth under the Workmen's Compensation Act.

XIV. Records and Reporting

The contractor shall keep sufficient records to adequately document the experience of this program. Furthermore, he shall be responsible for developing an information collection and retrieval plan which will provide the necessary detail for preparing periodic reports, special reports, final report, and such other reports as required by the funding or allied agencies.

BUDGET

Project Director (CSA)	8,793 (1/3)	=	$ 2,931.00
Counselors-Coordinators (Jr. CSA)	7,670 (1/3) X 8	=	20,453.28
Typist	5,547 (1/3)	=	1,849.00
			25,233.28
Benefits 21% (Approximate)			5,298.98
			30,532.26
Bus Transportation	500.00		
Mileage 9 x 1200 x .10 =	1,080.00		
Retreat	3,500.00		
WSU Consultant	2,500.00		
Tuition	1,500.00		
	9,080.00		9,080.00
Training Stipend $24.00 x 10 wks x 200 trainees			48,000.00
Office Operation			500.00
Insurance - Workmen's Comp.			400.00
Insurance Estimate			3,000.00
			91,512.26

APPENDIX B

RECEPTION OF RECOGNITION

ACKNOWLEDGEMENTS

The Reception of Recognition is to honor those individuals and institutions who have assisted in developing the trainees of today into the citizens of tomorrow.

The Mayor's Youth Employment Project is not only grateful for past performance, but, this reception is a living example of the co-operation existing in this city.

Without the many contributions of a variety of institutions and their concerned representatives, this reception would not have taken place.

The G. P. Johnson Company
The Detroit Public Schools
Wayne State University
The City of Detroit
The Mayor's Youth Employment Project Staff
The Technical Advisory Committee

Special thanks to the General Motors Corporation for their support in this reception.

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VT 006 151
Hamlin, H.M. And Others
New Designs in Vocational, Technical, and Practical Arts Education in the Public Schools.

American Vocational Association, Inc., Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Mar68 48p.

*EDUCATIONAL CHANGE; *EDUCATIONAL INNOVATION; *VOCATIONAL EDUCATION; STATE PROGRAMS; NATIONAL SURVEYS; EDUCATIONAL IMPROVEMENT; *TECHNICAL EDUCATION; *PRACTICAL ARTS; PROGRAM DEVELOPMENT

A project to summarize and publicize new developments in vocational, technical, and practical arts education was authorized by the American Vocational Association in December 1963. Information on federally-aided programs of vocational and technical education in local public schools, public area schools, and supportive services in various state agencies and institutions is given. Local and state innovations are briefly described under these headings: (1) Policy, Policy-Making, and Planning, (2) Objectives and Evaluation, (3) Definition and Needs of the Clientele, (4) Organization and Administration, (5) Revision of Programs and, Procedures, (6) Provisions for Personnel, (7) New Funds and Facilities, (8) Research and Development, and (9) Public Information and Relationships. Excerpts and annotations from state and local reports describe progress and activities in the several states. (EM)

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NEW **DESIGNS** IN VOCATIONAL, TECHNICAL, AND PRACTICAL ARTS EDUCATION IN THE PUBLIC SCHOOLS

The American Vocational Association reminds readers of this publication that the information contained in this publication was gathered and compiled over a six month's period. It is an almost impossible task to present data that is completely accurate at the point of publication. The materials presented here were prepared and submitted by State Directors of Vocational Education and represent the facts existing at the time the information was submitted.

Generally, this publication is an attempt on the part of the authors to show the change and progress that has resulted in vocational education since the passage of the Vocational Education Act of 1963. The authors, in the Forsword, spell out certain limitations of the report.

Lowell A. Burkett

Executive Director
American Vocational Association

March 1968

NEW DESIGNS

in

VOCATIONAL, TECHNICAL, AND PRACTICAL ARTS EDUCATION

in the Public Schools

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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H. M. Hamlin and others.
Allen Lee
John A. Roeder
J. Robert Warmbrod

FOREWORD

A project to summarize and publicize new developments in vocational, technical, and practical arts education was authorized by the Committee on Public Information of the American Vocational Association in December, 1963.

Reports issuing from the regional studies involved in the project were published in the American Vocational Journal in December, 1964; November, 1965; April, 1967; and December, 1967.

Data from the northeastern and middle western states were gathered in 1966 and 1967. New data from 25 southern and western states were sought in 1967 to update the earlier reports.

Reports from the western states were obtained and summarized by Dr. Allen Lee, now Research Professor, Oregon State System of Higher Education; those from the Middle West by Dr. J. Robert Warmbrod, Associate Professor of Agricultural Education, University of Illinois; those from the northeast by Dr. John A. Roeder, Associate Professor of Vocational-Technical Education, State University College, Buffalo, New York; those from the South by Dr. H. M. Hamlin, Consultant, Center for Occupational Education, North Carolina State University. This manuscript was prepared by Dr. Hamlin.

Credit is due Dr. John K. Coster, Director, and the staff of the Center for Occupational Education, North Carolina State University, for assistance in securing data and preparing the manuscript for publication.

The reports from the states were most commonly made by state directors or persons they designated. In some states, their reports were supplemented by teacher educators.

The new designs reported are those in the local public schools, the public area schools, and the supportive services provided in the state divisions of vocational education and the colleges and universities. Much larger programs of vocational and technical education outside the public schools are not included. Developments at the federal level are reported only as they have impinged upon the states.

The report is further limited because it deals only with vocational, technical, and practical arts education and most states have reported only developments in the federally-aided program of vocational and technical education. It omits new designs in many other forms of education which contribute to occupational choice, competence, and advancement.

A summary derived from the information available to the writers will necessarily be unfair to the programs in some states. Programs described as new in some states may be old in other states. The working definition of a "new design" had to be a design new to the state reporting it. The space and attention given each state varies to some extent with the information the states provided, which varied from meager to abundant. The cooperation of those who furnished it exceeded even our high expectations and is much appreciated.

The publication has been prepared primarily for persons outside public vocational, technical, and practical arts education. It is hoped that it will also be of value to the profession and that professional vocational educators will aid in disseminating it to educators of other types and especially to influential lay citizens.

The message the publication brings is one which the Committee on Public Information has believed to be needed since the Committee was formed in 1959. The false stereotypes of vocational education reported in 1959 to be widely held are far more misleading now, if they still persist, in view of the tremendous developments of the past few years, some of which this publication reports.

A similar message is conveyed by a recent publication of the Bureau of Research, U. S. Office of Education, entitled New Directions in Vocational Education. Case Studies in Change. This booklet reports new designs in five situations: the bay area of California; Georgia; Warren, Ohio; Phoenix, Arizona; and Quincy, Massachusetts.[1]

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[1] OE-80047, Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., 1967, 55 pp.

March 1968

NEW DESIGNS IN VOCATIONAL, TECHNICAL, AND PRACTICAL ARTS EDUCATION

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I

SUMMATION AND INTERPRETATION

The following pages seem to indicate that change in vocational and technical education is rampant over the land. Certainly there has been no five-year period in which there has been so much change in this field as there has been from 1963 to 1967. The evidence in this publication, especially that concerning research and development, implies changes during the next five years far greater than those reported for 1963-67.

Yet much remains unchanged or little changed. This is a publication about new designs. Programs whose worth has been proved are continuing and growing. Not all ineffectual or misguided programs have been eliminated.

Our commitment to occupational education for all. Perhaps the most significant recent development has been wide public acceptance of the concept that everyone is entitled to appropriate occupational education, that is, education designed to contribute to occupational choice, competence, and advancement, provided at the times in his life when it is needed. We are gradually spelling out and implementing the implications of this commitment, but we have far to go. Some of the unanswered questions are these:

1. Could occupational education be designed that is appropriate for all students in the elementary schools, the junior high schools, and the senior high schools?

2. How are occupational education programs in the local schools, the area schools, the colleges, and the adult schools to be articulated?

3. What new provisions should be made for occupational education for the underprivileged and dissident in our society?

4. What additional financing of occupational education is needed? How should the funds be raised? How can the funds now available for it be better spent? What financial assistance is needed by students?

5. For what portion of occupational education should the public school system be responsible? How much should be done by other public agencies and by private agencies? May we expect increasing shifting of responsibility from private to public agencies?

6. Can crash programs for out-of-school youth and adults with no occupational education or limited occupational education be reduced as the public school system functions more adequately?

7. Can we come to regard occupational education as one of many types of education contributing to well-rounded human development and integrate it with the other types of education which also contribute?

8. What kinds of vocational and technical education are we going to develop for the rapidly increasing numbers of women employed outside their homes?

9. What changes in programs are implied by high and increasing rates of migration? By what steps shall we get away from vocational education oriented only toward a community?

10. Can we use vocational education more extensively to reduce welfare rolls?

11. How can we prepare children and youth to deal more wisely with the increased complexity of occupational choice with some 30,000 occupations available to them and opportunity to migrate to any area where a particular occupation is practiced?

12. Should the public schools become responsible for seeing that junior and senior high school students get the occupational experience they need if their development is to be balanced and sane?

13. Can we devise programs that will induce more youth to remain long enough in school to qualify for the better occupational opportunities?

14. Can we lift to occupational competency the millions of adults who have left school without occupational preparation?

15. Can we recruit and train enough competent professional personnel to provide the vocational and technical education needed?

16. Can we become sufficiently proficient in research and development to provide the concepts, principles, and practices to guide change and innovation?

Basic to all these questions and to many more is the question as to whether we can evolve the public policies and improve the methods of public policy-making to secure the kind of occupational education we might have.

Factors outside the states which influence national trends. This is a report from the states. Outside influences upon the states have been noted incidentally. It seems desirable to elaborate upon some of them.

Federal legislation is likely to play an important and perhaps a critical part in the future development of vocational and technical education in the states. The report of the first five-year evaluation of programs aided by federal funds will go to the Congress in January, 1968. The mood of Congress will determine what will be done.

Recently it has been interested in vocational education to relieve slum conditions, reduce juvenile delinquency, and cut unemployment.

National organizations of business men, industrialists, laborers, and farmers will have much to do with the future development of occupational education. The Education Commission of the States has become interested in vocational education. The Council of State Governments and the Council on Intergovernmental Relations influence state legislation. The American Vocational Association, the American Association of Junior Colleges, the American Association of School Administrators, the National Association of Secondary School Principals, the National Education Association, the American Federation of Teachers, the National Schools Boards Association, and the National Council for Support of the Public Schools will affect decisions. Interstate cooperation in providing vocational and technical education is developing through regional associations such as the Southern Regional Education Board. The accrediting associations can be expected to increase their influence over vocational education.

The educational program of the Armed Forces, described recently by Secretary McNamara as the largest educational enterprise in the world, cannot be ignored in planning the future of vocational-technical education since much of it is in vocational and technical education.

Private business and industry are likely to expect more and better vocational-technical education in the public schools. As they transfer a part of their responsibility for training to the schools they are also developing a strong interest in providing equipment and aids for school programs.

Much will depend upon state and local reactions to federal gestures in the financing of vocational and technical education. This report shows the states and the school districts stimulated to increase their own spending by the increase in federal funds. What would happen if the federal government, hard-pressed for funds for other uses, would cut its expenditure for vocational education?

SUMMATION. The report indicates increased vitality in public vocational and technical education in the states and their subdivisions. There is a healthy partnership of the local, state, and federal governments in providing it which has seldom been achieved in other governmental affairs. There is a new public awareness of the importance of this type of education. Funds are being made available for it as funds are being withheld from some other types of education.

The provision of adequate occupational education for all of our population is enormously complex. All of the agencies now providing it are likely to continue to function. Taken together, they are still inadequate. Conflicts among them will have to be resolved. Gaps will have to be filled. It is predictable, however, that the public schools will have a larger part than they have had and that the resourcefulness and initiative reflected in this report will continue to operate in effecting changes that are needed.

Perhaps the wisest comment that can be made regarding the future

of the entire educational system is that of Dr. Kenneth Boulding who says that it should "plan for surprise".[1]

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[1] Prospective Changes in Society by 1980, p. 211. Designing Education for the Future, Denver, Colorado. 1966.

II

NEW DESIGNS REPORTED

1

Policy, Policy-Making, and Planning

The Vocational Education Act of 1963 sparked policy and program revision in the states and the school districts throughout the nation. The Act encouraged the provision of modern vocational and technical education for four groups and provided funds to aid in providing it. These groups are:

1. Persons attending high school
2. Persons who have completed or left high school and who are available for full-time study in preparation for entering the labor market
3. Persons who have already entered the labor market and who need training or retraining to achieve stability or advancement in employment
4. Persons who have academic, socio-economic, or other handicaps which prevent them from succeeding in the regular vocational education program

The Act also provided substantially larger funds for the construction of area vocational school facilities and some increase in funds for other special purposes. Ten per cent of the new federal funds were to be used for research, development, and training in vocational and technical education.

South Carolina reports that "the 1963 Vocational Education Act has done much more than provide funds to expand vocational education in South Carolina. With it have come new concepts, new opportunities, new challenges, and new inspirations. It has brought the entire vocational program into focus with job opportunities and the need for providing our people with marketable skills, not only to improve the welfare of the individual but to promote the economic development of our states throughout the nation."

Florida capsules recent developments in these terms: "Progress in vocational, technical, and adult education in Florida since the passage of the Vocational Education Act of 1963 has been increasingly based upon program innovation, sound management and administrative practice, concern for the education of all students, and understanding of the need for objective bases in decision-making."

Policy-makers, administrators, and vocational educators seeking the implications of the new federal legislation were made very conscious of the limited or negligible services provided for certain groups specified in the Act. Antiquated policies were frequently reviewed and revised. New organizations were set up. New programs to serve new groups were financed, staffed, and provided with facilities.

The following statements provide only samples of changes in policy and policy-making.

In its Community College and Occupational Education Act of 1967 the Colorado Legislature authorized "coordinated development of occupational education programs to the end that the State of Colorado shall have a complete and well balanced occupational and adult education program available to the people of Colorado at all educational levels."

The New York State Board of Regents has established this goal: "To provide appropriate occupational education for state residents of varying ages, education and needs, wherever they live."

North Carolina, like many other states, is "committed to providing opportunities for vocational and technical education within reasonable commuting distance of all its citizens."

The Oklahoma constitution, which had stated that "the Legislature shall provide for the teaching of the elements of agriculture, horticulture, stock feeding, and domestic science in the common schools of the State", has recently amended it to provide vocational-technical education school districts.

West Virginia has a new "Comprehensive Education Bill" providing special funds to upgrade any part of the curriculum including vocational-technical education.

Delaware has new legislation for vocational-technical education and a substantial increase in the funds for it.

A long-range plan for vocational education in Utah is being developed following a comprehensive state survey.

Accepting the recommendations of a position paper on vocational education by the Montana State Board of Education, the State Legislature in 1967 increased the biennial appropriation for it by more than 800 per cent.

North Carolina is one of many states which has collected extensive manpower data by labor-market areas and by special fields within vocational education, charted economic trends, and surveyed employment and unemployment to provide data for replanning programs.

California has allotted a substantial part of its new state and federal funds to projects proposed and initiated by local school districts.

The 1963 Act required state advisory committees for vocational education. Some states have established committees for the first time; others have reconstructed and reactivated existing committees. Montana has made its committee a permanent committee of the State Board of Education to meet with the Board periodically and report to the Board at statutory meetings.

Many other changes resulting from changed policies, new methods of policy-making, and increased attention to program-planning will be reflected in development reported under the headings which follow.

Objectives and Evaluation

Recently there has been much questioning of the objectives of public vocational and technical education and much attention to improved means of evaluating the contributions it is making.

Thirteen Midwestern Governors resolved in August, 1967, that "the public education agencies administered by state and local governments be directed to give more emphasis to the preparation of youth and adults for entrance into and advancement in employment" and that "the educational program be restructured so as to prepare individuals for entrance into a job and for opportunities for continuing education."

In Utah "the State Board recognizes that vocational education is much more than the teaching of skills, tools, and materials. Emphasis is also being given toward improved counseling, attitude development, selection of realistic personal goals, and improvement in the types of interpersonal relationships so essential to job retention and promotion."

The State Board in Montana has included the following in a list of the objectives of vocational education: "To provide opportunity for students to develop human relations skills and attitudes."

Utah indicates a trend toward the attainment of measurable skill levels rather than emphasis upon completion of a prescribed number of class hours of instruction.

In Florida the staff of the State Division of Vocational Education has restated its beliefs regarding the purposes, and objectives of vocational and technical education. The general objectives stated are being translated into operational objectives, purposes, and goals by the respective vocational services. There have been similar developments in many other states including Georgia, Illinois, Kentucky, and Pennsylvania.

Colorado, Kentucky, and New Jersey are cooperating with the Center for Vocational and Technical Education, Ohio State University, in the development and application of criteria for the evaluation of state programs of vocational education.

Texas requires the local schools to make evaluations of the quality and effectiveness of vocational education and has developed forms for their use.

In Mississippi a system of self-evaluation has been developed by the Research Coordinating Unit. Each vocational teacher in the state has evaluated himself. A committee of local teachers and administrators has evaluated each program.

North Carolina is in the second year of a comprehensive, five-year review and evaluation of vocational education in all of the administrative units (school districts) of the state. Thirty-four administrative units are being reviewed in 1967-68.

Montana and Oregon are stressing the need for continuous evaluation and redirection. Oregon proposes "application of a comprehensive evaluation system, relating data regarding human resources and job opportunities to existing and needed programs."

Florida has developed a format for use by the counties (school districts) in assessing program strengths and deficiencies, utilizing information and data already available. There is exploration also of a method by which cost-effectiveness factors may be determined.

An evaluation of Utah's "Pride of Performance" program resulted in its discontinuance. The Utah Research Coordinating Unit is now evaluating manpower schools at Salt Lake City and Ogden.

Georgia has studied the 1967 graduates of its area schools. It has discovered that all of them had been placed, 61 per cent immediately on graduation. Seventy-one per cent were in the occupations for which they had trained; 10 per cent were in related fields. Their weekly earnings were distributed as follows.

Earnings	Per Cent
Under $50	8
$51 - $69	36
$70 - $100	38
$101 - $150	16
Over $150	2

Their distribution by occupational fields in which employed was as follows.

Skills trades and service occupations	1,349
Office occupations	1,122
Technical occupations	477
Health occupations	334

A study of the vocational graduates of the past three years is under way in Oklahoma. Records of those to be trained in the future will be added to provide a computerized system. New Mexico and Washington are also developing computerized follow-up systems.

Florida is developing accreditation standards for post-secondary vocational-technical schools other than junior colleges. The project is shared by the Division of Vocational, Technical, and Adult Education and the Accreditation Section of the State Department of Education. Proposed standards have been reviewed by local administrators and field-tested in three schools.

The North Carolina Department of Community Colleges has issued a comprehensive guide for the self-evaluation of individual community colleges and technical institutes which gives much consideration to vocational and technical education.

Guides for the evaluation of area schools are being developed by the Southern Association of Colleges and Schools and the Oregon State System of Higher Education.

Those mentioned are only samples of evaluation efforts, now widespread.

Definition and Needs of the Clientele

Analyses of the clientele now served and the needs of those unserved have been common. Estimates of the requirements of staff, funds and facilities to serve a growing clientele have frequently been made.

In Oregon the enrollment in vocational education secondary programs had grown to 12,000 in the forty-six years prior to 1964. From 1964 to 1967 they increased to 24,820, while post-secondary enrollments grew from 2,166 to 4,703. It is now estimated that enrollments in vocational programs in grades 11 and 12 will be 39,975 in 1975 and that enrollments in vocational-technical programs in the community colleges will increase to 15,216 in 1975.

From 1964 to 1967 enrollments in vocational and technical programs in Florida increased from 250,000 to more than 300,000.

South Carolina has had an increase of 6,504 students in vocational agriculture from 1963-64 to 1966-67 in spite of a decrease in departments and teachers.

The major developments can be summarized under the following headings.

1. New definitions of the clientele to be served
2. Determination of the needs of the clientele
3. Provisions for special groups
4. Financial aid for students

New definitions of clientele. The New Jersey Division of Vocational Education has become concerned with occupational education "from the kindergarten through graduate school."

The North Carolina Director of Vocational Education has stated that "most of the major changes now taking place are influenced, in no small part, by the Act that proclaims it to be national policy 'that persons of all ages in all communities . . . will have ready access to vocational training or retraining which is of high quality.'" In keeping with this national goal, North Carolina is committeed to "providing vocational and technical education opportunities for (1) high school youth available for full-time study; (2) high school graduates and dropouts available for full-time study; (3) employed adults who need and are interested in upgrading themselves vocationally in their present jobs or retraining for different jobs; and (4) persons who need remedial or special education as a prerequisite to the pursuit of their regular vocational training."

It is expected that in Mississippi within the next two or four years the public schools and colleges will be providing the prevocational and vocational education required to meet the needs of all the people.

The Montana State Board of Education has declared its intention to "provide vocational-technical opportunities so all Montana citizens may have the opportunity to develop competencies needed for successful entry and advancement in the world of work."

Oregon has discovered a need to provide vocational education for 50 to 60 per cent of the State's high school students.

Georgia has been studying the clientele served by its area vocational-technical schools. It was found that the average age upon entry into these schools is 19 and that 95 per cent of the students are between 18 and 21 years of age. Approximately 90 per cent are high school graduates; 20 per cent have attended college.

Determining needs of the clientele. The highest demand for employees in Utah is in the clerical occupations; one in five of the new jobs is in these occupations. A survey discovered 68,000 jobs for white-collar workers and 45,000 for blue-collar workers. Twenty-five per cent of the jobs were in professional, semi-professional, or technical occupations. A study is being conducted in cooperation with the Utah Department of Employment Security to provide quantitative requirements in eight paramedical occupations to 1970. There is awareness in Utah of the need for increased employment opportunities and for more adequate knowledge of the nature of employment requirements.

The Oregon Department of Employment has been given special funds for the development of statewide employment data to be distributed to the schools.

New Mexico is conducting a survey of manpower needs in 44 communities with populations over 2,000. Yearly recurring surveys of this type by the Research Coordinating Unit are planned.

Texas has summarized 240 local or area occupational surveys.

Concern about youth unemployment and displacement of workers by automation is reflected in new programs.

Provisions for special groups. Mississippi has under way a program to extend vocational and technical education to the poor. The Delta with large numbers of unemployed is a major target area. The State has many new programs to relieve poverty.

Students are consciously prepared for migration in the area technical school at Paintsville, Kentucky, and a majority of the graduates leave the State. Arizona is using the manpower program to train migrant workers.

The Center for Occupational Education, North Carolina State University, conducted a research seminar in 1966 dealing with occupational migration and mobility with persons from twenty-one states, coast to coast, in attendance.

The states with large Negro populations are generally concerned about new employment opportunities for Negroes and the training that would make possible their employment in higher-paying occupations.

New Mexico has established five new departments of vocational agriculture in areas populated primarily by Indians.

Mississippi is proposing to offer prevocational education for all boys and girls in the junior high schools. New Jersey has a two-year project called "Technology for Children." A guidebook for teachers has been provided entitled "Increasing the Vocational Awareness of Fifth and Sixth Grade Pupils."

Nevada has a special appropriation of $250,000 for 1967 to improve and extend vocational-technical education for high school dropouts and special-needs students. Oregon is conducting a major demonstration project for dropouts and near-dropouts that is to serve 20,000 over five years with "personalized educational programs." Texas enrolled 4,179 in 1966-67 in an occupational training program for persons disadvantaged educationally and otherwise. Mississippi conducted thirty classes for students with special needs in the same year and found them "very satisfactory."

In the North Atlantic states and elsewhere courses for adults are being provided generously to train, retrain, and upgrade workers.

Montana has recognized the need for the vocational and technical education of college dropouts.

Connecticut is training keypunch, IBM, and industrial machine operators in a school for the deaf at Hartford.

Financial aid for students. Georgia has issued a six-page folder giving the financial-aid programs for students in the vocational and technical schools. The folder states that "if paying for your training is the major obstacle you have to hurdle, you might solve your dollar problem right here! There are means and methods available. A rewarding life may be only a decision away."

Florida was able to provide financial aid to 4,160 vocational students in 1966-67. Eighty-nine state and local public agencies employed work-study students.

Utah is using citizens committees to assist in providing scholarships for vocational-technical education. Non-baccalaureate scholarships have been listed for students wishing to pursue post-secondary vocational-technical programs.

4

Organization and Administration

Dr. John W. Gardner has said that "our aspirations have outrun our organizational abilities."[1] Recently, vocational educators have discovered the truth of his statement as they have attempted to develop more comprehensive programs in frameworks little changed since the first organizations were effected, many of them following the passage of the Smith-Hughes Act of 1917 or earlier.

Breakthroughs in organizational patterns have been effected in a number of states. The most notable achievements have been in the organization of public area schools of several types that provide vocational and technical education, but there have also been

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1 Time, January 20, 1967, p.6.

reorganizations of state divisions of vocational education, departments in universities, and vocational education in the local schools. Plans for reorganization are under way in many quarters.

Organization of area schools for older youth and adults. When the Vocational Education Act of 1963 was passed, each of the 13 southern states was operating or had authorized a state system of area schools. These included vocational schools, technical institutes, and junior colleges. Connecticut, Minnesota, New York, and Wisconsin also had state systems. Partial systems or substantial encouragement to the development to area schools had been provided in California, Illinois, Michigan, and New Jersey. There were some area schools in many other states.

Since 1963 state systems of area schools have been established in a large part of the states that lacked them. They are being considered seriously in almost every other state. Reorganizations of existing systems have occurred in Alabama, Arkansas, Florida, North Carolina, and Virginia. The following examples do not provide a complete picture but they illustrate new designs in area schools.

Alabama has recently completed and put into operation 15 new area vocational schools, making 27 in all. In addition there are 15 new public junior colleges, established since 1963.

Arkansas is operating a state system of 10 vocational-technical schools. A technical institute will open at Camden in 1968. It is located in an industrial park and has seven acres of land, seven buildings, and 175,000 sq. ft. of floor space. The State has also authorized community college districts and two have been formed at Fort Smith and Helena. Each has a technical division.

Colorado has a new State Board for Community Colleges and Occupational Education. There are nine community colleges; two more will open in 1968, one at Colorado Springs and one at Denver.

Connecticut, a pioneer in the development of area vocational schools, has a system of vocational and technical school blanketing the State. Recently an area school to prepare semi-skilled workers has been added.

Delaware has new legislation providing funds for technical institutes.

Florida, which has pioneered in providing junior-college education and now has junior colleges available to nearly all of the population, has added a system of vocational-technical schools. Thirty-four of these have been designated, 12 as departments of junior colleges, and 22 as separate institutions. Ten are operating; 20 will open with new or improved facilities in 1968. $16 million in state support has been provided for area school construction, 1965-67. A further appropriation of $5.7 million for 1967-69 is anticipated. State and local support for the operation of area school programs in vocational-technical education increased from $11.5 million to $18.5 million between 1963 and 1966. The new area school program was preceded by a study conducted by a private consulting firm.

Georgia, which pioneered in the establishment of area vocational schools with the establishment of schools in North and South Georgia in the thirties, has added 21 states vocational-technical schools to its system. A separate system of community colleges is also developing in the State.

Idaho, which has founded five area vocational-technical schools since 1963, has followed a unique pattern in associating them with established colleges: Idaho State University, Boise College, North Idaho Junior College, South Idaho Junior College, and the Lewis-Clark Normal School.

Illinois is developing a statewide system of community colleges. Legislation provides that at least 15 per cent of the courses must be in "occupational, semi-technical, or technical fields leading directly to employment."

Indiana founded the Indiana Vocational-Technical College in 1963. A regional system of technical institutes is being developed.

Eleven of the 16 comprehensive community colleges authorized by the Iowa Legislature are in operation. All provided vocational-technical education.

Kansas has 14 area vocational-technical schools in a new system intended to serve the entire State. The State is also committed to a system of junior colleges.

Kentucky's system of area schools of long standing now includes 14 institutions for older youth and adults.

Lousisiana has added an area vocational school at the State Penitentiary "to provide training most of the prisoners have lacked all of their lives." Its statewide system of vocational schools is being modernized, particularly through the addition of more technical programs.

The Maryland Legislature appropriated $10 million in 1965 for technical institutes and provided $5 million for the construction of community colleges which will also offer vocational and technical programs.

Michigan had post-high school vocational and technical education in 18 community institutes and five four-year colleges in 1965-66. The state appropriation for area-school construction in 1965-66 was $5 million.

Minnesota has 24 area vocational-technical schools, the first of them established in 1945. By 1970, 90 per cent of the population will be within 25 miles of an area school.

Mississippi has 21 public junior colleges with "post-secondary centers" for vocational-technical education. Within a short time everyone wishing to attend a junior college will be able to commute from his home.

An area vocational-technical school has been opened at Helena, Montana, and a similar school is being constructed at Missoula, Montana.

Missouri is establishing 30 area vocational schools to serve high school, post-high school, and adult students.

Nebraska has two state-operated vocational-technical schools and a state-operated School of Technical Agriculture. Locally-operated area vocational schools are being established under 1965 legislation.

Nevada is operating a technical institute at an abandoned Air Force base.

New Hamphsire has one technical institute and five vocational institutes which were authorized in 1961.

New Jersey, which began providing area vocational schools in 1913, has seven technical institutes and 13 community colleges, many of them recently established. New Mexico has four area schools of varying types: a technical vocational institute at Albuquerque, an area vocational school at Roswell, and vocational programs at New Mexico Junior College and the North New Mexico State School. A state vocational school to serve the economically handicapped is being planned.

The Erie County Technical Institute with 16 curricula, 2,500 day students, and 2,500 evening students is illustrative of one type of development in New York.

North Carolina, which opened the first of 20 industrial education centers in 1959, now has 30 institutions in its Community College System and 20 branches of these institutions, all of them providing vocational-technical education.

North Dakota has one long-established technical institute at Wapheton, operated by the State.

Twenty-four area vocational-technical schools have recently been established in specially organized districts in Ohio. Six million dollars was spent for construction and equipment at 14 area vocational schools in 1965-66.

Oklahoma spent almost $7 million for five new area vocational-technical centers during the first three years of funding under the Vocational Education Act of 1963. Five more area schools have been approved by the voters. Oklahoma State Tech at Okmulgee, opened in 1946, had in 1963 a campus of 160 acres, 94 buildings, 21 dormitories with a capacity of 725, and 122 apartments in 21 buildings. Programs were offered in agriculture, business, distribution, trades and industries, and technical education.

Oregon is operating 12 community colleges which provide vocational and technical education. Six more are to be added. The state appropriation for community college construction, 1967-69, is $10 million.

Pennsylvania is rapidly developing both area vocational-technical schools and community colleges.

Post-secondary technical programs were provided in Rhode Island for the first time in 1966. Three million dollars has been appropriated for a junior college vocational campus at Warwick.

South Carolina has a state system of 13 technical institutes and two state-operated trade schools.

South Dakota is developing six area vocational-technical schools under 1965 legislation.

Tennessee has authorized new technical institutes at Chattanooga, Memphis, and Nashville. An enrollment of 1,000 in the fall of 1967 was expected at Chattanooga, about evenly divided between day and evening students. The Institute at Memphis will open in January, 1968 with 750 full-time students expected. Two million dollars is being spent for the Nashville facility to be constructed in 1968. In addition, the State is building 20 vocational schoolsauthorized by the Legislature in 1963.

Ninety-four area vocational schools have been designated in Texas. Sixty-four of these are secondary schools; 27 are junior colleges, 2 are senior colleges, and 1 is a technical institute. It is believed that 96 per cent of all in-school and adult students will have area vocational schools available to them. In one year, fiscal 1966 to fiscal 1967, post-high school vocational enrollments grew from 19,494 to 36,378.

New campuses are being provided for the technical colleges at Salt Lake City and Provo, Utah. A new center for technical education is being provided at Dixie Junior College, St. George, Utah.

Virginia has established a state system of 22 community colleges supplementing its state system of area vocational schools. Vocational and technical education will be an important responsibility of the new institutions. Nine are operating in 1967-68.

Independent vocational school districts were established in Wisconsin in 1911. The State now has 15 technical institutes, 26 vocational schools, and 22 vocational evening schools in these districts. Under new legislation, all areas of the State are to be in independent vocational districts by 1970.

Area schools to provide vocational education for high school students and adults. At least 16 states have recently made some provisions for area schools to serve high school students. In most cases the area schools established serve adults as well.

There have long been area vocational and technical high schools in the largest cities. In some of these cities, and notably New York City, the movement has been away from separate schools and toward comprehensive high schools. The present interest in area schools for high school students is principally in areas with relatively small high schools which are able to provide only limited offerings in vocational education. State policy in Utah is in line with these trends. It supports comprehensive high schools in metropolitan centers and area schools where populations and funds preclude comprehensive schools.

Alabama has ten area vocational schools for high school students in operation; eight are in various stages of development; and several others are pending.

Arkansas has opened two of these schools and possibilities are being studied in three other areas.

Separate vocational high schools are developing in some sections of Florida.

Connecticut has completed its state system of area schools for high school students in vocational agriculture, which replaces about 40 local departments. Each area school serves about six high schools; it is associated with one of these high schools.

Idaho has one area school for high school students in operation, which serves five districts. Another to serve seven districts is planned.

Illinois has established seven of these schools; 40 are planned.

Kentucky has 22 in operation; 10 more are planned for the next two years. The plan is to put all Kentucky citizens within 25 miles of such a school. They are organized as extension centers of area schools for post-high school students and adults. Each of the high school centers has five to eight vocational programs.

Studies are being made in 63 of Michigan's 83 counties which are expected to result in many area vocational programs for high school students.

Mississippi is developing "vocational complexes" for students from two or more high schools. Students will continue to receive their general education in their home high schools.

In Missouri trade and industrial education is being provided through area schools in sections of the State where it did not exist.

The Montana State Board of Education has proposed that "certain schools be designated as vocational training centers."

The South Nevada Vocational-Technical Center at Las Vegas is designed primarily for high school students although it has some post-secondary programs. The first phase, now complete, cost $3.5 million. The second phase will cost $2 million.

New Mexico is operating a pilot program in distributive education with two high schools cooperating.

The Walter Biddle Saul High School of Agriculture and Horticulture has long served the City of Philadelphia. Recently it has been included in the State's vocational program. It has six teachers and a coordinator and serves 350 boys and girls as well as many adults. There is a farm of 78 acres. It is visited annually by about 7,000 elementary and high school students from the schools of Philadelphia and other schools.

South Carolina is organizing "area vocational centers" with students drawn from a number of high schools. Eight are in operation; plans call for 45 more in the next five to six years.

Virginia has constructed buildings for 16 of these area schools since 1963. Nine more are under construction and 33 are in various stages of planning. When the system is complete, there will be provision for students in 74 of the 134 school districts in the State. Two-thirds of the high school students of the State will have five or more vocational programs available in comprehensive high schools or vocational education centers.

Organization of residential schools. There is growing interest in residential schools to provide specialized programs not available in most area schools or to accomodate students from sparsely settled areas. The Association of State Directors of Vocational Education recommended in 1967 that funds for these schools be increased. Some of the existing residential schools are serving students from several states.

Articulating secondary and post-secondary schools. Utah is one of many states in which better relationships between the newly established area schools and the existing high schools are being sought.

A conference on ways area-school personnel workers and high school counselors can work together has been reported in a 71-page publication of the Georgia State Department of Education.

Organizing to encourage greater local responsibility and initiative. The New York State Department of Education has decentralized many if its operations including those in vocational education. Directors of vocational education are being provided in the local schools of many states who can assume some of the responsibility of state supervisors. Utah reports that the local directors are being given more leeway in planning new programs, the inservice education of personnel, and the evaluation of district programs. Discontent with lethargy on the part of some Utah superintendents is likely to result in redesignation of responsibilities to provide leadership that is needed.

California has distributed most of the new funds available under the 1963 Vocational Education Act to schools which have originated projects for their own use.

Reorganization of state divisions of vocational education. Reorganization in the divisions of vocational education in state departments of education reflect recent developments and forecast of the future interests of these divisions. Following are examples of reorganizations in effect or proposed.

The proposed new bureaus within the State Division in California are program-planning and evaluation, curriculum development, reference and dissemination, and audits and approvals.

The new bureaus of the Georgia Division are high school programs, area schools, ancillary services, and fiscal matters, administration, and accounting.

Committees of the staff of the Kentucky Division are working on plans for a new organization which will get away from a service-segregated organization and provide "a more unified approach to administration while still having available the necessary specialists in the various service areas."

The Mississippi Division has added sections for budget and finance, guidance and counseling, work-study, research, and public relations to the sections concerned with six special fields within vocational education.

The major subdivisions of the reorganized New York Division are occupational education supervision, general occupational education, industrial occupational education, and special services.

Adult and vocational education are in the same division of the Texas Education Agency. Subdivisions are administration; secondary, post-secondary, and special adult programs; manpower development and training; veterans approval; and civil defense.

Divisions of vocational education have been reorganized in Illinois, Michigan, and Wisconsin. New divisions of vocational and technical education have been established in Indiana, Minnesota, and Missouri.

Reorganization in the colleges and universities. Comprehensive departments of vocational and technical education have replaced departments for the specialized fields within vocational education at Auburn University, Colorado State University, the University of Illinois, the University of Kentucky, Michigan State University, and Virginia Polytechnic Institute. Plans for an integrated department are under way at the University of Idaho.

Provisions have been made in many institutions for training types of personnel not hitherto prepared. The provision of education for teachers of business has been stimulated by the Vocational Education Act of 1963. Teacher education in trade and industrial education, distributive education, and health education and counselor training have been added to traditional programs in agricultural and home economics education in several schools.

Center for vocational information procurement. Colorado is organizing a center which will collect data about occupational opportunities and disseminate it to high schools and area schools.

5

Revision of Programs and Procedures

Anyone familiar with the vocational and technical offerings in the public schools five years ago must be amazed by the changes which have occurred. Most of the programs now available were offered somewhere in the United States in 1962; the impressive development is the adoption across the country of programs formerly found only here and there. The changes reported in this section are those reported by the states. What is new in one state may be old in another.

The changes of the past five years forecast changes at a geometric rate during the next five years. It would be false, however, to assume that the older programs of proven worth are being abandoned. They remain sound and growing, but this publication is concerned with new designs.

Most of the new programs have two characteristics: (1) they are oriented toward gainful employment in a particular occupation or a cluster of occupations; (2) provisions have been made for evaluating and revising them as they develop.

The area schools are providing a wide array of programs not hitherto available. Typically, there are 10 to 25 programs for full-time students in each area school. Most programs for full-time students require two years; some are one-year programs; and a few continue for 2½ to 3 years. Students may often complete a part of these programs by attending evening or Saturday classes. Shorter programs for adults attending part-time are provided for many occupations.

Area schools usually operate for eleven months each year. Classes are frequently scheduled from 8 a.m. to 10 p.m. with the largest enrollments after 4 p.m.

Program changes will be treated under the following headings.

1. Programs in a comprehensive state system of public area schools (Georgia's)

2. Programs new to the states reporting them

3. Program innovations

4. Curriculum revision

Programs in a comprehensive state system of area schools (Georgia's). The programs available in the public area schools of Georgia illustrate the possibilities of a state system for vocational-technical education. Some of the programs listed are offered only in individual schools but they are available to anyone in the State. Detailed information about these programs is supplied to every school in the State in a special publication.[1]

Air conditioning, refrigeration, and heating
Architectural drafting
Auto body repair
Automobile mechanics
Aviation mechanics

Civil technology
Commercial art
Commercial cooking
Cosmetology
Data processing technology

Electrical appliance servicing
Electrical construction and maintenance
Electrical drafting
Electrical technology
Fabric maintenance management (dry cleaning and laundry)

Instrumentation technology
Machine shop
Mechanical drafting
Mechanical technology
Medical Laboratory assistant

Plastering and tile setting
Plumbing
Power sewing
Practical nursing
Printing

Barbering
Brick, tile, and stone masonry
Building construction technology
Carpentry and cabinetmaking
Chemical technology

Dental assistant
Dental technology
Diesel mechanics
Drafting and design technology
Distributive education

Farm equipment mechanics
Housewiring
Industrial Electricity
Industrial Power Sewing
Industrial Technology

Medical office assistant
Office Machine repair
Optical technology
Painting and decorating
Photography

Radio and television repair
Research laboratory assistant
Residential wiring
Shoe repair
Small gasoline engine repair

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[1] Area Vocational-Technical Schools of Georgia, Catalog. State Department of Education, Atlanta, Georgia.

Technical illustrations
Textile science
Upholstery
Watch repair
Welding

Programs new to the states reporting them. The variety of new programs now available is shown in the two following compilations listing: (1) jobs or positions for which students are being prepared and (2) programs with vocational objectives which are titled in different terms. Some of these programs are still rare; others have been introduced widely over the country.

1. Occupations for which training programs have recently been provided:

Agricultural foreman
Aircraft mechanic
Appliance repairman
Architectural technician
Assistant dietician

Assistant to a professional home economist in business or industry
Assistant to auto body mechanic
Auto mechanic
Aviation mechanic
Blood Bank assistant

Business-machines mechanic
Business-machines operator
Carpenter
Catering assistant
Certified laboratory assistant
Clerk typist
Companion for the elderly
Court and conference reporter

Chef
Child-care assistant
Child-care supervisor
Chemical technician
Citrus technologist

Data processer
Dental assistant

Dental hygienist
Dental secretary
Electrician
Electronics and space secretary
Emergency Homemaker

Food Processer
Food Service supervisor
Forester's assistant
General office clerk
Geriatric care aides

Guide and worker in rural recreation program
High school homemaker-health aide
High school nursing assistant
Highway technician
Homemaker's assistant

Homemaker health aide
Hospital orderly
Hospital supply aide
Hospital ward clerk
Hotel and motel aide

Hotel housekeeper
Laboratory technologist
Legal secretary
Medical records clerk
Medical assistant

Medical records library assistant
Medical secretary
Middle-level office manager
Nurse (licensed practical)
Nurse (registered)

Punch-card operator
Radio and TV repairman
Residential child-care aide
Secretary
Sewing Specialist
Waitress
X-ray technician

Nurse's aide
Nursery school operator
Nursing home worker
Operating room technician
Psychiatric aide

Stenographer
Substitute mother
Surgical technician
Tool designer
Visiting homemaker

2. Programs with vocational objectives not listed by job titles:

Agricultural business
Agricultural mechanics
Agricultural mechanics for special students
Air frame and power plant
Alterations (clothing)

City planning
Civil technology
Clothing and textiles services
Clothing construction and alteration
Commercial art and layout

Drafting and design
Electronics
Electronics associated with the aircraft industry
Engineering drafting
Farm and ranch management

Food purchasing
Food services
Food technology
Home economics for the mentally handicapped
Graphic arts

Hydraulics
Industrial education for under-achievers
Institutional management
Instrumentation
Interior design

Ornamental horticulture
Park and recreation management
Police technology
Refrigeration and air-conditioning
Retailing

Animal science
Automated record-keeping
Bookkeeping
Child care
Child care for Indian women

Commercial aviation
Cosmetology
Custom sewing
Dimensional quality control
Drafting

Farm business analysis
Fashion merchandising
Fashion trades
Fire technology
Food cost control

Home economics for prospective dropouts
Home management services
Hotel-motel hospitality
Housing
Horticulture for persons with special needs

Job safety (for electricians)
Mechanical technology
Mid-management
Numerical control for metal-working industries
Nursery work

Textiles
Turf management

Program innovations. Kentucky's emphases for the near future resemble those in many other states: "reaching more people, integrating services to meet needs, and more extensive programs for the health occupations and home economics wage-earning occupations."

The North Central states report new program development units involving all services. Business education and health education are being related in Florida. North Carolina had 62 teachers in 1966-67 who offered a course in "Diversified and Comprehensive Vocational Education" for tenth-grade students, and teachers of trade and industrial education and those in distributive education cooperating.

Ten of 13 North Central states provided technical education in agriculture in 47 post high school institutions. The programs offered included agricultural business, agricultural mechanics, conservation, farm and ranch management, forestry, food processing, ornamental horticulture, and park and recreation management.

Thirty per cent of the students in vocational agriculture in Illinois in grades 11 and 12 were in programs oriented toward off-farm occupations.

Pennsylvania is providing education in the use of agricultural resources with special attention to recreation and forest lands.

Idaho has a new course in ninth-grade agriculture for boys and girls, which does not require supervised practice. It is followed by specialization with work experience in the senior year.

Los Angeles has a large and growing program of nonvocational agriculture in its junior high schools. Ornamental horticulture is provided in some large-city high schools including Cleveland, Ohio. Courses in agriculture in city schools for persons with special needs are emerging.

The provision in 1963 of federal funds for vocational office education has led to extensive revision of the high school programs of business education. The emphases in developing the new program stated by Tennessee are similar to those in many other states: "(1) expanded course offerings in improved facilities using modern office equipment, (2) students with adequate background preparation and a career objective, (3) teachers whose qualifications include office experience, teaching experience, and specified certification."

Several states are providing simulated office experience at the schools to supplement cooperative work experience or to provide an alternative to it. The time given to courses in office occupations is increased when experience is provided at the schools.

Post-secondary and adult classes in office occupations are developing rapidly.

Distributive educators are preparing for "middle management". The Virginia program has been pioneer and prototype. At the Richmond Professional Institute students are trained as supervisors and department heads, and as special personnel of other types in retail establishments. Supervised experience sometimes includes service as head of a department. The Florida junior colleges are among those providing "middle management" programs. They are available also in some of the North Central states.

Utah reports an "upsurge in training for the health-related occupations," which is common across the country. The shortage in these occupations are extreme. Many types of workers in these occupations are being trained in addition to practical nurses. A large part of the new health programs prepare technicians.

The "conceptual approach" to the teaching of Home Economics in the high schools has swept across the country in recent years, replacing to a considerable extent the "job" approach. The newer curricula are broader, include concepts drawn from the behavioral and other sciences, and provide an improved background for specialization.

Homemaking for high school boys "has received quite a boost in recent years." In Tennessee the courses in which boys enroll continue for one or two semesters. Occasionally boys and girls are in the same classes. In 1965, a fourth of the high schools in California had courses in Home Economics for seniors dealing with preparation for marriage, family relationships, housing and home furnishings, and family nutrition.

A large part of the new programs in Home Economics are "to fit individuals for gainful employment in any occupation involving knowledge and skills in Home Economics subjects."

Education for public service occupations is emerging. Nevada is providing training to upgrade highway technicians in cooperation with the State Highway Department. It is given at centers throughout the State, often with the use of mobile laboratories. A law enforcement program is under way at the Tampa, Florida, High School with the Tampa Police Department and the County Sheriff's Office advising.

Trade and industrial education has become much more generally available with the development of area schools for high school students, full-time post high school students, and adults. South Carolina, typical of many states with large rural populations, is now providing trade and industrial education in all but three of its counties.

Many of the new area schools for post-secondary students and adults were created solely or primarily to provide trade and industrial education. With the growth of area schools in the Middle West the largest increases in T and I enrollment have been in these schools.

Industrial education has also received a decided impetus from its use to attract new industry. The movement began in the South in an effort to diversify the economy, provide increased employment opportunities, and attract capital. The early growth of area schools providing vocational education in every southern state was to a considerable extent motivated by the desire for new industry. Recently many states outside the South have been using similar measures to hold the industry they have and to attract new industries.

One of the new fields into which trade and industrial and technical education have been extended is preparation for the aircraft industries. Kentucky is building a new area school at Somerset, adjacent to an airport, which will serve students from all parts of the State. It will provide training for many occupations associated with the aircraft industry including aircraft mechanics, air frame, and the electronics associated with aircraft.

Oklahoma, a pioneer in providing technical education, now has it in 25 schools. In 12 schools the associate degree is given. Since 1960-61, 13,266 have been graduated or have terminated their training with marketable skills in technical areas.

Oklahoma has also developed a unique arrangement for training computer programmers and systems analysts. A large computer in the State Department of Education will serve as many as 16 training centers located throughout the State. Eight centers are now using it. Training at minimum expense is provided.

Technical programs in four-year colleges are developing in Indiana, Iowa, Nevada, New Mexico, Oklahoma, West Virginia, and probably in other states.

Contrary to the general trend, apprenticeship programs are expanding in Wisconsin, where the vocational educators have an active part.

Kentucky has made extensive use of federal funds for the manpower and area redevelopment programs, in part because it has had a state system of area vocational-technical schools to implement these programs. During the last five years, 12,871 have been trained in manpower programs and 3,678 in area redevelopment programs.

Oklahoma has enrolled more than 9,000 in more than 40 manpower programs; 70 per cent have been placed. Florida has conducted manpower programs in 61 occupations in 15 counties. Training was received by 2,500 in 1966-67. The program provides basic education, remedial instruction, and counseling as well as training. Each North Central state is reported to be improving and expanding its adult programs under MDTA.

Attention to occupational counseling is being stepped up in many states. More planning and earlier planning of high school and post-secondary programs is being encouraged. There is dawning recognition that high school students should be prepared for the programs available in the community colleges and the other area schools as well as the four-year colleges.

North Carolina in 1963-64 began to offer a course in "Introduction to Vocations" in the ninth grade. The enrollment in 1964 was 2,410; in 1967-68 it is 15,712. The course now requires 171 teachers. New Jersey has launched a similar program in 26 pilot schools.

Louisiana has vocational guidance available to high school students and students in the 13th and 14th grades in its vocational-technical schools. Mr. William E. Johnson, Assistant Superintendent for Vocational Education, believes it to be "a real advantage in effecting a quality vocational program."

Georgia conducted "Tech Days" in 20 of 23 area schools in the Spring of 1967 when prospective employers were able to meet the new crop of graduates. Dates were staggered so that company representatives might follow the program across the State.

Michigan and Missouri have recently conducted regional conferences on vocational counseling for public school administrators and counselors. Nebraska vocational educators have cooperated with the State Employment Service in regional conferences for high school counselors dealing with employment opportunities in agriculture.

Developments at Nova School, Ft. Lauderdale, Florida, will be watched with much interest. Associated with Nova University, it will provide education for persons expected to continue to the doctor's degree. Beginning in the elementary school, students have experiences related to the world of work. At the secondary level, they participate in a basic program emphasizing science and technology. Non-graded, individual experiences relevant to occupational orientation are provided in fields such as data processing, electronics, graphic arts, mechanical technology, and office occupations.

Industrial arts is being extended downward in some school systems. In Georgia it is being provided in grades 5 and 6. Rochester, New York, has introduced the subject below the seventh grade. Home economics and agriculture are being included in many junior high school programs.

California is training homemakers' assistants who are high school seniors. Work experience is provided in selected households.

Tennessee is using Camp Clement, formerly the FFA Camp, to provide leadership training for youth in all vocational services. The Camp has a cafeteria seating 300, modern brick cabins, and a swimming pool.

There is much concern about vocational education for the disadvantaged. Special programs for high school dropouts and prospective dropouts have been reported by Michigan, Minnesota, and Tennessee. Missouri has courses for welfare recipients that are preparatory to employment training. They include reading, spelling, and mathematics. Ohio has shop and laboratory programs for the disadvantaged combining work skills with basic education. The University of Alabama in cooperation with the Vocational Rehabilitation Service has completed a five-year program of "sheltered employment" for handicapped youth, 16 to 18 years of age. The State Vocational School and the Opportunity School at Columbia, South Carolina, cooperate in programs for disadvantaged youth and adults from all parts of the State, many of them delinquents and most of them school dropouts. Texas and Wisconsin have vocational programs for migrant workers.

Westchester County, New York, has a new program in which all of the high schools of the County are participating which is intended to extend a broader and more appropriate type of occupational education to a larger part of the students.

Special programs including counseling and financial assistance are now available in Florida for students with mental, physical, and socio-economic handicaps.

Work-study programs for high school students have been stimulated by the Vocational Education Act of 1963. Programs are reported in every North Central state. Florida has 50 programs in junior high schools designed to provide potential dropouts with training related to work such as grounds maintenance and food service. There are work-study programs in a third of Florida's counties and in the Florida Schools for the Deaf and Blind. South Carolina had work-study programs in 58 high schools in 1966-67.

Louisiana and North Carolina have highly developed and very successful programs to provide basic education for adults. In North Carolina the funds for basic education under the Economic Opportunity Act have been routed through the Community College System, which has enrolled as many as 55,000 at one time in basic education programs. Dade County, Florida, has conducted a mammoth program of basic education followed by vocational education, for displaced Cubans.

"Learning Laboratories" in North Carolina's system of community colleges provide opportunities for individualized learning to qualify for elementary school certificates, high school graduation, and admission to vocational and technical programs. They are used to capacity by older youth and adults of almost all ages.

Texas has been training homemakers in housing developments, most of them unable to speak English.

Washington reports that "part-time programs for employed people have expanded at a tremendous rate in the last few years. There is much evidence to indicate that this type of education will become an integral part of each adult's life work."

Although the principal concern has been for the disadvantaged, Tennessee conducted a vocational-technical program for the gifted at Kirkman High School, Chattanooga, in 1967. Scholarships were available to students with high academic ability and mechanical aptitude. The program carries no credit and is intended for enrichment. Instruction is individualized. One students has commented: "I am now understandong why I have been studying mathematics." The program will continue for three years.

Utah has been giving attention to the entire high school curriculum in small schools in an effort to increase the vocational offerings. Illinois has introduced "interrelated cooperative training" while Minnesota and Wisconsin provide "diversified occupations" courses adapted to the smaller high schools.

Nevada has a vocational program in its State Prison which includes auto mechanics, auto body, laundry and dry cleaning, metal shop, distributive education, home economics for gainful employment, and basic education courses. Florida has been conducting a program in ornamental horticulture in a state prison.

There is much discussion of the role of the high school in vocational education, especially since area schools have developed widely. There has been serious consideration in Hawaii and Washington of the postponement of specialized vocational education until after the high school years.

Most of the new area vocational and technical schools are for commuters and extracurricular activities in them are almost negligible. The junior and community colleges have gone in a different direction. The Junior College at Senatobia, Mississippi, is attempting to combine vocational and cultural interests. Its president emphasizes the development of "human dignity." He believes that vocational education is an important aid.

Curriculum revision. Agencies for providing curriculum guides and teaching aids are developing. Kentucky's Instructional Materials

Laboratory was established cooperatively by the State Department of Education and the University of Kentucky in 1966. It has a full-time director, six specialists in the various services, a commercial artist, and clerical help. It prepares suggested courses, masters for overhead projectors, strip films, and tapes. A curriculum laboratory in the North Carolina Department of Community Colleges has somewhat similar functions.

Florida has issued a county program-planning guide. In use two years, it has assisted county school systems to review their programs annually and project needs for the following year. Information is provided concerning employment opportunities, enrollments and enrollment potentials, course offerings, and funding needs. Project proposals including cost estimates are developed in the counties (school districts), reviewed by area coordinating committees and submitted to the coordinating committee of the State Division of Vocational and Adult Education and the State Superintendent.

Michigan State University is now preparing instructional materials for all occupational areas. Ohio State University has laboratories preparing materials for trade and industrial education, distributive education, and agricultural education. The University of Illinois, which has prepared teaching aids for vocational agriculture since 1938, has a new curriculum guide for high school programs which integrates instruction in homemaking and family life with preprofessional and employment education in Home Economics.

Arizona is structuring instruction in Home Economics to secure articulation among all educational levels. New curriculum guides emphasizing conceptual understandings have been prepared for units in Child Development, Foods and Nutrition, and Clothing and Textiles for use in the elementary and secondary schools. Home Economics students are being oriented to work and career opportunities; cultural and socio-economic differences, are being recognized increasingly. All Arizona junior colleges but one offer programs in Home Economics. Special attention to child development and parent education is provided in the high schools and junior colleges of the State. Three hundred women, at least one-third of them from relief rolls, have completed a program for family health assistants. Half of these are now self-supporting. Special programs in Home Economics for migrant workers, special education students, and economically handicapped adult women are being provided.

A state supervisor of Industrial Arts has been added in Arizona and programs in this field are being modified in the upper grades and the junior high schools. High schools are beginning to provide in-depth general education about the major areas of industry and technology as a foundation for specialization in vocational, technical, and engineering programs. This type of education is considered valuable for girls as well as boys. A publication describing the new program in Industrial Arts, K-12, has been prepared for use by school board members, administrators, and teachers. Close collaboration is developing among those in the Industrial Arts, Trade and Industrial, and Technical programs.

Arizona students in vocational agriculture earned $681,153.35 during the past year in off-farm agricultural occupations. Their income from farm production was $384,593.00, raising their total income above $1 million for the first time. Four community colleges in the State have agricultural programs.

Three Arizona universities are involved in the improvement of vocational counseling. Four counselors are employed in a pilot program in a large metropolitan high school. Six regional manpower employment and counseling clinics for school counselors and administrators, conducted jointly by the colleges and the Arizona Employment Service, have been held.

Several of the North Atlantic states are merging agricultural, Home Economics, and Distributive education courses. Home Economics courses for high school students are being revised to include child care and development, home furnishings and equipment, personal and family finance, and parent and family relationships.

The use of educational television in vocational education is being undertaken in Florida, North Carolina, and other states.

A program of Decatur, Illinois, is representative of a new development in Illinois and other states that is likely to have farreaching effects. At Decatur, 600 adults are enrolled full-time in a program sponsored by the city schools for persons on relief who have been given the choice between getting a job and returning to school. The program includes basic education and vocational education.

Now that Congress has provided funds for the education of Vietnam veterans, it is to be expected that programs paralleling those following World War II and the Korean Conflict will be provided across the country.

6

Provisions for Personnel

It is widely agreed that a shortage of competent personnel is the chief block to the possible development of vocational and technical education.

A recent study of 29 state divisions of vocational education and 179 institutions preparing vocational education personnel, revealed a need for 1,276 persons for positions as supervisors, teacher-educators, subject-matter specialists, and researchers and a maximum of 602 persons likely to be qualified for positions of this type during the 1966-67 academic year. Many of those prepared were expected to be lost to other fields. Many state divisions and universities were not included in the study.[1]

The colleges and universities, which have been the principal sources of teachers for most vocational fields, have been slow to adapt to a drastically changed situation. Personnel from business, industry, and the Armed Forces are being recruited in large numbers, particularly for the area schools.

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[1] William W. Stevenson. "Vacancies at the Top", American Vocational Journal, 42:5: May, 1967.

New positions are being created, many of them with administrative and leadership responsibilities. Specialists of many kinds are needed. Researchers are in short supply.

With rapidly growing enrollments in the high schools, the area schools, and the adult programs, there is a persisting shortage of teachers who are qualified occupationally but are also qualified to teach and to associate professionally with their colleagues in educational institutions.

The demand is not only for more teachers but for teachers able to adapt to new concepts of vocational and technical education and to teach in fields in which this type of education has not previously been provided.

The most dramatic development is occurring at Jersey City, N. J., where a completely new institution for preparing occupational educators is being developed. The planning of this institution has been under the direction of an outstanding executive borrowed from industry. It will offer bachelor's and master's degrees. A technical institute will be provided on its campus. A staff of 50 to 60 will be required.

Michigan State University is developing a new pattern of vocational teacher education utilizing a clinical-school concept.

The state university colleges at Buffalo and Oswego, New York, and Kearney State College in Nebraska have new programs to prepare technical teachers. New programs to prepare distributive educators have been introduced in Connecticut at Central Connecticut State College and the University of Bridgeport, in two state universities in Florida, at Memphis State University, and in several Kentucky colleges and universities. New Teacher education programs in business and office education have been started in Florida, Indiana, Missouri, and Nebraska. Education of teachers for the health occupations has been initiated in Kentucky. Vocational counselors are now being prepared in Idaho and Kentucky.

A work-study internship at the State University College, Buffalo, New York, enrolled 32 students in the Fall of 1967. Students may spend three to five years in programs leading to the Bachelor's and Master's degrees which combines work on campus with industrial experience.

The Universities of Missouri and Wisconsin are training Home Economics teachers to conduct education for employment. The University of Wisconsin provides a special option in its program for prospective teachers of Home Economics for those who will work in programs preparing for wage-earning.

In four Kentucky state universities associate and bachelor's degree programs are now being provided for trade teachers, some of them now employed as vocational teachers.

Michigan State University has new curricula to prepare specialized teachers of agricultural business, agricultural mechanics, and ornamental horticulture. Ohio State University has established an internship for teachers of agriculture with directed experience in agricultural business and industry. The University of Wisconsin has a post-graduate teacher internship in agricultural education.

Ohio State University and the University of Minnesota have added courses in the organization and development of post high school programs in business and distributive education.

The University of Missouri has provided a graduate program to prepare for administrative positions in technical education in junior colleges. Indiana State University has a program for directors of vocational education.

The University of Minnesota and Purdue University include experience with the disadvantaged in their programs to prepare teachers of Home Economics. The University of Missouri in 1966 launched an interdisciplinary inservice program for teachers of the socially and economically handicapped.

The University of Minnesota provides directed occupational experience for teachers of distribution and marketing. The Trenton, New Jersey, State College is conducting a pilot program for special education students in which industrial educators and special educators share.

New Jersey is conducting three courses for teachers in private vocational-technical schools.

California is training aides for vocational teachers. At Phoenix, Arizona, play schools provide opportunities for prospective teachers to work with young children and to participate in weekly parent discussions.

New responsibilities have led to increasing the staffs of the state divisions of vocational education, in New Jersey in the past three years from 13 to 65, in North Carolina from 20 in 1960 to 52½ in 1967. New staff positions in the North Central states have included those in vocational guidance, programs for persons with special needs, work-study programs, manpower training, business and office education, and research. Florida has added personnel for research, guidance, occupational information, special student programs, and educational materials. Utah has added a deputy state superintendent for post-secondary schools. A supervisor for occupations related to Home Economics has been employed in the South Carolina Division, which has also added a supervisor of its 57 local vocational counselors. The Montana State Board of Education has recommended the addition of a supervisor of Industrial Arts to the State Division staff; a number of states have these supervisors.

The demand for vocational counselors has been increased because of their general use in the area schools and their increased use in the local schools. In Kentucky all area schools are staffed with vocational counselors who work with students, potential students, and high school counselors. North Carolina maintains a ratio of one counselor to each 400 students in its community college system. Counselors in Virginia's area schools assist with placement and follow-up. Utah has a vocational counselor in each of its local school districts.

Kentucky conducted a three-months institute in the summer of 1967 to train 120 occupationally competent tradesmen for teaching positions in the new area-school extension centers for high school students and adults. The training program included internship at an area vocational school.

The inservice education of vocational teachers is receiving increased attention. Summer institutes and other arrangements to prepare teachers of Home Economics to train for wage-earning occupations have been conducted in most of the states of the North Central region, in New Jersey, and probably in most other states. Summer workshops for teachers oriented toward training for employment in off-farm occupations have been common in the North Central states. In the summer of 1967 Kentucky conducted institutes for teachers in psychiatric nursing and the use of youth organizations in instructional programs; for

supervisors and teacher educators on teaching persons with special needs; and for state department and local administrative and teaching personnel on research. Inservice education is receiving more attention generally in the North Atlantic states.

Utah is emphasizing retraining periods in industry for its industrial teachers. One program calls for a month in industry by workshop participants prior to revising curricula in five areas.

A new program at North Carolina State University leads to the Ed.D. degree in occupational and adult education.

Seminars conducted jointly by the American Vocational Association and the U. S. Office of Education in many parts of the country have assisted in training several hundreds for their research responsibilities.

7

New Funds and Facilities

Some states which have spent meagerly for vocational and technical education have increased their appropriations decidedly since 1963. The Montana Legislature in 1967 raised its biennial appropriation by more than 800 per cent, from $90,000 to $1 million. The New Mexico Legislature has appropriated $170,000, a large part to be used for new equipment and instructional aids.

State and local expenditures for vocational education have increased during the recent period of increases in federal funds. From 1944 to 1966 federal funds for Oregon increased by 380 per cent; State funds by 370 per cent, and local funds by 280 per cent. Although federal funds have increased they now provide only $107 of the $831 annual cost per vocational student in the community colleges and $43 of $600 per vocational student in the high schools of the State.

State appropriations for vocational and technical education have increased faster than federal appropriations in several North Central states. The Minnesota Legislature raised its appropriation from $4,350,000 in 1965 to $8,300,000 in 1967. The Kentucky and Missouri Legislatures gave 20 per cent increases at their most recent sessions. The Illinois Legislature appropriated $6 million for area schools in 1965.

The expenditure in Mississippi for buildings and equipment from the passage of the Vocational Education Act of 1963 to June 23, 1967, was $16,931,272. Kentucky has built or is building new facilities for 10 area vocational schools, the individual buildings ranging in cost from $500,000 to $1.5 million. The buildings of four other area vocational schools are to be doubled in size. The total cost of the Kentucky building program since 1963 has been more than $22 million. The investment in buildings and facilities for Georgia's 23 area vocational-technical schools now exceeds $50 million.

In most states, a larger percentage of the funds for vocational education is being channeled to the area schools. In North Carolina the area schools receive 45 per cent of the funds, the local schools 55 per cent.

Although local, state, and federal funds have been increasing, the Association of State Directors of Vocational Education does not believe that they are increasing fast enough to care for impending needs. In 1967 it recommended that federal funds be increased to $400 million in 1968, $600 million in 1969, and $1 billion in 1970.

The recently founded state research coordinating units vary greatly in their fiscal support. Some are in danger of losing it while the Illinois Unit has an annual budget of more than $1 million.

Special facilities of several kinds are developing. Clemson University in South Carolina has a new "media center" to serve schools with vocational programs. New Mexico maintains a library of tape-recorded occupational information including interviews with mechanics, salesmen, and others, which is availble to high school and vocational school counselors. Model stores are being added in some departments of Distributive Education in New Mexico.

8

Research and Development

Research and development in vocational and technical education received its strongest impetus from the Vocational Education Act of 1963, which provided that 10 per cent of the funds appropriated should be used for these purposes. Centers drawing on these funds were established at Ohio State University and North Carolina State University. Large projects were funded in many other universities. More than 400 projects ranging from small to large have been financed under the Act.

Universities and private research agencies not previously concerned about vocational education have entered the field. The Ford Foundation has assisted in establishing a research center at the University of Wisconsin and has funded other projects. The American Research Institute at the University of Pittsburgh, The Massachusetts Institute of Technology, Science Research Associates in Chicago, and the General Learning Corporation have vocational education projects. Universities outside the land-grant college system including Columbia University, the University of Iowa, and Stanford University are conducting studies.

Research Coordinating Units[1] have been established in more than 40 states, using the new federal funds supplemented by state funds.

A center for vocational and technical education has been established at the Ohio State University as a part of the National Information Retrieval and Dissemination System sponsored by the U. S. Office of Education.

Studies preliminary to replanning vocational programs. Many states, areas within states, and local communities have conducted or are conducting studies basic to replanning. Examples follow.

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[1] Designated at some points in this document as RCU's.

A two-year, statewide study by Arthur D. Little, Inc. began in California in July, 1967. Georgia is developing a master plan for the next five to ten years. A statewide study, ordered by the Governor, has been completed in Missouri. Montana and North Dakota have had recent state surveys. The RCU at the University of Nevada is studying the need for the extension of vocational programs in four school districts. More than 11,000 firms in 32 population centers were interviewed in an occupational survey in New Mexico, completed in 1966.[1] In other New Mexico studies criteria for establishing area vocational-technical schools were developed and plans for a new area school were made. Area studies have been made in 27 of Oregon's 36 counties to determine employment opportunities, human resources available, and needed educational facilities. Studies have focused upon the vocational education problem of small high schools, isolated and single-industry communities, and large cities. Colorado is conducting a study of occupational education and community colleges.

Other state studies include those in Michigan, South Carolina, Tennessee, and Virginia. Local studies have recently been made in Dallas and Richmond. Georgia and North Carolina are among the state which have made special studies of the need for paramedical personnel.

A project to identify problems related to the full participation of Negroes in vocational education programs, secondary and post-secondary, is sponsored by the Georgia RCU with cooperation from Atlanta University and the Center for Occupational Education, North Carolina State University.

Follow-up studies. Many studies for former students and graduates have been conducted or planned.

Colorado lists as research priorities: (1) development and implementation of a systematic program of vocational student follow-up, (2) means of increasing the utility of student follow-up data, and (3) determination and analysis of emerging and projected employment opportunities in counties, areas, and the State.

Georgia has published a 25-page report of a study of the graduates of its area vocational schools in 1965, which has been supplied to every guidance counselor in the State.

New Mexico has studied the careers of all girls in the high school graduating classes of the State in 1961 to learn their implications for education in Home Economics. It has also followed the careers of persons completing and dropping out of manpower programs.

Utah is studying the adequacy of graduates in Distributive Education. Three Utah colleges are cooperating in determining the extent to which high school terminal students and post-high school students enter occupations related to their training.

Research related to the evaluation of vocational and technical education is under way in several North Central states.

Definition of the functions of research coordinating units. Because the research coordinating units are new, each state having one has been obliged to determine its functions. In California these are stated as coordination, dissemination, consultation, and the stimulation of research.

Study of private vocational schools. Under a legislative mandate, Texas completed a study of 1,000 privately owned vocational-technical schools in 1963. New Mexico has made a similar study.

Studies of state and federal activities. The University of California (Berkeley) has reported the findings in a study of state divisions of vocational education in 42 state departments of education. The Oregon State System of Higher Education is initiating more detailed studies to follow the Berkeley study, which will be conducted in eight to ten states.

The Center for Occupational Education, North Carolina State University, is evaluating a program for coodinating the agencies of the Office of Education and the U. S. Departments of Agriculture and Labor in one county in each of three states: Arkansas, Minnesota, New Mexico.

Studies to determine occupational opportunities and requirements. At least 40 states have conducted studies to determine the nature of employment in off-farm occupations requiring some knowledge of agriculture and the training these occupations require. Major attention has been given to occupations in agricultural business, agricultural mechanics, ornamental horticulture, and agricultural technology. The Center for Vocational and Technical Education, Ohio State University, has assisted with and coordinated these studies.

Utah is studying the typing skills required for entry jobs. Tennessee is determining the occupational opportunities at the mid-management level for students in Distributive Education as an aid in establishing programs in community colleges and area vocational-technical schools.

Studies related to programs and procedures. Studies for use in program-planning are under way in Illinois, Michigan, and North Dakota.

Florida is developing new course outlines and instructional materials with special attention to the cluster concept, individualized learning based on interest and ability, and the use of learning-activity packages. Revised curricula in housing and family economics are being prepared for the high schools and junior colleges of the State. A special project in Brevard County, Florida, is providing "ungraded" occupational education for elementary and secondary pupils from the schools of the County in a new building on the campus of the Junior College at Cocoa.

The Georgia RCU is looking at the effectiveness of Home Economics programs for full-time homemakers and homemakers who are also full-time employees.

Kentucky is studying four methods of teaching business and office occupations: simulated, directed (work experience in school offices), battery (a textbook approach), and cooperative (experience in offices outside the schools).

New Mexico is giving attention to prevocational orientation for junior high school students and the scheduling of secondary classes by computer.

Tennessee is studying in depth special areas in the third and fourth year programs in Home Economics. Examples of units receiving attention are: Management for Successful Living, Family Relations and Child Development, Advanced Clothing Problems, Housing and Interior Design, Social

Development, and Preparation for Adult Living. Top-level managers and owners of small businesses in Tennessee are evaluating instructional guides for the high school program in Distributive Education.

Georgia has been concerned with personnel practices in its area vocational-technical schools. Two publications were produced in 1966 by the State Department of Education.[1] Its RCU is evaluating identified admission criteria in terms of students' later performance in area vocational-technical programs with support from the Educational Testing Service and the College Entrance Examination Board, Princeton, N. J.

A statewide survey of the vocational interests of Colorado high school students is being made by the State Department of Education.

The New Mexico RCU is studing the relation of work experience to dropping out of school and social education for employment-oriented youth who are mentally retarded.

Research coordinating units in the North Central States have conducted workshops for local administrators, vocational directors, and teachers to aid in planning, and conducting pilot and demonstration programs.

Broader vocational offerings for small high schools are being studied in Utah. The State's RCU is conducting a nation-wide study of two-, three-, and four-year curricula in commercial art. A vocational program for a state industrial school is being studied by the Utah RCU.

New Mexico is testing a mobile instructional facility used in applied courses in engineering technology.

Georgia is conducting and evaluating pilot programs in cooperative Occupational Home Economics Education in eight schools. It is developing and implementing a self-evaluation plan for vocational-technical schools. Remedial programs in mathematics, science, and communication skills are being developed in five Georgia schools; 15 teachers are involved.

Oregon is conducting pilot programs providing a guidance continuum through the elementary school, the high school, and the community college.

The University of Illinois has an experimental program to prepare industrial education teachers to conduct classes for drop-out-prone youth and a project to develop vocationally-oriented programs for economically and socially handicapped rural youth.

New Jersey used $5.6 million in 1966-67 for pilot projects involving 17,000 students in 150 schools. Fifteen "model office centers" were included; these were judged by outside evaluators. Fifteen pilot projects for seriously retarded pupils were conducted. Cooperative arrangements for conducting innovative projects were set up, each college working with three schools.

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1 A Pre-Admissions Information Service Program in Area Vocational-Technical Schools. 76pp.

Developing a Program of Student Personnel Services for Area Vocational-Technical Schools. 261pp.

Innovation in Florida has often involved the coordinated efforts of several vocational areas. Among the innovative programs have been those in off-farm agricultural occupations, gainful employment in Home Economics, vocational business education, technical education, and education for health occupations.

Thirty-two pilot programs in vocational guidance were conducted in 1965-66 in Illinois high schools and area schools.

Tennessee has a pilot program to train occupational therapy assistants, conducted in cooperation with a Veterans Administration Hospital.

RCU projects. The diversity of the research and development projects of the states' research coordinating units is illustrated by reports from Florida and Kentucky.

Sixty projects of the Florida RCU have been completed or are in progress. The following are examples:

A format for program evaluation

A design for determining cost-effectiveness

Summary and dissemination of completed research

Assistance to individuals in developing grant applications

Collection and analysis of data for program-planning

Vocational education of the disadvantaged

Employment opportunities in several occupational areas

The professional competence of vocational teachers

Curriculum innovations

Leadership development

Impact of closed-circuit TV

Guidance and follow-up services

A long list of projects of the Kentucky RCU includes the following:

Employment opportunities involving knowledge and skills in Home Economics.

Farming opportunities in six selected counties in relation to the needs for programs in vocational agriculture

Training needs of semi-skilled workers in Central Kentucky

Research resources in Kentucky accessible to vocational and technical education

Vocational guidance patterns and shortages in Central Kentucky

Public Information and Relationships

Although vocational educators have long been more conscious of their public relationships than most educators, their awareness of the critical role of citizens in determining policies for public vocational education has increased decidedly in recent years.

In many states industrialists have had a leading part in establishing area vocational schools and technical institutes. Persons outside vocational education dominated the Panel of Consultants on Vocational Education which recommended the Vocational Education Act of 1963. Public demands have been strong for attention to the economically and socially deprived and out-of-school, unemployed youth. Advanced technologies have created a shortage of highly skilled labor which the schools have been expected to alleviate.

The American Vocational Association established its Committee on Public Information in 1959 and has assisted in the development of similar committees in many states. An institute for vocational-technical public information officers, held at Atlanta in July, 1967, attracted 20 officials from across the country.

Florida reports that many outside education have participated in discussion and decision-making: business leaders, public officials, civic leaders. These have worked cooperatively with the vocational education personnel in developing the programs of the new area vocational-technical schools.

In Louisiana "as a result of improved and expanded programs, better public relations and acceptance by the public of vocational education have been apparent."

Kentucky has established a public information service in its State Division of Vocational Education which prepares and edits brochures, answers correspondence, and provides information requested by professional personnel. In less than a year since it was established the Service has issued a 112-page bulletin and circulated 25,000 copies each of 22 brochures regarding course offerings in area schools. A 54-page bulletin on vocational education in Kentucky is now being prepared. Newsletters and a book of success stories of vocational education graduates have been published.

Georgia's State Division of Vocational Education has long had an outstanding public information service. The State Division in Mississippi has added a public information coordinator. The Montana State Board of Education in listing objectives for the improvement and extension of vocational education stated as No. 2 "to provide an effective and functional public information program."

Many states have recently prepared new publications for popular distribution. "Vocational-Technical Education in New Mexico" is an example.

Utah and Georgia issue catalogues of vocational and technical courses offered at their area schools and indicate scholarships available. Florida has a publication, "Bridges to Excellence", describing area schools and their contributions to the economic and social development of individuals and communities.

Texas is preparing a guide for preparing publicity for use by teachers.

In a study by the University of California of 42 state divisions of vocational education views regarding vocational education were secured from legislators, school-board members, businessmen, farmers, and industrialists.

Louisiana industrialists have found it desirable to look first at vocational school graduates in meeting their needs for skilled workers.

South Carolina has held a statewide meeting with personnel managers from industry, sponsored by the State Chamber of Commerce and the Textile Manufacturers Association. Speakers from industry, business, and government took part in three regional meetings for guidance counselors in South Carolina in April, 1967.

Utah has disseminated widely among educators and businessmen the report of an evaluation of vocational-technical education by the George Peabody College for Teachers. The report has been used in meetings in many school districts.

Spot announcements for TV and radio stations have been produced at the College of San Mateo under contract with the Bureau of Industrial Education of the California State Department of Education.

Georgia is developing a public information program to recruit teachers for distributive education.

Cooperation with related agencies seems to be increasing. Close working relationships between the schools and the public employment services are required by the Vocational Education Act of 1963. These has long been developing in some states but were almost negligible in other states prior to 1963. In California there are two meetings each year with representatives of colleges of agriculture and the state colleges and junior colleges teaching agriculture. Washington vocational educators are cooperating with personnel in vocational rehabilitation in programs for economically depressed areas.

Activities in cooperation with the employment services are expanding. Some of the contributions of the employment services which are becoming common are supplying information about labor supply and demand, testing to determine occupational aptitude and competency, counseling, placement of graduates, provision of part-time employment after school, weekends, and in the summer, and the use of data secured by the employment services in special studies. The services have also made an important contribution by encouraging youth who come to them to remain in or return to school and in advising adults about training that would fit them for employment.

III

SELECTED REFERENCES

The references included are intended to supplement the reports from the states and to provide a broader perspective upon new designs in vocational, technical, and practical arts education in the public schools.

Barlow, Melvin L. (editor). Vocational Education. 64th Yearbook, National Society for the Study of Education, Part I. Chicago, Illinois. 1965. 301 pp.

Eninger, Max U. The Process and the Product of T. and I. High School Level Vocational Education in the United States. American Institute for Research, Pittsburgh, Pa. 1966. 53 pp.

Feldman, Marvin J. "Why Manpower Training Should be a Public School Mission", American Vocational Journal, 42: 8: 26-28. November, 1967.

Hamlin, Herbert M. Public School Education in Agriculture. A Guide to Policy and Policy-Making. The Interstate, Danville, Illinois. 1962. 328 pp.

Harbison, Frederick and Meyers, Charles A. Education, Manpower, and Economic Growth. McGraw-Hill Book Company, New York. 1964. 229 pp.

Kemp, Barbara. The Youth We Haven't Served. A Challenge to Vocational Education. U. S. Government Printing Office, Washington, D. C. 1966. 31 pp.

Knoell, Dorothy M. Toward Educational Opportunity for All. State University of New York, Albany. 1966. 220 pp.

Morgan, Robert M. and Bushnell, David S. Designing an Organic Curriculum. Bureau of Research, U. S. Office of Education, Washington, D. C. 1967. 20 pp.

Morphet, Edgar J. and Ryan, Charles O. (editors). Prospective Changes in Society by 1980 Including Some Implications for Education. Designing Education for the Future, Denver, Colorado. 1966. 268 pp.

_____. Implications for Education of Prospective Changes in Society. Designing Education for the Future, Denver, Colorado. 1967. 340 pp.

_____. Planning and Effecting Needed Changes in Education. Designing Education for the Future, Denver, Colorado. 1967. 317 pp.

National Committee on Seondary Education. Educating for Work. National Association of Secondary School Principals, Washington, D. C. 1967. 115 pp.

Panel of Consultants on Vocational Education. Education for a Changing World of Work. U. S. Government Printing Office, Washington, D. C. 1963. 295 pp.

U. S. House of Representatives, General Subcommittee on Education. Hearings on Vocational Education Amendments of 1966. U. S. Government Printing Office, Washington, D. C. 1967. 2 vols. 912 pp.

U. S. Office of Education. A Review of Activities in Federally Aided Programs of Vocational and Technical Education, Fiscal Year 1964. The Office, Washington, D. C. 1966. 74 pp.

U. S. Office of Education. Summary Report of Vocational-Technical Program Development by States. The Office, Washington, D. C. 1965. 50 pp.

Venn, Grant. Man, Education, and Work. American Council on Education, Washington, D. C. 1964. 184 pp.

AMERICAN VOCATIONAL ASSOCIATION, INC.
1025 15th Street, N.W., Washington, D. C. 20005

VT 006 159
Farm Labor Developments. First Issue 1968.

Bureau of Employment Security (DOL), Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - Feb68 61p.

*AGRICULTURAL LABORERS; *EMPLOYMENT TRENDS; *RURAL ECONOMICS; FOREIGN STUDENTS; AGRICULTURAL EDUCATION; INCOME; ECONOMIC DISADVANTAGEMENT; *MIGRANT WORKERS; *FOREIGN WORKERS; SEASONAL EMPLOYMENT; AGRICULTURAL TRENDS; EMPLOYMENT OPPORTUNITIES; OFF FARM AGRICULTURAL OCCUPATIONS; EMPLOYMENT STATISTICS

Major content of this review and outlook issue includes: (1) trends in foreign worker employment, (2) the Japanese Agricultural Training Program, (3) reports on rural poverty, (4) "The Changing Structure of Agriculture," by C.S. Cronemeyer, (5) "Opportunities for Youth in Agribusiness," by Lloyd Dowler, and (6) employment tables. (DM)

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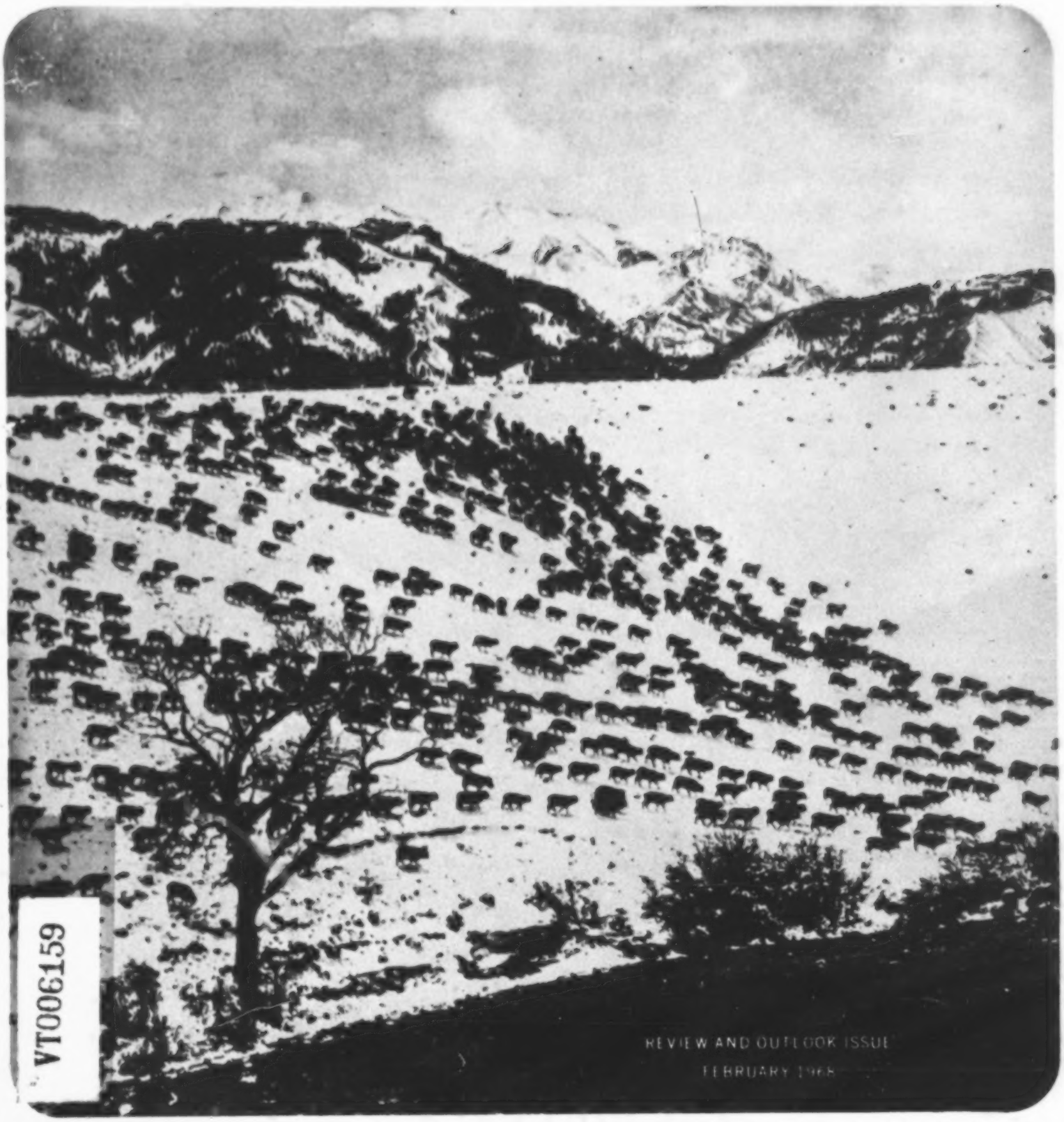

REVIEW AND OUTLOOK ISSUE

FEBRUARY 1968

VT006159

U.S. DEPARTMENT OF LABOR / Manpower Administration

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FIRST ISSUE 1968

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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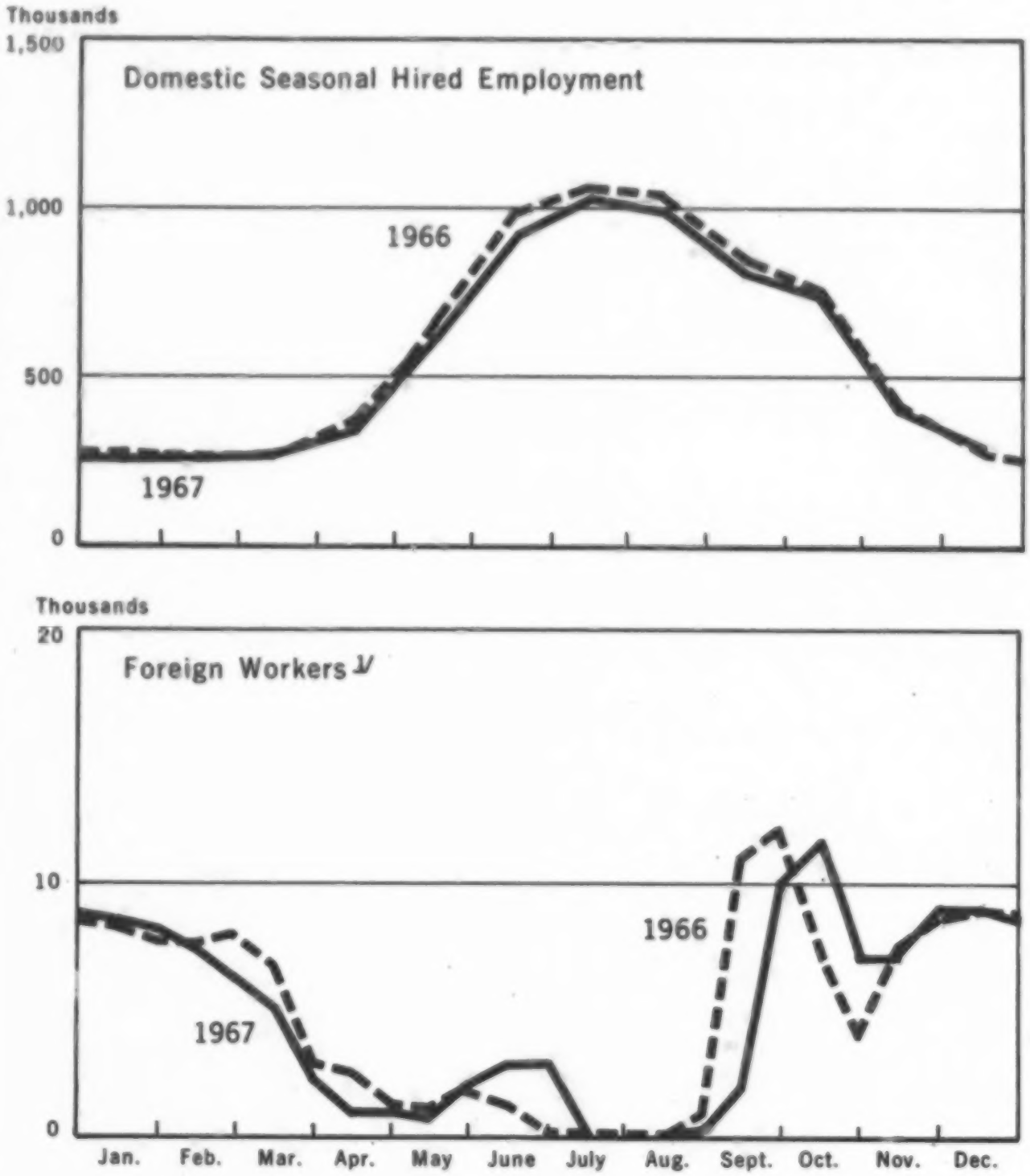
TOTAL SEASONAL HIRED EMPLOYMENT OF DOMESTIC AND FOREIGN WORKERS IN AGRICULTURE, 1966-1967



1/ Foreign nationals legally imported for temporary farmwork.

Source: In-season farm labor reports for the 15th of each month for domestic workers and for the 15th and end of each month for foreign workers, covering 269 major agricultural areas reporting to Bureau of Employment Security.

POOR WEATHER REDUCED SEASONAL FARM JOBS IN 1967

Extremely bad weather on the west coast and in the cotton belt was a major cause of declining farm employment in 1967. Also contributing to the downtrend was a large reduction in cotton acreage and the usual rise in the productivity of agricultural labor.

Employment of seasonal hired farmworkers in major agricultural areas reporting to the Bureau of Employment Security in 1967 rose seasonally from levels of less than 300,000 during the first quarter to a peak of 1,036,400 in July. For the year as a whole, an estimated 7,098,600 man-months of seasonal labor were used. Seventy-nine percent of this labor was local, 20 percent migratory, and less than 1 percent foreign. While employment of all seasonal workers decreased 4 percent from 1966, that of migratory workers declined only 1 percent. Local-worker employment and foreign-worker employment each declined 5 percent.

Forty-five percent of the total 7.1 million man-months of seasonal labor was used to produce fruits and vegetables. (See Table 1.) For the first time on record, tobacco was the largest single crop in terms of seasonal-worker employment with 673,200 man-months of this labor reported. Cotton, which had ranked first in all previous years, was second with 585,100 man-months.

Cotton employment was 27 percent below the 1966 level primarily because of reduced acreage and production. More acres were diverted in 1967 than in 1966 under the U.S. Department of Agriculture's Upland Cotton Program. In addition, the planting season was very poor--the worst on record in many areas. Plantings totaled about 9,502,000 acres, compared with 10,349,000 in 1966. Heavy losses of planted acreage during and immediately after seeding time, substantial abandonment induced by failure of bolls to open, and freeze damage near the end of the season reduced harvested acres to 8,090,000--the lowest since 1869. Because of unfavorable weather during the harvest season, the yield per acre (452 pounds lint) was the poorest in 6 years. As of December 1, 1967, the U.S. Department of Agriculture estimated the 1967 crop as 7,618,000 bales--down 20 percent from 1966 and the smallest since 1895. Also contributing to lower levels of cotton employment was the increased use of chemical and mechanical weed controls and cotton-harvest machines.

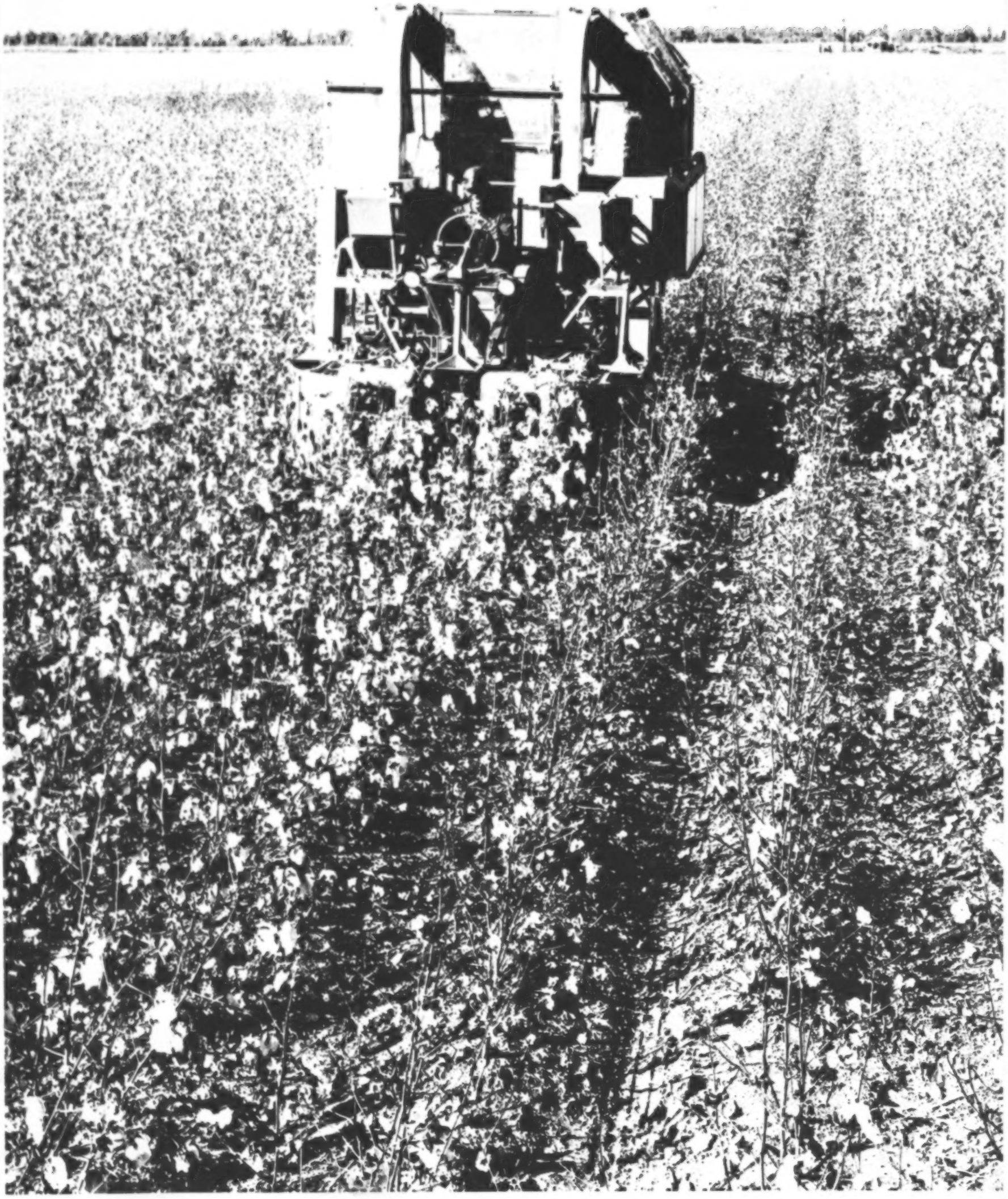
Table 1. Estimated Man-Months[1] of Seasonal Hired Farm Labor, by Crop, United States, 1967 and Change from 1966

Activity	Man-months of seasonal-worker employment 1/	
	1967	Change from 1966
	Thousands of man-months	
All activities	7,098.6	- 312.8
All vegetable ph. & h.	1,681.5	- 54.9
Tomato ph. & h.	313.2	+ 8.9
Potato ph. & h.	211.6	- 6.3
Bean ph. & h.	172.0	- 8.9
Cucumber ph. & h.	154.8	+ 15.3
Other veg. ph. & h.	829.9	- 63.8
All fruit ph. & h.	1,505.4	- 34.1
Citrus ph. & h.	397.5	+ 22.4
Strawberry ph. & h.	231.7	+ 21.3
Grape ph. & h.	186.5	- 6.8
Bushberry ph. & h.	157.7	- 4.5
Other fruit ph. & h.	532.0	- 66.1
Tobacco ph. & h.	673.2	- 29.0
Cotton ph. & h.	585.1	- 211.4
All grain ph. & h.	396.0	- 5.5
Small grain ph. & h.	150.4	- 14.9
Other grain ph. & h.	245.6	+ 9.4
Hay ph. & h.	251.1	+ 6.3
Livestock tending	223.1	- 5.6
Nursery work	207.6	+ 6.0
Sugar-beet ph. & h.	139.3	+ 16.1
All other activities	1,436.4	- 0.8

ph preharvest; h harvest.

1/ Based on In-Season Farm Labor Reports for the 15th of each month. (See Explanation and Coverage at the end of this issue.)

NOTE: Due to rounding, figures may not add to totals.



The use of cotton-harvest machines continued to increase in 1967.

Although total vegetable production was slightly higher than a year earlier, seasonal employment declined 3 percent as mechanization reduced labor needs. A large share of the increase in bean production was in bush beans which can be harvested by machines. Growers in Oregon and Washington have traditionally specialized in pole beans which require a great deal of hand labor. In 1967, growers in both States increased their acreage of bush beans and purchased additional machinery. The combined production of Irish and sweet potatoes was about the same as in 1966, but more mechanical harvesters were used. The effect of California's increased mechanization of the tomato harvest was more than offset by increased tomato production in the North Central and Eastern Seaboard States where mechanization is not yet feasible. Cucumber employment rose as production increased 8 percent.

Total fruit employment edged downward 2 percent as a result of the effect of bad weather on noncitrus production. Total noncitrus-fruit output was 16 percent smaller than in 1966. The greatest declines in tonnage occurred in grapes, followed by peaches, pears, and apples. Growing conditions were unfavorable for western fruit crops, primarily in California. A cold, wet April in that State hindered pollination, slowed growth, and reduced output. This was the primary cause of the decrease in noncitrus production. Also, a late spring frost in the Carolinas and Georgia affected peach production. An increase in strawberry employment was associated with higher production, nationally, and underutilization of workers in Michigan. Citrus employment was substantially over prior-year levels during the first half of 1967 when workers were harvesting the mammoth 1966-67 crop. Part of this gain was cancelled out in the fall when bad weather adversely affected citrus production and employment.

A larger tobacco crop than in 1966 was handled with 4 percent less labor as growers resorted increasingly to labor-saving practices. The usual rapid advancement in the productivity of labor used to produce grain tended to absorb production increases.

EMPLOYMENT DECLINED IN MANY STATES

The majority of States reported lower employment levels in 1967 than in 1966 as labor requirements for most crops continued to decline. Substantial decreases were reported for five States. (See Table 2.) Bad weather, reduced cotton acreage, and rising productivity were the primary causes of employment cutbacks in these States.

Accounting for most of the employment decline in California was the disastrous spring weather which damaged many crops and had repercussions during the remainder of the year. The State's output of most fruit crops decreased. The grape crop was down 21 percent from 1966; the pear crop was only one-

third as large as the preceding year; peach production dropped 19 percent; and one-third less apples were produced. Although California's tomato crop for processing was slightly larger than the year before, 80 percent of it was harvested by machine compared with 67 percent of the 1966 crop.

Drought prevailed over most of Texas during the first half of the year. Dryland farmers needed fewer workers as the drought and chemicals kept the weeds well in hand. Cultivation requirements were further lowered by a 9-percent reduction in cotton acreage. Hurricane Beulah, which struck

Table 2. Estimated Man-Months[1] of Seasonal Hired Farm Labor, United States and Selected States, 1967 and Change from 1966

State	Man-months of seasonal-worker employment 1/	
	1967	Change from 1966
	Thousands of man-months	
United States	7,098.6	- 312.8
States with largest employment decreases:		
California	1,367.3	- 93.3
Texas	1,134.9	- 84.2
North Carolina	960.5	- 40.5
Arkansas	70.3	- 38.7
Mississippi	50.3	- 30.3
States with largest employment increases:		
Kentucky	130.6	+ 35.5
Michigan	252.4	+ 28.2

1/ Based on midmonth employment.

the Lower Rio Grande Valley on September 20, damaged citrus and vegetable crops in the area. Most of the cotton had been harvested in this area, but the heavy rains which came with the hurricane slowed the harvest throughout most of the State. Because of this setback, and because cool weather delayed the maturity of the crop, only three-fourths of the 1967 cotton crop had been harvested by December 1 compared with nine-tenths of the crop a year earlier. The U.S. Department of Agriculture predicted the total Texas crop would be 2,830,000 bales--11 percent smaller than it was in 1966.

North Carolina's tobacco growers were able to produce a larger crop with less labor. The increasingly common practice for growers to present their tobacco for sale in ungraded and untied form has reduced the demand for workers to grade and tie the cured tobacco leaves in bundles. Increased purchases of mechanical tobacco harvesters and stitchers were reported. The growing popularity of tobacco-looping machines has decreased the need for women and youths to hand loop the tobacco in the barns. Vegetable harvesting is subject to increased mechanization in this State. All of the white-potato crop in the Mount Olive area was harvested

One thousand mechanical harvesters were used in California tomato fields in 1967.

mechanically. In the spring, the need for hoe hands was smaller as growers of most crops have developed a better understanding of the use of herbicides. North Carolina's small cotton crop was reduced from 94 thousand bales in 1966 to 45 thousand bales in 1967.

Primarily, the reduction in labor requirements in Arkansas and Mississippi was due to lower cotton acreage and production. In Arkansas, the harvested acreage decreased 17 percent and production 31 percent; Mississippi had 9 percent less acreage and 19 percent less production. The amendments to the Fair Labor Standards Act which went into effect February 1, 1967, reportedly improved worker productivity in these States as growers subject to the minimum-wage provisions of the Act resorted increasingly to mechanical and chemical practices and limited their hiring to highly productive adult males.

Many other States reported small reductions in employment and a few reported increases. In terms of man-months, the largest increases occurred in Kentucky and Michigan.

Kentucky's reported increase in employment was due partly to improved reporting coverage and partly to increased production of several leading crops. Hay production increased from 2.7 million to 2.9 million tons; production of vegetables for processing expanded from 10 thousand to 18 thousand tons; and the soybean crop was enlarged from 7.8 million to 10.9 million bushels.

The increase in the use of strawberry and vegetable workers in Michigan was larger than might be expected on the basis of the increase in strawberry and vegetable production in this State. Strawberry growers spread the work among migrants who had arrived too early in order to hold them for later crops. Pickle employment rose in spite of a slight decline in production. An increase in the value of this crop from $91.40 per ton to $112.00 per ton suggests that selective picking may have been more widespread. Vegetable employment was also boosted by a 60-percent increase in the tomato crop for processing.

MIGRANTS ACTIVE IN FRUITS AND VEGETABLES

Migratory farmworkers were active in every month of 1967 with employment levels of less than 40,000 in the winter rising to a peak of 238,000 in July. Nearly two-thirds of the total 1,409,800 man-months of migratory-worker employment in 1967 was concentrated in the eight States shown in Table 3.

In the first half of the year, a good share of the migrant laborers were in California and other western States working mainly in vineyards, orchards, and strawberry and vegetable fields. During this period,

Florida used a substantial number in citrus fruits and vegetables. In other States, the cultivation of sugar beets and the harvesting of spring fruits and vegetables occupied the attention of most migrants. By early summer, employment of these workers had expanded seasonally in Michigan and other Great Lakes States as cherries, raspberries, and summer vegetables matured. When summer work was done, the migrants usually headed homeward, sometimes stopping to harvest tomatoes or apples along the way.

Although the employment of migratory workers declined only slightly nationally, several States reported a very substantial cutback in their employment. The decline in jobs for noncitrus-fruit pickers was an important factor in California, Washington, and Oregon. Texas reported that fewer out-of-area workers were needed in the northern part of the State during the summer because more local seasonal workers and year-round workers were available.

The use of itinerant workers increased in some States. Heavier production of Florida's citrus fruits, Ohio's cannery tomatoes, and New York's cherries created more jobs for migrants in these States. Although Michi-

Table 3. Estimated Man-Months[1] of Migratory Labor, by State, United States, 1967 and Change from 1966

State	Man-months of migratory-worker employment 1/	
	1967	Change from 1966
	Thousands of man-months	
United States	1,409.8	-19.9
California	312.5	-61.6
Michigan	136.8	+21.7
Florida	129.5	+20.1
Texas	71.0	-17.1
Washington	69.1	- 3.8
New York	62.1	+ 4.0
New Jersey	57.6	- 3.1
Oregon	57.4	- 5.5
Ohio	52.1	+12.5
Other States	461.0	+12.8

1/ Based on midmonth employment.

NOTE: Due to rounding, figures may not add to totals.

gan reported more migratory workers in 1967 than in 1966 during the strawberry- and cherry-harvest seasons, many of these workers were underutilized.

LESS FOREIGN LABOR

Five percent fewer man-months of foreign labor was used on United States farms in 1967 than in 1966. Cutbacks in this type of employment were reported for strawberries, sugarcane, tomatoes, and several other crops.

Employment of foreign contract workers in 1967 was again limited to 11 States--the same States which used foreign workers in 1966. (See Table 4.) Three-fourths of the nationwide total was reported by Florida. British West Indian employment in this State was slightly higher in 1967 because a labor shortage developed in the citrus harvest where very few foreign workers had been employed the year before. During the spring, the groves suffered from prolonged drought and the fruit was rapidly deteriorating. Because of the urgent need to gather the crop quickly, citrus growers were permitted to have foreign workers to avoid crop losses. However, citrus fruits accounted for less than a tenth of the foreign labor used in Florida; 92 percent was devoted to sugarcane.

California's employment of foreign workers was nearly cut in half. Their employment was completely eliminated from the production of strawberries, grapes, and several other crops. Fewer Mexicans were needed in the tomato harvest as machines took over a larger share of the work. The eastern apple States required a few more foreign workers to handle a larger volume of production. Maine potato growers also harvested a larger crop.

ERRATA

The correct piece rate for the strip picking of apples in Massachusetts in 1966 was 25 cents per bushel. This rate was incorrectly reported as 20 cents per bushel on page 13 of the August-September 1967 issue of Farm Labor Developments and on page 14 of the September-October issue of this publication.

Table 4. Estimated Man-Months[1] of Foreign Agricultural Labor, by State and Crop, United States and States which Used Foreign Workers, 1967 and Change from 1966

State and crop	Man-months of foreign-worker employment 1/	
	1967	Change from 1966
	Thousands of man-months	
United States - total	57.8	- 3.1
Sugarcane	39.8	- 1.8
Tomatoes	6.4	- 1.3
Apples	4.2	+ 1.6
Citrus fruits	3.7	+ 3.1
Potatoes	2.9	+ 0.1
Strawberries	0	- 2.8
Other crops	0.7 2/	- 2.0
Florida - total	43.4	+ 1.3
Sugarcane	39.8	- 1.8
Citrus fruits	3.7	+ 3.1
California - total	7.1	- 6.1
Tomatoes	6.4	- 1.3
Strawberries	0	- 2.8
Other crops	0.7 2/	- 2.0
Maine - total	3.3	+ 0.3
Potatoes	2.9	+ 0.2
Apples	0.4	+ 0.1
Virginia-W.Virginia (all apples)	1.6	+ 0.9
New York (all apples)	1.3	+ 0.4
New Hampshire (all apples)	0.3	+ 0.1
Massachusetts (all apples)	0.3	2/
Vermont (all apples)	0.2	+ 0.1
Rhode Island (apples & potatoes)	0.1	3/
Connecticut (all apples)	0.1	0

1/ Based on In-Season Farm Labor Reports for the middle and end of each month.
2/ Brussels sprouts and miscellaneous vegetables.
3/ Less than 50.

NOTE: Due to rounding, figures may not add to totals.

LONG-TERM TRENDS IN FOREIGN-WORKER EMPLOYMENT

From the early years of World War II until July 14, 1967, foreign contract workers were employed continuously on United States farms. The period, July 15 to August 13, 1967, was the first period in more than 24 years when all crops in the United States were tended without the help of temporary foreign workers.

For the year 1967 as a whole, 57,700 man-months of foreign labor were used. Of this total, 81 percent was British West Indian, 12 percent Mexican, and 7 percent Canadian. Foreign-worker employment in 1967 was the lowest on record. It was down 90.9 percent from employment in 1964, the last year of Public Law 78 (the Mexican-worker program), and 96.7 percent below the record high in 1959. Employment of Mexican workers also fell to a record low--98.6 percent less than in 1964 and 99.6 percent below 1959. Employment of British West Indians and Canadians was slightly higher than a year earlier but low compared with former years. No Japanese or Filipino contract workers were employed in 1967. 1/

Another measure of the extent of foreign-worker use is the number of workers from other countries admitted for farmwork in the United States. In 1967, 23,603 such workers were admitted. Fifty-eight percent of them were British West Indians, 26 percent Mexicans, and 16 percent Canadians. The total number of admissions and the number of British West Indian and Canadian admissions was slightly higher than in 1966, but the number of Mexicans admitted was the smallest since 1942.

According to weekly reports from regional directors of the Office of Farm Labor Service, Bureau of Employment Security, peak foreign-worker employment was 12,531 on October 7, 1967, compared with 12,864 on September 23, 1966. Corresponding figures for earlier years are not available.

1/ This refers to the program for bringing in Japanese workers, under contract, to relieve shortages of domestic seasonal farmworkers. It should not be confused with the program for training Japanese workers for farm management described elsewhere in this issue.

Table 1. Estimated Man-Months of Employment of Foreign Contract Workers, by Nationality, United States, 1953 to 1967

Year	Man-months of foreign-worker employment				
	Total	Mexicans	B.W.I.'s	Canadians	Japanese and Filipinos
	Thousands of man-months				
1953 1/	960.4	847.8	109.9	2.7	0
1954	998.2	896.1	90.7	11.4	0
1955	1,484.3	1,373.8	102.2	8.4	0
1956	1,622.8	1,507.8	106.5	7.7	0.8
1957	1,733.2	1,587.9	126.4	9.2	9.9
1958	1,686.7	1,581.5	86.1	6.5	12.5
1959	1,749.7	1,631.0	96.1	6.4	16.3
1960	1,480.3	1,358.1	95.8	7.7	18.7
1961	1,278.4	1,148.9	102.6	8.4	18.4
1962	848.1	716.4	108.2	8.0	15.5
1963	678.3	550.4	103.9	8.6	15.5
1964	633.9	508.1	101.0	9.2	15.6
1965	109.1	26.5	72.0	5.1	5.5
1966	60.8	12.3	44.0	3.6	1.0
1967	57.7	7.1	46.7	3.8	0

1/ First year for which In-Season Farm Labor Reports were submitted for the entire year.

NOTE: Due to rounding, figures may not add to totals.

Source: In-Season Farm Labor Reports of the Bureau of Employment Security.

Table 2. Annual Peak Employment of Foreign Workers Admitted for Temporary Jobs in U.S. Agriculture, by Nationality, Year, and Month
1942 - 1967

Calendar year	All foreign workers 1/		Mexicans		B W I's		Canadians		Japanese		Filipinos	
	Number	Month	Number	Month	Number	Month	Number	Month	Number	Month	Number	Month
1942 2/	4,200	Sept.	4,200	Sept.								
1943	36,289	Sept.	36,289	Sept.	13,114	July						
1944	66,572	Sept.	65,097	Sept.	24,101	July	1,475	Sept.				
1945	94,210	July	65,421	July	28,789	July	3,635	Sept.				
1946	45,354	July	45,354	July	24,157	Oct.	4,926	Sept.				
1947	96,840	June	36,840	June	10,026	Aug.	6,254	Sept.				
1948 3/4/	40,000	Oct.	35,600	Oct.	8,000	July	5,400	Sept.				
1949 4/	85,600	Oct.	74,778	Oct.	6,480	Aug.	1,998	Oct.				
1950 4/	89,100 5/	Oct.	70,700	Oct.	8,300	July	2,500	Oct.				
1951	130,104 5/	Oct.	121,600	Oct.	13,900	June	2,300	Sept.				
1952	139,437	Oct.	125,473	Oct.	12,257	July	5,200	Oct.				
1953	171,128	Oct.	159,174	Oct.	11,954	Oct.	5,700	Oct.				
1954	202,626	Oct.	194,534	Oct.	11,732	Feb.	6,276	Sept.				
1955	240,841	Oct.	232,297	Oct.	9,851	Dec.	6,686	Sept.				
1956	290,156	Oct.	276,893	Oct.	11,257	Dec.	6,648	Sept.	390	Oct.		
1957	272,435	Oct.	260,522	Oct.	12,199	May	7,200	Sept.	990	Sept.	33	Oct.
1958	284,835	Sept.	274,525	Oct.	11,674	Jan.	6,876	Sept.	1,200	Sept.	25	Oct.
1959	308,168	Sept.	291,515	Sept.	10,978	Dec.	8,491	Sept.	1,560	Dec.	30	June-Dec.
1960	246,675	Sept.	234,171	Sept.	11,645	Dec.	8,026	Sept.	1,830	Dec.	30	Jan.-Apr.
1961	220,934	Oct.	208,511	Oct.	12,174	Dec.	8,561	Sept.	1,780	Jan.	0	---
1962	127,032	Sept.	112,414	Sept.	13,834	Dec.	8,722	Sept.	1,440	Apr.	120	Dec.
1963	105,454	Sept.	90,142	Sept.	14,887	Jan.	8,442	Sept.	1,260	Aug.	120	Jan.-Oct.
1964	92,784	Sept.	82,140	Sept.	15,062	Dec.	7,812	Sept.	1,240	July	120	Jan.-May
1965	23,698	Sept.	16,650	Sept.	14,929	Jan.	4,223	Sept.	870	Jan.	60	May-June
1966	12,169	Sept.	7,760	Sept.	8,835	Dec.	3,529	Sept.	194	Apr.	0	---
1967	12,531	Oct.	6,124	Oct.	9,015	Dec.	3,854	Sept.	0	--	0	---

1/ The monthly peak of total foreign workers does not necessarily coincide with the monthly peak for each nationality.
2/ Data from 1942 through 1947 were obtained from reports prepared by the U.S. Department of Agriculture.
3/ Data from 1948 through 1967 compiled by the Bureau of Employment Security, U.S. Department of Labor. (1948-52 figures based on special administrative reports; 1953-66 figures based on In-Season Farm Labor Reports; 1967 figures based on weekly reports of regional directors, Office of Farm Labor Service.)
4/ 1948, 1949, and 1950 data on monthly foreign-worker employment are estimated from incomplete reports.
5/ Although Puerto Ricans are not foreign workers they are included in these totals.

Table 3. Foreign Workers Admitted for Temporary Employment in U.S. Agriculture, by Year and Nationality 1/
1942 - 1967

Year	Total	Mexican	British West Indian 2/ 3/	Canadian	Japanese and Filipino
1942 4/	4,203	4,203		INA	
1943	65,624	52,098	13,526	INA	
1944	83,206	62,170	19,622	1,414	
1945	72,900	49,454	19,391	4,055	
1946	51,347	32,043	13,771	5,533	
1947	30,775	19,632	3,722	7,421	
1948 5/	44,916	35,345	3,671	5,900	
1949	112,765	107,000	2,765	3,000	
1950	76,525	67,500	6,225	2,800	
1951	203,640	192,000 6/	9,040	2,600	
1952	210,210	197,100 6/	7,910	5,200	
1953	215,321	201,380 6/	7,741	6,200	
1954	320,737	309,033 6/	4,704	7,000	
1955	411,966	398,650 6/	6,616	6,700	
1956	459,850	445,197 6/	7,563	6,700	390
1957	452,205	436,049 6/	8,171	7,300	685
1958	447,513	432,857 6/	7,441	6,900	315
1959	455,420	437,643 6/	8,772	8,600	405
1960	334,729	315,846 6/	9,820	8,200	863
1961	310,375	291,420 6/	10,315	8,600	40
1962	217,010	194,978 6/	12,928	8,700	404
1963	209,218	186,865 6/	12,930	8,500	923
1964	200,022	177,736 6/	14,361	7,900	25
1965	35,871	20,284	10,917	4,670	0
1966	23,524	8,647	11,194	3,683	0
1967	23,603	6,125	13,578	3,900	0

1/ This does not include Basque sheepherders.
2/ Due to carryover of workers from year to year, the number admitted is usually less than peak employment.
3/ Includes Bahamians.
4/ Data from 1942 through 1947 were obtained from reports prepared by the U.S. Department of Agriculture.
5/ Data from 1948 through 1967 were compiled from administrative reports of the Bureau of Employment Security, U.S. Department of Labor.
6/ Admitted under Public Law 78.

THE OUTLOOK FOR FARM LABOR IN 1968

Robert G. Ainsworth

The need for seasonal hired farmworkers in 1968 is not expected to be substantially different from 1967. Although the productivity of farmworkers will continue to rise and production of some crops will be smaller, these factors may be offset by heavier production of cotton and noncitrus fruits. Since the supply of workers available to farmers is not expected to decline, unemployment among farmworkers will probably remain relatively high.

FARM-LABOR SUPPLY

During the economic expansion of 1961-67, a few seasonal farmworkers left farming to take nonfarm jobs. However, even in boom times, farmworkers are at a disadvantage in obtaining nonfarm employment because of their lower educational attainments and lack of experience in nonagricultural occupations. Improvement in the unemployment rate for agricultural wage and salary workers has lagged behind the downtrend in the overall unemployment rate. In 1968, farmworkers will encounter at least as much difficulty in transferring to nonfarm jobs since the overall unemployment rate is expected to level off at about the 1967 rate--just under 4 percent.

Farmers should not have much trouble recruiting from among their usual sources of supply--young workers, nonwhites, and members of farm families who have given up farming. The teenage labor force is expected to be just as large as it has been in recent years. In 1967, the unemployment rate for workers aged 16-19 was about three times the overall unemployment rate. In 1968, teenagers will probably face stiffer competition for jobs, because the number of workers 20 years of age and over is expected to increase about 1.3 million. The unemployment rate for nonwhites continues to be about twice as high as the overall unemployment rate. 1/ Employment of farm-family workers has been declining by about 200,000 per year during the 1960's. 2/

1/ Bureau of Labor Statistics, USDL.
2/ Statistical Reporting Service, USDA.

Of course many of the unemployed teenagers, nonwhites, and displaced farm-family workers are not willing or able to take farm jobs. However, since no significant increase in requirements is expected, the number available for replacement of seasonal hired workers who have quit farmwork should be adequate.

FARM LABOR DEMAND

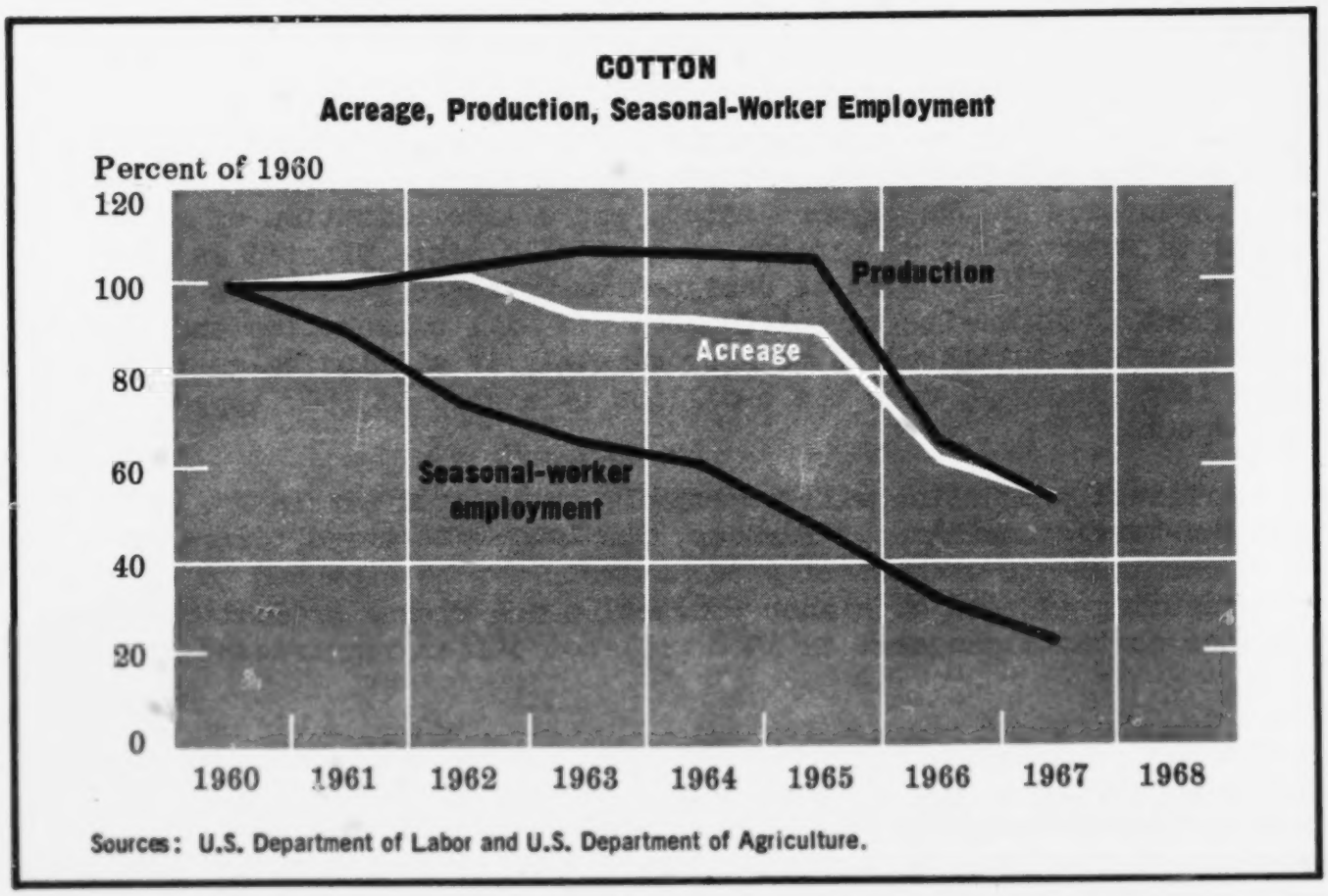
The substantial cutbacks in demand for seasonal hired farmworkers which have characterized most years in the early 1960's will probably not continue in 1968. Changes in the U.S. Department of Agriculture's Upland Cotton Program will have a major effect on employment trends. Further, the abnormally poor weather conditions which damaged many crops in 1967 will probably not recur in 1968. There is a good chance that seasonal farm employment may exceed corresponding 1967 levels during the spring and summer of 1968 as crop seasons resume their normal time schedules after the unusual weather delays of 1967.

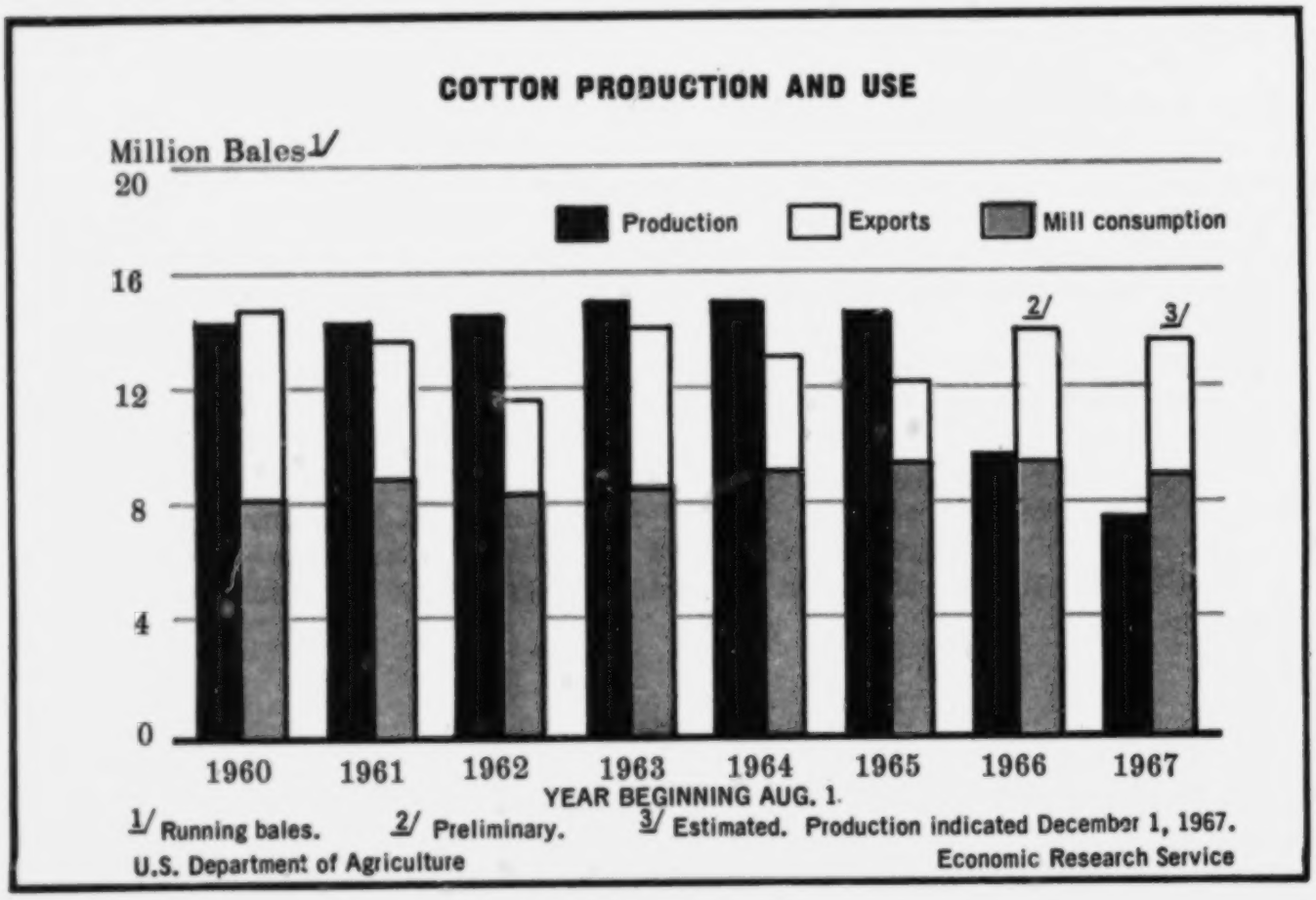
A sizeable decrease in cotton employment was the major factor in the drop in annual average seasonal farm employment from 762,600 in 1960 to 591,700 in 1967. Between 1960 and 1965, cotton production was sustained at a relatively high level, but rapid gains in the productivity of cotton labor caused employment on this crop to decrease from a yearly average of 212,100 in 1960 to 101,400 in 1965. Between 1965 and 1967, the gain in productivity was moderate, but sharp decreases in acreage and production caused cotton employment to decrease further to 48,800 in 1967. 3/

The drastic decrease in cotton acreage between 1965 and 1967 was due primarily to the 1966 and 1967 Upland Cotton Programs. The enabling legislation, the Food and Agriculture Act of 1965, was designed to liquidate surplus stocks over a 4-year period by reducing cotton production below the expected level of mill and export requirements. Because of poor yields and a strong market, this purpose was accomplished in 2 years. By the end of the 1967-68 crop year, cotton carryover is expected to have been reduced to less than 7 million bales--down sharply from the all-time high of 17 million on August 1, 1966. 4/ Therefore, no further incentives to reduce cotton production are required.

3/ For more details, see Causes and Effects of Declining Cotton Employment, by Robert G. Ainsworth, Farm Labor Developments, September-October 1967.

4/ Donald, James R., Outlook for Cotton in 1968, speech delivered before the Annual Agricultural Outlook Conference, Washington, D.C., November 1967.


COTTON
Acreage, Production, Seasonal-Worker Employment
Percent of 1960
120
100
80
60
40
20
0
Production
Acreage
Seasonal-worker employment
1960
1961
1962
1963
1964
1965
1966
1967
1968
Sources: U.S. Department of Labor and U.S. Department of Agriculture.


COTTON PRODUCTION AND USE
Million Bales 1/
20
16
12
8
4
0
Production
Exports
Mill consumption
2/
3/
1960
1961
1962
1963
1964
1965
1966
1967
YEAR BEGINNING AUG. 1
1/ Running bales.
2/ Preliminary.
3/ Estimated. Production indicated December 1, 1967.
U.S. Department of Agriculture
Economic Research Service

The principal changes from the 1967 program include a reduction in the required acreage diversion percentage for program cooperators, an increase in the voluntary acreage diversion percentage permitted (along with a reduction in the payment rate), and a liberalization of rules pertaining to measurement of acreage against allotments planted in skip-row patterns. The 1968 program is designed to increase production to a level about in line with expected needs for mill consumption and exports.5/ These needs are estimated to be approximately 14 million bales in 1967-68.6/ A very large increase over the 8-million bale crop of 1967 appears to be in prospect.

The additional production will presumably be handled partially, or entirely, by cotton-harvest machines. Further, the long-term trend toward increased use of chemical and mechanical weed controls can be expected to continue. The offsetting effects of higher production and rising productivity suggest that cotton employment in 1968 will not differ significantly from 1967.

The acreage planted to fresh vegetables in 1968 will probably be about the same as in 1967. With continued increases in consumer buying power, domestic demand for fresh vegetables is expected to be maintained. In addition, the outlook for exports appears good as long as there is adequate production at reasonable prices and reasonable freight rates on the newer modes of transportation.

Acreage and production of canned and frozen vegetables will probably be down only slightly in 1968. However, continued progress of mechanization, particularly of the tomato, potato, snap-bean, and sweet-corn harvests, will tend to further reduce the need for vegetable workers. In California, for example, innovations for the mechanized harvesting of tomatoes will probably reduce manpower requirements. Electronic equipment is being developed there to sort out green, dirty, and spoiled tomatoes. Central sorting will be expanded. In one system, tomatoes are carried in water to central sorting areas to save labor.

Citrus employment, during the first half of 1968, will decline sharply from the corresponding period of 1967 owing to a large decrease in production. The 1967-68 crop is forecast as 194 million boxes--down 28 percent from 1966-67. Weather has damaged the fruit in both Florida and California. 7/

5/ Economic Research Service, USDA, Cotton Situation, October 1967.

6/ Outlook for Cotton in 1968, op. cit.

7/ Statistical Reporting Service, USDA, Crop Production, 1967 Annual Summary, December 19, 1967.

Employment in the production of noncitrus fruits will probably be considerably higher than last year. The abnormally cold, wet weather which caused 1967 production on noncitrus fruits to fall 16 percent below the 1961-66 average will probably not be repeated. 8/ Nearly all of the production increase will be reflected in higher employment levels. The adoption of new technology for harvesting fruits continues to be at a much slower rate than for vegetables. Other than slightly reducing labor needs for harvesting blueberries, cherries, dates, apples, and grapes, mechanization will have very little effect on employment. In the future, mechanical harvesting of the processing portion of fruit crops is a distinct possibility but at present it is primarily on an experimental basis.

California's fruit harvests can be expected to begin much earlier than they did last year when extremely cold spring weather delayed activities.

Tobacco employment may decline somewhat in 1968. Marketing quotas and allotments for flue-cured tobacco--about 60 percent of the total--are essentially the same as for 1967. However, acreage allotments and poundage quotas for individual farms will be adjusted to reflect overmarketings and undermarketings. These adjustments, in all probability, will reduce the 1968 total of individual-farm quotas below 1967. Therefore, production of this important component of the total crop is likely to be smaller in 1968 than in 1967. Marketing quotas and allotments for burley tobacco--about 25-30 percent of the total--have not been announced.

Employment on the cultivation and harvesting of sugar crops will probably be the same or slightly lower in 1968. Through April, Florida workers will be finishing the harvest of the 1967-68 crop estimated at 6.3 million tons compared with the 6.1-million-ton crop harvested in 1966-67. The allocation of acreage that can be cultivated in Florida in 1968 and harvested in 1968-69 is slightly less than the 197,500 under cultivation in 1967. Mechanization of Florida's cane cutting will probably not be accomplished for some years.

Louisiana's sugarcane allotment will be 302,120 acres in 1968, about 5 percent below the 315,000 acres cultivated and harvested in 1967; therefore, employment may decline slightly. Even though Louisiana's harvest is virtually all mechanized, employment may be further reduced by additional improvements in sugarcane planting and cultivation practices and by adoption of more efficient cutting and loading equipment.

There are no restrictions on sugar-beet planting for 1968. The U.S. Department of Agriculture estimates that 1,250,000 acres will probably

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8/ Statistical Reporting Service, USDA.

be planted--about 4 percent more than in 1967. As far as employment is concerned, an offsetting factor will be further adoption of precision planting of monogerm seed, use of weed sprays, and mechanical cultivators.

UNEMPLOYMENT AND SHORTAGES

No overall shortage of seasonal farm labor is anticipated in 1968, but small temporary shortages can be expected to occur in a few scattered areas. A much greater problem will be to help unemployed farmworkers to find employment. Since competition for jobs is likely to be just as stiff in 1968 as in 1967, the unemployment rate for hired farmworkers will probably exceed the overall unemployment rate by 2 or 3 percentage points as it has in recent years.

Note about the author: Robert G. Ainsworth is a labor economist with the Office of Farm Labor Service, Bureau of Employment Security.

THE JAPANESE AGRICULTURAL TRAINING PROGRAM

B. L. Weiss, West Coast Supervisor
National 4-H Club Foundation

At the beginning of this year, 332 Japanese agricultural trainees were dividing their time between the farm and the classroom in the western United States. The story of how they got here and what they hope to accomplish began with the start of the U.S. Japanese Agricultural Training Program in 1966.

In May of that year the Japanese Agricultural Training Council in Tokyo and the National 4-H Club Foundation in Washington, D. C., agreed to establish and carry forward a two-year work-study program for selected Japanese farm youth.

The JATP which has the official approval of the Governments of Japan and the United States was designed to contribute to the mutual understanding between the two nations and to help the trainees gain knowledge as well as practical experience in modern American farming. The long-range goal for JATP is to build a new generation of farmers with a balanced understanding of agricultural technique and management.

Under the present program a maximum of 400 trainees are programmed in the United States at any one time. Generally speaking, the trainees spend 6 months in the classroom and another 18 months working on host farms. These time segments are divided in ways best suited to labor demand and classroom availability.

The trainees are carefully selected in Japan by the Japanese Agricultural Training Council. They are 18-30 years of age; graduated from a high school; and have a farm background and intend to pursue their careers in agriculture. Prior to the trainees' arrival in the United States, they study English, physical training, farm-machinery operation, introduction

to American culture, and other subjects which would prepare the trainee for his U.S. program. The format of training for each group may vary, but the following is an example of a typical schedule:

> Upon arrival in the United States, the trainees participate in a 1-month intensified English-language course with a brief introduction to American culture, history, and agriculture.
>
> After the initial institutional training, the trainees are assigned in small groups to host farms for a 3-month period where they have an opportunity to receive general work training in agricultural fields.
>
> Following the first work-training program, the trainees receive 2 months of training in an agricultural school where they continue their English language course and also receive a basic introduction to the broad field of agriculture.
>
> Upon completion of the first 6 months of training in the United States, each trainee receives 18 months of work training and institutional training in the trainee's special area of agricultural interest. This institutional training is for a period of 3 months and occurs at the most appropriate time during the 18-month period.

The JATP is a unique cooperative effort on the part of several organizations. In addition to the 4-H Foundation and the Japanese Training Council, the program is sponsored by the U.S. Departments of Labor, State, and Agriculture and the Embassy of Japan. Specific assistance comes from the State Employment Security Agencies and various divisions of the Cooperative Extension Service. The 4-H Foundation staff is responsible for:

1. The final selection of host farmers.
2. The assignment of trainees to the host farms.
3. Orientation for the host farmers.
4. Selection of colleges to conduct the institutional training.
5. Providing guidance to the Extension Service on ways to involve the trainees in the ongoing extension program.
6. Program evaluation, planning, and projection.
7. Assisting the Japanese Agricultural Training Council in solving grievances between host farmers and trainees.

To as great an extent as possible, Japanese trainees are placed on farms commensurate with their interests. These trainees are working at a nursery.

The Japanese Agricultural Training Council provides staff in the United States to coordinate the program with the National 4-H Foundation with the following responsibilities:

1. Reimbursement to the Foundation for the office expenditures for the program and institutional training expenditures.

2. Accounting for the wages earned by the trainees.

3. Solving grievances between trainees and host farmers.

4. Welfare service for the trainees and compensation for non-occupational injuries and disease.

5. Providing counseling and guidance to the trainees.

6. Program evaluation, planning, and projection.

7. Assisting the National 4-H Club Foundation in the institutional and on-the-job training programs.

The financial arrangements are made through the Japanese Agricultural Training Council, but the wages earned by the trainees are sufficient to repay the cost of their transportation to and from the United States, transportation within the United States, institutional training, non-occupational medical expenses, and life insurance.

The Cooperative Extension Service reviews lists of farms prepared by the U.S. Employment Service as prospective hosts for the trainees. The two groups consult and then locate farmers willing to participate in the on-the-job training.

The trainees are assigned to host farmers under a written agreement between the host and the trainee. The agreement stipulates conditions of employment such as:

1. Minimum wage as determined by the U.S. Department of Labor.

2. Insurance for on-the-job injury or disease.

3. Adequate lodging accommodations for the trainee.

4. Transportation from place of recruitment to place of employment and return if agreement is completed.

After the trainees are located on their host farms, the State Employment Service makes occasional visits to encourage them in their work and

generally assess the progress of the program. The County Extension Agent also makes periodic visits to the farms and involves the trainees in the ongoing extension program--particularly 4-H--as much as possible.

Each group of approximately 25 trainees has a group leader to assist in the operation of the training program. The group leader assists with the institutional and on-the-job training programs; helps to solve grievances between host farmers and trainees; helps to maintain high morale among all trainees, etc. The ultimate success of the program is dependent upon providing the trainees with practical skills and knowledge that will, with modification, be applicable to farming in Japan.

The 332 trainees are assigned to the States of Arizona, Colorado, Nebraska, Oregon, and Washington. The following quotes from letters received from host farmers will give some indication of how well the program has been accepted:

> "Their work has been very satisfactory in every way and we have had no problems with these boys of any consequence. They have entered into many community activities, which mainly has come about through various church groups that they are spending Sundays with and the local 4-H leader seems to have done a fine job of getting them involved in a great many 4-H activities. They put a display in the County Fair on agriculture in Japan which created a great deal of enthusiastic comment in the community."

- - -

> "We have felt a certain sense of pride in having our two Japanese boys with us. It has been our pleasure. We have learned much about their country and their respective families. In return they have been very eager to learn our way of poultry farming, and we rarely have to show them how to do anything over the second time. We are using the boys in our community affairs. We have asked them to make a short slide presentation, with descriptions. They do a very good job."

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> "Kiyomi is very interested in his work. He does his work well and without constant supervision. The five boys in our community have attended 4-H functions, Chamber of Commerce meetings, Men's Supper Club, church activities, and participated in family activities."

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> "Our two boys shed tears when they left. Yet at the time they were babies, I was helping to kill their elders. Had there been as much understanding 30 years ago, would it have happened? How about a program between countries we are at odds with now?"

EARNINGS OF FULL-TIME FARMWORKERS

Some workers have low yearly earnings because unemployment, illness, or a combination of factors have prevented them from working steadily all year. Others have low earnings even though they have worked all year at full-time jobs. This paradox of fully employed persons with poverty earnings warrants attention, out of concern both for the individual and for society.

The Bureau of Labor Statistics did a study of the characteristics of low earners in 1965.1/ The criterion of $2,500 money earnings was chosen because this is the minimum amount which would have been earned by year-round full-time workers covered by the Fair Labor Standards Act and its amendments, under the assumption of 50 weeks of work at 40 hours each week and at the minimum wage of $1.25 an hour in effect at that time. Although less than 7 percent of the year-round full-time male workers were employed in agriculture, this industry accounted for over a third of the 3,028,000 fully employed men whose earnings were under $2,500. Agriculture accounted for more male low earners than any other major industry group.

The accompanying table shows that farm laborers fared more poorly than farm operators. Fifty six percent of them earned less than $2,500 compared with 42 percent of the farmers and less than 9 percent of the men in all occupations. At the other extreme, 69 percent of the men in all occupations earned $5,000 or more compared with 25 percent of the farm operators and 11 percent of the farm laborers and foremen.

For farm-nonfarm comparisons, a recent estimate indicates that approximately 30 percent of the nonfarm family's money income is the average equivalent of the farm family's nonmoney income. If this is used as a rough measure to equate the farm and nonfarm earnings of persons, only those farmworkers

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1/ Perrella, Vera C., Low Earners and Their Incomes, Special Labor Force Report No. 82, Bureau of Labor Statistics, U.S. Department of Labor, May 1967.

earning $1,923 to $2,499--a relatively small proportion of those earning less than $2,500--would be earning the equivalent of $2,500 or more. Further, not all farmworkers receive nonmoney income supplements while some nonfarm workers, particularly hotel and restaurant workers, are provided with board and/or room by their employers. Other nonfarm workers receive certain fringe benefits, such as pensions and health insurance, in addition to their earnings.

Distribution of Male[1] Year-Round Full-Time Workers[2] in All Occupations and Farm Occupations by Annual Earnings in 1965

Annual income	All occupations	Farmers and farm managers 3/	Farm laborers and foremen 3/
Number of year-round full-time male workers (thous.)	34,837	1,717	466
Percent distributive by earnings:			
Total	100.0	100.0	100.0
Less than $2,500, total	8.7	42.3	56.0
$1 to $999	2.8	16.2	17.0
$1,000 to $1,499	1.8	9.7	19.3
$1,500 to $1,999	1.5	8.7	6.4
$2,000 to $2,499	2.7	7.7	13.3
$2,500 or more, total	91.3	57.7	44.0
$2,500 to $4,999	22.3	32.3	32.8
$5,000 to $9,999	52.8	19.0	10.1
$10,000 or more	16.2	6.4	1.1
Median earnings	$6,388	$3,098	$2,274

1/ Only 102,000 females were year-round full-time workers in agriculture in 1965. Because their number was so small, their distribution by earnings level could not be estimated.

2/ Workers who had 50 or more weeks of employment and usually worked full time (at least 35 hours in most weeks).

3/ Occupation of longest job.

Source: Bureau of Labor Statistics.

REPORT ON RURAL POVERTY

The Report of the President's National Advisory Commission on Rural Poverty 1/ describes the situation as "a national disgrace." This Commission was created by executive order in September 1966 to evaluate the Nation's rural life and recommend ways to improve it. Members of the Commission included businessmen, college professors, union leaders, journalists, farmers, and others familiar with rural conditions. The report was submitted to the President in September 1967 and released in December 1967.

According to the report, some 14 million rural Americans are living in poverty. The Commission's findings showed that hunger, even among children, does exist among the rural poor. Malnutrition is even more widespread. Disease and premature death are "startlingly" high. Most of the rural poor live in "atrocious" houses. One of every 13 houses in rural America is officially classified as unfit to live in. The rural poor have gone, and now go, to poor schools. One result is that more than 3 million rural adults are classified as illiterates.

The Commission estimated the average unemployment rate in rural areas as 18 percent compared with a nationwide average of around 4 percent. It cited a recent study which showed that underemployment among farmworkers runs as high as 37 percent.

"For all practical purposes," the Commission states, "most of the 14 million people in our poverty areas are outside our market economy. So far as they are concerned, the dramatic economic growth of the United States might as well never have happened. It has brought them few rewards. They are on the outside looking in, and they need help."

Until the past few years, the Nation's major social-welfare and labor legislation largely bypassed rural Americans, especially farmers and farmworkers. Farm people were excluded from the Social Security Act until the mid-1950's. Farmers, farmworkers, and workers in agriculturally related occupations are still excluded from other major labor legislation, including unemployment-insurance programs, the Labor-Management Relations Act, certain provisions of the Fair Labor Standards Act, and the Majority of State workmen's compensation acts.

1/ President's National Advisory Commission on Rural Poverty, The People Left Behind, September 1967. This report gives a detailed description of the problems of rural poverty and the rural labor force. See also Farm Labor Developments, October-November 1967, for a further discussion of these problems.

The Commission felt that some of our rural programs, especially farm and vocational-agriculture programs, are "relics from an earlier era." We have not yet adjusted to the fact that, from 1950 to 1965, new machines and new methods increased farm output 45 percent--and reduced farm employment by 45 percent. Nor is there adequate awareness that, during the next 15 years, the need for farm labor will decline by another 45 percent. Changes like these on the farm are paralleled on a broader front throughout rural America affecting many activities other than farming and touching many more rural people than those on farms.

The changes in rural America have rendered obsolete many of the political boundaries to villages and counties. Thus these units operate on too small a scale to be practicable. Their tax base has eroded as their more able-bodied wage earners left for jobs elsewhere. In consequence, the public services in the typical poor rural community are grossly inadequate in number, magnitude, and quality. Local government is no longer able to cope with local needs.

In contrast to the urban poor, the rural poor are not well organized and have few spokesmen for bringing the Nation's attention to their problems. Because we have been oblivious of the rural poor, we have abetted both rural and urban poverty, for the two are closely linked through migration.

The Commission is convinced that the abolition of rural poverty in the United States is completely feasible. The Nation has the economic resources and the technical means for doing this. The Commission has endeavored to chart a course to wipe out rural poverty.

The complexity of the problems of rural poverty preclude the success of a single program or approach. Programs addressed to immediate needs will not erase the underlying conditions creating and perpetuating rural poverty. Programs addressed to these conditions will not immediately help the poor. The Commission's recommendations, which follow, complement and reinforce one another. Together, they will go far to solve the problem of rural poverty.

The Commission recommends--

That the United States adopt and put into effect immediately a national policy designed to give the residents of rural America equality of opportunity with all other citizens. This must include equal access to jobs, medical care, housing, education, welfare, and all other public services, without regard to race, religion, or place of residence.

That the national policy of full employment, inaugurated in 1946, be made effective. The need is even greater in rural areas than in urban areas.

That the food-stamp program be expanded nationwide and that eligibility be based upon per capita income. Food stamps should be given to the poorest of the poor without cost.

A thorough overhauling of our manpower policies and programs, particularly including public employment services, in order to deal effectively with rural unemployment and underemployment. The Commission deplores the fact that the richest, most powerful nation in history compels millions of its citizens to engage in aimless wandering in search of jobs and places to live. The recommendations of the Commission aim at a comprehensive and active manpower program which can be an effective weapon against poverty.

Extensive changes in our rural education system ranging from preschool programs to adult education. Rural schools must be brought up to par with urban schools. The educational system must reclaim youth and adults who drop out before obtaining sufficient education to cope with the complexities of today's world.

Rapid expansion of health manpower--both professional and subprofessional--in rural areas, and the establishment of Community Health Centers which can focus on the health needs of rural people.

Development and expansion of family-planning programs for the rural poor.

That a single unified housing agency be made responsible for housing programs in rural areas and that credit terms be made more responsive to need.

The creation of multicounty districts, cutting across urban-rural boundaries, to cooperatively plan and coordinate programs for economic development.

That increased attention be given to involving the poor in the affairs of the community, on both local and areawide levels.

That the Federal Government reexamine its commercial farm programs in order to make sure that adjustments in the supply of farm products are not made at the expense of the rural poor.

Changes in program development and administration to facilitate and encourage the effective involvement of local, State, and Federal governments.

THE CHANGING STRUCTURE OF AGRICULTURE

Cora S. Cronemeyer

Of far-reaching importance for the future of today's farm operator, his children, and his hired workers is the fading line of demarcation between agricultural and nonagricultural enterprises. Agriculture is tending to lose its identity as it merges with other farm-related industries to form a broader industrial complex engaged in the production and marketing of the Nation's food and fiber. This article traces the steps by which this reorganization has come about and discusses the implications for farm manpower.

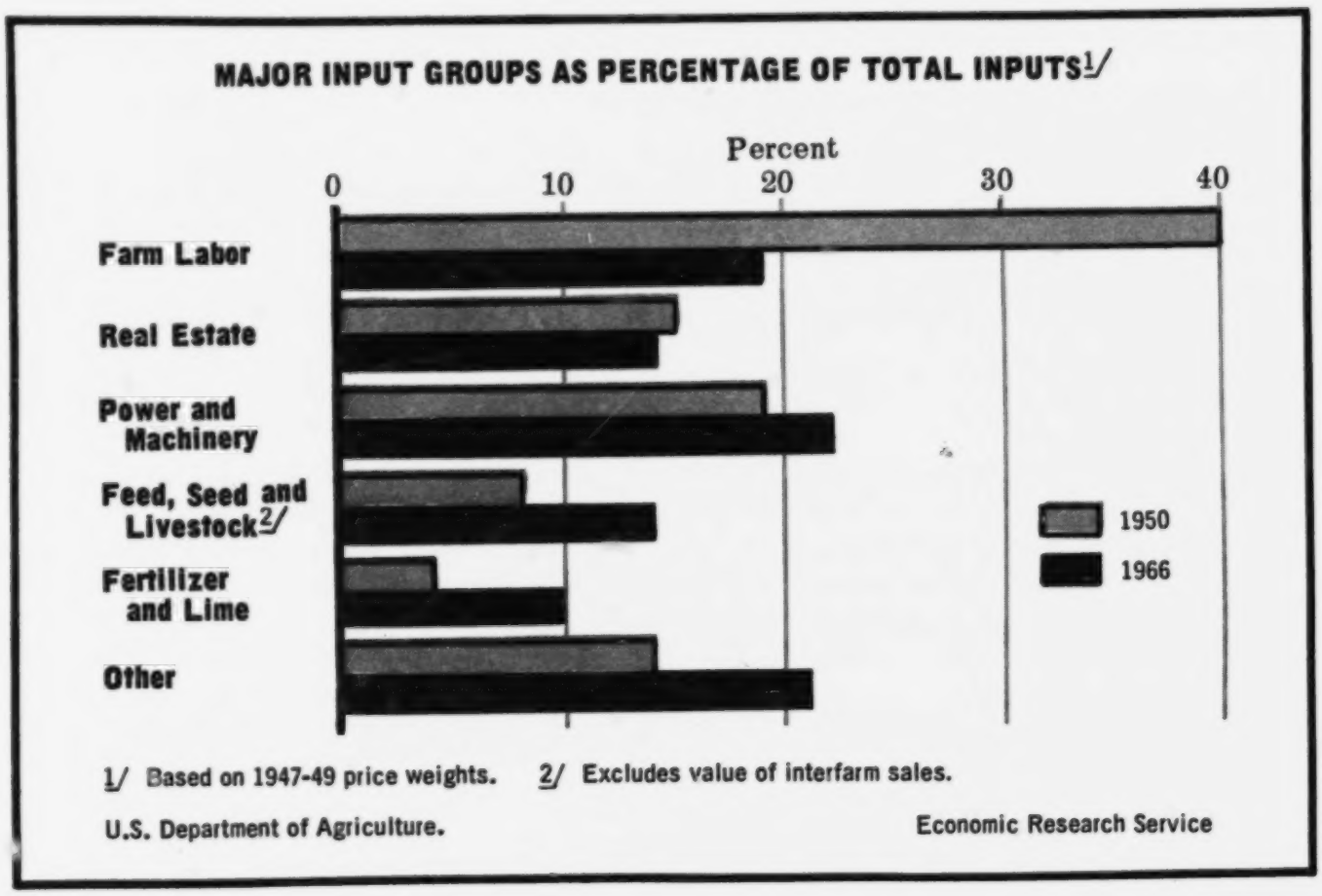
THE CHANGING CHARACTERISTICS OF A FARM

A century ago, farming was characterized by a large number of small operating units, each producing to meet the varied needs of a nearby population center. The farm establishment differed from most other types of business in terms of its size, its production practices, and its self-sufficiency. The farmer of that day had very little occasion to do business with other industries. His major factors of production were land and labor. The land he usually owned outright and the labor he generally supplied himself--sometimes with the help of other members of his own family. His production was mostly for home consumption or for sale to consumers who lived nearby.

With the advent of the industrial revolution, the difference between farm-production practices and other production practices diminished, and the interdependence between farms and other businesses increased. Concomitantly, the operation of a farm has tended more and more to resemble the operation of other business establishments.

INCREASING SPECIALIZATION

An early impact of the industrial revolution upon agriculture resulted from the shift of the population from farming areas to the cities. Agriculture's food and fiber production became dependent on other industries to bridge the distance between the farmer and the ultimate consumer. This



development, together with improved means of transportation, enlarged the farmer's market and induced him to specialize. Accompanying specialization there has been a tendency to separate intermediate steps from production of the final product. At one time, the farmer produced his own seed, fertilizer, livestock, and other materials. Now such materials are often purchased from specialists who may or may not be farmers. Thus, not only the selling, but the purchasing phases of the farm operation are becoming dependent on other industries.

EMERGING IMPORTANCE OF CAPITAL EQUIPMENT

While the specialization of agricultural production has been in progress for over a century, farming itself has been largely a handicraft operation until comparatively recent times. Even today, land and labor are more important production factors in agriculture than in other industries. However, as a result of advances in the agricultural sciences and engineering, the importance of land and labor is declining and capital is becoming an increasingly significant factor.

With the introduction of modern farm machinery, the gap between the farm and nonfarm economy in terms of real output per man-hour is closing. In 1947, output per man-hour in the farm sector was 29 percent of that in the

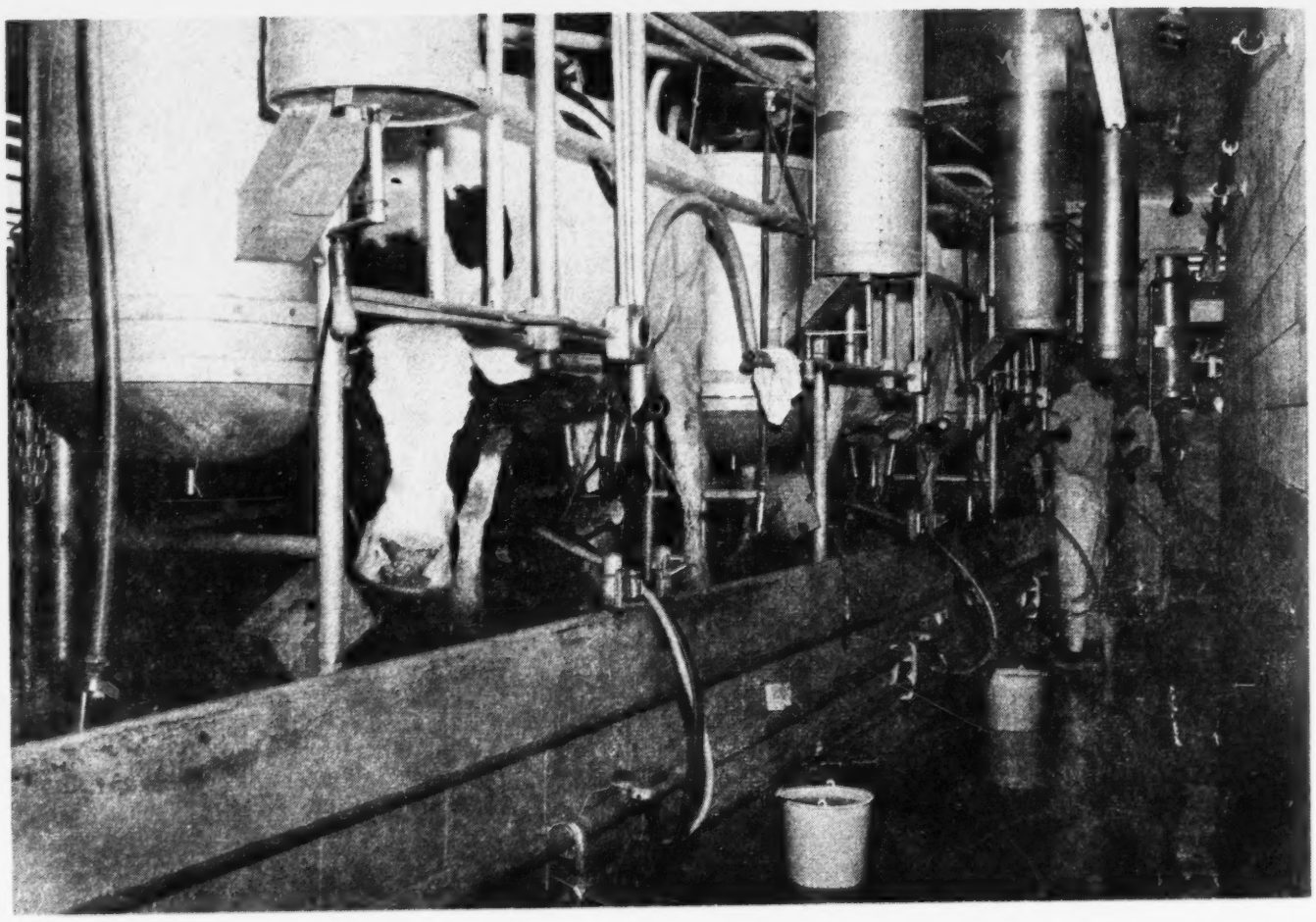
nonfarm sector. By 1966, it had risen to 53 percent. (1) Consequently, the distinctive feature of agriculture as a labor-intensive activity is becoming less prominent.

Increased yields per acre have enabled growers to achieve higher production levels while at the same time they have idled a substantial acreage of cropland from production.

Except for range livestock and cow-calf operations, most livestock activities no longer need to be extensively land based. Broiler and egg production, beef feedlots, pig parlors, and specialized dairy enterprises are cases in point. As these enterprises require the use of larger and larger amounts of capital resources and skilled management, they tend to lose their farming image and become less and less distinguishable from nonfarm activities. (2)

The penetration of the industrial revolution into agriculture itself has revolutionized farm-production practices. One consequence of this is the widening of the variety of the farmer's purchases to include machinery, chemicals, and other equipment needed for the new technology. Farmers today purchase not only products but also services such as technical information, management services, land services (through rental), machine services (through machine leasing), and even custom performance of the farming operations themselves. (2)

Modern production of livestock and livestock products relies heavily on elaborate capital equipment. In this dairy, feed from the overhead cylinder is dispensed by a worker into the feeding unit which is open to enable the cow to eat. The dark hose in the foreground is part of the milking machine. The light hose conveys the milk to the pipes where it flows to bulk storage.



GROWTH IN FARM SIZE

To maximize the unit-cost savings of expensive machinery, use must be spread out over a large number of revenue units. A consequence of the entrance of farming into the machine age has been an increase in the size of the average farm. Particularly during the early 1960's, the growth in farm size has accelerated. (3) One measure of this increase is the rise in cash marketing receipts from $8,179 per farm in 1959 to $13,292 per farm in 1966. This reflects the fact that, between 1959 and 1966, the number of farms which sold $10,000 or more in farm products increased from 828,000 to 1,037,000 while the number which sold less than $10,000 decreased from 3,269,000 to 2,215,000. The following table shows that the larger farm businesses now account for a much greater share of total farm income and expenses than in former years: (4)

	Farms selling $10,000 or more in farm products as percent of total for all farms	
	1959	1966
	(Percent)	(Percent)
Number of farms	20	32
Realized gross farm income	67	83
Realized net farm income	55	78
Farm production expenses	72	85

Among the larger farms, the greatest percentage increase has been in the number of very large farms. The 1964 Census of Agriculture reported that Class I farms (in the sales category of $40,000 and over) accounted for 16 percent of all farms which sold at least $10,000 in farm products in 1964; in 1959 they had accounted for only 13 percent.

It has been predicted that the size of the average farm will not only continue to grow, but that this growth will accelerate. (3) Thus farming, in the future, may come to resemble other industries and the larger establishments will increasingly dominate production.

DECLINING OWNERSHIP OF PRODUCTION ASSETS

Along with the increase in cash receipts per farm, there has been a growth in production assets per farm--from $42,465 on January 1, 1960, to $73,120 on January 1, 1967. The 1967 total included $57,198 in real estate, $7,690

in machinery and motor vehicles, $5,933 in livestock, and $2,299 in other assets. (5) Farmers in the group with net farm incomes over $10,000 typically manage assets in excess of $100,000. Farms with assets valued in excess of a quarter of a million dollars are not uncommon. (2) Full ownership of these assets, once a goal of many farmers, may no longer be necessary or even desirable.

Total farm debt, including real-estate and other debt, increased from $24.9 billion in 1960 to $45.7 billion in 1967. As a proportion of agriculture's total assets, it rose from 12 percent in 1960 to 17 percent in 1967. (5)

Farmers can also acquire the use of productive resources through leasing arrangements. The trend in farm tenure is toward part ownership. One-fourth of our farmers are part owners, but they operate one-half of the land in farms and rent 60 percent of the land under lease. (2) The production services of machinery and other capital equipment can be acquired through machine rental or custom work.

THE ROLE OF THE FARMER TODAY

The central role of the farmer remains unchanged in the changing structure of farming. He is still the entrepreneur who brings the services of land, labor, and capital together to produce our food and fiber. In fact, the farmer is becoming a specialist in this role. The basic change is that more and more of the resources and inputs are owned by nonfarmers or produced by nonfarmers and more and more of the product is consumed by nonfarmers. In general, the farmer's role as business manager (or entrepreneur) is becoming relatively more important than his traditional roles as laborer, investor, and landlord. (2)

THE CHANGING STRUCTURE OF AGRICULTURE

The changing structure of agriculture permeates the entire economy. As agriculture has become dependent on other industries, so have nonfarm businesses become dependent on agriculture. The growing importance of the farmer as a customer is indicated by the increase in farm-production expenses from $26.1 billion in 1959 to $33.3 billion in 1966. His importance as a seller can be measured by the rise in cash receipts from farm marketings. Their value grew from $33.5 billion in 1959 to $43.2 billion in 1966. (4)

Most nonagricultural industries are affected directly or indirectly by developments in agriculture. Most closely involved are those which purchase farm products for processing or marketing, those which transport farm products, those which supply the goods or services needed for farm production, and those which finance the farm investment.

Food-processing plants, as well as farms, provide temporary jobs for migratory workers. While their husbands are working in nearby orchards, these women from Mississippi are employed in a cherry cannery in Wisconsin.

THE FARM-MARKETING SYSTEM

The farm-marketing system serves as an intermediary between the producer and consumer to turn the raw products of the farm into those meeting the form, place, and time requirements of the consumers. It includes those industries which transport, store, process, and distribute farm commodities or items made from them. These industries have a long history dating back to the time when consumers were beginning to leave rural areas to live in cities. In recent years, they have received added impetus from improvements in means of transportation and the reduction in rail freight rates. They have also benefited from consumer preferences for processed foods.

Today, the marketing of farm products is the Nation's largest business. In 1966, for example, the marketing bill for civilian food alone was $55 billion--two-thirds of the $83 billion spent by consumers for domestically produced food. The marketing bill for cotton, tobacco, and other nonfood products represents a significant addition to that for food. (6)

SUPPLIERS OF FARM INPUTS

The purchase of inputs for farm production has not only increased transactions among farmers, but has created flourishing new nonfarm industries. An indication of the industries which sell to farmers can be gained from a breakdown of farm expenditures. In 1966, farmers spent $23.2 billion for operating expenses, $6.0 billion for capital equipment (machinery, motor vehicles, and buildings), $3.3 billion for property taxes and farm-mortgage interest, and $1.5 billion in rent to nonfarm landlords. The operating expenses were distributed as follows: (4)

Item	Expenditures (billions)
Feed purchased	$6.3
Livestock purchased	3.5
Seed purchased	0.6
Fertilizer and lime	1.9
Repairs and operation of capital items	4.2
Hired labor	2.8
Miscellaneous	3.8
Total	$23.2

Some of these purchases, such as livestock and feed, were made from other farmers, but most were made from feed companies, agricultural-chemical companies, farm-equipment dealers, etc.

FINANCE, INSURANCE, AND REAL ESTATE

The increasing tendency for farmers to acquire the use of productive resources through borrowing or leasing arrangements has brought them into closer contact with financial and real estate interests. In 1967, the total $45.7 billion farm indebtedness was about equally divided between mortgage and other debt. Farm mortgage debt, outstanding January 1, 1967, was distributed as follows: (5)

Type of lender	Amount outstanding (billions)
Life insurance companies	$5.2
Federal land banks	4.9
Commercial banks	3.2
Farmers Home Administration	0.6
Other	9.4
Total	$23.3

COOPERATIVES

A growing type of organization is the farmers' cooperative. The net worth of these associations has increased from $4.4 billion in 1960 to $7.0 billion in 1967. Over half of these assets were held by marketing and purchasing associations in 1967. The remainder were in rural electric cooperatives, the Federal land bank system, farmers' mutual irrigation companies, production credit associations, and farmers' mutual fire-insurance companies and telephone companies. (5)

THE NONFARMER'S PARTICIPATION IN FARM OPERATIONS

The involvement of nonagricultural establishments in agriculture goes beyond the buyer-seller relationship to include actual participation in the farm operation itself. One aspect of this participation is the employment of workers to perform agricultural tasks. For example, the operator of a citrus grove may sell his crop to a processor while it is still on the trees. The processor hires the harvest labor. A growing practice among agricultural-chemical companies is to provide not only chemicals but also the labor and equipment to apply them.

Another aspect of nonfarm participation is to provide the farmer with technical management services and/or funds needed for farm investment. Further, the nonfarmer sometimes becomes a partner in the farm operation.

IMPLICATIONS FOR FARM EMPLOYMENT

At one time, the concept of farm employment was clean cut. A farmworker was a person engaged in a farm occupation and employed by a farmer(including the self-employed). As the line of demarcation between agriculture and other industries has faded, so has the distinction between farmworkers and nonfarmworkers. Today, not all farm laborers are employed by farmers,

nor are all of the workers employed in agriculture engaged in the farm occupations. Some are employed as machine operatives, technicians, bookkeepers, and other types of blue-collar and white-collar workers. Further, the wedding of industry and agriculture is giving birth to a host of new occupations.

The implications for the farmworker's future are clear--an agricultural background is a marketable asset in today's economy. Its usefulness is not restricted to the agricultural industry itself but is of value in a wide range of industries related to farming. The food-processing and food-marketing industries are concerned with obtaining a marketable product. In accomplishing this objective, they need to hire men familiar with farm-production practices. The many industries which sell goods and services to farmers need employees who understand the farmer's needs.

Another implication is also clear. Today's farmworker cannot survive the industrial revolution in agriculture unless he broadens his capacities and masters new skills. If he chooses to remain on the farm, he will require training in the new technology and familiarity with the more complex business practices which will characterize the farm of the future. For employment in a farm-related industry, he will need skill, flexibility, and the ability to adapt himself to new work practices.

REFERENCES

(1) Bureau of Labor Statistics, USDL, Indexes of Output Per Man-Hour for the Private Economy, 1947-66, March 1967.

(2) Upchurch, M. L., Farming and the Rural Scene--Changes in Organization, Opportunities, and Problems, speech delivered before the Annual Agricultural Outlook Conference, Washington, D. C., November 1967.

(3) Butcher, W. R. and Whittlesey, N. K., Trends and Problems in Growth of Farm Size, Journal of Farm Economics, Vol. 48, No. 5, December 1966.

(4) Economic Research Service, USDA, Farm Income Situation, FIS No. 207, July 1967.

(5) Economic Research Service, USDA, The Balance Sheet of Agriculture, 1967, Agricultural Information Bulletin No. 239.

(6) Finner, W. F., Changing Marketing Activities and Organizations, speech delivered at the Annual Agricultural Outlook Conference, Washington, D. C., November 1967.

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OPPORTUNITIES FOR YOUTH IN AGRIBUSINESS

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For young people who have been adequately trained, job opportunities in agriculture and related fields have never been better. Moreover, these opportunities are not limited to young people with a college education. The types of jobs which are available fall roughly into four categories: first, the openings which require workers with bachelor-of-science degrees from agricultural colleges; second, those which are open to youth with associate-in-arts degrees from our junior colleges offering the first two years of training in agriculture; third, jobs for high school graduates; and fourth, opportunities for dropouts from each of these levels of education. In an effort to determine the opportunities for these four groups and to focus attention on new prospects, I will relate this discussion to the full meaning of the term "agribusiness" and urge the reader to keep the definition of this term in mind as we proceed.

Davis and Goldberg have defined agribusiness as "the sum total of all operations involved in the manufacture and distribution of farm supplies; production agriculture on the farm; and the storage, processing, and distribution of farm commodities and items made from them." 1/ Let us take a practical situation and examine it in terms of this definition to be sure we understand how new prospects for youth may come about.

First, let us think of the definition as three links in a chain. The first link represents the kinds of service needed by the present-day farmer in order to grow his crops and raise his livestock. The middle link is the farmer or rancher. The third link in our chain represents the activities that take place after the various commodities have been grown--in other words, the transportation, storage, processing, marketing, and merchandizing of farm products.

To further illustrate our point, let us set up a hypothetical situation where we find the farmer looking ahead to a new crop year. Because our farms have continued to increase in size, one of the first supply items the farmer will need is working capital. If he is a good operator, he has learned that it is good management to use the bank's money and he will talk to the bank's farm loan officer. This man is usually a college graduate with a degree in agribusiness or agricultural economics. At this point, if the farmer thinks the bank's interest rates are too high he may decide to go to the Production Credit Association to negotiate a short-term or intermediate-type loan. Here again, the people he will be dealing with

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1/ Davis, John H. and Goldberg, Roy A., A Concept of Agribusiness, Harvard University, 1957.

are likely to be college graduates with degrees in some major field of agriculture. Before he receives his money in either instance, a budget will become necessary and a visit to his farm will be made by a bank or Production Credit Association appraiser who is likely to be a college graduate.

With his loan assured, the farmer can then proceed with other steps that must be carefully planned. If he has crops to be planted, he must have seed. The availability of the seed is dependent upon a competent research staff headed up by a plant breeder. Very likely, the plant breeder will be aided by a laboratory technician. In the first instance we are, again, talking about a college graduate, usually a man with at least a master's or doctor's degree in agriculture. The technician could be a junior college graduate with some specialization in agronomy. The sales force responsible for merchandizing the seed to the farmer, or to seed houses, is undoubtedly made up of college graduates with degrees in agronomy.

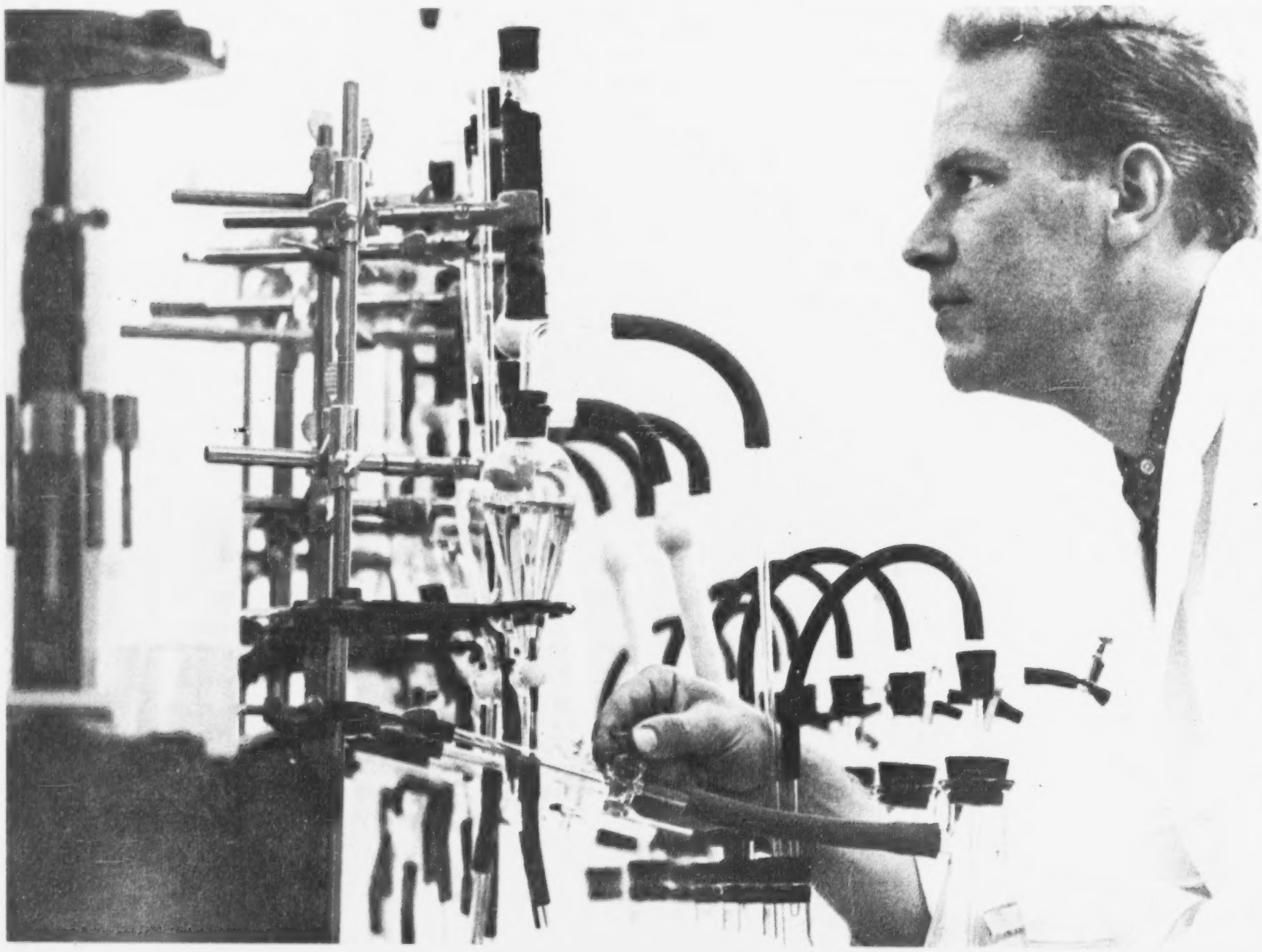
Before the seed is planted, the seed bed must be prepared. To do this the farmer must have tractors, plows, cultivators, and planters. This introduces the farm implement dealer onto our agribusiness scene. The agricultural engineers who design or assist in the development of the machinery are in great demand, and they are usually college graduates with a B.S., M.S., or Ph.D. degree. Once the machine has been manufactured--and there are thousands of people without degrees working in the factories--there is a need for an office force, a sales staff, parts men, and repairmen to carry out the responsibilities at the dealership level. The sales force is likely to be made up of college graduates with degrees in mechanized agriculture. The parts men and repairmen could be high school or junior college graduates. There is opportunity here for technicians for trouble-shooting assignments in the field and for follow-up after the sales have been made.

After the crop is planted, it may become necessary to apply water. The irrigator charged with this responsibility is frequently someone with less than a high school education. In many regions the installation of the irrigation system may offer quite an extensive list of opportunities. Wells may need to be drilled, pipe lines installed, or overhead-sprinkler systems purchased to spread the water more uniformly. Here again, there is a wide variety of job opportunities for people with various levels of education. The use of sprinkler systems offers many opportunities since there is a tremendous demand for portable, hand-move, and stationary lines for various crops, including turf-grass production.

With the advancement of the growing season, the farmer will encounter both a weed and an insect problem. The chemical companies will be ready to meet his needs with a staff of fieldmen who are highly trained in the agricultural sciences. These men are capable of identifying the kinds of weeds and insects affecting the crop, and have technical information concerning sprays which are effective as control measures and yet safe to use. They will have talked to the farmer earlier in the cropping program about the fertilizers he will need. These men function in somewhat the same

Agriculture provides jobs for aircraft pilots in crop dusting and seeding.

Agricultural scientists are employed in State and Federal laboratories as well as by industries which serve agriculture.



manner as farm advisers and represent one of the largest sales forces on the agriculture scene today. The agriculture graduate working in this field of employment must have a good science foundation with a knowledge of soils, irrigation, plant pathology, plant physiology, entomology, and a thorough understanding of good business principles. The chemical companies offer tremendous opportunities for thousands of high school graduates or young people with junior college or college degrees to the doctoral level. This business is highly competitive. Not only is the company selling a commodity, it is also providing a service. The farmer who is intelligent enough to know how to use this college talent wisely can get real assistance and will have a decided advantage over his neighbor who may question the knowledge of these young scientists.

The materials to be applied for control of the weeds and insects may need to be sprayed on by aircraft. Here we will have opportunities for people who know how to fly either helicopters or planes with stationary wings to apply these materials. Services needed by these highly specialized crop dusters can usually be provided by young people with less than college degrees. Not only are many of our crops treated for insect pests in this fashion, but aircraft are used extensively for crop-seeding purposes.

Soon after the application of weedicides and insecticides, the crop should be ready to harvest. At this point the farmer may decide to avoid further investment in expensive equipment. Therefore, he lines up someone to custom harvest his crop or crops. This procedure, I believe, will become more widely used as more expensive machines are developed to harvest those crops in which mechanization is being forced at a rapid pace because of the high cost of manual labor. Let us be sure to flag this statement because it points up an area for new prospects for both rural and urban youth.

The transportation of the crop, whether it be hay, grain, cotton, or melons, will involve truck drivers, trucks, gasoline or diesel, tires, and a maintenance crew or service crew. Youth with less than a college education will fill the positions at this point in our farming plan. It is very likely that the crop being moved will come under the scrutiny of a county, State, or Federal inspector. These positions are usually under civil service and most job specifications written for such work suggest that a college degree in agricultural inspection and services is desirable. However, many junior college graduates are working in this very important field of employment.

The Food and Drug Administration is having difficulty in obtaining a satisfactory work force to check out tolerances of pesticides being used by farmers. Here again, there are opportunities for new positions such as technicians to operate laboratories in various areas throughout the United States. Once the crop has been cleared for any given market, the job opportunities start to increase in the area of processing and merchandizing.

I believe we have carried this agribusiness concept far enough now to make it apparent that we have many jobs for youth with new prospects that may

not have been thought of before. In California, the Council of California Growers has stated that one out of every three jobs is dependent upon agriculture.

The agriculture schools throughout the United States have graduated over 9,000 young men and women each year for a period of 4 or 5 years and have been unable to meet the demands being made of them by agribusiness firms. These schools have been engaged in an extensive program of recruitment from city high schools in an effort to supply industry's needs more effectively. This may lead us to conclude that there are not enough rural youth eligible for admission to these agricultural schools to meet the needs of agribusiness industries in the future.

By conducting a study of 1,250 graduates from the School of Agriculture at Fresno State College, a bulletin 2/ has been prepared to help high school counselors better understand what is meant by "agribusiness" and to illustrate the kinds of jobs available.

As I visualize the ever-increasing size of farms and the rapid mechanization changes that will continue to take place not only in the harvesting of crops but in the seeding and planting of crops, I cannot help but believe there will be a tremendous need for youth with capabilities of driving, repairing, and servicing these high-cost pieces of equipment. This in turn will mean new prospects for many young people. As this increase in mechanization continues, there will be a real need for vocational schools to be located in key areas throughout the United States. The kind of equipment needed in any training program of this nature will be too expensive to be made part of the regular complement of shop equipment usually found in our high school vocational agriculture departments. Therefore, the area vocational school should be in the best position to meet this need.

A very thorough nationwide study of the employment opportunities and training needs in agriculture and agribusiness is about to get underway. I am indeed pleased that the need to conduct a study of this kind has been recognized. Perhaps more important is the fact that the U.S. Office of Education and its various segments of vocational education will be working cooperatively with the U.S. Departments of Agriculture, Commerce, and Labor and the American Association of School Administrators in collecting these data. The results of this study should help every level of education to plan programs that will provide the future training needed by our rural and urban youth and permit us to continue to lead all other nations of the world in the production of food and fiber.

2/ Dowler, Lloyd, A Counseling Aid to Agribusiness Opportunities, Fresno College Bulletin, Fresno, California, 1963.

Note: This article is based on a speech delivered by Dean Dowler at the National Conference on Rural Youth, Washington, D. C., October 1967.

EMPLOYMENT TABLES

Item	Annual Average			
	1967	1966	1965	1964
Employment (thousands of workers)				
Total 1/ 2/	74,372	72,898	72,179	70,357
Agriculture, total	3,844	3,847	4,585	4,761
Wage and salary	1,301	1,234	1,492	1,582
Self-employed	1,996	2,036	2,307	2,366
Unpaid family	547	578	786	813
Nonagricultural industries	70,528	69,051	67,594	65,596
Farm employment, total 3/	4,935	5,259	5,609	6,110
Hired	1,256	1,357	1,484	1,604
Family	3,679	3,902	4,125	4,506
Seasonal hired farmworkers, total, 4/	592	622	673	705
Domestic	587	617	664	652
Foreign	5	5	9	53
Unemployment rate 1/ (percent)				
Agricultural wage and salary workers 5/	6.9	6.6	7.3	9.3
All workers	3.8	3.8	4.6	5.2
Part-time emp. for economic reasons 6/ as pct. of tot. emp. in category 1/				
Agriculture	6.5	5.9	6.1	6.7
Nonagricultural industries	2.7	2.4	2.9	3.3
Hours 1/ avg. per week 7/				
All agricultural workers	46.5	46.5	45.7	45.1
Wage and salary workers	41.5	41.7	40.8	40.8
Self-employed workers	52.2	51.8	51.8	50.9
Unpaid family workers	38.2	38.3	37.6	37.2
Nonagricultural workers	40.0	40.1	40.2	39.7
Farm output per man-hour 8/	167 9/	161	155	142
Wage rates (dollars)				
Farmworkers 3/				
Composite hourly rate	1.12	1.03	0.951	0.904
Hourly rate without room or board	1.33	1.23	1.14	1.08
Factory prod. wkers. gross avg. hourly earnings 1/ 2/	2.83 9/	2.72	2.61	2.53

1/ Employment and Earnings and Monthly Report on the Labor Force, U.S. Department of Labor.
2/ For 1964 and 1965 includes persons 14 years of age and over and for 1966 and 1967 persons 16 years of age and over except for gross average hourly earnings of factory production workers which cover earnings of persons of all ages every year.
3/ Farm Labor, U.S. Department of Agriculture.
4/ In-Season Farm Labor Reports received by the Bureau of Employment Security for major agricultural areas.
5/ An unemployed worker is classified as an agricultural wage and salary worker if his last job was in agricultural wage and salary work.
6/ Could find only part-time work or temporarily on part time due to slack work.
7/ Excluding persons with a job but not at work.
8/ Farm Output Index (1957-59 100), U.S. Department of Agriculture.
9/ Preliminary.

Estimated Peak Seasonal Employment, by Major Crop, United States 1967[1]

Crop	Peak seasonal employment 1967	
	Number of workers 2/	Date
Tobacco	225,400	August
Strawberries	113,600	June
Cotton	91,700	June
Tomatoes	90,200	September
Potatoes	84,700	October
Beans	78,400	August
Bushberries	70,500	July
Apples	69,900	October
Hay	59,700	July
Grapes	56,000	September
Cucumbers	52,600	August
Sugar beets	48,800	June
Citrus fruits	45,500	March
Cherries	44,000	July
Small Grain	32,000	June

1/ Crops listed are those in which 30,000 or more seasonal hired workers were employed at mid-monthly peak.

2/ Employment in all activities including planting, cultivating, and harvesting.

Source: Bureau of Employment Security, In-Season Farm Labor Reports for the 15th of each month.

Estimated Employment of Seasonal Hired Agricultural Workers, by Type of Worker, United States, January - December 1967

Type of Worker	Employment											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Thousands of workers											
All types	274.2	281.6	289.8	362.1	623.5	920.2	1,036.4	997.6	816.1	771.4	421.8	303.6
U.S. Workers, total	265.6	274.0	284.5	361.2	622.8	917.3	1,036.4	997.2	814.1	759.7	414.6	294.5
Local	229.9	235.9	246.2	307.6	515.1	716.6	797.7	769.1	604.4	594.3	362.3	253.1
Migrant	35.7	38.1	38.3	53.6	107.7	200.7	238.8	228.1	209.7	165.5	52.3	41.4
Intrastate	18.7	18.9	18.0	23.3	36.9	47.6	62.0	61.0	59.7	54.3	27.9	24.8
Interstate	17.0	19.2	20.3	30.2	70.8	153.1	176.8	167.1	149.9	111.2	24.4	16.6
Foreign Workers, total	8.7	7.7	5.3	0.9	0.7	2.9	.0	0.3	2.1	11.6	7.2	9.1
Mexican	0	0	0	0	0	0	0	0	0	5.8	0.5	0.2
B W I	8.7	7.7	5.3	0.9	0.7	2.9	.0	0.3	1.2	2.9	6.7	9.0
Canadian	0	0	0	0	0	0	0	0	0.8	2.9	0	0

NOTE: Due to rounding, figures may not add to totals.

Source: Bureau of Employment Security, In-Season Farm Labor Reports for the 15th of each month.

Estimated Employment of Seasonal Hired Agricultural Workers, by Activity of Worker, United States, January - December 1967

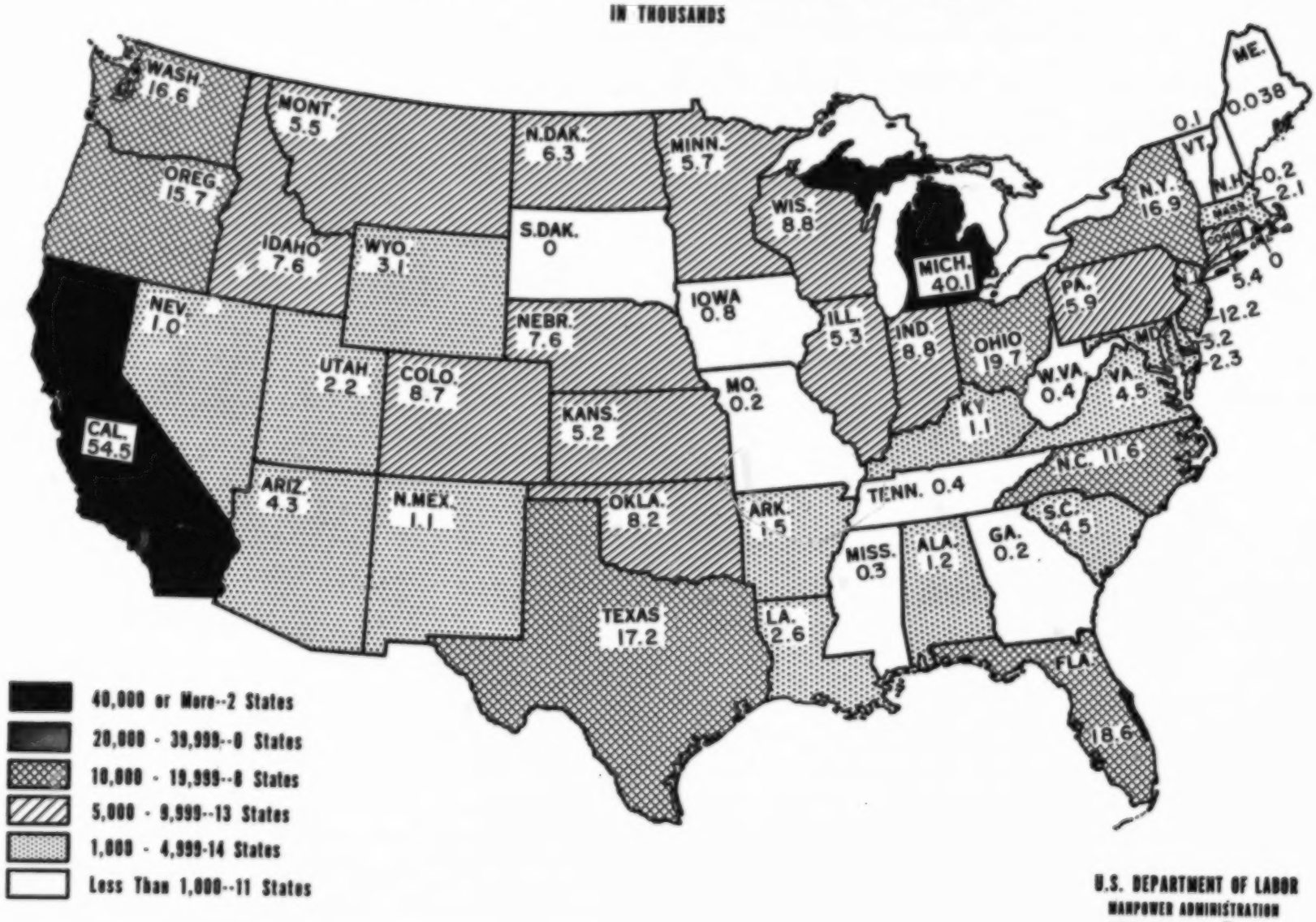
Crop activity	Employment											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Thousands of workers											
All activities	274.2	281.6	289.8	362.1	623.5	920.2	1,036.4	997.6	816.1	771.4	421.8	303.6
General	47.9	50.0	63.0	101.0	169.2	104.6	79.5	66.7	86.3	67.7	48.3	40.0
Cultivating	77.6	67.2	65.2	85.3	160.0	277.8	287.2	130.1	58.2	40.3	39.0	47.1
Cotton	4.8	9.6	13.9	20.2	35.8	87.9	75.9	35.9	7.4	0.4	0.8	0.9
Fruits	55.7	42.2	23.1	25.8	47.7	44.4	31.6	16.3	14.1	12.2	15.8	34.8
Other crops	17.1	15.4	28.2	39.3	76.5	145.5	179.7	77.9	36.7	27.7	22.4	11.5
Harvesting	115.8	122.3	116.3	123.2	215.9	450.8	582.3	701.2	581.2	577.5	273.4	177.7
Cotton	1.5	0	0	0	0	0	8.9	16.9	30.0	75.9	79.5	48.1
Vegetables	56.1	64.5	60.0	65.0	94.7	141.3	148.7	251.8	211.4	203.3	68.2	54.0
Beans	1.1	1.9	1.6	2.1	4.5	27.2	11.7	76.8	13.3	8.5	5.3	4.2
Tomatoes	7.0	8.8	5.6	6.0	13.0	13.9	11.8	40.6	87.4	48.1	10.1	12.5
Potatoes	1.2	0.7	0.6	1.6	5.4	8.2	10.9	14.6	34.6	84.6	12.0	0.5
Other veg.	46.8	53.1	52.2	55.3	71.8	92.0	114.3	119.8	76.1	62.1	40.8	36.9
Fruits	36.0	37.4	38.0	42.8	98.4	207.9	207.7	112.4	147.6	136.8	28.1	28.8
Citrus	34.0	35.0	34.8	30.6	30.1	27.6	11.4	6.2	6.2	9.5	14.8	27.0
Strawberries	1.1	1.3	2.2	9.6	59.2	113.4	24.2	3.7	1.8	1.0	0.4	0.3
Other fruits	0.9	1.1	1.0	2.6	9.1	66.9	172.1	102.5	139.6	126.3	12.9	1.5
Tobacco	2.2	2.0	1.2	0.9	0.3	19.4	118.4	216.5	97.6	54.7	20.1	4.0
Hay & grain	0.5	0.1	0.1	2.5	12.3	71.7	85.4	89.9	68.6	58.9	29.5	7.7
Other crops	19.5	18.3	17.0	12.0	10.2	10.5	13.2	13.7	26.0	47.9	48.0	35.2
Activity unspecified	32.9	42.2	45.3	52.6	78.4	87.0	87.3	99.6	90.4	86.0	61.0	38.8

NOTE: Due to rounding, figures may not add to totals.

Source: Bureau of Employment Security, In-Season Farm Labor Reports for the 15th of each month.

Peak Employment of Domestic Migrant Farmworkers, 1967

IN THOUSANDS



U.S. DEPARTMENT OF LABOR
MANPOWER ADMINISTRATION
BUREAU OF EMPLOYMENT SECURITY

Estimated Peak Employment and Period of Employment of Domestic Migratory Workers[1] in Agriculture, States which Used Migratory Workers, 1967

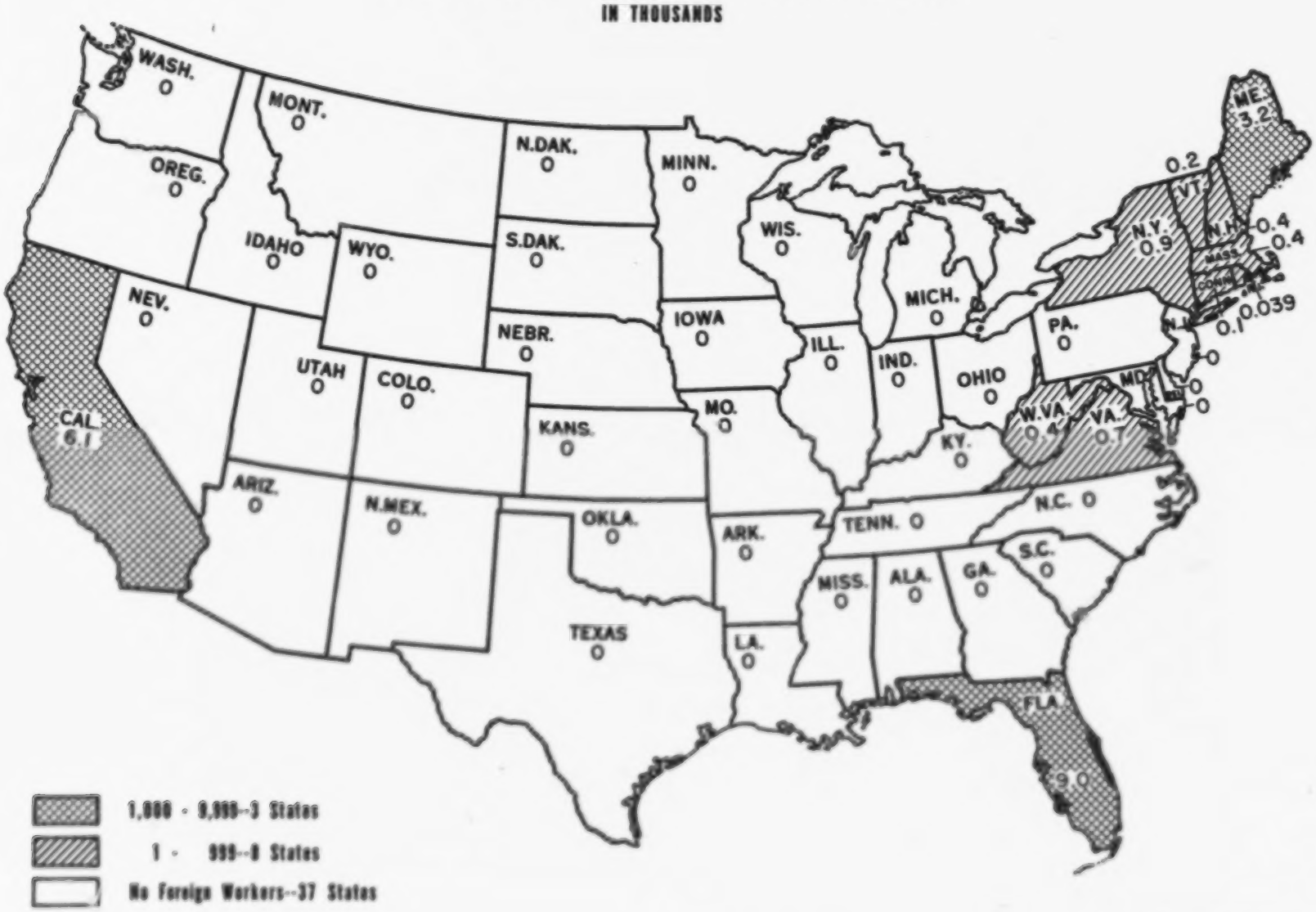
State	Peak no. migrants employed	Periods in which migrants were employed	Date of peak employment
California	54,500	Jan.-Dec.	Sept.
Michigan	40,100	Apr.-Nov.	July
Ohio	19,700	May-Oct.	Sept.
Florida	18,600	Jan.-Dec.	Feb.
Texas	17,200	Jan.-Dec.	July
New York	16,900	May-Dec.	Oct.
Washington	16,600	Jan.-Nov.	Oct.
Oregon	15,700	Jan.-Dec.	Aug.
New Jersey	12,200	Apr.-Nov.	Aug.
North Carolina	11,600	Jan.-Dec.	Aug.
Wisconsin	8,800	May-Oct.	Aug.
Indiana	8,800	May-Oct.	Sept.
Colorado	8,700	Apr.-Nov.	June
Oklahoma	8,200	Jan.-Dec.	June
Idaho	7,600	Apr.-Nov.	July
Nebraska	7,600	June-Oct.	July
North Dakota	6,300	Apr.-Oct.	Aug.
Pennsylvania	5,900	May-Nov.	Oct.
Minnesota	5,700	May-Oct.	July
Montana	5,500	Jan.-Dec.	June
Connecticut	5,400	Jan.-Dec.	July
Illinois	5,300	May-Oct.	Sept.
Kansas	5,200	Apr.-Nov.	July
Virginia	4,500	May-Nov.	Aug.
South Carolina	4,500	June-Nov.	June
Arizona	4,300	Jan.-Dec.	Dec.
Delaware	3,200	May-Oct.	May
Wyoming	3,100	May-Aug.	June
Louisiana	2,600	Jan.-Dec.	Apr.
Maryland	2,300	Mar.-Nov.	July
Utah	2,200	May-Oct.	July
Massachusetts	2,100	May-Dec.	July
Arkansas	1,500	May-Nov.	May
Alabama	1,200	May-Dec.	July
New Mexico	1,100	Jan.-Dec.	Oct.
Kentucky	1,100	May-Oct.	May
Nevada	1,000	Aug.-Sept.	Aug.
Iowa	800	May-Nov.	Aug.
West Virginia	400	Sept.-Oct.	Oct.
Tennessee	400	May-Oct.	May
Mississippi	300	Nov.-Dec.	Nov.
Georgia	200	May-June	May
New Hampshire	200	June-Nov.	Oct.
Missouri	200	May-Oct.	June
Vermont	100	June-Oct.	Oct.
Maine	2/	Sept.-Oct.	Sept.

1/ Migrants include intrastate and interstate workers.
2/ Less than 50.

Source: Bureau of Employment Security, In-Season Farm Labor Reports for the 15th day of each month.

Peak Employment of Foreign Farmworkers, 1967

IN THOUSANDS



A-19-P-52-

U.S. DEPARTMENT OF LABOR
MANPOWER ADMINISTRATION
BUREAU OF EMPLOYMENT SECURITY

Estimated Peak Employment and Period of Employment of Foreign Workers[1] in Agriculture, States which Used Foreign Workers, 1967

State	Peak no. foreign workers employed	Periods in which foreign workers were employed	Date of peak employment
Florida	9,000	Jan. 1 to July 14 and Aug. 18 to Dec. 31	Dec. 8
California	6,100	Sept. 22 to Dec. 8	Oct. 6
Maine	3,200	Sept. 8 to Nov. 3 2/	Sept. 29
New York	900	Sept. 22 to Nov. 3	Sept. 22
Virginia	700	Sept. 15 to Nov. 9	Oct. 13
West Virginia	400	Sept. 15 to Nov. 3	Sept. 29
Massachusetts	400	Sept. 15 to Nov. 9	Sept. 29
New Hampshire	400	Sept. 15 to Nov. 3	Oct. 6
Vermont	200	Sept. 15 to Oct. 27	Sept. 22
Connecticut	100	Sept. 22 to Oct. 27	Sept. 22 to Oct. 6
Rhode Island	3/	Sept. 8 to Nov. 9	Sept. 22-29

1/ Foreign nationals legally contracted for farmwork in the United States.
2/ Excluding maple-sugar workers.
3/ Less than 50 workers.

Source: Weekly reports of regional directors, Office of Farm Labor Service, Bureau of Employment Security. These figures are not comparable with figures published in earlier years which were based on semi-monthly In-Season Farm Labor Reports.

Estimated Employment of Migratory Agricultural Workers,
by State and Month, 48 States
January - December 1967

State	Migrant-worker employment											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Thousands of workers											
U.S. Totals	35.7	38.1	38.3	53.6	107.7	200.7	238.8	226.1	209.7	165.5	52.3	41.4
Eastern Seaboard	16.5	18.8	18.5	18.1	32.6	38.7	50.0	59.6	53.2	47.0	17.7	16.8
Connecticut	0.1	0.2	0.2	1.2	1.7	2.2	5.4	5.3	2.3	1.6	0.7	0.2
Delaware	0	0	0	0	3.2	1.6	0.8	2.1	1.7	0.8	0	0
Florida	16.3	18.6	18.2	15.9	16.9	8.2	1.8	0.6	1.8	4.3	10.4	16.5
Georgia	0	0	0	0	0.2	0.1	0	0	0	0	0	0
Maine	0	0	0	0	0	0	0	0	1/	1/	0	0
Maryland	0	0	0.1	0.1	0.2	0.8	2.3	2.0	1.3	1.0	0.4	0
Massachusetts	0	0	0	0	0.8	1.5	2.1	1.9	2.0	0.9	0.4	1/
New Hampshire	0	0	0	0	0	1/	0.1	0.1	0.2	0.2	1/	0
New Jersey	0	0	0	0.9	6.1	11.2	10.5	12.2	10.6	5.6	0.5	0
New York	0	0	0	0	2.1	4.2	8.3	14.4	16.7	16.9	0.2	0
North Carolina	1/	1/	1/	0.1	0.6	2.7	9.9	11.6	7.5	5.2	1.6	0.1
Pennsylvania	0	0	0	0	0.3	0.6	0.7	2.5	5.3	5.9	1.8	0
Rhode Island	0	0	0	0	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	4.5	3.7	2.6	0	0.1	0.1	0
Vermont	0	0	0	0	0	1/	1/	1/	0.1	0.1	0	0
Virginia 2/	0	0	0	0	0.5	1.1	4.5	4.5	3.7	4.0	1.6	0
West Virginia 2/	0	0	0	0	0	0	0	0	0.1	0.2	0	0

State	Migrant-worker employment											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Thousands of workers											
North Central	0	0	0	2.7	14.3	56.9	80.5	76.1	59.4	36.8	2.3	0
Illinois	0	0	0	0	3.7	4.9	3.7	4.2	5.3	2.4	0	0
Indiana	0	0	0	0	1.4	2.9	3.0	6.7	8.8	5.4	0	0
Iowa	0	0	0	0	0.3	0.3	0.5	0.8	0.7	0.1	0.1	0
Kansas	0	0	0	0.8	2.3	4.1	5.2	1.6	1.7	1.6	0.7	0
Michigan	0	0	0	0.5	2.1	26.8	40.1	34.3	19.1	12.4	1.5	0
Minnesota	0	0	0	0	0.2	5.6	5.7	0.3	0.2	1.0	0	0
Missouri	0	0	0	0	0.2	0.2	0	0	0.2	1/	0	0
Nebraska	0	0	0	0	0	2.1	7.6	1.0	0.1	0.2	0	0
North Dakota	0	0	0	1.4	2.2	4.1	4.8	6.3	2.2	5.2	0	0
Ohio	0	0	0	0	1.5	4.9	6.7	12.1	19.7	7.2	0	0
Wisconsin	0	0	0	0	0.5	1.0	3.2	8.8	1.5	1.2	0	0
South Central	0.4	0.1	0.4	3.5	6.8	12.3	21.4	18.4	11.1	12.1	12.5	8.4
Alabama	0	0	0	0	1.0	0.9	1.2	0.9	0.2	0.2	0.1	0.1
Arkansas	0	0	0	0	1.5	0	0.3	0	0	0.3	0.5	0
Kentucky	0	0	0	0	1.1	0.2	0	1.0	0.1	0.1	0	0
Louisiana	0.1	0	0	2.6	0.3	0	0	0	0.7	0.6	0.6	0.3
Mississippi	0	0	0	0	0	0	0	0	0	0	0.3	0.2
Oklahoma	1/	0	0.1	0.6	2.0	8.2	2.6	2.5	2.1	0.8	0.7	0.6
Tennessee	0	0	0	0	0.4	0.2	1/	0.3	1/	0.1	0	0
Texas	0.3	0.1	0.3	0.4	0.5	2.9	17.2	13.7	8.0	10.2	10.3	7.2

State	Migrant-worker employment											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Thousands of workers											
Western	18.8	19.2	19.4	29.3	54.0	92.8	87.0	74.1	86.0	69.6	19.7	16.2
Arizona	3.6	2.3	2.6	3.6	2.8	3.2	2.3	0.9	1.3	2.3	4.0	4.3
California	14.8	15.6	14.1	18.6	29.8	40.4	32.9	32.9	34.5	35.3	12.3	11.4
Colorado	0	0	0	0.6	3.6	8.7	7.1	6.6	5.2	3.7	0.4	0
Idaho	0	0	0	1.4	4.1	6.6	7.6	3.4	4.2	4.5	0.8	0
Montana	0.2	0.2	0.4	1.1	1.4	5.5	5.4	5.3	3.5	2.2	1.1	0.4
Nevada	0	0	0	0	0	0	0	1.0	0.2	0	0	0
New Mexico	1/	0	1/	1/	0.5	0.6	0.4	0.2	1/	1.1	0.3	0.1
Oregon	1/	0.4	0.7	0.8	3.4	13.2	14.0	15.7	6.7	2.4	0.1	0.1
Utah	0	0	0	0	0.3	1.1	2.2	1.8	1.4	1.4	0	0
Washington	0.1	0.8	1.6	3.1	7.5	10.3	13.2	6.2	9.0	16.6	0.7	0
Wyoming	0	0	0	0	0.7	3.1	1.9	0.1	0	0	0	0

1/ Less than 50 workers.
2/ Employment in Berkeley and Jefferson Counties, West Virginia, included in Virginia employment figures.

NOTE: Due to rounding, figures may not add to totals.

Source: Bureau of Employment Security, In-Season Farm Labor Reports for the 15th of each month.

EXPLANATION AND COVERAGE

Information on seasonal-hired-worker employment is based on monthly reports (ES-223) received by the Bureau of Employment Security from its affiliated State agencies. These reports contain estimates of seasonal hired employment in agriculture by crop activity and origin of worker. The employment estimates relate to the 15th of each month.

The Bureau has delineated 269 agricultural reporting areas throughout the country. Reports are received from each area during its agricultural season, from the first through the last monthly period in which 500 or more seasonal hired farmworkers or any foreign workers legally admitted to the United States for temporary farmwork are employed.

Agricultural workers are defined as those engaged in the production of agricultural crops or livestock and in closely related onfarm activities such as postharvest storage, sorting, and packing which do not materially change the product from its original form. (Workers engaged in such activities as canning, freezing, and cotton ginning are excluded.)

Seasonal hired workers are defined as those who are hired or assigned to work on any one farm or establishment for less than a continuous 150-day period in the course of a year. Because the figures cover only seasonal hired workers employed in major agricultural areas reporting to the Bureau, they are not comparable to hired-worker employment data published by the Bureau of Labor Statistics and the Statistical Reporting Service of the U.S. Department of Agriculture, which include year-round hired workers and have nationwide coverage.

☆ U. S. GOVERNMENT PRINTING OFFICE : 1968—303-952/5

FARM LABOR DEVELOPMENTS
Regional Map of the United States

Note: Alaska and Hawaii are not included in the four regions.

VT 006 241

Specht, Harry; Pruger, Robert

Job Creation--A Means for Implementing a Public Policy of Full Employment. Technical Monograph No. 9; Publication No. 109.

Contra Costa Council of Community Services, Walnut Creek, Calif.

Office of Economic Opportunity, Washington, D.C.

MF AVAILABLE IN VT-ERIC SET. 9279

Contra Costa Council of Community Services, 2717 North Main Street, Suite 9, Walnut Creek, California 94596 ($1.00).

Pub Date - Apr67 42p.

*UNEMPLOYED; *UNSKILLED LABOR; *EMPLOYMENT PROGRAMS; ECONOMIC DISADVANTAGEMENT; POVERTY PROGRAMS; MANPOWER UTILIZATION; GOVERNMENTAL FUNCTIONS; PROGRAM ADMINISTRATION; *PROGRAM PROPOSALS

CALIFORNIA

Job-creation demonstration projects resulting in employment of 40,000 to 50,000 poor persons have been financed by the Office of Economic Opportunity. Some program goals were: (1) to determine the effect of having a job available for all who are willing and able to work, (2) to reduce the number of families with income below $4,000 per year, (3) to find the best means of building new jobs in public agencies, (4) to build and test programs that provide opportunities for the new workers to learn, grow, and change, and (5) to increase services to the low-income community by utilization of available manpower. Limitations of existing programs are: (1) Jobs are usually set up outside regular employment systems, (2) The small numbers of individuals employed attract only the highly talented and resourceful poor, and (3) Employment is only at entry level with little opportunity for advancement. Tax cuts are inefficient in raising employment, poverty programs are limited in the number of people they reach, and welfare and unemployment insurance only sustain low level income. Job creation would result in savings in welfare and a reduced crime rate, and the money paid would be spent on consumer goods to expand the local economy in poverty areas. An employment program during training is a necessity for the hard core unemployed. (DM)

VT 006 241

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46p*

Job Creation: A Means for Implementing A Public Policy of Full Employment

by

Harry Specht and Robert Pruger

VT0006241

Publication No. 109

NUMBER NINE OF A SERIES

of technical monographs

published by

contra costa council of community services
2717 north main street, suite 9
walnut creek, california 94596

september, 1966

price: one dollar

second printing
april, 1967

Job Creation: A Means for Implementing A Public Policy of Full Employment.

by

Harry Specht and Robert Pruger

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Material for this paper was developed as part of the Richmond Community Development Demonstration Project, supported by a grant (#9279) from the Office of Economic Opportunity; other reports deal with specific parts of the demonstration project and are published in Monograph Series, Contra Costa Council of Community Services, 2717 North Main Street, Walnut Creek, California.

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ABOUT THE AUTHORS

Harry Specht was born in New York in 1928. He received his PH.D. from the Florence Heller Graduate School for Advanced Studies in Social Welfare, Brandeis University in 1962. His prior degrees were received from City College of New York, (B.A. 1951) and School of Applied Social Science, Western Reserve University, Cleveland, (M.S.S.A., 1953). For the past thirteen years Dr. Specht has been actively engaged in social welfare with particular emphasis on community organization, reasearch, and supervision involving youth and young adults; as well as considerable experience in Settlement House work in New York City.

Before accepting the position of Assistant Executive Director of the Contra Costa Council of Community Services in 1964, Dr. Specht had been Director of the Community Organization Program of Mobilization for Youth in New York City. Prior to that position he had been Director of the Research Project for the National Jewish Welfare Board Study of Young Adults at the Florence Heller Graduate School at Brandeis. His work also included that of Executive Director of the Mt. Vernon Hebrew Camps, Inc. in Mt. Vernon, New York; Program Director for the Mt. Vernon YM-YWHA; and Instructor at Adelphi, Hunter College and Yeshiva School of Social Work.

Dr. Specht joined the faculty of San Francisco State College as an Associate Professor of Social Welfare in September, 1966.

Robert Pruger was born in New York City, January 10, 1933. He received his B.A. (cum laude) degree in 1955 from the City College of New York and his M.S.W. degree in 1957 from the University of Pennsylvania, School of Social Work. He is a Phi Beta Kappa.

Mr. Pruger's work experience has been varied; Senior High Supervisor at Mt. Vernon YM-YWHA. Mt. Vernon, New York from 1957 to 1960; and Program Director at the Vacation Camp for the Blind in New York from 1960 to 1961. He served in the United States Army for a period of one year from 1961 to 1962. He was coordinator of In-Service Training for the Mobilization for Youth in New York from 1962 to 1964. From 1964 to 1966 he was Assistant Chief to the State Department of Public Health, Berkeley, California.

Mr. Pruger is a member of the National Association of Social Workers and the National Conference on Social Welfare.

Mr. Pruger plans to begin full-time study toward his doctorate degree in the fall of 1966 at the University of California, School of Social Welfare in Berkeley.

INTRODUCTION

Job creation programs are one means by which government can support a policy of full employment. To date, however, such programs have been modest and only timidly innovative. This deficiency is a grave one; for, a clear inescapable measure of the success of the poverty war and of the equal rights movement is the degree to which unemployment among the poor is reduced. Though a national program that can achieve this goal is not yet recognizeable, a national debate has arisen that is currently weighing the various strategies through which the country can increase the number of jobs available for the poor. Among the most frequently mentioned strategic alternatives are economic and industrial development, increased investment in training and job upgrading programs, public works, job creation, and extension of the Neighborhood Youth Corps programs.

While we will not be discussing the limitations and virtues of all these different means to deal with unemployment, it should be noted that each achieves different goals. Some, such as economic and industrial development, have only long range effects. The benefits of others, such as tax cuts and education, are often filtered out before they reach the lowest socioeconomic class.

Numerous job creation demonstration projects resulting in the employment of 40,000 to 50,000 poor persons have been financed by the Office of Economic Opportunity. The positions have such titles as "new careerists", "nonprofessionals",

"aides", and "sub-professionals", most of which designate the fact that they are newly created jobs and that the new workers undertake tasks usually reserved for professionals.

By and large these projects have clearly demonstrated that new and interesting jobs which have social utility can be created for low-income people who are poorly educated. With training and supervision the incumbents of these positions have performed in their jobs with greater responsibility, interest, and ability to learn than anyone would have expected.

However, the vast majority of these programs have three characteristics which limit the value of the new jobs:

a) Most of the jobs are set up <u>outside</u> of the regular employment systems of established agencies. In government, the jobs are usually of a temporary appointive nature. They are not civil service positions and consequently do not give the new workers the security and the benefits of civil service;

b) The programs usually deal with relatively small numbers of people and as a result it well may be that the programs have exercised a selection process that brought in a high proportion of highly motivated and talented poor. Different administrative and programmatic planning will be required to operate such programs on a massive scale;

c) The overwhelming majority of the new jobs have been entry level positions. While positions of minimal responsibility and pay may be appropriate for a majority of the unemployed poor, it is not true for all. It continues to surprise many that

some low-income people are educated or otherwise qualified and quite well able to assume more than an entry level responsibility. Jobs should be available for them, too. A dead-end position offers little incentive to those new workers who otherwise would and could learn and grow through employment.

PROBLEM

1. Need to Have More Jobs Available for the Poor

Automation is rapidly reducing the job opportunities in the material production, soil tilling, and non-professional service areas. At the same time our population is exploding. By 1975 we can expect to have 225,870,000 people in this country; 107,682,000 will be twenty-five years of age and younger. (17)

We are now entering our 56th month of economic expansion, the longest peacetime expansion in our history. Since the beginning of this period, the gross national product has grown well above our long term rate. From an average utilization of 80% of factory capacity, we are now utilizing over 90 percent. From 1961 to 1965 this expanding economy has created over 5,383,000 jobs. From July, 1964 to July, 1965 alone, we added 2,449,000 jobs. But even with this unbelievable record of growth we were still left with a 4.4 percent unemployment rate nationally in September, 1965 and according to the Council of Economic Advisors, there is little hope of lowering the rate below 4 percent in the near future.* Added to this must be the fact

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* The drop of the unemployment rate in February, 1966 to below 3.7 percent is in response to the build up for the Viet Nam war. The problems of unemployment in ghetto areas persist, even with the war industries. However, the

that by 1975 there will be 1½ million fewer jobs in agriculture than there were in 1960. (11) Thus, the migration of unskilled rural people seeking jobs in the city will intensify the problem of unemployment among low-skilled workers.

More importantly, unemployment falls unevenly. Among certain groups such as youths and minorities, and in certain communities, the unemployment rate is two to four times the national rate. In August 1965, for example, the national unemployment rates for non-whites was 7.9 percent, more than double the 3.7 percent rate for whites, and rates for youths and minorities are markedly higher than national rates. A disproportionate share of this unemployment occurs in the ghetto areas of our larger cities.

Thus, although measures to stimulate the economy have worked as well as anyone dared expect, it seems that our economy can operate at near-full capacity without utilizing large numbers of unskilled persons. To bring them into productive use in the near future, we must search for a more direct approach. Heilbroner, in a recent paper discussing the future of capitalism put it this way:

> "If the continued incursion of technology coupled with a very large inflow of young people into the labor market, should create an employment crisis....policies designed deliberately to create employment through a substantial enlargement of public activities....might well show up as part of the practicable public agenda. (4, p.28)

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manpower utilization model we are developing here is based on the problems of our peacetime economy and should be pursued despite momentary changes due to war industries.

2. The Particular Problems of California

California suffers from unemployment more than the average state. (12) As evidence of California's special problems, during the past record peacetime economic boom when the national unemployment rate dropped from over 6 percent to 4.4 percent, California's rate remained about 6 percent. In the twelve most poverty-stricken areas of the state the rate has remained about 10 percent. In the past five years, we have created 180,000 jobs a year, but we have 192,400 new people each year looking for work. As of September, 1965 there were 351,000 identified unemployed. Of the unemployed who were insured, 44 percent were unskilled or semi-skilled workers.* The gap between the rich and poor in California is dramatic and apparently as difficult to bridge as in any other state.

The tremendous migration to California adds to the problem of unskilled labor. We receive 350,000 migrants a year. Most of the migrants possess enough skills to qualify for the existing job market. But a substantial number are unskilled workers from the poorer parts of our country where educational and social services are limited. These people move into reception center areas like Watts because of restricted housing practices. Any tightening of the job market finds them to be the first people fired because the existing job market requires increasingly smaller numbers of unskilled labor-

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* Only about one-half of the unemployed of California are insured. The percentage of uninsured unemployed is, of course, much higher among unskilled workers.

ers. Unemployment rates in some census tracts in these areas reach as high as 30 percent.*

No state, on its own, possesses the resources to finance a significant amount of work for the unskilled unemployed. California has already strained her resources to the breaking point in providing schools and services to a rapidly growing population and addressing other social problems of the poor.

Moreover, this failure of an expanding national economy to substantially reduce large pockets of unemployment in California is due to such nationwide causes as the revolution in automation and technology, the vagaries of defense spending, and the huge migration of the unskilled and uneducated to California. A very high proportion of the unemployed in our state were born elsewhere. For example, in one area of Los Angeles about 80 percent of the unemployed Negro and Mexican-American men were born outside the state. (20, p.62) Over 39 percent of the residents in East Los Angeles and over 26 percent of the residents of South Central Los Angeles who are 25 years old or over have not completed the eighth grade. California is paying the price of the paucity of educational facilities in other areas.

Since we have inherited national problems we must seek national remedies.

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* For example, the estimated unemployment of males 14 and over made by the CAP for West Oakland is 33%. Reported male unemployment for the West Richmond area is 18.9% and for census tract 65 within that area it is 28%. In a recent survey of the Watts Willowbrook

3. Deficiencies of Existing Measures

Existing measures to combat poverty fall into two broad classifications. The first consists of monetary and fiscal measures, such as income and excise tax cuts. These measures deliberately increase consumer demand power as a means to indirectly force the employment of additional plant and labor capacity to meet that enlarged demand.

But if the objective is to reduce unemployment, why use this inefficient, roundabout method? Why not concentrate on directly hiring the unemployed? This method would result in a triple benefit. First, in a job creation program 80% of the initial expenditure is made as wages for the unemployed (in contrast, none of the initial funds released by tax cuts serves this purpose). Second, the private sector would experience a greater demand for goods and services, since the unemployed spend a higher percentage of their new earnings and spend it sooner than any other group. Third, creative jobs for the poor return socially useful labor to society, while a tax cut is given for nothing.

The second set of governmental measures to combat poverty includes all of the traditional and recent poverty programs. These programs provide either limited amounts of income, social services, or work experience to upgrade the work skills of individuals.

There is no question that these programs contribute to a better economy and society; however, they simply are not designed to create jobs in numbers equal to the numbers of hard core unem-

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area of Los Angeles, it is reported that 21.9% of the total labor force were unemployed (compared to 4.6% for L.A. County). (Economic Youth Opportunity Agency 1964 Demographic Survey of South Central Area.)

ployed. Training programs, for example, affect only a small percentage of this group. The almost exclusive preoccupation of training programs with the supply side of the labor market (i.e., preparing individuals for presumably already existing and currently vacant positions) permanently limits the support they can give a public full employment policy. Such a policy also requires programs that immensely increase the total demand for labor, particularly by creating useful jobs that tap the existing talents of those generally perceived as being 'unskilled'.* Training for this group, a good deal of evidence suggests, is most successful when it comes as an opportunity derived from employment, rather than as a prerequisite for it.

Present income maintenance schemes, such as unemployment insurance and public welfare, mere-

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* Though the term "unskilled" is used in various parts of this paper to refer to the able-bodied, hard core unemployed, it is done so only as a matter of colloquial convenience. It is recognized, however, that the term is by no means an objective one. Indeed, the term could be used with at least equal accuracy to describe a society"unskilled" in developing occupational roles that exploit the capabilities of the various persons and groups that make it up. In virtually all pilot programs the speed and simplicity with which "unskilled" and unemployed domestics, housewives, high school dropouts, janitors and laborers have become valued school-community workers, probation assistants, police-community aides, and the like, amply demonstrate the point. In each of these cases it has not so much been that the "unskilled" became "skilled", as it has been that a positive social role was built around their previously unrecognized, but always present, talents.

ly sustain income at fairly low levels, and they do not provide access to the higher incomes and feelings of self-sufficiency associated with work. In addition, coverage is limited. Most recently, two critics have even defined these defects as non-correctable within the limits of current programs. (1)

Because a decreasing percentage of the expenditures for heavy construction goes to meet labor costs, public works projects are a much less efficient means to create jobs for the unskilled than they were 30 years ago. On the Oroville Dam project, for example, only one job was created for every $26,000 of expenditure. Of the average 646 persons working on this project in 1965, 172 were classified as unskilled. Thus, at Oroville, it cost approximately $100,000 to create one unskilled job; the job creation proposal described below costs only $5,000 per unskilled job.

4. Shortage of Professionals and the Need for Change in Service-Giving Agencies

Despite the gloomy forebodings we see in all of the trends for employment, much of society's important work is not being done, particularly in the human services field. The readily available and well known statistics that detail the chronic and worsening shortages of doctors, social workers, teachers, nurses, lawyers, etc., need not be repeated here to establish the point. These fields, using their full training capacity, are annually increasing their professional numbers by the hundreds at the same time that our annual national population is growing by the millions. And even under optimum conditions, the situation is not likely to change for the better. Assuming a perfectly coordinated development, for example, it takes nine years before construction of a medical school results in the first new doctor emerging from that school.

Clearly, our people cannot be served merely by extending the existing model by which impossible, unavailable amounts of money, time and talent are required to maintain an unnecessarily sharp distinction between the helpers and the helped. Not only does the invidiousness of the client role suggest that the above arrangement is inherently immoral, but the arithmetic growth of helpers contrasted to the geometric growth of those needing help makes that arrangement currently impractical and, in the not too distant future, must render it completely untenable. A solution to this dilemma, of course, and the one being proposed here, is to consciously blur the distinction between the helper and helped by finding effective work for the growing number of our population who cannot participate as material production workers in what we have traditionally defined as exclusively professional activities. (4)

The United States already has more of its population in institutions than any other country of the world. It has a much larger unemployed welfare recipient group than many European countries with relatively similar social systems. Estimates of the numbers of incarcerated persons in different countries with similar cultural patterns and penal codes for the year 1960 dramatically illustrate the point:

United States	- about	200	per	100,000
Denmark	- "	73	"	"
England and Wales	- "	59	"	"
Norway	- "	44	"	"

(20, p.82)

We are already seeing breaks in the legal and political barriers which define people as recipients rather than participants. The Civil Rights movements and many of the recent court decisions are only early expressions of a demand to shift the social structure that establishes "ins" and

"outs". Brought to the terms of this paper, in our increasingly automated economy we are going to have to find ways of screening people into employment in the service professions, rather than screening them out.

Our welfare agencies and our institutions for the mentally ill, the retarded, the delinquent, etc. may have returned some to full participation in society, but they have contributed to the permanent physical, social or psychological segregation of many more. It may be argued that the screening out of the more upsetting classes of deviants at least once served the convenience and maintained the morale of the far more numerous main population group. However, in a nation and a world characterized by a renascent, raucous, unrelenting demand for participation, that argument becomes as empty as the arrangement it supported is anachronistic.

For the social services this means shifting attention from the study and treatment of illness and deviance to a concern for ways to foster human development. And in this turn to the human services, reorganized and more rationally staffed, the vast potential for the employment of the poor can be overlooked only, as was "The Purloined Letter", because it is so obvious.

JOB CREATION

1. Government Can Profitably Use Unskilled Labor

Pilot projects in our state and in other parts of the country demonstrate that unskilled persons can appreciably raise the quality of service offered by government. (7,8,9,11,12,14,15,16)

In the land management and conservation field, this proposition is readily demonstrable. Unskilled labor offers the opportunity to clear and maintain more areas of public lands, work which would not otherwise be funded. Our state and county resources agencies and an informal President's Committee on Emergency Work Programs, organized by Dr. George Mehren, Assistant Secretary of Agriculture, which included Charles Connaughton and William Dresser of the United States Forestry Service, have developed over 30,000 unskilled job possibilities in California in land management and conservation alone. (17) Most of these jobs could be ready to go within 60-90 days after approval.

In other fields, estimates show that state, local, and nonprofit agencies in California could productively use scores of thousands of aides in the fields of mental hygiene, education, probation, recreation, public health and social welfare. This labor would enable existing agencies to markedly improve their service. (2, 9, 10) For example, it is projected that from 1960 to 1975 there will be a 65% increase in the numbers of people employed in the professional, technical and helping services. Educational services will swell to absorb an elementary school population that will increase by 15%, secondary school enrollments will increase by 50%, and the college-age population will increase by 70%. (11, p.10)

The opportunity to use hundreds of thousands of unskilled men and women in permanent jobs exists in state and local social services. Subprofessionals can, first, relieve professionals and semiprofessionals of routine duties, thereby freeing their time for higher quality services; second, they can facilitate and influence the communication that occurs between professionals and their clientele.

Actually, as suggested earlier, the scarcity of professionals caused by the State's provision of human services to a growing population forces a more rational use of existing professional time. Professionals do not return the social investment made in them when they engage in tasks unrelated to their costly, specialized training. The subprofessional is able to perform many of these tasks immediately and on-the-job training can qualify him for the next skill level in the particular field. This way of structuring the entry of subprofessionals, thus, opens up new careers for the poor.

In the past, jobs for subprofessionals have developed largely through budget necessity. (4) Social agencies desiring to explore new patterns of service delivery are handicapped by an inadequate supply of both professionals and funds. Corrections, for example, has turned to its lay correctional officers and to its inmates for developments in education, institutional maintenance, in group counseling, in therapeutic community programs, and even in research. It has given considerable support to the self-help movements--probably not so much out of any sophisticated belief in the ability of problemed people to help cope with their problems, as out of the necessity for developing programs with minimal funds. The Alcoholics Anonymous programs in institutions, as one instance, have been ways to fill time without having to fight for new budgets.

It is possible that such efforts have helped pave the way for a necessary expansion of activities within the professional fields, particularly as they have suggested the range of service tasks which do not require a professional's formal training. Indeed, there is evidence to document the claim that the subprofessional can perform tasks for which the professional is not as well equipped. For example, in the field of corrections it has long been known that the main influences on institutionalized offenders are other offenders. Cressey has stated, "The way to build an effective correction system is not to try to take away the power of the inmates, but rather to figure out ways to use inmate power for correctional purposes." (3, p.116)

Evidence from unsystematic uses of subprofessionals and from the self-help movement is now being supplemented by demonstration projects funded through the Office of Economic Opportunity and the National Institute of Mental Health. Results of these experimental assignments of professional tasks to the poor (i.e., employing them as assistant teachers, mental health aides, homemakers, child care aides, police-community relations aides, community organizers, etc.) suggest that when it is directed toward the poor, service is improved by utilization of the poor in at least two ways.

First, the likelihood of a favorable response of the client to the service offered increases. This is because the poor in service are able to relate more easily to a client in similar circumstances than a professional can. They are privileged communicants to information not shared with the more remote middle-class practitioner. They can provide valuable feedback on the attitudes and needs of the poor to which the professional does not have access. Their style and value systems are less likely to antagonize the client. They provide visible evidence that there is opportunity for the poor to improve their state.

Second, the utilization of large numbers of poor in the helping services is rehabilitative in its own right. The persons giving service experience the sense of belonging, the sense of competence, and the sense of making a meaningful contribution which are restorative of personal worth and dignity. And, in addition, they are participating in a flow out of poverty which is the most effective weapon against the most corrosive ailment of modern urban life, the ghetto existence.

2. The Unproductive Poor

The poor contribute little to the economy. They add little to tax collections and draw heavily from tax revenues in the form of public welfare and other institutional costs. Large numbers of immigrants to California are among the present and future poor. For example, 18% of the population in East Los Angeles and 21% in South Central Los Angeles moved into these areas in the 5 years prior to the census. (20, p.65)

The potential impetus to the economic development of a community which will accrue from a massive employment program has not been investigated systematically. The overwhelming proportion of monies invested in this way will be used by new workers to purchase consumer goods in their own neighborhoods, thus encouraging the development of local small businesses (with the added benefit of more jobs for local people).

3. Although Expensive, Federal Revenues Will Be Available to Support Job Creation Programs

The Council of Economic Advisors estimates that federal government revenue at current taxation rates will increase about $6 billion each

year. By 1970, the federal revenues will be $35 billion higher than in 1965.*

The federal government must make some disposition of that revenue merely to maintain the balance between how much is taken out of the economy and how much is returned. Reducing the national debt will not be economically feasible because of the deflationary effect of placing money in the hands of those with a low propensity to spend. Thus, the government must either increase expenditures, return the funds to the states, or cut taxes.

To cut taxes and give the employed more income at a time when a significant number of persons are not receiving any income would be unfair. If the money must be spent, it should be expended on alleviating critical unemployment while also securing the beneficial effects of this labor for society.

Of course, the ultimate cost to the community of such a program will be less than the initial expenditure. Some reduction in welfare and unemployment insurance costs will occur. These reductions, however, will not be as large as one might expect since only a small proportion of transfer payments which maintain income go to the poor. (6) For example, in California about one-half of the unemployed receive unemployment insurance. However, the percentage of uninsured unemployed is much higher among the unskilled in the pockets of poverty.

But there will be some reductions in welfare costs. For example, about 13,000 able-bodied males in California receive an average family payment of $210 a month under the AFDC-U pro-

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* This increase occurs simply as a consequence of the growth of the level of industrial output. (5, p.26)

gram. Providing jobs for these recipients would save approximately 50% of what the community now pays, thus offsetting about half the cost of providing the job. (Unemployed adult males would constitute a primary target group for this kind of program.)

Finally, there would be savings from the reduction in crime and other individual and social destruction. Although most experts refuse to reduce the relationship of crime and unemployment to a simple one with predictive value, they do concede a positive correlation whereby giving a man a regular job certainly makes him less crime prone.

For California, keeping individuals from a life of crime is indeed an expense to consider. We know, for example, that the crime career of each adult felon arrested costs the public agencies an average of $4,000 a year, including an average cost to the state of $2,200 a year for each adult sent to prison. Juveniles are even more expensive, representing an annual incarceration cost of about $4,000. California's annual cost for all adult and juvenile felons is $478 million. (13) Even a slight decrease in these rates would make the proposed program financially worthwhile for taxpayers, while the resulting social values are incalculable.

4. Significant Resources for Employment Are Already Available

The Medicare Bill of 1966 by itself expands human services by more than one-half billion dollars annually in California alone. Extended comprehensive services will be offered in maternal and child health, crippled children's care, in-patient hospital care, health services for school-age and pre-school children, child welfare, day care, mental retardation, as well as

health care for persons 65 or older. This program alone presents enormous opportunities for the creation of new jobs for the poor.

Similar opportunities exist with the Federal bill setting up heart, stroke and cancer centers, as does the 80 million dollars allotted to California under the Compensatory Education Bill. State and Federal expansion of vocational rehabilitation, mental retardation, and alcohol treatment programs offer other possibilities for job development.

Projects carried out for the California State Office of Economic Opportunity by the New Careers Development Project have documented the productive use of the unskilled in the following areas:

a) Mental Hospitals -- at Stockton 40 psychiatric technicians, trainee aides, have had remarkable success in improving care at the hospital.

b) Schools -- teacher's aides allow the teacher more time to concentrate on teaching; large scale use was successful in Pittsburgh and Philadelphia. Also, many school districts in our own state have used aides; school counseling aides work with professional counselors in reaching families of children in difficulty; playground aides supervise recreational periods; crossing guards supervise traffic safety procedures; study hall supervisors and homework helpers help with out-of-class study. (11)

c) Child care and pre-school aides -- thousands of these workers were successfully used in Project Headstart.

d) Rehabilitation work -- workers assisted the vocational rehabilitation professionals.

e) Homemakers are assigned to families where they provide information about maintaining a home and available community services; others assist social workers in their work.

f) Police-Community Relations aides work with families of younsters who are in trouble, make referrals, visit community groups, interpret community attitudes and reactions to the police. (7)

g) Public Health aides visit homes to interpret and encourage the use of health programs like vaccination; assist in referrals and on intake.

h) Recreation aides in parks, playgrounds and community centers assist professionals in organization of activities; work in community recruitment and organization of new activities.

i) Research aides are trained for household enumerations; interviewing; interpreting research goals and outcomes to the community.

j) Community Organization workers undertake organization of citizens groups, public housing groups, neighborhood councils and inter-group relations work. (19)

k) Planning aides work in community to interpret zoning regulations, renewal plans, referrals to service for relocation and housing information.

l) Probation aides assist professionals in work with probationers, work with teen groups for trips and recreation.

Other areas in which unskilled persons have been beneficial include corrections, social work, employment counseling, and legal services.

The State Office of Economic Opportunity project has also compiled a dictionary of over 400 job categories in state and local government. (2) They have pinpointed and described some of the administrative and supervisory problems associated with creating classes for these types of jobs. The State Personnel Board staff is currently working on the problem of creating new jobs for the poor in state services. Within a short time, using the techniques developed by these projects, a substantial number of specific requests from state, local and non-profit agencies could be compiled.

PROGRAM GOALS

There are two programmatic approaches to dealing directly with the problems of unemployed poor. The first, which characterizes most of our employment programs, holds that the poor must be prepared for employment and that this preparation best occurs through training, education and counselling services. As suggested earlier, this approach ignores the evidence which has given rise to the second view, viz., that the unemployed make best use of services available to them if they are employed. Too many programs promise jobs only conditionally (i.e., "if" a particular training course is taken, or "if" family stress can be relieved by counselling), even though there is little empirical correlation between the condition and the unemployed person's ability to perform the job. And even then, frequently there is no job waiting at the other end of the promise because either the jobs do not materialize or the preconditions make it too difficult to succeed. Often, the "if" should be preceded by a "perhaps", but we hesitate to qualify our promise in the fear that this will discourage participation in the program. But, many of the poor do not deceive themselves as easily; the dishonesty of these promises only serves to alienate the hopeful and embitter the alienated.

Job creation projects are immediately needed to produce models that bring into focus the problems, policies, and issues inherent in the development of a full employment policy. Most crucially, such models can clarify ways to involve major departments of state and local government, the largest potential employers of the

poor. To speak authoritatively about the implementation of a full employment policy, however, projects would have to work systematically toward the achievement of the following programmatic goals:

1. To determine the effect of having a job available for all who are willing and able to work.

2. To reduce the number of families with income below $4,000 per year by providing jobs for heads of households.

3. To find the best means of building these new jobs into the established employment systems of our public agencies.

4. To build and test programs that provide opportunities for the new workers to learn, grow and change. Opportunities for advancement and increased responsibility must be built into the program. This requires that there be:

   a) a system of in-service training, educational opportunities, and supervision which enables workers to be upgraded to higher positions in the agency;

   b) rewards and incentives which encourage and motivate workers to utilize these systems; and

   c) creation of a climate within public agencies which encourages and rewards their utilization of this manpower.

5. Meaningful jobs have social utility; a goal of job creation programs is to increase services to the low-income community by utilization of this available manpower.

ADMINISTRATION

Thus far, only some of the general problems to which massive job creation programs are relevant have been considered. An attempt is made below to identify more specific guidelines to program implementation. They derive from a review of the several job creation projects recently or currently active, as well as likely sources of support in governmental structure or operations. It must be pointed out, however, that the lack of national experience with programs that implement a full employment policy restrict the following to studied speculation.

1. Auspices

Suitable administrative agencies already exist in our present state agencies, such as the Department of Employment. Job creation programs could be implemented easily if resources of these departments were made available to support these programs. While many of our innovative programs have created discomfort within the established service agencies, the present ferment and community concern with lack of results can be used to demonstrate that, given the resources, public agencies can develop innovative models with which to build, develop, and change their own programs.

2. Administration

Other programs, such as the multi-service center program that is currently reorganizing social welfare, health, education, and employment services in California can also be utilized.

This program brings under one roof the services of many agencies which have heretofore operated as independent units with no legal-structural arrangements for coordination of efforts. Service facilities are located within the actual geographical centers of need, and the director of the program serves as a cabinet secretary under the Governor.

This kind of arrangement is an ideal one in which to locate job creation programs in that it reduces administrative costs and gives the programs ready access to a full range of supportive services for the new workers.

The task of developing a wide variety of jobs in a wide range of settings within a short period of time is a formidable one. Here, use can be made of the Cooperative Personnel Service of the State Personnel Board, as it is called in California, in working out job descriptions and supervisory and administrative arrangements. State Personnel Services have experience in providing this kind of service efficiently and quickly.

3. Recruitment and Selection

Recruitment and selection of new workers will require some new methods and techniques. The program should recruit from sources like community workshops, vocational rehabilitation, work experience programs, job corps, neighborhood youth corps, and other training programs, as well as from direct work with groups, organizations and churches which are indigenous to the communities in which they operate. Some of the new workers can be trained as recruiters to work in their own communities.

4. Basic Training

This initial part of the work experience should last for up to one month per worker.

Basic training can be done centrally; or, it could be contracted to an existing agency which can provide new workers with the help and knowledge they will initially need. (Basic training is a period in which the worker becomes oriented to the general work regime. It is a good screening and selection device that allows the agency to assess the workers' skills and abilities. It is also needed to give unskilled and inexperienced workers a chance to resolve, with or without help, some of the problems the new job creates for them before they are actually placed in an agency. These problems, attendant on their change in role, have included making family arrangements, dealing with the welfare agency, and paying outstanding debts to creditors.)

Basic training should stress activities which help the worker to prepare to perform on the job. Role-playing, short-term assignments, visits to community agencies, and discussions can be used effectively to do this. (18)

5. Employers

Most of the jobs can be newly created positions. Jobs can be developed with such agencies as Boards of Education, Recreation Departments, Youth Authorities, Probation Departments and Parks Departments. A wide range of positions should be available to employ the wide range of abilities of new workers.

Priority in the selection of employers should be given to those establishing jobs which are permanent, integrated into the regular agency operation and salary structure, and provide opportunities for advancement through training and supervision. The programs should deal with a wide range of agencies at all levels of government so that there is the greatest possibility to exercise such selectivity.(15)

6. Developing Jobs

Job development can occur through the following steps:

a) Evaluating the roles of the present skilled workers and professional incumbents of positions to identify those tasks of a sub-professional nature.

b) Identifying needed services which are not presently given and which a sub-professional can undertake.

c) Identifying a wide range of jobs so that each new worker can receive an assignment suited to his needs and abilities.

Workers should be hired for the program and paid a base salary when they are hired; employers should be given financial supports for administration, supervision and training. Assignments, based on worker readiness, might consist of one or more of the following elements: basic training; job orientation; entry level job assignments; in-service training; advanced training; and level II and III job assignments. Workers should receive salary increases as they move from level to another (i.e., from basic training, to job orientation, to entry job, to worker level II), according to the specific standards developed to clarify expected worker performance at each of these levels.

Previous experience suggests a number of random considerations to be important in developing employment situations:

a) all workers are hired by the program and, if they meet the requirements set for each position, they remain employed;

b) a basic training program should be available for all new workers and may last for from one to four weeks depending on the needs of the worker. Other kinds of supportive services should be available (through organizations like the multi-service center);

c) job orientation should be conducted by the employer (and considered part of the entry level assignment);

d) workers should be assigned to jobs by the following order of priorities:

(1) it meets worker's needs -- it is the maximum responsibility he can assume;

(2) it has the highest degree of social utility;

(3) it provides the worker with skills leading to other employment; and

(4) it represents the lowest proportion of administrative, supervisory and capital costs to wages for the new workers.

Workers needs and abilities can be assessed during the basic training period. As previously indicated, this orientation should be built around doing rather than using written tests. Workers should have a chance to actually perform in simple role-plays or short-term assignments. Workers should participate in evaluating their actual performance and assessing their strengths as a first step in their on-the-job training;

e) employers should be encouraged to work out job requirements for a classified position for which the worker can apply within the first year that he is assigned to the job. In-service training and supervision should be geared to helping workers meet these qualifications;

f) if the worker is hired by the employer in a classified position, the program might continue to pay the agency for his salary

for some specified period and also continue administrative, supervisory, and training supports to the agency during that period;

g) if the worker does not meet qualifications he should continue as an employee in the program and an alternate plan developed, (e.g., he might continue in-service training; special help might be offered to enable him to deal with areas in which he failed to qualify; a new assignment might be developed for him.) Programs will also have to deal with the worker who is unable to fulfill even the most minimal kinds of responsibility, as well as those able to utilize a formal educational program to move ahead in their field.

7. In-Service Training and Supervision

Responsibility for in-service training and supervision should rest with the employers. Employers should have responsibility for the worker after completion of a basic training program, with state agencies providing consultation and contract compliance machinery.

In-service training programs should help the worker develop his talents so that opportunities for advancement, wherever they exist, can be exploited. Verbal, theoretical and writing skills are best de-emphasized until new workers demonstrate readiness for these elements. Much greater stress should be placed on solving on-the-job problems. For example, role-playing is a good technique for reaching such workers. Language and math instruction should become a part of in-service training as they are needed by the workers on their job.

This kind of training program demands a strategy which will merge available training techniques with effective innovations (e.g., moving training and education out of the formal class-

room setting and closer to the job situation). The trainers themselves will require retraining as new models are developed.

Basic education and skills that are badly needed by the new workers should not be seen as merely remedial. Every effort should be made to cast them not as rehabilitation, but habilitation. The assumption should be that people can be habilitated and developed at any time. In light of the new educational technologies for developing literacy at all ages, the historic pessimism which surrenders hope on other than pre-school youngsters and sees all other assistance as merely remedial must be questioned.

The help of the staff of State, County, and City Personnel Boards should be utilized in working out training programs which are geared to the requirements of the jobs to be performed. The possible uses of adult education and junior colleges should be considered. During the first year, Level II and Level III positions should be developed for the second year of the program so that those workers who have demonstrated their ability can experience the success they have earned.

8. Research and Evaluation

Several different styles of research on these programs should be considered. In some cases research should be concerned with the effect of the program on individual workers, such as changes in their attitudes toward work, uses of their additional incomes, and changes in family life. In others, research should consider the effects of the program on employers, such as changes in their personnel systems and professional practices with and services for low-income people.

In smaller cities research might attempt to measure the effect of the income from these jobs on the low-income household sector of the community. This might include measuring the effects

of these monies on government transfer payments (largely welfare), the effects on the availability of and wages for jobs for other low-income persons and the degree to which this income is reflected in local expenditures, particularly as it influences small business development. The allocation of the new income which accrues to local small business is an empirical question of great importance. The "multiplier effect" this kind of increase has on a community's financial strength could have great economic development possibilities and should be measured.

BIBLIOGRAPHY

(1) Richard Cloward and Francis Fox Piven; "A Strategy to End Poverty", The Nation, May 2, 1966

(2) James Cosby and Donald McDonald; Reference Catalogue and Classifications of Occupational Titles and Job Descriptions for Sub and Non-Professionals; New Careers Development Project; California OEO; October 1965

(3) D. R. Cressey; "Changing Criminals: The Application of the Theory of Differential Association"; American Journal of Sociology; 1955; V. 61; pp 116-120

(4) J. Douglas Grant; "The Psychologist as an Agent for Scientific Approaches to Social Change"; Institute for the Study of Crime and Delinquency, Sacramento, Calif.; Mimeographed; 1966

(5) Robert C. Heilbroner, "The Future of Capitalism", Commentary, V 42, #4, 4/66

(6) Robert J. Lampman, "Negative Rates Income Tax", Office of Economic Opportunity, Washington, D. C., 8/65, (Mimeo)

(7) Gordon E. Misner; The Development of "New Careerist" Positions in the Richmond Police Department; #103; Contra Costa Council of Community Services; Walnut Creek, Calif.; January 1966

(8) National Committee on Employment of Youth; A Demonstration On-The-Job Training Program for Semi-Professional Personnel in Youth Employment Programs; New York; 1966

(9) New Careers Development Project; Institute for the Study of Crime and Delinquency, Job and Career Development for the Poor; California OEO; October 1965

(10) _____; Job and Career Development for the Poor in the Los Angeles Area; California OEO, March 1966

(11) Arthur Pearl and Frank Riessman; New Careers for the Poor; Free Press; New York; 1965

(12) Experiment in Culture Expansion, Proceedings of Conference on "The Use of Products of a Social Problem in Coping With the Problem"; California Rehabilitation Center; Norco, California; July, 1963. Available from California Department of Corrections, Sacramento, California

(13) Prevention and Control of Crime and Delinquency; Prepared for Youth and Adult Corrections Agency, State of Calif. by Space General Corp., 7/29/65, El Monte, Calif.

(14) Robert Pruger; The Establishment of a "New Careers" Program in a Public School; #107; Contra Costa Council of Community Services; Walnut Creek, California; Feb. 1966

(15) Robert Pruger and Harry Specht; Working With Organizations To Develop "New Careers" Programs; #110, Contra Costa Council of Community Services; Walnut Creek, California

(16) Frank Riessman; "The New Anti-Poverty Ideology and the Negro"; White House Conference on Civil Rights; November 17, 1965; Mimeographed

(17) Resources Agency (State of California); Report to the Governor on Poverty and Job Development; November 2, 1965; Mimeographed

(18) Anatole Shaffer and Harry Specht; Training The Poor for New Careers; #105; Contra Costa Council of Community Services; Walnut Creek, Calif.; March 1966

(19) Harry Specht; Community Development in Low-Income Areas; #104; Contra Costa Council of Community Services; Walnut Creek, California; February 1966

(20) United States Department of Commerce; Hard-Core Unemployment and Poverty in Los Angeles; p. 62; August 1965

(21) Leslie T. Wilkens, Social Deviance, Tavistock Publications, Prentice-Hall, Inc., Cliffs, N. J., 1965, pp. 82-103

VT 006 343
Garrett, Pauline G.
Post-Secondary Education in Home Economics.

American Vocational Association, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Pub Date - May67 25p.

*POST SECONDARY EDUCATION; CURRICULUM DESIGN; *OCCUPATIONAL HOME ECONOMICS; ADULT VOCATIONAL EDUCATION; SURVEYS; *CURRICULUM

A survey of State Supervisors was conducted to determine what materials are needed by those who develop occupational home economics curricula on the post-secondary level. The supervisors indicated that home economics education at this level serves (1) youth preparing for wage earning while completing high school graduation requirements, (2) dropouts, (3) high school graduates preparing for employment, (4) homemakers who were re-entering the work force, (5) adults who needed retraining or upgrading, and (6) youth and adults who had academic socioeconomic handicaps. Moreover, most curriculum guidelines proposed that post-secondary education (1) was part of a state-wide plan, (2) prepared for a wide range of occupations, (3) developed employment competency, (4) provided adequate facilities and equipment, and (5) utilized research to undergird and support program development. Post-secondary teachers usually have had courses in general-liberal education, home economics, professional education, and home economics education. Included in this report are: (1) subject matter to be covered in courses and approximate semester hours to develop competency for gainful employment, (2) transfer-credit in the major occupational areas, and (3) guidelines for initiating non degree wage-earning programs to train management aids in low-rent public housing projects, visiting homemakers, companions to the elderly, and child care aids. (FP)

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POST-SECONDARY EDUCATION IN HOME ECONOMICS

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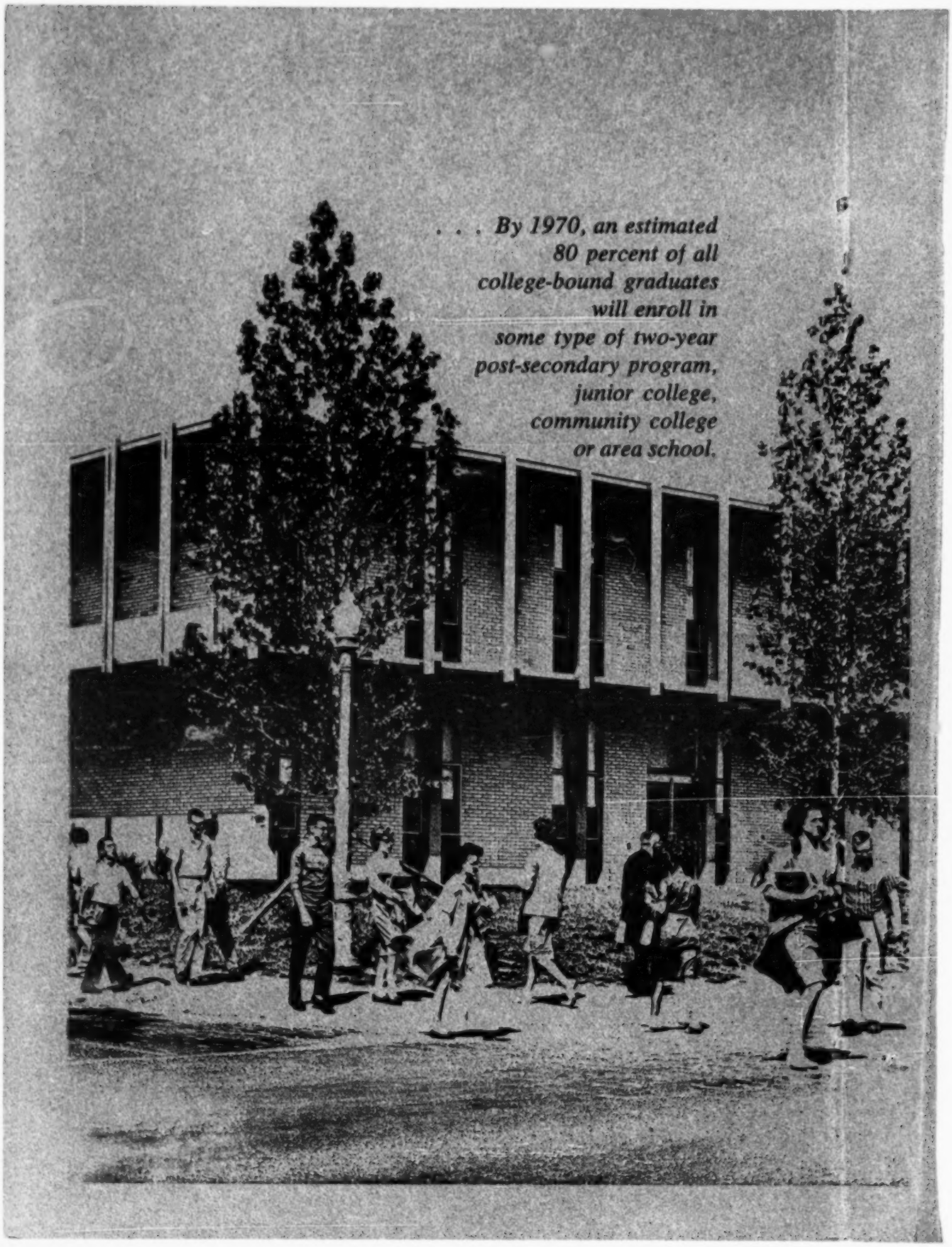

. . . By 1970, an estimated 80 percent of all college-bound graduates will enroll in some type of two-year post-secondary program, junior college, community college or area school.

Material used here was collected by the Home Economics Publications Committee of the American Vocational Association and the booklet authored by Committee Chairman Pauline G. Garrett. Members of this committee include: Dr. Garrett, Chairman, Home Economics Education Department, University of Missouri, Columbia; Rita Youmans, Chairman, Home Economics Department, University of Wisconsin, Madison; Neva Jones, Head, Home Economics Teacher Education, Georgia State College for Women, Milledgeville; Edith Myers, Lakeview School, Stoneboro, Pennsylvania; Sara Ann Brown, Home Economics Teacher Education, Morgantown, West Virginia; Helen Wilson, State Supervisor, Home Economics Education, Boise, Idaho.

May 1967

Introduction

Home economics education has the immediate assignment of preparing students not only for home-making and family living but also for vocations using home economics knowledge and skills as a basis for gainful employment.

Presently, there is an ever-increasing demand for workers to fill an endless variety of jobs, many of which require knowledge and skills derived from courses in home economics.

To help meet the growing needs of the labor market, new home economics curricula providing occupationally-oriented experiences for students seeking immediate employment must be developed.

Although programs of this nature should be expanded at both the secondary and post-secondary levels, this publication will concern itself only with the post-secondary aspects. Experts have indicated that attention must be turned to this direction.

It is said by those who look at the projection of school enrollments that by 1970 an estimated 80 percent of all college bound graduates will enroll in some type of two-year post-secondary program, junior college, community college or area school.

In an article entitled "The Expanding Role of Vocational and Technical Education," Lane C. Ash, Assistant Director of the Bureau of Vocational, Technical and Adult Education, Office of Education, noted, "We are enjoined by these new programs (reflected by the many Acts of Congress during the period of 1961-1965) to continue existing high quality programs in vocational education, and to create opportunities for many more persons."

Mr. Ash also stated, "A balanced total program of vocational education will contribute greatly to the solution of many social and economic problems and it will provide much that is good to a great many who need assistance to achieve a satisfying life in the 20th Century period in time".[1]

Change a Factor

It is impossible to think about curricula and the school without reference to *change*. Changing socialization patterns of the family, the mobile family, changing technology, new products on the market and a host of other advancements in today's society affect the school and the curricula.

The home economics educator must be among those initiating change in educational programs thus enabling people to utilize constructively the knowledge and the techniques resulting from scientific, technological and societal developments. Free public education heretofore has focused on two primary objectives for the school. These were to provide opportunity for the child to realize his potential and to provide a literate citizenry. Today, there are three added objectives of equal importance.

[1]Lane C. Ash, "The Expanding Role of Vocational and Technical Education," *Counselor Education and Supervision,* VI, (Winter 1967), 84-90.

They are to provide a major avenue for social mobility, to prepare young people for the world of work and to develop an understanding and appreciation of the wide range of experiences, services and goods which can contribute to the national economy as well as to their own health and satisfactions.[2]

Need for Post High School Education
Using Home Economics Knowledge and Skills

With reference to these societal objectives, there are certain facts and trends which tend to emphasize the importance of education in occupations using home economics knowledge and skills.[3] Womanpower is one of our country's greatest resources.

Today 35 percent of all workers are women.

While 35 percent of all workers were women, 41 percent of all unemployed persons were women. (April 1965)

Most women are homemakers. One-third of all married women are both homemakers and workers.

Between 1947 and 1964, the number of women in the civilian labor force increased by 53 percent.

In recent years, the proportion of mature women in the labor force actually has exceeded the proportion of young women. This would indicate the increasing tendency of women to return to the labor force after their family responsibilities have lessened. In the age group 35 to 44, the number of women workers more than doubled between 1940 and 1965.

In 1947, 35 percent of women 18 to 64 years old were either working or seeking work. In 1964, this proportion had risen to 45 percent.

Working mothers with children under 18 years of age represent 35 percent of all such mothers in the population and 38 percent of all women workers.

Between 1940 and 1964, the labor-force participation rate of mothers increased about three times more than did the labor-force participation rate of all women. By 1964, 25 percent of those mothers with preschool children were in the labor force.

A survey (February 1965) by the Children's Bureau and Women's Bureau of some 6.1 million mothers with children under 14 years of

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[2]Ralph W. Tyler, "Education in a World of Change," *Journal of Home Economics*, LIV, (September 1962), 527-533.

[3]Women's Bureau, *1965 Handbook on Women Workers*. Washington: U.S. Department of Labor (Bulletin 290), pp. 3-226.

age, showed 46 percent of the children were cared for in their own homes, 15 percent were looked after by the father, 21 percent by another relative and 10 percent by some paid person, who was not a relative. An additional 15 percent of the children were cared for outside their own home, about one-half of these were cared for by a relative. Thirteen percent were looked after by the mothers while they worked. Only 2 percent of the surveyed children were in group care centers. These preliminary findings would emphasize the urgent need for additional day care facilities.

The labor-force participation rate of women in the 45-54 year old group is projected at 59.5 percent for 1980. The rate in the 55-59 year group is projected at 56.2 percent in 1980.

The highest labor-force participation rate among women (March 1964) was for those with 5 years or more of college. The lowest rates of labor-force participation were among women with less than 5 years of schooling.

The most rapidly expanding occupations require the most education and training. These are: professional and technical requiring an average of 16.2 years of schooling; proprietors and managers requiring an average of 12.4 years of schooling; and, clerical and sales workers requiring an average of 12.5 years.

The population explosion continues to bring changes in the number of jobs available with new concerns for the working woman gainfully employed outside the home.

People working to an older age necessitates retraining.

The standard of living continues to rise.

Unemployment and lack of specialized and technical training are societal causes—lack of education is a barrier between people and jobs.

Manpower shortages exist in vocational, occupational, semi-professional and technical areas.

Sophistication and complexity of occupations increase as all employment levels increase.

People tend toward the realization that knowledge is the key to a better life—not just for a few but for many.

Integrative Factors

Post-secondary offerings are becoming more and more available for those who have completed or left the secondary school program. The enrollment in junior colleges has increased more than four times what

it was a decade ago. Instruction at the post-secondary school is designed for persons who have goals related to preparation for immediate entry into the labor market, as well as for those who are interested in pre-professional or general education and are working toward an associate degree or planning to transfer to a four-year college or university.

Problems of coordination arise from the nature of course offerings, professional qualifications of instructors, varying class schedules, increased travel requirements, as well as the nature of the placements, maturity of the students, and other conditions peculiar to post-secondary occupationally-oriented programs. Certain coordination problems may arise from a need for effective integration within the home economics occupational sequence of offerings and within related vocational service areas.

If each of the cooperating agencies in planning and evaluating curricula focused on gainful employment has comparable status, then communication between them is apt to be more effective. For example, the cooperating agencies might be a school and a commercial cafeteria. The main communication lines might be between the school administrator and the cafeteria manager, but there would also be a continuing operational relationship among the staff personnel who actually conduct the educational program. This allows for specific representatives of each cooperating agency to speak with an equal degree of authority and to keep other staff members informed. This relationship of cooperation contributes to and encourages continuing communication to benefit all involved agencies which are equally concerned for the potential employee and his success on the job.

The scope and emphasis in post-secondary programs in home economics focused on gainful employment are similar to their secondary school counterparts. Among the most significant similarities are:

Systematic school-and-work schedules, interrelating class experiences and on-the-job responsibilities.

Kinds of training offered and the kinds of employment available, relating both the instructional content and standards of the training and the duties of the job.

Specialized training programs for related groups of occupations, as well as specific kinds of jobs within occupational groups.

Training programs emphasizing the development of specialized knowledge and skills in human relations, group responsibility, and preparation for advancement on the job.

Representative advisory committees which reflect business, school, and community interests and assist in planning and developing programs focused on gainful employment.

Committed enrollees whose aptitudes, objectives, and potentialities are relevant to occupational choices using home economics knowledge and skills.

Teachers whose qualifications are based on adequate and appropriate background of general education, technical-vocational education, and wage-earning experience in home economics related occupations.

Policies which allow school credit for the combined program of learning experiences in class and on the job but allow no credit for one without the other.

The post-secondary programs often provide instruction for advanced specialization as well as technical supervisory and managerial responsibilities.

Usually there can be flexibility in post-secondary programs focused on gainful employment. By their very nature, they can serve wide geographical areas. Specific programs can be offered periodically and rotated with programs characterized by an uneven flow of trainees.

In most cases, the public post-secondary school, including occupational programs, represents rather a large population sample with a rather extensive budget directed toward acquisition of facilities appropriate to meaningful educational and work-related experiences. True, post-secondary school centers provide an ideal way through which programs in general home economics for both men and women may be provided in areas of study related to food and nutrition, child development, human relations, consumer economics, family finance, management, selection and care of the house, home furnishings, and clothing. It is also true that these programs at the post-secondary level might be extended as special interest or short-term programs to other adults of the community.

Preliminary to Action

Questionnaire

The foregoing presents undeniable evidence that pertinent material must be made available to those who are responsible for developing occupationally-oriented post-secondary curricula.

The Home Economics Publications Committee of the American Vocational Association felt that information concerning programs presently being operated in the states would be of value.

The Committee sent a questionnaire to State Supervisors of Home Economics inquiring about offerings at the post-secondary level. The suggestions in this bulletin highlight the returns from the questionnaire. The Publications Committee chose to give major emphasis to ideas related to programs focused on gainful employment.

Objectives Accepted

The majority of the home economics educators responsible for occupationally-oriented programs accepted the following objectives along with others unique to their local areas:

1. Prepare enrollees, both men and women, for the responsibilities of citizenship at home and at work.

2. Expand educational opportunities in home economics at all levels in keeping with social and economic changes and needs of our society.
3. Increase the employability of older youth and adults by providing them with vocational and technical training along with useful work experience.
4. Strengthen and improve the quality of existing programs in vocational, semi-professional and technical education. Wherever and whenever feasible, using an interdisciplinary approach to program planning.
5. Develop new programs of a vocational, semi-professional, and technical nature in keeping with anticipated changes in the labor market and new economic developments in our society.

Types of Institutions and Groups To Be Served

In reviewing the responses from the questionnaire, it was noted that many states had conducted occupational surveys before initiating programs for the purpose of meeting present and future needs in post-secondary education. They identified the needed body of knowledge as well as skills for successful employment. The continuing demand for professionally and technically-trained personnel in home economics was clearly indicated where such surveys were made.

The groups, both men and women, being served in post-secondary occupational education in home economics included:

Youth who wished to prepare for wage earning while at the same time completing requirements for high school graduation.

Youth who had dropped out of school before graduation from high school and wished to return to prepare for employment.

Youth who had completed high school and who wished to prepare for employment through vocational training.

Youth and adults who wished intensive occupational training to enable them to get a job as quickly as possible.

Homemakers who had never been employed outside the home and who were entering employment for the first time.

Adults who needed retraining for an occupation because previous training was obsolete or outdated.

Adults who wished training to upgrade their current level of employment.

Youth and adults who had academic socio-economic handicaps which necessitated special kinds of training for employment.

Operational Guidelines in Home Economics for Gainful Employment

No matter what type of curricula were used in the occupationally-

oriented home economics programs, as indicated in the returned questionnaires, there seemed to be selected guidelines for planning and evaluating the curricula. For the most part they were similar to those suggested by Dr. Berenice Mallory, Chief, Home Economics Unit, Occupations Section, U.S. Office of Education, in a paper presented at a National Leadership Seminar on Home Economics Education, March 28-31, 1966, at The Center for Vocational and Technical Education, Ohio State University, Columbus. The considerations she presented in developing post-high school occupational education were:

1. *Providing a state-wide plan for post-secondary education*—The functions of the different types of educational institutions available to provide training after high school need to be identified clearly so that their potential in a state-wide plan can be measured. For example: community colleges may concentrate effort on parallel college programs and be concerned primarily with transfer courses. Other institutions may emphasize occupational programs, and still others may serve the dual purpose of providing vocational curricula for jobs and parallel college programs. Some technical institutes may offer curricula totally specialized in job skills and knowledge, while others may require a core of academic courses in the occupational program.
2. *Providing preparation for a wide range of occupations*—The post-high school curricula should provide preparation for occupations ranging from the less complex to those requiring sophisticated competencies.
3. *Achieving the primary purpose—employment competency*—Occupational curricula in post-high school institutions should have as their primary purpose the achievement of competencies needed for employment, growth and flexibility in a specific job or job cluster.

   Reimbursable post-high school vocational education by law is limited to job preparation not requiring a baccalaureate degree. Courses are to be made available to individuals whose vocational intent is a matter of record and whose employment objectives may be classified as semi-professional or less. Vocational education which is designed as a part of a four-year bachelor's degree curriculum, therefore, is not part of the reimbursable program.

   However, it should not be the purpose of post-high school vocational education to restrict the educational ambitions of those enrolled in the organized curriculum being completed. On the contrary, the nature of the employment and individual potential for growth make it imperative that further education, whether in vocational or adult classes or under other auspices, be emphasized as a fact of work life.

   Some community colleges and technical institutes which receive

vocational funds have open-end programs which include arrangements for selected students who are enrolled in occupational curricula to transfer to a bachelor's degree program with little or no loss of credit. The problem, however, is to avoid weakening the occupational preparation in order to protect the transfer status of the students who will continue their formal education.

Institutions that provide such opportunities for transfer must be sure that the following safeguards exist: (1) each occupational curriculum is designed to achieve, without compromise, competencies needed for employment, growth and flexibility within a specific job or job cluster; (2) students enrolling are aware of the extent and purpose of the occupational curriculum.

Whatever organizational patterns are determined to be appropriate by an institution, the vocational integrity of the offering must be evident. This will be the case when the controlling objective is to develop those competencies needed to get, to hold and to grow in the jobs for which the curricula have been planned.

4. *Providing adequate facilities and equipment*—Equipment and facilities for post-high school occupational education should be such as to attract prospective students as well as to enhance the quality of instruction. It is an oversimplification to say that the equipment and facilities stimulate interest in post-high school programs. However, there is little doubt that up-to-date equipment in operation, facilities that simulate employment conditions and students learning in a job environment act as a magnet for enrollment.

   It is not enough just to make vocational curricula available. They should occupy appropriate locations in the school plan, and the equipment facilities and library should be up-to-date and sufficient to provide quality programs.

5. *Utilizing research to undergird and support program development*—Research activities should have an important role in the development of post-high school programs for job preparation.

   Ideally, every aspect of post-high school vocational education should feel the impact of research activities. Some areas which seem to merit priority treatment are: (1) the articulation of post-high school curriculum with job training provided in secondary schools; (2) patterns for cooperative training or supervised work experience in post-secondary programs; (3) curricula to prepare for jobs requiring skills or knowledge overlapping two or more vocational fields; (4) variations in scheduling appropriate to the vocational objectives for post-high school students.[4]

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[4] Berenice Mallory, *Development of Post-High School Programs*, A Report, National Leadership Seminar on Home Economics Education, March 28-31, 1966. Program Development for Occupational Education, The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio. pp. 50-52.

Teacher Education

Teacher educators directly or indirectly involved in post-secondary programs accept the statement made by the Home Economics Education Branch, Division of Vocational and Technical Education:[5]

> "An increasing number of women now assume a dual role—that of homemaker and wage-earner. They need preparation for both roles since the proficiency with which a woman can carry both will determine the quality of her home and family life and her effectiveness as a wage-earner.
>
> "The purpose of vocational education in home economics which is directed toward gainful employment provides instruction that qualifies individuals to engage in occupations involving knowledge and skills in home economics subject-matter areas, i.e., child development, clothing and textiles, food and nutrition, home and institutional management, home furnishings and equipment, etc. Included are such occupations as those which provide services to families in the home, and similar services to others in group situations; those which provide assistance to professional home economists and professionals in fields related to home economics in business, agencies, organizations, and other occupations directly related to one or more home economics subject-matter areas."

Teachers of post-secondary programs usually have had courses of varying preparations in general—liberal education; home economics, professional education, and home economics education.

The course work is planned to supplement successful work and work-training experiences. Individual state plans usually reveal a particular framework for teachers of occupationally oriented courses.

Advisory Committees

In the occupationally-oriented home economics programs, it is imperative that an advisory committee assist with the planning and evaluating of the offerings at the post-secondary level. An advisory committee usually includes representatives from professional men's and women's groups, business and industrial groups, health and welfare organizations, employment services and homemakers. It is highly desirable that the professional home economists be represented on such committees.

The responsibilities of the advisory committee might well include such duties as:

Assist with occupational surveys (community, region or state),
Review occupational needs and opportunities,

[5] Bureau of Educational Assistance Programs, Division of Vocational and Technical Education, Home Economics Education Branch, *Preparation for Employment in Occupations Utilizing Home Economics Knowledge and Skills as Provided in the Vocational Education Act of 1963*. Washington: Department of Health, Education, and Welfare (April 3, 1964).

Assist in selection of appropriate programs to be included,
Assist in planning the various curricula,
Advise teachers and cooperating staff,
Assist in interpreting, promoting and evaluating the offerings,
Support the program in terms of efforts directed to such problems as appropriate space, facilities, instructional materials and adequate budgets.

Selected Course Patterns

Emerging positions on the job market indicate the following areas as the major ones utilizing home economics knowledge and skills:

Care and Guidance of Children
Clothing Management, Production, and Services
Food Management, Production, and Services
Home Furnishings, Equipment, and Services
Institutional and Home Management and Supporting Services

The criteria used as a guide for the various instructional programs were quite similar to those identified in the bulletin, "Occupational Criteria and Preparatory Curriculum Patterns in Technical Education Programs" (OE-80015).

The following listing of home economics courses and course outlines in five of the occupational areas of home economics mentioned previously may give direction to administrators and teachers concerned both with the post-secondary school curricula focused on gainful employment and an interdisciplinary approach to planning curricula at the post-secondary level.

Although the reports from the states did not indicate the extent of planning between the various vocational services, the Home Economics Publications Committee recommends that consideration be given to an interdisciplinary approach for all of the following curricula. Most of the curricula led to an associate degree.

Care and Guidance of Children

The course outlines in Care and Guidance of Children as submitted by several junior and/or community colleges responding to the committee's questionnaire would suggest the following topics within the courses offered at the post-secondary level:

Concepts and Theories of Child Growth and Development.
Life Begins.
The New Born.

The Preschool Age Child.
Human Growth and Development.
Physical Needs of the Growing Child.
Motor Development.
Intellectual Development.

Emotional Development.
Social Development.
Children's Play.
Child-adult Relationships.
Personality Development.

The following are some of the behavioral goals identified for the child development area if the curriculum is to be focused on the development of appropriate attitudes and the attainment and use of knowledge and skills appropriate to gainful employment:

Shows interest in the stages of physical, mental, emotional and social growth of children.

Relates knowledge of human growth and development to the observation experiences and to the supervised laboratory experiences within the "Child Study Center," Day Care Center, Nursery School, etc.

Is able to provide alternatives in the selection of facilities within the "child study center" appropriate to an effective learning environment for the young child.

Participates, under supervision, in skillful care and guidance of children with emphasis on meeting needs of the nursery school or prekindergarten age child.

Recognizes and carries through on selected responsibilities delegated by and for a nursery school assistant.

In addition to some 30-34 semester hours in the major area of Child Development, including extensive practice in laboratory experiences with young children, most of the post-secondary curricula included the following areas of study for a Nursery School Assistant or similar position.

Courses	*Approximate semester hours*
English and Speech	9
Fine Arts	6
Mathematics	3
Nutrition	5
Psychology	6
Sociology	3
Health and Physical Education	4

Fashion Design and Merchandising

In this particular area of study, the course outlines submitted by the several junior and/or community colleges would suggest the following topics:

Wardrobe Planning; Fashions; Dress Design, Color.

Consumer Buying of Ready-made Clothes (Fiber, Fabric and Finish).
Equipment and Facilities.

Construction Techniques; Tailoring.
Foundation Patterns and/or Flat Pattern Design.
Basic Principles of Draping.
Alterations.
Salesmanship; Shop "Talk."
Clothing Publications (Commercial; Professional).
Fashion Shows; Display Design.

The following limited listing of behavioral goals might be suggested for the Fashion Design and Merchandising Area if the courses are focused on gainful employment:

Is aware of the need to develop consumer purchasing skills.

Shows an interest in the needs of both the customer and the business being represented.

Demonstrates effective selling techniques.

Recognizes the need for understanding the properties and functions of the varied array of textile products on the market.

Uses authentic sources of current information related to textiles and textile finishes.

Recognizes the elements of color and design relative to figure types in the clothing market.

Exhibits skill in applying creative design details.

Shows evidence of effective judgment in the selection of clothes as a buyer and/or seller of clothing merchandise.

Shows ability to evaluate clothing inventories.

Shows ability to apply criteria in the fitting of clothes as a buyer and/or seller of clothing merchandise.

Most of the post-secondary curricula included, along with on-the-job experiences, the following course groupings:

Courses	*Approximate semester hours*
Art; Art History; Color and Design	14–16
Construction; Clothing Selection; Textiles	12–14
Communication; Speech	6
Merchandising and Marketing—Buying Mathematics; Stock Control; Salesmanship	14–16
Psychology	3
Social Sciences	6

Interior Design

The course outlines in the area of interior design appeared to emphasize the following topics:

Aesthetic Values.
Functional Planning of Interiors.
Background Features of Rooms.
Lighting.

Furniture Selection and Arrangement.
Furniture Styles.
Trends and Influences.
Accessories.

Any course or series of courses in this respective area, if planned with an occupational focus, could give some consideration to the following behavioral goals:

Is aware of the power of advertising media in both buying and selling.

Recognizes responsibilities associated with the work of the assistant to an Interior Designer.

Cooperates with professional interior decorators in in-service educational programs related to problems of "Merchandising."

Demonstrates ability to create well-designed color groupings functional and significant for individuals and families seeking assistance with interior design problems.

Shows ability to effectively communicate with those seeking assistance in the use and arrangement of interior space.

Demonstrates effective judgment in terms of personal integrity as assistance is given to benefit both the customer and the owner of the business for whom the assistant is working.

Most of the post-secondary curricula, including on-the-job experiences, gave attention to the following course groupings:

Courses	*Approximate semester hours*
Art and History; Color and Design	18
Communication; Speech	6
Interior Design	6
Merchandising and Marketing — Stock Control; Buying Mathematics; Salesmanship	20–24
Psychology	3
Social Sciences	6

Food Management, Production, and Service

The course outlines relative to this particular area of study as pre-

sented by the respondents to the committee's questionnaire seemed to emphasize the following aspects:

Food Service Organization and Work Techniques; Food Management.
Principles in Handling and Storage of Food.
Preparation of Foods; Menu Planning.
Foundation Recipes.
Cafeteria Food Service.
Restaurant Management.
Catering.

Conservation of Nutritive Values.
Standards for Finished Products.
Quantity Purchasing; Institutional Food Service.
Developments in Food Processing.
Selection and Purchase of Commercial Equipment for Quantity Cookery.
Food Cost Control.

If the enrollees are preparing themselves for gainful employment, the following behavioral goals could be among those toward which to focus the course or courses in this field of study:

Recognizes effective and appropriate cookery procedures essential to commercial food service establishments.

Demonstrates proficiency in the preparation of foods on a quantity basis as well as the purchasing of foods on a large scale.

Exhibits harmonious and cooperative working relationships with others on the job.

Gives evidence of acceptance of delegated responsibilities related to the various facets of food service.

The course outlines in this entire area were related to many positions as well as specific food service in a hospital, a school, a restaurant or some similar institution. Curricula reviewed showed the following:

Courses	*Approximate semester hours*
Nutrition and Health	4
Communications and Speech	6
General Education (Chemistry, History, Health, Government, Physics, Accounting)	24

Floral and Landscaping

Aspects of the Floral and Landscaping curricula seem to include:

Home Economics	*Approximate semester hours*
Housing Design	3
Design Fundamentals	3
Landscape Appreciation	3
Housing the Family	3
Practical Problems in Exterior Decoration	3
Agriculture	
Home Horticulture	3
Landscape Design	3
Landscape Construction	3
Soils	3
Nutrition; Plant Environment	3
Flowers and Plants	3
(Field Training—4-6 semester hours, jointly planned and supervised)	
Additional Courses To Include:	
Communications and Speech	4–6
General Education	18–24
(Chemistry, Botany, Mathematics, and Accounting)	

On-the-job Training

As reported, on-the-job training was an integral part of all the post-secondary home economics occupational training programs. The curricula of the institution combined intensive on-the-job training in co-operation with a variety of commercial concerns. According to the reports, the student developed many skills as he worked with equipment and problems peculiar to the position for which he was qualifying. With this arrangement, a large segment of the in-service training was provided by the employing agent or agency, with supervision from the educational institution.

Initiating Selected Non-degree Programs

In addition, reports from State Supervisors indicated guidelines for school administrators and staff in initiating wage-earning programs.

The following outlines from the Office of Education—*Management Aide in Low-rent Housing, Visiting Homemaker, Companion to the Elderly*—provide some indication of directions taken in these occupational areas.

Management Aide in Low-rent Public Housing Projects (OE-87001)

Assists the Housing Manager of the Local Housing Authority in orienting residents in housing projects to living in a new environment and making effective use of personal resources, and the facilities and services provided in the project, and the community, in achieving satisfying family life.

Explains housing regulations to new tenants and demonstrates proper use and care of all installed equipment; shows location of project facilities, such as laundries and playgrounds; provides information to homemakers who need assistance with sanitary housekeeping practices; plans schedules, or instructs homemakers in care of children; provides information to tenants on location and services available from community agencies, such as health services and adult education or recreation centers; keeps records and prepares reports to the Housing Manager. (Suggested hours of training—360.)

The following suggested time for each of the three units may be used as a guide for planning the course to meet trainee and community needs.

Course Unit	*Title*	*Approximate clock hours*
I	Achieving Effective Working Relationships With People	90
II	Assisting Tenants With Family Living Problems and Life Within the Housing Project	192
III	Additional Tasks of the Management Aide	78
	Total	360

Visiting Homemaker (OE-87002)

Assists in maintaining normal family life when the mother must be away or the family is under the stress of an emergency. Carries out directions from the welfare or health agency which may be in charge. Helps maintain family routines and activities. Helps children have a sense of security through sympathetic understanding. Supervises the play and rest of children. Prepares or assists family members in preparing simple, nutritious meals. Helps do light laundry work and keeps house clean and orderly. (Suggested hours of training: 60-90; 100-180 in-service.)

A basic course of not less than 60 hours is suggested for the training. An expanded course may be offered for trainees who will be employed in families with more complex problems or for those trainees with limited backgrounds.

The following suggested range in hours for each of the six units can be used as a guide for planning a course of 60-90 hours.

Course Unit	*Title*	*Approximate clock hours*
I	Orientation to the Nature of the Work and Personal Qualities Important to Strengthen	2–4
II	Responsibilities of the Visiting Homemaker And the Professional People With Whom She Works	5–10

III	Basic Needs of People and Some Implications of Working With Children of Various Ages and Families of Different Types	25–40
IV	Working With Families Where There Are Special Problems	15–25
V	Assisting the Family in Providing Nutritious Meals	4–10
VI	Housekeeping Tasks	4–8

Companion to an Elderly Person (OE-87006)

Serves as an aide to elderly or convalescent persons, either full-time or part-time. Prepares and serves the person's food; answers the telephone; helps with correspondence; assists with personal grooming; keeps surroundings tidy; helps to keep the person occupied by reading, conversing, and playing games; accompanies the person to the doctor's office or elsewhere to secure medical attention; shops and runs errands; and, on occasion, accompanies the person on walks, on visits to neighbors, to church or to the movies. (Suggested hours of training, 150.)

Course Unit	*Title*	*Approximate clock hours*
I	Orientation to the Nature of the Work and Interpersonal Relations	10
II	Some Common Physical, Mental, and Emotional Needs of the Aging, and Their Implications for Giving Satisfactory Service	65
III	Assisting With Personal, Social, and Business Matters	70
IV	Handling Emergencies	5
	Total	150

Home Economics in Adult or Service Curricula Of the Community College

(*Non-degree Programs*)

Both the interests and the needs of the community residents were served by the non-credit service offerings. Courses varied in length from a few weeks to a semester. Within the limits of time and qualifications of instructors available, the courses or units covered a wide range of topics.

The following are examples of the non-credit service courses which a community college might offer in home economics:

Child Day Care

Courses offered spring, 1966, Adult Vocational Home Economics Education, Hoke Smith Technical School, Atlanta, Georgia.

Basic 1—An Introductory Course to Child Day Care, with emphasis on program as it relates to children's growth and development. This is a repeat course. All Child Day Care workers are eligible to attend. *60 hours.*

Students who have received a certificate from Basic 1 or its equivalent may register for the following courses:

Basic 2—Ways of Working With Children—The teacher's role in understanding and meeting needs of preschool children in groups. *30 hours.*

Infants in Day Care—Infants in groups require special planning, program, and equipment. This course will consider the needs and characteristics of infants from birth until the time the child has started to walk, including creeping and crawling. *30 hours.*

Toddler Care in Day Care—Covers the care of children from walking until the child is developmentally ready for group care (12 months to 2½ years, approximately).

The School-age Child in Group Care—Providing good program for the school-age child in group care. *30 hours.*

Short Term Community Courses:

The Child in Day Care: A look at his special needs, such as separation, discipline, being an individual, etc. *12 hours.*

Day Care and the Family: Day Care Center workers to explore how they can better help their children through work with parents; a study of the American parent in a period of change. *12 hours.*

General Information

Requirements for Enrollment:

Basic 1 Day Care Course—all child day care workers are eligible.

All other courses—student must have received certificate from Basic 1 or its equivalent.

Commercial Home Economics

Courses offered, Portland Community College, Portland, Oregon.

HE 10 Nursing Aide Training

For Nursing Aides now employed in nursing homes this course provides instruction and practice in the fundamental techniques and procedures involved in nursing home care. A 36-hour course, meeting one night a week for 12 weeks.

Power Sewing 3-990

Classes run continuously in training for employment in the garment industry. The minimum course, to develop skill in operation of the power machine, consists of 120 hours of instruction, but additional time may be needed to develop the necessary speed. An advanced

course is available for those wanting skills in more difficult construction techniques.

Clothing Alteration Specialist

A course to prepare experienced seamstresses for employment in dress shops, department stores, dry cleaners or private business. Training includes practice in basic repairs, fitting, altering and restyling, power machine operating and altering and repairing men's clothing, as well as information on the care and handling of fabrics. 300 hours, 10 weeks.

Training for Workers in Day Care of Children

A training program for women interested in working with children in day care centers, homes, and all other places where care of preschool children is provided. Included will be the use of art materials, stories, music and science; the needs of children and how to meet them; how children develop; and, selection of materials and equipment. 48 hours class; 36 hours observation and practice.

In-service Class for Day Care Teachers

A course for those regularly employed in preschool group care. Content is adapted to the group and includes guidance and discipline, understanding behavior patterns, growth and development, creative experiences for children, and special problems of teachers. 3 hours, 10 weeks.

Space and Equipment

Adequate space and equipment for laboratory work, whether for training for occupations or for college transfer, terminal or service curricula, will be needed. Since all of the wage-earning courses will be concerned with developing skills for which laboratory exprience is required, the curricula being offered will determine the laboratory space and equipment needed.

Essential minimum facilities for offering instruction in area vocational schools, community colleges or junior colleges include:

Readily available film projectors, recorders, record players, and other equipment for using audio-visual materials;

Classrooms equipped for use of audio-visual aids;

Library facilities of sufficient quantity and quality to permit standard work at the community or junior college level in the areas of home economics offered for credit by the school;

Mimeographing and/or duplicating facilities.

Facilities for specific instruction in home economics related to each of the occupational areas listed.

In the January, 1966 issue of the AMERICAN VOCATIONAL JOURNAL,[6] Miss Ata Lee, Regional Representative of the Office of Education, discussed minimum space in relation to home economics education departments in area vocational schools, community colleges and other post-secondary programs with curricula focused on gainful employment.

Two bulletins from the Office of Education, Department of Health, Education, and Welfare, are valuable to persons legally and specifically responsible for planning facilities. They are *Basic Planning Guide for Vocational and Technical Education Facilities* (OE-80040) and *Planning Functional Facilities for Home Economics Education* (OE-83015).

Conclusion

Questionnaire response indicated that current occupational surveys had given direction to the selection of content and practices within the post-secondary school offerings. It was clear that most states were rapidly moving ahead with their occupationally-oriented post-secondary curricula.

This bulletin can serve as a qualified and dynamic approach in designing curricula using home economics knowledge and skills in gainful employment—whether the offerings are in area vocational schools, junior colleges or community colleges.

Post-secondary education in home economics focused on occupationally-oriented curricula is an "imperative in education."

[6] Ata Lee, "Minimum Space-Maximum Use," *American Vocational Journal*, IV (January 1966), 23-25.

This chart represents a spring schedule (March 16-June 1, 1966) of the Adult Homemaking Department, Dudley M. Hughes Vocational School, Macon, Georgia. It includes classes for training in wage-earning* and classes for regular adult homemaking.

Time	Monday	Tuesday	Wednesday	Thursday	Friday
Morning:		Clothing III	Clothing III	Clothing I	Children's Clothing
9:00 a.m.	Clothing II	Construction of Clothing Accessories	Tailoring	Flower Arrangement	*Catering (4 hours)
12:00 p.m.	*Clothing Maint.		*Clothing Maintenance		
9:00-3:30	Group I Supervised Food Service	Group II Supervised Food Service	Group I Supervised Food Service	Group II Supervised Food Service	Conference and Community Contacts
12:00-3.00 p.m.		Clothing I			Clothing II
1:00-4.00 p.m.	Pattern Alteration—Mar. 21-April 18 Sewing Techniques—April 25-May 23			Clothing III	
		Children's Clothing	Flower Arrangement	Clothing III	
Night:	Millinery	Clothing I			
7:00 p.m.	Clothing II	Home Decoration	Knitting		
10:00 p.m.	Clothing I				
	*Child Day Care Center Worker			*Child Day Care Center Worker	

AMERICAN VOCATIONAL ASSOCIATION, INC.
1025 15th Street, N.W., Washington, D.C. 20005

VT 006 457
Pursuit of Excellence. Mississippi's Comprehensive Vocational and Technical Training Program.

Mississippi Agricultural and Industrial Board, Jackson
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 67 59p.

*VOCATIONAL EDUCATION; *PROGRAM DESCRIPTIONS; JUNIOR COLLEGES; ADULT VOCATIONAL EDUCATION; SECONDARY SCHOOLS; STATE PROGRAMS; GOVERNING BOARDS
MISSISSIPPI

The purposes of this document are (1) to provide industrialists with information about vocational and technical training programs oriented toward employment purposes, and (2) to inform those interested in industrial employment where to enroll for training to meet their needs. The state's 82 counties are divided into 17 public junior college districts in which state funds provided on a 50-50 matching basis with local funds have provided 17 new vocational and technical training centers as of 1967. Over 39,000 students are enrolled in some phase of vocational or technical education throughout the state. There were 52 different types of vocational and technical education courses offered at the junior college level in the 1966-67 school year. (MM)

VT 006 457

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Pursuit of Excellence

MISSISSIPPI'S COMPREHENSIVE VOCATIONAL AND TECHNICAL TRAINING PROGRAM

VT006457

MISSISSIPPI AGRICULTURAL & INDUSTRIAL BOARD
JACKSON, MISSISSIPPI
1967

Dedication

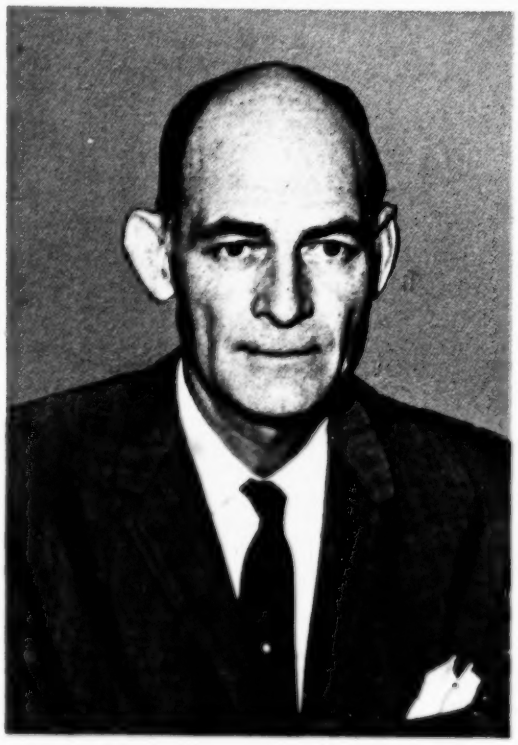
This publication is respectfully dedicated to the Honorable Paul B. Johnson, Governor of Mississippi. The "pursuit of excellence" of his administration has revitalized Mississippi's vocational and technical education and made it an integral part of the state's move into a new era of economic progress.

Greetings:

The economy of Mississippi is now experiencing a dramatic and beneficial transformation and expansion. Industrial growth is a fundamental element of this change and Mississippians are committed to doing everything possible to continue and accelerate the state's progress.

Vocational and technical education is, therefore, of vital importance to Mississippi. We are pledged to provide the people of our state with the best possible education and training to fit them for our new industrial era. We are determined to offer industry a comprehensive training program that fits its needs both today and tomorrow.

Mississippi is moving forward rapidly. Its vocational and technical training system is designed to provide new impetus to this progress.



Paul B. Johnson
Governor

Millard Bush,
Director,
Mississippi A & I Board

Preface

The Mississippi Agricultural and Industrial Board, created by law as the state's agency for economic development, is keenly aware of the importance of quality vocational and technical training in Mississippi. Also, it is concerned with every area of the state's economic growth and development, particularly so in the location of new industries and the expansion of existing ones.

As a result of the state's legislative efforts, the Vocational and Technical Committee of the A & I Board, and the Vocational Department of the State Department of Education, Mississippi is now placed in a more favorable position to meet the need for a trained work force suitable for agricultural and industrial employment.

Therefore, the intended purposes of this publication are: (1) to provide industrialists with factual information about vocational and technical training programs in Mississippi oriented toward employment purposes; and (2) to inform all Mississippians interested in industrial employment where to enroll for vocational and technical training that will meet their needs.

Millard Bush,
Director
Mississippi Agricultural
and Industrial Board

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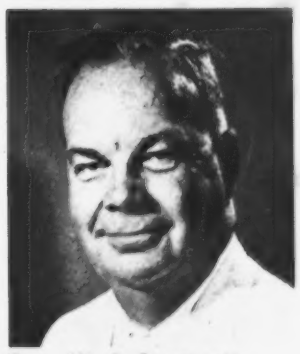
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Pursuit of Excellence

an Introduction

William S. Cobb, Director
Youth Affairs and Training
Mississippi A & I Board

Since 1961 the economic growth rate of Mississippi has climbed sharply and steadily. A major reason for this has been the continued location and expansion of industry within the state. In 1965 manufacturing became the largest single category of employment in Mississippi and its lead has continued to increase.

New and expanding industry demands good, dependable, *trained* workers. Mississippi is attempting to meet this demand through a comprehensive program centered in the state's public junior colleges and reaching into both the universities and senior colleges and the secondary schools. Specialized programs adapted for specific industries and plants supplement this basic approach to vocational and technical training.

In short, the state's goal is to provide the quantity and quality of trained workers needed today and tomorrow. Already tremendous progress has been made toward reaching this goal. In keeping with Mississippi's ambitious and far-reaching economic development work, vocational and technical training is a continuing "pursuit of excellence" for the state.

In a policy speech delivered to a joint session of the Mississippi Legislature in January, 1964, Governor Paul B. Johnson called for a stepped-up program of vocational and technical training which would answer industry's needs and enable Mississippians to "earn larger incomes for themselves, achieve a better material existence for their families and make a greater contribution to the total productivity of the state and nation."

Governor Johnson said: "I am convinced that the quickest, best and least expensive answer to Mississippi's needs in vocational and technical training lies in utilizing our public junior colleges for this purpose."

Mississippi's 82 counties are divided into 17 public junior college districts which serve all geographical areas of the state. For many years they had labored to provide Mississippi with vocational and technical training but increased student enrollments, industry demands and rising costs required new and additional physicial facilities and updated support.

Following Governor Johnson's recommendation, legislation was enacted which provided state funds (on a 50-50 matching basis with local funds, to supplement any other funds made available) to public junior colleges satisfying the requirements of the Mississippi Junior College Commission, the State Building Commission, and the Mississippi Agricultural and Industrial Board.

Additional state funds helped the public junior colleges to take immediate steps to improve their vocational and technical training programs. Ten new vocational and technical training centers were put into operation in 1966 and seven more are scheduled for completion in 1967.

These new centers incorporate the most efficient and modern equipment and instruction possible. They are planned and operated to fulfill the needs of industry, students, and the state. In addition they focus public attention on the dramatic importance of industry and education in Mississippi's economic advancement. They supply a physical expression to the spirit of progress demanded in today's Mississippi because of its ambitions and potentialities. They demonstrate to industry the state's serious commitment to programs which will support and accelerate industrial growth.

The new public junior college training centers are indeed the focal point of vocational and technical education in Mississippi today, however, the role of the state's secondary schools must not be overlooked. They provide sound and valuable training to thousands each year and are an integral part of the state's system of training for industrial work.

The programs and facilities of the public junior college centers, the secondary schools, and the supplemental and additional training programs offered in Mississippi are described in more detail on the following pages. Specific inquiries concerning any of these may be addressed to the Director, Mississippi Agricultural and Industrial Board, State Office Building, Jackson, Mississippi, or to the Director of Vocational Education, State Department of Education, State Office Building, Jackson, Mississippi.

William S. Cobb, Director
Youth Affairs and Training
Mississippi A & I Board

THE STATE BOARD FOR VOCATIONAL AND TECHNICAL EDUCATION

The State Board for vocational and technical education is dedicated to the task of providing education and training for every boy, girl, man and woman in the state that will enable them to make their greatest contribution to our society. Through the efforts of the State Board, and as a result of the Governor's interest and the State Legislature's desire, local, state and federal funds are being provided to give all Mississippians the opportunity for such training.

The Board's vocational and technical education staff works closely with secondary schools, public junior colleges and the Mississippi Agricultural and Industrial Board in developing training programs that will meet the occupational needs for a trained work force. Mississippi's vocational and technical programs begin with pre-vocational courses in junior high schools, and continue through the high schools with vocational programs and our comprehensive junior college system with the advanced vocational and technical education programs.

High schools and junior colleges also conduct preparatory and supplementary adult programs to retrain or up-grade adults for the higher level employment opportunities in their area. Vocational and technical job training can be tailored to meet all existing and future needs because of the flexibility afforded through local school board control and the cooperation of the State Board for vocational and technical education.

All existing facilities are used to meet the total job training needs. Vocational agriculture shops are primarily in rural schools and are being used to equip thousands of rural youths with marketable skills for farm and off-farm agricultural occupations. Many larger secondary schools have initiated comprehensive and effective vocational programs. Junior college facilities valued at millions of dollars are being put to maximum use. When present construction plans are completed and instruction is begun, virtually every area of the state will be able to meet their training needs.

Expansion in vocational and technical training programs has increased enrollments to 110,000. The greatest increases occured in trade and industrial, and business and office education.

J. M. Tubb
Superintendent of Public Education

Heber A. Ladner
Secretary of State

Joseph T. Patterson
Attorney General

A. P. Fatherree
State Director
Vocational-Technical Division
State Department of Education

Programs will continue to be developed in all geographical areas to meet the occupational needs. Pre-employment training can be provided for new or expanding industry. Supplementary training may also be provided for up-grading personnel for any occupation in the state.

The State board contracts with the universities and senior colleges of Mississippi in a program of teacher training in an endeavor to provide a core of well qualified vocational and technical teachers.

Through a cooperative arrangement with the universities and senior colleges vocational and technical teachers are trained in all areas of vocational and technical education. This includes pre-service and in-service training. This training is done under the supervision of the State Board for Vocational Education. An attempt is made to prepare the teachers in the knowledge and skills that are required by teachers of vocational and technical education subjects. Technical advisory committees are used to help determine curriculum and course outlines for such training.

In addition to the training of teachers, the State board, through a cooperative arrangement with Mississippi State University, develops curriculum materials and teaching aids. These are prepared and distributed for use in trades, industry, agricultural and technical education in both secondary schools and junior colleges. Curriculum guides have been published for the most prevalent vocational and technical education areas being taught in the secondary schools and junior colleges.

In cooperation with Mississippi State University and the system of junior colleges in the state, the State board has initiated a program of vocational guidance and counseling which is carried on to assist in fitting students into the occupations for which they are best suited. This system extends through the junior colleges to each of the secondary schools in the respective junior college districts.

Industrialists planning to locate a new plant—or expand one already in the state—that need training programs for employment purposes should contact the Director of Vocational and Technical Training, Box 771, State Department of Education, Jackson, Mississippi.

PUBLIC EDUCATION

Mississippi is currently engaged in a re-evaluation and study of its entire public school system with the aim of making it more valuable to the state's quest for economic progress and more useful to all its citizens. Realization of the close correlation between economic strength and growth and an area's educational level prompted this study. An awareness of this correlation is now being felt throughout the public school system of Mississippi: from the secondary schools through the public junior colleges, and into the senior colleges of the state.

An estimated 606,000 students are enrolled in the state's public schools; over 15,000 students are enrolled in the state's junior colleges; approximately 35,000 in

IN MISSISSIPPI

senior colleges; and some 39,000 in vocational and other educational programs provided through the State Department of Education.

The universities and public senior colleges of Mississippi are under the direction of the Board of Trustees, State Institutions of Higher Learning. The universities are: Mississippi State University at Starkville; the University of Mississippi at Oxford; and the University of Southern Mississippi at Hattiesburg.

The public senior colleges of the state are: Alcorn A. & M., Lorman; Delta State, Cleveland; Jackson State, Jackson; Mississippi State College for Women, Columbus; and Mississippi Valley State, Itta Bena.

J. M. Tubb
Superintendent of Public Education
Chairman

William L. Giles
President
Mississippi State University

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Secretary
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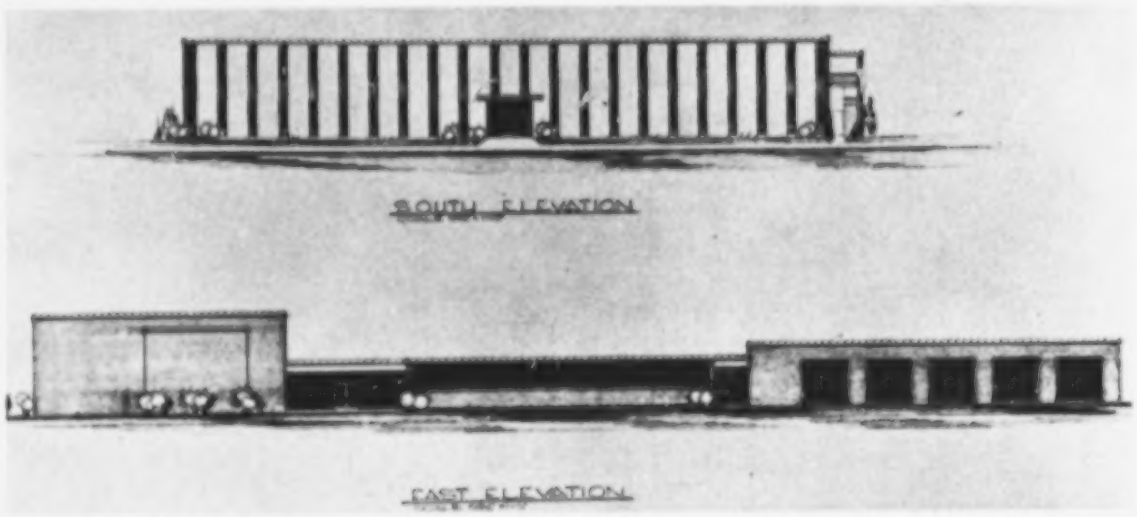
PUBLIC JUNIOR COLLEGE TRAINING CENTERS

F. M. Fortenberry, President, Copiah-Lincoln Junior College

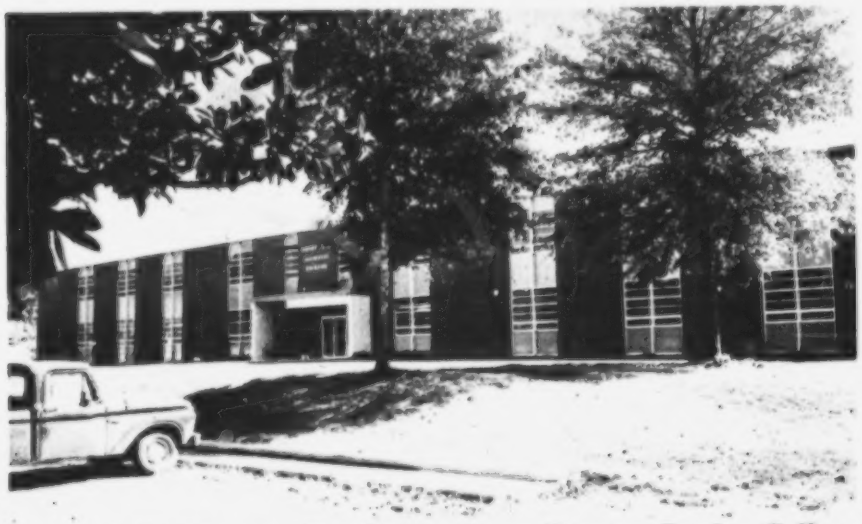


East Mississippi Junior College

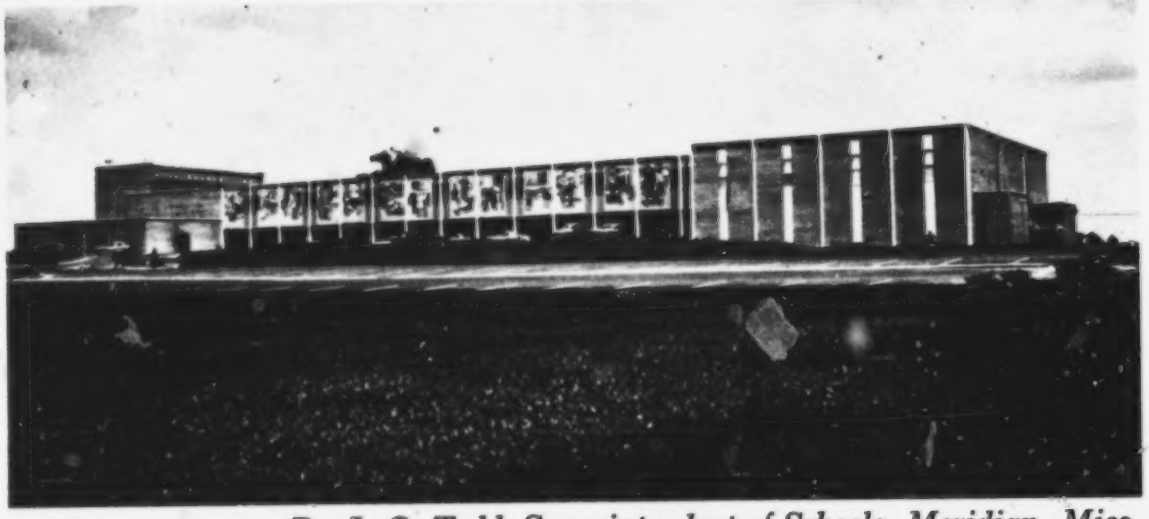
Dr. Robert Mayo, President, Hinds Junior College

F. B. Branch, President, Holmes Junior College

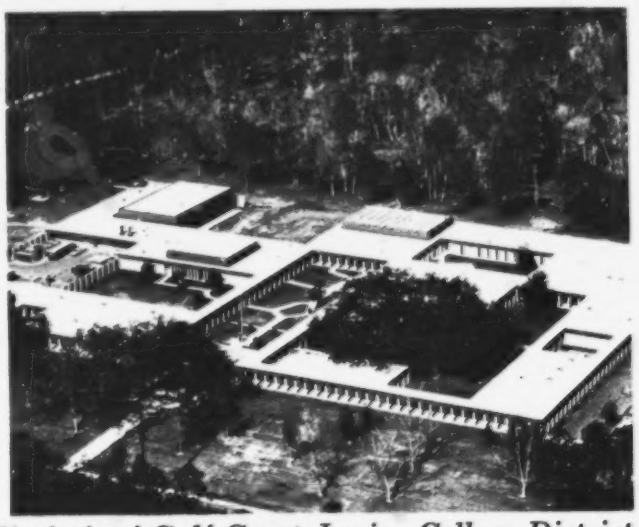
J. S. Crubaugh, President, Itawamba Junior College



J. B. Young, President, Jones County Junior College

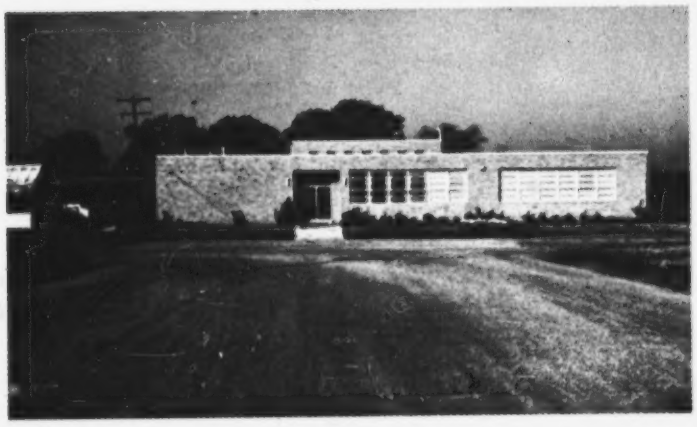


Dr. L. O. Todd, Superintendent of Schools, Meridian, Miss.

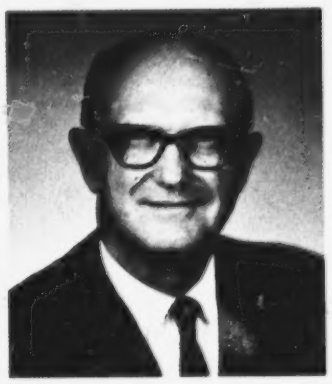


Dr. J. J. Hayden, Jr., District President, Mississippi Gulf Coast Junior College District

Northeast Mississippi Junior College



R. D. McLendon, President, Northwest Mississippi Junior College



G. H. Johnston, President, Pearl River Junior College

Walter Washington, President, Utica Junior College

JUNIOR COLLEGE LEVEL: Electronic Data Processing.

Electronic Shop

Livestock Technical training

Mississippi's public junior colleges are well distributed over the state and thus are physically able to serve the needs of both area industries and local students. Within the junior college districts free bus transportation is furnished for the students. The extra-curricula facilities of the existing junior colleges add a plus-factor for vocational and technical students also.

Four advantages of a junior college education for the students of the state are:

- The high school graduate can find in a two-year college the type of educational program specifically designed to meet his needs whether he plans to continue in a four-year college or to begin his career as a technician or as a craftsman immediately upon completion of his two-year curriculum.
- The junior colleges offer higher education to the student at low cost. Many high school graduates can eliminate the major cost of attending college—the cost of room and board—by attending a college within commuting distance.
- The educational programs of the junior colleges are adapted not only to the needs of high school graduates, but also to the needs of the community and state. As a result, the graduates of these colleges are usually very successful in finding employment.
- Two-year college education aims to provide students with a cultural background sufficiently broad to enable them to take their places in society as responsible productive adults.

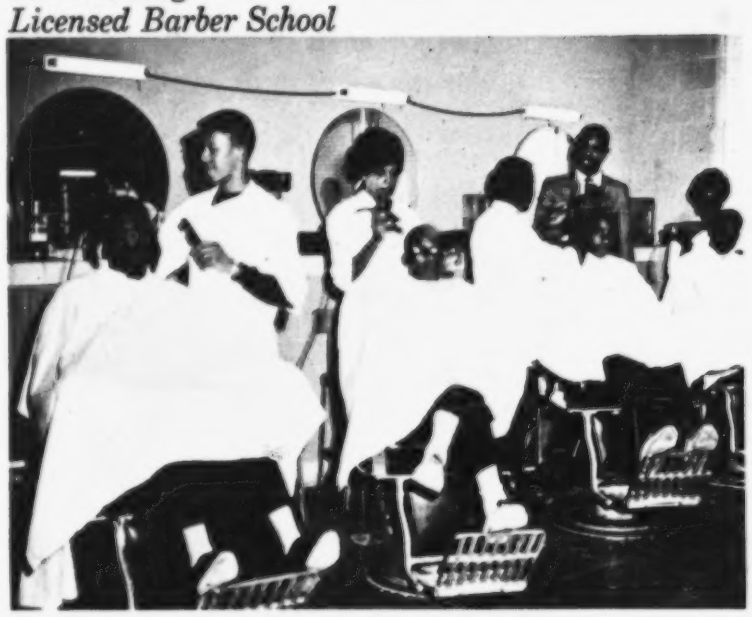
Building on the firm foundation of Mississippi's well-established public junior colleges, the new training center concept offers Mississippi students and industry one of the finest and most comprehensive vocational and technical training programs in the nation.

Here sound education and realistic aspirations are firmly welded to form a system that is both practical and profitable.

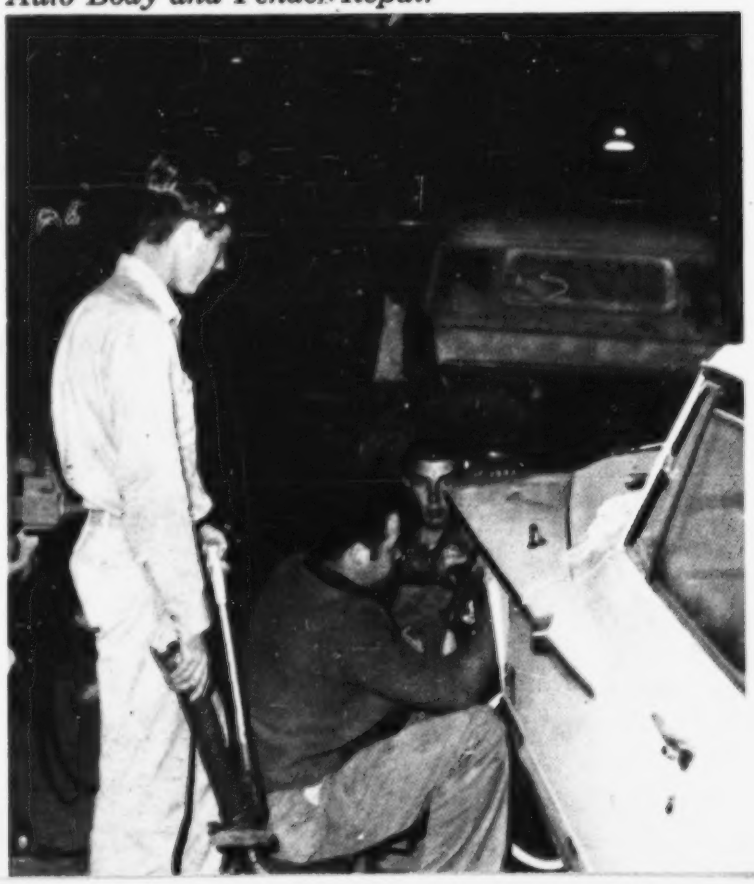
Students are trained to fill the needs of both existing industry and anticipated

Gas Welding

Licensed Barber School



Auto Body and Fender Repair



industry. Techniques, classroom methods, and equipment are completely modern and employed according to industry standards and specifications.

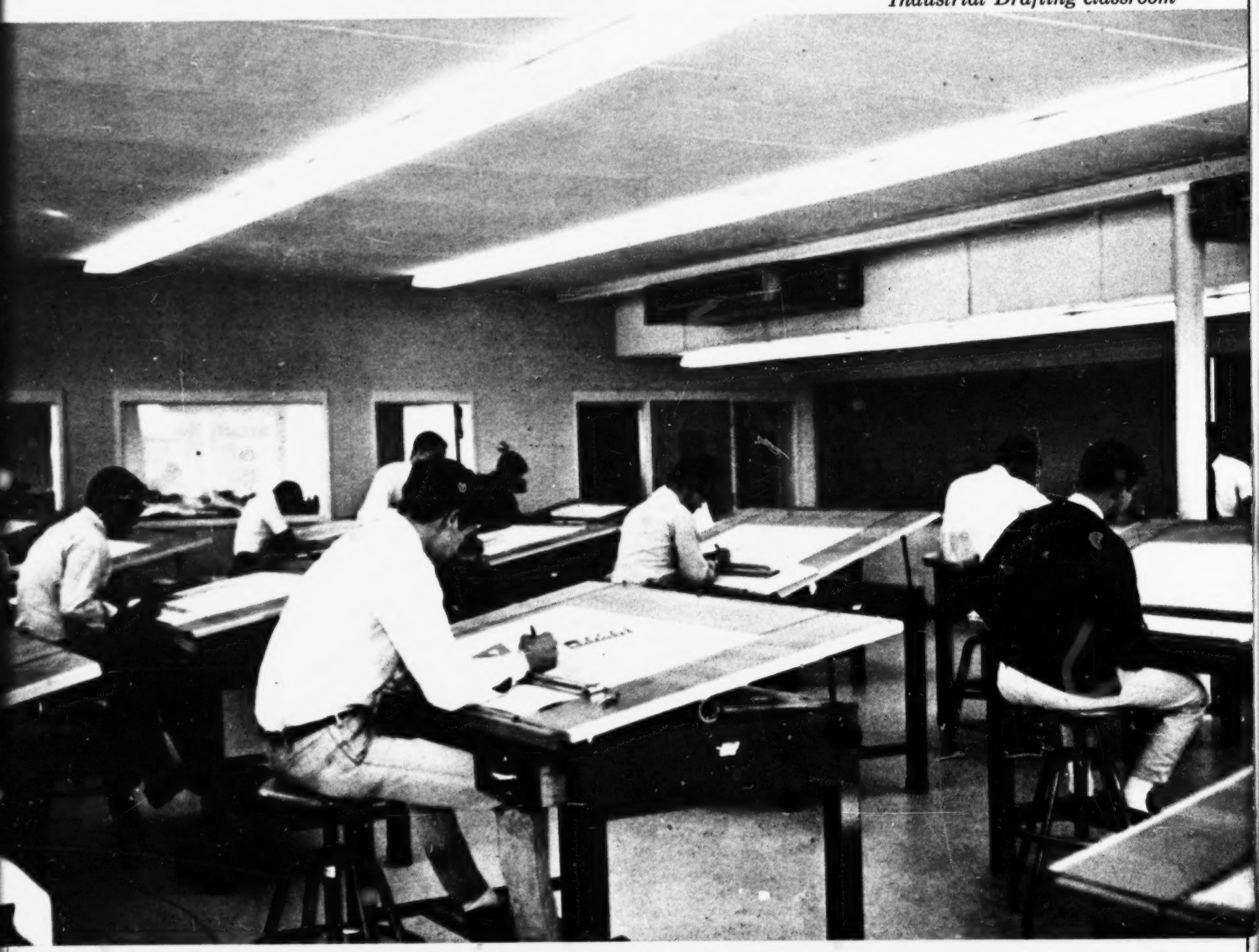
In addition to established courses, the training centers are geared to work with industry in establishing such new programs and courses as may be required.

Present enrollment in the 10 completed centers approaches 10,000. Some 163 vocational and technical programs in 50 different occupations are being offered.

Particular emphasis has been placed on training industrial technicians—those who operate the key spot between the engineer and the craftsmen. Typical technical training units are operated in all ten (10) training centers in the state. Specialized training is given in the fields of office machines, computers, machinists' work, welding, auto mechanics, radio and television, electricity, refrigeration and woodworking. Specialists are trained in metal cutting, lathe and drill operating, inspecting, welding and mechanics. In addition, special training is given for specific industrial plants. The centers will, on request, send an instructor into a plant to conduct on-the-job courses in special subjects. They also offer special training courses at night.

Industrialists now interested in locating a plant in Mississippi—or expanding one already in the state—can now write their own prescription for a trained labor force and this prescription can be filled by the public junior college training centers.

Industrial Drafting classroom



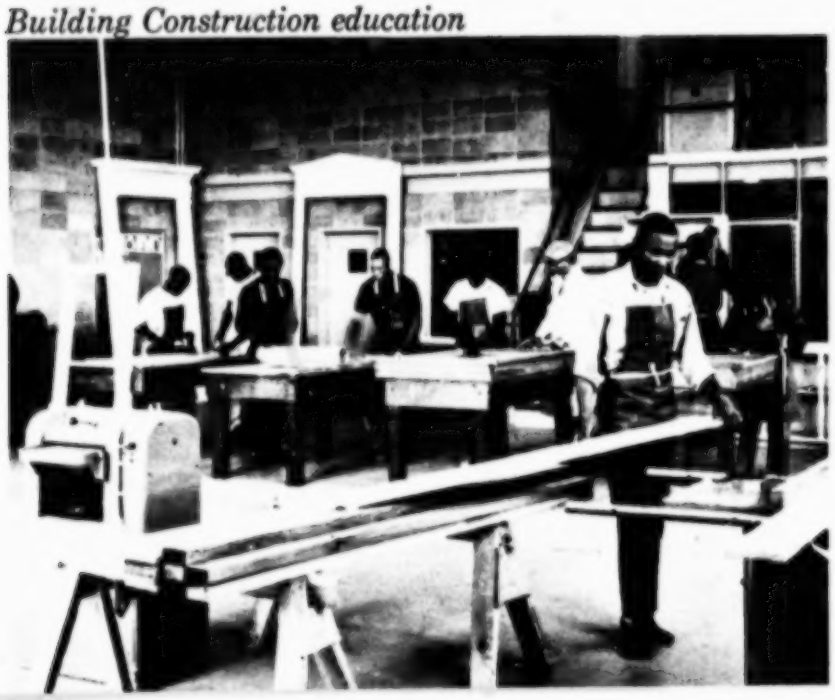
Mechanical Technician training

Associate Degree Nursing

Cosmetology lab

Farm Machinery instruction

Building Construction education



Distributive Education classwork

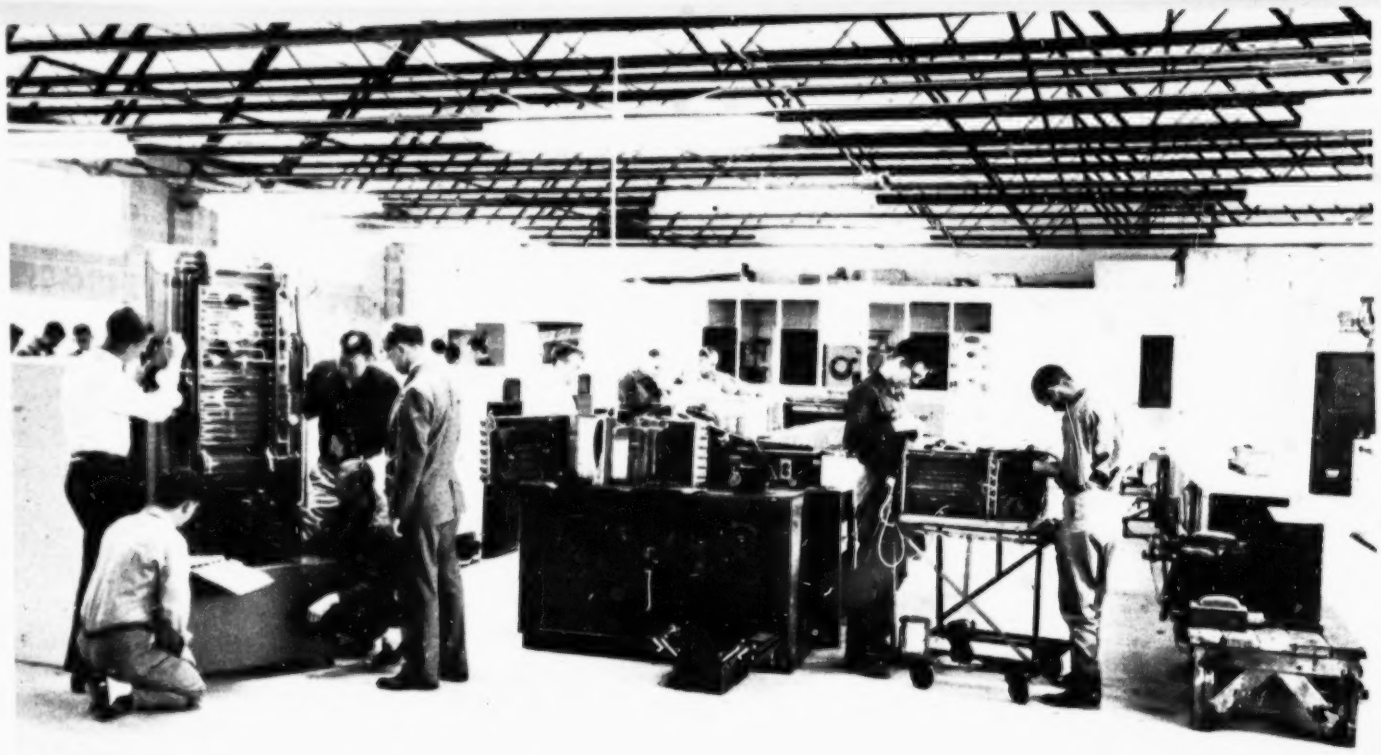
Machine Tool and Die shops

Horticultural Technician instruction greenhouse

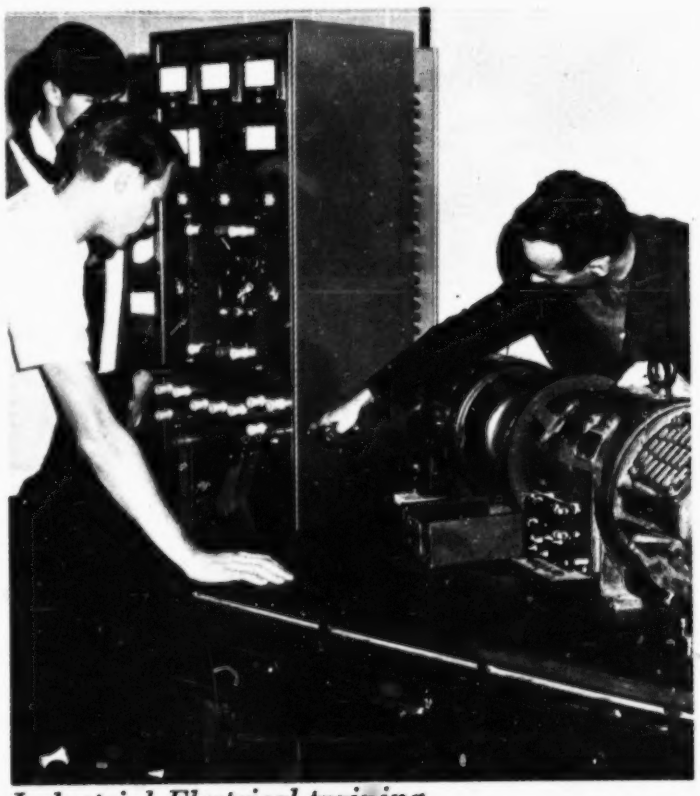
Auto Mechanics practical work

Civil Technology classroom

Horology shop



Air Conditioning and Refrigeration Shop

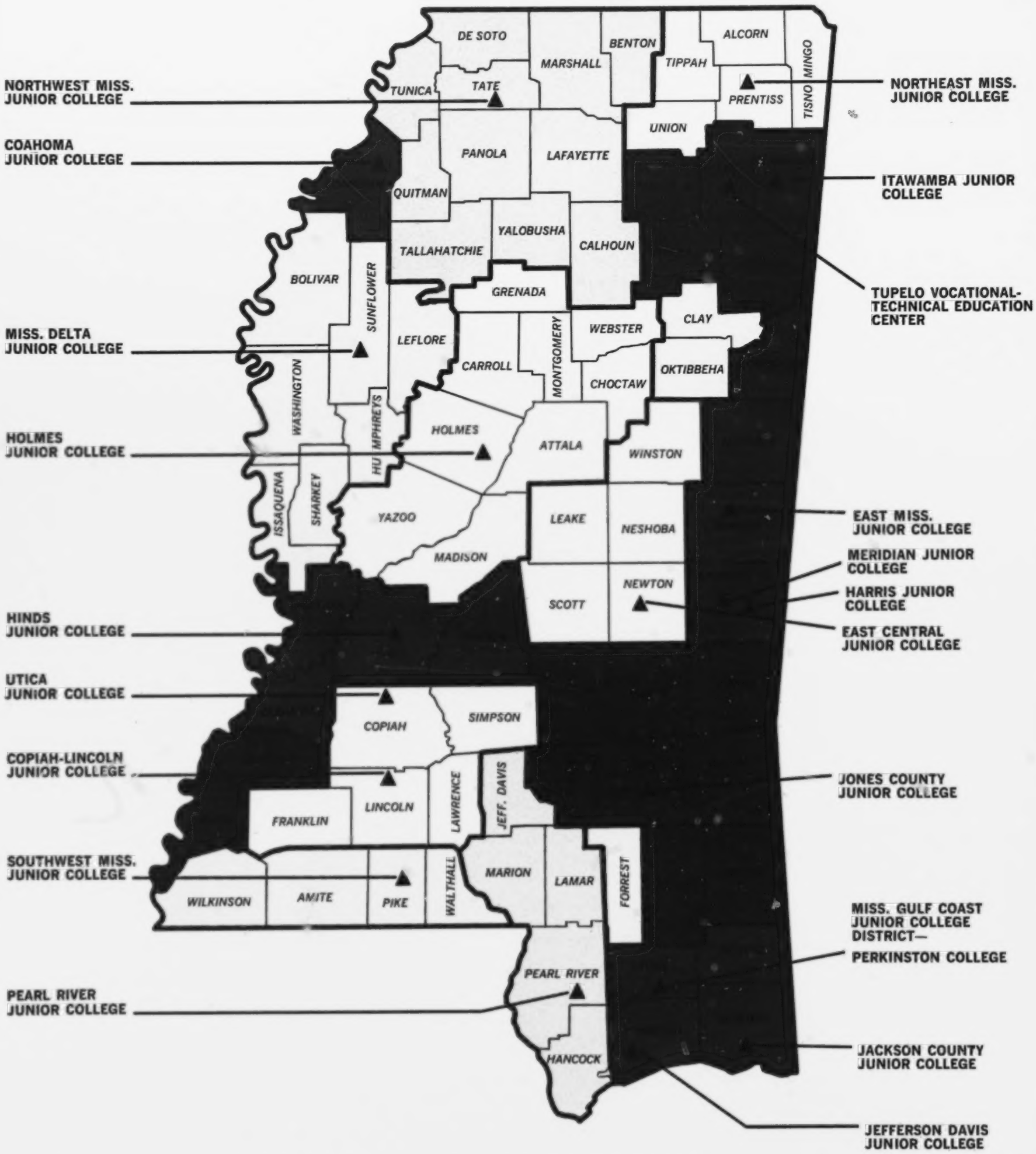


Industrial Electrical training

Television Production lab

Secretarial class

MISSISSIPPI PUBLIC JUNIOR COLLEGE DISTRICTS

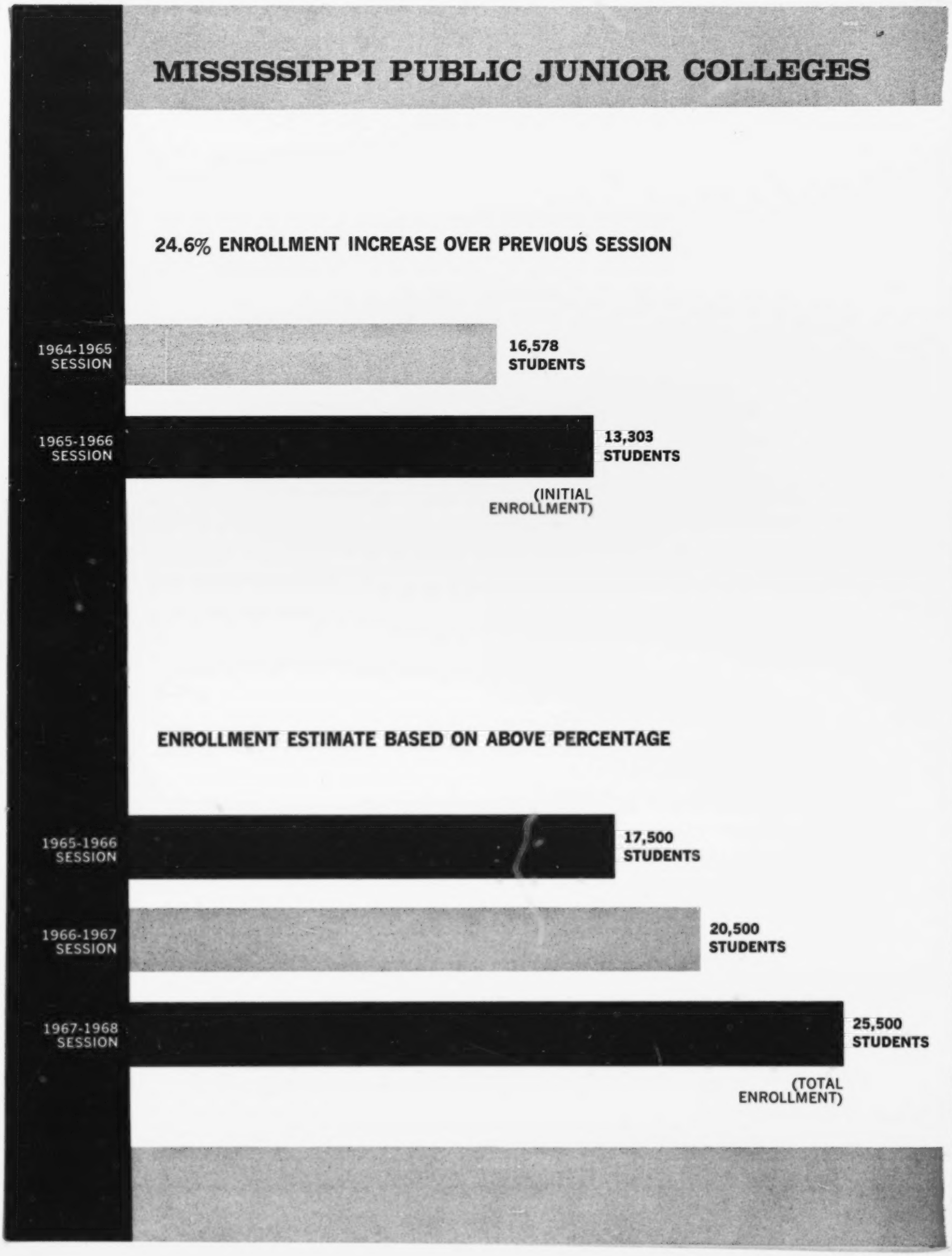

NORTHWEST MISS. JUNIOR COLLEGE
COAHOMA JUNIOR COLLEGE
MISS. DELTA JUNIOR COLLEGE
HOLMES JUNIOR COLLEGE
HINDS JUNIOR COLLEGE
UTICA JUNIOR COLLEGE
COPIAH-LINCOLN JUNIOR COLLEGE
SOUTHWEST MISS. JUNIOR COLLEGE
PEARL RIVER JUNIOR COLLEGE
NORTHEAST MISS. JUNIOR COLLEGE
ITAWAMBA JUNIOR COLLEGE
TUPELO VOCATIONAL-TECHNICAL EDUCATION CENTER
EAST MISS. JUNIOR COLLEGE
MERIDIAN JUNIOR COLLEGE
HARRIS JUNIOR COLLEGE
EAST CENTRAL JUNIOR COLLEGE
JONES COUNTY JUNIOR COLLEGE
MISS. GULF COAST JUNIOR COLLEGE DISTRICT—
PERKINSTON COLLEGE
JACKSON COUNTY JUNIOR COLLEGE
JEFFERSON DAVIS JUNIOR COLLEGE
DE SOTO
MARSHALL
BENTON
TIPPAH
ALCORN
TISNO MINGO
TUNICA
TATE
PRENTISS
UNION
PANOLA
LAFAYETTE
QUITMAN
YALOBUSHA
CALHOUN
TALLAHATCHIE
BOLIVAR
SUNFLOWER
GRENADA
CLAY
WEBSTER
LEFLORE
MONTGOMERY
CARROLL
OKTIBBEHA
CHOCTAW
WASHINGTON
HUMPHREYS
HOLMES
ATTALA
WINSTON
ISSAQUENA
SHARKEY
YAZOO
LEAKE
NESHOBA
MADISON
NEWTON
SCOTT
COPIAH
SIMPSON
JEFF. DAVIS
LINCOLN
LAWRENCE
FRANKLIN
MARION
LAMAR
FORREST
WALTHALL
WILKINSON
AMITE
PIKE
PEARL RIVER
HANCOCK

VOCATIONAL AND TECHNICAL EDUCATION COURSES OFFERED IN JUNIOR COLLEGES 1966-67

	Airplane & Eng. Mech.	Auto Body & Fender	Auto Mech.	Barbering	Build. Cons. Tech.	Building Trades	Carpentry	Civil Technology	Cosmetology	Dairy Management	Data Processing	Diesel Mech.	Distr. & Marketing Tech.	Draft & Design Tech.	Elec. Appliance Rep.	Elec. Motor Rep.	Elec. Trades	Electronics Tech.	Farm Equip. Mech.	Farm Equip. Tech.	Forestry
Coahoma					X									X				X			
Copiah-Lincoln			X		X						X			X				X			
East Central		X	X							X				X							
East Mississippi			X																		
Harris																					
Hinds																					
Jackson Center																					
Raymond Center	X	X	X	X							X	X	X	X		X		X		X	
Vicksburg Center																					
Holmes																					
Goodman Center			X		X				X					X							
Kosciusko Center																					
Itawamba																					
Fulton Center																		X			
Tupelo Center		X	X								X	X			X						
Jones			X								X			X				X			X
Meridian											X		X	X				X			
Mississippi Delta					X									X				X			
Mississippi Gulf Coast																					
Jackson County Center			X										X	X				X			
Jeff. Davis Center											X			X							
Perkinston Center			X											X							
Mississippi Valley																					
Northeast Mississippi			X								X		X	X							
Northwest Mississippi			X					X	X		X		X	X				X	X		
Pearl River			X			X	X	X	X					X			X	X			
Southwest Mississippi			X											X							
Utica			X	X	X				X					X				X			

																														Heavy Equipment Mech.
							X					X	X						X										X	Homemaker Health Aide
														X																Horology
				X																		X								Horticulture
															X															Hospital Housekeeping
																						X								Industrial Draft.
		X			X			X																			X			Industrial Elec.
																													X	Instrumentation Tech.
				X										X								X								Livestock Tech.
			X						X					X	X				X			X							X	Machine Shop
			X																											Masonry Trades
				X					X					X	X							X							X	Mech. Technology
					X																									Metal Fabrication
								X							X						X		X							Nurse Aide
																						X								Office Machine Rep.
																							X							Operating Room Ass't
										X					X															Offset Printing
												X																		Pipe Fitting
			X																											Plumbing
			X		X	X		X	X			X		X			X			X			X							Practical Nursing
													X					X			X									Radio & T. V. Rep.
			X	X	X			X					X	X				X			X									Refrig. & Air Condit.
																					X									Res. & Coml. Wiring
X	X		X	X			X	X			X							X						X		X	X	X		Secretarial Training
														X																Sewing Machine Rep.
									X																					Sheet Metal
														X																Small Gas Eng.
				X																								X		Tool & Die
									X																					T. V. Production
	X	X			X				X					X				X			X							X		Welding
									X																					X-Ray Technology

MISSISSIPPI PUBLIC JUNIOR COLLEGES



Mississippi's 17 public junior colleges are: Northwest Junior College, Senatobia; Coahoma Junior College, Clarksdale; Mississippi Delta Junior College, Moorhead; Hinds Junior College, Raymond; Utica Junior College, Utica; Copiah-Lincoln Junior College, Wesson; Southwest Junior College, Summit; Pearl River Junior College, Poplarville; Northeast Junior College, Booneville; Itawamba Junior College, Fulton; Holmes Junior College, Goodman; East Mississippi Junior College, Scooba; East Central Junior College, Decatur; Meridian Junior College, Meridian; Harris Junior College, Meridian; Jones County Junior College, Ellisville; and Gulf Coast District Junior College, Perkinston. Some of these operate additional branches in localities other than that of their main campus. Vocational and technical training centers are now in operation or are planned for all of these institutions.

In addition to the junior colleges, the University of Mississippi Extension Department, the Industrial Education Department of Mississippi State University, and the Division of Vocational Education of the Mississippi State Department of Education are particularly concerned with the development of appropriate industrial training programs through the public school system of the state.

VOCATIONAL TRAINING IN SECONDARY SCHOOLS

SECONDARY LEVEL: Business and Office Occupational training

STATE DEPARTMENT OF EDUCATION

The Vocational Education Division of the State Department of Education is concerned with vocational training in Mississippi's secondary schools.

The larger high schools in Mississippi have made tremendous progress in establishing more and better vocational trade training programs in recent years. Those trade training programs are designed to serve the following groups of people:

1. In-school youths who have selected a vocation and who need training for entrance into an occupational pursuit;

2. Out-of-school youths who need training and experience, coordinated by public school authorities, to fit them for useful employment;

3. Apprentices and other learners who need instruction related to their trade or occupation to up-grade their skills for occupational advancement.

The major areas of training in secondary schools are described individually below:

Industrial Arts is a segment of public education designed to develop an "industrial consciousness" within the young people. The program is pre-vocational in nature and does not train for any vocation.

The 141 Industrial Arts programs conducted in the state's junior and senior high schools involve a study of the materials, tools, processes and products of industry.

Students explore several fields and phases of industry such as electricity-electronics, drawing and planning, woodworking, metal working, power mechanics, introduction to industrial procedures, problem solving, and personnel management.

Consumer knowledge and industrial safety are integral parts of the training.

Industrial arts education is designed to serve

Electrical Trades classwork

Industrial Arts shop

Vocational Agriculture—FFA winner

four groups: grades 7 and 8—general handicrafts shop; grades 8 and 9—composite general shop; grades 9 and 10—shop work in a major area such as metalwork, woodwork, electricity-electronics, or power mechanics; and grades 11 and 12—mechanical drawing.

Vocational agriculture is taught in 272 high schools, and has been broadened to include instruction in eight skill areas that will aid students who return to the farm, pursue a junior college vocational or technical course or seek immediate employment in industry.

The eight skill areas of each vocational agriculture laboratory are electricity, electric and acetylene welding, concrete and masonry, gas engines and machinery, buildings and structures, plumbing, tool fitting, and metals. A minimum of 20 hours of instruction is given each student in each area which accounts for at least 50 percent of the vocational agriculture instructional program.

Vocational agriculture provides the only skill training available to many rural students. Enrollment is over 13,000.

Adult evening classes are conducted in the eight skill areas as well as in utilization of herbicides and insecticides for weed and insect control, farm equipment repair and maintenance, or any other problem of an agricultural nature.

Most vocational agriculture students gain incentive for excellence through the awards program of the Future Farmers of America organization that encompasses the instructional program.

Distributive education offers students instruction and experience in the distribution and marketing facets of our economy through one of two programs: cooperative, which involves on-the-job training for one-half day throughout the school year, or project study, which deals with problems of business establishments.

Both programs are tied closely with classroom instruction.

Distributive education is committed to training prospective distribution and marketing employees and up-grading adults through evening classes in finance, accounting, personnel relations, marketing, government regulations, legal problems and sales techniques for all types of retail and wholesale businesses.

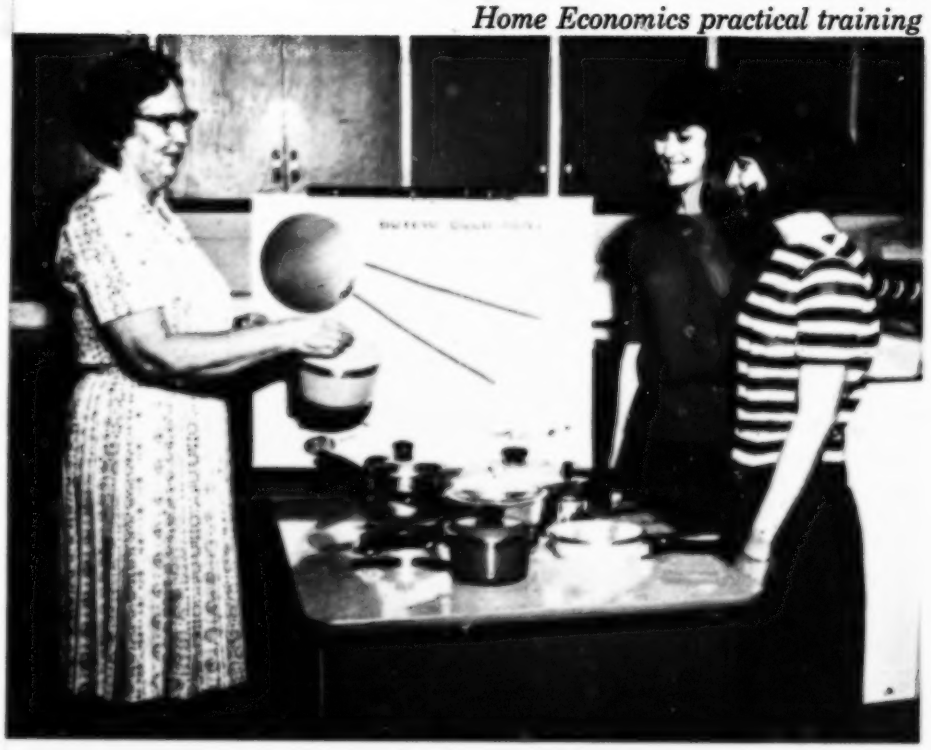
Leadership Training

Home Economics instruction

Sheet Metal shop

Distributive Education display

Home Economics practical training



Distributive Education, Salesmanship

DECA — the Distributive Education Clubs of America—has an awards program complimentary to the course of study that serves as an incentive to the youngsters.

Health occupations training is offered in any high school where the need is present and a hospital or other appropriate institution can provide the laboratory experience needs of each student.

Educational programs now in operation are hospital housekeeping, nursing unit management assistant, home health aide, dental assistant, operating room assistant, and hospital orderly. Others will be developed as needed.

Home economics are in the 411 high schools. The programs provide educational training for present and future homemakers and for gainful employment in the field of home economics.

Well equipped home economics departments offer instruction in the areas of foods and nutrition, clothing and textiles, management and family economics, child development, housing, and family living. Employment opportunities are available for many of the graduates of this program in work such as altering clothing, serving as dietitian technicians in hospitals and other institutions and in child care nurseries.

Vocational business and office education offers training to the high school graduates who do not enter college but seek employment in some form of office work.

Instruction is in business and office machines, filing, shorthand, typing, bookkeeping and other special problems involved in typical office procedures. This is in addition to the regular accounting and secretarial science courses.

Trade and industrial education is offered in 110 high schools in 46 counties. One or more of the following courses is offered in each school: building trades, auto mechanics, carpentry, welding, sheet metal, radio and television repair, machine shop, metal trades, electrical trades, industrial drafting, power mechanics, electronics, refrigeration and air-conditioning, auto paint and body repair and masonry. Special evening classes have included drafting, commercial art and others.

The 1965-66 enrollment consisted of 4,000 high school students plus 3,000 adults who needed training for a new job

Business and Office Occupations classroom

Machine Shop training

Practical Nurse training

or up-grading in their present employment.

The high school trade and industrial programs have been enriched with new equipment for serving the needs of students. Local trade and industrial coordinators are encouraged to utilize the shop facilities as many hours a day as can be beneficial to their area.

Qualifications for instructors involve academic training and occupational experience. A minimum of a high school education and at least two years work experience above the learner classification in the trade or skill area that is to be taught is required. Most teachers have a total of six years job experience.

These qualifications are to insure that every student can perform the skill according to industrial demands.

This high school program is designed as a two-year course of study for 11th and 12th grade students who are pursuing the normal course of study for a high school diploma. Training is conducted three hours per day with practically all the time involving experiences in the particular skill. Two classes use the facilities each day.

At the end of the two-year program, graduates have a marketable skill. Each graduate should have advanced in his trade capabilities to about the second or third year level of a four-year apprenticeship program.

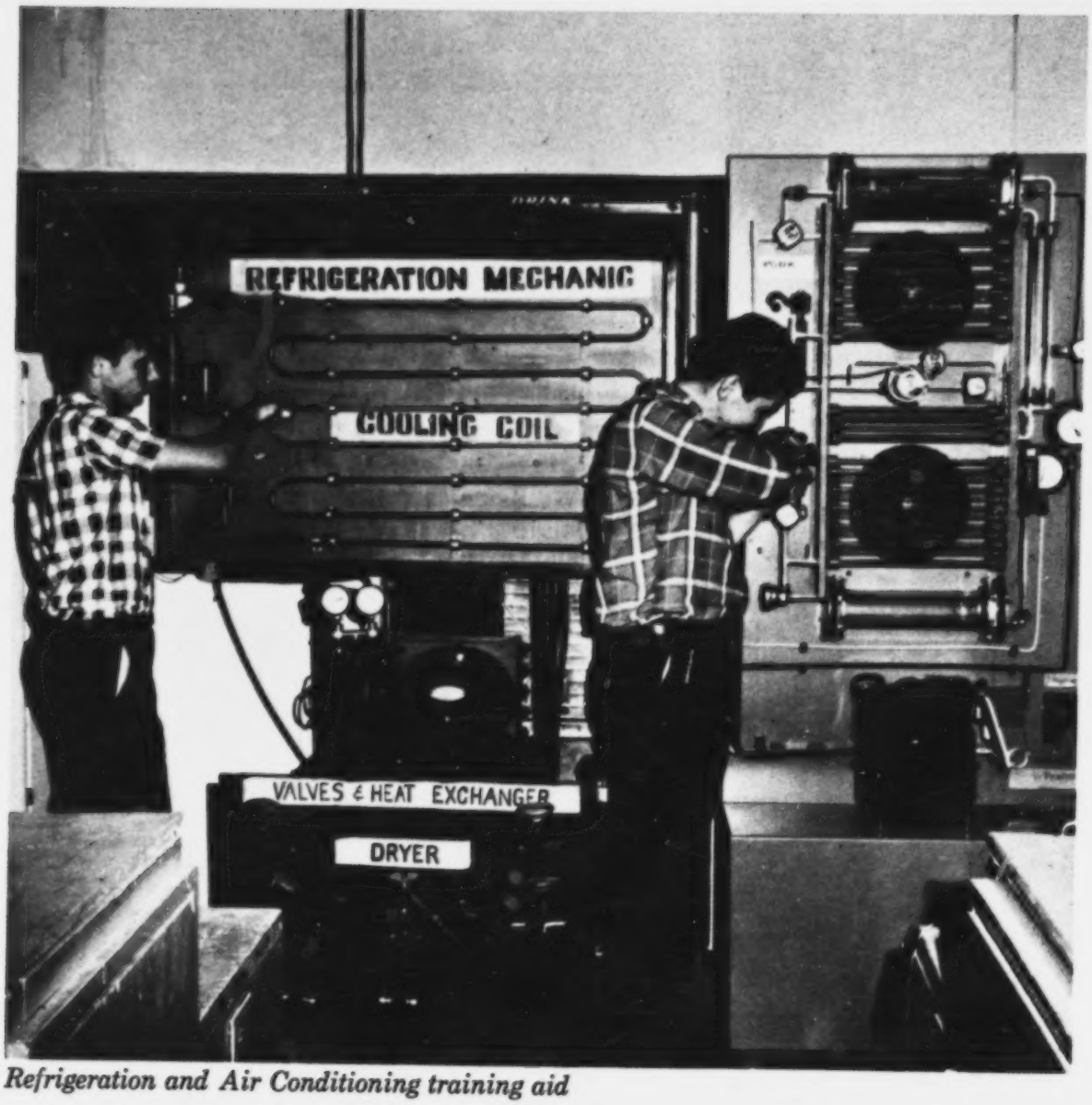
Should high school graduates choose more training before fulltime employment, they can enter advanced trade training in any one of 17 public junior colleges.

The trade taught in each school is determined by the need in the service area of the school. The need is defined in terms of the employment opportunity survey of the community.

Enrollment is determined by testing, counseling and evaluating the individual in terms of his qualifications for success in the trade being taught.

Trade and industrial programs are operated under the counsel and advice of craft committees. The committee meets at the call of the instructor to see that the course content and physical facilities are in line with the requirements of the trade. The committee keeps the instructor and school officials abreast of current needs and requirements.

A. P. Fatherree, Director
Vocational and Technical Training
State Department of Education
Jackson, Mississippi



Refrigeration and Air Conditioning training aid

Building Trades shop work

MISSISSIPPI'S COMPREHENSIVE TRAINING PROGRAMS ARE

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Here sound education and realistic aspirations are firmly welded to form a system that is both practical and profitable.

Students are trained to fill the needs of both existing industry and anticipated industry. Techniques, classroom methods, and equipment are completely modern and employed according to industry standards and specifications.

VOCATIONAL AND TECHNICAL MEETING INDUSTRIAL NEEDS

In addition to established courses, the training centers are geared to work with industry in establishing such new programs and courses as may be required.

Industry testimonials to the effectiveness of the training offered are common (see section on "Working With Industry"). Employment opportunities abound for the graduate and rising wage rates attest to the continued demand for skilled employees.

Mississippi's public school vocational and technical training system was conceived and put into operation as a useful program to accelerate the state's economic development through sound education; it is accomplishing its purpose. (Read industrialists' statements).

OTHER PROGRAMS

REVOLVING FUND FOR TRAINING

The Industrial Training Revolving Fund Act of 1964 (Chapter 220, HB 79, Mississippi Legislature, Regular Session, 1964) provides for the establishment within the Mississippi Agricultural & Industrial Board a revolving fund for the purposes of industrial plant training and recruitment for new and expanded industries, or both. To this end, the Agricultural & Industrial Board is authorized to promulgate various policies and procedures for the use of these funds.

Section 4 provides that any new or expanded industry may apply for an interest-free loan not to exceed $20,000 for pre-employment or on-the-job plant training. Section 4 (a) provides that the net worth of the industry must meet the prerequisites of the Agricultural & Industrial Board and Section 4 (b) provides that the industry shall submit a detailed plan of its training needs, plans and total amount of funds desired. Section 4 (c) provides that the loan shall not span more than a five-year re-payment plan.

THE MISSISSIPPI EMPLOYMENT SECURITY COMMISSION

The Mississippi Employment Security Commission maintains its administrative office in Jackson. Its statewide operations include eighteen full-functioning center offices, eighteen placement offices, and one youth opportunity center.

In addition to providing job development, placement and testing services for schools and industrialists, the Commission has a dual responsibility with the state's vocational education officials in the development and operation of "The Manpower Development and Training Act of 1962 (MDTA)."

Institutional training under the Manpower Development and Training Act in the State of Mississippi is the joint responsibility of the Mississippi Employment Security Commission and the Vocational Division of the State Department of Education. The vocational training courses operating in the state have been established on the basis of need. The number of students having completed MDTA programs is 1,263. The number of students now in training and those that have been allowed to enter training is 2,770. Currently, institutional training courses are being conducted in thirty-three occupations in twenty-six different areas of the state.

OJT, On-The-Job Training, is the joint responsibility of the Employment Commission, the Bureau of Apprenticeship and Training, and the Vocational Division of the State Department of Education. Following is a list of institutional MDTA courses currently offered in the State of Mississippi.

Automobile Mechanic
Automobile Service Station Mechanic
Machine Operator, General
Nurse Aide
Woodworking Machine Operator
Upholsterer II
Sewing Machine Repairman
Tractor Mechanic
Cabinet Maker I
Small Gasoline Engine Repairman
Diesel Mechanic
Welder, Combination
Sheet Metal Worker
General Office Clerk
Mechanical Draftsman
Electrical Appliance Serviceman
Home Attendant
Meat Cutter
Farm Equipment Mechanic
Automobile Body Repairman
Cook—Baker
Sawfiler, Machine
Grader, Machine
Electronics Mechanic
Stenographer
Special Diet Worker
Nurse, Licensed Practical
T.V. Service and Repairman
Grader, Pine
Draftsman, Structural
Refrigeration Mechanic
Photolithographer
Basic Education Unit Project

MANPOWER DEVELOPMENT AND AREA REDEVELOPMENT OCCUPATIONAL TRAINING COURSES 1966-67	Auto Mechanic	Auto Service Mechanic	Clerk, Gen. Office	Cooks & Bakers	Diesel Mechanic	Draft., Structural	Elec. Appli. Serviceman	Electronic Mech.	Engine Rep. Serviceman	Farm Equip. Mech.	Farm Equip. Operator	Farm Tractor Mech.	Hotel & Motel Maid	Machinist	Meat Cutter	Mechanical Drafting	Metal Fabrication	Metal Finisher	Nurse Aide	Nurse Aide-Orderly	Pipefitter	Production Mach. Op.	Refrigeration	Saw Filer, Machine	Sewing Machine Mech.	Shipfitter	Special Diet Worker	Stenographer	T.V. Service Rep.	Upholsterer	Welder, Combination	Woodworking Mach. Op.
Bolivar Co. Public Schools																																
Mound Bayou Center												X																				
Coahoma Jr. College										X	X		X						X			X								X	X	X
Copiah-Lincoln Jr. College																																
Natchez Center	X	X					X																								X	
East Central Jr. College																																
Forest Center							X		X																							
Greenville Public Schools	X		X				X		X							X		X		X		X									X	X
Hinds Jr. College																																
Jackson Center	X					X																						X			X	X
Holmes Jr. College																																
Kosciusko Center									X								X	X													X	X
Lexington Center		X	X																												X	X
Itawamba Jr. College																																
Aberdeen-Prairie Center																						X			X					X		X
Tupelo Center	X																					X						X				
McComb Public School							X										X					X	X					X				X
Meridian Jr. College	X	X																									X					
Miss. Delta Jr. College																																
Clarksdale Center		X										X																	X			
Miss. Gulf Coast Jr. Col.																																
Gulfport Center	X				X			X	X							X		X				X		X							X	
Pascagoula Center														X							X					X					X	
Miss. Valley State Col.				X								X			X		X											X			X	X
Northeast Jr. College																																
Corinth Center																	X					X									X	X
Northwest Jr. College																																
Batesville Center	X																					X										
Charleston Center										X																						
Hernando Center																																X
Oxford Center										X																						

ADULT BASIC EDUCATION

For Trainees Enrolled in the MDTA Programs

The Mississippi State Department of Education through the Division of Instruction, under provisions contained in The Mississippi State Plan Title II, Part B, of the Economic Opportunity Act of 1964, and in cooperation with the Vocational Division of the State Department of Education, is providing Adult Basic Education for trainees enrolled in the Manpower Development and Training Program operated by the Vocational Division.

The objectives of the pilot project are:

- To utilize the most recent Adult Basic Education materials and methods that can be adopted to upgrade educational deficiencies of trainees enrolled in the Manpower Development and Training Program. This is to include undereducated, unemployed, and underemployed groups.

- To provide classroom procedures that will include the basic skills of reading, writing, speaking, listening, arithmetic, citizenship, health practices, human relations, and job related experiences, grades one through eight (1-8).

- To provide Adult Basic Education, so that trainees may profitably gain from trades instruction in order to reach an entry level in an occupational field.

The Adult Basic Education program is designed to eliminate the inability to read and write English and to substantially raise the educational level of participants with a view to making them less likely to become dependent on others, improving their ability to benefit from Manpower Development and Training occupational instruction and otherwise increasing their opportunities for more productive and profitable employment, and making them better able to meet their adult responsibilities.

INDUSTRIAL EDUCATION AT MISSISSIPPI STATE UNIVERSITY

The Department of Industrial Education at Mississippi State University is dedicated to the industrial development of Mississippi. Purposes supporting this dedication are accomplished through cooperation with the State Department of Vocational and Technical Education, the Mississippi Agricultural and Industrial Board, and other state agencies. Fulfillment of purposes is approached through the following avenues.

The preparation of teachers of technical specialty subjects for junior college technical education programs. A special curriculum is designed to prepare teachers of "technical specialty subjects" in junior college technical education programs. Technical education graduates are qualified to teach or to accept industrial employment in their field of specialty.

The preparation of teachers of trade, industrial, and distributive education subjects for secondary schools. Graduate and undergraduate degrees are offered in each of the above areas. A vast majority of the teachers in these fields in the state have been prepared through this department. Such programs contribute to industrial development by providing a dependable supply of qualified workers on local levels. Industrial Arts courses have as their major objective the development of an industrial consciousness on the part of all young people by acquainting them with industrial methods, materials, and processes.

The preparation of young men for industrial employment on professional levels in the production areas of Mississippi industry. Graduates from the industrial technology curriculum have an excellent background in mathematics, science, and human relations, together with a degree of skill in the use of machines and a knowledge of industrial processes. Such individuals are capable of coping with the technical aspects of industrial supervision and administration, and of dealing successfully with personnel.

A follow-up study of the first 250 graduates in industrial technology revealed that over 50 percent of them are employed in leadership positions in Mississippi industry. The program has gained a strong reputation and is recognized by industrial employers as a source of leadership.

The preparation of curriculum materials and teaching aids for use in trade, industrial, and technical education in secondary schools and junior colleges. The major purpose of the curriculum laboratory is to prepare curriculum materials for use in trade and technical education programs in secondary schools and junior colleges. Consistent with this purpose, a meaningful liaison between education and industry has been established. Through this relationship the training needs of industry are being identified and interpreted in terms of instructional materials for use in vocational-technical education programs.

Principal activities of the laboratory staff are securing, reviewing, and recommending appropriate reference materials; arranging curriculum conferences involving teachers from vocational-technical fields and conferences for the authentication of instructional material, attended by representatives of appropriate industries; and preparing, editing, and publishing curriculum materials.

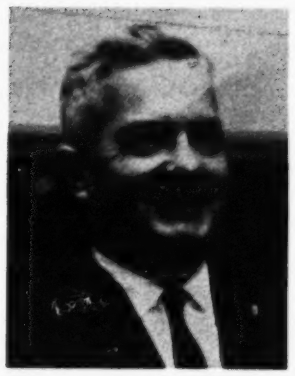
Curriculum guides have been published for the most prevalent vocational-technical education areas being taught in the secondary schools and junior colleges.

Research and studies which will assist in the accomplishment of the above purposes. Research sponsored by the U.S. Office of Education is under way to ascertain the degree of agreement between electronic content taught in south-eastern post-high school technical education programs and industrial requirements for electronic technicians. It is expected that the results of this study will provide a sound basis for curriculum adjustment to meet changing industrial employment requirements.

E. F. Mitchell, Head
Department of Industrial Education
Mississippi State University
State College, Mississippi

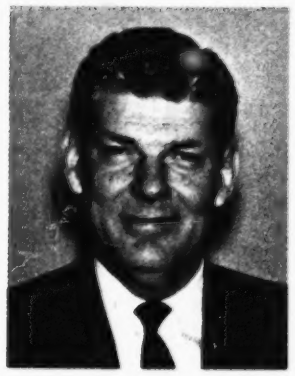
OFFICERS OF

MISSISSIPPI MANUFACTURERS ASSOCIATION



S. J. Simpson
President

Donald Gray
Vice President



E. R. Hammett
Vice President

J. M. Rogers
Vice President

W. A. Johnston
Secretary & Treasurer

MISSISSIPPI
MANUFACTURERS ASSOCIATION

P. O. Box 1094 614 First Federal Savings & Loan Building Telephone 352-8333 Jackson, Mississippi 39205

October 27, 1966

Mr. Gene Triggs, Director
Mississippi Agricultural and
Industrial Board
State Office Building
Jackson, Mississippi

Dear Mr. Triggs:

One of the indispensable ingredients for industrial growth is a trained labor force. In fact the well being of existing industry in any area is closely allied to the educational system which feeds manpower into it.

We feel extremely fortunate in Mississippi to have the facilities and programs which exist in our educational system for technical and vocational education. The Mississippi Manufacturers Association has worked closely over the years with the State Department of Education and the Junior College System in developing these facilities and programs. This close cooperation has been in the form of support for appropriations, contributions of actual equipment by some industries, and counsel in making decisions on programs and forecasting needs.

We are proud of the progress to date, but realize we must continue to place more emphasis on recruiting students into vocational and technical career fields. As an organization representing industry in Mississippi, MMA will do everything possible to help anticipate needs and plan for facilities and programs. Our Industrial Training Committee is alert to the needs of manufacturers and is in constant communication with the state agencies responsible for these programs.

Through industry - government cooperation I am certain that Mississippi will continue to grow as an industrial state.

Sincerely,

Joe Simpson

S. J. Simpson
President

VICKERS INCORPORATED
Division of Sperry Rand Corporation

AEROSPACE DIVISION: 5353 HIGHLAND DRIVE • JACKSON, MISSISSIPPI • 601-366-7371

October 20, 1966

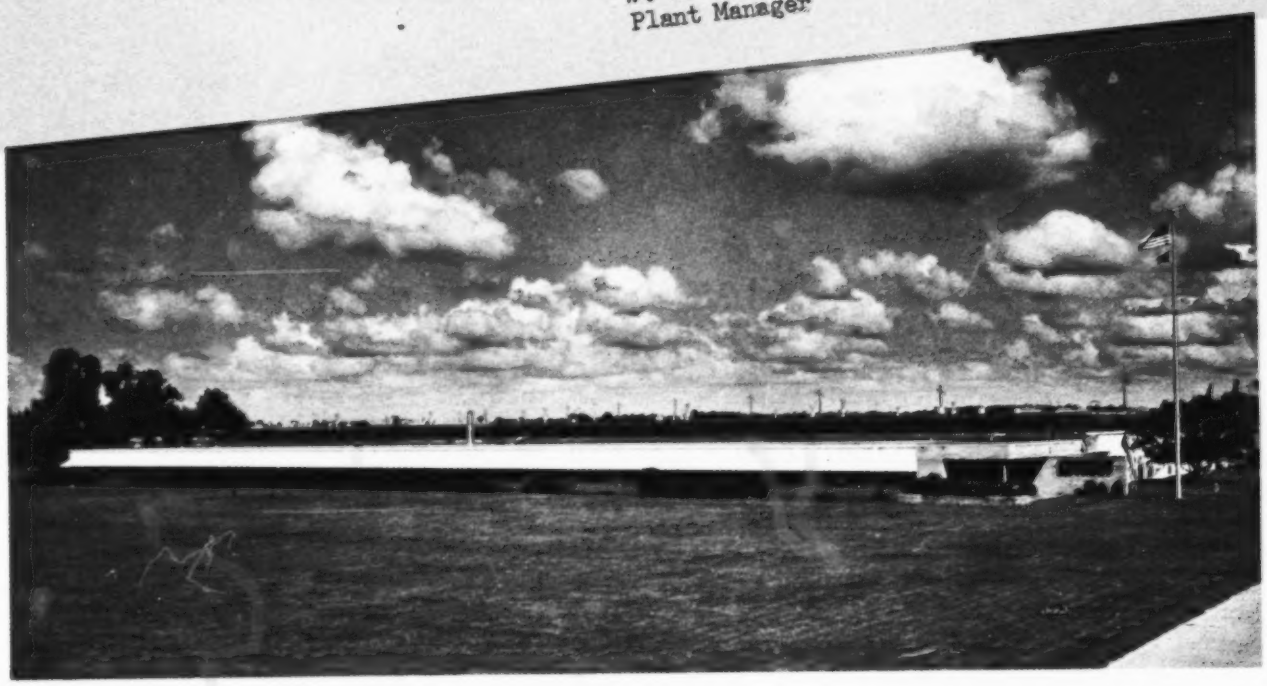
For some time now we have been working with the junior colleges in securing qualified applicants for employment. As a result many of our employees are junior college graduates. From talking with these employees and observing their progress on the job, there is little doubt that the time they spent attending the courses at the junior colleges has been rewarded with job success. We have found the junior college graduate to be prepared both technologically and sociologically to meet the demands of modern industry.

Graduates of junior college programs have an improved opportunity to advance themselves in their chosen career field at Vickers. We are looking to the junior college graduate to assume future positions in our management group. This is illustrated by the fact that several of our present supervisors and foremen are graduates of vocational and technical programs of various junior colleges in the State. These employees started out at the bottom in hourly rated jobs and worked their way up to foremen and supervisors in our management group. Certainly the technical training they received at the junior colleges placed them in a position to assume the responsibilities of management.

Sincerely yours,

W. H. Presley, Jr.

W. H. Presley, Jr.
Plant Manager



Chromcraft, Inc.

GENERAL OFFICES • SENATOBIA, MISSISSIPPI 38668 • PHONE: 562-8203

October 12, 1966

We have a wonderful working relationship with Northwest Mississippi Junior College in Senatobia, whereby they have agreed to offer any training courses that we desire, providing we have at least ten interested persons to attend. We have utilized this program in the training of welders, brazers, upholsterers, sewers, draftsmen, machinists, supervisory personnel, secretarial procedures, and currently have a group attending tool and die classes. The college has provided a large reservoir of secretaries and other office workers. We believe that Northwest has taken the lead in this cooperative effort to assist industry. We will continue to cooperate in Northwest Junior College's program of area development via the training of workers for industry.

We have positions available that will utilize any graduate of a junior college technical program. We are proud of our relationship and trust that the junior college program will continue to grow and we value the services that Northwest Mississippi Junior College is providing for our area.

Very truly yours,

Max S. Walker

Max S. Walker
Personnel Director

Jacobsen

MANUFACTURING COMPANY

REPLY TO:
JOHNSTON LAWN MOWER DIV.
BROOKHAVEN, MISSISSIPPI
PHONE (AREA CODE 601) 833-6111

October 24, 1966

It was thru our original request for help in the Vocational Field that supplied the incentive to further this type of Education at Co-Lin. The tremendous development of this Department at Co-Lin has been most satisfying and exceedingly gratifying in that the State and local area fully recognize this need to develop the full potential of Industry having moved to this area and are contemplating such a move.

We, of this Company, have and are continuing to take full advantage of this training in various fields. Apprentice welders, apprentice machine operators, apprentice tool room machinist are some of the shop training that has been most valuable to our expanded operation. They also have been of tremendous help in Drafting, Machine Shop procedures and at the present time we have a full compliment in the evening classes of Computor Equipment Orientation.

Without question, this type of training has been an invaluable tool in the continued expansion of our operation in Mississippi.

Sincerely yours,

JOHNSTON LAWN MOWER DIVISION
Jacobsen Manufacturing Company

E. L. Boyce
Vice President & Plant Manager

INGALLS
SHIPBUILDING CORPORATION
A DIVISION OF LITTON INDUSTRIES

THE INGALLS SHIPBUILDING CORPORATION GENERAL OFFICES, P.O. BOX 149 · PASCAGOULA, MISSISSIPPI 39567

PHONE 762-1230 · TWX PASC 172/175 · CABLE: INGALSHIP PASCAGOULA

October 24, 1966

For many years our Company has worked closely with the State Department of Education in conducting training programs at Ingalls and in Pascagoula. With the assistance of members of your Trade and Industrial Education Department, many training programs have been successfully operated to the benefit of our Company, its employees, as well as to members of this community and the surrounding communities.

Particularly since 1956, when our nuclear submarine construction program got underway, we have had to continually train and retrain a large portion of our employees. The availability of technical and vocational training facilities in this area has been the foundation on which we were able to fulfill our commitments to the U. S. Navy in producing top quality submarines and surface ships.

In addition to the many welding courses conducted locally by the State Department of Education, more than 300 Ingalls apprentices attend classes at the new Jackson County Junior College and a considerable number of our employees are enrolled in short vocational-technical courses conducted in the evenings by the Gulf Coast Junior College District.

We are gratified by the close cooperation received from State Department of Education personnel and pledge our continued support to your efforts in providing vocational and technical training for the people of Mississippi.

Sincerely,

E. R. Hammett

E. R. Hammett
Senior Vice President

Questions and Answers:

WHAT IS THE CORRELATION BETWEEN EDUCATION AND ECONOMIC GROWTH?

Worldwide examples illustrate the close correlation between education and economic advancement. This is true for areas and individuals. Simply put, an area with educated citizens will advance more rapidly economically than an equal area with less educated citizens. Mississippi is committed to a program of assuring maximum educational opportunities for all of its citizens.

WHAT IS THE INTEREST OF MISSISSIPPI IN VOCATIONAL AND TECHNICAL TRAINING?

Mississippi is now experiencing a period of unequaled industrial growth. Industry demands trained workers and furnishes them with excellent job opportunities. Mississippi believes that it has a duty to its individual and industrial citizens to provide the best possible vocational and technical training to assure and support continued industrial advancement.

WHAT IS THE INTEREST OF INDUSTRIALISTS IN A TRAINED WORK FORCE?

Mississippi industries must meet competitive markets in our state and in other states for quality products. Cost of production is measured by the number of working hours, facilities, equipment, maintenance, raw materials, depreciation, taxes and other related factors. To earn a profit, industrialists must produce quantity and quality products for competitive distribution; therefore a trained and efficient work force is a vital asset.

WHAT ARE THE FUTURE OPPORTUNITIES IN MISSISSIPPI FOR SKILLED CRAFTSMEN AND TECHNICIANS?

From January 1, 1960 to October 1, 1966, Mississippi has secured 530 new industries, 480 new expansions, creating 73,925 new jobs for the state's people. If this acceleration continues for six more years, there will be a need in industry alone for skilled and technical workers of approximately 50,000 additional employees that will pay high wages for those who may qualify.

WHAT ARE THE PRINCIPAL SOURCES FOR FURNISHING 50,000 ADDITIONAL SKILLED AND TECHNICAL WORKERS?

Mississippi's comprehensive vocational and technical schools are now in a position to train at least 10,000 workers suitable for industrial employment each year. Area vocational and technical centers, if the need develops, are in position to step up their programs for at least 15,000 per year.

WHAT IS THE STARTING RATE OF PAY FOR SKILLED AND TECHNICAL WORKERS FOR MISSISSIPPI INDUSTRIES?

Industrial wage surveys indicate a wage scale from $2.00 to $4.00 per hour. Counting fringe benefits, this would include a monthly salary scale from $325 to $500 per month. Experienced craftsmen and technicians' salary scale is from $500 to $800 per month.

WHERE SHOULD AN INDUSTRIALIST—NEEDING A TRAINED WORK FORCE—LOOK FOR COMPETENT WORKERS?

One of the greatest sources for industrial workers can be found in the state's public junior colleges. Especially so, if the workers are required to have special vocational and technical skills.

WHO DETERMINES WHAT TRAINING PROGRAMS ARE NEEDED IN AREA VOCATIONAL AND TECHNICAL TRAINING CENTERS?

Each area vocational and technical training center at the various public junior colleges

Questions and

has an advisory board, made up of agricultural, industrial, and professional leaders. This board consists of from 25 to 50 people interested in agricultural and industrial development. This board works closely with college officials in determining need for training, job opportunities, and placement for trained personnel.

Answers:

CAN MISSISSIPPI'S PUBLIC EDUCATION PROGRAM SUPPLY THE ACCELERATED DEMANDS FOR INDUSTRIAL WORKERS?

Mississippi—during the school year of 1966-67—has 853 accredited elementary schools with an enrollment of 460,263 students; it has 457 accredited secondary schools with an enrollment of 160,557 students; it has 17 accredited public junior colleges with an enrollment of 20,000 students; and it has 16 accredited senior colleges with an enrollment of 30,562 students. This is over and above the various private secondary schools and colleges. Therefore, the potential labor force for industrial development in Mississippi is good.

COOPERATING AGENCIES AND ORGANIZATIONS

Interest in vocational and technical training in Mississippi is at an all-time high and the state's progress in this field is due largely to the work of the leaders serving on the various cooperating agencies and organizations. Some of these are described as following:

William E. Barksdale
Executive Director
Central Mississippi Development District
P. O. Box 1038
Jackson, Mississippi
Tel. 352-5951

Mr. Don Newton, Director
Industrial Development Department
Delta Council
Stoneville, Mississippi
Leland 686-4041

Mr. A. E. Gatlin, Executive Director
Mid-Mississippi Development District
P. O. Box 119
Newton, Mississippi
Tel. 683-2091

Mr. Henry Berry, Assistant Director
Area Development Department
Mississippi Power & Light Company
Electric Building
Jackson, Mississippi
Tel. 354-4771

Mr. Howard Langfitt, Manager
Electric Power Associations of Mississippi
429 Mississippi Street
Jackson, Mississippi
Tel. 353-4905

Mr. Lee Wood, Vice President
Industrial Development Department
Mississippi Power Company
Gulfport, Mississippi
Tel. 864-1211

Mr. Van Richardson
Industrial Development Department
Mississippi Valley Gas Company
711 West Capitol
Jackson, Mississippi
Tel. 355-5451

Mr. William B. Barrett
Executive Director
North Mississippi Industrial Development Association
West Point, Mississippi
Tel. 494-4633

Mr. Robert Holyfield, Director
Southeast Mississippi Industrial Development Council
P. O. Box 38
Ellisville, Mississippi
Tel. 477-8617

Mr. Frank Oakes, Executive Director
Southwest Miss. Development District
P. O. Box 686
McComb, Mississippi
Tel. 684-7250

The purposes of developing this vocational and technical handbook are: (1) to provide industrialists with factual information about Mississippi's comprehensive vocational-technical education programs in secondary schools and public junior colleges; and (2) to inform all Mississippians interested in industrial employment where to go to enroll in occupational training programs that will meet their interest, aptitudes and needs.

Much time and thought was given by the Director of the Mississippi A & I Board in selecting a working committee of industrial and professional people to develop this handbook. This committee is to be commended for their efforts. May I say thanks to all members of committee.

Frank Oakes, Chairman

COMMITTEE:

Frank Oakes, Chairman, Southwest Mississippi Development District, McComb

Bill Jones, Vice Chairman, Mississippi Manufacturers Association, Jackson

William S. Cobb, Consultant, Mississippi A & I Board, Jackson

Dr. G. H. Johnston, President, Pearl River Jr. College, Poplarville

Dr. F. M. Fortenberry, President, Copiah-Lincoln Jr. College, Wesson

Dr. R. D. McLendon, President, Northwest Mississippi Jr. College, Senatobia

Dr. J. B. Young, President, Jones Jr. College, Ellisville

Dr. Robert M. Mayo, President, Hinds Jr. College, Raymond

A. P. Fatherree, Director, Vocational—Technical Education, State Department of Education, Jackson

J. W. Lewis, Supervisor, Trade & Industrial Education, State Department of Education, Jackson

Bill Barrett, Executive Director, Northeast Industrial Association, West Point

Frank Smith, Vice President, Mississippi Power & Light Company, Jackson

Lee Wood, Vice President, Mississippi Power Company, Gulfport

O. T. Robinson, Director of Training, Southern Bell Telephone Company, Jackson

Jim Bader, Emhart Corporation, Clarksdale

Hale Roberts, Member of Mississippi A & I Board, Jackson

O. H. Simmons, Chief of Operating Functions, Mississippi Employment Security Commission, Jackson

John Milandin, Ingalls Shipbuilding Corporation, Pascagoula

Carl Andre, Godwin Advertising Agency, Jackson

Millard Bush, Director, Mississippi A & I Board

VT 006 752

Thompson, John F.

A Guide to Surveying Your Community for Youth Employment Opportunities in Agricultural Businesses and Services.

Wisconsin Univ., Madison. Dept. of Agricultural and Extension Education
Wisconsin Association of Vocational Agriculture Instructors, Curriculum Committee
MF AVAILABLE IN VT-ERIC SET.
Pub Date - 67 24p.

*AGRICULTURAL EDUCATION; *GUIDELINES; INTERVIEWS; EMPLOYMENT OPPORTUNITIES; *OFF FARM AGRICULTURAL OCCUPATIONS; EDUCATIONAL NEEDS; *COMMUNITY SURVEYS; *RESEARCH METHODLOGY; DATA SHEETS; DATA PROCESSING; TECHNIQUES; EMPLOYMENT PROJECTIONS

Developed by teacher educators and validated by vocational agriculture instructors, this interview guide is for use in determining: (1) community agricultural employment opportunities, (2) functions performed by agricultural businesses, (3) the number of persons employed by job title, (4) the number of entry opportunities by job title, (5) job descriptions of agricultural employees, and (6) the level of training necessary for employment. Sample copies are provided of the interview form, interview guide, explanatory letter, and data reporting tables. Information obtained by the interview guide may be used by teachers in course and lesson planning. (DM)

VT 006 752

EDO 30001

(c.)
24p*

A GUIDE TO SURVEYING YOUR COMMUNITY FOR YOUTH EMPLOYMENT OPPORTUNITIES IN AGRICULTURAL BUSINESSES AND SERVICES

By

John F. Thompson

Department of Agricultural and Extension Education

University of Wisconsin

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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VT006752

Cooperating with

Wisconsin Association of Vocational Agricultural Instructors,

Curriculum Committee

ACKNOWLEDGEMENT

Teachers of Vocational Agriculture in Michigan, in cooperation with several other groups of professional agricultural workers, have completed a large number of community surveys to determine the opportunities in agricultural businesses and services for their students. Dr. O. Donald Meaders, Michigan State University, provided the leadership for many of these studies. Appreciation is extended to Dr. Meaders for permission to use some of the materials developed in those studies.

PREFACE

This booklet is offered only as a guide. It is hoped that each person who uses it will make adaptations to suit local conditions. For example, the types of businesses listed in the tables may not be appropriate for your community.

M E M O R A N D U M

TO: The ERIC Clearinghouse on Vocational and Technical Education
The Ohio State University
980 Kinnear Road
Columbus, Ohio 43212

FROM: (Person) John F. Thompson (Agency) University of Wisconsin

(Address) 208 Agricultural Hall, Madison, Wisconsin 53706

DATE: August 7, 1968

RE: (Author, Title, Publisher, Date) Thompson, John F.; A Guide to Surveying Your Community for Youth Employment Opportunities in Agricultural Businesses Services; U. of Wisconsin; Dept. of Ag. and Extension Ed.; 1967

Supplementary Information on Instructional Material

Provide information below which is not included in the publication. Mark N/A in each blank for which information is not available or not applicable. Mark P when information is included in the publication. See reverse side for further instructions.

(1) Source of Available Copies:
Agency Department of Ag. and Extension Education
Address 208 Agricultural Hall, Madison, Wisconsin 53706
Limitation on Available Copies ERIC only Price/Unit
(quantity prices)

(2) Means Used to Develop Material:
Development Group Individual Authorship and committee of teachers
Level of Group State
Method of Design, Testing, and Trial Developed by teacher educator and validated by a group of high school teachers.

(3) Utilization of Material:
Appropriate School Setting All levels
Type of Program regular classes
Occupational Focus N/A
Geographic Adaptability N/A
Uses of Material Course and lesson planning
Users of Material Teachers

(4) Requirements for Using Material:
Teacher Competency N/A
Student Selection Criteria N/A

Time Allotment N/A

Supplemental Media --
Necessary ____)
Desirable ____) (Check Which)

Describe

Source (agency)
(address)

A GUIDE TO SURVEYING YOUR COMMUNITY FOR YOUTH EMPLOYMENT OPPORTUNITIES IN AGRICULTURAL BUSINESSES AND SERVICES

Why Do A Survey of Your Community?

One of the basic tenets of curriculum offerings of vocational agricultural programs is that the curriculum reflects the needs of the local community. Each and every community is unique. Manpower needs in agriculture are an everchanging quantity with the number of persons employed in production agriculture being less than it has been in the past; and at the same time, the number of persons employed in the business world needing some knowledge of agriculture has increased. Thus, some high schools which offer vocational agriculture are finding it necessary to consider the significance of the latter type of manpower needs in agriculture as they attempt to adjust their programs to changing community needs.

Curriculum changes must begin by gathering a set of facts. Do you know, for instance, the businesses in your community which employ persons who may need agricultural competencies? What agricultural job titles are reflected in these opportunities? What functions does the worker perform? A survey in your community may be needed to obtain facts which answer these and other questions. This set of facts, in addition to contributing the basis for adjustment in curriculum, needs to be used in several other ways. The primary way in which it may be used is to justify curriculum offerings to the students of your school, to your school officials, to the community and to state personnel.

Objectives

It will be necessary to determine a set of objectives for any survey you may intend to conduct. These are listed here as only a sample set, and the questionnaire form in this document was constructed to reflect these objectives. Each community survey will have its own set of objectives which may or may not be the ones reflected here.

1. To locate and identify businesses and services which employ persons who may need agricultural competencies.

2. To determine the functions performed and the extent to which the businesses and services are considered to be agriculturally oriented.

3. To determine the number of persons by job title employed full-time and part-time.

4. To determine annual entry opportunities by job title for employees in these businesses and services.

5. To determine the major functions of each employee.

6. To determine the level of training necessary for entry employment.

Again, these are offered only as possible objectives that you might have for a community survey.

Who Should Do the Study?

The answer to this question will vary with each community. Don't overlook the fact that there may be several agricultural teachers in your area and each of you may be considering a survey. Can you get together and do a combined study? Maybe counties are reasonable things to consider. The best solution may be for all teachers in a county to combine their efforts to complete one major survey thereby avoiding duplication. There are many other professional agricultural workers in the county such as University Extension and Soil Conservation personnel who should be involved in the planning and in conducting of such a survey. Your advisory committee may see this as a function they could perform. Also, one might let this be a learning exercise for students by providing the senior class with the experience of planning, conducting and reporting the survey as a class project to learn about their community. Important points to remember here are: (1) Involvement of a large number of persons--don't try to do the job alone. (2) Do a complete survey insuring that not a single business or service opportunity is overlooked.

What is a Community?

The concept of community has been evolutionary, and at present is rather difficult to define in practical terms due to the mobility of people as well as a breaking down of traditional service areas. Certainly the smallest geographical area one should consider is an entire school district. It is important to cover the area that represents the "agricultural" community, and this is rather difficult to define.

Survey Materials

It is anticipated that for the survey of your community you will need: (1) an interview form, (2) a guide for interviewing, (3) a letter explaining the survey, and (4) tables on which to report the data. Sample copies of these are provided on the next few pages. Remember that these are only suggested and you may feel free to add or delete items to conform to your objectives.

Interview Form: This specific form is designed to meet the objectives listed on page one of this report.

Guide to Interviewing: A guide for the interviews is needed to insure that all interviewers perform in the same manner by asking similar questions. This will help insure valid results.

Letter of Explanation: One should be developed and sent to the prospective firms. Then telephone to make an appointment for the interview.

Reporting

Two items are needed here. These are tables in which to record the data gathered and a discussion of the data. The remaining portion of this leaflet are sample tables which you may find helpful for recording and reporting data. Again, remember these are offered only as suggestions.

INTERVIEW FORM

Interviewer_____ Date_____

SURVEY OF AGRICULTURAL BUSINESSES IN (YOUR COMMUNITY)

1. Name of Business or Firm:_____

2. Address:_____

3. Names of persons contacted:_____Tel._____

_____Tel._____

4. Position in the business of persons interviewed:

___a. Owner
___b. Manager-hired
___c. Sales Manager
___d. Owner-Manager
___e. Personnel Director
___f. Office Manager
___g. Other (specify)

_____

5. Functions of the Business:

___a. Manufacturing
___b. Purchasing
___c. Service
___d. Constructing
___e. Retailing
___f. Warehousing
___g. Processing
___h. Wholesaling
___i. Contracting
___j. Producing
___k. Other (specify)

_____

_____

6. Main products, services, or functions of the business:

_____

_____

_____

7. Extent of Agricultural Orientation of Business

_____Percentage of business agriculturally oriented

8. Number of Employees (Owners & Employees)

Part Time_____
Full Time_____
Total: _____

9. Job Titles, number of employees, annual entry and educational level

*1. Processing	*1. No preference
2. Sales	2. Less than high school grad.
3. Service	3. High school graduate
4. Office practices	4. 1 yr. post high voc. graduate
5. Public relations	5. 2 yr. post high voc-tech. grad.
6. Purchasing	6. Some college
7. Transportation	7. College graduate
8. Research	8. On-the-job training
9. Maintenance	9. Other (specify)

Job Titles (Description of Work)**	Number Employed	Number Annual Entry	Function of the Worker	Educational Level

* Place the appropriate number for the function and the level of training in each column
** Place an asterick by anticipated or future job titles

Interview Guide for
YOUR COMMUNITY STUDY OF AGRI-BUSINESS

1. Before interviewing, make a list of all businesses or firms in the area that are to be interviewed.

2. Select the persons, business or firm, whom you plan to contact for interviewing within a two-week period. Send letter of introduction, then telephone for an interview.

3. Interview the person who has the highest degree of over-all administrative responsibility at the local (county) level.

4. You will in most cases be well known to those you interview. If there is any doubt as to your identity or your official responsibility, be sure to make this known at the beginning of the interview.

5. Preface your interview with a brief review of the purpose of the survey, "to identify present and emerging agricultural occupations, for which vocational and technical agricultural education should be available."

6. Record the official name of the business or firm. Where a firm has no official name other than the name of the owner or operator, record the name of the owner or operator.

7. Record the complete address: number, road or street, and post office.

8. A copy of the interview instrument may be given to the person being interviewed so that he may anticipate the questions, while you are recording answers, and thereby reduce the time required for the interview.

9. Obtain the best estimates possible for question 7.

10. Most of the agricultural jobs have no official job titles. In this case, write down the description of the work done.

11. Make a direct inquiry about anticipated job titles, but don't make up or suggest job titles for the approval of the person interviewed.

12. When the interview is finished, it would be helpful if you would pave the way for a possible cooperative program which might place a student in this business for training. In other words, ask "Would you be willing to work with the school in a training program by hiring a student to work part time while he is still in school and to give him some training in selected jobs?"

13. Express your appreciation for the cooperation on this survey

Other Suggestions:

14. Practice interviewing before making the first contact.
15. Be sure that you are very familiar with the interview schedule.
16. Permit the interviewee to have a blank copy of the interview instrument.

AN OPEN LETTER OF INTRODUCTION AND EXPLANATION TO ALL PERSONS AND FIRMS ENGAGED IN ONE OR MORE TYPES OF AGRICULTURAL BUSINESS IN (YOUR COMMUNITY)

The teachers of vocational agriculture and other professional agricultural personnel are cooperating to conduct a survey which we believe is of great importance to everyone employed in the various segments of our agricultural economy.

This survey will be an effort to identify present and emerging agricultural occupations, for which vocational and technical agricultural education should be available, within our area. It is hoped that we can also determine present and anticipated numbers of employees in these occupations, as well as some of the competencies needed by the employees.

Some time within the next few days a telephone call will be made to your place of business to arrange a brief interview. Since you are a key person with respect to the information needed in this survey, we hope you will be able to give a few minutes of your time to this worthy effort.

For your further information, we are enclosing some background information relating to this survey and its purpose.

Very truly yours,

FOR YOUR INFORMATION

The following background information is presented here so that you may more fully understand why this survey is being made and what use will be made of the data.

The Need for This Study

Developments in technology and automation have caused tremendous changes to take place within our agricultural industry. Significant among these changes is the decrease in the number of persons needed in the production phase of agriculture, accompanied by an increase in the number of persons needed in the off-farm agricultural occupations.

It is generally agreed that there are many opportunities for persons in the non-farm agricultural occupations, but no specific data has been collected in this area on the jobs at various levels. This is partly due to the fact that most of the agricultural service and business job aspects of the agricultural industry have evolved fairly recently. There is some evidence that a number are evolving at the present time.

If our young people are to receive adequate counseling and the educational needs of all our own people are to be met, it becomes imperative that immediate and continuing identification be made of those businesses which embrace jobs requiring some competency in agriculture. With information concerning the number of employment opportunities in these occupations and the nature of the jobs, future needs for educational programs in agriculture may be more accurately projected than is now possible.

Such information is needed in planning more adequate vocational programs for off-farm agricultural occupations in the high schools and post high school institutions in our area. The information will also be valuable to any other local agency or business for planning improvements and expansion of educational programs.

Objectives

1. To identify present and emerging agricultural occupations, for which vocational and technical education in agriculture should be available.

2. To determine present and anticipated numbers of employees in these occupations.

3. To estimate the annual entry opportunities in these occupations.

4. To identify the function of agricultural workers in specific jobs.

TABLE 1

SUMMARY OF EMPLOYMENT DATA BY TYPE OF BUSINESS FOR (YOUR COMMUNITY)

Type of Business	Percent of Business Ag. Oriented	Part-Time	Full-Time	Total	Number of Businesses Interviewed
Agricultural Machinery					
Farm Supply and Service					
Small Animal Farms					
Nurseries and Tree Farms					
Greenhouses and Floral Shops					
Forest Products Marketing & Processing					
Milk Marketing & Processing					
Other Food Processing					
Recreation and Conservation					
Professional Agricultural Services					
TOTAL					

TABLE 2

NUMBER OF VARIOUS KINDS OF AGRICULTURAL BUSINESSES AND SERVICES INTERVIEWED IN (YOUR COMMUNITY)

Type of Business	(In each of the tables you may desire to report by geographical area such as each school district in your community.)
Agricultural Machinery	
Farm Supply & Service	
Small Animal Farms	
Nurseries & Tree Farms	
Greenhouses & Floral Shops	
Forest Products Marketing & Processing	
Milk Marketing & Processing	
Other Food Processing	
Recreation & Conservation	
Professional Agricultural Services	
TOTAL	

TABLE 3

NUMBER EMPLOYED IN VARIOUS TYPES OF BUSINESSES IN (YOUR COMMUNITY)

Type of Business						TOTAL
Agricultural Machinery						
Farm Supply & Service						
Small Animal Farms						
Nursery & Tree Farms						
Greenhouses & Floral Service						
Forest Products Marketing & Processing						
Milk marketing & Processing						
Other Food Processing						
Recreation & Conservation						
Professional Agricultural Services						
TOTALS						

TABLE 4

MAJOR FUNCTIONS REPORTED BY AGRICULTURAL BUSINESSES AND SERVICES IN (YOUR COMMUNITY)

Functions	Number Reporting
Manufacturing	
Purchasing	
Service (Insurance, Finance, Education, etc.)	
Constructing	
Warehousing	
Processing	
Wholesaling	
Contracting	
Producing	
Retaling	
Recreation-Service	
Total	

TABLE 5

FUNCTIONS OF EMPLOYEES BY TYPE OF BUSINESSES IN (YOUR COMMUNITY)

Function of Employees	Type of Business* 1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	Total
1. Processing											
2. Sales											
3. Service											
4. Office Practices											
5. Public Relations											
6. Purchasing											
7. Transportation											
8. Research											
9. Maintenance											
TOTAL											

* (1) Agricultural Machinery, (2) Farm Supply & Service, (3) Small Animal Farms, (4) Nursery & Tree Farms, (5) Greenhouse and Floral Service, (6) Forestry Products Marketing & Processing. (7) Milk Marketing & Processing, (8) Other Food Processing, (9) Recreation & Conservation, (10) Professional Agricultural Services.

TABLE 6

EDUCATIONAL LEVEL IN VARIOUS TYPES OF BUSINESSES IN (YOUR COMMUNITY)

Type of Business	Educational Requirement*								
	1.	2.	3.	4.	5.	6.	7.	8.	9.
Agricultural Machinery									
Farm Supply & Service									
Small Animal Farms									
Nursery & Tree Farms									
Greenhouse and Floral Service									
Forestry Products Marketing & Processing									
Milk Marketing & Processing									
Other Food Processing									
Recreation & Conservation									
Professional Agricultural Services									

*1. No preference,
2. Less than high school graduate
3. High School graduate
4. 1 yr. post high vocational graduate
5. 2 yr. post high voc-tec. graduate
6. Some college
7. College graduate
8. On-the-job training
9. Other (specify)

TABLE 7

NUMBER OF PERSONS REPORTING VARIOUS JOB TITLES IN AGRICULTURAL BUSINESSES AND SERVICES IN (YOUR COMMUNITY)

Agricultural Machinery:

Job Title	Number of Workers Reported
Manager-Owner	
Manager	
Parts	
Parts and Service	
Service Manager	
Mechanics	
Mechanic's Helper	
Salesman	
Set-Up and Delivery	
All Purpose Man	
Bookkeeper	
Carpenter	
Sub-Total	

Farm Supply and Service:

Manager	
Bookkeeper	
Millman	
Truck Driver	
Laborers	
Salesmen - Drivers	
Administration	
Service Station and Mechanic	
Maintenance	
Clerks	
Sprayers	
Tree Trimmer	
Artificial Inseminator	
Salesmen (Insurance)	
Landscaper Helpers	
Sub-Total	

Small Animal Farms:

Manager	
Waste Disposal	
Maintenance	
Sub-Total	

Job Title	Number of Workers Reported
Nurseries and Tree Farms:	
Office Personnel	
Registered Forester	
Assistant Forester (trainee)	
Landscape Architect	
Field Foreman	
Landscape Personnel (skilled)	
Christmas Tree Shearers (seasonal)	
Christmas Tree Harvesters (seasonal)	
Semi-skilled	
Laborer	
Manager	
Repairman	
Teamster	
Truck Driver	
Sprayer	
Cultivator	
Owner	
Sub-Total	
Greenhouses and Floral Shops:	
Nursery Stockman	
Designer	
Grower (gardener)	
Transplanter	
Owner	
Bookkeeper	
Helper-laborer	
Retail Sales	
Delivery (truck driver)	
Landscaper Helper	
Manager	
Flower Manager	
Landscaper	
Assistant Manager	
Greenhouse Workers	
Sub-Total	

Job Title	Number of Workers Reported
Forest Products Marketing & Processing:	
Manager	
Sawyer	
Edger	
Cut-Off Man	
Lumber Handler	
Logger	
Carriage Man	
Lift Truck Operator	
Deck Man	
Slab Saw Man	
Office Clerk	
Sales Manager	
President and Vice President	
Foreman	
Laborers (assemblers)	
Truck Drivers	
Planers	
Sub-Total	
Milk Marketing & Processing:	
Receiver of Milk	
Evaporation Operator	
Dryer Operator	
Maintenance	
Butter Maker	
Butter Maker's Helper	
Truck Driver (salesmen)	
Clean-Up and Equipment Crew	
General Plant Work	
Bookkeeper	
Laboratory	
Manager	
Processing	
Supervisory	
Cheesemaker	
Sub-Total	

Job Title	Number of Workers Reported
Other Food Processing:	
Inspection - Belt Workers	
Filling Lines	
Machine Operator	
Receiving Clerks	
Mechanic	
Firemen	
Laborer	
Bookkeeper	
Plant Superintendent	
Maintenance Foreman	
Warehouse Man	
Truck Drivers	
Cider Mill - Graders	
Pickers	
Butcher	
Meat Cutter	
Tilting-Loading	
Salesmen	
Lift Truck Operator	
Packaging	
Sub-Total	
Recreation and Conservation	
Greenskeeper	
Shop Attendant	
Greenscutter	
Irrigator	
Handy Man	
Secretarial	
Waitresses	
Golf Course Workers	
Greens Superintendent	
Greenskeeper Assistant	
Caddy Master	
Bartender	
Kitchen Worker	
Manager	
Laborer	
Mechanic	
Housekeeper	
Horse Keeper (driver, trail guides, stable boys)	
Gardeners	
Atheletic Department	
Foreman	
Treasurer	
Executives	
Stores Keeper	
Trades Helper	
Janitors	
Heavy Equipment Operator	

Job Title	Number of Workers Reported
Recreation and Conservation (cont'd):	
Supervisors	
Maintenacne Machinist	
Tailor	
Painter	
Park Naturalists	
Park Rangers	
Life Guard	
Carpenters	
Forest Fire Officer	
Forest Fire Lookout	
Radio Dispatcher	
Fishery Biologist	
Fish Culturalists	
Conservation Officers	
Game Biologist	
Architect	
Land Surveyor	
Bldg. Construction Superintendent	
Instrumentman	
Rodman	
Airplane Pilot	
Patrol Boat Officer	
Radio Technician	
Conservation Education Representative	
Sub-Total	
Professional Agricultural Services:	
Work Unit Conservationist	
Soil Conservation Technician	
County Extension Director	
County Extension Agent, Home Ec.	
County Office Manager, ASC	
County Office Clerk	
Farm Reporter	
Scale Attendant	
Secretary	
Veterinary	
Kennel Worker	
District Resource Development	
FHA County Supervisor	
FHA Assistant Supervisor	
FHA Area Supervisor	
Agricultural Teachers	
Sub-Total	
GRAND TOTAL	

TABLE 8

REPORTED ANNUAL ENTRY OPPORTUNITIES BY JOB TITLES
FOR (YOUR COMMUNITY)

Type of Business	Job Title	No. Annual Entry
Agricultural Machinery	Mechanic	
	Mech. Helper	
	Secretary	
	SUB-TOTAL	
Farm Supply & Service	Manager	
	Truck Driver	
	Bookkeeper	
	Service Station Mech.	
	Secretary	
	Administration	
	Artificial Insemination	
	SUB-TOTAL	
Nurseries and Tree Farms	Laborer (part-time)	
	Tree Shaper	
	Semi-Skilled	
	Landscape Helper	
	SUB-TOTAL	
Greenhouses & Floral Shops	Transplanter	
	Laborer	
	Greenhouse Workers	
	Sales	
	SUB-TOTAL	
Forest Products, Matketing and Processing	Bookkeeper	
	Log Cutter	
	Manager	
	Sawyer	
	Edger	
	Cut-Off Man	
	Lumber Stacker	
	Lift Truck Operator	
	Loggers	
	Assemblers	
	SUB-TOTAL	

Milk Marketing & Processing	Evaporator Maintenance Dryer Operator Truck Driver (salesman) Secretary Cheesemaker
	SUB-TOTAL
Other Food Processing	Inspection Belt Operator Fillers Machine Operator Retort Operator Mechanic Laborer Clinical Warehouse Pickers
	SUB-TOTAL
Recreation and Conservation	Greenskeeper Greens cutter Laborers Secretary Waitress Kitchen Help Horse Driver Operation Foreman Manager Auto Mechanic Life Guard Park Ranger Forest Fire Personnel Fisheries Personnel Conservation Personnel Airplane Pilot Game Personnel
	SUB-TOTAL
Professional Agricultural Services	Kennel Worker District Extension Agent
	SUB-TOTAL
	GRAND TOTAL

APPENDIX A

Here it might be helpful if you could list the names and addresses of those persons interviewed and their comments.

VT 006 799
Hilterbrand, L.R.
Plant Science Information Found in Summaries of Studies in Agricultural Education.

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MF AVAILABLE IN VT-ERIC SET.
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Twenty-nine studies related to plant science, found in "Summaries of Studies in Agricultural Education" from 1956 through 1963, are classified into sub-headings of entomology, farm mechanics, field crop management, forages, forestry, horticulture, plant science, and soil improvement and management. This reference was designed by a subject matter specialist primarily for students pursuing research in agricultural education in colleges and universities. (DM)

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PLANT SCIENCE INFORMATION FOUND IN SUMMARIES OF STUDIES IN AGRICULTURAL EDUCATION

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November, 1966

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INTRODUCTION

This bulletin is second in a series to be produced based upon the Summaries of Studies in Agricultural Education. The idea in mind or the original purpose of the bulletin was to produce a more convenient form of reference for researchers in the field of agricultural education. By glancing at the format on page i the researcher can quickly find the topic desired and by turning to the second part of the manuscript the area of interest can be located. The numbers following each statement refers to the bibliography which is arranged in alphabetical order.

It is believed that this criteria can be useful to anyone interested in pursuing some element of research design. However, major emphasis has been put on making information useful and meaningful to the student who wishes to quickly find the studies and content of his interest.

More and more people are accepting the concepts exhibited in plant science relationships. Especially as it relates to the production of food for an increasing world population.

The number of people who remain relatively ignorant of these concepts is large indeed. A very large and significant task before us is the application of science, in this case plant science, to the wise and prudent use of our natural resources.

We hold to the belief that an appreciation of plant science requires an understanding of our natural resources in total. Thus, to the generations yet unborn we should feel an abligation to leave the plants as numerous and undisturbed as we found them. The agriculturist, the forester, the husbandman and others should have a desire to maintain or even improve the vegetation he found growing upon the land. This bulletin, we hope, will aid in an approach to research which will aid in the development of plant concepts and practices.

PLANT SCIENCE INFORMATION FOUND IN

SUMMARIES OF STUDIES IN AGRICULTURAL

EDUCATION

I. Entomology

1. The purpose of the study was to determine the practices used to control insects.
6

2. A questionnaire was used to collect information from farmers.
6

3. Spraying, discing, and plowing was used to control insects.
6

II. Farm Mechanics

1. The purpose of the study was to prepare a maintenance record sheet and construct an analysis sheet for grain drills
11

2. Dealers of farm machinery were interviewed to secure information.
11

3. The study determined that farm equipment needs repair after 5 to 14 years of use.
11

III. Field Crops Management and Test Plot Management

1. The purpose of the study was to determine the quality of the crop produced.
2

2. The purpose of the study was to develop crop improvement and seed certification in Minnesota.
2

3. The purpose of the study was to test teaching aids on small grains.
2

4. Young farmers scored higher in test results than others.
3

5. Crop improvement information was organized into seven teaching units.
3

6. This study found that certified seed was worth more.
3

7. Purpose of the study was also to study problems and agricultural technology in vocational agriculture.
13

8. Texts and periodicals of guidance were analyzed.
13

9. Personal agricultural objectives were found.
13

10. Purpose of the study was to determine the relationship of effect of test plots on planting rate on farms where the test was made.
17

11. Field checks were made.
17

12. The following year after the study was made, the participating farmers increased their plant population per acre.
17

13.. One purpose was to determine principles of agronomy program in six Chio counties.
21

14. The case study approach for agronomy survey was used.
21

15. The purpose of this study was to determine if a teacher could conduct plots of research data and functions for teachers and students of vocational agriculture.
22

16. Correlations between soil test and crop response were used.
22

17. Ninety-nine percent of the farmers indicated teacher-held demonstrations were desired.
22

18. Purpose of the study was to study the use of corn plots.
24

19. Questionnaires were used to secure information about corn fertility practices.
24

20. Most instructors felt that corn fertility plots were practical means of presenting soil fertilizer use information to farmers.
24

21. The purpose of the study was to study the land use of vocational agriculture departments in Oregon.
29

22. The survey method was used on all vocational agriculture land uses; then a checklist was developed from the findings.
29

23. Over one-half of the teachers in Oregon used school owned or operated lands.
29

IV. Forages

1. Forage production in Korea was surveyed.
   1

2. The study found that diet could be increased by supplementing grain with meat and milk.
   1

3. Agriculture in Korea was surveyed.
   1

4. The study indicated that to build up erosion control and provide food for livestock, grassland farming should be expanded.
   1

5. The purpose of the study was to prepare a source unit for vocational agriculture teachers in dairy nutrition.
   10

6. To boost present production farmers should use low cost roughage, thyro protein, and urea.
   10

7. The purpose of this study was to determine the problems in teaching range management in Texas.
   14

8. A questionnaire was used and sent to 94 vocational agriculture instructors.
   14

9. More range management should be taught in high school departments of vocational agriculture.
   14

10. The purpose of this study was to determine the present condition of teaching pasture improvement in Oklahoma.
    15

11. Questionnaires were mailed to teachers and senior students.
    15

12. The study found no relationship between test scores and practices in the study of pasture development.
    15

13. The purpose of this study was to evaluate the method used to determine TDN in forage crops.
    16

14. Forage testing stimulates interest in production of high quality forage.
    16

15. The purpose of this study was to determine pasture management practices.
    23

16. A fifteen random sample was drawn from 2700 farmers.
23

17. Farmers are using more land for pasture than needed.
23

V. Forestry

1. The purpose of this study was to determine the need for teaching farm forestry.
5

2. Data were collected by means of a questionnaire supplied to teachers of vocational agriculture.
5

3. Forestry should be taught to high school students with one-half time devoted to field work.
5

4. The purpose of the study was to determine the educational needs of wood products employees.
12

5. Fifty-three industries in 14 counties were interviewed.
12

6. Most teachers believed that conservation and forestry should be taught to students of vocational agriculture.
12

7. The purpose of the study was to determine the importance of forestry, general agriculture, and conservation in vocational agriculture as compared to the present program being offered.
18

8. Comparisons were made between the number of practices taught and recommended and the levels of learning recommended and the levels taught.
18

9. An enormous gap between what expert opinion recommended to be taught and what was being taught to adults and high school students.
18

10. The purpose of the study was to determine what has been done in teaching conservation of natural resources.
25

11. A survey was made of conservation education in public schools
25

12. Most colleges and universities are doing nothing to train teachers in conservation and have no plans to do so.
25

VI. Horticulture

1. The purpose of the study was to measure three kinds of planting learning principles relative to light, temperature, moisture, aeration, and nutrients.
7

2. The teaching method used in this study was laboratory manual, functional experience, and the teacher's own method.
7

3. Students who had access to greenhouse facilities scored higher than students using facilities for growing crops.
7

4. The purpose of the study was to study the relationship between test scores and yields in potato production.
9

5. The mean yield of students was higher than the state average.
9

6. The high yield and use of practices may indicate that the fields studied may have represented only the upper portion of the total sampling distribution.
9

7. The purpose of the study was to construct a calendar of activities and test the effectiveness with first year students.
19

8. Teachers found that inadequate physical facilities are the most difficult problem to overcome in the operation of the school.
19

9. Most of the greenhouses are operated only in the spring months and the teachers do not have an organized program of work.
19

10. The purpose of this study was to determine the practices used in peanut production.
20

11. The producers who used crop rotation, commonly planted oats and vetch in the fall.
20

12. Recommendations for increasing yields included crop rotations, fall fertilizer applications and use of fertilizer in the spring at planting time as well as side dress.
20

13. The purpose of the study was to make an analysis of current mushroom production, verify results and prepare teaching aids.
27

14. Information was collected by interviewing mushroom growers.
27

15. The problems of mushroom production were identified and detailed instructions in the carrying out of each practice enumerated.
27

16. The purpose of this study was to gather information about the nursery industry.
28

17. Information was gathered by personal interviews with 286 nursery operators.
28

18. The findings indicated that programs are needed at both the secondary and collegiate level to prepare employees for the industry.
28

VII. Plant Science

1. The purpose of this study was to develop principles basic to teaching the fundamentals of plant science.
8

2. A committee of subject matter specialists assisted the investigators in developing and authenticating principles of plant science.
8

3. It was concluded that students benefited when subject matter specialists synthesized subject matter into basic, related principles.
8

VIII. Soil Inprovement and Management

1. The purpose of the study was to ascertain instruction in soil fertility practices, identify instruction, and obtain recommendations from teachers for improving instruction.
   4
2. Teachers were interviewed and others consulted to determine subject matter content of fertilizers used.
   4
3. The students enumerated that teaching of students was for understanding and information, while teaching adults was for adoption of practices.
   4

4. The purpose of the study was to determine how pH and water-holding capacities might differ between high clay content soils and those composed of whole shale and silt and relate this information to basic principles that should be taught.
   26

5. Three soil types were found to have a high water-holding capacity (pH of all soils over 6)
   26

6. The study indicated the needs for intensive, basic instruction in soil characteristics.
   26

BIBLIOGRAPHY

1. Baick, Daihyen. "Pasture Establishment and Management for Students of Vocational Agriculture in Korea." Thesis, M. of Ag. Ed., 1956, Louisiana State University, 103p. Library, Louisiana State University, Baton Rouge.

2. Bailey, David S. "Drill Box Survey and Demonstration Plot Methods of Teaching Principles of Seed Quality." Thesis, M. Ed., 1963, The Pennsylvania State University. 30p. Library, The Pennsylvania State University, University Park.

3. Benson, Lyle Frederick. "Development of a Teaching Guide for Crop Improvement and Seed Certification in Minnesota." Problem, M. A., 1960, University of Minnesota. 62p. Library, Department of Agricultural Education, University of Minnesota, St. Paul.

4. Blizzard, Paul T. "The Role of Vocational Agriculture Teachers in Boosting the Per Capita Income of North Carolina Farmers Through Fertilization." Problem, M. of Ag. Ed., 1959, North Carolina State College. 49p. Library, North Carolina State College, Raleigh.

5. Carter, W. R. "An Analysis of the Instructional Program in Farm Forestry in Vocational Agriculture Departments of the Edisto District in South Carolina with Suggestion for Improvement." Thesis, M. S., 1957, Clemson College, 91p. Library, Clemson College, South Carolina.

6. Collingsworth, D. B. "A Study of Cotton Insect Control by Thirty Farmers in the Diesel Community." Report, M. Ed., 1956, Agriculture and Mechanical College of Texas. 22p. Department of Agricultural Education, Agriculture and Mechanical College of Texas, College Station.

7. Drawbaugh, Charles C. "A Teaching Experiment in the Use of Greenhouse Facilities in Vocational Agriculture." Dissertation, D. Ed., 1963, The Pennsylvania State University. 124p. Library, The Pennsylvania State University, University Park.

8. Dunham, Daniel B. "Subject Matter Principles Basic to Organizing and Teaching Fundamentals of Plant Science." Thesis, M. S., 1963, Oregon State University. 63p. Library, Oregon State University, Corvallis.

9. Edgecomb, Phillip Leslie. "A Comparison of Approved Practices with Selected Production Factors in Potato Enterprise Projects." Special Problem, 1959, The Pennsylvania State University. 44p. Department of Agricultural Education, The Pennsylvania State University, University Park.

10. Fiscus, Keith Eugene. "A Source Unit for Vocational Agriculture Teachers of Young Farmers Classes on the Study of Roughage Quality, Thyroprotein, and Urea. Including an Evaluation of the Use of These Studies in Present Dairy Feeding Methods." Masters Report, 1959, Kansas State University. 50p. Library, Kansas State University, Manhatton.

L.R.H.

11. Fitzgerald, Carroll J. "The Development and Use of a List of Approved Practices for Grain Improvement Projects in Vocational Agriculture." Paper, M. Ed., 1957, The Pennsylvania State University, 60p. Library, The Pennsylvania State University, University Park.

12. Hilterbrand, Luther R. "A Study of the Educational Needs of the Employees of the Wood-Products Industries in Fourteen Counties of South Central Missouri." Thesis, Ed. D., 1961, University of Missouri. 191p. Library, University of Missouri, Columbia.

13. Lubke, Herbert. "A Study and Investigation of the Production Practices Used by Sixty-eight of the Leading Corn Producers in the Grandview Community, Texas." Report, M. Ed., 1956, Agricultural and Mechanical College of Texas. 21p. Department of Agricultural Education, Agricultural and Mechanical College of Texas, College Station.

14. Massey, Clayton Albert. "A Study Concerned with the Teaching of Range Management in High School Vocational Agriculture Departments on the Edwards Plateau of Texas State College. 64p. Library, Southwest Texas State College, San Marcos.

15. Massengale, Robert Edward Lee. "A Study of Pasture Development as Taught in Twenty-six Departments of Vocational Agriculture in Southeastern Oklahoma." Report, M. S., 1958, Oklahoma State University. 76p. Library, The Oklahoma State University, Stillwater.

16. Moore, Joseph H. "The Development and Educational Application of Relationships for Use in Estimating the Nutritive Content of Forages." Thesis, M. Ed., 1963, The Pennsylvania State University, 62p. Library, The Pennsylvania State University, University Park.

17. Myers, John G. "Educational Effectiveness of Field-Corn Plant Population Test Plot Demonstrations in York and Lancaster Counties, Pennsylvania." Paper, M. Ed., 1960, The Pennsylvania State University, University Park.

18. Niemi, Alfred O. "Instruction in Forest Practices in Michigan Public Schools with Implications for Teacher Education." Dissertation, Ed. D., 1960, Michigan State University. 177p. Library, Michigan State University, East Lansing.

19. Oliver, Craig S. "Development and Testing of a Calendar of Activities for Greenhouses in Vocational Agriculture Departments in the Pennsylvania High Schools." Thesis, M. Ed., 1960. The Pennsylvania State University. 112p. Library, The Pennsylvania State University, University Park.

20. Peterson, Carl A. "A Study of the Cultural Practices Carried On by Thirty-five Peanut Farmers in Relation to Yields Produced in the Lexington Community, Texas." Report, M. Ed., 1956, Agricultural and Mechanical College of Texas. 28p. Department of Agricultural Education, Agricultural and Mechanical College of Texas, College Station.

21. Pfleiderer, Donald Burdette. "The Development of an Agronomy Educational Program to Emphasize Demonstration Plots in Selected Ohio Counties." Thesis, M. A., 1957, The Ohio State University. 86p. Library, The Ohio State University, Columbus.

22. Pfleiderer, Donald Burdette. "The Research Functions of Agronomic Demonstration Plots Conducted by Teachers of Vocational Agriculture in Ohio." Dissertation, Ph. D., 1959, The Ohio State University, 192p. Library, The Ohio State University, Columbus.

23. Saloutos, Charles T. "Pasture Improvement in Oconto County." Seminar Report, M. S., 1960, University of Wisconsin, 108p. Department of Agricultural Education University of Wisconsin, Madison.

24. Shodean, Wallace D. "The Use of Corn Fertility Plots as a Means of Presenting Soil Fertilizer Use Information to Farmers." Problem, M. S., 1960, University of Minnesota. 68p. Library, Department of Agricultural Education, University of Minnesota, St. Paul.

25. Stewart, Lonzo Floyd. "Teaching Conservation of the National Resources in Texas Public Schools." Thesis, M. A., 1960, Southwest Texas State College. 91p. Library, Southwest Texas State College, San Marcos.

26. Furry, Theodore E. "Relationships of the Total Water Holding Capacity and pH of Six Soil Types to Crops Grown on Farms in Perry County, Pennsylvania." Paper, M. Ed., 1959, The Pennsylvania State University, 46p. Library, The Pennsylvania State University, University Park.

27. Thompson, D. Kenneth. "Development of a List of Approved Practices and a Set of Color Slides for the Mushroom Enterprise in Vocational Agriculture." Paper, M. Ed., 1960, The Pennsylvania State University, 37p. Library, The Pennsylvania State University, University Park.

28. Thompson, Orville Eugene. "Training Requirments of Workers in the Production and Distribution of Nursery Products." Nonthesis Study, 1959, University of California. 33p. Department of Education, University of California, Davis.

29. Ward, Darrell L. "Proposed Program of Agricultural Land Use for Woodburn High School." Thesis, Ed. M., 1960, Oregon State College. 74p. Library, Oregon State College, Corvallis.

VT 006 865

School to Employment Program (STEP); A Manual of Information and Instruction for Preparing an Application for a STEP Program.

New York State Dept. of Education, Albany. Div. of Pupil Personnel Services

MF AVAILABLE IN VT-ERIC SET.
Pub Date - Apr 68 37p.

VOCATIONAL EDUCATION; STUDENT EMPLOYMENT; *GUIDELINES; *DROPOUT PREVENTION; *WORK STUDY PROGRAMS; DROPOUT PROGRAMS; HIGH SCHOOLS; HIGH SCHOOL STUDENTS; *STATE STANDARDS; STATE PROGRAMS; PROGRAM GUIDES; *PROGRAM PROPOSALS; PROGRAM ADMINISTRATION
NEW YORK; *SCHOOL TO EMPLOYMENT PROGRAM; STEP

Designed for school districts wishing to apply for matching state aid in support of a School to Employment Program (STEP), school districts may also use this guide in developing a program to meet the educational needs of a significant segment of the pupil population. Content includes regulations of STEP and general guidelines and procedures in applying for state aid. Information is included concerning: STEP program objectives, procedure for student selection, curriculum, work experience, instructional and pupil personnel services, physical facilities, orientation, parents, advisory committee, and evaluation and followup. Supplementary material includes an application form, a sample proposal, a special program budget, an annual progress report, and a sample registration card. (DM)

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STEP

SCHOOL TO EMPLOYMENT PROGRAM

A manual of information

and instruction for preparing

an application for a STEP program

April 1968

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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THE UNIVERSITY OF THE STATE OF NEW YORK/THE STATE EDUCATION DEPARTMENT
DIVISION OF PUPIL PERSONNEL SERVICES

THE UNIVERSITY OF THE STATE OF NEW YORK

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Philip B. Langworthy

Director, Division of Pupil Personnel Services
Bruce E. Shear

FOREWORD

In seven years, STEP, the School-to-Employment Program, has served over 7,000 pupils in 40 school districts. It has demonstrated a very effective way of changing many likely unemployed school dropouts into successful students and productive workers.

This manual combines program and application directions and a reporting outline. It is intended as a guide for those school districts wishing to apply for matching State aid in support of a STEP project.

There is no reason, however, that the manual should not have much wider use. The Regulations concerning STEP provide that, "The Board of Education of any school district may, with the approval of the Commissioner of Education, establish school-to employment programs for students who have been identified as potential school dropouts." Many school districts will find in a STEP type offering, a program which can be very effective in meeting the educational needs of a significant segment of the pupil population.

P B Dungworthy

Assistant Commissioner for
Pupil Personnel Services
and Continuing Education

S C H O O L T O E M P L O Y M E N T P R O G R A M

(STEP)

STEP was conceived by representatives of the New York State Education Department, the New York State Division for Youth and the Governor's Office as a possible solution to the problem of widespread unemployment among school dropouts. STEP is coordinated by the Division of Pupil Personnel Services of the State Education Department.

The goal of the program is the reduction of the number of unemployed school dropouts. STEP, a work study program for potential school dropouts 15 years of age and older, is designed to enable these students to eventually return to the normal school program and graduate, or to obtain satisfactory full-time employment if they should leave school. The program combines work experiences and daily orientation sessions under the supervision of a teacher-coordinator. It is expected that the opportunity to become familiar with the demands of the working world and to explore the appropriate adjustments to these demands under the supervision of a trained teacher-coordinator will develop in these students those habits, attitudes, and skills necessary for success in school and on the job.

STEP students most often attend school in the morning and are employed in the afternoon. In addition to the required daily orientation class, pupils attend other classes appropriate to their ability and needs in the regular school curriculum in the morning hours.

At times, because of the difficulty in obtaining private work experience placements for potential school dropouts, students are placed in tax supported agencies, e.g. the school system itself where stipends are paid from State aided school district funds. Work for private employers is not so reimbursed, but is paid for by the private employer. STEP students are not employed except in accordance with the New York State Labor Law.

The 1962 Legislature amended the Education Law (Article 93, Section 4608) to permit school districts to establish school to employment programs. The amendment was subsequently approved by the Governor. In January of 1963, the Regulations of the Commissioner of Education governing STEP were approved by the Board of Regents (Article 25, Section 191).

SCHOOL TO EMPLOYMENT PROGRAM

Regulations of the Commissioner of Education
Article 25, Section 191

I. Establishment

The Board of Education of any school district may, with the approval of the Commissioner of Education, establish school to employment programs for students who have been identified as potential school dropouts. Such programs shall be a part-time school, part-time employment nature.

II. Purpose

The purpose of such a program shall be the assistance of students in improving their capacity to perform successfully as full-time employees, if they leave school, or as full-time students if they elect to return to the normal school program.

III. Nature of Required Study Program

A. Students shall meet at least one period each school day with a qualified instructor to consider topics designed to facilitate adjustment to school and employment.

B. For the remainder of the school day, students shall be enrolled in those classes of academic, special and vocational instruction appropriate to their individual needs, interests and abilities.

C. Necessary and proper counseling services, psychological services, remedial services and other school services necessary to the progress of the individual student, shall be provided by the participating school district.

IV. Nature of Required Work Program

A. Such program shall be in the nature of part-time employment.

B. Such program shall provide for (1) a maximum of three hours of participation in the work program per day or twenty-three hours per week that school is in session, in the case of those participating students fifteen years of age, (2) a maximum of four hours of participation in the work program per day or twenty-eight hours per week that school is in session, in the case of those participating students sixteen years of age or older.

C. Students shall be placed either with public agencies, or with private employers in accordance with the Education Law and the provisions of these regulations.

1. Students shall not be placed in employment situations unless covered with a policy of Workmen's Compensation Insurance.

2. Students shall be placed only with employers who provide the necessary supervision of the students and who provide working conditions conducive to the success of the program, to be determined by the school district, with the approval of the Commissioner of Education.

   a. All participating students must obtain employment certificates.

   b. No participating student under the age of sixteen years shall be placed in an employment situation in a factory room.

   c. All places in which students participating in such a program are placed in an employment situation shall be so constructed, equipped, arranged, operated and conducted so as to provide reasonable and adequate protection to the lives, health and safety of all such participating students. It shall be determined by the participating school district, subject to the approval of the Commissioner of Education, that such places meet said qualifications herein.

V. Student Qualifications

A. Students in the program shall be at least fifteen years of age.

B. Students in the program must have been identified as potential school dropouts.

VI. Teacher-Coordinator

A. The school district shall assign a licensed teacher, properly qualified, to instruct the students in the program so as to assist their orientation to school and employment, to supervise their school and work experience, to promote their progress within the program and to coordinate the total program.

VII. Advisory Council

A. The school district shall establish an Advisory Council composed of qualified representatives of groups such as labor, business, industry, boards of education, civil service commissions, city and county governments, social agencies, state agencies, and service clubs.

B. Such Council shall serve for the purpose of guiding and advising the school district in the development of its program and in evaluating its progress.

GENERAL GUIDELINES FOR STEP PROGRAMS

The following outline indicates how STEP projects are typically conducted in New York State by districts in accordance with State legislation and Department policies.

I. The STEP Program Objectives

A. To reduce the number of unemployed school dropouts.

B. To provide potential dropouts, students 15 years of age and older, with educational and work experiences that will enable them to succeed in full-time employment if they leave school before graduation.

C. To encourage pupils who choose not to leave school, to return full-time to a school program leading to a high school diploma.

D. To give these students a more realistic concept of the world of work and their responsibilities as employees.

E. To give these pupils insights concerning the importance of education for occupational success.

F. To bring about significant changes in the attitude, the outlook, and the general behavior of these students, as well as greater insight into problems they may be experiencing.

II. Selection of Students

A. Only students 15 years of age and older can enter the program.

B. Students are to be systematically identified as potential dropouts. Factors usually associated with early school leaving such as school failures, truancies, behavioral and attitudinal problems help to identify these students. See Pupil Holding Power Data Sheet (Appendix 1).

C. Interviews are to be conducted with prospective STEP candidates and their parents to explain the program.

D. Written consent of both parent and student are required in order to enter the program.

E. Final selection of students should be made by a committee. A typical committee might consist of the teacher-coordinator and representatives from administration, pupil personnel services and instructional services.

F. Suggested Initial Screening for STEP Class

1. Staff members of the school in which STEP unit is to be established should submit the names of students they feel can profit from the program.

2. The teacher-coordinator with the help of staff members should complete the rating scale, Pupil Holding Power Data Sheet (Appendix 1) for the students nominated for STEP.

3. Following a tabulation of the number of vulnerable checks for each STEP nominee, a list of potential STEP students should be drawn up.

G. Selection of STEP Class

1. Before the final selection is made, information approaching that required for a case study should be gathered concerning each student. This information will have value not only in the selection process but also in devising the schedule of instruction and work experience for program participants. The final selection of STEP participants should be made by the committee referred to above.

2. The pupils selected and their parents should then be contacted by the teacher-coordinator so that they may become familiar with the purposes and procedures of STEP. This may be accomplished during the summer months by the teacher-coordinator. The reactions of the student and his parents to the program should become an important factor in the final decision concerning STEP program participation.

3. A STEP registration card should be completed for each pupil enrolled in the program.

4. A program with a full-time teacher-coordinator can enroll 25 pupils; with a half-time teacher-coordinator 12 pupils.

III. Curriculum

A. At least one period a day must be designated for an orientation session for which one unit of school credit toward graduation may be granted. Topics generally covered in this daily orientation session are concerned with getting and holding a job, developing effective work habits and other related areas. (See Developing Work-Study Programs for Potential Dropouts - A Manual)

B. Instruction, other than the STEP orientation class generally involves about 3 periods of regular classroom work. Subjects taken by each STEP student should be consistent with his abilities and interests.

C. For regular classroom work, it is strongly advised that STEP students should be placed with teachers who have had experience, good relationships, and success with potential dropouts.

IV. Work Experience

A. Students are required to obtain necessary working papers.

B. Selected students spend 3 to 4 periods a day on the job for which credit toward graduation can be granted. Emphasis here is not upon the learning of a specific vocational skill, but rather upon the performance of a useful task in a realistic job situation.

C. Work experiences should be in private employment situations, if available, or in public agencies, such as schools, city departments, hospitals, public libraries, welfare offices, etc., if private employment situations are not available or appropriate.

D. Work stations must meet the requirements of the New York State Labor Laws.

E. For work in private employment, wages are to be paid by the employer. For work in public agencies, stipends are paid by the school. Students may receive stipends from 70¢ an hour to $1.00 an hour on a graduated scale.

F. The STEP coordinator is responsible for the supervision of STEP students and for liaison with employers.

G. State regulations permit a maximum of 3 hours a day on the job during the period that school is in session for those 15 years of age. A maximum of 4 hours a day is permitted for those 16 and over. In addition, students may work 8 hours on Saturday.

H. Students are not placed in employment situations unless they are covered by Workmen's Compensation.

I. A student is expected to follow the usual application and interview procedures required of the regular employees in the agency in which he seeks to be placed.

J. The school is to be kept informed of the student's work progress, attendance, and changes in the student's work status.

K. Each school should establish a policy regarding attendance at work on a day when the STEP student is absent from classes. STEP students and work supervisors should be informed of this policy.

V. Teacher-Coordinator

A. The teacher-coordinator is the key to success in the program. He is not just another teacher assigned to another class, but he is a teacher with special duties and extensive responsibilities. He is a work supervisor, a teacher and a guide concerned with the activities of the STEP pupils in school and at work. Sufficient time must be allotted in his daily program to allow for this.

B. The teacher-coordinator participates in the selection of students, conducts a daily class with these students, visits employers and supervisors, interviews students and parents, follows up on student's progress with subject teachers, and maintains the necessary records.

C. The teacher-coordinator should be a person with whom the students can establish a relationship of trust, respect, and confidence. He should be one who understands their problems, and with whom they can relate and communicate freely. He should be able to establish effective rapport so that students may receive advice and sympathetic understanding from him.

D. In a half-time program the teacher-coordinator may teach up to three periods of academic work plus the STEP orientation class, leaving approximately one-half of the day for other STEP duties.

VI. Instructional and Pupil Personnel Services

A. Instructional, remedial and pupil personnel services necessary for the progress of the individual student should be provided by the school district.

B. When extra instructional, remedial or pupil personnel services are formally scheduled as part of the STEP program, additional personnel may need to be added.

C. Case conferences provide an effective means of bringing together pertinent information about individual pupils and their progress.

VII. Physical Facilities

A. The STEP program teacher-coordinator should have available an office which affords privacy when conferring with students, teachers, and parents.

B. A telephone to enable the teacher-coordinator to keep in contact with employers and parents should be provided.

C. The STEP program orientation class should meet in a classroom where it is possible to display materials relative to the objectives of the STEP program.

VIII. Orientation

A. Orientation to the STEP program, its objectives and procedures, should be provided for the school staff.

B. Provision should be made for reports of progress of STEP students, both to and from the staff.

C. Inservice programs for the school staff have been found valuable in increasing the understanding and acceptance of potential dropouts.

IX. Parents

A. STEP, a voluntary program, requires the consent of the parent before a pupil may participate.

B. Effective communication with parents should be established and maintained. Home visits, scheduled evening or late afternoon office hours, and group meetings may be used.

C. Group meetings for parents have been found to be helpful in aiding parents to assume their responsibilities for their son's or daughter's progress in the STEP program.

X. Advisory Committee

A. An advisory committee can help the school district in the development of the program and in the evaluation of its results.

B. Such a committee should be composed of representatives from labor, business, industry, boards of education, civil service commissions, city and county governments, social agencies, state agencies, and service clubs.

C. The advisory committee should hold regularly scheduled meetings.

D. The teacher-coordinator should report to the advisory committee on the development and progress of the program.

XI. Evaluation and Follow-up

A. In order to evaluate the student's progress during STEP, the status of the student in various areas must be determined at the time of entry into the program, e.g. attendance records for the prior year, grades for the prior year. These, then, can be compared to the student's status at the end of the year, e.g. attendance during the STEP program year, grades during STEP program.

B. A plan should also be established for periodic follow-up of all STEP students. Some districts may want to establish control groups to evaluate the local effectiveness of the STEP program.

APPLICATION FOR STATE AID FOR A SCHOOL TO EMPLOYMENT PROGRAM

The State Education Law provides for State aid for school districts which establish part-time school and part-time employment programs for potential school dropouts within the framework of the regulations adopted by the Commissioner concerning such programs.

School districts wishing to receive aid for efforts in this area must submit applications in accordance with the instructions in this manual. Members of the Division of Pupil Personnel Services may be consulted on matters of program organization before an application is submitted. Please call Area Code 518 - 474-3980 or 518 - 474-3520.

I. Filing of Applications

Applications are due May 1st prior to the fall a program is proposed. Early submission of an application is advisable to permit adequate evaluation and the negotiation of changes in the proposal. Occasionally, it has been possible for the Department of Education to approve proposals submitted during the year for immediate establishment should the district request it and State funds and matching local funds are available.

II. Calculation and Payment of Aid

The amount of aid is determined by the excess costs of the program. Excess costs are defined as those over and above expenditures for the district's normal, regular educational program. The State will reimburse districts for one-half of the approved excess costs.

State aid payments for school to employment programs will be made in two installments; approximately 50 percent of the State's share of anticipated expenditures will be paid early in the school year. The balance will be paid after the annual progress report and the accounting of the actual approved expenditures are received. These reports will be due no later than July 15.

The final payment will be determined as follows:

Approved Expenditures X .50 = Total State Aid
Total State Aid - First Payment = Final Payment

III. Continuation of Support

Approval of a school to employment program for State aid is awarded on an annual basis. Payment of aid in one year neither guarantees or prejudices the continuation of aid in subsequent years. Schools are normally funded on a 50% basis for 5 years. After that time, the school supports the STEP program in line with the Commissioner's Regulations with its own funds.

A student normally remains in the STEP program for one year. However, a student may be continued in the program if it is felt that this would be in his best interest.

IV. Publications of Findings

From time to time, the State Education Department may release brief descriptions of school to employment programs supported by State funds. However, the publication of results is the privilege of the sponsoring school district. The Department expects that all publications based on State-aided projects shall include an appropriate reference to the support given by the State Education Department. This may be done in a footnote to the title reading "The work upon which this report was based was supported jointly by the (name of school district) and the New York State Education Department under Article 93, Section 4608 of the State Education Law." At least 10 copies of such publications shall be furnished to the Department without charge.

V. Copyrights

Any material developed with State monies are the indisputable property of the State of New York. Therefore, any copyrights of materials produced in connection with a State-aided school to employment program must be issued in the name of the State of New York.

Special arrangements may be made for the publication of materials by the persons developing them. Prior authorization for publications must be obtained through the Division of Pupil Personnel Services, and ten copies should be furnished the Department as indicated above.

VI. STEP Transportation

Transportation, except for field trips, is not normally a State-aidable item from Special Program funds. However, if a district has a special case involving transportation of STEP students to work stations where such transportation is not eligible under the district's regular transportation aid, the costs may be considered for Special Program aid.

Such cases will be considered and treated as individual cases on their own merits and within the limits of the appropriation and the availability of funds for this program.

Transportation aided under any Special or Experimental Program is not eligible for regular transportation aid.

All transportation of pupils by a district must comply with all laws, regulations, rules, governing transportation of students by a district.

For information regarding the handling of the district's transportation accounts, contact the Division of Educational Management Services.

VII. Screening of Applications

Applications will be screened by a departmental committee as they are received. At the close of the application period they will be ranked according to educational value and merit. The criteria for evaluation are detailed in Section VIII.

The eligibility of a school district for State aid will be determined by the position of its proposal on the ranked list. The law provides that State aid payments shall be made according to this list. Because of limited funds it is probable that not all proposed projects can be supported. The pursuit of worthwhile projects, however, is encouraged even if fiscal aid is not available.

VIII. Criteria for the Evaluation of a Proposed School to Employment Program

A. Significance

1. The proposal offers promise of significantly reducing the number of unemployed school dropouts within the area served by the school district.

2. The proposal is so designed that it may be readily adopted with profit by other interested school districts.

B. Program Design

1. The proposal reflects understanding of STEP law, Commissioner's regulations and guidelines concerning STEP.

2. The procedures to be followed are presented in sufficient detail to demonstrate their contribution to the program's objectives.

C. Operational Promise

1. The school district making the proposal has adequate facilities for carrying it out.

2. The teacher-coordinator assigned to the local project possesses characteristics, training and experience which is related to the needs of a part-time school, part-time employment program for potential school dropouts.

D. Economic Efficiency

1. The program calls for specific expenditures over and above those the district would normally assign to such a purpose.

2. The anticipated expenditures are justified by the procedures to be followed.

3. There is a reasonable relationship between the value of the expected results and the total excess expenditures.

IX. Preparation of a Proposal

A. A proposal for state aid for School to Employment Programs should be typed on 8½" x 11" paper in accordance with the outline in this manual. All pages should be numbered and securely stapled or otherwise bound together.

B. Three copies of the proposal are required. These may be prepared by any duplicating method producing legible copy. Three copies are needed to facilitate review by members of the Division of Pupil Personnel Services.

C. The original signature of the superintendent or supervising principal should appear on at least one copy of the application.

D. Complete the cover page for your proposal as illustrated on p.13. Develop each of the items referred to in the sample proposal, identifying them by the number and the underlined word or phrase.

E. The proposal should be succinct, but sufficiently descriptive to give a clear picture of the work to be undertaken.

F. Proposals should be mailed to:

The School to Employment Program
Division of Pupil Personnel Services
N.Y. State Education Department
Albany, New York 12224

G. Final date for receiving proposals for 1968-69 is May 1.

(Sample cover page for a STEP Proposal)

APPLICATION TO THE COMMISSIONER OF EDUCATION FOR STATE AID FOR A SCHOOL TO EMPLOYMENT PROGRAM FOR POTENTIAL SCHOOL DROPOUTS SUBMITTED UNDER THE PROVISION OF ARTICLE 93, SECTION 4608, OF THE STATE EDUCATION LAW

19__ - 19__

Sponsor:_____
(Legal designation of school district)

_____
(Popular name if different from legal designation)[1]

Assigned Administrator[2]:_____
(Name)

_____ Phone No._____
(Title)

Teacher-Coordinator(s)[3]:_____
(Name)

_____ Phone No._____
(School Address)

Approved by:_____Date:_____
(Superintendent or Supervising Principal)

Proposed number of students to be involved in the STEP program by grade level:

Boys: 7th__, 8th__, 9th__, 10th__, 11th__, 12th__, Total_____

Girls: 7th__, 8th__, 9th__, 10th__, 11th__, 12th__, Total_____

Total_____

1 The popular name of the district will be used for general reference to the project.
2 The assigned administrator is the person who will direct the operation of the local program
3 The teacher-coordinator is the person who will actually conduct the program for students.

Sample Outline of a Proposal

Title of Project

I. The Problem

Write a brief statement of the problem and the factors that contribute to this problem. Refer to the incidence of "dropping out" in your district and the implications for the students and the district. Explain briefly how a solution to this problem will be approached through the use of a School to Employment Program.

II. Objectives of your District's Proposal

Give the objectives of the local STEP program. Are these objectives, so stated, that progress toward them can be measured or observed?

III. Selection

How will screening and selection of STEP students be accomplished? Who will select the students? How many students will be served in the program? Will both boys and girls enter the program? How will the students and parents be informed of the program?

IV. Curriculum

How often will the students meet with the teacher-coordinator as a group? What will be the content of the group meetings?

Will students in the program be assigned to subjects in the regular classes in the school program? If so, by whom? Will students be assigned to other than regular classes and the orientation class? Explain.

V. Work Experience

How many hours per day and per week will these students be employed? Will work stations in both public and private agencies and establishments be used? What types of situations will be provided in public and private agencies? Is there to be any sequence for public and private employment?

Will students apply for work situations and be interviewed as are all other employees? At what rate will students be compensated for work experience in public agencies? (In private employment, they must receive the State minimum wage.)

VI. Teacher-Coordinator

Indicate the teaching license held by the teacher-coordinator. What qualifications, characteristics, and experience does the STEP coordinator possess for this position? For how many periods per day will the STEP coordinator be assigned to STEP activities? What assignments other than STEP will the teacher-coordinator have?

VII. Instructional and Pupil Personnel Services

How will guidance, psychological, social work, attendance, health, remedial and other school services be provided for STEP students? Will there be any increase in the amount and kind of these services offered to STEP students because of their membership in the program? If the district undertakes to improve the basic skills of these students, how will this be accomplished and who will be responsible for such instruction?

VIII. Physical Facilities

Describe the physical facilities the teacher-coordinator will have available for his use. What kind of office facilities will be provided for the teacher-coordinator's use? What classroom facilities will be provided for the teacher-coordinator's use? Will any special facilities be made available for the teacher-coordinator's use?

IX. Orientation and Inservice Training

What orientation procedures will be used to acquaint the school staff with the objectives and planned activities of the STEP program? Will inservice training be provided for the school staff who will work with the STEP students? Explain.

X. Parents

How will parents be acquainted with the objectives and planned procedures of the STEP program? How will they be kept informed of the progress of their son or daughter?

IX. Advisory Council

What local organizations will be represented on the council? How often will the council meet? What contribution will the council be expected to make to the development of the program?

XII. Evaluation and Follow-Up

At least one annual report concerning the progress of local programs will be required. (See Annual Progress Report.) What data will be gathered to determine the effectiveness of the STEP program? How will the stated objectives of the local

program have been accomplished? Explain procedures for following up students after they have left the program. At what intervals will students be followed up? Will a control group be selected for comparison purposes?

Budget Preparation:

Give the total estimated costs of the program for the school year. This figure should represent total anticipated cash expenditures for the functions covered by the program. The budget is to be detailed in the concluding section of the application on forms as provided. The form may be duplicated; care should be taken to begin and end pages as they are shown.

Expenditures other than those specifically mentioned in the budget will not normally be approved for State aid purposes. All estimated cash expenditures must be directly related to the program and to be approved must be "excess costs."

In the event that application is being or will be made to Federal, other State Special Aid Programs, or private sources, such should be indicated and the amount to be received noted.

In the case of Federal and/or other State Special Aid Program monies, such may be deducted before allowable expenditures for State aid for this program are determined, either for purposes of first or final payment as the case may be. Monies received from non-public, private grant sources will be considered as district monies. However, the total of Federal, State and/or private grant monies may not exceed the total budget; if such is the case, State monies will be reduced first.

The excess costs of the program should be entered on the budget form as follows:

100 Personal Services:

Enter here the information requested only for salaries of district employees on which fringe benefits are paid.

Enter under 611, 613, 615, 616, the appropriate amount as a sub-total.

Use the following rates to determine retirement budgetary estimates:

611 - Teachers Retirement - 19.0936 (includes supplemental payment)

613 - Employees Retirement - on 5% Take Home Pay - 12.365
on 8% Take Home Pay - 14.765
Non-contributing Pay 15.837

These are firm rates and will be used to determine final reimbursement regardless of changes in the rate at a subsequent time.

200 Equipment:

If items of equipment have not been selected at this time, a lump sum not to be exceeded may be entered and noted as follows: "To be selected under guidance of the Division of Pupil Personnel Services, New York State Education Department."

300 Supplies and Materials:

As for 200 Equipment.

400 Other Expenses:

Allowable expenditures not fitting elsewhere are to be included here such as personal services not subject to fringe benefits, etc.

The above totals are to be entered on the Summary Page & Estimated State aid will be established. Approximately one-half of the Estimated State aid will be made in the first payment.

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
DIVISION OF EDUCATIONAL FINANCE
ALBANY, NEW YORK 12224

SA-151

SPECIAL PROGRAM BUDGET
PROJECT STEP
1968-69 School Year

Name of District_____No._____Town_____

Supervisory District No._____County of_____

BUDGET SUMMARY
TOTAL ESTIMATED EXPENDITURES

Budget Item	Program
100 Personal Services	$_____
200 Equipment	_____
300 Supplies and materials	_____
400 Other Expenses (minus Transportation which is itemized below)	_____
500 Services from other districts	_____
501 Tuition: K-6	_____
502 Tuition: 7-12	_____
505 Vocational Board: Services	_____
525 Coop. Board: Services	_____
550 Services from municipalities	_____
TRANSPORTATION	
100 Personal Services	_____
300 Supplies and materials	_____
400 Other Expenses	_____
401 Private Carrier	_____
452 Public Service Corporation	_____
500 Services from other districts	_____
611 Teachers Retirement	_____
613 City or State Employees Retirement	_____
615 Social Security	_____
616 Health Insurance	_____
Total	$_____
ESTIMATED STEP AID (50%)	$_____

REVENUE SUMMARY
TOTAL ESTIMATED REVENUES
FOR THIS PROJECT

REVENUES: List below all of the anticipated revenues from whatever source expected to be received and used for this program. Identify by source and title or other appropriate designation.

Federal, specify	_____
Other State, specify	_____
Non-Public (gifts, grants, donations, etc.), specify	_____
Local	_____

PROJECT STEP
ESTIMATED EXPENDITURE

100 PERSONAL SERVICE: List professional and clerical personnel added to the staff for the project by title connected with the project showing total annual salary paid, percent of time or hours devoted to the project and salary expenses related to the project.

TITLE	Annual Salary	% of time	Salary Paid For Project
			$_____
			_____
			_____
			_____
			_____
		Subtotal	_____
611 Teachers Retirement			_____
613 Employees Retirement			_____
615 Social Security			_____
616 Health Insurance			_____
		Subtotal	_____
			$

200 EQUIPMENT: Itemize and report estimated expense.

Object	Expense
	$_____
	_____
	_____
	_____
	_____
TOTAL	$

PROJECT STEP

300 SUPPLIES AND MATERIALS: Itemize by object shown and report estimated expenses.

Object	Expense
	$_____
	_____
	_____
	_____
	_____
	_____
	_____
	_____
Supplies and materials Total	$

400 OTHER EXPENSES: Itemize by object shown and report estimated expenses.

Object	Expense
Research, Consultative and Evaluative Services*	_____
Inservice Training*	_____
Tuition for Professional Personal Courses*	_____
Workshop Costs*	_____
Daily or Regularly Scheduled Travel of Personnel*	_____
Special Travel of Personnel*	_____
Special Travel of Students*	_____
Allowable Student Stipends*	_____
Other Expenses Total	$_____

*Attach detailed breakdown of these items when and as necessary.

THE UNIVERSITY OF THE STATE OF NEW YORK
The State Education Department
Division of Pupil Personnel Services
Albany, New York 12224

ANNUAL

PROGRESS REPORT

Project STEP

19__ - 19__

Name of School District_____

Address_____

Telephone Number (include Area Code)_____

Name of Teacher-Coordinator_____

Name and Title of
Person(s) Completing Report_____

School Year This State Supported STEP Project was Initiated in
Your District_____

Date Report Filed_____

Name of Chief School Administrative Officer_____

Signature of Chief School Administrative Officer_____

Annual Progress Reports

Project STEP

Directions

1. In order to obtain comparable information from all districts participating in Project STEP so that a more fully representative picture of Project STEP developments on a Statewide basis can be provided, we ask your cooperation in reporting on all items included in this form. If you do not have the information requested on a particular item, note "not available" in the space provided.

2. Please include at the end of this progress report a one-page case summary of a STEP pupil who was enrolled in the project in the last 12 months for each participating school in the district (i.e. two schools in your project -- two case summaries).

3. All other relevant and supporting materials -- such as newspaper articles, photographs, quantitative data, case studies and comments -- which you care to submit will be most welcome; these should be included in an Appendix.

I. Pupil Data

A. What was the number of pupils who were enrolled in the STEP program as of September 18, 1967? A._____

B. How many of the above pupils completed the year enrolled in the STEP program? B._____

C. What was the number of pupils who were enrolled in the STEP program after September 18, 1967? C._____

D. How many of the above late entrants completed the year enrolled in the STEP program? D._____

E. Total enrollment (A + C) E._____

F. Pupils completing year enrolled in STEP (B + D) F._____

G. Number of pupils who left the STEP program during the school year (total enrollment minus pupils completing year) G._____

H. Classify each of the pupils who left the STEP program during the school year (Section I, G) under one of the following categories:

1. Returned to regular school program _____

2. Left school with assurance of employment _____

3. Left school <u>without</u> assurance of employment _____

4. Left school and entered Armed Forces _____

5. _____ _____
Other, specify

6. _____ _____
Other, specify

7. _____ _____
Other, specify

(This total should be equal to Section I, G) Total _____

I. Summarize the plans for 1968-69 as expressed by pupils enrolled in the STEP program at the end of the current school year:

1. Number planning to return to regular school program _____

2. Number planning to enter another work-study program _____

3. Number planning to re-enroll in the STEP program _____

4. Number planning to enter Armed Forces _____

5. Number planning to leave school with assurance of employment _____

6. Number planning to leave school without assurance of employment _____

7. _____ _____
Other, specify

8. _____ _____
Other, specify

9. _____ _____
Other, specify

10. _____ _____
Other, specify

(This total should be equal to Section I, F) Total _____

J. In your opinion, are the above students' plans generally realistic?

K. What difficulty, if any, do you anticipate the students will have in carrying out these plans?

II. Curriculum

A. List the general topics covered in the daily STEP orientation class.

B. What materials, such as booklets, workbooks, filmstrips, films, or classroom activities were found to be exceptionally effective and might be recommended to other coordinators?

C. List all places to which field trips were taken. What was the general reaction of the students to these trips? How did these field trips contribute to meeting the objectives of the STEP program?

D. Who had responsibility for assigning students to classes in the regular program?

E. Were teachers who have had experience and success in working with potential dropouts utilized when placing students in the regular program classes? Yes____ No____ Sometimes____

F. If answer is no or sometimes, indicate reasons why.

III. Work Experience

List the student's name, job title and total amount of money earned for the school year as a result of STEP program participation. Students changing jobs should be entered in more than one section. (Attach additional sheets as needed for listing students.)

A. Boys - Private employment

Name	Job Title	Approximate Amount Earned

B. Boys - Public employment

Name	Job Title	Approximate Amount Earned

C. Girls - Private employment

Name	Job Title	Approximate Amount Earned

D. Girls - Public employment

Name	Job Title	Approximate Amount Earned

E. How often is each pupil rated by his employer for STEP work experience? (Please attach a copy of the rating form if used.)

F. What criteria were used to judge the acceptability of a work station?

G. On the average, how often during a month was each work station visited by the teacher-coordinator?

H. What procedures were used by the students in applying for positions in private employment?

I. What procedures were used by the students in applying for positions in public employment?

IV. Teacher-Coordinator

A. List the name of the teacher-coordinator and the area in which he holds certification:

_____ _____
Name Certification

B. How many periods per week is the teacher-coordinator assigned to STEP? _____

C. What school assignments, other than STEP, does the teacher-coordinator have?

D. How many periods per week does the teacher-coordinator devote to these other duties? _____

E. Number of periods per school week: _____

V. Instructional and Pupil Personnel Services

A. List the periods per week the following staff members are specifically assigned to the STEP program:

Position	Periods per week
Teacher	_____
Attendance Teacher	_____
Counselor	_____
School Psychologist	_____
School Social Worker	_____
School Nurse-Teacher	_____
Remedial Reading Teacher	_____
Tutors	_____
_____	_____
Other	

B. Describe the manner in which educational specialists not specifically assigned to STEP assisted STEP students and the number of students who received service from each specialist. If the following staff members are not regularly available at your school, write does not apply.

1. School Psychologist. Number receiving aid from psychologist_____

2. Guidance Counselor. Number receiving aid from guidance counselor_____

3. Social Worker. Number receiving aid from social worker_____

4. Remedial Teacher. Number receiving aid from remedial teacher_____

5. School Nurse-Teacher. Number receiving aid from school nurse-teacher_____

6. Attendance Teacher. Number receiving aid from attendance teacher_____

7. New York State Employment Counselors. Number receiving aid from employment counselors_____

8. Other.

C. Are case conferences on individual pupils regularly held_____, held as needed_____, never held_____.

D. How many case conferences were held during the 1967-68 school year?_____

E. If case conferences are held, check those who usually attend:

Principal
Teacher(s)
Teacher-Coordinator
Counselor
Attendance Teacher
School Psychologist
School Social Worker
School Nurse-Teacher
_____
Other

VI. Physical Facilities

A. Did the classroom provided for the STEP teacher-coordinator's use reflect the operation of a STEP program? Yes____ No____

B. 1. Was the teacher-coordinator provided with an office in which he could talk to students privately? Yes____ No____

2. If no, explain what facilities were available to talk to students privately.

3. Did the office have a telephone for the teacher-coordinator's Use? Yes____ No____

4. If no office was provided, what telephone facilities were available to contact parents and employers?

C. What audiovisual aids and/or special facilities are available for the teacher-coordinator's use?

VII. Orientation and Inservice Training

A. Describe all orientation procedures used to acquaint the staff with the objectives and procedures of the STEP program.

B. Were reports on the progress of STEP students made to teachers involved with these students? Written reports_____, Oral reports_____, None_____

C. Were reports on the progress of STEP students made by teachers for the teacher-coordinator's use? Written reports_____, Oral reports_____, None_____

D. Describe the inservice education procedures used to increase the effectiveness of teachers in helping to meet the objectives of the STEP program.

VIII. Parents

A. On the average, how many visits by the teacher-coordinator were made to each STEP student's home during the year?_____

B. How were parents of potential STEP students acquainted with the purposes and objectives of the STEP program?

C. How were the parents of STEP students kept informed of their son's or daughter's progress in the STEP program? (Attach forms used, if any)

D. Was a parents' meeting held to keep the parents informed of the progress of the STEP program? Yes____ No____

E. If yes, how were the parents encouraged to attend? What topics were covered at the meeting? What was the reaction of the parents to the meeting?

F. Indicate other methods used to contact parents.

IX. Advisory Council

A. Number of Advisory Council members_____

B. Check areas represented by Advisory Council:

1. Labor_____ 2. Business_____ 3. Industry_____

4. Board of Education_____ 5. Civil Service Commission_____

6. Municipal officials_____ 7. Social Agencies_____

8. Service clubs_____ 9. School personnel_____

10. Other_____

C. How many Advisory Council meetings were held during the year?____

D. What contributions were made by the Advisory Council to help plan, develop or evaluate the STEP program?

X. Evaluation and Follow-up

A. Evaluation

1. Were evaluation procedures outlined in the proposal for a STEP program in your district carried out? Yes____ No____

2. If yes, attach copy of report; if no, explain.

B. Follow-up

1. What was the reaction of the students to the STEP program? (Attach forms used to secure this information.)

2. What was the reaction of parents to the STEP program? (Attach forms used to secure this information.)

3. What was the reaction of the staff to the STEP program? (Attach forms used to secure this information.)

4. What difficulties were experienced during the school year in the operation of a STEP program?

5. What plans have been made to overcome these difficulties?

6. What plans are being made to improve the STEP program for the coming school year?

7. What procedures do you feel have been most effective in accomplishing STEP objectives? Explain.

Appendix I

Holding Power Project
Form Number II
April 1954

PUPIL HOLDING POWER DATA

Teacher reporting _____ Date _____

Below are listed potential factors in early school leaving or retention. Only definitely negative and positive characteristics are shown; hence it may not be possible to check every item for each student. Items in Part I may be obtained from school records or observation by the person responsible for completing this form. Items in Part II should be a summary of the opinions of all teachers under whose supervision the pupil comes during the school year.

PART I

Last name _____ First _____ Initial _____ Age _____ Grade _____

FACTOR	VULNERABLE TO DROPPING OUT		FAVORABLE TO RETENTION	
a. AGE	Old for grade group (over 2 years)	____	At age for grade group	____
b. PHYSICAL SIZE	Small for age group Large for age group	____ ____	No size demarcation	____
c. HEALTH	Frequently ill Easily fatigues	____	Consistently good health	____
d. PARTICIPATION IN SCHOOL ACTIVITIES	None	____	Planned and reasonable	____
e. PARTICIPATION IN OUT-OF-SCHOOL ACTIVITIES	None	____	Planned and reasonable	____
f. GRADE RETARDATION	One year or more retarded	____	At grade or above	____
g. FATHER'S OCCUPATION	Unskilled Semiskilled	____ ____	Professional Semiprofessional Managerial	____ ____ ____

FACTOR	VULNERABLE TO DROPPING OUT		FAVORABLE TO RETENTION	
h. EDUCATIONAL LEVEL ACHIEVED BY:				
FATHER	Grade 7 or below	____	Grade 10 or above	____
MOTHER	Grade 7 or below		Grade 10 or above	____
i. NUMBER OF CHILDREN IN FAMILY	Five or more	____	Three or less	____
j. SCHOOL-TO-SCHOOL TRANSFERS	Pattern of "jumping" from school to school	____	Few or no transfers	____
k. ATTENDANCE	Chronic absenteeism (20 days or more a year)	____	Seldom absent (10 days or less a year)	____
l. LEARNING RATE	Below 90 I.Q.	____	Above 100 I.Q.	____
m. ABILITY TO READ	Two years or more below grade level	____	At or above grade level	____
n. SCHOOL MARKS	Predominantly below "C"	____	Predominantly "B" or above	____

PART II

o. REACTIONS TO SCHOOL CONTROLS	Resents controls	____	Willingly accepts controls	____
p. ACCEPTANCE BY PUPILS	Not liked	____	Well liked	____
q. PARENTAL ATTITUDE TOWARDS GRADUATION	Negative	____	Positive	____
	Vacillating	____	United	____
r. PUPIL'S INTEREST IN SCHOOL WORK	Little or none	____	High	____
s. GENERAL ADJUSTMENT	Fair or poor	____	Good	____

Additional Comments:

Appendix II Sample of Registration Card

(Front of card) STEP REGISTRATION CARD Date_____

School_____School Year: 19___ - 19___

Pupil's Name_____Address_____

Birthdate_____Telephone No._____

Parent or Guardian's Name_____

Parents' Address if Other Than Pupil's_____

Entered STEP: _____/_____ at Grade Level_____
Month, Year

Left STEP: _____/_____
Month, Year

Left STEP:

1. Returned to regular school program:_____
2. Left school with assurance of employment:_____
3. Left school without assurance of employment:_____
4. Left school and entered Armed Forces:_____
5. _____
Other, specify:

(Back of card)

1. Day absent:_____; _____
1st Semester 2nd Semester

2. Plans for the year following STEP participation:
   1. Planning to return to regular school program _____
   2. Planning to enter another work-study program _____
   3. Planning to re-enroll in the STEP program _____
   4. Planning to enter Armed Forces _____
   5. Planning to leave school with assurance of employment _____
   6. Planning to leave school without assurance of employment_____
   7. Other, specify:_____

3. Follow-up - one year after leaving STEP:
   1. Attending school full-time _____
   2. Employed full-time _____
   3. Employed part-time _____
   4. Unemployed _____
   5. Armed Forces _____
   6. Other, specify:_____

4. Comments:

VT 007 124

Report of an Area-Wide Conference on Occupational Education--A System for Manpower Development (Tucson, Arizona, May 16, 1968).

MF AVAILABLE IN VT-ERIC SET.
Pub Date - 16May68 67p.

*CONFERENCE REPORTS; *VOCATIONAL EDUCATION; *MANPOWER DEVELOPMENT; EDUCATIONAL PLANNING; *MANPOWER NEEDS; SPEECHES; PROGRAM EVALUATION; EMPLOYMENT TRENDS; WORKSHOPS; SCHOOL POLE; SECONDARY EDUCATION; POST SECONDARY EDUCATION; *SCHOOL INDUSTRY RELATIONSHIP
PIMA COUNTY; ARIZONA; *AREA WIDE CONFERENCE ON OCCUPATIONAL EDUCATION, TUCSON, ARIZONA, MAY 16, 1968

A conference conceived to focus on occupational education as a system for manpower development in Pima County was attended by 113 key employers and administrators in business, industry, and education at Tucson, Arizona, May 16, 1968. Chief considerations of the conference were (1) the manpower needs in Pima County and Arizona, (2) the extent and adequacy of present occupational programs in meeting projected manpower needs, and (3) the implications for future planning, programming, and budgeting in an area-wide system of occupational education. Major speeches were: "Manpower Directions, 1975," by Richard Land, and a keynote address by Sarah Folson. Also reported are a panel discussion concerning the unique role of occupational education in developing manpower, and workshop reports of government and health services, wholesale and retail, services and tourism, manufacturing and mining, financial and real estate, and agriculture. (DM)

VT 007 124

ED0 30001

C2
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REPORT

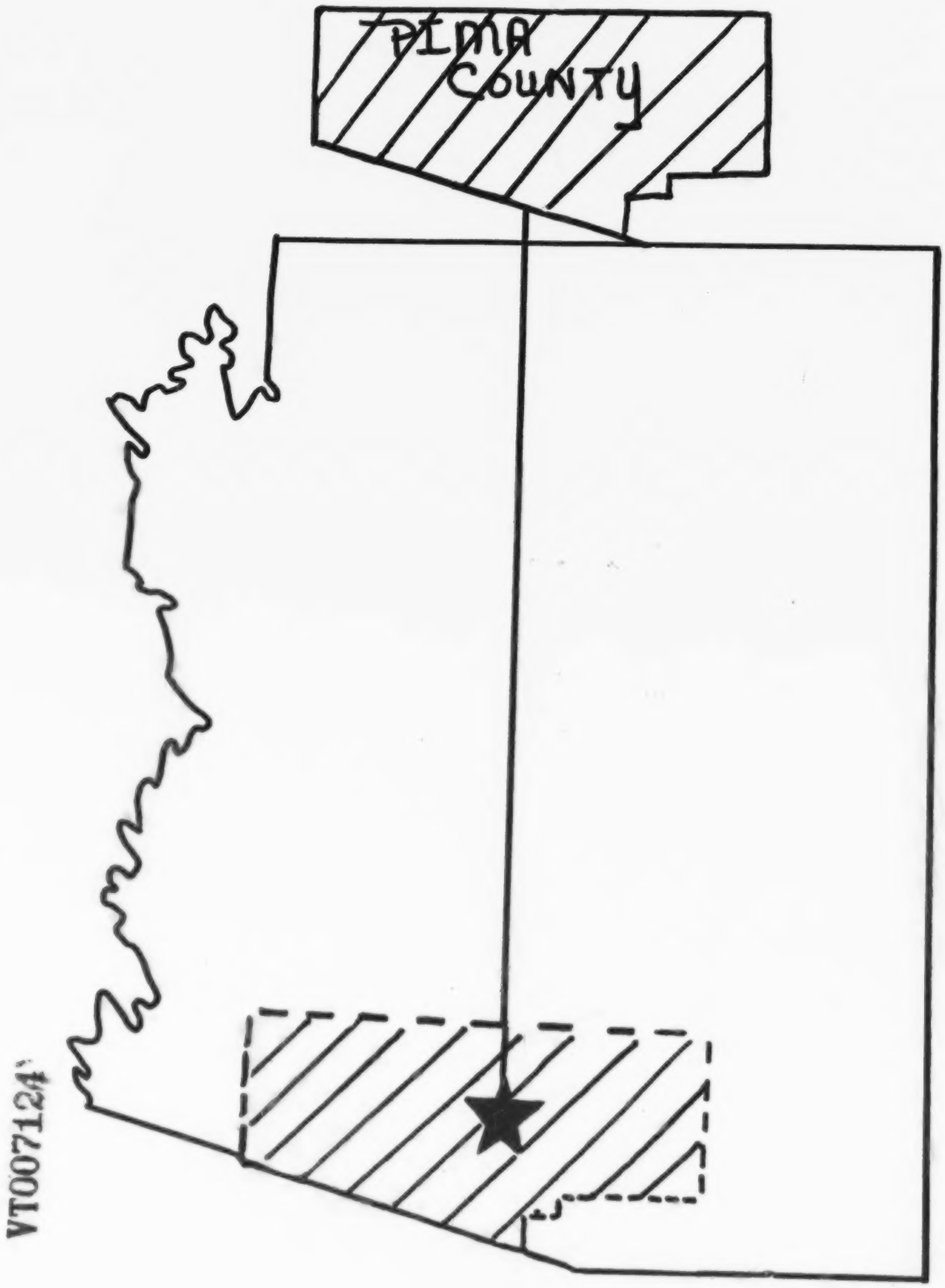
OF

AN AREA - WIDE CONFERENCE

ON

"OCCUPATIONAL EDUCATION:

A SYSTEM FOR MANPOWER DEVELOPMENT"



VT007124

RAMADA INN MAY 16, 1968 TUCSON, ARIZONA

REPORT

OF

AN AREA-WIDE CONFERENCE ON

"OCCUPATIONAL EDUCATION --

A SYSTEM FOR MANPOWER DEVELOPMENT"

MAY 16, 1968

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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RAMADA INN

TUCSON, ARIZONA

PREFACE

One hundred and thirteen key employers and administrators in business, industry, and education met at the Ramada Inn, Tucson, Arizona, May 16, 1968, to direct their attentions toward occupational education in Pima County. The conference was conceived to focus on occupational education as a system for manpower development, with special emphasis on the relationships of business, industry, and education.

The accelerating needs of business and industry have brought about an increasing need for the development of the concept of an area-wide system of occupational education. Therefore, the chief considerations of the conference were:

1. The manpower needs in Pima County and Arizona.

2. The extent and adequacy of present occupational programs in meeting projected manpower needs.

3. The implications for future planning, programming, and budgeting in an area-wide system of occupational education.

The workshop meetings were characterized by the spirit of open and direct discussions. Although no policies were developed as a result of the conference, a consensus of the group was achieved. The pages that follow attempt to capsulize the dialogue achieved as a result of excellent discussions led by a task force of outstanding speakers and group leaders.

The splendid cooperation of the Tucson Chamber of Commerce, Arizona State Employment Service, and Pima College was deeply appreciated. Special thanks are also extended to the co-sponsors of the conference, the Pima County Advisory Board, and the Arizona State Department of Vocational Education, without whose efforts this conference could not have been conducted.

It is hoped that this conference is the first of a series of meetings directed toward the improvement of occupational education in Pima County. If it serves as the first of a series of such meetings, then it will have accomplished its purpose. Admittedly, much remains to be done in occupational education for Pima County; however, it was felt that this was an excellent start.

Dr. Robert V. Kerwood
Coordinator of Occupational Education

A C K N O W L E D G E M E N T

The members of the Pima County Advisory Board for Occupational Education would like to express their appreciation to the Arizona State Department of Vocational Education, Pima College, Tucson Chamber of Commerce, and the Arizona State Employment Service for their excellent cooperation in the planning, conducting, and reporting of this conference.

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PARTICIPANTS

Name	Agency, Company or Institution
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T.O. Beach	Yuma County Vocational-Tech. Ed.
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Mary Ann Boehm	Dental Assistants Assoc.
Margaret Booher	Tucson Public Schools
Marie Booth	Tucson Medical Center
Maurice Bossuyt	Soil Conservation Service
Duane Brickner	University of Arizona
Frederick Bullard	Bullard's Hardware
Jackie Cables	U. S. Forest Service
LeRoy Cafarello	St. Marys Hospital
Bill Carroll	Kossack Advertising
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Otis Chidister	Tucson High School
Jim Davies	Pima College
Lew Davis	Lew Davis Realty
Rainy Davis	Marana High School
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W. H. Garrett	Marana School District #6
Dale Gibson	Central Arizona College
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Gary Greenberg	KVOA - TV
Hal Hamer	Arizona State Employment
Dr. James Hamilton	University of Arizona
Kenneth Hartman	Sunnyside Schools
Dr. William Hendrix	Amphitheater High School
Mrs. Douglas Holsclaw (rep. Senator)	State Legislature
Gladys Hooks	Tucson Medical Center
Dr. George Howard	University of Arizona
John Huff	University of Arizona
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G. Martin	Department of Labor
J. K. Meyer	Development Authority for Tucson's Expansion
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Al Montoya	Tucson Fire Department
Byron Nelson	Indian Oasis School
Charles Norling	Burr-Brown Research
Mrs. Ted Offret	Ted Offret Photography
Yvonne Oliver	St. Joseph's Hospital
Dr. Allan J. Orler	Tucson General Hospital
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Andrew Ross	University of Arizona
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George Sandoval	Sandoval Distributing Company

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Chet Shaeffer	Tucson Public Schools
Henry Sherrill	Tucson Board of Realtors
Richard Snider	Pima College
Dr. Gladys Sorensen	University of Arizona
Victor Smith	Tucson Medical Center
Andrew Stropko	Bogard GMC
Louis Strubinger	Tucson Finance
Andrew G. Tremaine	U. S. Border Patrol
Alfred Vietri	Adult Education Migrant Opportunity Program
Mr. and Mrs. M. B. White	Academy of Beauty
Dr. Walter Walker	University of Arizona

LEADERS

Agency, Company or Institution	Name	Position
City of Tucson	Eugene Adelstein	Public Information Officer
University of Arizona	Steve Fazio	Head, Horticulture Dept.
Max Gottschalk Consulting	Max Gottschalk	Consultant
Tucson Police Dept.	Capt. Francis Kessler	Captain
Mark H. Klafter, Aprsr.	Mark Klafter	Owner
Montgomery Ward	Joe Schubert	Operating Manager

CONSULTANTS

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State Dept. Vocational Ed.	Eugene Dorr	Ass't State Director
State Dept. Vocational Ed.	R. Dean Frey	Supvsr. Technical Ed.
Am. Smelting & Refining Co.	Arthur C. Hall	Ass't Mgr., S. W. Mining Dept.
State Dept. Vocational Ed.	Mrs. Shirley Mannion	Supvsr. Health Occupations
State Dept. Vocational Ed.	Carlos Moore	Supvsr. Agriculture
State Dept. Vocational Ed.	Marvin Seglem	Supvsr. Trade & Industrial Ed.

RECORDERS

Palo Verde High School	Bill Antrim	Head, D. E.
Dist. #1 Tucson Schools	Louis Bazzetta	Coordinator, Industrial Ed.
Dist. #1 Tucson Schools	Mary K. Bazzetta	Coordinator, Business Ed.
Amphitheater High School	Frances Holt	Coordinator, Business Ed.
Amphitheater High School	Bill J. Murphey	Ass't. Principal
Sahuarita High School	Archie Romney	Teacher, Auto Mechanics

Dr. Oliver Laine, President of Pima College, served as chairman of the conference.

Dr. Richard A. Harvill, President of the University of Arizona, welcomed the over 110 participants.

J.R. Cullison, State Director of Vocational Education, Phoenix, introduced Mrs. Sarah Folsom, State Department of Public Instruction (seated to his left) the keynote speaker of the conference.

Mr. Henry Quinto, President of Levy's of Tucson, spoke of "The Employer's Role in Occupational Education." Other panel members (left to right) - Dr. Marsden Stokes, University of Arizona, Mr. Gene Dorr, Assistant Director of Vocational Education - Phoenix, Allan Hawthorne, Assistant Superintendent Tucson Public Schools - District #1.

Richard Land, Arizona State Employment Service, presented "Manpower Directions '75."

Shown is the Manufacturing and Mining Committee which was one of the six topic areas explored during the conference.

PART I

WELCOME

OVERVIEW OF CONFERENCE

MANPOWER DIRECTIONS '75

WELCOME

by

Dr. Richard A. Harvill, President
The University of Arizona

Ladies and gentlemen, I am Richard Harvill, a member of the Pima County Advisory Board for Occupational Education which, together with the Arizona State Department of Vocational Education, is sponsoring this conference today on "Occupational Education--A System for Manpower Development." I am sure that this will be only one of many conferences that will be conducted in connection with the problems relating to Technical and Vocational Education in this community and in this country at large.

We are all familiar with the scarcity of manpower in the fields of Vocational and Technical Education. There is now a great demand for educational institutions of some kind to provide the manpower that will take care of these requirements. We have today a real opportunity in this community, and I am sure it will be realized as the community college, Pima College, developed under the able leadership of Dr. Oliver Laine, who is helping in this conference today. In fact, I think it was Dr. Laine's inspiration that led to this conference in the first place. I know of his keen interest in this field. I know of his experience before he came to Tucson in the field of Occupational Education. I am sure that we welcome him to this community and we desire to do everything possible to assist in this much-needed program. Certainly at the University of Arizona we feel that way.

There are about 900 community colleges in this country, and they represent the fastest growing group in the educational field. A little more than a million and a half students are now enrolled in these colleges. It is expected that by 1980 three million students will be enrolled in the two-year college. Of the total number enrolled, about 20%, according to the best studies I have seen, are expected to go on to the four-year institution. Unfortunately, according to a report developed by some very capable authorities just published under the auspices of the National Junior College Association and paid for by funds from the Carnegie Foundation of New York, the two year college, generally speaking, with notable exceptions has not produced a very large amount of prepared manpower in the field of technical and vocational occupations. In other words, these colleges have not been involved enough in occupational education, and the manpower needs have had to be developed elsewhere. Now a great many of the manpower needs will always be developed elsewhere. It is clear, though, that there is an urgent need and demand for the two-year college to do more than it is doing today. In a community such as Tucson that has a four-year institution to provide for the requirements of the students who want the four-year institution and who are qualified for a four-year institution to provide for the requirements of the students who want the four-year institution, the community college has a primary role to play in the field of Occupational Education.

I have seen figures that indicate approximately only 4 to 7 per cent, depending on exactly how you classify these people, of the technicians in the field of electronics, engineering, dental technologists, medical technologists, etc. actually have been prepared in the two-year college. There is a reason, of course, in some locations for the two-year college putting primary emphasis on more general education in preparation for a four-year institution. I have learned in talking with members of the

Board of the Pima College and in talking with Dr. Laine that it is acknowledged and well understood that we have a different situation here in Tucson, and to a very considerable extent the same thing is true in the Phoenix area. The University of Arizona for quite a long time has not attempted to develop as university programs the fields of technical and vocational education. We do it now to a very limited degree in the Continuing Education Division and a great deal of that may be taken over by Pima College when it gets into operation.

I've seen advance information and considerable quotations from a book called The Academic Revolution by Jeucks and Reisman, to be published and available May 21. I believe that this book will be worthy of reading because it is a comprehensive study of higher education in this country--achievements, difficulties, limitations, and unrealized potentials. It deals with such questions as the merits of educating a great many people who are enrolled in universities and colleges and whether we are actually educating many in a way that is not suitable to their aptitudes and interests. Whether or not we bring about more frustration than education is another of the questions discussed in this very substantial volume.

I know that we are all learning. I certainly don't profess to have all the answers. A meeting of this kind, in this community where the citizens have always had a part to play in defining educational roles and in participating in decision making, is very much to the point. I hope we never get away from the practice that the citizens of the community, state, and nation participate actively and understandingly in the determination of the educational roles of all kinds of educational institutions. Since most of the students today attend publicly supported institutions and since in Arizona it is more true than in most of the states, we certainly welcome conferences of this kind.

OVERVIEW OF CONFERENCE

by

Dr. Oliver Laine
President, Pima College

We certainly appreciate the opportunity, as I speak for Pima College, to join forces with the University of Arizona; and we look forward to many, many years of cooperation in behalf of the citizenry of our area. However as a newcomer, I feel somewhat as a man who entered his mule into the Kentucky Derby.

The outraged breed owners came down and said, "What on earth are you trying to do? Wreck this whole thing? You surely don't expect that horse - that mule to win the race, do you?" He said, "No, I just thought he would benefit from the association."

So I am sure that I and we representing Pima College will benefit from the association with the University and with all of you who represent many phases of business, industry, and government agencies in this area.

As Dr. Harvill said, nationally the community, or junior college as it is known here in Arizona, generally reflects the national average in terms of student selections for occupational choices or curricular choices in that about 70 per cent are indicating a willingness with which to go to the baccalaureate and only 30 per cent the occupational route. We have right from the start indicated that we will try to do things differently because there is a definite need for it; and we are planning right from the beginning at least a 50 - 50 split. Hopefully in the years to come, we can reverse the national trend and perhaps make our program 70 per cent occupational and 30 per cent in the university parallel; but it is going to take a good deal of effort on everyone's part. As Dr. Harvill has already said, we live in an age of constant change. Change is the only constant that we can bank on; and this, of course, is the reason for this conference today.

The benefits from this conference should be directed towards four groups of people to be served by occupational programs -- first of all, those attending high school, secondly, those who have completed or have left high school and are available for full-time study in preparation for entering the labor market, third, those who have already entered the labor market and need training or retraining to achieve stability or advancement in employment, and fourth, persons who have academic, socioeconomic, or other handicaps that prevent them from succeeding in regular vocational education programs. These are the groups to whom we should direct our efforts from the educational point of view, from business, from industry, and other agencies.

We have three primary considerations for this conference. They are: the relationships of industry, business, and education in manpower development, the accelerating manpower needs of business and industry, and that the educational

system which ought to become an effective instrument for the national good in the terms of manpower development. The latter consideration is just beginning to take hold.

From the panel members, we will learn somewhat of the adequacy and extent of present occupational programs in meeting the projected manpower needs. Also, we would like to find out what the implications are for future planning, programming, and budgeting in an area-wide system of occupational education and one which will involve, of course, as Dr. Harvill has said, the areas where the University can provide the opportunities and facilities; where the area high schools can pick up what they should be doing; and then Pima College to fit into the pattern in an appropriate and reasonable fashion.

So, with these long-range objectives, we believe that today's conference should have three desired outcomes as well. The first is that we should establish and maintain effective lines of communication between business, industry, and the educational system of Pima County. This is extremely important, and I am grateful to say there has been a great deal of effort put forth, even long before I came on the scene, which leads me to believe that this outcome will be a fact very soon if it isn't already. Secondly, we need the development of guidelines for planning, programming, and budgeting. Thirdly, we need to establish the concept of occupational education as a manpower development system which I said was just beginning to take hold nationwide.

You will notice in your programs that the groups will be divided into workshop topic areas at 11:10 a.m. On the overhead projection, you can see a rationale from the statistics shown there for the break-up of our conference into these groups. These are the average annual employment in thousands in '64 and '65. We have done some combining in order to facilitate discussion. Now we would like for you to give your best efforts in these workshop areas in discussing, first of all, the major trends in your area. In other words, what are the trends with respect to the average annual employment in the business area? Are they going up? Are they going down? Are they remaining steady? Then what are the implications and some of the major manpower needs affecting your business or industry? We need to know this before we can effectively act and respond. Then we would like for you to discuss the extent or adequacy of present occupational education programs in meeting present and projected manpower needs in Pima County and, most important of all, some specific implications for future planning, programming, and budgeting.

We see three types of involvement for you as a participant -- as a member of the total conference, as a round table discussion group member, and as a member of a workshop committee. While we have no preset positions that have been taken prior to the seminar, we hope that today's discussion will be straightforward and unrestricted.

With a brief look toward the program, the structure has been set for some discussion; and you will be hearing next from the Arizona State Employment Service concerning projections of those manpower needs. We will have a panel of our educational leaders who are actively involved in addressing themselves to these manpower

needs. A brief beginning will be made before lunch in the six workshop areas that we have selected. Then we are very pleased to have with us today Mrs. Sarah Folsom, State Superintendent of Public Instruction, who will give us a keynote address. She will discuss some of the benefits of occupational education for the public school system. This afternoon will be devoted to the soliciting of your discussion in the workshop areas with each group reporting to this conference, followed by a brief summary.

We are hopeful that we will have a stimulating and rewarding experience today. The substantial ingredients are here. We are discussing a most important area of common concern to all of you. We have the services of an outstanding group of people serving as speakers, consultants, and workshop leaders. We hope that we will be able to have a most successful conference today. Thank you very much.

MANPOWER DIRECTIONS '75

by

Mr. Richard Land
Manpower Economist
Arizona State Employment Service

It is ironic that the subject of this presentation, "Manpower Directions '75," has to do largely with technological change because it is just that very thing that has presented a problem for me this morning. You were going to see a tape and slide presentation which lasted 18 minutes. We have shown this about 100 times over the past 15 months with some very complicated equipment which has managed to work every time. We got some new equipment because we were afraid that sooner or later the complicated, old equipment would break down. It never did; but last night as we ran it through, it did break down. So as a result of imperfect technological change, we are stepping backward from the machine to hand labor this morning. I am going to attempt to convey the theme, "Manpower Directions '75," which would have been shown to you in the slide and tape presentation.

The history of our nation and of Arizona is among other things a history of growth and change. Population growth has slowed in the nation, but change has actually accelerated in recent years. In Arizona, however, we have had tremendous growth as well as change, especially since the end of World War II. This growth and change has been welcomed for the most part -- perhaps not with regard to the traffic jams we experience here in Tucson and in Phoenix and a few other things. Certainly the technological change which has brought such things as air-conditioning in homes, buildings, and automobiles has been welcomed. Technological change which has brought the tremendous electronics industry into Arizona with the increased earning capacity and the growth for the most part has been welcomed. It has brought some problems too. To underlie these problems, I would like to quote a few statistics:

Examples of growth: In 1950, we had an employed labor force of some 240,000 people. In 1965, this increased to a little over half a million. We project that in 1975, we will have an employed labor force of about three quarters of a million.

Examples of change: In 1950, better than one person of every five employed was working in some kind of agricultural pursuit. Today about one person out of every fifteen employed is working in some kind of agricultural pursuit. In 1950, one out of every fourteen employed was working in manufacturing. Today one out of seven is employed in some kind of manufacturing firm.

This may not mean very much by itself; but when we talk about the numbers with the tremendous growth that has taken place, it may be a little more meaningful.

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For example: In agriculture, 49,000 people out of a labor force of 240,000 in 1951 were employed in agriculture. Today just 38,000 people are employed in agriculture. In manufacturing, 17,000 people were employed in 1950. Today over 80,000 people are employed in manufacturing in Arizona.

We still don't take into consideration the fact that along with the change in number has come about a great change in the nature of the job. Even though employment in agriculture has decreased, agriculture itself has not decreased in importance in Arizona. It is more important today than it was in 1950. Less hand labor is needed; however, more skilled labor is needed. In fact, there are job shortages in agriculture today. In manufacturing, you can probably guess that between 1950 and 1968 the nature of many jobs has changed. The nature of the jobs in manufacturing will continue to change. We have invested at a fantastic clip in plant and equipment in the development of our natural resources since 1950, but our investment in manpower has lagged. The academic and skill levels of our people have not kept pace with the technological change, and the results in Arizona is a labor imbalance.

Jobs are going vacant today, and yet we have 25,000 people unemployed in Arizona. We don't know just how many jobs are vacant, but we judge that perhaps half of these 25,000 people unemployed could be employed right now if they had the proper skill, training, education, and employment orientation that is needed to satisfy the requirements of the employer. The imbalance hurts both the applicant and the employer. The employers in Arizona have become aware of this imbalance, and it is in fact at the instigation of employers that the Arizona State Employment Service produced the book and the ill-fated tape and slide presentation entitled "Manpower Directions '75." Employers are concerned with the planning for the future by trying to offset or prevent the labor imbalance in the future. The purpose of "Manpower Directions '75" is to help employers and educators, both the academic and the vocational educators, to plan now on investment in people to meet our future manpower needs.

I will quote just a few of the projections in "Manpower Directions '75." First, with the current rate of training and continuation of growth, there will be a trained manpower shortage of 116,000 people in 1975. Nearly 250,000 new job opportunities will be available in the state between 1965 and 1975. These new openings include over 78,000 in professional, managerial, technical occupations, 45,000 in clerical occupations, over 16,000 in sales, 42,000 in service occupations, 34,000 skilled positions and even 32,000 semi-skilled positions. There will also be 5,000 more unskilled positions although these 5,000 represent a far lower proportion of the employed labor force.

Nearly 60,000 of the new professional, technical, and managerial occupations will require four years or more of college training. A large majority of the remaining 190,000 new employees will enter jobs requiring high school, vocational training, trade school, or community college preparation. The needs for Arizona's economy between 1965 and 1975 will make it essential that those with aptitude for college be aided and encouraged to secure degrees; however, new openings requiring completion of college represent less than one fourth of the total future manpower requirements. Thus, considerable emphasis must be placed upon vocational training

to provide qualified persons for these openings. The disadvantage in minority members of Arizona's potential labor force must receive special attention. Training programs must be designed to aid all those previously overlooked by economic progress. Particular attention should be given to members of minority groups who are currently employed below their potential achievement level because of discrimination and lack of opportunity in the past.

Discrimination in jobs is ending. It has not entirely ended in Arizona or in the nation, but it is ending. Unfortunately, an end to discrimination, even if complete elimination of prejudice and discrimination in jobs was implemented today, cannot make the effects retroactive. The negro who does not have the incentive to complete high school education, to obtain vocational training, or become embittered over his plight in life, cannot suddenly change over night with an end to discrimination in jobs. "Manpower Directions '75" has some long-range recommendations, and I will read just a few of them:

1. Develop an open communication chanel between industry and the educational system at all levels to provide schools, junior colleges, and universities with an early warning system of industry needs.

2. Emphasize, encourage, support, and participate in vocational awareness in planning.

   A. Begin to educate students and their parents at the 7th and 8th grade levels about the world of work, occupations, and occupational requirements.

   B. Emphasize the statue and dignity of blue collar jobs as well as white collar jobs, and continue this program through high school.

   C. Develop, cooperate, and provide for joint sponsorship in conduct for annual job fairs, such as part of the annual state fair or as a state-wide traveling show, by industry, educators, and the employment service.

   D. Encourage and support local schools to provide for counselors, who function exclusively as vocational guidance counselors to assist youth and adults in vocational planning and preparation.

   E. Industry should provide members of their staff to assist in and supplement vocational guidance programs.

These are just a few of the recommendations in our "Manpower Directions '75." As far as investment in plant and equipment is concerned, Arizona has taken a giant step. Concerning development of its natural resources, Arizona has taken a giant step. We must take another giant step forward -- this time with regard to development of and investment in our human resources. This step must begin now.

PART II

(Panel Discussion)

THE UNIQUE ROLE OF OCCUPATIONAL EDUCATION IN DEVELOPING MANPOWER

PANEL:

THE UNIQUE ROLE OF OCCUPATIONAL EDUCATION IN DEVELOPING MANPOWER

MODERATOR: Eugene Dorr
Assistant State Director
State Department of Vocational Education

Dr. Marsden Stokes
Bureau of Educational Research and Services
University of Arizona

Mr. Allan Hawthorne
Assistant Superintendent
Tucson Public Schools

Mr. Henry Quinto, President
Levy's of Tucson

Presentation by Mr. Eugene Dorr

It is a distinct pleasure to represent the State Department of Vocational Education this morning. We appreciate the opportunity to cooperate with the several sponsoring agencies in stimulating an exchange of ideas regarding manpower needs in Pima County. The outgrowth of this type of conference should provide focus on goals, establishment of patterns for program development, and create greater understandings plus enhanced communication between all interested parties.

We have a real need in our communities today to help all people understand more about the world of work.

1. How skills are changing (related so well by the Manpower '75 presentation).

2. How parents and children learn about jobs.

3. How students of all ages must understand that the most out-of-date term in education today is the term, "graduation".

4. How individuals develop the concept of the dignity of work.

5. How people learn work skills.

6. How to create an appreciation for every student developing some salable skill prior to leaving school. (note - I didn't say graduation.)

Vocational Education is dedicated to serving the needs of the following people, as Dr. Laine has already mentioned:

- high school youth

- post secondary or junior college students

- adults

- people with special needs at all ages

Vocational education has a commitment to the people of Arizona to provide occupational education opportunities to all people of all age groups. To serve this need, high schools and junior colleges must have available programs of occupational education to serve the people.

Pima County high schools offer a number of vocational programs. Continual review of present programs and expansion of vocational offerings is necessary for the high school youth.

A number of states in the country have developed extensive separate area vocational schools. The area vocational school operates in these states separate from high school and junior college educational establishments. In the area vocational schools of these states, a wide program of occupational education is provided for two basic types of people:

1. Those that have left high school and are available for full-time study in preparation for entering the labor market.

2. Those adults that need refresher or up-dating in their occupational areas

The area schools, then, in some states operate as another school district - building educational plants, employing teachers, and becoming taxing bodies.

Arizona has elected to have these same functions performed by carefully selected high schools and junior colleges. This is and can be a vital saving of taxpayers' dollars. However, it also means that each area designated high school and junior college district has to become serious in providing these same services of an area vocational school in occupational education.

Another way of looking at this relationship, then, between the designated high school and junior college districts and the Arizona State Department of Vocational Education is one of joint effort in providing occupational education for persons who have completed or left high school and who are available for full-time study in preparation for entering the labor market, as well as providing adults occupational up-dating and refresher programs of study. Beside the joint effort to provide the above, the Arizona relationship of junior college and vocational education endorses joint responsibility for occupational education. Certain designated high schools and each junior college in Arizona, then, serve the function of the area vocational schools.

This means that proper leadership and funding must be present to help solve manpower needs of government, business, and industry. Occupational programs needed by the state and community must be answered in a short time-span with space and instructional leadership provided. Programs of short intensive instruction are provided as well as regular established long-range programs answering continual needs for manpower.

Let me reaffirm that the State Department of Vocational Education has a commitment to the people of Arizona to provide occupational education opportunities to people of all age groups. To serve this need, vocational schools must be available so that people in all communities of the state will have access to occupational education.

This conference can provide a giant step ahead in communicating the needs and avenues for helping solve some of Arizona's manpower needs between now and 1975.

THE JR. COLLEGE ROLE IN OCCUPATIONAL EDUCATION

By

Dr. Marsden Stokes

It is a pleasure to be here this morning. The time of day being what it is, I don't think we have time to do like the gentleman who said on one occasion, "I'd like to make a few remarks before I say anything."

I'm an educator, but I have been a businessman too; and I have met the payroll. I have raised the money to meet the obligations due on the 10th of the month; and I have negotiated with the bank on a floor plan for my merchandise. So I have some feeling for the problems you face too. As I look into my topic a little bit here, and consider the unique role of occupational education, particularly in the junior college which was my assignment to discuss with you, I think back to the time, as a seventeen year old, when I finished high school. My father said, "Well, son, you have completed high school. Now what can you do?" I thought a minute and I knew what he meant. I said, "Nothing."

After two years of college (at that time one could earn an elementary teachers diploma), he asked me again what I could do. I saw that his expectations were orientated to the world of work. I won't tell you what my answer was that time. I would say he was a little concerned. In fact, his words were a little strong!

As we look to the junior college entity, we should see a little about its philosophy First of all, the community college philosophy is characterized by a belief that the nation's most valuable resources are her human resources. I think it fundamental that we understand this point. There is a belief that these resources must be nurtured optimumly by appropriate types and levels of education. There is a belief that such training will redound to the advantage of the social, civic, and economic life of the nation as well as to the betterment of the individual.

The basic functions of the community college are many; and I think if we are going to understand how the whole framework of occupational education fits into the picture, we need to have at least some little overview of what some of the functions of the institution are. One of these is the preparation or college transfer function. We are well aware of this one. It plays an important role.

Then there is the terminal or semi-professional function. (Here we have a word I wish we could get rid of - terminal - because I don't like to talk about terminal education. Education is an on-going process, a life process; and according to my philosophy of life, probably the only thing we take from this sphere of existence is what we learn here). I believe we think of the semi-professional function primarily here. The trade-level vocational programs may or may not be a part of this function. I have a little bit of feeling that perhaps the semi-professional and technical levels are more for the junior college.

Also, we have the counseling and guidance function. This is helping the students find their places in society and making adjustments to it. It includes the selection of, preparing for, and entering into an occupation.

Another function of the community college is the matter of providing basic skills and general education. Again, there is a rehabilitating and democratizing function Some people call it a salvaging function. Here we serve the non-high school graduates, the students who fail to satisfy the four-year college entrance requirements and the individuals who could not normally afford post-high school education. It assists these in contributing to a democratic society.

Furthermore, the junior college or community college has a community service function, and it has a retraining and updating function for adults changing employment voluntarily or otherwise and for those whose skills and competencies in their present employment need updating or maybe extension. We could cite others. You see, there are a great many functions of the community college. Occupational education is related prominently to many of them.

Now it is true that 70 to 75 per cent of the students entering junior college today are in fact terminal students. They are those who are not going on to the four-year institutions. Another thing that is probably interesting to think about is that 60 to 70 per cent of the enrollment in the community colleges are those in the 18 - to 21 - year-old group; but in saying that, let's keep in mind too that this means that 30 to 40 per cent are in older age categories.

As you look to possibilities of finding those who could work in your industries and businesses in the years ahead, think that the junior college is going to be a source for getting such individuals. It is said that many employers really do not want to take youth fresh out of high school That, in fact, they want to employ somewhat more mature individusls. I think in many cases this is true.

A community college has a distinct or unique opportunity to provide occupational education to meet certain manpower needs. In the first place, the community college is still a young institution. It needn't be tied to tradition. It should be close to all segments of our people. This is quite fundamental and this is where some of the uniqueness comes. Not all of our higher educational institutions are.

The junior college may draw upon labor, business, industry, and other sources for some of its instructors. Think what this means to some of you and those with whom you work. It is not restricted to the use of degreed persons as teachers for many of the educational opportunities that it presents. Of course, many of them need to be certificated today; but not all of them, and particularly in some of these fields where we need to quickly train and retrain individuals. The junior college may adjust to certain training programs to the length of time needed to prepare an individual for a job, be it a matter of a few weeks, a semester, a year, or maybe a year and a half. It doesn't necessarily have to be tied down to a semester or a quarter hour situation. In this I see some real hope. I see something like this going on today at Maricopa Technical College here in our state. They're bringing in the groups and giving them the occupational education they need for a job that needs to be done.

Having served for a period of time as the one in a state education office who had general control and supervision of area vocational-technical schools and of a junio college, I think I need to leave a word of caution here. That is, there is some trend among certain individuals working in our community colleges to work toward what they would call "academic respectability." Let's not get caught in that bear trap. I see some tendency on the part of some of the academicians among us to think in terms only of transfer programs as being of real importance. I can't buy that at all. We've got to really watch that; because if we don't, we will see that we have "some of the same" that is already acceptably offered elsewhere and technical and semi-professional offering will not receive the attention deserved.

I think the junior college or community college can do a really good job in the technical courses. Perhaps from technical courses with considerable academic background we get a major loss to the four-year institutions but that's all right too.

In the state of California, vocational education in the junior college trade apprenticeship program really hasn't worked out too well I am told. I suggest you investigate the situation there before attempting similar programs. Think about it as you look ahead to 1975. There have been some problems with Board of Apprenticeship standards. You have federal involvement, local involvement, employer involvement, and trade union involvement here. The schools are not necessarily set up to pay a master tradesman to set up in preparation for his instruction and clean up afterwards.

As we look forward to the establishment of Pima College, I hope you people will not think of persons who withdraw from the institution to enter business and industry as we think of the school dropout. It could well be that the college has succeeded The person who has withdrawn to enter the world of work after getting what he neede at Pima College or any of our other junior colleges is worthy of full employment. I think we should quit calling these fellows dropouts. These persons are successes They have "made good."

There is one other area I think so fundamental I just can't avoid mentioning, namel vocational counseling. I need to have a minute with you on that because to me the counseling program is the real heart and soul of occupational education. Now I'm not belittling the instructional force; I want to emphasize the whole counseling function and the work of counselors. They're going to be key men in what we are going to do in our country and what we are going to do in the years ahead here in our state. These people need to know the world of work. They need to know the manpower needs, and they need to know what the rewards offered are. I think they need to have some work experience themselves. It would be well that they had some before they entered service, and it would be well that they had opportunities to get out into the world of work now and then during the summer months.

I think there is need for counselors to attend conferences with business and industry and rub shoulders with you people. There is need for them to have many, many interviews with personnel directors; and you people should look forward to this and get them into your places of business and industry. There is also need for them to work with advisory committees. (Mr. Cullison, I surely hope that these

counselors are in with the advisory committees, as are the instructors and administrators.) I think it is basic. They need to know what they're talking about, what is current, and what is in demand. They should have a better understanding of adult problems that are related to occupational entrance - for instance, for women past the age of 40 who are going back to work. There may be need to convince these students (that is, some of them that we wish to rehabilitate) of their worthiness. There must be a genuine commitment to the worth of the individual soul and a sense of the heavy responsibility in the area of helping students realize the possible discrepancies sometimes between their aspirations and their abilities.

I have given special emphasis to the counseling area; I hope you can see why.

It seems to me the junior college or community college is going to have a real impact in our country and in our state in the years immediately ahead. I think they're going to do far more by way of contribution than evidenced in the story of the judge who said to the pickpocket "Before I pass sentence, what have you contributed to society?" The pickpocket replied "Well, judge, I have kept three or four detectives at work!"

THE ROLE OF THE HIGH SCHOOL IN OCCUPATIONAL EDUCATION

by

Mr. Allan Hawthorne

I don't know of any group of people that has looked forward with greater eagerness to the development of the junior college than the high school people of Pima County. We have seen many short comings of the four-year institutions, and we have seen some of our own short comings. We have especially seen shortsightedness in respect to the attitudes of the people of the community towards occupational education, and we hope that the junior college will make it worthwhile for parents to encourage their youngsters to look into these fields instead of thinking almost solely in terms of college preparatory work.

In thinking of some of the roles of the high school in occupational education, I might review a little bit with you the traditional ones which to a certain extent are exploratory. We are trying to help the young to answer the question of what you need to be able to do to become a secretary, auto mechanic, architect, or electronics engineer. Typical exploratory courses such as general metals, woodworking, typing, bookkeeping, marketing, mechanical drawing, electricity, etc., help them get a start in that direction. What are the opportunities in the broad field of that line of work? What are the other kinds of occupations that this job leads into What does an employer expect.? How do you help a youngster find that information? Bring in employers who talk to classes and explain what they are looking for. They also answer questions of the students. Of course, many of the students want to know how soon one can advance and become the boss or head man on the job. Everyone, it seems, wants to start at the presidency.

As a youngster's interest develops, he may enroll in classes that emphasize the development of skill. Here he finds quite soon that he is getting on a ladder - a ladder of skill or degrees of skills, primarily because of the development of his own skills, his attitude and the other desirable qualities that employers are looking for. Strangely enough, all the students do not fall into the top ten percent of what everybody expects. As we listen to people asking for the qualifications of and recommendations for students, everyone is looking for candidates who fall in the top ten percent, whether they go to college or whether they seek employment. You and I know that this is not true. We don't expect it of baseball players, but we do expect it of high school youngsters.

As a youngster moves from his fourth year in high school, he might go into further education at the junior college or at the technical level or he might go into some kind of employment in which he can continue to advance in evening school programs or on-the-job training in his own company. Here in Tucson, there are not many companies large enough to provide that kind of opportunity.

We try to develop courses on the basis that there are several levels of job-entry for a youngster. I will give you as an example - practical nursing, which has recently been developed in this community and one other district in the state. Some students from this program have gone into the college registered nurse program; others into our advanced licensed practical nursing program and others directly into hospital or nursing home work as nurses' aides.

When we consider another role of the high school - which is to try to develop training opportunities for youngsters in accordance with the needs of the community, we find some of our biggest problems. The many changes in occupations make it difficult for a school system to keep up-to-date. Also, many lay people and educators tend to think in terms of vocational education as they have known it back east or on the west coast where emphasis has been on industry; mainly, heavy industry.

We have heard a great deal of talk about the need for more and more industry in Tucso The school has the problem of learning what kinds of industries are moving into the Tucson area. What can we provide for? How can we plan? It takes time to plan. It takes time to get equipment and teachers. It certainly takes time to find the funds.

You heard a brief report this morning from the Arizona State Employment Service "Manpower Directions '75. I wish you could have seen the visual presentation because it would have helped a great deal to understand a little bit better the picture for Arizona and maybe even for Pima County. The authors predict a shortage of almost 117,000 people to fill jobs in Arizona in 1975, taking into consideration immigratio and the development of people already in the state, such as graduates of high schools technical colleges, junior colleges and four-year institutions. An interesting poin they make, however, is that there will be sufficient population in the state to handle those needs. We don't have to go out of the state to find 117,000 more people. The problem is in the degree of skill and the level of skill of the people available. The minority groups who are unprepared for jobs, the handicapped people, the youngsters who learn no skill while in school, and the "dropouts," will form the labor pool. They will need the opportunity to learn employment skills in order to make a living as well as to take care of the shortage of labor in Arizona.

Now here again, the schools have the problem of what kind of programs to develop for those people. I think you have seen a shift from the traditional vocational programs to those of the service type of occupations in the Tucson area. We have seen the addition of day-care nursery training, supermarket training, pre-practical nursing, refrigeration, air-conditioning, vocational drafting, diesel mechanics and horticulture, starting this coming year. Most of these fall in the category of service occupations because we still seem to be that kind of city. For years, we have offered agriculture, auto mechanics, printing, photography, welding, machine shop, electricit electronics, cooperative merchandising and retailing in the metropolitan area.

Now let's consider the needs of the individual, the dropout, the handicapped person and the youngster that has no long-range goals who cannot look into the distant futur and does not fit into patterns that society has developed. There are human beings such as they. We need to modify the schools to help this kind of human being develop because none of us have developed at the same rate nor followed the same prescribed time schedule.

We need to provide occupational education for students of lower ability than we have in the past. We have concentrated on high skills and ability. We need to reorganize courses to provide more time for slower students. There will not be enough of the top-skilled people available to supply the demand according to Arizona's needs, as we read these reports that have come out from the Employment Bureau. This means that as employers, we will have to reorganize the structure of our jobs so that the top-skilled people are spread over wider areas of responsibility and are supported by the lesser skilled people. We need to subdivide into several kinds of lower skil jobs. This, in turn, as far as high schools are concerned, means we need help with ideas from employers as to what are the different kinds of subdivisions possible and the kinds of training that will be needed. Interestingly enough, we will probably find that we don't need everybody to have a high school diploma in order to perform some of the jobs. There are employers in this community that do not require high school diplomas for everything. There are a few that are experimenting deliberately in the hiring of minority groups. They are finding that people are performing at a higher level than the pre-employment tests would have predicted in many cases. This is very encouraging when you think of the total picture, and particularly encouraging for the young person of this community who hopes to become a useful citizen with the help of industry, business, and education. The other alternative is going on welfare roles, I believe.

We will have to develop courses in high schools that are of shorter duration to fit the needs of the people who do not conform to the usual pattern of four years of schooling. In some instances, we will need to provide a certificate that indicates the general level of education as well as a more specific level of skill which a student has acquired. Many youngsters have short-range goals. They do not think ahead to four years of high school. Most of you, as your children grew up, have told them, "When you get out of high school, you will do this. When you get out of college, you will do that." The pattern of the future has been set for your kids and my kids. There are people in this community that have not set such goals. Their short-range goals are to get a job as soon as they can, to have a car, a couple of girl friends and worry about the future after that. I don't believe that we can change that.

If a youngster drops out of school at the present time, what happens? He has little if any, skill and he is faced with social stigma as well. Somehow we need to change this process. We need to give him a chance for some kind of skill that doesn't require four years of high school. The employer has to give him a chance to try to develop on-the-job. This is not easy as far as employers in Tucson are concerned. Many operate small companies that cannot employ extra personnel. We need some federal funds to help reimburse employers for providing training opportunities for people.

We have, at the present time, a Manpower Development Program which is doing the kind of thing I mentioned for out of school youth. I hope we can develop short-range programs on specific skills to help the youngsters before they get to the point of dropping out. Now the fact that these young people vary in their kinds of abilities, interests, attitudes, and goals in life brings me to the last point I wish to make. Occupational education has to be considered as a part of total education.

In this country, we emphasize college education. We emphasize it in our advertising and practically everything else we do. We think in terms of college education or occupational education. Youngsters select high school courses on the basis of whether or not they're going to college. A student often selects college prep subjects to give the impression to other students that he is going to college. He starts college and then drops out and still has no skill as Dr. Marsden Stokes indicated a few minutes ago. We need to help these youngsters enroll in occupational education courses in high school as well as the college preparatory courses. Many of them will have an opportunity to earn their way through college. Many will have a means of discovering an occupation that will lead them to more meaningful careers in college. Nothing is more frustrating than four years of college and still not knowing where one is going.

The fine cooperative program that we have developed in Tucson with the help of the employers, in the field of industrial education, office education, retailing, and distributive education, have helped the youngsters gain an understanding of what it is like to have a job. The programs have helped the students to mature and to find out what it takes to earn a living and to become responsible young citizens. One of the great needs is in helping parents and adults understand opportunities in occupational education. Students are influenced, I believe, mainly by parents, by the people in their community, and by their friends.

The role of the high school is to help young people develop the attitudes and skills that will help lead each of them to a successful life with or without a diploma, moving into employment, or moving into the next level of education.

The modern young person is competing with students all over the country for his future life's work. Youngsters in every one of our high schools are competing with students all over the country because modern people are on the move. Students are not only competing for jobs in Tucson or in Arizona, but they are competing for their future. He needs the best possible preparation at all different levels.

THE EMPLOYER'S ROLE IN OCCUPATIONAL EDUCATION

by

Mr. Henry Quinto

In spite of what Dale Carnegie may say, this is one businessman that does not get paid for public speaking; and I am going to try to be very brief.

From the beginning of time, occupational education has been an important business function; but today as America grapples with major sociological and economic problems that have reached the crisis state, occupational education has assumed new importance in the eyes of business, particularly large business. I might add too that interest of the businessman is spilling over into the field of general education as well. Today many industrialists are taking a real interest in local school systems.

Historically, however, the concern of business has been with the need to train for the specialized fields that are used within its own plants and shops. Up to this day, much of this training was accomplished through apprenticeship, wherein a young worker learned at the feet of an older one. As a practical matter, however, minimum wage laws today demand that a young worker become productive quickly - much more quickly than in the past. For that reason, I for one think that the apprenticeship system is on the way out. The training, therefore, is more sophisticated. You can divide this between training in the plant and training outside the plant. Probably most familiar to the lay public are the training classes that are developed by companies on their own, using their own resources and held completely within their own shop in Pima County. Possibly the most notable example would be found in the Hughes Plant where they use either their own skilled people or supplement them with specialists from the outside. They run formal training classes within the plant to teach specialized skills and to upgrade their people. Now this applies primarily to the crafts.

In Pima County, we have another specialized occupational education; and I refer to a Motorola Institute where the students, as I understand, are generally at the Vice Presidential level. This is a rather different thing, but I don't think it has general application. There are, however, other companies doing somewhat similar things. In our own store last year, for example, we developed our own resources and ran a training program of some 25 or 30 lectures for the younger people in our organization who were either already at the junior executive level or prospective candidates for that level.

Another type of important training, the cooperative education type, was done within the plant. This in my mind is a Godsend in a situation like ours where most of our businesses are small and cannot afford the training facilities that major corporations have. This works very well not only from the business point of view in providing an input of young people who, when they finally come on the payroll full time, are very well-trained and very familiar with the procedures of the particular business. It also has an enormous sociological impact in providing the motivation which is so desperately needed today to keep our young people on the track.

Lastly, I might mention on-the-job-training. Most of you, I am sure, are quite familiar with it. There are many agencies involved with it today - both the governmental type such as M.D.T.A. and the professional non-governmental type like the Urban League. Business is looking more and more to this kind of assistance. As I said before, business uses outside facilities very frequently. For example, there are a number of firms in town that use the University of Arizona's facilities in various ways for occupational education. In some instances, particular courses have been tailored to businesses' needs. In other cases, businesses will pay for what we call broadening courses for the younger executives. Generally, when the young man has taken a course agreed upon in advance and successfully completed it, the business will refund his schooling costs.

Then, of course, we have the prospective community college; and we are looking forward to that eagerly. Allan Hawthorne has discussed high school in detail. I migh say that there is an increase in interest in local business circles in being more closely tied to and more helpful in developing more of a partnership with the high schools in connection with the vocational courses. In the past, unfortunately, the schools have been left frequently to develop what they thought business wanted and hoped that the graduate would be acceptable to business when they went out into the labor market. Today, there is a real effort in some business quarters to lend a hand in making sure that those courses will lead to jobs.

Some companies also are using out-of-plant facilities which are run entirely by their own organizations. I am referring to something like Lee Beaudry's company. Here you get major corporations which set up regional schools to which the dealers send their employees for advanced occupational education, generally leading to upgrading and generally concerned with very specific skills.

I would also like to put on the list the correspondence courses. Today in our sophisticated swinging society, we tend to look down our noses at these. I think we make a mistake in doing this. I think some businesses are rediscovering the value of correspondence courses in situations where they are not equipped to do training themselves.

Lastly but not least, there are any number of what we call poverty war programs which have been developing with the cooperation of business, frequently by chance and in a response to requirements of local situations. In Phoenix, for example, they have a rather considerable program which has developed through a partnership with business. Here the manager of a rather large plant was having difficulty in getting office people and he said to someone "Look, we're closed at night. We have the equipment here - electric typewriters, computers, and what not. If you can get some classes started, we will lend some of our people as instructors; and you can have the use of the plant and equipment, etc." That has since developed into a rather extensive program which is financed by the business community and is very properly considered to be business interest in occupational education.

In all of these things, the employer's role has been that of one who uses education as a tool to make his people more productive. We generally have started in the past with people who represented the cream of the available labor market. Two

things have changed, however. In many areas, there is no longer an abundant supply of well-educated workers. Allan Hawthorne has referred to the survey which indicated a shortage of the kinds of people business has traditionally been able to employ at starting levels without any problem. Now we have problems. The other thing that has happened in American business is that it has grown mature. It used to be characterized and castigaged as a collection of soulless corporations. Today I, unequivocally, say that it has advanced to a stage of citizenship where it has a conscience and moral motivation equivalent to that of an individual -- no better, no worse. There is a conscience, and there is a moral motivation. So today business finds itself dealing more and more with people from what you might call unoriented subcultures of our society. These people do not easily fit into the worke ranks.

From this flows businesses' interest in the general school system. When an employe finds that he is offered only dropouts, he is bound to become vitally concerned wit the dropout problem. That is why reference to the counselors is so meaningful. We haven't done it here yet on the grand scale. There are a number of cities which have run very large and very well done vocational guidance institutes which were sponsored by and for the benefit of business. Because it is increasingly dealing with a new class and a new type of worker at the entry level, business finds itself involved with things that is just wasn't involved with a few years ago - a pre-job orientation for example. Five years ago in most of the country, it was incredible to visualize business concerned with teaching people how to go about gettina a job and what to do after you have got it. I am talking about detail at a very fundamental level. I am talking about teaching people why you must comb your hair, why you must wear non-hippie clothes, why if the rules are you report for work at 9:00 you must not come at 9:20, and why if you are sick you should call in and say you are sick and not leave the firm wondering whether you have quit or gone on vacation In Miami, the business community raised $50,000 to finance just this kind of occupational education.

Now having given some of these people that kind of training, business finds that they still need other training. They still don't have in some areas the three R's. We haven't run into that, fortunately, so much locally; but it exists on a national scale. There business has been doing two things. They have been running pre-entry classes for people they have selected for hiring generally on a contract basis with the local schools or church groups or what have you. In some cases, they're doing post-entry generally under what is called an earn-as-you-learn program so that they may spend an hour or two a day learning the three R's and the other six hours doing the job. He gets paid for the whole eight hours.

In the course of this, business has had to take a close look at the question of entry tests, which have been a Bible for years. It has had, in some cases, to fractionate jobs in order to reduce them to a level that can be handled by people with less skilled backgrounds. Lastly, it has had to develop new courses in some areas to upgrade people who previously were not considered for upgrading. They are the people from the disadvantaged areas who obviously would have to come in at low entry levels. The only way business has been able to do this is to upgrade the people who already occupy those jobs and who have never been considered as promotional material.

I had an occasion last week to talk with someone from one of the major aerospace firms. It has revolutionized its thinking and also called for a rearrangement of its inplant training facilities. They want to promote people whom they have had on the payroll if they can in order to create more openings. This is going to have a very profound effect on business thinking in occupational education. Business is learning a great deal as it expands its educational functions; and as I said before, it uses its own people and outside specialists. I think there is an interaction. It is creating a market for teaching machines of various kinds. There will be beneficial affects in the academic industry.

I read an interesting article recently about Montgomery Ward's programmed instruction where most of the teaching is done by the students themselves and the company is able to accomplish what it wants with relatively few supervisory hours. There may be a lot to learn from that. In essence, it seems clear to me that business today is interested in education internally and also externally and will be more so. Business recognizes that its progress today equates with educational prograss as our world becomes increasingly technologically complex. The business role, therefore, must be one of a supporter not only morally but with dollars, a catalist, and a coordinator; but in any event, it must and will be more and more involved in occupational education.

PART III

PRESENTATION BY SPEAKER - LUNCHEON MEETING

(Keynote Speaker)

Mrs. Sarah Folsom
State Superintendent
of
Public Instruction

It is a delight and an honor to be here today, and I bring warm greetings from the State Department of Public Instruction. I feel that this is one of the top meetings in the state at this time or any other time. I will say again, it is a pleasu for me to be with you and to have the opportunity to talk with you for a short time on occupational education.

The Pima County Advisory Board for Occupational Education has done a very wonderful thing in drawing together all of these fine people, representatives of industry, government, business, professions, and education. It is your thinking that is so important to Mr. Cullison, his staff, and me as we try to plan the future of vocational and technical education in this state of Arizona. Each of you is equally valuable to us for the advice and counsel you offer. I think it wonderful that you in this area have such close cooperation between industry, business, profession and education. I would like to see your example followed by each of the 14 counties. We would have a far better system of education in this state were this to be true. I am delighted to see this splendid working relationship in this area.

We are on the threshold of a new and exciting era in education in which vocational education is emerging as a most important segment. For many years, we have given lip service to the concept of providing comprehensive educational curriculums in our high schools; but in contrast to our stated philosophy, many of our high schools have offered very specialized curriculums geared to meet the needs of those who are college bound. Tax payers and educators alike have accepted the idea that we have an interesting number who are not well served by the typical college preparatory curriculum. Local boards of education and administrators have been reluctant to alter their programs for two reasons. First, college entrance requirements tended to give priority to selected academic educational courses; and secondly, the additional cost of vocational-technical education especially in those districts with limited funds made for much difficulty.

A few months ago in Cleveland, I was invited to speak before the national meeting of vocational education people. After my talk, at the coffee break one of the five top industrialists in the world came up and talked to me. Talk about women talking he could really talk! I couldn't get a word in. So when he paused for a breath of air, I hurriedly had my little say. This brilliant industrialist was telling me that if he had his way he would take all of the occupational education away from public institutions and contract all of it out to business and industry. On and on he went. He would build his schools right by the public schools. Evidently, he was very bitter. He would show the difference in products.

When I could get a word in, I asked a question. I said, of course, you are planning to spend the approximate amount of some $450 per student per year. He gasped in horror, and said "Oh, no, Mrs. Folsom, $3,000, $4,000, $6,000, $8,000 per year per student." I said, there you have placed your finger on the sore spot. Give our administrators and county school superintendents adequate support in occupational education in our secondary schools and in our junior colleges, and you will see a vastly different product, although I must say I feel we have done a very wonderful job with the monies available. We have to think of the financing of these programs.

We find ourselves, today, facing so many challenges in all areas of the social, economic, and political scene. But in none of these are there greater challenges than those confronting us in education. We have been given the mandate and the challenge to meet the occupational education needs of people of all ages, in all communities in our state.

Our only hope for meeting the educational needs of all youth in the years ahead is to offer a balanced program of education which is challenging and meaningful to all youth. It is an adding to rather than a taking away process which serves those who are vocationally talented as well as those who are academically talented. A balanced program serves those with few talents as well as those with many talents. It serves those who are specialty-oriented as well as those who will pursue a baccalaureate or higher degree.

It is appropriate to the needs of those who have socio-economic handicaps as well as those from the more affluent segment of our society. It permits the slow learne to enter and progress at his own speed and level of ability in his special area of interest while others are pursuing courses and curriculums that are just as appropriate to their needs and abilities.

Another challenge confronting us in providing a balanced program of education is to place the proper emphasis on the various vocational programs according to employmen needs. Although more than 50% of our work force is employed in the fields of marke ing and distribution, many schools are slow to shift from the production-oriented vocational-technical courses to those occupations in which recruits are in short supply.

To be completely frank, I think that most schools should not reduce their curriculu offerings in the production trades but simply increase their output in the fields of marketing and distribution, including training for office workers and service occupations, <u>especially health occupations</u>.

If we are to implement the philosophy that we should educate youth to their optimum or maximum potential, then we must become concerned about what happens to all youth on leaving the high school or junior college; just as concerned about the welfare of those who enter the labor market as those who enter the four-year college.

Only by providing a wide variety of occupational education offerings that meet the needs of workers in today's work force can our public education agencies hope to become sophisticated in the eyes of those we serve; and only then, too, will we be delegated a major role as a manpower development agency.

There is much evidence to support our public education institutions as very efficient and economical agencies for training manpower. Unfortunately, however, much of the money appropriated for training has gone to the emergency rescue programs that have no history to justify such support and whose subsequent performance in many cases has not equaled or even approached that of our public school programs in economy, efficiency, or quality of program.

Fortunately, the vocational education act of 1963 is one of the few permanent pieces of legislation that Congress has passed to provide occupational education. So, as the others are phased out, our public schools and junior colleges will hopefully be given an even greater role in creating an adequate supply of trained workers in the years ahead.

If vocational education is the key to a better and more productive life for a large segment of our youth, and if our schools are to assume an even greater role in manpower development, we must be ever alert to explore new and better ways to better meet their needs. We must innovate, experiment, and plan pilot programs in an attempt to provide programs that are high in quality, efficient, and flexible enough to keep pace with our changing technologies. Training components of each should be rightfully delegated to our high schools and junior colleges.

The State Employment Service projects a deficit of 116,000 trained workers in Arizona by 1975 based on the present rate of training by the various agencies involved in manpower training and assuming that other variables such as inmigration and attrition, remain constant. This is a rather awesome figure when compared to a total projected work force in Arizona of only 750,000.

This suggests to me another very important challenge that confronts us in the future; that is, the need for more and better vocational counseling. Highly qualified teachers, newly constructed laboratories and shops and modern equipment are not sufficient to assure an adequate program of vocational education since nothing happens, unless it happens to the individual student, and this can happen in proper numbers only when youth and adults enroll in and pursue training toward a chosen occupational career.

I have no quarrel with the present performance of our public school counselors or the counselor training institutions in meeting the needs for educational counselors; but equally important is the need to provide vocational counseling which most of the present counselors are not properly qualified to perform. Counselors who are educationally oriented, but are not familiar with the world of work, can hardly be expected to properly interpret career opportunities to counselees.

I will mention the National Advisory Council's recommendation that, "specific job training should be given in high school to all students not planning to go to college and two years of post-secondary school training in advanced skills should be offered free as a part of the education system."

Many states sponsor a statewide system of area vocational schools that are separate and apart from the public secondary schools and junior colleges, but we have elected to meet this need through a sound program of vocational-technical education in our high schools and junior colleges. Obviously, these curriculum offerings should provide job training in occupations where there is a reasonable chance for the student to find gainful employment as soon as he enters the labor market.

There was a time when one could drop out of school and gain adult status by finding a job soon after leaving school; but, today, it is easier for most youth to enter college than to enter the work force.

In fact, there is a paradox in our society today in which good jobs are going begging at the same time that out-of-school youth and adults are unemployed.

We cannot properly appreciate the importance of providing an adequate program of occupational education through our public schools without first looking at a profile of our work force. Here we see that about 12% of our workers are employed in occupations that require a baccalaureate or higher degree; 7% are in the so-called unskilled occupations, which leaves about 81% in occupations that require some type of vocational or technical education.

In Arizona, only about 27% of our high school youth and the same proportion of our junior college youth are enrolled in occupational education courses that are career oriented.

I do not believe that our public schools have accepted their full responsibility as a major manpower training agency nor have they been delegated this responsibility, but I believe they can and should become more effective in manpower training.

Business and industry, including both labor and management, must also share in the challenge of developing an adequate and well-trained work force. Today, education is everyone's business, not just the domain of professional educators. Unemployed and under-employed people weaken the economy of our country. We all know that inadequately trained manpower creates poverty, wasted lives, and unused talent.

The business community should provide active leadership and assistance to vocational educators in establishing programs that adequately meet the job needs and requirements of today and tomorrow's labor markets.

Business and industrial people should seek to serve on vocational advisory committees, to review course content, equipment needs, and help locate training stations for cooperative part-time training programs.

You may be saying, "Yes, I agree! But how does the business community get involved?"

Two-way communication lines need to be established and used so that business and industry needs and requirements are made known to school personnel. Industry should provide ample opportunities for educators and students to learn firsthand what is happening on the firing line of business. Likewise, educators should continually seek to have business and industrial people visit the classroom as speakers, advisors, consultants, and sponsors of training stations.

Vocational educators need to be constantly aware of what changes are taking place in the working techniques of industry. Opportunity for summer placement in the actual job gives up-to-date work experience to the vocational teacher. Work habits and new techniques are studied in a "learning by doing" process by the teacher and shared with his students the next year in school.

Educational efficiency if important to all parties in vocational education. As the costs of education continue to rise this requires an intense concern for improved efficiency on everyone's part. Radical shifts in manpower needs can cause rapid obsolescense of certain occupational skills. The industrial community needs to alert educators to these changes.

Everyone in the business and educational community must understand that the goal of education is to enable the individual to enter the work force at a level close to his maximum capacity.

Business and industrial people may need to review their job requirement specifications. Many firms leave the impression that a college degree is essential for a responsible position with good pay. In actual practice, many of these positions can be filled by two-year college graduates who have majored in a vocational-technical education program. An article in the March, 1968, Reader's Digest entitled "High School Graduates: Business Wants You!" spells out the need for business and industry to provide realism in job specifications.

Our challenge, then, is for educators and people in business to become acquainted, share thinking, and assist each other in developing realistic programs of training for the world of work.

I am proud of the placement record of our vocational graduates in which 70% of those who majored in vocational education in high school last year and were available for placement, found gainful employment in the occupational area in which they were trained; and 93% of our junior college graduates majoring in vocational education, who were available for employment were placed in their chosen career or one related.

Since the junior college is terminal for 70% of those who enroll, a balanced program of education that will meet the needs of the 70% who will enter the labor market on leaving the junior college is even more urgent than at the high school level.

Some educators would contend that youth should not be required to make an early career choice and I agree, but I also believe that adequate occupational information and exploratory experiences in the world of work should be made available early so that those who plan to enter the labor market on leaving school may have the opportunity to develop a saleable skill before they leave school.

I do not believe that counselors alone can do the job; but certainly, they should be the catalytic agents to see that parents, students, school administrators, employment service personnel, school board members, and prospective employers work together in giving proper visibility to occupational education.

I believe the vocational counselor should work as a teammate with the vocational teacher and employment service personnel; first, in determining needs for trained manpower in the various occupations; then interviewing, counseling, testing, and referring people into training programs, and finally, in seeing that they become gainfully employed.

The Arizona Employment Service employs approximately 40 vocational counselors who have at least a master's degree in vocational counseling so it is obvious that we must involve them if we hope to mobilize all of the help that is available in vocational counseling. In the past, we haven't known much about what happened to our high school and junior college graduates, but in the future, we must know. Congress as well as our state legislators, is becoming increasingly determined to know what specific benefits are realized from each tax dollar invested in education. Fortunately, placement and follow-up records on vocational graduates are relatively easy to develop and maintain through standardized reporting with the help of data processing equipment.

Arizona is precently compiling current enrollment data and follow-up on every student enrolled in vocational and technical education programs. Through the use of computerized cards we are able to know how well we are meeting the needs for trained manpower.

Another important dimension authorized under the Vocational Education Act of 1963 was the mandate to conduct research. We have known too little about the quality of our vocational programs, or how well we were meeting the needs of business and industry. We have been more concerned with our accomplishments than with our unmet needs. During recent years, we have spent less than one-half of one percent of our educational dollar on research, while those in business and industry were spending 10% of their gross income to disprove their most accepted practices.

With 10% of our vocational funds earmarked for research we are confronted with another challenge - that is to challenge, through research, the standards and traditions that have been developed in vocational education through the years and to which many hold with almost pious tenacity. Under the new act, we are encouraged to explore new and more effective ways of meeting the needs for trained manpower. Greater diversity, flexibility and adaptability should characterize our programs in the years ahead. We must avoid unrealistic, fixed, stereotyped curricula that are not geared to the needs of those we serve; and only through research and constant involvement of others concerned with manpower will we know how effective we are in meeting the demand for trained manpower.

In the past, our vocational program has been identified primarily with the secondary school but with the passage of the State Junior College Act and through our experience with the Manpower Development and Training Program, it appears that there will probably be greater emphasis on post-secondary vocational-technical education in the future. I do not mean to imply that there will be a shift from the secondary to the post-secondary, but merely an extension of the program from the secondary into the post-secondary institutions. Enrollment in the junior college vocational-technical program in our state has increased 125% since the passage of the Vocational Education Act of 1963. Certainly, the new act provided a real stimulus to this program, but other factors include the need for a broader and more extensive general education base: the increased maturity being demanded by employers, the increased restrictions regarding the employment of youth, minimum wage laws, and more specialized education required by changes in science and technology. Continuous training and retraining will be an essential part of tomorrow's worker, and the junior college appears to be uniquely well qualified to meet these needs.

Another challenge that is not confined to vocational educators is the need for <u>all</u> educators to show a greater concern for the world of work and to see the relevance of it to all education including general education. We need to provide career development patterns earlier in the school system through additional exploratory programs, including work experience where youth become aware of career opportunities, and become more able to realistically assess their own interest, aptitudes, and abilities as they relate to occupational requirements. I believe that schools should help youth to make the next step, whether it be to gain entry into a prestigious college or university or to successfully enter the world of work. How can they do less and still consider their programs comprehensive?

In my judgment, the public school system is the logical agency to be delegated the major responsibility for meeting the pre-employment training and retraining needs of the nation's labor force. We must move education out of its ivory tower and into the community. We should consider the entire community our classroom and every master tradesman, technician, or professional worker in it a potential member of our teaching staff.

We must prod ourselves not to fall in love with what we do well today, but be ever alert to strengthen our program for an unknown future. However, if we do not meet this challenge, so vital is the need that other agencies and groups will emerge or be created to do the job.

As evidence that this is no "straw man" issue, I would point out that of the 1.8 billion dollars appropriated by Congress for occupational education, only 280 million dollars is authorized for vocational training in high schools, area vocational schools, community and junior colleges and technical institutes.

There is presently a bill pending before Congress authorizing a maximum appropriation of one and one-half billion dollars for vocational education which I understand Mr. Cullison will discuss this afternoon. Although vocational education may

now be a junior member among federal aid programs, it rightfully enjoys a popularity and importance out of all proportion to the funds involved, and I believe will receive even more visibility and support in the years ahead.

Never before was vocational and technical education needed by so many people and I am proud of the progress we are making in meeting this need. But, only through your continued help and counsel can we feel secure and confident that our efforts and the tax dollar are being well invested.

Rest assured then that we recognize and appreciate the splendid contributions of the council and solicit your constant evaluation as well as support of our vocational programs in the years ahead.

PART IV

WORKSHOP REPORTS

WORKSHOP REPORT NO. 1

GOVERNMENT AND HEALTH SERVICES

Leader:	Capt. Francis R. Kessler
Consultant:	Mrs. Shirley Mannion
Recorder:	Bill J. Murphey
Participants:	Col. Charles Ablett
	T.O. Beach
	Lee J. Beaudry
	Mary Ann Boehm
	Marie Booth
	Jackie Cables
	LeRoy Cafarello
	Jack Carter
	Tom Donohoe (D.D.S.)
	Mary Fried (M.D.)
	Hal Hamer
	Bill Hendrix (Ph.D)
	Mrs. Douglas Holsclaw
	Gladys Hooks
	John Huff
	Bob Kessler
	S. J. Kossack
	Thomas Lee (Ph.D)

G. Martin

Al Montoya

Bill Murphey

Yvonne Oliver

Allan J. Orler (M.D.)

Vic Smith

Gladys Sorensen (Ed.D)

Andrew G. Tremaine

WORKSHOP REPORT NO. 1

GOVERNMENT AND HEALTH SERVICES

I. TRENDS

A. Increased specialization due to technological advances

B. Development of sub-professional occupations, thereby freeing highly skilled technologists from non-professional duties.

C. Greater emphasis placed on on-the-job training.

D. Fewer and fewer applicants to fill technical positions. People are needed to fill these positions but the applicants do not take advantage of these open positions.

E. Counselors, particularly on the high school level, are becoming less and less aware of the number of jobs available and the qualifications necessary to fill them. New jobs are created each day of which the public is not aware.

F. Tendency for gap to increase between what is taught and what is occurring in the field. Technological advances are so rapid that curriculum rapidly becomes obsolete.

G. Individuals are promoted to higher positions but lack qualifications required for positions.

H. Compensation does not keep pace with skills acquired.

II. MANPOWER NEEDS

A. Clear definition for work skill requirements and job descriptions.

B. Better training and more training in specific areas.

C. Erase stigma attached to occupational education.

D. Educate students and parents regarding social acceptability of blue collar jobs.

E. Improve articulation and communication. Get information to the public.

F. More in-service training programs.

G. Provide more short term courses to fill the needs of such jobs as hydrologists, laboratory technicians, inhalation therapists, practical nurses, dental assistants, electronic technicians, audio-visual technicians, etc.

III. IMPLICATIONS

A. Community college should provide an opportunity for continuing education to keep up with the rapid industrial changes, to provide in-service training programs or any kind of courses for any length of time, to teach the skills necessary to fill the new positions created daily.

B. More opportunities for career exploration should be provided in the high school

C. More articulation and communication between business and schools so that the traditional curriculum can be altered and courses introduced that will meet the needs of our students of the community.

WORKSHOP REPORT NO. 2

WHOLESALE AND RETAIL

Leader:	Joe Schubert
Consultant:	Paul Bennewitz
Recorder:	Bill Antrim
Participants:	Frederick Bullard
	Jack Dillenger
	Dale Dunbar
	Dale Gibson
	Gary Greenberg
	Kenneth Hartman
	Richard Jacome
	Mrs. Ted Offret
	William Ricker
	George Sandoval

WORKSHOP REPORT NO. 2

WHOLESALE AND RETAIL

I. TRENDS

A. Increased introduction of data processing is changing both the content of jobs as well as the location of job performance.

B. Increased emphasis on equal opportunity for all means a broader spectrum of the population being considered for employment in jobs previously opened to the highly skilled.

C. Centralization of business activities has led to high degree of job specialization.

D. Contemporary attitudes toward employment have caused problems in relation to job satisfaction and motivation.

E. Longer business hours have led to increased employment of part-time help. This increases need for training of more personnel.

F. Increased operational cost and expanded fringe benefits require greater initial productivity for new employees, thus causing a need for greater degree of trained employment education. Education and individual potential are more readily accepted today in the business community in lieu of the actual business experience.

G. In-service training for all levels of personnel.

H. Automation and centralization decreases some job opportunities in some specific areas and increases job opportunities in other areas.

II. MANPOWER NEEDS

A. Businesses are looking for skilled employees to a greater extent than in the past.

B. Automation and data processing increases cause increase in need for clerical personnel.

C. Constant need for retraining.

D. Specialized technologists.

E. Follow-up training at junior college level for greater skilled developments.

F. Increase in occupational education programs to include more students. Expansion of occupational training areas in cooperative training programs to include more technical areas. 70% of students in these programs continue in occupational area for which they are trained. Present occupational programs are not satisfying needs in regard to quantity of individuals required.

G. Expand present programs and add higher levels of programs.

H. Improve articulation and communication

III. IMPLICATIONS

A. Mid-management program should be included in local junior college program.

B. Class offerings to organize towards skill rather than traditional concepts which are sometimes used.

C. Program should be devised to familiarize counselors with world of work.

D. More exposure of young people to actual work situations.

E. More use of industry and plant resources.

F. More use of private sets of people in training programs.

G. Awarding of funds into industry developed training programs for specific businesses.

H. Junior college program should include specific curriculum areas in marketing, merchandising, and management. Curriculums should be related to the stated needs of the industry.

I. Use of effective advisory groups.

WORKSHOP REPORT NO. 3

SERVICES AND TOURISM

Leader:	Eugene Adelstein
Consultant:	Eugene Dorr
Recorder:	Mary K. Bazzetta
Participants:	Margaret Booher
	Duane Brickner
	Anna Forrsell
	J. Knickerbocker
	Mary Lerche
	Nancy LeCompte
	Robert Minerich
	M. B. White
	Mrs. M. B. White

WORKSHOP REPORT NO. 3

SERVICES AND TOURISM

I. TRENDS

A. Basic lack of communication.

B. Shortage of help.

C. Advertising group for services and tourism is small and needs to be expanded.

D. Tucson is of low income nature.

E. Lack of promotion of the city by individuals.

II. MANPOWER NEEDS

A. More people willing to work in area of services and tourism.

B. Cooperative programs.

C. Improved means of communication.

D. Need personnel to follow-up students coming out of these courses.

III. IMPLICATIONS

A. More overall training programs to help personnel cope more efficiently with the public.

B. Hotel and restaurant training should be set up in line with some kind of educational program or cooperative program with hotel, motel, and restaurant people where people could actually get on-the-job training while they are going to school or junior college.

C. Shorter and intensive courses should be offered.

D. Set up a program in the junior college for retraining in the tourist industry. A survey of the industry itself should be made to determine what training is actually needed.

E. More stress should be placed on the importance of the job.

WORKSHOP REPORT NO. 4

MANUFACTURING AND MINING

Leader:	Max Gottschalk
Consultants:	Arthur C. Hall Marvin Seglem
Recorder:	Archie Romney
Participants:	Lon Adams
	Bill Carroll
	Otis Chidister
	Jim Davies
	Leon A. Dombrowski
	H. H. Dooley
	Art Flint
	Wally Forner
	Allan Hawthorne
	George Howard (Ph.D)
	Sol Levy
	J. K. Meyer
	Byron Nelson
	Charles K. Norling
	William Ricker
	Andrew W. Ross
	H. E. Rudi
	Mike Sandovall
	Andrew Stropko
	Walter Walker

WORKSHOP REPORT NO. 4

MANUFACTURING AND MINING

I. TRENDS

A. Lack of motivation for wanting to work.

B. Lack of technicians in areas of plumbing, electricity, air conditioning, drafting, layout of systems, and civil engineering. These are not the engineers; they are the technicians.

C. Diversification in vocational areas.

II. MANPOWER NEEDS

A. Trained technicians in all technical areas.

B. Should try to fill the natural laws of supply and demand in training.

C. For specialized domestic workers.

D. For specialists in heliarc welding, ordinary welding, and layout.

III. IMPLICATIONS

A. Industry should communicate its needs to the Arizona Employment Office. There should be communication between education, government, and the public.

B. Counselors should be exposed to each actual industry for several months in the area of which they are advising. They should respond to individuals specific industrial requirements.

C. There should be great flexibility of curriculums which should adapt to change.

D. No programs should be started without the advice of an advisory committee composed of labor and management.

E. There should be a different atmosphere between academic and vocational training. Upgrade vocational-technical training in the community. Remove the stigma and make it be as admired as the academic training.

F. Coordinate the activities of the high school, junior college, adult education offerings so that the students may progress most expeditiously.

G. The family should be trained for communicating the concept of the status of the occupational technician.

H. An orientation for industry and the interpersonal relationships that are involved in labor.

WORKSHOP REPORT NO. 5

FINANCIAL, REAL ESTATE, AND CONTRACT CONSTRUCTION

Leader:	Mark Klafter
Consultant:	R. Dean Frey
Recorder:	Frances Holt
Participants:	Lew Davis
	Florence Johnoff
	Jim Kingston
	Sally Lewis
	Helen Lowery
	Henry Shearrill
	Louie Strubinger

WORKSHOP REPORT NO. 5

FINANCIAL, REAL ESTATE
AND CONTRACT CONSTRUCTION

I. TRENDS

A. Banks do their own training and have their own educational programs offered, for example, by the American Institute of Banking. They teach such things as banking operation, trusts, etc. They have their own co-op training program and operator-teller school.

B. Use practice of learn-while-you-earn. Installment credit and teller jobs are done with on-the-job training.

C. Tellers are limited to an age of 21 years because of large amounts of money involved. Bank tests its own employees.

D. Computers have replaced entry level jobs.

E. Interested in older age group.

II. MANPOWER NEEDS

A. More programmers, computer operators, etc.

B. Tellers, credit personnel, and secretarial people are greatest area for entry level jobs.

C. Need more bilingual Spanish-American people.

III. IMPLICATIONS

A. Junior college should provide programs in accounting and training for teller work.

B. Wide open for the 30-35-40 year old housewife who is looking for not quite full-time employment.

C. More personnel management courses for present management people.

D. Adult auxillary type course to offer such courses as real estate law and elementary appraisal to people already in the field. They should be taught by real estate personnel rather than full-time college staff.

WORKSHOP REPORT NO. 6

AGRICULTURE

Leader:	Steve Fazio
Consultant:	Carlos Moore
Recorder:	Louis Bazzetta
Participants:	Maurice Bossuyt
	Rainy Davis
	Brad DeSpain
	Paul Frick
	W. H. Garrett
	Dale Gladden
	Mrs. Dale Gladden
	James Hamilton (Ph.D)
	Lefty Lefler
	Bob Lynch
	Al Oshrin
	Alfred Vietri

WORKSHOP REPORT NO. 6

AGRICULTURE

I. TRENDS

A. Population increases.

B. A broadening of agriculture from farming and ranching to include other services that depend upon agriculture.

C. Occupations vary from unskilled, semi-skilled, skilled, to highly technical.

D. Due to mechanical and technical advances, small farms are disappearing. Mass production has taken over. Local nurserys are finding difficulty in competing with large companies on coast who are importing their landscaping stock instead of growing their own.

E. Mechanization is a big trend. The picking of cotton, lettuce, grapes, and other vegetables have an impact.

F. The public is becoming more aware of education for all. It provides many levels of interest and many advances.

II. MANPOWER NEEDS

A. All levels of training.

B. Persons with broader base in agriculture to handle many jobs required on some of the farms as well as the highly specialized technicians.

C. More cooperative programs between the farmer, nurseryman, teacher, and student to provide a realistic program.

D. More cooperation between the disciplines in the school. A boy that is going into agribusiness could greatly profit from the short course or unit in distributive education.

E. Short, intensive programs based upon needs of people in farming line giving length needed and required to obtain desired goals and outcomes.

III. IMPLICATIONS

A. Formation of local committees and a county advisory committee in the area of agriculture. Local committee members should be represented on county advisory committee so there will be a continuous planned program.

B. Consideration should be given to providing a certificate to students indicating a level of proficiency achieved. This will provide better placement and better articulation between the schools.

C. Training in agriculture be given on the junior college level.

PART V

SUMMARY AND IMPLICATIONS

SUMMARY AND IMPLICATIONS

by

Dr. Oliver H. Laine
President, Pima College

It has been very pleasing to me to witness today's activities which have brought together more than one hundred employers and key administrators in Pima County. We have discussed the things that we set out to discuss this morning -- manpower projections, the role of occupational education, and the trends and implications for education. We have addressed ourselves to those attending high school, those who have completed or left high school and who are available for full-time study, those who have entered the labor market and need retraining or training, and those who have academic or socioeconomic handicaps.

After listening to the recommendations, I can already see that if we had another conference we would have more counselors here for one thing. I was amused a little about the idea of status, although it really isn't funny. It reminds me of the time I was in Europe, right after the war, and a member of the Occupation Air Force. Everybody in Germany seemed to be carrying a brief case. Maybe that is the thing we ought to do -- give everyone an attache' case and maybe we can develop some status. (joking of course) But sometimes little things like that make a great deal of difference. We need to think of more substantive ways in which to develop status and dignity in our people at all levels.

It has been a profitable day, I believe, simply because I have come to know many of you much better; and I have come to know some of you for the first time, but I hope not for the last time. As we stated in this morning's directions to you, we were hopeful that the results of today's conference would bring about certain desired outcomes -- the establishment and maintenance of effective lines of communication between business, industries, and the educational system of Pima County, including Pima College of course, the development of guidelines for planning, programming, and budgeting occupational education programs, and finally I believe we have come a long way to develop the concept of occupational education as an instrument of the manpower development system.

I believe it has been a wonderful conference in every respect; and I am sure that we, as we address ourselves at Pima College to priority for curriculums and programs, will be guided by the many fine suggestions; and hopefully, we can find the resources in manpower, money, and facilities to implement them very soon. However, we must always set up priorities; and eventhough we may not relate or react immediately to some of these things, it isn't because we don't want to. I would assure you of that.

Finally, I would like to pay my respects and show my appreciation to a young man who just came on my staff April 1 who immediately took in hand the arrangements for this conference. I believe we all owe Dr. Robert Kerwood a round of applause for the work that he has done in bringing this conference into being.